FIRE ALARM NOTES

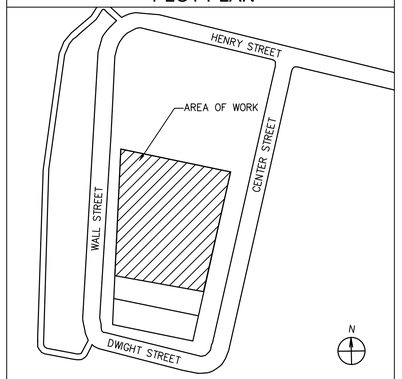
1. PRIOR TO BID COORDINATE SCOPE OF WORK REQUIRED WITHIN BUILDING SYSTEM (RE-PROGRAMMING, EXPANSION BOARDS, EXPANDER PANEL, POWER SUPPLY, ADDITIONAL AMPLIFIERS FOR FAS SPEAKERS ETC). WITH BUILDING F.A. VENDOR. EXISTING SYSTEM IS BY EDWARDS EST. ALL COMPONENTS REQUIRED TO MAKE A FINAL COMPLETE SYSTEM OPERATION SHALL BE INCLUDED IN BID PRICE. VERIFY AVAILABILITYOF INPUT/OUTPUT POINTS AT EACH DGP PANEL & ROUTE WIRING RESPECTIVELY.
2. ALL DEVICES WIRED TO DGP PANELS SHALL BE COMPATIBLE WITH BUILDING SYSTEM. COORDINATE WITH BUILDING FIRE ALARM VENDOR. ALL EQUIPMENT SHALL BE COMPATIBLE WITH BASE BUILDING SYSTEM AND UL LISTED AND IN COMPLIANCE WITH ADA REQUIREMENTS.
3. EACH FA RELAY SHALL HAVE MINIMUM OF THREE SETS OF CONTACT 10A RATED @ 120V.(TYPICAL)
4. ALL STROBES, & STROBE/SPEAKERS SHALL BE FLUSH WALL MOUNTED FINISH, APPROVED BY LOCAL CITY. COORDINATE WITH ARCHITECT
5. FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
6. COORDINATE WIRING DIAGRAM WITH FIRE ALARM VENDOR SHOP DRAWINGS, FOR STROBES MAXIMUM CURRENT PER ZONE SHALL NOT EXCEED 1.5A. ZONES FOR STROBES & STROBE/SPEAKERS AS PER FIRE ALARM VENDOR SHOP DRAWINGS.(TYPICAL)
7. COORDINATE FA SYSTEM PROGRAMMING WITH BASE BUILDING FA CONTRACTOR
8. THE RISER DIAGRAM IS A SCHEMATIC REPRESENTATION OF THE FIRE ALARM SYSTEM. REFER TO FLOOR PLANS AND RISER DIAGRAM FOR EXACT QUANTITY OF DEVICES. WHERE THERE ARE DISCREPANCIES BETWEEN THE PLANS AND RISER, THE GREATER QUANTITY SHALL BE USED.
9. EACH FIRE ALARM INDICATING DEVICES CIRCUIT TO HAVE A MAXIMUM OF 14 DEVICES PER CIRCUIT. CONTRACTOR TO SUPPLY REQUIRING NUMBER OF INDICATING CIRCUIT TO PROVIDE REDUNTANT CIRCUITING (A,B) SCHEME.
10. THE RISER IS DIAGRAMMATIC AND FOR INTENT ONLY. PRIOR TO BID SUBMISSION COORDINATE WITH BUILDING FIRE ALARM VENDOR FOR THE FOLLOWING:
    - SCOPE OF WORK TO BE PERFORMED BY THE FIRE ALARM VENDOR AND THE ELECTRICAL CONTRACTOR.
    - EXACT LOCATION OF EXISTING DGP PANEL, TERMINAL BOXES ETC.
    - SCOPE OF WORK TO BE PERFORMED WITHIN BASE BUILDING SYSTEM AS REQUIRED TO ACCOMODATE ADDED DEVICES. NEW EXPANSION BOARDS, TERMINAL BOXES, STROBE POWER SUPPLY, REPROGRAMMING ETC). THE VENDORS COST OF THE UPGRADING SHALL BE INCLUDED IN BID PROPOSAL.
11. PROVIDE ADDITIONAL STROBE POWER SUPPLIES AND SYNCHRONIZING HARDWARE FOR NEW STROBES. WHERE REQUIRED.
12. CONTRACTOR SHALL VERIFY ALL WIRING WITH BASE BUILDING FIRE ALARM VENDOR AND OBTAIN WIRING DIAGRAMS BEFORE PROCEEDING WITH THE START OF ANY WORK.
13. DO NOT SPLICE FIRE ALARM CONDUCTORS. IF EXISTING WIRING IS NOT LONG ENOUGH TO REACH NEW LOCATION PULL NEW WIRE OR PROVIDE NEW CONDUIT AND WIRING TO SUIT FIELD CONDITIONS.
14. EXISTING BUILDING SYSTEMS NOT SHOWN (UNLESS A PART OF ONE INSTALLATION) SHALL REMAIN INTACT. DO NOT REMOVE EXISTING BASE BUILDING FIRE ALARM DEVICES UNLESS SPECIFICALLY DIRECTED. RE-INSTALL ALL EXISTING FIRE ALARM EQUIPMENT, WHICH IS TO REMAIN IF REMOVED FOR INSTALLATION OF NEW CEILING OR DUE TO DEMOLITION. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CABLES TO ALL EXISTING FIRE ALARM EQUIPMENT THAT IS RELOCATED. COORDINATE EXISTING WORK WITH EXISTING BUILDING FIRE ALARM SYSTEMS. THE CONTRACTOR SHALL VERIFY THAT ANY MODIFICATIONS TO EXISTING SYSTEMS ARE COMPLETED AND IN WORKING ORDER.
15. PROVIDE ALL REQUIRED EXPANSION PANELS, PC BOARDS, POWER SUPPLIES, BATTERIES, FUSE CUTOUTS AND BRANCH CIRCUITS, ETC, FOR A COMPLETE AND OPERATION FIRE ALARM SYSTEM.
16. DURING THE INSTALLATION, THE EXISTING FIRE ALARM SYSTEM MUST REMAIN OPERATIONAL. WHEN NOT OPERATIONAL, A CERTIFIED FIRE WATCH MUST BE PROVIDED BY CONTRACTOR.
17. COORDINATE ALL DEVICES AND CONNECTIONS WITH FIRE ALARM VENDOR
18. ALL FIRE ALARM DEVICES AND FIRE ALARM PANEL ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. RECONNECT ALL CIRCUITS TO THE FACP AFTER COMPLETION OF DEMO WORK. CONTRACTOR SHALL REUSE EXISTING WIRING. CONTRACTOR SHALL EXTEND WIRING AND CONDUIT WHERE REQUIRED. RE-PROGRAM SYSTEM ACCORDINGLY AND PROVIDE A COMPLETE AND WORKING SYSTEM. ANY NEW DEVICES SHOWN SHALL MATCH EXISTING DEVICES MAKE, MODEL AND MANUFACTURER.
19. COORDINATE ALL REQUIRED TIES AND DEVICES WITH BUILDING FIRE ALARM VENDOR.
20. ALL STROBE LIGHTS TO BE SYNCHRONIZED AS REQUIRED.
21. CONTRACTOR TO PROVIDE ADDITIONAL (20) SMOKE DETECTORS FOR BEAM POCKETS.
22. ALL CEILING MOUNTED SPEAKER/STROBES UNITS SHALL BE 115 CANDELA (cd) EFFECTIVE FLASH INTENSITY (UON). WALL MOUNTED STROBE UNITS SHALL BE 15/75 CANDELA (cd) EFFECTIVE FLASH INTENSITY, UNLESS OTHERWISE NOTED ON THE DRAWING

FIRE ALARM SEQUENCE OF OPERATION

A. ALARM SYSTEM AUTOMATIC FUNCTIONS:

1. UPON THE OPERATION OF ANY MANUAL PULL STATION, SPRINKLER FLOW SWITCH, OR DETECTOR:
   a. SIGNAL THE FIRE ALARM CONTROL PANEL. IDENTIFY THE ADDRESSABLE POINT AT THE FIRE ALARM CONTROL PANEL, AND REMOTE ANNUNCIATOR LCD PANELS.
   b. SOUND AN AUDIBLE ALERT SIGNAL THROUGHOUT THE BUILDING. FOLLOW THE AUDIBLE ALERT SIGNAL WITH A RECORDED VOICE MESSAGE GIVING APPROPRIATE INFORMATION AND DIRECTION TO THE OCCUPANTS.
   c. SIMULTANEOUSLY ACTIVATE ALL FLASHING VISUAL ALARM ASSEMBLIES ASSOCIATED WITH AUDIBLE INDICATORS.
   d. UNLOCK ALL EXIT DOORS CONTROLLED WITH ELECTRONIC LOCKS, PLUS OTHER ELECTRONICALLY CONTROLLED EGRESS DOORS. (IF USED)
   e. RELEASE HOLD-OPEN DEVICES ON ALL FIRE AND SMOKE CONTROL DOORS SO THAT THEY MAY CLOSE. (IF USED)
   f. SEND A SIGNAL TO THE BUILDING AUTOMATION SYSTEM (BAS). BAS IS SPECIFIED IN DIVISION 15.
   g. SEND A SIGNAL TO THE BUILDING SECURITY SYSTEM.
   h. PRINT EVENT LOG TO PRINTER.
   i. MUTE ALL STORE MUSIC AND PUBLIC ADDRESS SOUND SYSTEMS UNTIL FIRE ALARM SYSTEM IS MANUALLY RESET AT FIRE ALARM CONTROL PANEL.
   j. BROADCAST PAGER SIGNAL WITH EXACT ALARM ADDRESS AND TEXT ADDRESS IDENTIFICATION.
   k. PASSIVE SMOKE CONTROL: SHUT DOWN ALL MECHANICAL EQUIPMENT RATED 2000 CFM OR GREATER THAT CIRCULATE AIR FOR THAT FLOOR. THIS EQUIPMENT SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, AIR HANDLING UNITS, VENTILATION FANS, FAN POWERED BOXES, AND SIDE POCKET BOXES. COORDINATE WITH DIVISION 15 SPECIFICATION SECTION AIR CONDITIONING CONTROLS AS REQUIRED FOR PASSIVE SMOKE CONTROL.
   l. ACTIVATE AN ALARM CONTACT CLOSURE TO SEND A SUMMARY TROUBLE AND A SEPARATE SUMMARY ALARM SIGNAL OUT TO THE MALL FIRE ALARM SYSTEM. SIMILARLY, RECEIVE AND DISPLAY SUMMARY SIGNAL RECEIVED FROM THE MALL FIRE ALARM SYSTEM. THE TWO FIRE ALARM SYSTEMS SHALL MONITOR EACH OTHER.
2. EMERGENCY VOICE SIGNALING SYSTEM: PROVIDE A PUBLIC-ADDRESS SYSTEM FOR VOICE PAGING FROM THE FIRE CONTROL PANEL TO ALL PARTS OF THE STORE. THE SYSTEM SHALL BE INSTALLED SO THAT IT CAN BE CLEARLY HEARD IN ALL PARTS OF THE BUILDING. SPEAKERS SHALL BE INSTALLED AT LOCATIONS INDICATED ON THE DRAWINGS , AND EVEN IF NOT SHOWN, SPEAKERS SHALL BE INSTALLED IN ALL ELEVATORS, ELEVATOR LOBBIES, EVERY FLOOR DOOR LANDING INSIDE EXIT STAIRWAYS, CORRIDORS, AND ROOMS AND TENANT SPACES EXCEEDING ONE THOUSAND (1000) SQUARE FEET.
3. SPRINKLER SYSTEM: OPERATION OF ANY SPRINKLER SYSTEM WATER FLOW SWITCH SHALL NOTIFY FIRE DEPARTMENT VIA CENTRAL STATION AND SOUND ALARM AT FIRE ALARM PANEL, SHUT OFF ALL RTUS, AND ACTIVATE AUDIO/VISUAL DEVICES IN STORE.
4. ALL ALARM SIGNALS SHALL CONTINUE SOUNDING AND ANNUNCIATOR(S) SHALL REMAIN LIGHTED UNTIL THE ALARM ACKNOWLEDGE SWITCH IS DEPRESSED. THE ALARM SIGNALS SHALL THEN STOP, BUT THE ANNUNCIATOR SHALL REMAIN LIGHTED UNTIL THE SYSTEM IS RESET.
5. ACKNOWLEDGING OF ANY ALARM SIGNAL SHALL NOT INTERFERE WITH THE RE-ACTIVATING OF THE ALARM SIGNALS UPON AN ALARM FROM ANOTHER ZONE.
6. ALARM VERIFICATION:
   a. PROVIDE UL LISTED ALARM VERIFICATION FEATURE.
   b. ALARM VERIFICATION SHALL BE PER ADDRESSABLE, OPEN AREA SMOKE DETECTOR. ALARM VERIFICATION SHALL BE FIELD PROGRAMMABLE ON AN INDIVIDUAL DETECTOR BASIS. GLOBAL OR SYSTEM ALARM VERIFICATION WILL BE UNACCEPTABLE.
   c. IF AN ALARM CONDITION IS DETECTED BY AN AUTOMATIC SPRINKLER DETECTOR PROGRAMMED FOR ALARM VERIFICATION, AN ALARM VERIFICATION SEQUENCE SHALL BE INITIATED. UPON RECEIPT OF THE FIRE ALARM CONDITION, START THE VERIFICATION SEQUENCE AS PRESCRIBED BY UL 864. THE SYSTEM SHALL RESET THE ALARMED ZONE/DEVICE WITHIN THE U.L. PRESCRIBED WINDOW OF 60 SECONDS MAXIMUM. IF THE ALARM CONDITION DOES NOT CONFIRM WITHIN 60 SECONDS OF THE RESET SIGNAL, THE PROGRAMMED ALARM OUTPUTS SHALL BE CANCELED AND THE SYSTEM RETURNED TO THE NORMAL MODE. IF THE ALARM CONDITION RE-OCCURS, WITHIN THE DESIGNATED VERIFICATION CYCLE OR A NON-VERIFIED DEVICE OR ZONE ACTIVATES, THE PROGRAMMED EVENTS LISTED ABOVE SHALL IMMEDIATELY OCCUR FOR THE CONFIRMED ALARM CONDITION.

