

REVISIONS	DATE
ADDENDUM NO. 1	08/18/09

DRAWING STATUS	DATE
● DSA PLAN CHECK	08/29/08
● DSA BACK CHECK	01/22/09
● BIDDING (BID #86593)	08/18/09
○ CONSTRUCTION	

FILE NO. 41-C1
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
01 - 110074
AC, FLS, SS
DATE

BUILDINGS 5 & 6 RENOVATIONS

San Mateo County Community College District

BID ADDENDA

APPROVED
DIV. OF THE STATE ARCHITECT
AC, FLS, AC, SS
APPL. NO. 110074 DATE 2/17/10

CAÑADA COLLEGE
4200 Farm Hill Boulevard
Redwood City, CA 94061

FIRE ALARM SYMBOL LIST,
NOTES, MATRIX &
DRAWING INDEX

FIRE ALARM SYMBOL LIST

SYMBOL	DESCRIPTION	CSFM
[FAMP]	FIRE ALARM REMOTE PANEL SIEMENS MXL PFR-1 (EXISTING)	7300-0067:152
[MAC]	WAC POWER EXTENDER WHEELOCK PS-12/24-BMP (EXISTING)	7315-0785:162
[CM]	CONTROL MODULE SIEMENS TRI-R	7300-0067:148
[DM]	DUAL MONITOR MODULE SIEMENS TRI-D	7300-0067:148
[M]	MANUAL FIRE ALARM PULL STATION SIEMENS MSI-10B	7150-0067:038
[SD]	SMOKE DETECTOR SIEMENS FP-11	7272-0067:203
[DSM]	DUCT SMOKE DETECTOR SIEMENS AD2-XHR	3240-0067:245
[PBM]	PHOTOELECTRIC BEAM DETECTOR SIEMENS PBA-1191 WITH PBR-1193 REFLECTOR AND C2M-186 ZONE MODULE	7280-0067:204
[H]	FIRE ALARM HORN/STROBE - # DENOTES CANDELA WHEELOCK NS-24MCW	7125-0785:142
[HS]	FIRE ALARM STROBE - # DENOTES CANDELA WHEELOCK RSS-24MCW	7125-0785:141
[WH]	FIRE ALARM HORN WHEELOCK NH-24	7125-0785:142
[SDP]	FIRE SMOKE DAMPER BY OTHERS	NA
[MDH]	MAGNETIC DOOR HOLDER 24 VDC BY OTHERS	NA
[WFS]	WATER FLOW SWITCH BY OTHERS	NA
[VTS]	VALVE TAMPER SWITCH BY OTHERS	NA

