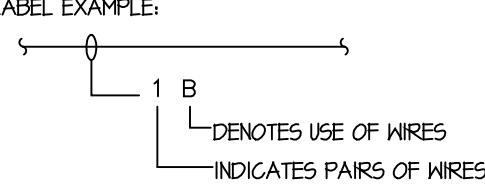


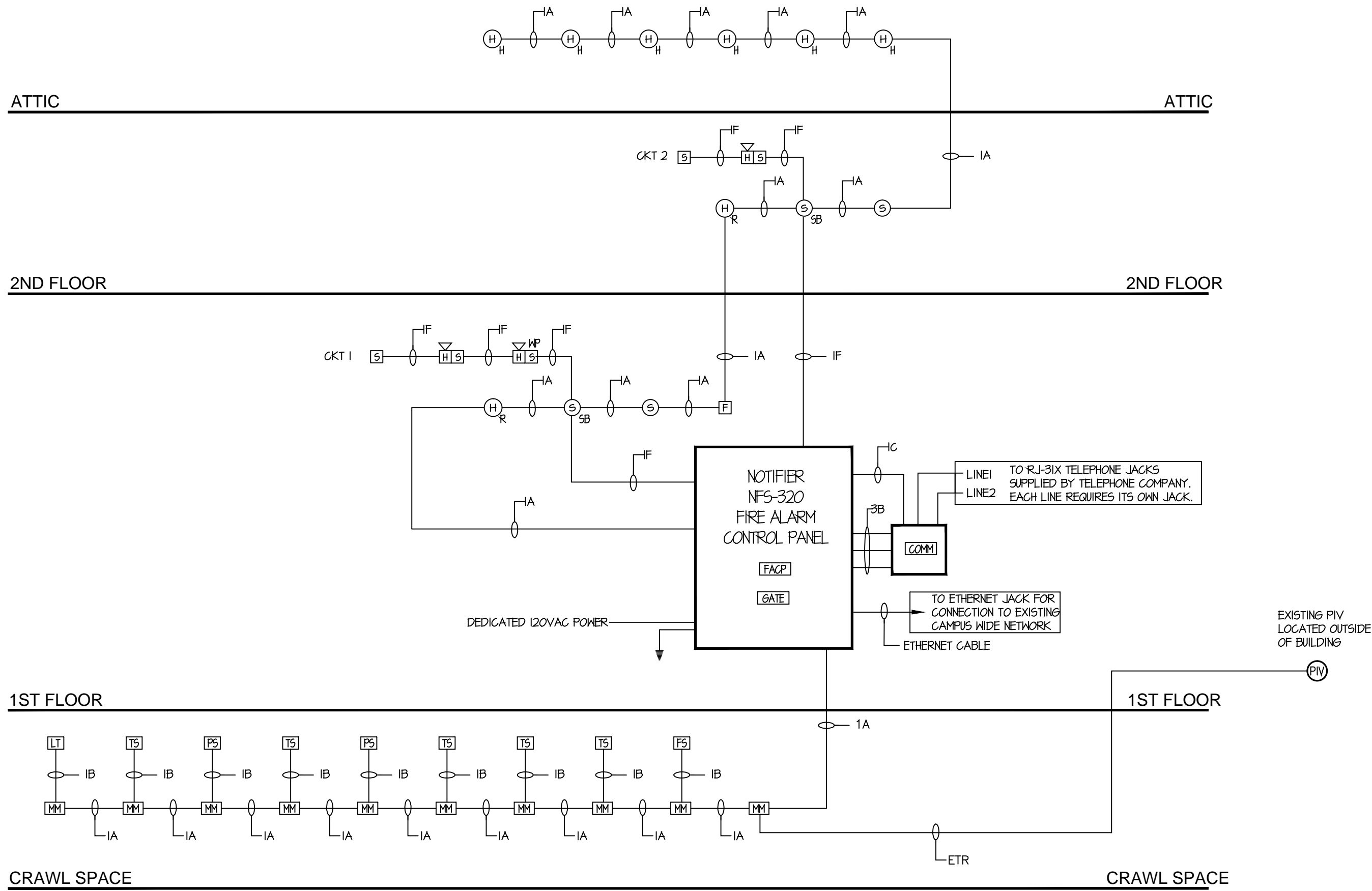
WIRE GUIDE		
LTR	DESCRIPTION	TYPE
A	SLC LOOP	16AWG UTP
B	CONVENTIONAL ZONE	16AWG UTP
C	24V DC POWER	16AWG UTP
D	BIA-MIS COMMUNICATION (ACS MODE)	16AWG STP
F	AVV CIRCUIT	16AWG STP