PLOT PLAN



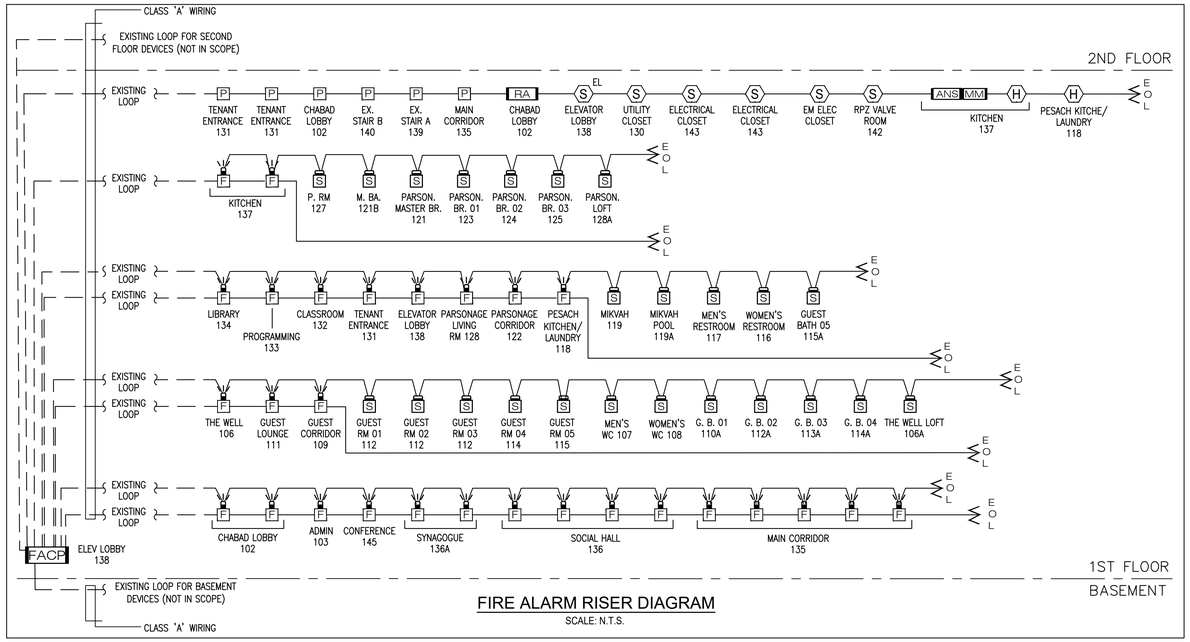
ADDRESS 30 WALL STREET
BINGHAMTON, NY 13901

FIRE ALARM DRAWING LIST

DRAWING NO.	DRAWING TITLE
FA-001	FIRE ALARM NOTES, SYMBOL LIST, & RISER DIAGRAM
FA-200	FIRST FLOOR FIRE ALARM PLAN
FA-800	FIRE ALARM SPECIFICATIONS I
FA-801	FIRE ALARM SPECIFICATIONS II

FIRE ALARM SYMBOL LIST

F	WALL MOUNTED COMBINATION FIRE ALARM SPEAKER/STROBE LIGHT UNIT (AT 80"A.F.F. OR 6" BELOW CEILING WHICHEVER IS LOWER). 75 CANDELLA
S	WALL MOUNTED STROBE LIGHT UNIT (AT 80"A.F.F. OR 6" BELOW CEILING WHICHEVER IS LOWER).
P	WALL MOUNTED MANUAL FIRE ALARM PULL STATION SHALL (AT 48"A.F.F.)
S EL	CEILING MOUNTED AREA SMOKE DETECTOR SYSTEM TYPE EL ELEVATOR RECALL
S/C	CEILING MOUNTED HARD WIRED COMBINATION SMOKE/CARBON MONOXIDE DETECTOR WITH SOUNDER BASE AND 10 YEARS BATTERY BACKUP
C	CEILING MOUNTED CARBON MONOXIDE DETECTOR WITH BUILT IN SOUNDER BASE(TEMP-4)AND 10 YEARS BATTERY BACKUP
D	DUCT MOUNTED SMOKE DETECTOR WITH HOUSING, SMOKE DETECTOR HEAD, SAMPLING TUBES, AND REMOTE ANNUNCIATOR LIGHT (WHERE INSTALLED CONCEALED OR NOT READILY VISIBLE)
H	CEILING MOUNTED HEAT DETECTOR
R	CONTROL RELAY
FACP	FIRE ALARM CONTROL PANEL
FSD	FIRE SMOKE DAMPER P – SMOKE PURGE
ANS	ANSUL FIRE SUPPRESSION SYSTEM
WF	SPRINKLER WATERFLOW SWITCH
TS	SPRINKLER TAMPER SWITCH
TB	TERMINAL BOX
RA	REMOTE ANNUNCIATOR PANEL
MM	MONITORING MODULE FOR EXHAUST HOOD FIRE SUPPRESSION SYSTEM
———	NEW
– – – –	EXISTING TO REMAIN
E	EXISTING TO REMAIN
RE	EXISTING TO BE RELOCATED
XXcd	CANDELLA RATING



FIRE ALARM RISER DIAGRAM

SCALE: N.T.S.

FIRE ALARM RISER NOTES:

1. THE FIRE ALARM RISER DIAGRAM SHOWN IS AN INDICATION OF THE WORK REQUIRED AND SHALL BE USED FOR ESTIMATING PURPOSES ONLY AND IS NOT A POINT-TO-POINT WIRING DIAGRAM. THE CONTRACTOR SHALL OBTAIN A POINT-TO-POINT WIRING DIAGRAM FROM THE BUILDING FIRE ALARM MAINTENANCE CONTRACTOR AND PERFORM ALL WORK IN ACCORDANCE WITH THAT DIAGRAM.
2. EXISTING BUILDING SYSTEM DEVICES SHOWN ARE TO REMAIN INTACT UNLESS OTHERWISE NOTED.
3. ALL FIRE ALARM CABLING SHALL BE SUPPORTED FROM BUILDING STRUCTURE AND NOT DEPEND ON CEILING MEDIA, PIPES, DUCTS, CONDUITS OR EQUIPMENT FOR SUPPORT. CABLING SHALL BE SECURED IN PLACE AT INTERVALS NOT EXCEEDING 5 FEET ON CENTERS AND WITHIN 12" EVERY ASSOCIATED CABINET BOX OR FITTING.
4. CONTRACTOR SHALL CAREFULLY REVIEW FIRE ALARM FLOOR PLANS/RISER DIAGRAM AND COORDINATE WITH BUILDING FIRE ALARM VENDOR FOR COMPLETE INSTALLATION/ INTER-CONNECTIONS REQUIREMENT TO ACCOMMODATE NEW ADDITIONAL FA DEVICES AFFECTED IN THIS SPACE ALTERATIONS. VERIFY THE SPARE CAPACITY OF EXISTING FIRE ALARM SYSTEM, EXISTING FIRE ALARM AMPLIFIERS, REMOTE TRANSPONDERS, BOOSTER POWER SUPPLY AND SHALL MAKE ALLOWANCE IN HIS BID PRICE INCLUDING ALL ASSOCIATED CONTROL EQUIPMENT CABINET (SMOKE, STROBE CONTROL PANEL, TRANSPONDER, BATTERIES, FSD, MODULES, HARDWARE/SOFTWARE, ETC..) RECOMMENDED AS PER BUILDING FIRE ALARM VENDOR.
5. ALL EXISTING FIRE ALARM DEVICES CALLED TO BE RELOCATED (OR RELOCATED IN NEW POSITION) SHALL BE PROVIDED WITH NEW WIRING UP TO THE NEW DEVICE LOCATION.
6. STROBES SHALL BE SYNCHRONIZED WHEN FLASHING SO THAT NO TWO OR MORE STROBES IN ANY FIELD OF VIEW SHALL FLASH AT DIFFERENT TIMES OR RATES.
7. PROVIDE RELAYS/CONTROL MODULES FOR FIRE ALARM SYSTEM CONTROL OF STARTING AND STOPPING OF ALL LIFE SAFETY RELATED FANS/MOTORS WITH EACH ASSOCIATED CONTROL WIRING.

FA WIRE SCHEDULE

CABLE	AWG	NO. OF COND.	APPLICATION
A	(SOLID)	1 PAIR	SIGNAL

FIFIELD | PIAKER | ELMAN
ARCHITECTS, PC

740 Broadway, Suite 601
New York, NY 10003
tel 212 979 9272
www.fpe-architects.com

NO USE, REPRODUCTION OR DISSEMINATION MAY BE MADE OF THIS DRAWING & CONCEPTS SET FORTH HEREON WITHOUT THE PRIOR WRITTEN CONSENT OF

FIFIELD PIAKER ELMAN ARCHITECTS P.C. COPYRIGHT © 2023

MEP CONSULTANT:
AVCON ENGINEERING PC
AVCON ENGINEERING
580 8TH AVE, 14TH FLOOR
NEW YORK, NY 10018
PH: (646) 572-0488

Project:
CHABAD DOWNTOWN

30 WALL STREET
BINGHAMTON, NY 13901

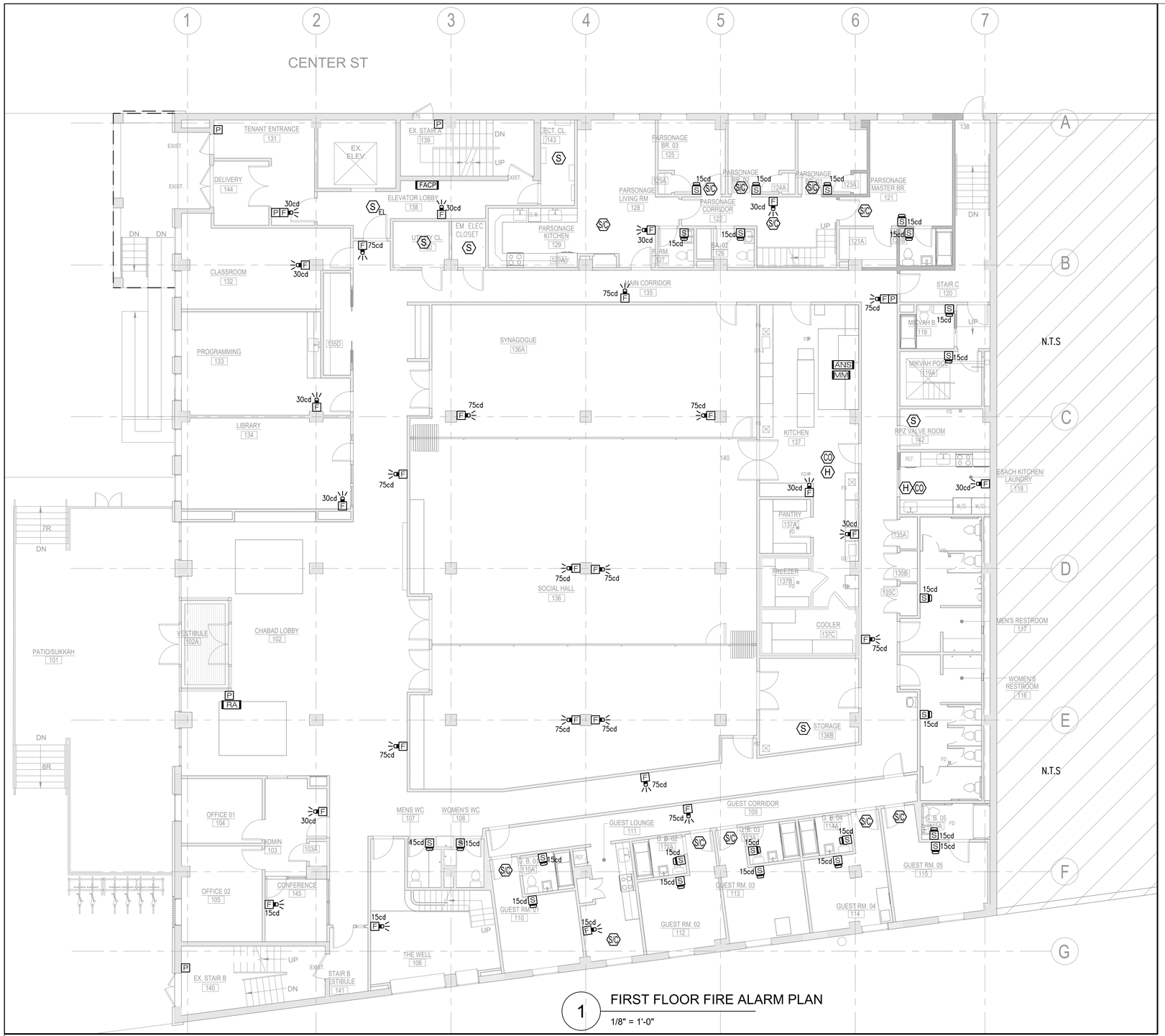
No:	Description:	Date:
06	100% CD SET / BID AND PERMIT	08/19/25
05	100% REVIEW SET	06/16/25
04	95% CD SET	01/20/25
03	80% COORDINATION SET	08/07/24
02	ISSUED FOR PROGRESS	12/01/23
01	ISSUED FOR REVIEW	10/05/23

