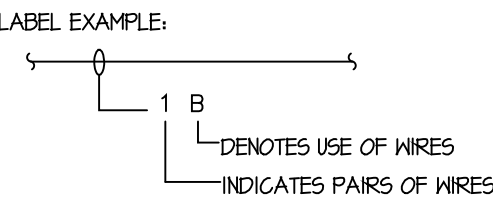


WIRE GUIDE		
LTR	DESCRIPTION	TYPE
A	SLC LOOP	16AWG UTP
B	CONVENTIONAL ZONE	16AWG UTP
C	24V DC POWER	16AWG UTP
D	EIA-485 COMMUNICATION (ACS MODEL)	16AWG STP
F	AV CIRCUIT	16AWG STP

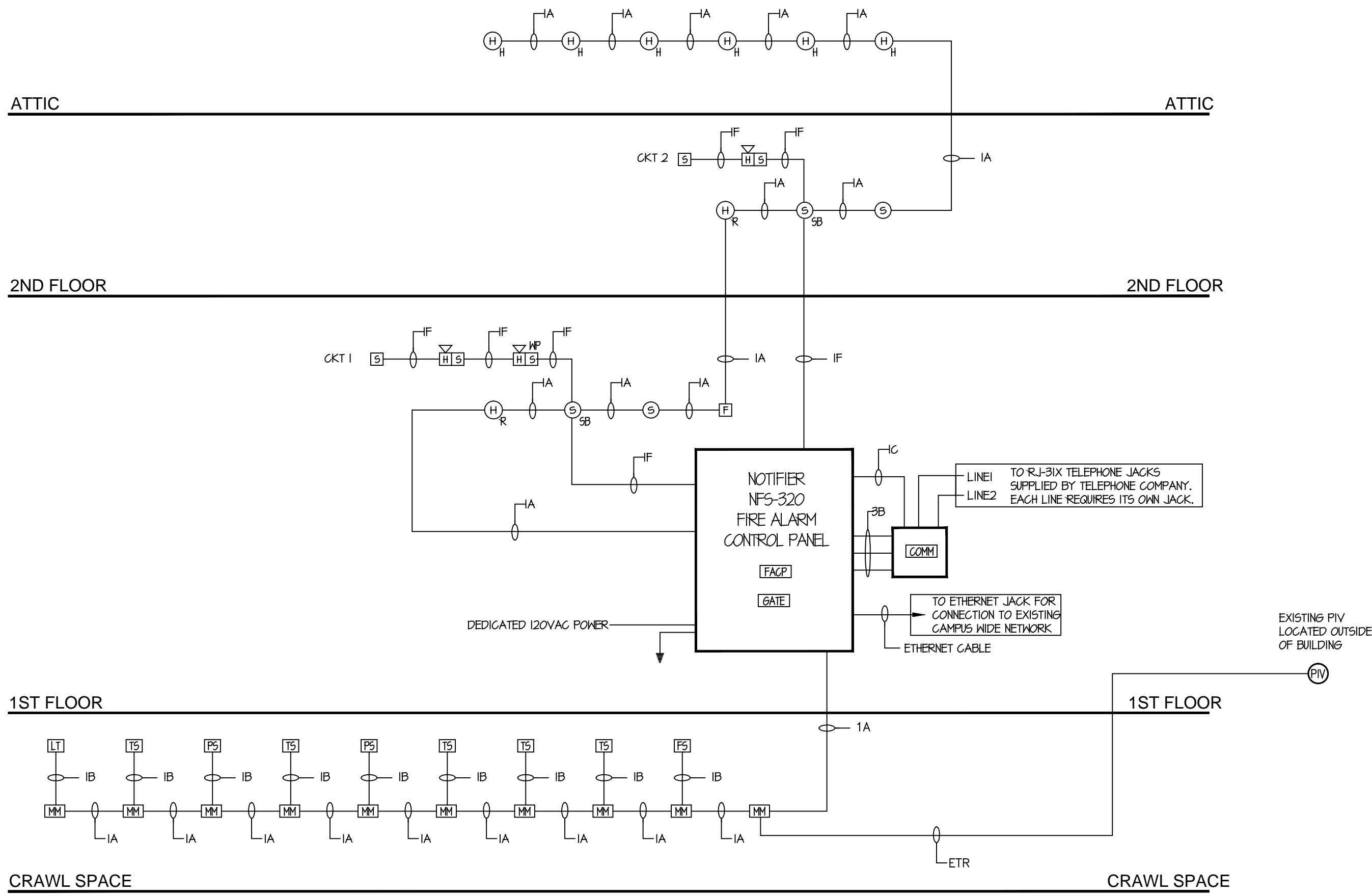
NOTES:

