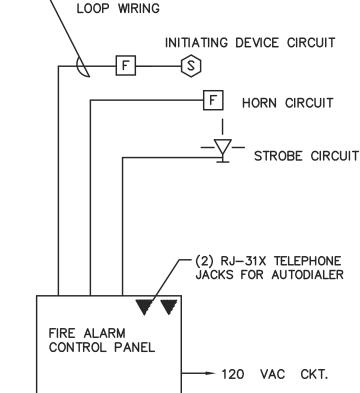
SAP RAP

1657E2

FIRE ALARM SYSTEM NOTES

1. FIRE ALARM RISER IS TYPICAL ONLY. SEE PLANS FOR EXACT QUANTITY AND LOCATION OF DEVICES.

S SMOKE DETECTOR



FIRE ALARM RISER



F PULL STATION

HORN/STROBE COMBINATION.

RESTROOM

RESTROOM

FACP

SMALL EVENT ROOM

PANEL 'P

P-13,15

[→] P-29,31

, -\<u>\</u>FF

-28,30

FIRE ALARM CONTROL PANEL

- A. GENERAL: COMPLY WITH UL 864, "CONTROL UNITS AND ACCESSORIES FOR FIRE ALARM"
- B. THE FOLLOWING FACP HARDWARE SHALL BE PROVIDED:

- 3. 100 PPOINTS OF NETWORK ANNUNCIATION AT FACP DISPLAY WHEN APPLIED AS A
- 4. 2,000 POINTS OF ANNUNCIATION WHERE ONE (1) POINT OF ANNUNCIATION EQUALS:
- 6. 2 AMP AUXILIARY POWER OUTPUT WITH ELECTRONIC OVERLOAD PROTECTION, AUTOMATIC RESTORAL, AND PROGRAMMABLE OPERATION FOR FOUR-WIRE DETECTOR RESET OPERATION.
- 8. PROVIDE FACP SUPPORT RS-232-C FOR TWO-WAY COMMUNICATIONS.

EMERGENCY POWER SUPPLY

B. BATTERY: SEALED LEAD—ACID OR NICKEL CADMIUM TYPE. PROVIDE SUFFICIENT CAPACITY TO OPERATE THE COMPLETE ALARM SYSTEM IN NORMAL OR SUPERVISORY (NON—ALARM) MODE FOR A PERIOD OF 24 HOURS. FOLLOWING THIS PERIOD OF OPERATION ON BATTERY POWER, THE BATTERY SHALL HAVE SUFFICIENT CAPACITY TO OPERATE ALL COMPONENTS OF THE SYSTEM, INCLUDING ALL ALARM NOTIFICATIONS DEVICES IN ALARM MODE FOR A PERIOD OF

- A. ADDRESSABLE MANUAL PULL STATIONS
- 1. DESCRIPTION: ADDRESSABLE SINGLE-ACTION TYPE, RED LEXAN, WITH MOLDED, RAISED-LETTER OPERATING INSTRUCTIONS OF CONTRASTING COLOR. STATION WILL MECHANICALLY LATCH UPON OPERATION AND REMAIN SO UNTIL MANUALLY RESET BY OPENING WITH A KEY COMMON WITH
- 2. PROTECTIVE SHIELD: WHERE REQUIRED, AS INDICATED ON THE DRAWINGS, PROVIDE A TAMPERPROOF, CLEAR LEXAN SHIELD AND RED FRAME THAT EASILY FITS OVER MANUAL PULL STATIONS. WHEN SHIELD IS LIFTED TO GAIN ACCESS TO THE STATION, A BATTERY POWERED PIERCING WARNING HORN SHALL BE ACTIVATED. THE HORN SHALL BE SILENCED BY LOWERING AND REALIGNING THE SHIELD. THE HORN SHALL PROVIDE 85dB AT 10 FEET AND SHALL BE POWERED BY A 9 VDC BATTERY.
- 1. GENERAL: COMPLY WITH UL 268, "SMOKE DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS."
- INCLUDE THE FOLLOWING FEATURES: a) FACTORY NAMEPLATE: SERIAL NUMBER AND TYPE IDENTIFICATION.
- b) OPERATING VOLTAGE: 24 VDC, NOMINAL.

