"United Home Care Services"

8400 N.W. 33rd STREET, MIAMI, FL. 33122

SCOPE OF WORK

FIRE ALARM SYSTEM NOTES

- THE EXTENT OF THE FIRE ALARM SYSTEM WORK IS INDICATED BY THE DRAWINGS AND SCHEDULES.
- ANY SURFACE MOUNTED FIRE ALARM DEVICES, i.e., PULL STATION, STROBES, HORN/STROBE SHALL BE MOUNTED IN "SYSTEMS" BOXES PROVIDED BY THE MANUFACTURER. DO <u>NOT</u> USE 1900 TYPE ELECTRICAL BOXES PAINTED RED.
- FIRE ALARM SHALL NOT BE INSTALLED UNTIL CLEANUP OF ALL OF ALL TRADES ARE COMPLETE. FAILURE TO COMPLY WITH THIS NOTE WILL VOID ALL WARRANTIES.
- ALL FIRE ALARM SYSTEM DEVICES ARE ULLISTED AND COMPATIBLE WITH FIRE ALARM PANEL AND POWER SUPPLY.
- SIGNALING CIRCUITS SHALL BE <u>POWER LIMITED</u> PER NEC 760-11.
 CABLE PENETRATION INTO OR THROUGH FLERUM AREAS USED FOR TRANSFER OF ENVIRONMENTAL AIR SHALL BE TEFLON INSULATED TYPE OR OF AN APPROVED TYPE IN ACCORDANCE WITH SECTION 800-3(D) OF THE NATIONAL ELECTRIC COOLS
- FIRE ALARM CONTROL PANEL MUST BE CONNECTED TO BUILDING COLD-WATER GROUND VIA 1 GREEN #10 THHN OR EQUIVALENT.
- ALL WIRING MUST CONFORM WITH NEC ARTICLE 760 AND LOCAL CODES, ALL EQUIPMENT SHALL BE ULLISTED. ALL DEVICES SHALL BE COMPATIBLE WITH THE CONTROL PAUEL.
- ALL INSTALLATION MATERIAL SUCH AS CONDUIT FITTINGS, BOXES, HANGERS, ETC. ARE TO BE PROVIDED AND INCLUDED.
- ALL INITIATING AND INDICATING CIRCUITS MUST BE SUPERVISED.
- CIRCUIT POLARITY MUST BE OBSERVED.
- WIRE RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION OF ALL EQUIPMENT TO BE DETERMINED IN THE FIELD, BUT SHALL CONFORM WITH THE BASIC LAYOUT AS SHOWN ON DRAWINGS TO PREVENT CIRCUIT OVERLOAD.
- DETECTORS SHALL NOT BE LOCATED IN DIRECT AIR STREAM FROM SUPPLY AIR OUTLETS. MAINTAIN A MINIMUM CLEAR DISTANCE OF 36°. OFFSET/ADJUST LOCATIONS AS REQUIRED.
- MINIMUM CONDUIT SIZE WILL BE 1/2" UNLESS NOTED OTHERWISE, CONDUIT SHALL BE NO MORE THAN 40% FILLED.
- DO NOT MARK ID NUMBERS ON DEVICES. LABEL BASE ONLY.
- POWER UP & POWER DOWN ON PANEL MUST BE DONE IN SEQUENCE:

POWER DOWN A - DISCONNECT BATTERY. B - TURN OFF AC POWER PRIMARY & SECONDARY.

POWER UP A - TURN ON AC POWER PRIMARY & SECONDARY. B - RECONNECT BATTERIES.

- THE FIRE ALARM CONTROL PANEL SHALL NOT BE USED TO POWER ANY UNAUTHORIZED EXTERNAL DEVICE.
- STROBES ARE TO BE WALL MOUNTED AND SYNCRONIZED PER ADA REQUIREMENTS. LOCATION OF THESE DEVICES TO BE DETERMINED IN FIELD. MOUNT STROBES 80° AFT TO TOP OF LENS, OR 6° BELOW CELLING TO TOP OF LENS, WHICHEVER IS LOWER.
- ALL HORNS TO BE TAPPED AT STD SETTING EACH PROVIDING 93 DB AT 10 FT (TYPICAL ANECHOIC DBA).
- IDENTIFYING NUMBER ADJACENT TO DEVICE SYMBOL DENOTE DEVICE ZONE ADDRESS, DETECTOR 2-02 WILL IDENTIFY THE SECOND DEVICE CONNECTED TO LOOP 1 ON SLC BOARD.
- HVAC SYSTEM SHALL COMPLY WITH NFPA 90A IN SYSTEM OF OVER 2,000 CFM CAPACITY, DUCT DETECTOR INSTALLATION SHALL BE AT A SUITABLE LOCATION.
- THIS FIRE ALARM SYSTEM WILL BE IN ACCORDANCE WITH CENTRAL STATION REQUIREMENTS (NEPA 72).
- FIRE ALARM SYSTEM IS MONITOR BY A DIALER WITH (2) SUPERVISED TELEPHONE LINES.
- FIRE ALARM IS REQUIRED UNDER SECTION NFPA 101.39.3.4

THE DESIGN COMPLIES WITH FLORIDA BUILDING CODES 2007 EDITION CHAPTER 9
8 UNDER CODE OF COMPANICES OF MANIPADAGE COUNTY
PART III - CODE OF ORDINANCES, CHAPTER 14 - IRES PREVENTION.
INSTALLATION SHALL COMPLY WITH NEPA 1, 2008 EDITION, APPLICABLE CHAPTERS.