- NOTES:
- RISER DIAGRAM SHOWS NUMBER OF CIRCUITS AND WIRE SIZES. ACTUAL QUANTITY OF DEVICES IS SHOWN ON THE FLOOR PLANS. DEVICES TO BE ADDRESSED IN FIELD.
  - LABEL EXAMPLE:



ABBREVIATIONS:

STP= SHIELDED TWISTED PAIR  
UTP= UNSHIELDED TWISTED PAIR  
PR= UNSHIELDED TWISTED PAIR  
SLC= SIGNALING LINE CIRCUIT  
NAC= NOTIFICATION APPLIANCE CIRCUIT  
CKT= CIRCUIT  
AMS= AMERICAN WIRE GAUGE  
ETR= EXISTING WIRING TO REMAIN  
UP= MOUNTED UNDER RAISED FLOOR  
ROR= RATE OF RISE  
RM= ROOM



NOTIFIER NFS-320 FIRE ALARM RISER DIAGRAM

FIRE ALARM SYSTEM COMPONENTS			
SYMBOL	DEVICE	MANUFACTURER	MODEL NO.
[FACP]	FIRE ALARM CONTROL PANEL	NOTIFIER	NFS-320
[GATE]	GATEWAY	NOTIFIER	NFN-GW-EM-3
[COMM]	DIGITAL COMMUNICATOR	NOTIFIER	4H-4D
[P]	MANUAL PULL STATION	NOTIFIER	NB9-12LX
[SD]	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	NOTIFIER	FSP-851
[SD]	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR WITH SONDER BASE	NOTIFIER	FSP-851
[HD]	ADDRESSABLE RATE OF RISE, HEAT DETECTOR	NOTIFIER	FSP-85R
[HD]	ADDRESSABLE HIGH TEMP. RATE OF RISE, HEAT DETECTOR	NOTIFIER	FSP-85H
[SL]	ADJUSTABLE CANDELA STROBE LIGHT	SYSTEM SENSOR	SR
[SL]	COMBINATION ADJUSTABLE CANDELA, HORN AND STROBE	SYSTEM SENSOR	P2R
[SL]	COMBINATION ADJUSTABLE CANDELA, HORN AND STROBE HEATHERPROOF	SYSTEM SENSOR	P2RK
[M]	ADDRESSABLE MONITOR MODULE	NOTIFIER	FMH-1
[LT]	LOW TEMPERATURE SWITCH	POTTER	RTS-O
[TS]	TAMPER SWITCH	BY FIRE PROTECTION CONTRACTOR	
[PS]	FLOW SWITCH	BY FIRE PROTECTION CONTRACTOR	
[PS]	PRESSURE SWITCH	BY FIRE PROTECTION CONTRACTOR	
[PV]	POST INDICATOR VALVE	EXISTING	

ELECTRICAL WIRING SPECIFICATIONS:

ALL WIRING SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (ESPECIALLY ARTICLE 760) AND THE MANUFACTURER'S WRITTEN GUIDELINES. ALL WIRING TO BE IL LISTED, WIRING GAUGES, SHIELDING AND CHARACTERISTICS AS DESCRIBED ON RISER AND WIRING DIAGRAMS.

1. NON-POWER LIMITED FIRE ALARM (NPLFA) CIRCUITS

NPLFA CIRCUIT POWER SOURCE REQUIREMENTS:

- (A) POWER SOURCE: THE POWER SOURCE OF NON-POWER-LIMITED FIRE ALARM CIRCUITS SHALL COMPLY WITH CHAPTERS 1 THROUGH 4 OF THE NATIONAL ELECTRICAL CODE AND THE CIRCUIT VOLTAGE SHALL BE NOT MORE THAN 600 VOLTS NOMINAL.
- (B) BRANCH CIRCUIT: AN INDIVIDUAL BRANCH CIRCUIT SHALL BE REQUIRED FOR THE SUPPLY OF THE POWER SOURCE. THIS BRANCH CIRCUIT SHALL NOT BE SUPPLIED THROUGH GROUND-Fault CIRCUIT INTERRUPTERS OR ARC-FAULT CIRCUIT INTERRUPTERS. CIRCUIT BREAKERS SHALL BE MARKED WIRED AND LOADED. LOCATION AND NUMBER OF CIRCUIT BREAKER TO BE MARKED ON THE FIRE ALARM CONTROL PANEL.

