

**FIRE ALARM PLAN THIRD FLOOR BLDG 1**  
SCALE: 1/16" = 1'-0"



NAC WIRE SIZE - 14 GAUGE  
SLC WIRE SIZE - 16 GAUGE

**VOLTAGE DROP CALCULATIONS**

Voltage drop calculations for FACP notification appliance circuits (NAC) are shown on FA 4.  
Voltage drop calculations for FAPS NAC are point-to-point on separate 8 1/2 X 11 sheets included with the Manufacturer's data sheets.  
Voltage drop calculations for NAC's in Hearing Impaired units are powered from the auxiliary circuits in FAPS-2 through FAPS-8 and are shown below.

**FAPS-2 Bldg 2 HI VISUAL APPLIANCE CIRCUIT**  
Aux. Pwr. current draw: 0.505 Amps  
Maximum allowable voltage drop: 4.4 VDC (20.4-16VDC)  
(Note: A/V's & M/H's are rated 16-33 VDC)  
Wire Resistance (14g): 3.0 Ohms/1000 ft.  
Design wire distance (scaled from plan): <385 ft.  
Calculated Voltage Drop: 1.2 VDC\*

**FAPS-3 Bldg 1 HI VISUAL APPLIANCE CIRCUIT**  
Aux. Pwr. HI S256: current draw: 0.852 Amps  
Maximum allowable voltage drop: 4.4 VDC (20.4-16VDC)  
(Note: A/V's & M/H's are rated 16-33 VDC)  
Wire Resistance (14g): 3.0 Ohms/1000 ft.  
Design wire distance (scaled from plan): <275 ft.  
Calculated Voltage Drop: 1.4 VDC\*

**FAPS-4 Bldg 2 HI VISUAL APPLIANCE CIRCUIT**  
Aux. Pwr. current draw: 0.505 Amps  
Maximum allowable voltage drop: 4.4 VDC (20.4-16VDC)  
(Note: A/V's & M/H's are rated 16-33 VDC)  
Wire Resistance (14g): 3.0 Ohms/1000 ft.  
Design wire distance (scaled from plan): <385 ft.  
Calculated Voltage Drop: 1.2 VDC\*

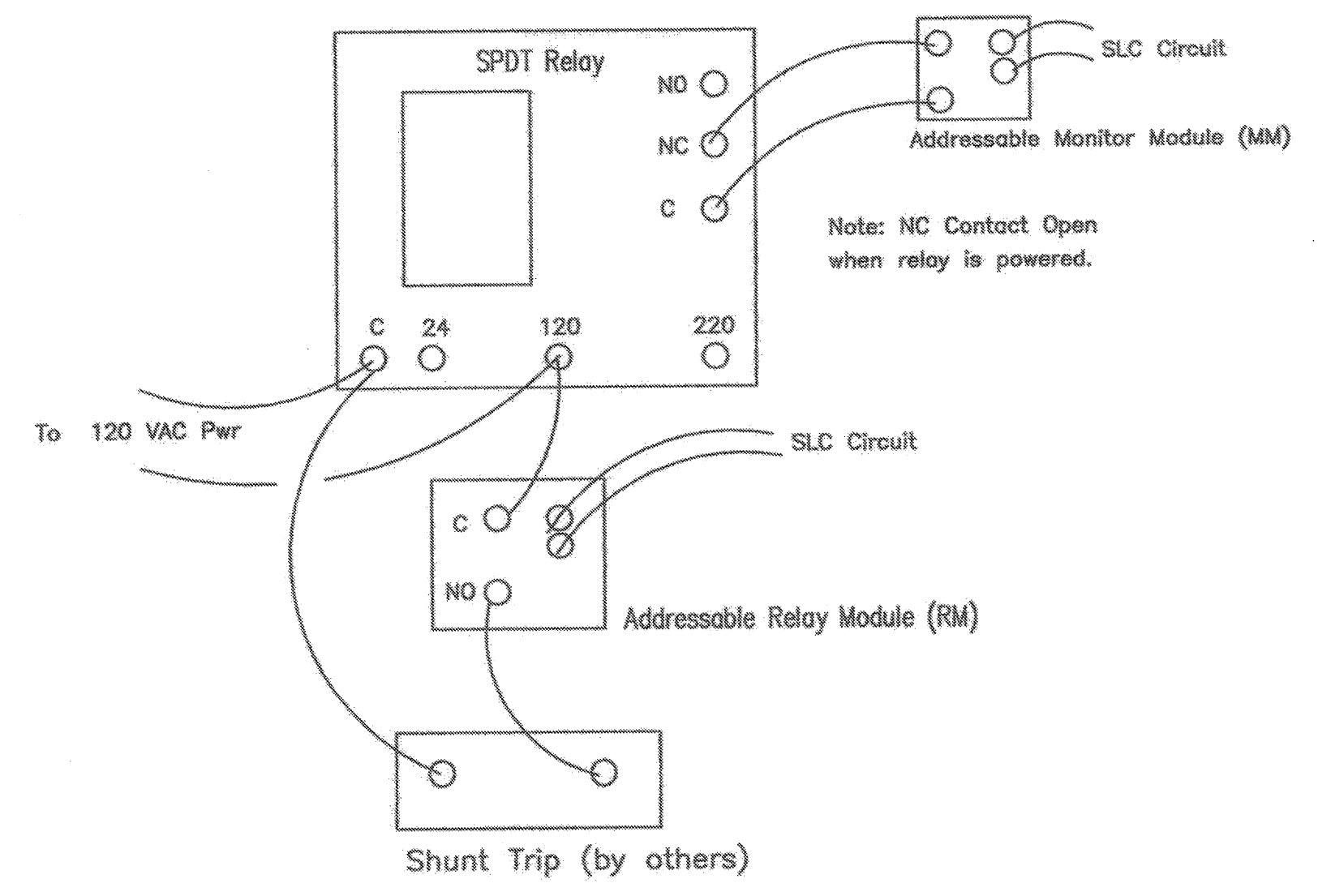
**FAPS-5 Bldg 1 HI VISUAL APPLIANCE CIRCUIT**  
Aux. Pwr. HI S256: current draw: 0.852 Amps  
Maximum allowable voltage drop: 4.4 VDC (20.4-16VDC)  
(Note: A/V's & M/H's are rated 16-33 VDC)  
Wire Resistance (14g): 3.0 Ohms/1000 ft.  
Design wire distance (scaled from plan): <275 ft.  
Calculated Voltage Drop: 1.4 VDC\*