1. 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.
2. LABEL EXAMPLE:



ABBREVIATIONS:

- STP- SHIELDED TWISTED PAIR
UTP- UNSHIELDED TWISTED PAIR
R- UNSHIELDED UNTWISTED PAIR
SLC- SIGNALING LINE CIRCUIT
NAC- NOTIFICATION APPLIANCE CIRCUIT
OCT- CIRCUIT
AMG- AMERICAN WIRE GAUGE
ETR- EXISTING WIRING TO REMAIN
IF- MOUNTED UNDER RAISED FLOOR
ROR- RATE OF RISE
RM- ROOM



NOTIFIER NFS-320 FIRE ALARM RISER DIAGRAM

ELECTRICAL WIRING SPECIFICATIONS:

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

1. NON-POWER LIMITED FIRE ALARM (NFPA) CIRCUITS:

NFPA 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 IN RED AND LOCKED. 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 10 AWG SHALL COMPLY WITH ARTICLE 310.
- (E) ALL NON-POWER LIMITED WIRING SHALL BE RUN IN METALLIC RACEWAY. WIRING SHALL BE 1/4 GAUGE MINIMUM TYPE THIN. 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 FISHED IN CONCEALED SPACES. NO EXPOSED WIRING SHALL BE INSTALLED. CABLE SPLICES OR TERMINATIONS SHALL BE MADE IN LISTED FITTING 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 21 FT (7 FT) ABOVE THE FLOOR, UNLESS ADEQUATE PROTECTION CAN BE AFFORDED BY BUILDING CONSTRUCTION.
- (D) PLFA WIRING SHALL BE KEPT SEPARATED FROM NFPA WIRING AS DESCRIBED BY ARTICLE 760 OF NATIONAL ELECTRICAL CODE.
- (E) POWER-LIMITED FIRE ALARM CIRCUIT CONDUCTORS SHALL NOT BE STRAPPED, TAPPED, OR ATTACHED BY ANY MEANS TO THE EXTERIOR OF ANY CONDUIT OR OTHER RACEWAY AS A MEANS OF SUPPORT.
- (F) ATTENUATIONS OF LISTED PLFA CABLES: (NOTE - THE BUILDING COVERED BY THIS PROJECT CONTAINS NO PLENUM AREAS)
 - (i) PLENUM CABLES INSTALLED IN DUCTS, PLENUMS, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE PLFP.
 - (ii) RISER CABLES INSTALLED IN RISERS, VERTICAL RIMS AND PENETRATING MORE THAN ONE FLOOR, OR CABLES INSTALLED IN VERTICAL RIMS IN A SHUTT, SHALL BE TYPE FPLR. FLOOR PENETRATIONS REGARDING TYPE FPLR SHALL CONTAIN ONLY CABLES SUITABLE FOR RISER OR PLENUM USE.
 - (iii) OTHER WIRING WITHIN BUILDINGS: CABLES INSTALLED IN BUILDING LOCATIONS OTHER THAN THE ABOVE SHALL BE TYPE FPL.

3. GENERAL:

- (A) ALL CONDUCTORS ARE TO BE PROPERLY TAGGED OR NUMBERED 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 (I - TAPS) ARE NOT PERMITTED. POLARITY IS TO BE OBSERVED THROUGHOUT.
- (B) ALL CIRCUITS SHALL RUN CONTINUOUS BETWEEN DEVICES WITHOUT SPLICES 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.
- (C) ALL WORK TO BE IN ACCORDANCE WITH THE NFPA 70: 2014 & NFPA 72: 2013 STANDARDS.

SCOPE OF WORK:

1. INSTALL NEW NOTIFIER NFS-320 ADDRESSABLE FIRE ALARM CONTROL PANEL.
2. PROVIDE AND INSTALL NEW DETECTION AND NOTIFICATION APPLIANCES IN EACH RESIDENTIAL UNIT AND COMMON AREAS.
3. MONITOR EXISTING WATER FLOW SWITCHES, TAMPER SWITCHES, & POST INDICATING VALVE.
4. MONITOR NEW PRESSURE SWITCHES AND TAMPER SWITCHES FOR NEW DRY SPROKLER SYSTEMS.
5. PROVIDE AND INSTALL MONITORED LOW TEMPERATURE SWITCH IN CRAWL SPACE.
6. RESIDENCE APARTMENTS ARE EQUIPPED WITH ELECTRIC KITCHENS ONLY. NO CO PROODING EQUIPMENT IS LOCATED WITHIN THE BUILDING.
7. PROVIDE AND INSTALL HEAT DETECTION IN THE ATTIC.
8. 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 MANUFACTURERS SPECIFICATIONS AND COMPONENTS SHALL BE INSTALLED ON THIS PROJECT. SUBMITTAL IS TO BE REVIEWED AND APPROVED BY DESIGNER OF RECORD, AS PER NJLAC: 5-25-2007(40); NJLAC: 5-25-2-1501; & NJ 2004 BC: 1012