ABBREVIATIONS

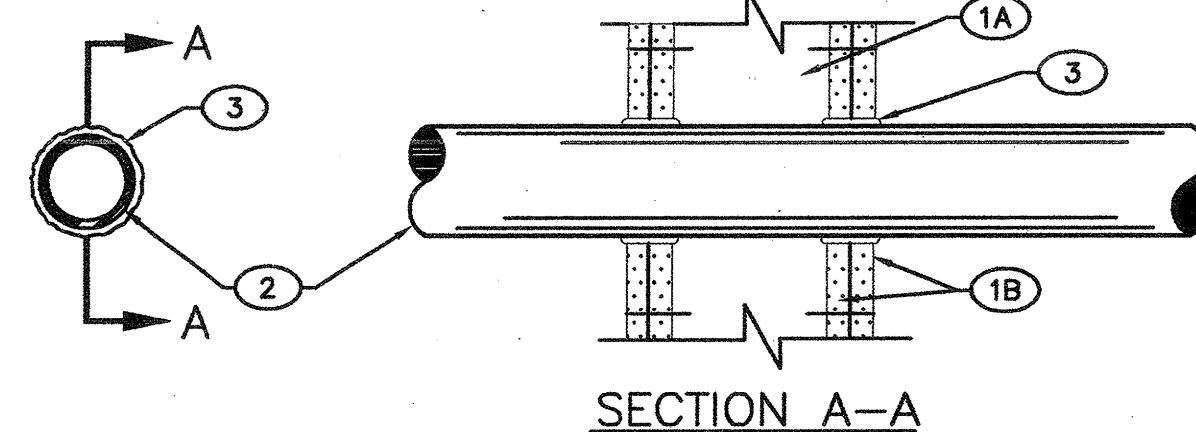
(E) = EXISTING
(WP) = WEATHERPROOF

FIRE ALARM SYSTEM NOTES

- THE FIRE ALARM SYSTEM IS AN AUTOMATIC ADDRESSABLE, POWER-LIMITED FIRE ALARM SYSTEM. MANUAL PULL STATIONS ARE PROVIDED AT ALL EXITS. SMOKE DETECTORS ARE PROVIDED FOR THE HVAC SYSTEM AND TO PROTECT THE FIRE ALARM CONTROL UNITS.
- CLASS B, STYLE 4 SLC SYSTEM.
- NOTIFICATION APPLIANCE CIRCUITS ARE CLASS B, STYLE Y.
- MINIMUM CONDUIT SIZE TO BE 3/4" FOR FIRE ALARM SYSTEM.
- 10% MAXIMUM VOLTAGE DROP AND 80% MAXIMUM CURRENT ALLOWED FOR NOTIFICATION APPLIANCE CIRCUITS.
- LISTING NUMBERS FOR EACH COMPONENT HAVE BEEN APPROVED BY DSA. UPON COMPLETION OF THE INSTALLATION, A TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE DSA INSPECTOR OF RECORD.
- UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO DSA/PROJECT INSPECTOR. THE CONTRACTOR MUST SUPPLY NECESSARY TESTING EQUIPMENT INCLUDING A "SOUND LEVEL METER" TO CHECK ACCEPTABLE DECIBEL LEVELS OF AUDIBLE DEVICES. PROVIDE TEST RESULTS PER THE NFPA 72 "RECORD OF COMPLETION" TO ARCHITECT, DSA, PROJECT INSPECTOR, OWNER, AND TO THE LOCAL FIRE AUTHORITY.
- THE "END OF LINE RESISTANCE" FOR EACH CIRCUIT SHALL BE TESTED IN THE PRESENCE OF THE PROJECT INSPECTOR AND SHALL NOT EXCEED A MAXIMUM OF 10% OF THE 24 VOLT SYSTEM. EACH COMPONENT IN THE CIRCUIT SHALL NOT EXCEED THE LISTED MANUFACTURER'S MINIMUM OPERATING VOLTAGES. SEE NFPA 72, LOOP RESISTANCE. THIS SECTION REQUIRES THAT ALL INITIATING AND INDICATING (NOTIFICATION APPLIANCE) CIRCUITS TO BE MEASURED AND RECORDED.
- PENETRATIONS OF ALL FIRE-RESISTIVE WALLS SHALL BE PROTECTED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE.
- ALARM INDICATING DEVICES OF A FIRE ALARM SYSTEM INTENDED TO ALERT ALL OCCUPANTS SHALL CAUSE A LEVEL OF AUDIBILITY OF NOT LESS THAN 15 dBA ABOVE THE AVERAGE AMBIENT NOISE LEVELS OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF 60 SECONDS WHICH-EVER IS GREATER, MEASURED 5' ABOVE THE FLOOR. AMBIENT NOISE LEVELS MEANS THE LEVEL THAT CAN BE NORMALLY EXPECTED WHEN THE FACILITY, BUILDING, ROOM, OR AREA IS FUNCTIONING UNDER NORMAL OPERATING OR WORKING CONDITIONS (NFPA 72, SEC. 7.4.2).
- THE ALARM SYSTEM SHALL ACTIVATE A MEANS OF WARNING TO ALERT THE HEARING IMPAIRED. FLASHING VISUAL WARNINGS SHALL HAVE A FLASH RATE NOT EXCEEDING 2 FLASHES PER SECOND (2 HZ) NOR BE LESS THAN ONE FLASH PER SECOND (1 HZ). STROBE SIGNALING DEVICES FOR THE HEARING IMPAIRED SHALL BE STATE FIRE MARSHAL APPROVED AND LISTED (NFPA 72, SEC. 7.5.2). STROBES SHALL BE SYNCHRONIZED.

THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ)

SYSTEMS NO. W-1-1001
F RATINGS - 1, 2, 3 AND 4 HR (SEE ITEMS 2 AND 3)
T RATINGS - 0, 1, 2, 3 AND 4 HR (SEE ITEM 3)
L RATING AT AMBIENT - LESS THAN 1 CFM/SQ FT
L RATING AT 400°F - LESS THAN 1 CFM/SQ FT

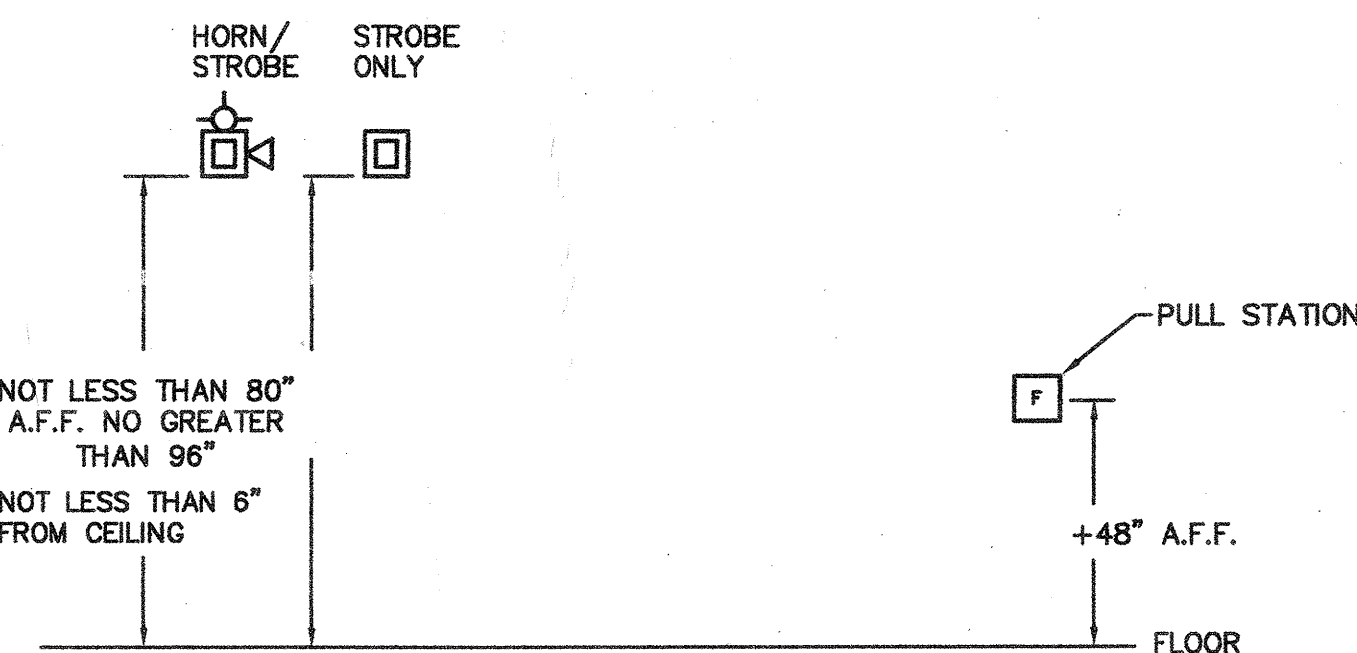


- WALL ASSEMBLY - THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
 - STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. O.C. WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE BY 1-3/8 IN. DEEP CHANNELS SPACED MAX 24 IN. O.C.
 - GYPSUM BOARD* - NOM 1/2 OR 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM. OF OPENING IS 26 IN.
- THROUGH PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (POINT CONTACT) TO MAX 2 IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
 - STEEL PIPE - NOM 24 IN. DIAM. (OR SMALLER), SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
 - IRON PIPE - NOM 24 IN. DIAM. (OR SMALLER), SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. DIAM. (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.
 - CONDUIT - NOM 6 IN. DIAM. (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. DIAM. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
 - COPPER TUBING - NOM 6 IN. DIAM. (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
 - COPPER PIPE - NOM 6 IN. DIAM. (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
- FILL VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 5/8, 1-1/4, 1-7/8 AND 2-1/2 IN. THICKNESS OF CAULK FOR 1, 2, 3 AND 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. DIAM. BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDANT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDANT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAX PIPE OR CONDUIT DIAM., IN.	ANNULAR SPACE, IN.	F RATING, HOUR	T RATING, HOUR
1	0 TO 3/16	1 OR 2	0+, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