- e) EACH SENSOR BASE SHALL CONTAIN A MAGNETICALLY ACTUATED TEST SWITCH TO PROVIDE FOR EASY ALARM TESTING AT THE SENSOR LOCATION.
- f) EACH SENSOR SHALL BE SCANNED BY THE CONTROL UNIT FOR ITS TYPE IDENTIFICATION TO PREVENT INADVERTENT SUBSTITUTION OF ANOTHER SENSOR TYPE. UPON DETECTION OF A "WRONG DEVICE", TEH CONTROL UNIT SHALL OPERATE WITH THE INSTALLED DEVICE AT THE DEFAULT ALARM SETTINGS FOR THAT SENSOR; 2.5% OBSCURATION FOR PHOTOELECTRIC SENSOR, 135—DEG F AND 15—DEG F RATE—OF—RISE FOR THE HEAT SENSOR, BUT SHALL INDICATE A "WRONG DEVICE" TROUBLE CONDITION.
- g) THE SENSOR'S ELECTRONICS SHALL BE IMMUNE FROM NUISANCE ALARMS CAUSED BY EMI AND RFI. h) SENSORS INCLUDE AN COMMUNICATIONS TRANSMITTER AND RECEIVER IN THE MOUNTING BASE HAVING A UNIQUE IDENTIFICATION AND CAPABILITY FOR STATUS REPORTING TO THE FACP. SENSOR ADDRESS SHALL BE LOCATED IN THE BASE TO ELIMINATE FALSE ADDRESSING WHEN REPLACING SENSORS.
- i) REMOVAL OF THE SENSOR HEAD FOR CLEANING SHALL NOT REQUIRE THE SETTING OF ADDRESSES.

- SYSTEMS".
- 1. POWER LIMITED BASE PANEL WITH PLATINUM CABINET AND DOOR, 120 VAC INPUT
- 2. CAPABILITY TO SUPPORT UP TO 1,000 I/O POINTS INCLUDING UP TO TYPE IN FOR INTERNATIONAL MODELS ADDRESSABLE DEVICES (SINGLE AND MULTI-POINT).
- NETWORK NODE.
- a) 1 LED DRIVER OUTPUT ON A GRAPHIC DRIVER OR 1 SWITCH INPUT ON A GRAPHIC SWITCH INPUT MODULE.
- b) 1 LED ON PANEL OR 1 SWITCH ON PANEL.
- 5. 8 AMP POWER SUPPLY WITH 3.3 AMP, TEMPERATURE COMPENSATED, DUAL-RATE BATTERY CHARGER. BATTERY CHARGER VOLTAGE AND AMPERAGE VALUES SHALL BE ACCESSIBLE ON THE FACP LCD DISPLAY.
- 7. PANEL SHALL BE CAPABLE OF ADDING 8 CONVENTIONAL ZONE CIRCUITS TO CONNECT TO EXISTING SYSTEM DEVICES FOR EASE IN RETROFIT APPLICATIONS.
- C. CABINET: LOCKABLE STEEL ENCLOSURE. ARRANGE UNIT SO ALL OPERATIONS REQUIRED FOR TESTING OR FOR NORMAL CARE AND MAINTENANCE OF THE SYSTEM ARE PERFORMED FROM THE FRONT OF THE ENCLOSURE. IF MORE THAN A SINGLE UNIT IS REQUIRED TO FORM A COMPLETE CONTROL UNIT, PROVIDE EXACTLY MATCHING MODULAR UNIT ENCLOSURES.
- D. ALPHANUMERIC DISPLAY AND SYSTEM CONTROLS: PANEL SHALL INCLUDE AND 80 CHARACTER LCD DISPLAY TO INDICATE ALARM, SUPERVISORY, AND COMPONENT STATUS MESSAGES AND SHALL INCLUDE A KEYPAD FOR USE IN ENTERING AND EXECUTING CONTROL COMMANDS.

- A. GENERAL: COMPONENTS INCLUDE BATTERY, CHARGER, AND AN AUTOMATIC TRANSFER SWITCH.