USE THIS MATRIX TO DETERMINE THE CONTROL PANEL'S ACTION WHEN AN ALARM CONDITION EXISTS (LISTED BELOW)		CONTROL PANEL ACTION				
SYSTEM CONDITION	AREA SMOKE DETECTOR	X	X	X	X	X
	BEDROOM SMOKE DETECTOR	X	X	X	X	X
	MANUAL PULL STATION	X	X	X	X	X
	HEAT DETECTOR	X	X	X	X	X
	WATERFLOW SWITCH	X	X	X	X	X
	PRESSURE SWITCH	X	X	X	X	X
	LOW TEMPERATURE SWITCH	X	X	X	X	X
	TAMPER SWITCH	X	X	X	X	X
	POST INDICATOR VALVE TAMPER	X	X	X	X	X
	FIELD WIRING OR SYSTEM COMPONENT FAILURE	X	X	X	X	X
	LOSS OF PRIMARY AC POWER	X	X	X	X	X
	DISARM & SOUND BELL AT CONTROL PANEL DISPLAY	X	X	X	X	X

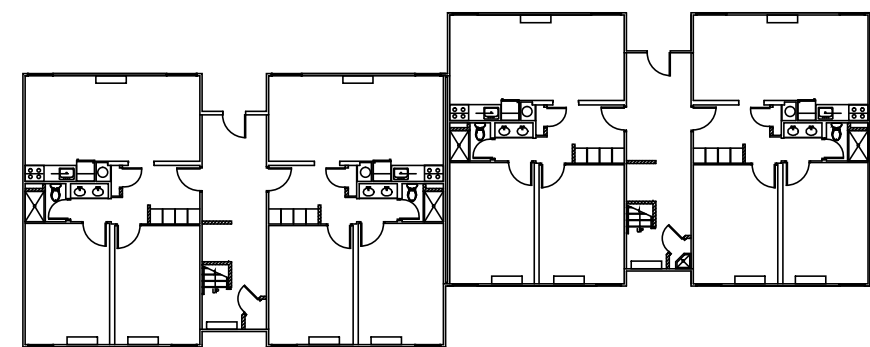
FIRE ALARM SYSTEM FUNCTION MATRIX

FIRE ALARM SYSTEM COMPONENTS			
SYMBOL	DEVICE	MANUFACTURER	MODEL NO.
[FACP]	FIRE ALARM CONTROL PANEL	NOTIFIER	NFS-320
[GATE]	GATEWAY	NOTIFIER	NN-GW-EM-3
[COMM]	DIGITAL COMMUNICATOR	NOTIFIER	41H-D
[F]	MANUAL PULL STATION	NOTIFIER	NBS-2LX
[S]	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	NOTIFIER	FSP-851
[S] _{SB}	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR WITH SONDER BASE	NOTIFIER	FSP-851
[U] _R	ADDRESSABLE RATE OF RISE, HEAT DETECTOR	NOTIFIER	FSP-85R
[U] _H	ADDRESSABLE HIGH TEMP. HOT, HEAT DETECTOR	NOTIFIER	FSP-85H
[S]	ADJUSTABLE CANDELA STROBE LIGHT	SYSTEM SENSOR	SR
[HIS] _Δ	COMBINATION ADJUSTABLE CANDELA, HORN AND STROBE	SYSTEM SENSOR	P2R
[HIS] _Δ _{WP}	COMBINATION ADJUSTABLE CANDELA, HORN AND STROBE WEATHERPROOF	SYSTEM SENSOR	P2RK
[MM]	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	
[PIV]	POST INDICATOR VALVE	EXISTING	

Revisions

Date	Issue	Description
06-03-15	1	ISSUED FOR CONSTRUCTION
11-16-15	2	REVISED PER NJDOA ELECTRONIC STAMP

Key Plan



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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. 4698H Dwg. No. E402