- (C) ONLY COPPER CONDUCTORS SHALL BE PERMITTED TO BE USED FOR FIRE ALARM SYSTEMS.

- (D) INSULATION: INSULATION ON CONDUCTORS SHALL BE SUITABLE FOR 600 VOLTS. CONDUCTORS LARGER THAN 16 AWG SHALL COMPLY WITH ARTICLE 300.

- (E) ALL NON-POWER LIMITED WIRING SHALL BE RUN IN METALLIC RACEWAY, WIRING SHALL BE RA GAUGE MINIMUM TYPE THHN. NOTE: NON-POWER LIMITED WIRING FOR THIS PROJECT LIMITED TO PRIMARY 120VAC FIRE ALARM CONTROL PANEL, DEDICATED BRANCH CIRCUIT.

2. POWER LIMITED FIRE ALARM (PLFA) CIRCUITS

- (A) PLFA WIRING METHODS AND MATERIALS: POWER-LIMITED FIRE ALARM CONDUCTORS AND CABLES SHALL BE INSTALLED AS FOLLOWS:

- (B) WIRING SHALL BE INSTALLED IN RACEWAY OR FISHER IN CONCEALED SPACES. NO EXPOSED WIRING SHALL BE INSTALLED. CABLE SPIKES OR TERMINATIONS SHALL BE MADE IN LISTED FITTINGS, BOXES, ENCLOSURES, FIRE ALARM DEVICES, OR UTILIZATION EQUIPMENT.

- (C) PASSING THROUGH A FLOOR OR WALL: IN METAL RACEWAYS OR RIGID NONMETALLIC CONDUIT WHERE PASSING THROUGH A FLOOR OR WALL TO A HEIGHT OF 2' (1 FT) ABOVE THE FLOOR, UNLESS ADEQUATE PROTECTION CAN BE PROVIDED BY BUILDING CONSTRUCTION.

- (D) PLFA WIRING SHALL BE KEPT SEPARATED FROM NPLFA WIRING AS DESCRIBED BY ARTICLE 760 OF NATIONAL ELECTRICAL CODE.

- (E) POWER-LIMITED FIRE ALARM CIRCUIT CONDUCTORS SHALL NOT BE STRIPPED, TAPPED, OR ATTACHED BY ANY MEANS TO THE EXTERIOR OF ANY CONDUIT OR OTHER RACEWAY AS A MEANS OF SUPPORT.

(F) APPLICATIONS OF LISTED PLFA CABLES:

- (1) PLENUM CABLES INSTALLED IN DUCTS, PLENUMS, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE PPL.

- (2) RISER CABLES INSTALLED IN RISERS, VERTICAL RING AND PENETRATING MORE THAN ONE FLOOR, OR CABLES INSTALLED IN VERTICAL RING IN A SHUNT, SHALL BE TYPE FPL. FLOOR PENETRATIONS REGARDING TYPE FPL SHALL CONTAIN ONLY CABLES SUITABLE FOR RISER OR PLENUM USE.

- (3) OTHER WIRING WITH BUILDINGS CABLES INSTALLED IN BUILDING LOCATIONS OTHER THAN THE ABOVE SHALL BE TYPE PPL.

3. GENERAL

- A. ALL CONDUCTORS ARE TO BE PROPERLY TAPPED OR MARKED IN THE CONTROL PANEL AND CORRESPOND WITH THE CONTROL PANEL TERMINAL NUMBERS FOR IDENTIFICATION PURPOSES. WIRING MUST GO TO AND FROM EACH DEVICE. BRANCH CIRCUITS (F - 16PS) ARE NOT PERMITTED. POLARITY TO BE OBSERVED THROUGHOUT.

- B. ALL CIRCUITS SHALL RUN CONTINUOUS BETWEEN DEVICES, WITHOUT SPICES WHERE EVER PRACTICAL, WHERE A CONTINUOUS WIRE RUN IS NOT POSSIBLE, CONNECTIONS SHALL BE MADE IN AN IDENTIFIED IL LISTED ELECTRICAL BOX UTILIZING TERMINAL STRIPS. THE USE OF WIRE NUTS IS NOT PERMITTED.