**FAPS-6 Bldg 2 HI VISUAL APPLIANCE CIRCUIT**  
Aux. Pwr. current draw: 0.505 Amps  
Maximum allowable voltage drop: 4.4 VDC (20.4-16VDC)  
(Note: A/V's & M/H's are rated 16-33 VDC)  
Wire Resistance (14g): 3.0 Ohms/1000 ft.  
Design wire distance (scaled from plan): <385 ft.  
Calculated Voltage Drop: 1.2 VDC\*

**FAPS-7 Bldg 1 HI VISUAL APPLIANCE CIRCUIT**  
Aux. Pwr. HI S256: current draw: 0.852 Amps  
Maximum allowable voltage drop: 4.4 VDC (20.4-16VDC)  
(Note: A/V's & M/H's are rated 16-33 VDC)  
Wire Resistance (14g): 3.0 Ohms/1000 ft.  
Design wire distance (scaled from plan): <275 ft.  
Calculated Voltage Drop: 1.4 VDC\*

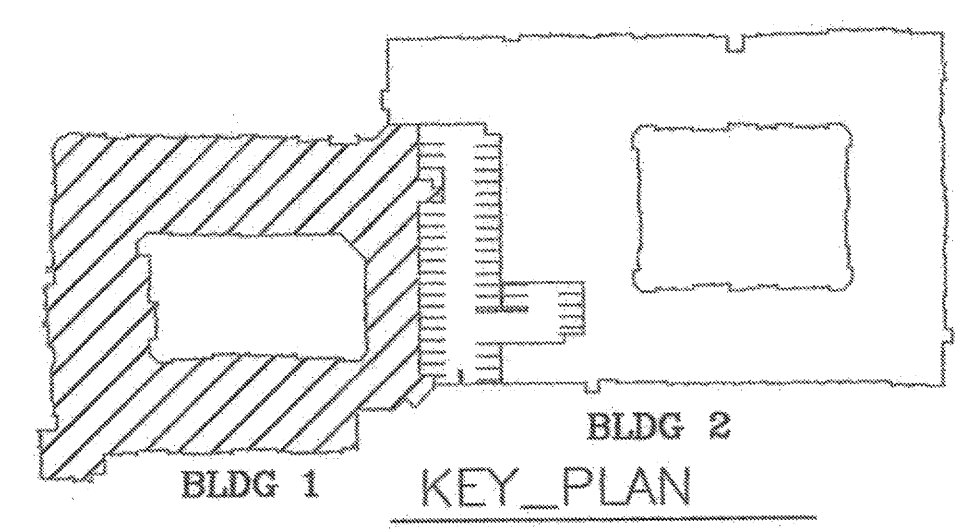
**FAPS-8 Bldg 2 HI VISUAL APPLIANCE CIRCUIT**  
Aux. Pwr. current draw: 0.505 Amps  
Maximum allowable voltage drop: 4.4 VDC (20.4-16VDC)  
(Note: A/V's & M/H's are rated 16-33 VDC)  
Wire Resistance (14g): 3.0 Ohms/1000 ft.  
Design wire distance (scaled from plan): <385 ft.  
Calculated Voltage Drop: 1.2 VDC\*

\* END-OF-LINE METHOD  
Voltage drop calculations are made assuming maximum current load to the last device of the circuit. Actually, current load decreases after each subsequent device. Therefore, the actual voltage drop will be less than the calculated voltage drop. This allows the installer some flexibility in circuit/wire routing without having to revise the calculations for each change made in the actual field installation.



**ELEVATOR SHUTDOWN RISER DIAGRAM**

SCALE: NONE



ISSUED FOR APPROVAL  
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Fire Protection Engineering, LLC  
Registration No. F-2535  
Date: 7/13/2012

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APPROVED BY: FDH  
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Fire Protection Engineering, LLC Reg. No. 21366  
Project: Keller Springs Lofts 4800 Keller Springs Road Addison, Texas 75001  
Installer: Christian Cable Group, Inc. 1150 Blue Mound Road W. ste 301 Haslet, TX 76052 817-439-5107 ACR-3219  
Revisions: 7/13/2012 Revised project address.  
SCALE: Noted  
DATE: 2/29/2012  
DRAWING NO. FA 6  
SHEET NO. 6 OF 11