MAX PIPE OR CONDUIT DIAM., IN.	ANNULAR SPACE, IN.	F RATING, HOUR	T RATING, HOUR
1	0 TO 3/16	1 OR 2	0+, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

+WHEN COPPER PIPE IS USED, T RATING IS 0 HOUR.
3M COMPANY - CP 25WB+CAULK OR FB-3000 WT SEALANT.
* BEARING THE UL CLASSIFICATION MARKING.



1 MOUNTING HEIGHT REQUIREMENTS

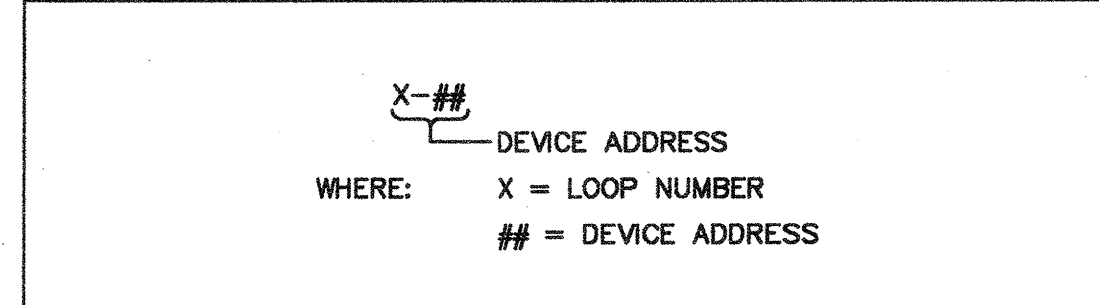
FIRE ALARM MONITORING NOTE

AUTOMATIC FIRE ALARM SYSTEM SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AS AMENDED BY ARTICLE 91. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UJFX OR UJUS BY UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011. SUPERVISION OF SYSTEM AND LEASED TELEPHONE LINES SHALL BE ARRANGED BY OWNER.

INSTALLATION NOTES:

- THE FIRE ALARM SYSTEM SHALL CONFORM TO THE ADOPTED EDITIONS OF THE CALIFORNIA ELECTRICAL CODE ARTICLE 760, CALIFORNIA CODE OF REGULATIONS TITLES 19 AND 24, AS APPLICABLE TO THIS PROJECT, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 72.
- INSTALLATION OF THE SYSTEM SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS, INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY DSA.
- A MINIMUM OF 48 HOURS NOTICE SHALL BE REQUIRED FOR ANY INSPECTION AND/OR TESTING.
- A STAMPED SET OF APPROVED FIRE ALARM PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES, SHALL BE APPROVED BY DSA.
- DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR OF RECORD.
- A CERTIFICATE OF COMPLIANCE SHALL BE PREPARED BY THE INSTALLER AND GIVEN TO THE INSPECTOR UPON COMPLETION OF THE INSTALLATION.
- ALL FIRE ALARM CIRCUITS ARE CONTINUOUS FROM DEVICE TO DEVICE. SPLICES ARE NOT ALLOWED UNLESS IN COVERED JUNCTION BOXES ON APPROVED TERMINAL BLOCKS. WHEN SPLICING TSP, IT IS NECESSARY THAT ALL SUCH CONNECTIONS BE SOLDERED (RESIN-CORE SOLDER), CRIMPED IN METAL SLEEVES, ENCAPSULATED WITH AN EPOXY RESIN OR JOINED BY WIRE NUTS. WHEN SOLDER OR CRIMPED METAL SLEEVES ARE USED, THE JUNCTION MUST BE INSULATED WITH A HIGH GRADE ELECTRICAL TAPE AS SOUND AS THE ORIGINAL INSULATING JACKET. CONTINUITY OF THE SHIELD MUST BE MAINTAINED.
- NUMBER ADJACENT TO ADDRESSABLE DEVICES INDICATES SLC# AND ADDRESS. NUMBER ADJACENT TO NOTIFICATION APPLIANCES INDICATES CIRCUIT NUMBER AND DEVICE SEQUENCE, E.G., NA1-7 IS THE 7TH DEVICE ON CIRCUIT A1.
- THE FIRE ALARM SIGNALS SHALL BE DISTINCTIVE IN SOUND FROM ANY OTHER SIGNALS AND THAT THIS SOUND NOT BE USED FOR ANY OTHER PURPOSE. TO MEET THIS REQUIREMENT, THE FIRE ALARM SIGNAL USED TO NOTIFY BUILDING OCCUPANTS OF THE NEED TO EVACUATE (LEAVE THE BUILDING) SHALL MATCH EXISTING SOUND & PATTERN.
- AREA SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 3'-0" FROM:
 - THE DOOR TO A KITCHEN OR A BATHROOM CONTAINING A TUB OR SHOWER.
 - SUPPLY REGISTERS OF A FORCED AIR HEATING OR COOLING SYSTEM.
- ALL EXTERIOR AND UNDERGROUND CONDUIT SHALL BE WATERTIGHT.
- ALL WIRING SHALL BE IN CONDUIT.