INSTALLATION SHALL COMPLY WITH NFPA 72, 2002 EDITION, APPLICABLE CHAPTERS. INSTALLATION SHALL COMPLY WITH NFPA 101, 2006 EDITION, APPLICABLE CHAPTERS.

INSTALLATION SHALL COMPLY WITH NFPA 70 (NEC 2005 EDITION).

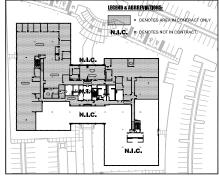
THE EXISTING BATTERY CALCULATIONS, THE EXISTING WIRE SIZE HAS BEEN ASSUMED FOR A COLLECTION OF DATA & COUNTING OF EXISTING EQUIPMENT / DEVICES, AS-BUILT PERFORMED ON 02/18/2010.

EXISTING EQUIPMENT / DEVICES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. THE DESIGN ONLY COVER ALL THE NEW / TO BE REPLACE, EQUIPMENT / DEVICES THAT ARE IN CONTRACT SEE KEYMAP

EXISTING BUILDING HAS A 10 FEET CEILING HEIGHT (TYPICAL FOR ALL SPACES) ON THE FOURTH FLOOR.

LOCATION MAP







	FIRE ALARM SHEET INDEX	
FA	COVER AND SYSTEM NOTES	
FA-1	FOURTH FLOOR PLAN	
FA-2	FIRE ALARM SYSTEM RISER DIAGRAM	
FA-3	BATTERY CALCULATION	
FA-4	PEMETRATION DETAILS & DEVICE MOUNTING DETAILS	

SEQUENCE OF OPERATION:

- UPON ACTIVATION OF ANY MANUAL STATION THE FOLLOWING SHALL OCCUR:

 1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SIENCED.

 2. ALL STROSES WILE LASH UNTIL SYSTEM IS RESERVED.

 3. AN ALARM SIGNAL SHALL BE SENT TO THE FACP A REWOTE ANNUNCIATOR.

 4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VAN DACT.
- LIPON ACTIVATION OF ANY AUTOMATIC DEVICE THE FOIL OWING SHALL OCCUR-

- PON ACTIVATION OF ANY AUTOMATIC DEVICE THE FOLLOWING SHALL OCCUR:

 1. ALL HORNS WILL SOUND DINTL SYSTEM IS SIENCED.

 2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET.

 3. AN ALARM SIGNAL SHALL BE SENT TO THE FACE A REMOTE ANNUNCIATOR.

 4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.

UPON ACTIVATION OF THE ELECTRIC ROOM SMOKE DETECTOR, THE FOLLOWING SHALL OCCUR:

- HALL OCCUR: 1. ALL HORNS WILL SOUND UNTIL SYSTEM IS SILENCED. 2. ALL STROBES WILL FLASH UNTIL SYSTEM IS RESET. 3. AM ALARM SIGNAL SHALL BE SENT TO THE FAOP & REMOTE ANNUNCIATOR. 4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT.

- UPON ANY TROUBLE CONDITION IN THE FIRE ALARM SYSTEM:

 1. THE TROUBLE LED. SHALL BLUMMATE AND SOUND THE BUZZER AT THE CONTROL PANEL.

 2. IT SHALL DISPLAY DEVICE AND LOCATION.

 3. M ALARM SIGNAL SHALL BE SENT TO THE FACP & REMOTE ANNUNCIATOR.
- 4. A SIGNAL SHALL BE SENT TO THE OWNERS CENTRAL STATION VIA DACT

FIRE ALARM WIRE LEGEND

- A- 16/2 AWG FIRE POWER LIMITED (FPL) FOR INITIATING DEVICES.
- B- 16/2 AWG FOR HORN/STROBE DEVICES.
- C- 18/2 AWG FOR DATA COMMUNICATION

WIRE TYPES LISTED IN THE WIRE LEGEND ARE THE MANUFACTURER'S MINIMUM WRINDS REQUIREMENTS. CONTRACTOR REQUIREMENTS OF THE RECUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND NIPPA FOR THE APPLICATIONS AND LOCATIONS OF USE.

	SYMI	BOL LEGEN	D
SYMBOL	DESCRIPTION	MODEL	MOUNTING
NAC # SK 5495	POWER BOOSTER	SILENT KNIGHT SK5495	MOUNT 72" A.F.F. TO TOP,
69	PHOTOELECTRIC SMOKE DETECTOR W BASE	NOTIFIER FSP-851	CEILING MOUNT ON A 4" 1900 BOX.
₽	MANUAL PULL STATION	FIRELITE BG-12	MOUNT 48" A.F.F. TO CNITR ON A 3 1/2" DEEP, 1 GANG BOX.
м	MINI - MONITOR MODULE	NOTIFIER FMM-101	MOUNTS DIRECTLY TO A 4" BOX.
H	MULTI-CANDELA HORN STROBE	COOPER WHEELOCK AS-24MCW-FR	MOUNT BO! A.F. F. TO BOTTOM, ON A 4" WEATHER PROOF BOX
8	MULTI-CANDELA HORN STROBE CEILING MOUNT	COOPER WHEELOCK AS-24MCC-FR	CEILING MOUNT ON A 4" 1900 BOX.
×	MULTI-CANDELA STROBE DEVICE	COOPER WHEELOCK RSS-24MCW-FR	MOUNT 80" A.F.F. TO BOTTOM, ON A 4" 1900 BOX
8	MULTIFICANDELA STROBE DEVICE CEIUNG MOUNT	COOPER WHEELOCK RSS-24MCC-FR	CEILING MOUNT ON A 4" 1900 BOX.
	END OF LINE RESISTOR	()K	INSTALL VALUE AS SHOWN ON RISER