Revisions:

Job No: 10015
Scale: AS SHOWN
Date: 10/02/23
Drawn: DM

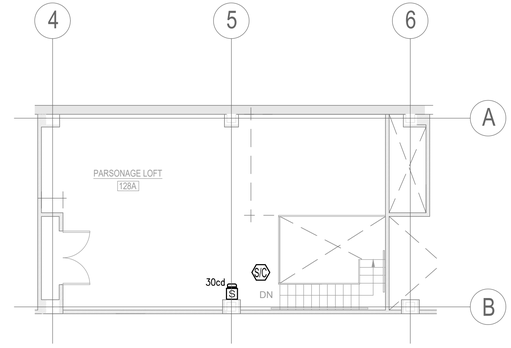
Sheet Title:
FIRE ALARM NOTES, SYMBOL LIST, & RISER DIAGRAM

Drawing No.:
FA-001



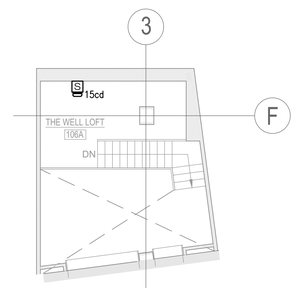
1 FIRST FLOOR FIRE ALARM PLAN

1/8" = 1'-0"



2 PARSONAGE LOFT PLAN

1/8" = 1'-0"



3 THE WELL LOFT PLAN

1/8" = 1'-0"

FIFIELD |PIAKER |ELMAN
ARCHITECTS, PC

740 Broadway, Suite 601
New York, NY 10003
tel 212 979 9272
www.fpe-architects.com

NO USE, REPRODUCTION OR DISSEMINATION MAY BE MADE OF THIS DRAWING & CONCEPTS SET FORTH HEREON WITHOUT THE PRIOR WRITTEN CONSENT OF

FIFIELD PIAKER ELMAN ARCHITECTS,P.C. COPYRIGHT © 2023

MEP CONSULTANT:
AVCON ENGINEERING PC
AVCON ENGINEERING
580 8TH AVE, 14TH FLOOR
NEW YORK, NY 10018
PH: (646) 572-0488

Project:
CHABAD DOWNTOWN

30 WALL STREET
BINGHAMTON, NY 13901

No:	Description:	Date:
	Revisions:	
06	100% CD SET / BID AND PERMIT	08/19/25
05	100% REVIEW SET	06/16/25
04	95% CD SET	01/20/25
03	80% COORDINATION SET	08/07/24
02	ISSUED FOR PROGRESS	12/01/23
01	ISSUED FOR REVIEW	10/05/23

Job No: 10015
Scale: AS SHOWN
Date: 10/02/23
Drawn: DM

Sheet Title:
FIRE ALARM FIRST FLOOR PLAN

Drawing No.:
FA-200

PART 1 – GENERAL

1.1 DESCRIPTION

A. THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, INCLUDING THE GENERAL AND SUPPLEMENTARY GENERAL CONDITION AND DIVISION 1 – GENERAL REQUIREMENTS SHALL APPLY TO THE WORK OF THIS SECTION.
B. AT THE TIME OF BID, ALL EXCEPTIONS TAKEN TO THESE SPECIFICATIONS, ALL VARIANCES FROM THESE SPECIFICATION AND ALL SUBSTITUTIONS OF OPERATING CAPABILITIES OR EQUIPMENT CALLED FOR IN THESE SPECIFICATION SHALL BE LISTED IN WRITING AND FORWARDED TO THE ENGINEER. ANY SUCH EXCEPTION, VARIANCES OR SUBSTITUTIONS THAT WERE NOT LISTED AT THE TIME OF BID AND ARE IDENTIFIED IN THE SUBMITTAL, SHALL BE GROUNDS FOR IMMEDIATE DISAPPROVAL WITHOUT COMMENT.
C. THE ENTIRE SYSTEM SHALL BE INSTALLED WITH AESTHETICS IN MIND. ALL CONTROL PANELS AND REMOTE ANNUNCIATORS INSTALLED IN PUBLIC SPACES SHALL BE SEMI–FLUSH MOUNTED WITH NO EXPOSED CONDUIT OR CABLE TRAYS.

1.2 WORK INCLUDED

A. THE WORK COVERED BY THIS SECTION OF THE SPECIFICATION SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND SERVICES TO FURNISH AND INSTALL A COMPLETE FIRE ALARM SYSTEM OF THE ADDRESSABLE, NON–CODED TYPE. IT SHALL BE COMPLETE WITH ALL NECESSARY HARDWARE, SOFTWARE AND MEMORY SPECIFICALLY TAILORED FOR THIS INSTALLATION. IT SHALL BE POSSIBLE TO PERMANENTLY MODIFY THE SOFTWARE ON SITE BY USING A PLUG–IN PROGRAMMER. THE SYSTEM SHALL CONSIST OF, BUT NOT BE LIMITED TO, THE FOLLOWING:

1. FIRE ALARM CONTROL PANEL AND RELATED REMOTE DATA GATHERING PANELS.
2. ADDRESSABLE MANUAL FIRE ALARM STATIONS.
3. ADDRESSABLE ANALOG AREA SMOKE DETECTORS.
4. AUDIBLE NOTIFICATION APPLIANCES – STROBES.
5. VISUAL NOTIFICATION APPLIANCES – STROBES.
6. CENTRAL STATION ALARM CONNECTION CONTROL.
7. SPRINKLER SUPERVISORY SWITCHES AND TAMPER SWITCH SUPERVISION.
8. BATTERY STANDBY.
9. ALL NYC FIRE ALARM PERIPHERALS, SUCH AS PLACARDS, RISER DIAGRAM, NECESSARY SWITCHES, LED'S, MANUAL CENTRAL OFFICE TRIP, FUSE DISCONNECT, FDNY APPROVED LOCKS, WITH ENCLOSED SWITCHES SHALL BE INCLUDED IN THE SYSTEM PRICE. DATA GATHERING PANELS SHALL BE CONNECTED TO A POWER RISER WITH A FUSE CUTOUT CONNECTION OR FUSED DISCONNECT. A CONTINUOUS COMMON GROUND SHALL BE INCLUDED IN THE POWER RISER.

1.3 APPLICABLE CODES AND STANDARDS

A. ALL EQUIPMENT SHALL BE UL LISTED FOR ITS INTENDED USE AND CONFORM TO THE LATEST UL STANDARDS.
B. UNDERWRITERS LABORATORIES INC.: THE SYSTEM AND ALL COMPONENTS SHALL BE LISTED BY UNDERWRITERS LABORATORIES INC. FOR USE IN FIRE PROTECTIVE SIGNALING SYSTEM UNDER THE FOLLOWING STANDARDS AS APPLICABLE:

UL 864/UOJZ, APOU	CONTROL UNITS FOR FIRE PROTECTIVE SIGNALING SYSTEMS.
UL 268	SMOKE DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS.
UL 217	SMOKE DETECTORS SINGLE STATION.
UL 521	HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS.
UL 464	AUDIBLE SIGNALING APPLIANCES.
UL 1638	VISUAL SIGNALING APPLIANCES.
UL 38	MANUALLY ACTIVATED SIGNALING BOXES.
UL 346	WATERFLOW INDICATORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS.
UL 1971	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED
UL 1481	POWER SUPPLIES FOR FIRE PROTECTIVE SIGNALING SYSTEMS.
UL 1711	AMPLIFIERS FOR FIRE PROTECTIVE SIGNALING SYSTEMS.
UUKL	THE FIRE ALARM SYSTEM SHALL BE UUKL FOR SMOKE CONTROL.

C. THIS INSTALLATION SHALL COMPLY WITH:
1. AMERICANS WITH DISABILITIES ACT (ADA)
2. NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS: NFPA72
3. LOCAL AND STATE BUILDING CODES AND THE LOCAL AUTHORITIES HAVING JURISDICTION.
4. INTERNATIONAL STANDARDS ORGANIZATION (ISO): ISO–9001
5. ALL POWER AND WIRE REQUIREMENTS SHALL FOLLOW THE 2011 NYC ELECTRICAL CODE.
6. 2014 NYC BUILDING CODE (CHAPTER 9, CHAPTER 30, MECHANICAL CODE, APPENDIX K & Q AND OTHER SECTIONS AS THEY APPLY).
7. UTILIZE MEA/BSA/OTCR APPROVED FIRE ALARM EQUIPMENT.
8. THE REQUIREMENTS OF THE CITY OF NEW YORK BUILDING DEPARTMENT AND THE CITY OF NEW YORK FIRE DEPARTMENT.

1.4 RELATED DOCUMENTS

A. SECURE PERMITS AND APPROVALS PRIOR TO INSTALLATION.

B. PRIOR TO COMMENCEMENT AND AFTER COMPLETION OF WORK NOTIFY AUTHORITIES HAVING JURISDICTION.

C. SUBMIT LETTER OF APPROVAL FOR INSTALLATION BEFORE REQUESTING ACCEPTANCE OF SYSTEM.

1.5 RELATED WORK

A. THE CONTRACTOR SHALL COORDINATE WORK IN THIS SECTION WITH ALL RELATED TRADES. WORK AND/OR EQUIPMENT PROVIDED IN OTHER SECTIONS AND RELATED TO THE FIRE ALARM SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO:
1. SPRINKLER WATERFLOW AND SUPERVISORY SWITCHES SHALL BE FURNISHED AND INSTALLED BY THE FIRE PROTECTION CONTRACTOR, BUT WIRED AND CONNECTED BY THE ELECTRICAL CONTRACTOR. MODIFICATION OF NEW SPRINKLER DEVICES TO ACCOMMODATE MONITORING BY THE NEW FIRE ALARM SYSTEM SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM SYSTEM–INSTALLING CONTRACTOR.
2. KITCHEN HOOD EXTINGUISHING SYSTEMS STATUS MONITORING. HOOD ACTIVATION SHALL INDICATE AN ALARM CONDITION.
3. CONDUIT: SECTION 260533.
4. WIRE AND CABLES: SECTION 260519.
6. INSTALLING DEDICATED OUTGOING RJ–31X TELEPHONE LINES (2) SHALL BE THE RESPONSIBILITY OF THE INSTALLING ELECTRICAL CONTRACTOR. ESTABLISHMENT OF CENTRAL STATION MONITORING ACCOUNT SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM EQUIPMENT VENDOR.

1.6 SUBMITTALS

A. PROVIDE LIST OF ALL TYPES OF EQUIPMENT AND COMPONENTS PROVIDED. THIS SHALL BE INCORPORATED AS PART OF A TABLE OF CONTENTS, WHICH WILL ALSO INDICATE THE MANUFACTURER'S PART NUMBER, THE DESCRIPTION OF THE PART, AND THE PART NUMBER OF THE MANUFACTURER'S PRODUCT DATASHEET ON WHICH THE INFORMATION CAN BE FOUND.
B. PROVIDE DESCRIPTION OF OPERATION OF THE SYSTEM (SEQUENCE OF OPERATION), SIMILAR TO THAT PROVIDED IN PART 2 OF THIS SECTION OF THE SPECIFICATIONS, TO INCLUDE ANY AND ALL EXCEPTIONS, VARIANCES OR SUBSTITUTIONS LISTED AT THE TIME OF BID. ANY SUCH EXCEPTIONS, VARIANCES OR SUBSTITUTIONS THAT WERE NOT LISTED AT THE TIME OF BID AND ARE IDENTIFIED IN THE SUBMITTAL, SHALL BE GROUNDS FOR IMMEDIATE DISAPPROVAL WITHOUT COMMENT. THE SEQUENCE OF OPERATION SHALL BE PROJECT SPECIFIC, AND SHALL PROVIDE INDIVIDUAL SEQUENCES FOR EVERY TYPE OF ALARM, SUPERVISORY, OR TROUBLE CONDITION THAT MAY OCCUR AS PART OF NORMAL OR OFF–NORMAL SYSTEM USE.
C. PROVIDE MANUFACTURER'S ORIGINAL PRINTED PRODUCT DATA, CATALOG CUTS AND DESCRIPTION OF ANY SPECIAL INSTALLATION PROCEDURES. PHOTOCOPIED AND/OR ILLEGIBLE PRODUCT DATA SHEETS SHALL NOT BE ACCEPTABLE. ALL PRODUCT DATASHEETS SHALL BE HIGHLIGHTED OR STAMPED WITH ARROWS TO INDICATE THE SPECIFIC COMPONENTS BEING SUBMITTED FOR APPROVAL.
D. PROVIDE MANUFACTURER'S INSTALLATION INSTRUCTION MANUAL FOR SPECIFIED SYSTEM.
E. PROVIDE SAMPLES OF VARIOUS ITEMS WHEN REQUESTED.
F. PROVIDE COPY OF NYS LICENSE TO PERFORM SUCH WORK.
G. PROVIDE COPIES OF NICET LEVEL II FIRE ALARM CERTIFICATIONS FOR THE TWO (2) TECHNICIANS ASSIGNED TO THIS PROJECT.
H. PROVIDE SHOP DRAWINGS AS FOLLOWS:

1. COVERSHEET WITH PROJECT NAME, ADDRESS AND DRAWING INDEX.

2. GENERAL NOTES DRAWING WITH PERIPHERAL DEVICE BACKBOX SIZE INFORMATION, PART NUMBERS, DEVICE MOUNTING HEIGHT INFORMATION, AND THE NAMES, ADDRESSES, POINT OF CONTACT, AND TELEPHONE NUMBERS OF ALL CONTRACT PROJECT TEAM MEMBERS.