ADDRESSABLE INITIATING

- c) SELF-RESTORING: DETECTORS DO NOT REQUIRE RESETTING OR READJUSTMENT AFTER ACTUATION
- TO RESTORE NORMAL OPERATION. d) EACH SENSOR BASE SHALL CONTAIN AN LED THAT WILL FLASH EACH TIME IT IS SCANNED BY THE CONTROL UNIT (ONCE EVERY 4 SECONDS). IN ALARM CONDITION, THE SENSOR BASE LED SHALL

ADDRESSABLE NOTIFICATION A. ADDRESSABLE ALARM NOTIFICATION APPLIANCES

- 1. ADDRESSABLE NOTIFICATION APPLIANCES: THE CONTRACTOR SHALL FURNISH AND INSTALL ADDRESSABLE NOTIFICATION APPLIANCES AND ACCESSORIES TO OPERATE ON COMPATIBLE SIGNALING LINE CIRCUITS (SLC). a) ADDRESSABLE NOTIFICATION APPLIANCE OPERATION SHALL PROVIDE POWER, SUPERVISION AND SEPERATE CONTROL OF HORNS AND STROBES OVER A SINGLE PAIR OF WIRES. THE CONTROLLING CHANNEL (SLC) DIGITALLY COMMUNICATES WITH EACH APPLIANCE AND RECEIVES A RESPONSE TO VERIFY THE APPLIANCE'S PRESENCE ON THE CHANNEL. THE CHANNEL PROVIDES A DIGITAL COMMAND TO CONTROL APPLIANCE OPERATION. SLC CHANNEL WIRING SHALL BE UNSHIELDED TWISTED PAIR (UTP), WITH CAPACITANCE RATING OF LESS THAN 60PF/FT AND A MINIMUM 3 TWISTS (TURNS) PER FOOT.
- b) ALL NOTIFICATION APPLIANCES SHALL OPERATE AS A COMPLETELY INDEPENDENT DEVICE ALLOWING FOR SPECIFIC LOCATION ALERTING OF BOTH FIRE ALARM AND MASS NOTIFICATION FUNCTIONS. EACH VISIBLE DEVICE (BOTH CLEAR FIRE ALARM AND AMBER MASS NOTIFICATION) SHALL BE CAPABLE OF OPERATING ON MULTIPLE NOTIFICATION ZONES OR COMPLETELY SEPARATE FROM ALL OTHER NOTIFICATION DEVICES, THIS ALLOWS "ON THE FLY" PROGRAM OPERATION CHANGES FOR MASS NOTIFICATION ALERTING AND FIRE ALARM NOTIFICATION
- c) ALL NOTIFICATION APPLIANCES SHALL OPERATE AS A COMPLETELY INDEPENDENT DEVICE ALLOWING FOR APPLIANCES IN HANDICAP ACCESSIBLE ROOMS AND OTHER LOCATIONS TO OPERATE ON THE SAME SLC AND TO ACTIVATE INDIVIDUALLY BASED ON AN ALARM CONDITION IN A ROOM OR AS PART OF A GENERAL
- 2. AUDIBLE/VISIBLE: ADDRESSABLE COMBINATION AUDIBLE/VISABLE (A/V) NOTIFICATION APPLIANCES SHALL BE LISTED TO UL 1971 AND UL 464. THE STROBE DEVICE SHALL CONSIST OF A XENON FLASH TUBE AND ASSOCIATED LENS/REFLECTOR SYSTEM, COVER AND MOUNTING PLATE. FOR EASE OF INSTALLATION AUDIBLE/VISIBLE MOUNTING PLATE SHALL MOUNT DIRECTLY TO STANDARD SINGLE GANG, DOUBLE GANG 4" SQUARE ELECTRICAL BOX, WITHOUT THE USE OF SPECIAL ADAPTERS OR TRIM RINGS. THE STROBE SHALL PROVIDE MULTIPLE MINIMUM FLASH INTENSITIES OF 15cd, 75cd, 110cd, 135cd, AND 185cd. THE CANDELA LEVELS SHALL BE SETTABLE FROM THE FIRE ALARM CONTROL PANEL OR USING A HARDWARE SELECTOR ON THE APPLIANCE. THE HORN SHALL SUPPORT TEMPORAL CODE 3, MARCH TIME (20, 60, OR 120 BPM), CONTINUOUS, AND TEMPORAL CODE 4 CODING PATTERNS. THE HORN SHALL HAVE A MINIMUM SOUND PRESSURE LEVEL F 83 OR 89 dBA FOR STEADY OR 79 OR 85 dBA FOR CODED OPERATION. WHEN THE APPLIANCE IS CONNECTED TO AN ACTIVE CIRCUIT, THE FRONT COVER OF THE APPLIANCE SHALL BE REMOVABLE WITHOUT CAUSING A TROUBLE INDICATION ON THE FIRE ALARM CONTROL PANEL. APPLIANCES SHALL BE WIRED WITH UTP CONDUCTORS, HAVING A MINIMUM OF 3 TWISTS PER FOOT. THE APPLIANCE SHALL BE CAPABLE OF TWO—WIRE SYNCHRONIZATION WITH ONE OF THE FOLLOWING OPTIONS:
- a) SYNCHRONIZED STROBE WITH HORN ON STEADY.
- b) SYNCHRONIZED STROBE WITH TEMPORAL CODE PATTERN ON HORN. c) SYNCHRONIZED STROBE WITH MARCH TIME CADENCE ON HORN.
- d) SYNCHRONIZED STROBE FIRING TO NAC SYNC SIGNAL WITH HORN SILENCED.
- 3. ISOLATOR MODULE: ISOLATOR MODULE PROVIDES SHORT CIRCUIT ISOLATION FOR ADDRESSABLE NOTIFICATION APPLIANCE SLC WRING. ISOLATOR SHALL BE LISTED TO UL 864. THE ISOLATOR SHALL MOUNT DIRECTLY TO A MINIMUM 2 1/8" DEEP, STANDARD 4" SQUARE ELECTRICAL BOX, WITHOUT THE USE OF SPECIAL ADAPTER OR TRIM RINGS. POWER AND COMMUNICATIONS SHALL BE SUPPLIED BY THE ADDRESSABLE CONTROLLER CHANNEL SLC; DUAL PORT DESIGN SHALL ACCEPT COMMUNICATIONS AND