NC ETEK FIRE ALARMS, IN
7750 W 24 AVENUE BAY 256
HALEMA TOORIO ASONO
EMMI: ETERFRIE AVENUE SOONO
LICENSE: 10, 11 a 524777 (M.)

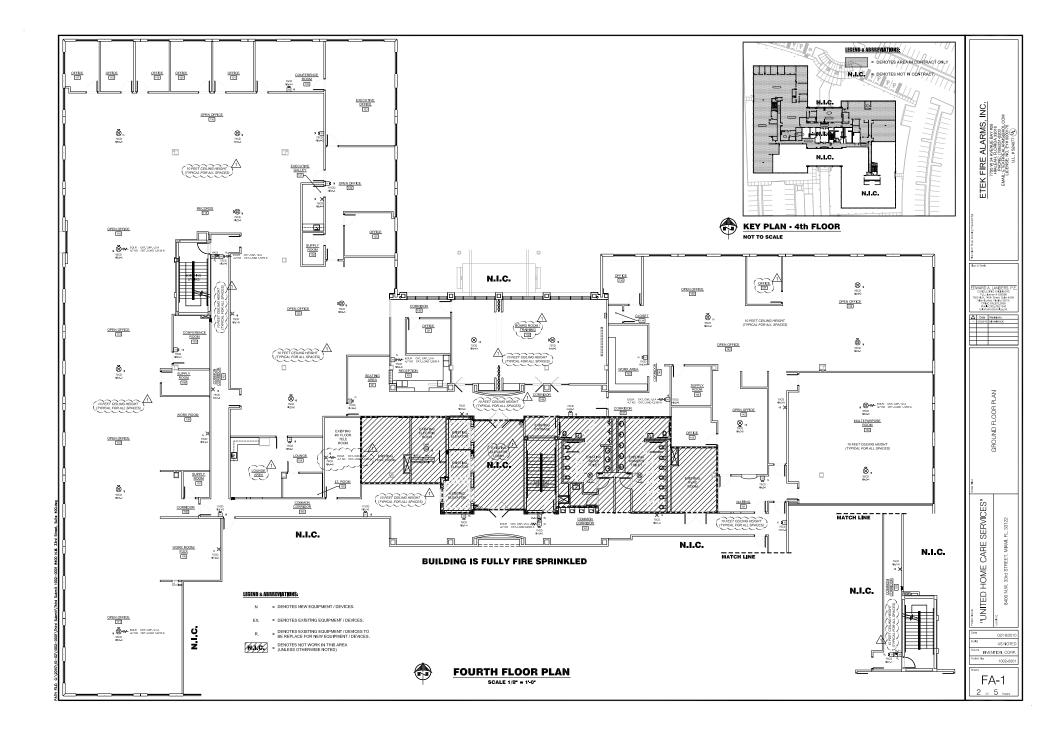
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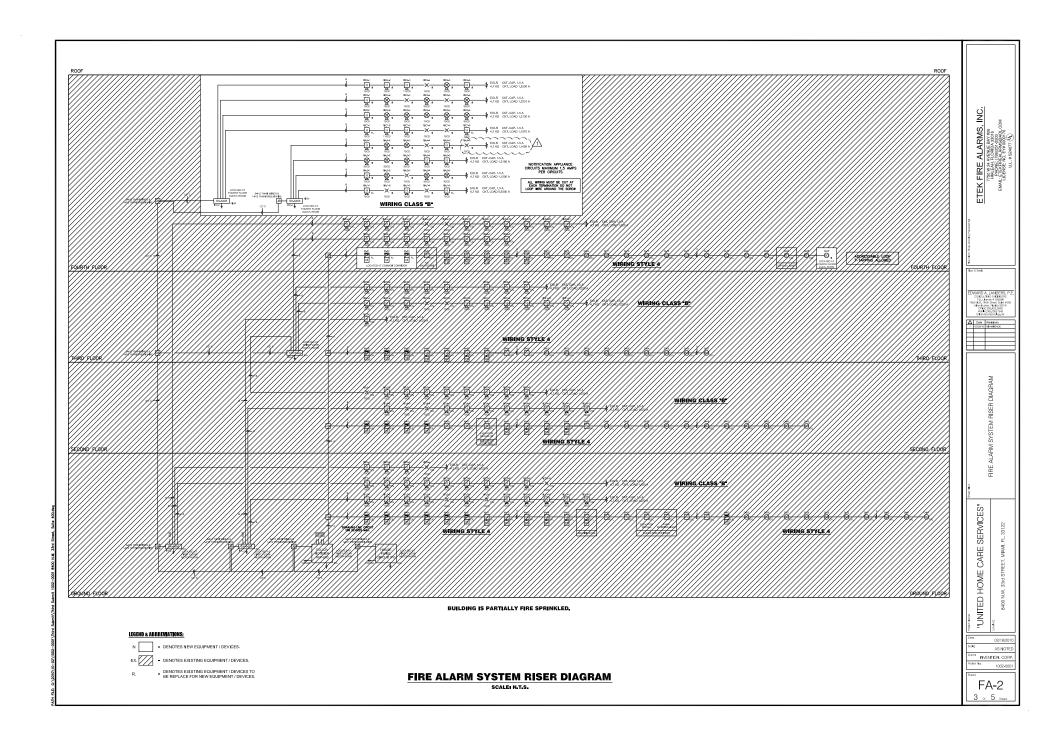
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AS NOTE INVENTION, CORP.