3. DEVICE RISER DIAGRAM THAT INDIVIDUALLY DEPICTS ALL CONTROL PANELS, ANNUNCIATORS, ADDRESSABLE DEVICES, AND NOTIFICATION APPLIANCES. SHALL INCLUDE A SPECIFIC, PROPOSED POINT DESCRIPTOR ABOVE EACH ADDRESSABLE DEVICE. SHALL INCLUDE A SPECIFIC, DISCRETE POINT ADDRESS THAT SHALL CORRESPOND TO ADDRESSES DEPICTED ON THE DEVICE LAYOUT FLOOR PLANS. DRAWING SHALL PROVIDE WIRE SPECIFICATIONS, AND WIRE TAGS SHOWN ON ALL CONDUCTORS DEPICTED ON THE RISER DIAGRAM. ALL CIRCUITS SHALL HAVE DESIGNATIONS THAT SHALL CORRESPOND WITH THOSE REQUIRE ON THE CONTROL PANEL AND FLOOR PLAN DRAWINGS. END–OF–LINE RESISTORS (AND VALUES) SHALL BE DEPICTED.

4. CONTROL PANEL TERMINATION DRAWING(S). SHALL DEPICT INTERNAL COMPONENT PLACEMENT AND ALL INTERNAL AND FIELD TERMINATION POINTS. DRAWING SHALL PROVIDE A DETAIL INDICATING WHERE CONDUIT PENETRATIONS SHALL BE MADE, SO AS TO AVOID CONFLICTS WITH INTERNALLY MOUNTED BATTERIES. FOR EACH ADDITIONAL DATA–GATHERING PANEL, A SEPARATE CONTROL PANEL DRAWING SHALL BE PROVIDED, WHICH CLEARLY INDICATED THE DESIGNATION, SERVICE AND LOCATION OF THE CONTROL ENCLOSURE. END–OF–LINE RESISTORS (AND VALUES) SHALL BE DEPICTED.

5. SEE SECTION 3.4 DOCUMENTATION AND TRAINING FOR OTHER DOCUMENTS RELATING TO THIS SECTION.

6. DEVICE TYPICAL WIRING DIAGRAM DRAWING(S) SHALL BE PROVIDED WHICH DEPICT ALL SYSTEM COMPONENTS, AND THEIR RESPECTIVE FIELD WIRING TERMINATION POINTS. WIRE TYPE, GAUGE, AND JACKET SHALL ALSO BE INDICATED. WHEN AN ADDRESSABLE MODULE IS USED IN MULTIPLE CONFIGURATIONS FOR MONITORING OR CONTROLLING VARIOUS TYPES OF EQUIPMENT, DIFFERENT DEVICE TYPICAL DIAGRAMS SHALL BE PROVIDED. END–OF–LINE RESISTORS (AND VALUES) SHALL BE DEPICTED.

7. DEVICE LAYOUT FLOOR PLANS SHALL BE CREATED FOR EVERY AREA SERVED BY THE FIRE ALARM SYSTEM. CAD FILES (AUTOCAD – LATEST EDITION) SHALL BE PROVIDED BY THE CONSULTING ENGINEER FOR THE USE OF THE FIRE ALARM SYSTEM EQUIPMENT VENDOR IN THE PREPARATION OF THE FLOOR PLANS. FLOOR PLANS SHALL INDICATE ACCURATE LOCATIONS FOR ALL CONTROL AND PERIPHERAL DEVICES. DRAWINGS SHALL BE NO LESS THAN 1/8–INCH SCALE. ALL ADDRESSABLE DEVICES SHALL BE DEPICTED WITH A DISCRETE ADDRESS THAT CORRESPONDS WITH THAT INDICATED ON THE RISER DIAGRAM. ALL NOTIFICATION APPLIANCES SHALL ALSO BE PROVIDED WITH A CIRCUIT ADDRESS THAT CORRESPONDS TO THAT DEPICTED ON THE RISER DIAGRAM. IF INDIVIDUAL FLOORS NEED TO BE SEGMENTED TO ACCOMMODATE THE 1/8" SCALE REQUIREMENTS, KEY PLANS AND BREAK–LINES SHALL BE PROVIDED ON THE PLANS IN AN ORDERLY AND PROFESSIONAL MANNER. END–OF–LINE RESISTORS (AND VALUES) SHALL BE DEPICTED.

8. CONTAINED IN THE TITLE BLOCK OF EACH DRAWING SHALL BE SYMBOL LEGENDS WITH DEVICE COUNTS, WIRE TAG LEGENDS, CIRCUIT SCHEDULES FOR ALL ADDRESSABLE AND NOTIFICATION APPLIANCE CIRCUITS, THE PROJECT NAME/ADDRESS, AND A DRAWING DESCRIPTION WHICH CORRESPONDS TO THAT INDICATED IN THE DRAWING INDEX ON THE COVERSHEET DRAWING. A SECTION OF EACH DRAWING TITLE BLOCK SHALL BE RESERVED FOR REVISION NUMBERS AND NOTES. THE INITIAL SUBMISSION SHALL BE REVISION 0, WITH REVISION A, B, OR C AS PROJECT MODIFICATIONS REQUIRE.

I. BATTERY CALCULATIONS SHALL BE PROVIDED ON A PER POWER SUPPLY/CHARGER BASIS BASED ON 24 HOURS OF SUPERVISION AND 15 MINUTES OF ALARM. THESE CALCULATIONS SHALL CLEARLY INDICATE THE QUANTITY OF DEVICES, THE DEVICE PART NUMBERS, THE SUPERVISORY CURRENT DRAW, THE ALARM CURRENT DRAW, TOTALS FOR ALL CATEGORIES, AND THE CALCULATED BATTERY REQUIREMENTS. BATTERY CALCULATIONS SHALL ALSO REFLECT ALL CONTROL PANEL COMPONENT, REMOTE ANNUNCIATOR, AND AUXILIARY RELAY CURRENT DRAWS. FAILURE TO PROVIDE THESE CALCULATIONS SHALL BE GROUNDS FOR THE COMPLETE REJECTION OF THE SUBMITTAL PACKAGE.

J. TABLE OF CONTENTS, PRODUCT DATA SHEETS, SEQUENCES OF OPERATION, BATTERY CALCULATIONS, INSTALLATION INSTRUCTIONS, LICENSES, NICET CERTIFICATIONS AND B–SIZE (BLACKLINE) REDUCED SHOP DRAWINGS SHALL BE PROVIDED BY THE FIRE ALARM VENDOR AS PART OF A SINGLE, SPIRAL BOUND SUBMITTAL BOOK. THE SUBMITTAL BOOK SHALL HAVE LAMINATED COVERS INDICATING THE PROJECT ADDRESS, PROJECT NUMBER, SYSTEM TYPE, AND CONTRACTOR. THE BOOK SHALL CONSIST OF LABELED DIVIDERS, AND SHALL NOT EXCEED 9 ½" IN WIDTH, AND 11 ½" IN HEIGHT. NO LESS THAN THREE (3) SETS OF SUBMITTAL BOOKLETS SHALL BE PROVIDED TO THE CONSULTING ENGINEER FOR REVIEW AND COMMENT. ADDITIONAL COPIES MAY BE REQUIRED AT NO ADDITIONAL COST TO THE PROJECT.

K. SCALE DRAWING SETS SHALL BE SUBMITTED ALONG WITH THE SUBMITTAL BOOKLETS. THESE DRAWINGS MAY BE EITHER D–SIZE OR E–SIZE BLUELINE DRAWINGS AND OF A SUFFICIENT RESOLUTION TO BE COMPLETELY READ. SETS SHALL BE BOUND AND FOLDED SO AS TO NOT TAKE UP MORE THAN 100 SQUARE INCHES OF SPACE. NO LESS THAN THREE (3) SETS OF SCALE DRAWING SETS SHALL BE PROVIDED TO THE CONSULTING ENGINEER FOR REVIEW AND COMMENT. ADDITIONAL COPIES MAY BE REQUIRED AT NO ADDITIONAL COST TO THE PROJECT.

1.7 WARRANTY

A. ALL WORK PERFORMED AND ALL MATERIAL AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE FREE FROM DEFECTS AND SHALL REMAIN SO FOR A PERIOD OF AT LEAST ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OR APPROVAL BY AHJ. THE FULL COST OF MAINTENANCE, LABOR AND MATERIALS REQUIRED TO CORRECT ANY DEFECT DURING THIS ONE YEAR PERIOD SHALL BE INCLUDED IN THE SUBMITTAL BID.

PART II – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. THE CATALOG NUMBERS USED ARE THOSE OF EDWARDS EST BY UTC FIRE AND SECURITY AND CONSTITUTE THE TYPE AND QUALITY OF EQUIPMENT TO BE FURNISHED.

B. IF EQUIPMENT OF ANOTHER MANUFACTURER IS TO BE SUBMITTED FOR APPROVAL AS EQUAL, THE CONTRACTOR SHALL, AT THE TIME OF BID, LIST ALL EXCEPTIONS TAKEN TO THESE SPECIFICATIONS, ALL VARIANCES FROM THESE SPECIFICATIONS AND ALL SUBSTITUTIONS OF OPERATING CAPABILITIES OR EQUIPMENT CALLED FOR IN THESE SPECIFICATIONS AND FORWARD SAID LIST TO THE ENGINEER. ANY SUCH EXCEPTIONS, VARIANCES OR SUBSTITUTIONS THAT WERE NOT LISTED AT THE TIME OF BID AND ARE IDENTIFIED IN THE SUBMITTAL, SHALL BE GROUNDS FOR IMMEDIATE DISAPPROVAL WITHOUT COMMENT. FINAL DETERMINATION OF COMPLIANCE WITH THESE SPECIFICATIONS SHALL REST WITH THE ENGINEER, WHO, AT HIS DISCRETION, MAY REQUIRE PROOF OF PERFORMANCE.

C. ALTERNATE PRODUCT SUBMISSIONS MADE WITHOUT PROOF OF NO LESS THAN THREE (3) FACTORY AUTHORIZED AND CERTIFIED MANUFACTURER'S DISTRIBUTORS RESIDING WITHIN 50 MILES OF THE PROJECT JOB SITE SHALL BE REJECTED. THESE DISTRIBUTORS MUST NOT ONLY PROVIDE INSTALLATION SUPPORT, BUT MUST HAVE A SERVICE ORGANIZATION CAPABLE OF 24 HOUR EMERGENCY CALL SERVICE AND MUST HAVE BEEN CONTRACTED AND DELIVERED NO LESS THAN FIVE (5) ACCEPTED PROJECTS USING THE SUBMITTED PRODUCT OVER THE PAST YEAR.

D. ALTERNATE PRODUCT SUBMISSIONS BASED UPON USE OF A PRODUCT LINE CONSIDERED PROPRIETARY IN ITS DISTRIBUTION, DESIGN, APPLICATION SOFTWARE, OR ONGOING MAINTENANCE AND REPAIR SHALL NOT ACCEPTABLE. PROOF OF A PRODUCT'S NON–PROPRIETARY NATURE SHALL BE THE BURDEN OF THE CONTRACTOR AT THE TIME OF BID, AND SHALL BE IN THE FORM OF WRITTEN DOCUMENTATION. THE DETERMINATION OF A PRODUCT'S COMPLIANCE TO THIS REQUIREMENT SHALL BE EXCLUSIVELY THAT OF THE CONSULTING ENGINEER.

E. ALL PRODUCTS USED SHALL BE OF A SINGLE MANUFACTURER. SUBMISSION OF NOTIFICATION APPLIANCES, AUXILIARY RELAYS, OR DOCUMENTATION FROM OTHER THAN A SINGLE MANUFACTURER SHALL NOT BE ACCEPTABLE AND WILL BE GROUNDS FOR IMMEDIATE DISAPPROVAL WITHOUT COMMENT.

F. THE FIRE ALARM / LIFE SAFETY SYSTEM SUPPLIED UNDER THIS SPECIFICATION SHALL BE A MICROPROCESSOR–BASED. ALL CONTROL PANEL ASSEMBLIES AND CONNECTED FIELD APPLIANCES SHALL BE BOTH DESIGNED AND MANUFACTURED BY THE SAME COMPANY, AND SHALL BE TESTED AND CROSS–LISTED AS COMPATIBLE TO ENSURE THAT A FULLY FUNCTIONING LIFE SAFETY SYSTEM IS DESIGNED AND INSTALLED.