FIRE ALARM ADDRESS LEGEND



WIRE SCHEDULE

A	1 PAIR #16 TWISTED AND SHIELDED
B	1 PAIR #12

NOTE: LETTER DESIGNATION INDICATES CABLE TYPE, NUMBER OF HASH MARKS INDICATES QUANTITY OF CABLES. E.G., A-1, INDICATES TWO, #16 TSP CABLES.

DRAWING INDEX

- FA0.1 FIRE ALARM SYMBOL LIST, NOTES, MATRIX & DRAWING INDEX
- FA3.1 FIRE ALARM PLAN - FIRST FLOOR
- FA3.2 FIRE ALARM PLAN - SECOND FLOOR
- FA3.3 FIRE ALARM PLAN - THIRD FLOOR
- FA4.1 FIRE ALARM RISER DIAGRAM AND CALCULATIONS

FIRE ALARM SYSTEM OPERATIONAL MATRIX

CAUSE	ALARM										TROUBLE/SUPERVISORY	MISC.	
	EFFECT	ALARM AT TAP	ALARM TO CENTRAL STATION	ACTIVATE ADDRESS	ACTIVE VISUALS	FAN SHUT DOWN	DOOR TAMPER	FIRE SMOKE DAMPER RELEASE	PRIMARY ELEVATOR RECALL	ALTERNATE ELEVATOR RECALL			
SPOT TYPE SMOKE DETECTOR	●	●	●	●	●	●	●	●	●	●	●	●	●
DESIGNATED LEVEL ELEV LOBBY SMOKE DETECTOR	●	●	●	●	●	●	●	●	●	●	●	●	●
OTHER THAN DESIGNATED LEVEL ELEV LOBBY SMOKE DETECTOR	●	●	●	●	●	●	●	●	●	●	●	●	●
ELEV MECH ROOM SMOKE DETECTOR	●	●	●	●	●	●	●	●	●	●	●	●	●
DUCT SMOKE DETECTOR	●	●	●	●	●	●	●	●	●	●	●	●	●
PHOTOELECTRIC BEAM DETECTOR	●	●	●	●	●	●	●	●	●	●	●	●	●
MANUAL PULL STATION	●	●	●	●	●	●	●	●	●	●	●	●	●
FIRE SPRINKLER WATER FLOW	●	●	●	●	●	●	●	●	●	●	●	●	●
FIRE SPRINKLER VALVE TAMPER	●	●	●	●	●	●	●	●	●	●	●	●	●
SYSTEM SILENCE	●	●	●	●	●	●	●	●	●	●	●	●	●
SYSTEM RESET	●	●	●	●	●	●	●	●	●	●	●	●	●
POWER FAILURE	●	●	●	●	●	●	●	●	●	●	●	●	●
FIRE ALARM TROUBLE (OPEN, OR GROUNDS) ON INITIATION OR SIGNAL CIRCUITS	●	●	●	●	●	●	●	●	●	●	●	●	●