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(EXISTING) FIRE ALARM PANEL BATTERY CALCULATION NOTIFIER AFP-200 LOCATED AT FIRST FLOOR METER ROOM HORNISTB MAX CURRENT DRAW 0.176 STANDBY CAPACITY (AMP-HOURS) REQUIRED ALARM TIME (HOURS) PROVIDED

		EXIST	ING)	POWI	ER BC	OST	ER (N	AC-2)	SK54	99			
			Ĺ	OCATED	AT FIRST	FLOOR N	IETER RO	ОМ					
			F	IREALARM P.	ANEL STANDS	Y BATTERIES	SHALL BE SIZ	ETO					
				PROVI	DE 24 HOURS S	UPERVISION (STANDBY)						
				PLUS 5	MINUTES OF A	LARM FOR AL	L DEVICES.						
CIRCUIT #			75cd STROBE max current draw 0.132	110cd STROBE max current draw 0.202	HORN ONLY max current draw 0.069	75cd HORNSTB max current draw 0.176	110cd HORNISTB max current draw 0.212	TOTAL DEVICE COUNT	TOTAL STANDBY (mA)	TOTAL ALARM (mA)	MAX LOAD PE CIRCUIT 2.25 (AMPS)		
	N2:1		0	0	0	0	0	0	0	0.0	2.0		
	N2:2		- 1	0	0	9	0	10	0	1.7	2.0		
	N2:3		1	0	0	3	0	4	0	0.7	2.0		
N2:4			2	0	0	10	0	12	0	2.0	2.0		
MA	IN CIRCUIT BO.	ARD						1	0.091	0.145			
							TOTAL D	RAW (AMPS)	0.09	4.55			
ST	ANDBY 24 HO	URS				ALARM 5 MIN	UTES X 1/24 =	0.2083 Hours					
REQUIRED STANDBY TIME (HOURS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED AMPERE HOUR BATTERY			REQUIRED ALARM TIME (HOURS)				REQUIRED ALARM CAPACITY (AMP - HOURS		
24	x	0.09	-	2.184		0.2	083	x	4.55	-	0.95		
REQUIRED STANDBY TIME (HOURS)	CAPACITY (AMP -			REQUIRED AMPERE HOUR BATTERY			DERATING FACTOR @ 1.2		MINMUM AMP -HOUR BATTERY REQUIRED		0 AMP - HOUR BATTERIES WILL BE PROVIDED		
2.184		0.95		3.13	x		2	-	3.76	<u> </u>			
				VOLTAGED	ROPTABLE - N	OTIFICATION A	LARM CIRCUIT	8					
CIRCUIT#	MAX OUTF	PUT (AMPS)	CIRCUIT VE	ос оштрит	WIRE SIZE	DRAW IN ALARM			VDC DROP	VDC @ LAST DEVICE			
N2:1		.0	20	1.4	16	0.00			0.00		20.40		
N2.2		.0	20	1.4	16	1.72	- 10	30	1.41		18.99		
N2:3		.0		1.4	16	0.66		30	0.54		19.86		
N2:4	- 2	.0	20	1.4	16	2.02	- 10	30	1.66	18.74			

See NFPA 70 (NEC 2008) CHAPTER 9 table #8 for wire gage resistance (16 awg = 8.2ohm/1000')