2.2 CIRCUITING GUIDELINES

F. EACH SIGNALING LINE CIRCUIT (SLC) SHALL BE CIRCUITED SO DEVICE LOADING IS NOT TO EXCEED 80% OF LOOP CAPACITY IN ORDER TO LEAVE FOR SPACE FOR FUTURE DEVICES. THE LOOP SHALL HAVE CLASS B OPERATION. EACH DGP SHALL INCLUDE AN SLC LOOP ON A PER FLOOR BASIS. T–TAPPING A SELECTED LOOP TO COVER AN ALTERNATE FLOOR SHALL NOT BE ACCEPTED.

G. NAC CIRCUITS SHALL HAVE CLASS B OPERATION. EACH OF THE FOLLOWING TYPES OF ALARM NOTIFICATION APPLIANCES SHALL BE CIRCUITED AS SHOWN ON THE DRAWINGS BUT SHALL BE TYPICALLY AS FOLLOWS:

1. AUDIBLE SIGNALS: PROVIDE SUFFICIENT SPARE CAPACITY TO ASSURE THAT THE ADDITION OF FIVE (5) AUDIBLE DEVICES CAN BE SUPPORTED WITHOUT THE NEED FOR ADDITION CONTROL COMPONENTS (POWER SUPPLIES, SIGNAL CIRCUIT MODULES, AMPLIFIERS, BATTERIES, ETC.)
2. VISUAL SIGNALS PROVIDE SUFFICIENT SPARE CAPACITY TO ASSURE THAT THE ADDITION OF THREE (3) VISUAL DEVICES CAN BE SUPPORTED WITHOUT THE NEED FOR ADDITION CONTROL COMPONENTS (POWER SUPPLIES, SIGNAL CIRCUIT MODULES, BATTERIES, ETC.)

C. WHERE IT IS NECESSARY TO INTERFACE CONVENTIONAL INITIATING DEVICES PROVIDE INTELLIGENT INPUT MODULES TO SUPERVISE CLASS B ZONE WIRING.

D. EACH OF THE FOLLOWING TYPES OF DEVICES OR EQUIPMENT SHALL BE PROVIDED WITH SUPERVISED CIRCUITS AS SHOWN ON THE DRAWINGS BUT SHALL BE TYPICALLY AS FOLLOWS:

1. SPRINKLER VALVE SUPERVISORY SWITCHES: PROVIDE ONE (1) SUPERVISORY MODULE CIRCUIT FOR EACH SPRINKLER VALVE SUPERVISORY SWITCH.
2. WHEN WATERFLOW AND TAMPER SWITCHES EXIST AT THE SAME LOCATION, PROVIDE ONE (1) DUAL INPUT ADDRESSABLE MODULE. WHEN ODD NUMBERS OF DEVICES EXIST AT A SINGLE LOCATION, PROVIDE ADDITIONAL SINGLE INPUT ADDRESSABLE MODULES.

E. PROVIDE A DEDICATED 24VDC CIRCUIT TO FEED ALL AUXILIARY RELAYS REQUIRED FOR INDUCTIVE LOADS. CIRCUITS SHALL BE SUPERVISED VIA AN END–OF–LINE RELAY AND ADDRESSABLE INPUT MODULE. AUXILIARY RELAYS SHALL NOT DERIVE THEIR POWER FROM THE STARTER OR LOAD BEING CONTROLLED.

F. IN NO CASE SHALL ANY FIRE ALARM CIRCUIT BE SIZED BEYOND 80% OF CIRCUIT CAPACITY.

2.3 FIRE ALARM SYSTEM SEQUENCE OF OPERATION

A. SEE DESIGN DOCUMENTS FOR MATRIX AND/OR WRITTEN SEQUENCE OF OPERATION.

2.4 SUPPORT FOR INSTALLER AND OWNER MAINTENANCE

A. PROVIDE A CODED ONE–MAN WALK TEST FEATURE. ALLOW AUDIBLE OR SILENT TESTING. SIGNAL ALARMS AND TROUBLES DURING TEST. ALLOW RECEIPT OF ALARMS AND PROGRAMMED OPERATIONS FOR ALARMS FROM AREAS NOT UNDER TEST.
B. PROVIDE INTERNAL SYSTEM DIAGNOSTICS AND MAINTENANCE USER INTERFACE CONTROLS TO DISPLAY/REPORT THE POWER, COMMUNICATION, AND GENERAL STATUS OF SPECIFIC PANEL COMPONENTS, DETECTORS, AND MODULES.
C. PROVIDE LOOP CONTROLLER DIAGNOSTICS TO IDENTIFY COMMON ALARM, TROUBLE, GROUND FAULT, AND MAP FAULTS. MAP FAULTS INCLUDE WIRE CHANGES, DEVICE TYPE CHANGES BY LOCATION, DEVICE ADDITIONS/DELETIONS AND CONVENTIONAL OPEN, SHORT, AND GROUND CONDITIONS. GROUND FAULTS ON THE CIRCUIT WIRING OF REMOTE MODULE SHALL BE IDENTIFIED BY DEVICE ADDRESS.
D. ALLOW THE USER TO DISPLAY/REPORT THE CONDITION OF ADDRESSABLE ANALOG DETECTORS. INCLUDE DEVICE ADDRESS, DEVICE TYPE, PERCENT OBSCURATION, AND MAINTENANCE INDICATOR. THE MAINTENANCE INDICATOR SHALL PROVIDE THE USER WITH A MEASURE OF CONTAMINATION OF A DEVICE UPON WHICH CLEANING DECISIONS CAN CONFIDENTLY BE MADE.
E. ALLOW THE USER TO REPORT HISTORY FOR ALARM, SUPERVISORY, MONITOR, TROUBLE, SMOKE VERIFICATION, WATCHDOG, AND RESTORE ACTIVITY. INCLUDE FACILITY NAME, LICENSEE, PROJECT PROGRAM COMPILATION DATE, COMPILER VERSION, PROJECT REVISION NUMBER, AND THE TIME AND DATE OF THE HISTORY REPORT.
F. ALLOW THE USER TO DISABLE/ENABLE DEVICES, ZONES, ACTIONS, TIMERS AND SEQUENCES. PROTECT THE DISABLE FUNCTION WITH A PASSWORD.
G. ALLOW THE USER TO ACTIVATE/RESTORE OUTPUTS, ACTIONS, SEQUENCES, AND SIMULATE DETECTOR SMOKE LEVELS.
H. ALLOW THE SERVICE USER TO ENTER TIME AND DATE, RECONFIGURE AN EXTERNAL PORT FOR DOWNLOAD PROGRAMMING, INITIATE AUTO PROGRAMMING AND CHANGE PASSWORDS. PROTECT THESE FUNCTIONS WITH A PASSWORD.
I. THE END–USER SHALL RETAIN COMPLETE RIGHTS AND OWNERSHIP TO ALL SOFTWARE RUNNING IN THE SYSTEM. THE FIRE ALARM EQUIPMENT VENDOR SHALL PROVIDE USEABLE HARD AND SOFT COPIES OF THE SOFTWARE DATABASE TO THE END–USER AT THE END OF THE WARRANTY PERIOD. THE DATABASE PROVIDED SHALL BE USEABLE BY ANY AUTHORIZED AND CERTIFIED DISTRIBUTOR OF THE PRODUCT LINE, AND SHALL INCLUDE ALL APPLICABLE PASSWORDS NECESSARY FOR TOTAL AND UNRESTRICTED USE AND MODIFICATION OF THE DATABASE. THE CONSULTING ENGINEER SHALL DEFINE THE EXTENT OF HARDCOPY DATABASE DOCUMENTATION TO BE PROVIDED.

2.5 UL LISTED AND APPROVED EQUIPMENT

A. THE CONTROL PANEL SHALL CONTAIN A MICROPROCESSOR WITH 10/100 ETHERNET MEDIA ACCESS CONTROLLER (MAC). THE SYSTEM SHALL BE DESIGNED SPECIFICALLY FOR FIRE DETECTION, AND NOTIFICATION APPLICATIONS. THE CONTROL PANEL SHALL BE LISTED AND APPROVED FOR THE APPLICATION STANDARD(S) AS LISTED UNDER THE GENERAL SECTION. PANEL SHALL BE EDWARDS MODEL EST IO1000.

B. THE CONTROL PANEL SHALL INCLUDE ALL REQUIRED HARDWARE, SOFTWARE AND SYSTEM PROGRAMMING TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. THE CONTROL PANEL SHALL ASSURE THAT LIFE SAFETY TAKES PRECEDENCE AMONG ALL PANEL ACTIVITIES.

C. THE CONTROL PANEL SHALL INCLUDE THE FOLLOWING CAPACITIES:

1. SUPPORT ONE LOOP OF 250 ANALOG/ADDRESSABLE POINTS, EXPANDABLE UP TO FOUR LOOPS FOR A TOTAL OF 1000 POINTS.
2. SUPPORT UP TO 8 FULLY SUPERVISED REMOTE ANNUNCIATORS.
3. SUPPORT DIGITAL DIALER WITH CONTACT ID FORMAT.
4. SUPPORT UP TO 1000 CHRONOLOGICAL EVENTS.

D. THE CONTROL PANEL SHALL INCLUDE THE FOLLOWING FEATURES:

1. ABILITY TO DOWNLOAD OR UPLOAD SITE APPLICATIONS AND SYSTEM DIAGNOSTICS REMOTELY THROUGH AN ETHERNET CONNECTION, OR DACT.
2. PROVIDE ELECTRONIC ADDRESSING OF ANALOG/ADDRESSABLE DEVICES. ROTARY AND DIP SWITCH ADDRESSING SHALL NOT BE CONSIDERED EQUAL.
3. PROVIDE AN OPERATOR INTERFACE DISPLAY THAT SHALL INCLUDE FUNCTIONS REQUIRED TO ANNUNCIATE COMMAND AND CONTROL SYSTEM FUNCTIONS.
4. PROVIDE AN INTERNAL AUDIBLE SIGNAL WITH DIFFERENT PROGRAMMABLE PATTERS TO DISTINGUISH BETWEEN ALARM, SUPERVISORY, TROUBLE AND MONITOR CONDITIONS..
5. PROVIDE SYSTEM REPORTS THAT PROVIDE DETAILED DESCRIPTION OF THE STATUS OF SYSTEM PARAMETERS FOR CORRECTIVE ACTION OR FOR PREVENTATIVE MAINTENANCE PROGRAMS. REPORTS SHALL BE DISPLAYED BY THE OPERATOR INTERFACE OR CAPABLE OF BEING PRINTED ON A PRINTER.
6. PROVIDE AN AUTHORIZED OPERATOR WITH THE ABILITY TO OPERATE OR MODIFY SYSTEM FUNCTIONS LIKE SYSTEM TIME, DATE, PASSWORDS, RESTART THE SYSTEM AND CLEAR CONTROL PANEL EVENT HISTORY FILE.
7. PROVIDE AN AUTHORIZED OPERATOR TO PERFORM TEST FUNCTIONS WITHIN THE INSTALLED SYSTEM.

E. THE CONTROL PANEL SHALL PROVIDE THE FOLLOWING INTELLIGENT AND INTUITIVE DIAGNOSTIC SOFTWARE TOOLS.

1. FAST GROUND CHECK
ALLOW QUICK WIRING DIAGNOSTICS FOR GROUND FAULTS EVERY 4 SECONDS TO TROUBLESHOOT GROUND FAULTS MUCH QUICKER AND DETERMINE IF THEY HAVE BEEN FIXED OR NOT.
2. RECALIBRATE DEVICE
THE CONTROL PANEL RECALIBRATES ANY DEVICES THAT HAVE BEEN CLEANED. THE RECALIBRATE DEVICE FEATURE WILL IMMEDIATELY RESET THE ENVIRONMENTAL COMPENSATION AND DIRTINESS LEVELS FOR FASTER VERIFICATION OF CLEANED DEVICES.
3. TEST FIRE
THE CONTROL PANEL SENDS A TEST COMMAND TO A DETECTOR OR INPUT MODULE TO ACTIVATE. THIS ALLOWS FOR PROPER OPERATION AND PROGRAMMING TESTING OF THE DEVICE.
4. FLASH DEVICE LED
IT SHALL BE POSSIBLE TO ACTIVATE ANY DEVICE LED FROM THE CONTROL PANEL MENU TO HELP TROUBLESHOOTING OR LOCATE A SPECIFIC DEVICE ON A LOOP.
5. WALK TEST
WALK TEST WILL ALLOW THE OPERATOR TO TEST INDIVIDUAL ZONES OR DEVICES WITHOUT PLACING AN ALARM EVENT ON THE SYSTEM.
IT SHALL BE POSSIBLE TO PERFORM A WALK TEST IN A SILENT OR AUDIBLE TEST MODE. SILENT TEST MODE SHALL DISPLAY THE TEST RESULTS ON THE LCD DISPLAY. AUDIBLE TEST CONFIRMATION SHALL SOUND A CODED SIGNAL ON THE SYSTEMS NAC CIRCUITS.
IT SHALL BE POSSIBLE TO ACTIVATE WALK TEST BY ZONE OR DEVICE TO ENSURE THE BALANCE OF THE SYSTEM REMAINS IN SERVICE TO PROTECT THE PREMISES.
IT SHALL BE POSSIBLE TO VIEW AND PRINT A WALK TEST REPORT SHOWING THE ACTIVATION AND RESTORATION OF ALL WALK TEST EVENTS.
6. DEVICE MAINTENANCE
IT SHALL BE POSSIBLE TO VIEW AND PRINT A REPORT OF ALL DETECTORS DIRTINESS LEVELS TO OPTIMIZE CLEANING SCHEDULES. THE REPORT SHALL FILTER FOR ALL DEVICES, DEVICES THAT ARE 20% DIRTY OR DEVICES THAT ARE 80% DIRTY. THE REPORT SHALL SHOW THE DEVICE, HOW DIRTY IT IS BY PERCENTAGE AND ITS SENSITIVITY SETTING.
DETECTORS SHALL AUTOMATICALLY SEND AN ALERT MESSAGE TO THE LCD USERS INTERFACE AND ILLUMINATE THE SERVICE DETECTOR LED WHEN THEY REACH 80% DIRTY AND LATCH A TROUBLE WHEN THEY REACH 100% DIRTY TO ENSURE MAINTENANCE ACTION IS PERFORMED.