POWER FROM EITHER PORT AND SHALL AUTOMATICALLY ISOLATE ONE PORT FROM THE OTHER WHEN SHORT CIRCUIT OCCURS. THE FOLLOWING FUNCTIONALITY SHALL BE INCLUDED IN THE ISOLATOR MODULE:

- a) REPORT FAULTS TO THE HOST FACP.
- b) ON-BOARD YELLOW LED PROVIDES MODULE STATUS.
- c) AFTER THE WIRING FAULT IS REPAIRED, THE ISOLATOR MODULES SHALL TEST THE LINES AND AUTOMATICALLY RESTORE THE CONNECTION.

ADDRESSABLE APPLIANCE SLC REPEATER

- ADDRESSABLE REPEATER SHALL SUPERVISE CHANNEL (SLC) WIRING AND COMMUNICATE WITH AND CONTROL ADDRESSABLE NOTIFICATION APPLIANCES. THE REPEATER SHALL BE A STAND—ALONE PANEL CAPABLE OF POWERING ON (1) NAC SLC. THE CHANNEL (SLC) SHALL BE RATED FOR 3 AMPS AND SUPPORT UP TO 63 ADDRESSES. POWER AND COMMUNICATION FOR THE NOTIFICATION APPLICATIONS SHALL BE PROVIDED ON THE SAME PAIR OF WIRES. IT SHALL BE POSSIBLE TO PROGRAM THE HIGH-LOW SETTING
- OF THE AUDIBLE (HORN) APPLIANCES BY CHANNEL FROM THE ADDRESSABLE CONTROLLER. a) THE REPEATER SHALL PROVIDE A CONSTANT VOLTAGE OUTPUT TO ENSURE NAC
- CURRENT AND VOLTAGE DO NOT VARY WHETHER THE PANEL IS OPERATING ON AC OR BATTERY. THE OUTPUT VOLTAGE DURING ALARM CONDITIONS SHALL BE 29 VRMS.
- b) ADDRESSABLE SLC NOTIFICATION APPLIANCE CIRCUITS SHALL BE CLASS B,
- c) FOR CLASS B CIRCUITS, THE REPEATER SHALL SUPPORT UP TO 4 CLASS B BRANCHES DIRECTLY AT ITS OUTPUT TERMINALS FOR ONE SLC.
- d) THE INTERNAL POWER SUPPLY AND BATTERY CHARGER SHALL BE CAPABLE OF CHARGING UP TWO 12.7 Ah BATTERIES INTERNALLY MOUNTED OR 25Ah BATTERIES MOUNTED IN AN EXTERNAL CABINET.
- e) THE REPEATER PANEL CAN BE MOUNTED CLOSE TO THE HOST FIRE ALARM CONTROL PANEL OR REMOTELY.
- f) THE REPEATER STATUS SHALL BE COMMUNICATED TO THE HOST FIRE ALARM CONTROL PANEL OR LOCALLY INDICATED.
- g) A 200mA AUXILIARY OUTPUT SHALL BE AVAILABLE. h) THE REPEATER SHALL BE LISTED TO UL 864.