					/NF	W) P	OWE	R RO	OSTE	R (N	1C-4	SK-5	495						
					(RTH FLOO										
							FIRE ALAF	RM PANEL ST	ANDBY BATT	ERIES SHALL	BESIZETO								
							PF	ROVIDE 24 HO	URS SUPERVI	SION (STANE	BY)								
								JS 5 MINUTES	OF ALARM F	OR ALL DEV	CES.								
			AUDIBLE/STROBE Max Current Draw STROBE Max Current Draw																
				Wall Mount		_	Ceiling Mour	eiling Mount Wall					Ceiling Mour	it			ı	MAXLOAD	
CIRCUIT #			15/75cd 75cd 110cd 30c		30cd	75cd			75cd	110cd	30cd	75cd	95cd	TOTAL DEVICE COUNT	TOTAL STANDBY (mA)	TOTAL ALARM (mA)	PER CIRCUI (AMPS		
	N4-1		0.121	0.200	0.267	0.138	0.221	0.285	0.090	0.165	0.220	0.105	0.189	0.249	5		0.9300	1.5	
	N4:1 N4:2		0	3	0	0		1	0	2	0	0	0	1	5	0	1.1200	1.5	
	N4:2		0	2	0	0	0	2	0	0	0	0	0	-	5	0	1.1200	1.5	
	N4:4		0	2	0	0	1	0	0	2	0	0	1		- 6	0	1.1400	1.5	
MA	N CIRCUIT BO	ARD	_	_	_	_					_		_		1	0.091	0.145	- 100	
														TOTAL D	RAW (AMPS)	0.09	4.55	1	
STA	ANDBY 24 HO	URS											ALARM 5 MIN	JTES X 1/24 =		0.2083	Hours		
REQUIRED STANDBY TIME (HOURS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)			HOUR B	AMPERE ATTERY			REQUIRED ALARM TIME (HOURS)					T (AMPS)			REQUIRED ALA CAPACITY (AN HOURS)		
24	×	0.09			2.1	184			0.2083 x				- 4	55	-		0.96		
REQUIRED STANDBY TIME (HOURS)		REQUIRED ALARM CAPACITY (AMP - HOURS)	M REQUIRED		ATTERY				DERATING FACTOR ®				AMP-HOUR REQUIRED	7.0 AMP - HOUR BATTERIES WILL BE PROV			E PROVIDEI		
2.184	+	0.95			3.	13		x		.2			3	.76					
							VOLTAG	EDROP TABL	LE- NOTIFICA	TION ALARM	CIRCUITS								
	CIRCUIT#		MAX OUTF			OC OUTPUT		E SIZE		N ALARM		ANCE IN FEET	VDC DROP		VDC @ LAST DEVICE				
	N4:1			.5	20			16		93		100		.76	19.64				
	N42			.5	20			16		12		00		92		19			
	N4:3			.5		1.4		16		22		00		94			.40		
								16		.14						19.46			

See NFPA 70 (NEC 2008) CHAPTER 9 table #8 for wire gage resistance (16 awg = 8.2chm/1000')

BATTERY CALCULATION

	(EXIST			ER BC				SK54	99	
			L	OCATED	AT FIRST	FLOOR N	METER RO	MO			
			F	REALARM P.	ANEL STANDS	Y BATTERIES	SHALL BE SIZ	ETO			
					DE 24 HOURS S						
				PLUS 5 I	MINUTES OF A	LARM FOR AL	L DEVICES.				
			75cd STROBE	110cd STROBE	HORN ONLY	75cd HORN/STB	110cd HORN/STB				
	CIRCUIT #				max current			TOTAL	TOTAL	TOTAL	MAX LOAD PE
			draw	draw	draw	draw	draw	DEVICE	STANDBY	ALARM	CIRCUIT 2.25
			0.132	0.202	0.069	0.176	0.212	COUNT	(m A)	(mA)	(AMPS)
	N1:1		0	0	0	0	0	0	0	0.0	2.0
	N1:2		0	0	0	- 1	0	1	0	0.2	2.0
	N1:3		2	0	0	10	0	12	0	2.0	2.0
	N1:4		2	0	0	9	0	- 11	0	1.8	2.0
MA	N CROUT BOX	ARD CRA						1	0.091	0.145	4
			_					RAW (AMPS)	0.09	4.19	
STA	NDBY 24 HOL					ALARM 5 MIN	UTES X 1/24 =	0.2083 Hours			
REQUIRED		TOTAL SYSTEM STANDBY		REQUIRED		REQUIRED ALARM TIME			TOTAL SYSTEM ALARM		REQUIRED
TIME		CURRENT		HOUR					CLIRRENT		CAPACITY
(HOURS)		(AMPS)		BATTERY			URS)		(AMPS)		(AMP - HOURS
24	×	0.09	-	2 184	1		083	×	419		0.87
REQUIRED STANDBY TIME (HOURS)	STANDBY CAPACITY TIME (AMP -			REQUIRED AMPERE HOUR BATTERY		DERATING FACTOR @ 1.2			MINMUM AMP -HOUR BATTERY REQUIRED	OUR RY 7.0 AMP - HOUR BATTERIES	
2.184	+	0.87		3.06	х	1	2		3.67		
				VOLTAGE D	ROP TABLE - N	OTIFICATION A	LARM CIRCUIT	8			
CIRCUIT#	MAX OUTF	UT (AMPS)	CIRCUIT VI	ос оштрит	WIRE SIZE	DRAW IN ALARM	CROUTDIST	ANCE IN FEET	VDC DROP	VDC @ LAST DEVICE	
N1:1	2	.0	20	0.4	16	0.00	_		0.00		20.40
N1·2	2	.0	20.4		16	0.18	2	8	0.29	20.11	
			20.4				200			17.08	
NI3 NI4		0		1.4	16	2.02		00	3.32		17.08