F. MAIN OPERATORS DISPLAY OPERATIONS:

1. PROVIDE A DISCREET SYSTEM CONTROL SWITCH PROVIDED FOR RESET, ALARM SILENCE, PANEL SILENCE, REMOTE DISCONNECT, DRILL SWITCH, AND UP/DOWN/RIGHT/LEFT SWITCHES.
2. BACKLIT LCD DISPLAY SHALL BE A MINIMUM 80 CHARACTER DISPLAY.
EACH POINT SHALL HAVE A 40 CHARACTER CUSTOM MESSAGE.
3. SERVICE DETECTOR LED: PROVIDE INDICATION WHEN A DETECTOR NEEDS SERVICING
4. PROGRAMMABLE SWITCHES: PROVIDE MINIMUM OF 2 PROGRAMMABLE SWITCHES WITH CORRESPONDING LEDS. THE SWITCHES SHALL BE PROGRAMMED FOR DISABLE/ENABLE OR ACTIVATE RESTORE FUNCTIONS AS FOLLOWS;

4.A. DISABLE NAC
4.B. DISABLE ELEVATOR RECALL
4.C. DISABLE FAN SHUTDOWN

5. ALARM AND TROUBLE ANNUNCIATOR: PROVIDE MINIMUM OF 32 ZONES OF LED ANNUNCIATION WITH RED ALARM AND YELLOW TROUBLE INDICATORS; 8 ZONES MAY BE UTILIZED FOR SUPERVISORY ZONE ANNUNCIATION. DEVICES ON ADDRESSABLE LOOP CIRCUITS SHALL BE IDENTIFIED BY DISPLAY OR THEIR ADDRESS AND BY THEIR CONDITION (ALARM, PRE–ALARM, MONITOR, SUPERVISORY, AND TROUBLE).

G. INSTRUCTIONS: COMPUTER PRINTOUT OR TYPEWRITTEN INSTRUCTION CARD MOUNTED BEHIND A PLASTIC OR GLASS COVER IN A STAINLESS–STEEL OR ALUMINUM FRAME. INCLUDE INTERPRETATION AND DESCRIBE APPROPRIATE RESPONSE FOR DISPLAYS AND SIGNALS. BRIEFLY DESCRIBE THE FUNCTIONAL OPERATION OF THE SYSTEM UNDER NORMAL, ALARM, AND TROUBLE CONDITIONS.

H. SMOKE–ALARM VERIFICATION:
1. INITIATE AN AUDIBLE AND VISIBLE INDICATION OF AN "ALARM–VERIFICATION" SIGNAL AT FIRE–ALARM CONTROL UNIT.
2. ACTIVATE AN NRTL–LISTED AND –APPROVED "ALARM–VERIFICATION" SEQUENCE AT FIRE–ALARM CONTROL UNIT AND DETECTOR.
3. RECORD EVENTS BY THE SYSTEM PRINTER.
4. SOUND GENERAL ALARM IF THE ALARM IS VERIFIED.
5. CANCEL FIRE–ALARM CONTROL UNIT INDICATION AND SYSTEM RESET IF THE ALARM IS NOT VERIFIED.

I. SMOKE–DETECTOR SENSITIVITY ADJUSTMENT: CONTROLS SHALL SELECT SPECIFIC ADDRESSABLE SMOKE DETECTORS FOR ADJUSTMENT, DISPLAY THEIR CURRENT STATUS AND SENSITIVITY SETTINGS, AND CHANGE TO ALTERNATE SETTINGS. ALLOW CONTROLS TO BE USED TO PROGRAM REPETITIVE, TIME–SCHEDULED, AND AUTOMATED CHANGES IN SENSITIVITY OF SPECIFIC DETECTOR GROUPS. RECORD SENSITIVITY ADJUSTMENTS AND SENSITIVITY–ADJUSTMENT SCHEDULE CHANGES IN SYSTEM MEMORY, AND PRINT OUT THE FINAL ADJUSTED VALUES ON SYSTEM PRINTER.

FIFIELD | PIAKER | ELMAN
ARCHITECTS, PC

740 Broadway, Suite 601
New York, NY 10003
tel 212 979 9272
www.fpe-architects.com

NO USE, REPRODUCTION OR DISSEMINATION MAY BE MADE OF THIS DRAWING & CONCEPTS SET FORTH HEREON WITHOUT THE PRIOR WRITTEN CONSENT OF

FIFIELD PIAKER ELMAN ARCHITECTS P.C.
COPYRIGHT © 2023

MEP CONSULTANT:
AVCON ENGINEERING PC
AVCON ENGINEERING
580 8TH AVE, 14TH FLOOR
NEW YORK, NY 10018
PH: (646) 572-0488

Project:
CHABAD DOWNTOWN

30 WALL STREET
BINGHAMTON, NY 13901

No:	Description:	Date:
06	100% CD SET / BID AND PERMIT	08/19/25
05	100% REVIEW SET	06/16/25
04	95% CD SET	01/20/25
03	80% COORDINATION SET	08/07/24
02	ISSUED FOR PROGRESS	12/01/23
01	ISSUED FOR REVIEW	10/05/23

Revisions:

Job No: 10015
Scale: AS SHOWN
Date: 10/02/23
Drawn: NL

Sheet Title:
FIRE ALARM SPECIFICATIONS I

Drawing No.:
FA-800

J. DIGITAL ALARM COMMUNICATOR TRANSMITTER: THE SYSTEM SHALL HAVE AN INTEGRATED OFF PREMISE COMMUNICATIONS CAPABILITY USING A DIGITAL ALARM COMMUNICATIONS TRANSMITTER (DACT) FOR SENDING SYSTEM EVENTS TO MULTIPLE CENTRAL MONITORING STATION (CMS) RECEIVERS. THE SYSTEM SHALL PROVIDE THE CMS(S) WITH POINT IDENTIFICATION OF SYSTEM EVENTS USING CONTACT ID PROTOCOL. THE DIALER SHALL HAVE THE CAPABILITY TO SUPPORT UP TO TWO (2) INDIVIDUAL ACCOUNTS AND TO SEND ACCOUNT INFORMATION TO TWO (2) DIFFERENT RECEIVERS, EACH HAVING A PRIMARY AND SECONDARY TELEPHONE ACCESS NUMBER. SYSTEM EVENTS SHALL BE CAPABLE OF BEING DIRECTED TO ONE OR MORE RECEIVERS DEPENDING ON EVENT TYPE OR LOCATION AS SPECIFIED BY THE SYSTEM DESIGNED. IN THE EVENT OF A PANEL CPU FAILURE DURING A FIRE ALARM CONDITION, THE DACT DEGRADED MODE SHALL TRANSMIT A GENERAL FIRE ALARM SIGNAL TO THE CMS.

1. DIGITAL DATA TRANSMISSION SHALL INCLUDE THE FOLLOWING (CONTACT ID)

   ADDRESS OF THE ALARM-INITIATING DEVICE.
   LOSS OF AC SUPPLY OR LOSS OF POWER.
   LOW BATTERY.
   ABNORMAL TEST SIGNAL.
   COMMUNICATION BUS FAILURE

K. ETHERNET PORT: PROVIDE A STANDARD 10/100 BASE T ETHERNET PORT FOR CONNECTING TO AN INTRANET OR A LOCAL NETWORK. THIS CONNECTION SHALL SUPPORT THE DOWNLOADING OF CONFIGURATION PROGRAMMING TO THE PANEL OVER THE NETWORK, AND PROVIDE THE CAPABILITY OF DIAGNOSTIC INFORMATION FROM A REMOTE LOCATION.

L. BOOSTER POWER SUPPLY: THE BOOSTER POWER SUPPLY SHALL BE INDEPENDENT UNIT THAT WILL PROVIDE POWER TO VISUAL STROBE NOTIFICATION APPLIANCES. IT SHALL BE POSSIBLE TO CONFIGURE THE NAC'S TO FOLLOW THE MAIN PANEL'S NAC OR ACTIVATE FROM INTELLIGENT SYNCHRONIZED MODULES. THE BOOSTER NAC'S MUST BE CONFIGURABLE TO OPERATE INDEPENDENTLY AT ANY ONE OF THE FOLLOWING RATES: CONTINUOUS SYNCHRONIZED, OR 3-3-3 TEMPORAL. FAULT CONDITIONS ON THE POWER SUPPLY SHALL NOT IMPEDE ALARM ACTIVATION OF HOST NAC CIRCUITS OR OTHER POWER SUPPLIES. THE NAC POWER SUPPLY MUST BE ABLE TO PROVIDE CONCURRENT POWER FOR NOTIFICATION DEVICES, SECURITY DEVICES, ACCESS CONTROL EQUIPMENT AND AUXILIARY DEVICES SUCH AS DOOR HOLDERS. . ALL THE NAC POWER SUPPLIES SHALL BE SYNCHRONIZED. THE POWER SUPPLY SHALL SUPPORT UP TO 24 AMP HOUR BATTERIES.

1. POWER SUPPLY SHALL BE A MINIMUM OF 10 AMPS AND UL 864 LISTED
2. FOUR INDEPENDENT 3AMP NAC CIRCUITS. EACH BEING CONFIGURABLE AS AUXILIARY POWER.
3. ALL CIRCUITS SHALL BE SYNCHRONIZED.

2.6 COMPONENTS

A. INTELLIGENT DEVICES – GENERAL: EACH REMOTE DEVICE SHALL HAVE A MICROPROCESSOR WITH NON-VOLATILE MEMORY TO SUPPORT ITS FUNCTIONALITY AND SERVICEABILITY. EACH DEVICE SHALL STORE AS REQUIRED FOR ITS FUNCTIONALITY THE FOLLOWING DATA: DEVICE SERIAL NUMBER, DEVICE ADDRESS, DEVICE TYPE, PERSONALITY CODE, DATE OF MANUFACTURE, HOURS IN USE, TIME AND DATE OF LAST ALARM, AMOUNT OF ENVIRONMENTAL COMPENSATION LEFT/USED, LAST MAINTENANCE DATE, JOB/PROJECT NUMBER, CURRENT DETECTOR SENSITIVITY VALUES, DIAGNOSTIC INFORMATION (TROUBLE CODES) AND ALGORITHMS REQUIRED TO PROCESS SENSOR DATA AND PERFORM COMMUNICATIONS WITH THE LOOP CONTROLLER. EACH DEVICE SHALL BE CAPABLE OF ELECTRONIC ADDRESSING, EITHER AUTOMATICALLY OR APPLICATION PROGRAMMED ASSIGNED, TO SUPPORT PHYSICAL/ELECTRICAL MAPPING AND SUPERVISION BY LOCATION. SETTING A DEVICE'S ADDRESS BY PHYSICAL MEANS SHALL NOT BE NECESSARY.