4. ALL WORK TO BE IN ACCORDANCE WITH THE NFPA 70: 2014 & NFPA 70: 2008 STANDARDS.

SCOPE OF WORK:

- INSTALL NEW NOTIFIER NFS-320 ADDRESSABLE FIRE ALARM CONTROL PANEL.
- PROVIDE AND INSTALL NEW DETECTION AND NOTIFICATION APPLIANCES IN EACH RESIDENTIAL UNIT AND COMMON AREAS.
- MONITOR EXISTING WATER FLOW SWITCHES, TAMPER SWITCHES, & POST INDICATING VALVE.
- MONITOR NEW PRESSURE SWITCHES AND TAMPER SWITCHES FOR NEW DRY SPRINKLER SYSTEMS.
- PROVIDE AND INSTALL MONITORED LOW TEMPERATURE SWITCH IN CRAWL SPACE.
- RESIDENCE APARTMENTS ARE EQUIPPED WITH ELECTRIC KITCHENS ONLY. NO CO PRODUCTION EQUIPMENT IS LOCATED WITHIN THE BUILDING.
- PROVIDE AND INSTALL HEAT DETECTION IN THE ATTIC.
- CONTRACTOR IS REQUIRED TO SUBMIT THREE (3) SETS OF SIGNED AND SEALED FIRE ALARM DRAWINGS AND CALCULATIONS. THESE DOCUMENTS SHALL INCLUDE BATTERY AND VOLTAGE DROP CALCULATIONS AND MANUFACTURER'S DEVICES AND COMPONENTS WHICH WILL BE INSTALLED ON THIS PROJECT. SUBMITTAL IS TO BE REVIEWED AND APPROVED BY DESIGNER OF RECORD, AS PER NJLAC 5-25-2010(4)(b), NJLAC 5-25-2-9(1), & NJ 2008 E.C. 701.2

USE THIS MATRIX TO DETERMINE THE CONTROL PANEL'S ACTION WHEN AN ALARM CONDITION EXISTS (LISTED BELOW)

SYSTEM CONDITION	CONTROL PANEL ACTION									
	DISARM & SOUND EVERY 4 CONTROL PANEL DISARM	ACTIVE FIRE ALARM STROBE & SIREN	ACTIVE SIREN STROBE & SIREN	ACTIVE SIREN STROBE & SIREN	ACTIVE SIREN STROBE & SIREN	ACTIVE SIREN STROBE & SIREN	ACTIVE SIREN STROBE & SIREN	ACTIVE SIREN STROBE & SIREN	ACTIVE SIREN STROBE & SIREN	ACTIVE SIREN STROBE & SIREN
AREA SMOKE DETECTOR	X	X	X	X	X	X	X	X	X	X
BEDROOM SMOKE DETECTOR	X	X	X	X	X	X	X	X	X	X
MANUAL PULL STATION	X	X	X	X	X	X	X	X	X	X
HEAT DETECTOR	X	X	X	X	X	X	X	X	X	X
WATERFLOW SWITCH	X	X	X	X	X	X	X	X	X	X
PRESSURE SWITCH	X	X	X	X	X	X	X	X	X	X
LOW TEMPERATURE SWITCH	X	X	X	X	X	X	X	X	X	X
TAMPER SWITCH	X	X	X	X	X	X	X	X	X	X
POST INDICATOR VALVE TAMPER	X	X	X	X	X	X	X	X	X	X
FIELD WIRING OR SYSTEM COMPONENT FAULT	X	X	X	X	X	X	X	X	X	X
LOSS OF PRIMARY AC POWER	X	X	X	X	X	X	X	X	X	X

FIRE ALARM SYSTEM FUNCTION MATRIX

Revisions

Date	Issue	Description
03-06-15	1	ISSUED FOR DCA TILING
03-18-15	2	ISSUED FOR BIDDING

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Date 02-03-15 Scale AS NOTED

Drawn By MD Checked By SG

Dwg. Title  
FIRE ALARM NOTES, RISER DIAGRAM,  
SCHEDULE & SYSTEM SEQUENCE OF  
OPERATION MATRIX

Work Order No. Dwg. No.

4698G E401