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See NFPA 70 (NEC 2008) CHAPTER 9 table #8 for wire gage resistance (16 awg = 8.2ohm/1000)

|                                                          | (I            | EXIST                                           |                  |                                       |                               |                       | R (NA         |                          | FCPS                                          | -24                           |                             |
|----------------------------------------------------------|---------------|-------------------------------------------------|------------------|---------------------------------------|-------------------------------|-----------------------|---------------|--------------------------|-----------------------------------------------|-------------------------------|-----------------------------|
|                                                          |               |                                                 |                  |                                       |                               |                       | ECTRIC F      |                          |                                               |                               |                             |
|                                                          |               |                                                 | F                |                                       | ANEL STANDS                   |                       | SHALL BESIZE  | TO                       |                                               |                               |                             |
|                                                          |               |                                                 |                  |                                       | DE 24 HOURS S<br>MINITES OF A |                       |               |                          |                                               |                               |                             |
|                                                          |               |                                                 | 75ed             | 110ed                                 | MINUIES OF A                  | 75od                  | 110rd         |                          |                                               |                               | 1                           |
|                                                          |               |                                                 | STRORE           | STROBE                                | HORN ONLY                     | HORNISTR              | HORNISTR      |                          |                                               |                               | l                           |
|                                                          | CIRCUIT #     |                                                 | max current      | max current                           | max current                   | max current           | max current   | TOTAL                    | TOTAL                                         | TOTAL                         | MAX LOAD                    |
|                                                          |               |                                                 | draw             | draw                                  | draw                          | draw                  | draw          | DEVICE                   | STANDBY                                       | ALARM                         | CIRCUIT 2                   |
|                                                          |               |                                                 | 0.132            | 0.202                                 | 0.069                         | 0.176                 | 0.212         | COUNT                    | (m A)                                         | (m A)                         | (AMPS)                      |
|                                                          | N3:1          |                                                 | 2                | 0                                     | 0                             | 9                     | 0             | 11                       | 0                                             | 1.8                           | 2.0                         |
| N3.2                                                     |               |                                                 | 0                | 0                                     | 0                             | 8                     | 0             | 8                        | 0                                             | 1.4                           | 2.0                         |
|                                                          | N3:3          |                                                 | 1                | 0                                     | 0                             | 8                     | 0             | 9                        | 0                                             | 1.5                           | 2.0                         |
|                                                          | N3:4          |                                                 | 0                | 0                                     | 0                             | 80                    | 0             | 8                        | 0                                             | 1.4                           | 2.0                         |
| MA                                                       | IN CIRCUIT BO | ARD                                             |                  |                                       |                               |                       |               | - 1                      | 0.091                                         | 0.145                         |                             |
|                                                          |               |                                                 |                  |                                       |                               |                       | TOTAL D       | RAW (AMPS)               | 0.09                                          | 6.35                          |                             |
| ST.                                                      | ANDBY 24 HO   | JRS                                             |                  |                                       |                               | ALARM 5 MIN           | UTES X 1/24 = | 0.2083 Hours             |                                               |                               |                             |
| REQUIRED<br>STANDBY<br>TIME<br>(HOURS)                   |               | TOTAL<br>SYSTEM<br>STANDBY<br>CURRENT<br>(AMPS) |                  | REQUIRED<br>AMPERE<br>HOUR<br>BATTERY |                               |                       | LARM TIME     |                          | TOTAL<br>SYSTEM<br>ALARM<br>CURRENT<br>(AMPS) |                               | REQUIRE<br>ALARM<br>CAPACIT |
| (HOURS)                                                  | ¥             | (AMPS)                                          |                  | 2 184                                 |                               |                       | URS)          | Y                        | (AMPS)<br>6.35                                |                               | (AMP - HOU                  |
| 29                                                       |               | 0.09                                            | _                | 2.104                                 |                               | 0.2                   | 063           |                          | 6.35                                          | _                             | 1.34                        |
| REQUIRED ALARM STANDBY CAPACITY TIME (AMP - HOURS) HOURS |               | ALARM<br>CAPACITY<br>(AMP -<br>HOURS)           |                  | REQUIRED<br>AMPERE<br>HOUR<br>BATTERY |                               | DERATING FACTOR @ 1.2 |               |                          | MINIMUM<br>AMP-HOUR<br>BATTERY<br>REQUIRED    | UR Y 7.0 AMP - HOUR BATTERIES |                             |
| 2.184                                                    | +             | 1.32                                            |                  | 3.51                                  | X                             | 1                     | 2             | -                        | 4.21                                          |                               |                             |
|                                                          |               |                                                 |                  | VOLTAGE D                             | ROPTABLE - N                  | OTIFICATION A         | LARM CIRCUIT  | В                        |                                               |                               |                             |
| RCUT#                                                    | MAX OUT       | PUT (AMPS)                                      | CROUT VOCOLITRUT |                                       | WIRE SIZE                     | DRAW IN<br>ALARM      | CIRCUIT DISTA | CIRCUIT DISTANCE IN FEET |                                               | VDC @ LAST DEVICE             |                             |
| N3:1                                                     |               | .0                                              | 20               | 1.4                                   | 16                            | 1.85                  | 10            | 00                       | 1.52                                          | 18.88                         |                             |
| N3:2                                                     |               | .0                                              | 20               | 1.4                                   | 16                            | 1.41                  | 10            | 00                       | 1.16                                          |                               | 19.24                       |
| N3-3                                                     | -             | 0                                               | 20.4             |                                       | 16                            | 1.54                  | - 10          | 90                       | 1.26                                          | 19.14                         |                             |
|                                                          |               |                                                 |                  |                                       |                               |                       |               |                          |                                               |                               |                             |