B. INTELLIGENT DETECTORS – GENERAL: THE SYSTEM INTELLIGENT DETECTORS SHALL BE CAPABLE OF FULL DIGITAL COMMUNICATIONS USING BOTH BROADCAST AND POLLING PROTOCOL. A FULL ARRAY OF DETECTION OPTIONS SHALL BE AVAILABLE INCLUDING SMOKE, HEAT, AND CARBON MONOXIDE (CO). MULTI SENSOR VARIATIONS SHALL ALSO BE AVAILABLE INCLUDING SMOKE AND HEAT, SMOKE AND CO, HEAT AND CO, AS WELL AS A THREE CHAMBER MULTI SENSOR WITH SMOKE, HEAT AND CO. EACH DETECTOR SHALL BE CAPABLE OF PERFORMING INDEPENDENT FIRE DETECTION ALGORITHMS. THE FIRE DETECTION ALGORITHM SHALL MEASURE SENSOR SIGNAL DIMENSIONS, TIME PATTERNS AND COMBINE DIFFERENT FIRE PARAMETERS TO INCREASE RELIABILITY AND DISTINGUISH REAL FIRE CONDITIONS FROM UNWANTED DECEPTIVE NUISANCE ALARMS. SIGNAL PATTERNS THAT ARE NOT TYPICAL OF FIRES SHALL BE ELIMINATED BY DIGITAL FILTERS. DEVICES NOT CAPABLE OF COMBINING DIFFERENT FIRE PARAMETERS OR EMPLOYING DIGITAL FILTERS SHALL NOT BE ACCEPTABLE. EACH DETECTOR SHALL HAVE AN INTEGRAL MICROPROCESSOR CAPABLE OF MAKING ALARM DECISIONS BASED ON FIRE PARAMETER INFORMATION STORED IN THE DETECTOR HEAD. DISTRIBUTED INTELLIGENCE SHALL IMPROVE RESPONSE TIME BY DECREASING THE DATA FLOW BETWEEN DETECTOR AND ANALOG LOOP CONTROLLER. THE DETECTOR SHALL BE CAPABLE OF MAKING ITS OWN ALARM RESPONSE WITHOUT THE DEPENDENCY OF THE SYSTEM CPU VIA THE ONBOARD MICROPROCESSOR. MAXIMUM TOTAL ANALOG LOOP RESPONSE TIME FOR DETECTORS CHANGING STATE SHALL BE 0.5 SECONDS. EACH DETECTOR SHALL HAVE A SEPARATE MEANS OF DISPLAYING COMMUNICATION AND ALARM STATUS. A 360 DEGREE, EASY TO SEE BI-COLOR (RED/GREEN) LED SHALL FLASH GREEN TO CONFIRM COMMUNICATION WITH THE CONTROL PANEL AND A RED FLASH SHALL DISPLAY AN ALARM CONDITION. THE DETECTOR SHALL BE CAPABLE OF IDENTIFYING UP TO 32 DIAGNOSTIC CODES. THIS INFORMATION SHALL BE AVAILABLE FOR SYSTEM MAINTENANCE. THE DIAGNOSTIC CODE SHALL BE STORED AT THE DETECTOR. EACH SMOKE DETECTOR SHALL BE CAPABLE OF TRANSMITTING PRE-ALARM AND ALARM SIGNALS IN ADDITION TO THE NORMAL, TROUBLE AND NEED CLEANING INFORMATION. IT SHALL BE POSSIBLE TO PROGRAM CONTROL PANEL ACTIVITY TO EACH LEVEL. EACH SMOKE DETECTOR MAY BE INDIVIDUALLY PROGRAMMED TO OPERATE AT ANY ONE OF FIVE (5) SENSITIVITY SETTINGS. EACH DETECTOR MICROPROCESSOR SHALL CONTAIN AN ENVIRONMENTAL COMPENSATION ALGORITHM THAT IDENTIFIES AND SETS AMBIENT "ENVIRONMENTAL THRESHOLDS" APPROXIMATELY SIX TIMES AN HOUR. THE MICROPROCESSOR SHALL CONTINUALLY MONITOR THE ENVIRONMENTAL IMPACT OF TEMPERATURE, HUMIDITY, OTHER CONTAMINATES AS WELL AS DETECTOR AGING. THE PROCESS SHALL EMPLOY DIGITAL COMPENSATION TO ADAPT THE DETECTOR TO BOTH 24-HOUR LONG TERM AND 4-HOUR SHORT-TERM ENVIRONMENTAL CHANGES. THE MICROPROCESSOR SHALL MONITOR THE ENVIRONMENTAL COMPENSATION VALUE AND ALERT THE SYSTEM OPERATOR WHEN THE DETECTOR APPROACHES 80% AND 100% OF THE ALLOWABLE ENVIRONMENTAL COMPENSATION VALUE. DIFFERENTIAL SENSING ALGORITHMS SHALL MAINTAIN A CONSTANT DIFFERENTIAL BETWEEN SELECTED DETECTOR SENSITIVITY AND THE "LEARNED" BASE LINE SENSITIVITY. THE BASE LINE SENSITIVITY INFORMATION SHALL BE UPDATED AND PERMANENTLY STORED AT THE DETECTOR APPROXIMATELY ONCE EVERY HOUR. THE INTELLIGENT ANALOG DETECTORS SHALL BE SUITABLE FOR MOUNTING ON ANY SIGNATURE SERIES DETECTOR MOUNTING BASE. INTELLIGENT DETECTORS SHALL CLEARLY INDICATE FROM THE OUTSIDE OF THE DEVICE WHAT TYPE OF SENSOR OR SENSORS IS WITHIN THE DEVICE WITH LETTER DESCRIPTION. A "P" DESIGNATION SHALL INDICATE PHOTO SMOKE, AN "H" SHALL INDICATE A HEAT DETECTION DEVICE AND A "C" SHALL INDICATE A CARBON MONOXIDE DEVICE. A COMBINATION OF LETTERS SHALL INDICATE AN INTELLIGENT DETECTOR WITH MULTIPLE SENSORS.

C. FIXED TEMPERATURE/RATE OF RISE HEAT DETECTOR/COMBINATION HEAT AND CO DETECTOR, SIGA-HRD, SIGA-HCD: PROVIDE INTELLIGENT COMBINATION FIXED TEMPERATURE/RATE-OF-RISE HEAT DETECTORS SIGA-HRD. THE HEAT DETECTOR SHALL HAVE A LOW MASS THERMISTOR HEAT SENSOR AND OPERATE AT A FIXED TEMPERATURE AND AT A TEMPERATURE RATE-OF-RISE. IT SHALL CONTINUALLY MONITOR THE TEMPERATURE OF THE AIR IN ITS SURROUNDINGS TO MINIMIZE THERMAL LAG TO THE TIME REQUIRED TO PROCESS AN ALARM. THE INTEGRAL MICROPROCESSOR SHALL DETERMINE IF AN ALARM CONDITION EXISTS AND INITIATE AN ALARM BASED ON THE ANALYSIS OF THE DATA. SYSTEMS USING CENTRAL INTELLIGENCE FOR ALARM DECISIONS SHALL NOT BE ACCEPTABLE. THE INTELLIGENT HEAT DETECTOR SHALL HAVE A NOMINAL FIXED TEMPERATURE ALARM POINT RATING OF 1350F (570C) AND A RATE-OF-RISE ALARM POINT OF 150F (90C) PER MINUTE. THE HEAT DETECTOR SHALL BE RATED FOR CEILING INSTALLATION AT A MINIMUM OF 50 FT. (15.24M) CENTERS AND BE SUITABLE FOR WALL MOUNT APPLICATIONS. WHERE SHOWN ON THE PROJECT PLANS, INCLUDE SIGA-HCD COMBINATION HEAT AND CARBON MONOXIDE (CO) DETECTOR. THE COMBINATION HEAT AND CO DEVICE SHALL REPORT SEPARATELY TO THE CONTROL PANEL WHERE A HEAT CONDITION IS CONSIDERED A FIRE ALARM AND A CO CONDITION IS A SUPERVISORY ALARM WITH SEPARATE AND UNIQUE EVACUATION SEQUENCE.

D. PHOTOELECTRIC SMOKE DETECTOR, SIGA-PD: PROVIDE INTELLIGENT PHOTOELECTRIC SMOKE DETECTORS SIGA-PD. THE ANALOG PHOTOELECTRIC DETECTOR SHALL UTILIZE A LIGHT SCATTERING TYPE PHOTOELECTRIC SMOKE SENSOR TO SENSE CHANGES IN AIR SAMPLES FROM ITS SURROUNDINGS. THE INTEGRAL MICROPROCESSOR SHALL DYNAMICALLY EXAMINE VALUES FROM THE SENSOR AND INITIATE AN ALARM BASED ON THE ANALYSIS OF DATA. SYSTEMS USING CENTRAL INTELLIGENCE FOR ALARM DECISIONS SHALL NOT BE ACCEPTABLE. THE DETECTOR SHALL CONTINUALLY MONITOR ANY CHANGES IN SENSITIVITY DUE TO THE ENVIRONMENTAL AFFECTS OF DIRT, SMOKE, TEMPERATURE, AGING AND HUMIDITY. THE INFORMATION SHALL BE STORED IN THE INTEGRAL PROCESSOR AND TRANSFERRED TO THE ANALOG LOOP CONTROLLER FOR RETRIEVAL USING A LAPTOP PC OR THE SIGA-PRO SIGNATURE PROGRAM/SERVICE TOOL. THE PHOTO DETECTOR SHALL BE RATED FOR CEILING INSTALLATION AT A MINIMUM OF 30 FT (9.1M) CENTERS AND BE SUITABLE FOR WALL MOUNT APPLICATIONS. THE PHOTOELECTRIC SMOKE DETECTOR SHALL BE SUITABLE FOR DIRECT INSERTION INTO AIR DUCTS UP TO 3 FT (0.91M) HIGH AND 3 FT (0.91M) WIDE WITH AIR VELOCITIES UP TO 5,000 FT/MIN. (0-25.39 M/SEC) WITHOUT REQUIRING SPECIFIC DUCT DETECTOR HOUSINGS OR SUPPLY TUBES. THE PERCENT SMOKE OBSCURATION PER FOOT ALARM SET POINT SHALL BE FIELD SELECTABLE TO ANY OF FIVE SENSITIVITY SETTINGS RANGING FROM 1.0% TO 3.5%. THE PHOTO DETECTOR SHALL BE SUITABLE FOR OPERATION IN THE FOLLOWING ENVIRONMENT: TEMPERATURE: 320F TO 1200F (00C TO 490C), HUMIDITY: 0-93% RH, NON-CONDENSING, ELEVATION: NO LIMIT.

E. STANDARD DETECTOR MOUNTING BASES, SIGA-SB / SIGA-SB4: PROVIDE STANDARD DETECTOR MOUNTING BASES SIGA-SB SUITABLE FOR MOUNTING ON NORTH AMERICAN 1-GANG, 3½" OR 4" OCTAGON BOX AND 4" SQUARE BOX. THE BASE SHALL, CONTAIN NO ELECTRONICS, SUPPORT ALL SIGNATURE SERIES DETECTOR TYPES AND HAVE THE FOLLOWING MINIMUM REQUIREMENTS: REMOVAL OF THE RESPECTIVE DETECTOR SHALL NOT AFFECT COMMUNICATIONS WITH OTHER DETECTORS, TERMINAL CONNECTIONS SHALL BE MADE ON THE ROOM SIDE OF THE BASE, BASES THAT MUST BE REMOVED TO GAIN ACCESS TO THE TERMINALS SHALL NOT BE ACCEPTABLE. THE BASE SHALL BE CAPABLE OF SUPPORTING ONE (1) SIGNATURE SERIES SIGA-LED REMOTE ALARM LED INDICATOR. PROVIDE REMOTE LED ALARM INDICATORS WHERE SHOWN ON THE PLANS.

F. AUDIBLE DETECTOR MOUNTING BASE, SIGA-AB4GT. WHERE SHOWN ON THE PROJECT PLANS INCLUDE DETECTOR AUDIBLE/SOUNDER BASE MODEL SIGA-AB4GT. THE SOUNDER BASE SHALL BE CAPABLE OF TWO TONES, TEMPORAL 3 FOR A FIRE CONDITION AND TEMPORAL 4 FOR A CARBON MONOXIDE CONDITION. THE TONES SHALL BE FULLY PROGRAMMABLE AND ALSO SYNCHRONIZE THE SOUND WITH OTHER SOUNDER BASES. THE SYSTEM SHALL BE UL2017 LISTED FOR DUAL SIGNALING FOR THIS PURPOSE.

G. INTELLIGENT MODULES – GENERAL: IT SHALL BE POSSIBLE TO ADDRESS EACH INTELLIGENT SIGNATURE SERIES MODULE WITHOUT THE USE OF DIP OR ROTARY SWITCHES. DEVICES USING DIP SWITCHES FOR ADDRESSING SHALL NOT BE ACCEPTABLE. THE PERSONALITY OF MULTIFUNCTION MODULES SHALL BE PROGRAMMABLE AT SITE TO SUIT CONDITIONS AND MAY BE CHANGED AT ANY TIME USING A PERSONALITY CODE DOWNLOADED FROM THE ANALOG LOOP CONTROLLER. MODULES REQUIRING EPROM, PROM, ROM CHANGES OR DIP SWITCH AND/OR JUMPER CHANGES SHALL NOT BE ACCEPTABLE. THE MODULES SHALL HAVE A MINIMUM OF 2 DIAGNOSTIC LEDS MOUNTED BEHIND A FINISHED COVER PLATE. A GREEN LED SHALL FLASH TO CONFIRM COMMUNICATION WITH THE LOOP CONTROLLER. A RED LED SHALL FLASH TO DISPLAY ALARM STATUS. THE MODULE SHALL BE CAPABLE OF STORING UP TO 24 DIAGNOSTIC CODES WHICH CAN BE RETRIEVED FOR TROUBLESHOOTING ASSISTANCE. INPUT AND OUTPUT CIRCUIT WIRING SHALL BE SUPERVISED FOR OPEN AND GROUND FAULTS. THE MODULE SHALL BE SUITABLE FOR OPERATION IN THE FOLLOWING ENVIRONMENT: TEMPERATURE: 320F TO 1200F (00C TO 490C), HUMIDITY: 0-93% RH, NON-CONDENSING.

H. SINGLE INPUT MODULE, SIGA-CT1 (WATERFLOW DETECTORS, TAMPER SWITCHES ETC.): PROVIDE INTELLIGENT SINGLE INPUT MODULES SIGA-CT1. THE SINGLE INPUT MODULE SHALL PROVIDE ONE (1) SUPERVISED CLASS B INPUT CIRCUIT CAPABLE OF A MINIMUM OF 4 PERSONALITIES, EACH WITH A DISTINCT OPERATION. THE MODULE SHALL BE SUITABLE FOR MOUNTING ON NORTH AMERICAN 2 ½" (64MM) DEEP 1-GANG BOXES AND 1 ½" (38MM) DEEP 4" SQUARE BOXES WITH 1-GANG COVERS. THE SINGLE INPUT MODULE SHALL SUPPORT THE FOLLOWING CIRCUIT TYPES: NORMALLY-OPEN ALARM LATCHING (MANUAL STATIONS, HEAT DETECTORS, ETC.), NORMALLY-OPEN ALARM DELAYED LATCHING (WATERFLOW SWITCHES), NORMALLY-OPEN ACTIVE NON-LATCHING (MONITOR, FANS, DAMPERS, DOORS, ETC.), NORMALLY-OPEN ACTIVE LATCHING (SUPERVISORY, TAMPER SWITCHES).