INSTALLATION. GENERAL

- A. INSTALL SYSTEM COMPONENTS AND ALL ASSOCIATED DEVICES IN ACCORDANCE WITH APPLICABLE
- NFPA STANDARDS AND MANUFACTURER'S RECOMMENDATIONS. B. INSTALLATION PERSONNEL SHALL BE SUPERVISED BY PERSONS WHO ARE QUALIFIED AND EXPERIENCED IN THE INSTALLATION, INSPECTION, AND TESTING OF FIRE ALARM SYSTEMS. EXAMPLES OF QUALIFIED PERSONNEL SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
- 1. FACTORY TRAINED AND CERTIFIED PERSONNEL.
- 2. NATIONAL INSTITUTE OF CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET) FIRE ALARM LEVEL II CERTIFIED PERSONNEL.
- 3. PERSONNEL LICENSED OR CERTIFIED BY STATE OR LOCAL AUTHORITY.

EQUIPMENT INSTALLATION

A. FURNISH AND INSTALL A COMPLETE FIRE ALARM SYSTEM AS DESCRIBED HEREIN AND AS SHOWN ON THE PLANS. INCLUDE SUFFICIENT CONTROL UNIT(S), ANNUNCIATOR(S), MANUAL STATIONS, AUTOMATIC FIRE DETECTORS, SMOKE DETECTORS, AUDIBLE AND VISIBLE NOTIFICATION APPLIANCES, WIRING, TERMINONS, ELECTRICAL BOXES, ETHERNET DROPS, AND ALL OTHER NECESSARY MATERIAL FOR A COMPLETE OPERATING SYSTEM.

WIRING INSTALLATION

- A. SYSTEM WIRING: WIRE AND CABLE SHALL BE A TYPE LISTED FOR ITS INTENDED USE BY AN APPROVAL AGENCY ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROPRIATE ARTICLES FROM THE CURRENT APPROVED EDITION OF NFPA 70: NATIONAL ELECTRIC CODE (NEC).
- B. CONTRACTOR SHALL OBTAIN FROM THE FIRE ALARM SYSTEM MANUFACTURER WRITTEN INSTRUCTION REGARDING THE APPROPRIATE WIRE/CABLE TO BE USED FOR THIS INSTALLATION. NO DEVIATION FROM THE WRITTEN INSTRUCTION SHALL BE MADE BY THE CONTRACTOR WITHOUT THE PRIOR WRITTEN APPROVAL OF THE FIRE ALARM SYSTEM MANUFACTURER.
- C. COLOR CODING: COLOR-CODE FIRE ALARM CONDUCTORS DIFFERENTLY FROM THE NORMAL BUILDING POWER WIRING. USE ONE COLOR CODE FOR ALARM INITIATING DEVICE CIRCUITS WIRING AND A DIFFERENT COLOR CODE FOR SUPERVISORY CIRCUITS. COLOR—CODE NOTIFICATION APPLIANCE CIRCUITS DIFFERENTLY FROM ALARM—INITIATING CIRCUITS. PAINT FIRE ALARM SYSTEM JUNCTION BOXES AND COVERS RED.

- A. PROVIDE THE SERVICES OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO DEMONSTRATE THE SYSTEM AND TRAIN OWNER'S MAINTENANCE PERSONNEL AS SPECIFIED BELOW. 1. TRAIN OWNER'S MAINTENANCE PERSONNEL IN THE PROCEDURES AND SCHEDULES INVOLVED IN OPERATING, TROUBLESHOOTING, SERVICING, AND PREVENTIVE MAINTAINING OF THE SYSTEM.
- PROVIDE A MINIMUM OF 8 HOURS' TRAINING. 2. SCHEDULE TRAINING WITH THE OWNER AT LEAST SEVEN DAYS IN ADVANCE.

OVERALL FLOOR PLAN - POWER

SCALE: 1/4" = 1'-0"

TASTING ROOM

LARGE EVENT ROOM

PLAN NOTES:

P-20,22

E.C. TO CONNECT EXHAUST FAN TO LIGHT SWITCH.