See NFPA 70 (NEC 2008) CHAPTER 9 table #8 for wire gage resistance (16 awg - 8.2ohm/1000')

|                                        |            |                                                 |                    |                                 | /NE         | 3/A P      |              | P BO          | OSTE                           | D (N                  | AC-5)      | SK-5                                 | 105          |                          |                                         |                                            |                          |           |
|----------------------------------------|------------|-------------------------------------------------|--------------------|---------------------------------|-------------|------------|--------------|---------------|--------------------------------|-----------------------|------------|--------------------------------------|--------------|--------------------------|-----------------------------------------|--------------------------------------------|--------------------------|-----------|
|                                        |            |                                                 |                    |                                 | (1.45       |            |              |               | THELO                          |                       |            |                                      | 733          |                          |                                         |                                            |                          |           |
|                                        |            |                                                 |                    |                                 |             |            |              |               | ANDRYBATT                      |                       |            | CIWI                                 |              |                          |                                         |                                            |                          |           |
|                                        |            |                                                 |                    |                                 |             |            |              |               | URSSUPERVI                     |                       |            |                                      |              |                          |                                         |                                            |                          |           |
|                                        |            |                                                 |                    |                                 |             |            |              |               | SOF ALARM F                    |                       |            |                                      |              |                          |                                         |                                            |                          |           |
|                                        |            |                                                 |                    | ALFU                            | BLEISTROBE  | May Owner  |              | JOS MINUJI EZ | SUF ALARM P                    |                       |            | Current Dra                          |              |                          | _                                       |                                            | _                        | _         |
|                                        |            |                                                 |                    | Wall Mount                      | LUUIIVAL    |            | Ceiling Mour |               | -                              | Wall Mount            | JITOLE III |                                      | Ceiling Mour |                          |                                         |                                            |                          |           |
| CIRCUIT#                               |            |                                                 | 15/75cd 75cd 110cd |                                 | 30cd 75cd 9 |            | 95cd         | 15/75cd       | 75cd                           | 110od                 | 10cd 30cd  | 75cd                                 | 95cd         | TOTAL<br>DEVICE<br>COUNT | TOTAL<br>STANDBY<br>(mA)                | TOTAL<br>ALARM<br>(mA)                     | PER<br>CIRCUIT<br>(AMPS) |           |
|                                        | N5:1       |                                                 | 0.121              | 0.200                           | 0.267       | 0.138      | 0.221        | 0.285         | 0.090                          | 0.165                 | 0.220      | 0.105                                | 0.189        | 0.249                    | 6                                       | 0                                          | 1,1970                   | 1.5       |
|                                        | NS:2       |                                                 | 0                  | 1                               | 0           | 0          | 3            | 1             | 0                              | 1                     | 0          | 0                                    | 0            | 0                        | 6                                       | 0                                          | 1.13/0                   | 1.5       |
|                                        | NF3        |                                                 | 0                  | - 1                             | 0           | 0          | 1            | 2             | 0                              | 2                     | 0          | 0                                    | 0            | 0                        | 6                                       | 0                                          | 1,3210                   | 1.5       |
|                                        | N5:4       |                                                 | 0                  | 3                               | 1           | 0          | 1            | 0             | 0                              | 1                     | 0          | 0                                    | 0            | 0                        | 6                                       | 0                                          | 1,2530                   | 1.5       |
| MA                                     | NOROLITEC  | ARD                                             |                    |                                 |             |            |              |               |                                |                       |            |                                      |              |                          | 1                                       | 0.091                                      | 0.146                    |           |
|                                        |            |                                                 |                    |                                 |             |            |              |               |                                |                       |            |                                      |              | TOTAL D                  | AW (AMPS)                               | 0.09                                       | 523                      | 1         |
| ST                                     | NDBY 24 HC | LRS                                             |                    |                                 |             |            |              |               |                                |                       |            |                                      | ALARM5 MIN.  | JTES X 1/24 =            |                                         | 0.2083                                     | Hours                    |           |
| REQUIRED<br>STANDBY<br>TIME<br>(HOURS) |            | TOTAL<br>SYSTEM<br>STANDBY<br>CURRENT<br>(AMPS) |                    | REQUIRED AMPERE<br>HOUR BATTERY |             | REQU       |              |               | REQUIRED ALARM TIME<br>(HOURS) |                       |            | TOTAL SYSTEM ALARM<br>CURRENT (AMPS) |              | 1                        |                                         | REQUIRED ALARM<br>CAPACITY (AMP-<br>HOURS) |                          |           |
| 24                                     | ×          | 0.09                                            |                    | -                               | 2.          | 84         | Ť            |               | 0.2                            | 083                   | x 5.23     |                                      |              |                          |                                         | -                                          | 1.09                     |           |
|                                        |            |                                                 |                    |                                 |             |            |              |               |                                |                       |            |                                      |              |                          |                                         |                                            |                          |           |
| REQUIRED<br>STANDBY<br>TIME<br>(HOURS) |            | ALARM<br>CAPACITY<br>(AMP -<br>HOURS)           |                    |                                 | REQUIRE     |            |              |               |                                | DERATING FACTOR ® 1.2 |            |                                      |              | AMP-HOUR<br>REQUIRED     | 7.0 AMP - HOUR BATTERIES WILL BEPROVIDE |                                            |                          | EPROVIDED |
| 2.184                                  | +          | 1.09                                            |                    |                                 | 3.          | 27         |              | x             | 1                              | 2                     |            |                                      | 3.           | 93                       |                                         |                                            |                          |           |
|                                        |            |                                                 |                    |                                 |             |            | VOLTAG       | EDROP TABL    | E-NOTIFICA                     | TIONALARM             | CIRCUITS   |                                      |              |                          |                                         |                                            |                          |           |
|                                        | OROUT#     |                                                 | MAX OUTF           | PUT (AMPS)                      | OROLITY:    | OC COUTRUT | WR           | ESIZE         | DRAWNALARM                     |                       | CROUTDIST  | (ANCE IN FEET                        | VDCDROP      |                          | VDC @ LAST DEVICE                       |                                            |                          |           |
|                                        | N5:1       |                                                 |                    | .5                              | - 2         |            |              | 16            |                                | 20                    |            | 100                                  |              | 98                       |                                         |                                            | 142                      |           |
|                                        | N5:2       |                                                 |                    | .5                              | - 20        |            |              | 16            |                                | 31                    |            | 100                                  | 1.08         |                          | 1932                                    |                                            |                          |           |
|                                        | N5:3       |                                                 | - 1                |                                 | 2           |            |              | 16            |                                | 32                    |            | 100                                  |              | 08                       | 1932                                    |                                            |                          |           |
|                                        | N5:4       |                                                 | 1                  | .5                              | 2           | 1.4        | 1            | 16            | 1.                             | 25                    | -          | 100                                  | 1.           | 03                       |                                         | 19                                         | 137                      |           |

See NFPA 70 (NEC 2008) CHAPTER 9 table #8 for wire gage resistance (16 awg = 8.2ohm/1000')

ETEK FIRE ALARMS, INC.

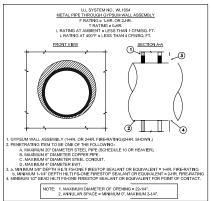
7750 W 24 MENUE BAY 250
HULEHAH, HORBINS 20016
EMILEHANE (1985) 250
E

"UNITED HOME CARE SERVICES"

02/18/201 AS NOTED INVENTION, CORP.

FA-3 4 or 5 steet

## PENETRATION DETAIL # 1



INSTALLATION INSTRUCTIONS FOR UL NO. WL1054

STEP 1 - PREPARATION: ALL SURFACES MUST BE CLEAN, SOUND, DRY AND FROST FREE PRIOR TO APPLICATION OF FIRESTOPPING MATERIALS

STEP 2 - FIRESTOPPING SEALANT: APPLY A MINIMUM 5/8" OR 1-1/4" DEPTH OF FS-ONE

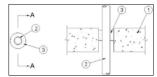
TOOL EXCESS SEALANT BEYOND PERIMETER OF THE

SEAL UNDISTURBED FOR 48 HOURS.

## CONDUIT FIRESTOPPING DETAIL

## PENETRATION DETAIL # 2

SYSTEM No. C-AJ-1505



SECTION A-A

1. Floor or Wall Assembly - Min 4-1/2 in.114 mm) thick reinforced lightweight or normal weight (100-150 pct (1000-2400 kg/cu meter structural concrete. Floor may also be constructed of any min 6 in 1.52 mm) hick LV. Classified forther-core Floorack Concrete Wall may also be constructed of any U. Classified Concrete Blocks\*, Max djam of opening is 3 in. (76 mm).

See Precast Concrete Units (CFTV) and Concrete Block (CAZT) categories in the Fire Resistance Directory for names of manufacturers.

2. Through Penetrants One metallic pipe, conduit or tubing to be installed within the firestop system. The annular space shall be mip 38 t0 mmto max 34 in 19 mm). Pipe, conduit or tubing to be rightly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

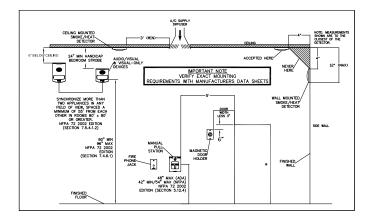
A. Steel Pipe Nom 1-1/2 In. (38 mm) diam (or smaller) Schedule 10 (or heavier) steel

pipe. B. Condult Nom 1-1/2 In. (38 mm) dlam (or smaller) steel electrical metallic tubing or rigid steel condult.

3. Fill, Vold or Cavity Material\* - Putty or Equivalent Sealant Material - Min 2 jp. (51 mm) thickness of #II material applied within the annulus, recessed Vib 3 #In. (6 to 10 mm from top surface of floor or both surfaces of wall. in floors constructed of incliov-core precast concrete units, #III material to be installed flush with both surfaces of assembly.

TREMCO INC. - TREMstop Putty or Equivalent Material

\*Bearing the UL Classification Mark



## **DEVICE MOUNTING HEIGHTS**

SCALE: N.T.S.

ETEK FIRE ALARMS, INC.
7750 W 24 MENUE BAY 878
HALEH, HORBIN 30016
EMILE PROPER PRESENT 30016
LICENSE NO. 1879 000718

PENETRATION DETAILS & DEVICE MOUNTING DETAILS

"UNITED HOME CARE SERVICES"

AS NOTED " INVENTION, CORP.

FA-4