I. DUAL INPUT MODULE, SIGA-CT2: PROVIDE INTELLIGENT DUAL INPUT MODULES SIGA-CT2. THE DUAL INPUT MODULE SHALL PROVIDE TWO (2) SUPERVISED CLASS B INPUT CIRCUITS EACH CAPABLE OF A MINIMUM OF 4 PERSONALITIES, EACH WITH A DISTINCT OPERATION. THE MODULE SHALL BE SUITABLE FOR MOUNTING ON NORTH AMERICAN 2 ½" DEEP 1-GANG BOXES AND 1 ½" (38MM) DEEP 4" SQUARE BOXES WITH 1-GANG COVERS. THE DUAL INPUT MODULE SHALL SUPPORT THE FOLLOWING CIRCUIT TYPES: NORMALLY-OPEN ALARM LATCHING (MANUAL STATIONS, HEAT DETECTORS, ETC.), NORMALLY-OPEN ALARM DELAYED LATCHING (WATERFLOW SWITCHES), NORMALLY-OPEN ACTIVE NON-LATCHING (MONITOR, FANS, DAMPERS, DOORS, ETC.), NORMALLY-OPEN ACTIVE LATCHING (SUPERVISORY, TAMPER SWITCHES).

J. SINGLE INPUT SIGNAL MODULE, SIGA-CC1: PROVIDE INTELLIGENT SINGLE INPUT SIGNAL MODULES SIGA-CC1. THE SINGLE INPUT (SINGLE RISER SELECT) SIGNAL MODULE SHALL PROVIDE ONE (1) SUPERVISED CLASS B OUTPUT CIRCUIT CAPABLE OF A MINIMUM OF 2 PERSONALITIES, EACH WITH A DISTINCT OPERATION. WHEN SELECTED AS A TELEPHONE POWER SELECTOR, THE MODULE SHALL BE CAPABLE OF GENERATING ITS OWN "RING TONE". THE MODULE SHALL BE SUITABLE FOR MOUNTING ON NORTH AMERICAN 2 ½" (64MM) DEEP 2-GANG BOXES AND 1 ½" (38MM) DEEP 4" SQUARE BOXES WITH 2-GANG COVERS, OR EUROPEAN 100MM SQUARE BOXES. THE SINGLE INPUT SIGNAL MODULE SHALL SUPPORT THE FOLLOWING OPERATIONS: AUDIBLE/VISIBLE SIGNAL POWER SELECTOR (POLARIZED 24 VDC @ 2A).

K. MANUAL PULL STATION, SIGA-270: PROVIDE INTELLIGENT SINGLE ACTION FIRE ALARM PULL STATIONS AS INDICATED ON THE PROJECT PLANS. THE FIRE ALARM STATION SHALL BE OF METAL CONSTRUCTION WITH AN INTERNAL TOGGLE SWITCH. FINISH THE STATION IN RED WITH SILVER "PULL IN CASE OF FIRE" ENGLISH LETTERING. THE MANUAL STATION SHALL BE SUITABLE FOR MOUNTING ON NORTH AMERICAN 2 ½" (64MM) DEEP 1-GANG BOXES AND 1 ½" (38MM) DEEP 4" SQUARE BOXES WITH 1-GANG COVERS. IT SHALL BE POSSIBLE TO ADDRESS EACH SIGNATURE SERIES FIRE ALARM PULL STATION WITHOUT THE USE OF DIP OR ROTARY SWITCHES. DEVICES USING DIP SWITCHES FOR ADDRESSING SHALL NOT BE ACCEPTABLE. THE MANUAL STATIONS SHALL HAVE A MINIMUM OF 2 DIAGNOSTIC LEDS MOUNTED ON THEIR INTEGRAL, FACTORY ASSEMBLED SINGLE OR TWO STAGE INPUT MODULE. A GREEN LED SHALL FLASH TO CONFIRM COMMUNICATION WITH THE LOOP CONTROLLER. A RED LED SHALL FLASH TO DISPLAY ALARM STATUS. THE STATION SHALL BE CAPABLE OF STORING UP TO 24 DIAGNOSTIC CODES THAT CAN BE RETRIEVED FOR TROUBLESHOOTING ASSISTANCE. INPUT CIRCUIT WIRING SHALL BE SUPERVISED FOR OPEN AND GROUND FAULTS. FIRE ALARM PULL STATIONS SHALL BE SUITABLE FOR TEMPERATURES 320F TO 1200F (00C TO 490C), HUMIDITY: 0-93% RH, NON-CONDENSING.

L. NOTIFICATION APPLIANCES – GENERAL: ALL APPLIANCES SHALL BE UL LISTED FOR FIRE PROTECTIVE SERVICE. ALL STROBE APPLIANCES OR COMBINATION APPLIANCES WITH STROBES SHALL BE UL 1971 AND ULC S526 LISTED. ALL APPLIANCES SHALL BE OF THE SAME MANUFACTURER AS THE FIRE ALARM CONTROL PANEL (NO EXCEPTIONS) SPECIFIED TO INSURE ABSOLUTE COMPATIBILITY BETWEEN THE APPLIANCES AND THE CONTROL PANELS, AND TO INSURE THAT THE APPLICATION OF THE APPLIANCES ARE DONE IN ACCORDANCE WITH THE SINGLE MANUFACTURERS' INSTRUCTIONS. ANY APPLIANCES THAT DO NOT MEET THE ABOVE REQUIREMENTS, AND ARE SUBMITTED FOR USE MUST SHOW WRITTEN PROOF OF THEIR COMPATIBILITY FOR THE PURPOSE INTENDED. SUCH PROOF SHALL BE IN THE FORM OF DOCUMENTATION FROM THE CONTROL PANEL MANUFACTURER CLEARLY STATING THAT THE CONTROL EQUIPMENT (AS SUBMITTED) IS 100% COMPATIBLE WITH THE SUBMITTED NOTIFICATION APPLIANCES.

M. STROBES, G1RF-VM SERIES: PROVIDE EST SERIES G1RF-VM SERIES LOW PROFILE WALL MOUNTED STROBES AT THE LOCATIONS SHOWN ON THE DRAWINGS. STROBES SHALL PROVIDE SYNCHRONIZED FLASH OUTPUTS. STROBE OUTPUT SHALL BE FIELD SELECTABLE AS INDICATED ON THE DRAWINGS IN ONE OF THE FOLLOWING INTENSITY LEVELS; 15CD, 30CD, 75CD OR 110CD. LOW PROFILE STROBES SHALL MOUNT IN A NORTH AMERICAN 1-GANG BOX OR SURFACE MOUNTED ON A MATCHING BACK BOX PROVIDED BY THE MANUFACTURER, AS DIRECTED IN THE FIELD.

N. TEMPORAL STROBE STROBES, G1RF-HDVM SERIES: PROVIDE EST SERIES G1RF-HDVM LOW PROFILE WALL MOUNT STROBE/STROBES AT THE LOCATIONS SHOWN ON THE DRAWINGS. THE STROBE/STROBE SHALL PROVIDE AN AUDIBLE OUTPUT OF 84.4 DBA AT 10 FT AT THE HIGH SETTING AND FOR SMALLER ROOM SIZE LOCATIONS (AS INDICATED ON THE PLANS) A LOW DB SETTING (FIELD SELECTABLE) OF 79.4 DB AT 10 FT. WHEN MEASURED IN REVERBERATION ROOM PER UL-464. STROBES SHALL PROVIDE SYNCHRONIZED FLASH OUTPUTS. THE STROBE OUTPUT SHALL BE AS INDICATED ON THE DRAWINGS IN ONE OF THE FOLLOWING FIELD SELECTABLE INTENSITY LEVELS; 15CD, 30CD, 75CD & 110CD DEVICES. THE STROBE SHALL HAVE A SELECTABLE STEADY OR SYNCHRONIZED TEMPORAL OUTPUT. LOW PROFILE STROBE/STROBES SHALL MOUNT IN A NORTH AMERICAN 1-GANG BOX OR SURFACE MOUNTED ON A MATCHING BACK BOX PROVIDED BY THE MANUFACTURER, AS DIRECTED IN THE FIELD.

O. TEMPORAL STROBE, G1RF-HD: PROVIDE EST SERIES G1RF-HD LOW PROFILE WALL MOUNT STROBE AT THE LOCATIONS SHOWN ON THE DRAWINGS. THE STROBE SHALL PROVIDE AN AUDIBLE OUTPUT OF 84.4 DBA AT 10 FT AT THE HIGH SETTING AND FOR SMALLER ROOM SIZE LOCATIONS (AS INDICATED ON THE PLANS) A LOW DB SETTING (FIELD SELECTABLE) OF 79.4 DB AT 10 FT. WHEN MEASURED IN REVERBERATION ROOM PER UL-464. THE STROBE SHALL HAVE A SELECTABLE STEADY OR SYNCHRONIZED TEMPORAL OUTPUT. LOW PROFILE STROBE SHALL MOUNT IN A NORTH AMERICAN 1-GANG BOX OR SURFACE MOUNTED ON A MATCHING BACK BOX PROVIDED BY THE MANUFACTURER, AS DIRECTED IN THE FIELD.

P. MULTI-VOLTAGE CONTROL RELAYS, MR-200 SERIES: PROVIDE REMOTE CONTROL RELAYS CONNECTED TO SUPERVISED ANCILLARY CIRCUITS FOR CONTROL OF FANS, DAMPERS, DOOR RELEASES, ETC. RELAY CONTACT RATINGS SHALL BE DPDT AND RATED FOR 10 AMPERES AT 115 VAC. A SINGLE RELAY MAY BE ENERGIZED FROM A VOLTAGE SOURCE OF 24 VDC, 24 VAC, 115 VAC, OR 230 VAC. A RED LED SHALL INDICATE THE RELAY IS ENERGIZED. A METAL ENCLOSURE SHALL BE PROVIDED.

Q. ELECTROMAGNETIC DOOR HOLDERS: PROVIDE WALL MOUNTED, EST EDWARDS 1504/1505/1508/1509 SERIES. PROVIDE FLUSH, SEMI-FLUSH OR SURFACE WALL MOUNTED ELECTROMAGNETIC DOOR HOLDER/RELEASES RATED AT 24 VAC/VDC AS DIRECTED BY THE CONSULTING ENGINEER. FINISH SHALL BE BRUSHED ZINC. ELECTROMAGNETIC DOOR HOLDERS SUBMITTED FOR USE MUST HAVE WRITTEN PROOF OF THEIR COMPATIBILITY FOR THE PURPOSES INTENDED. SUCH PROOF SHALL BE IN THE FORM OF DOCUMENTATION FROM ALL MANUFACTURERS THAT CLEARLY STATES THAT THEIR EQUIPMENT (AS SUBMITTED) IS 100% COMPATIBLE WITH EACH OTHER FOR THE PURPOSES INTENDED.

R. STI STOPPER II LEXAN GUARDS: MANUAL PULL STATIONS THAT ARE PROVIDED WITH STI STOPPER II LEXAN GUARDS SHALL INCLUDE NON-AUDIBLE ALARMS AS REQUIRED ON THE PLANS. THEY SHALL BE SURFACE OR FLUSH MOUNTING, AS REQUIRED FOR EACH INDIVIDUAL DEVICE. STOPPER COVERS SHALL ONLY BE INCLUDED ON DEVICES SHOWN ON THE PLANS TO INCLUDE THEM.

S. OPERATING INSTRUCTION/RISER DIAGRAM HOLDERS: SHALL BE RED PAINTED STEEL, FRAME HOLDER WITH CLEAR, ACRYLIC WINDOW WITH NINE INCH BY TWELVE INCH (9" X 12") DIMENSIONS. ONE (1) HOLDER SHALL BE PROVIDED FOR THE FIRE ALARM CONTROL PANEL FACP)/SYSTEM OPERATING INSTRUCTIONS AND ONE (1) HOLDER SHALL BE PROVIDED FOR A REDUCED COPY (8-1/2" X 11") OF THE FIRE ALARM SYSTEM RISER DIAGRAM. THE OPERATING INSTRUCTION AND RISER DIAGRAM HOLDERS SHALL BE MOUNTED ADJACENT TO THE FIRE ALARM CONTROL PANEL (FACP).

T. FIRE ALARM EQUIPMENT SHALL BE POWERED THROUGH AN APPROVED FUSE DISCONNECT SWITCH (FDS) CONNECTED AHEAD OF THE MAIN SERVICE SWITCH. THE FDS SHALL BE HEAVY DUTY (200,000 RMS SHORT CIRCUIT AMPS) SAFETY SWITCH @30 AMPS MINIMUM, PAINTED RED, INCLUDE A GROUND AND NEUTRAL KIT WITH GROUNDING SCREW (TO BOND NEUTRAL), INCLUDE A PADLOCK WITH Y1 CYLINDER KEYED TO A NYC/FDNY 2642 KEY (USE ABUS RE-KEYABLE 83-45 OR EQUIVALENT LOCK). ALL WIRING SHALL BE #10 MINIMUM THHN OR EQUIVALENT RUN IN ¾INCH EMT/RGS AND IN ACCORDANCE WITH NYC REQUIREMENTS. THE GROUND TO THE FDS SHALL BE MADE USING A NYC ACCEPTED METHOD (SEE NYC ELECTRICAL CODE), AND THE GROUND WIRE TO THE FDS SHALL BE #8 MINIMUM (LARGER IF NECESSARY TO MEET FEED SIZE). THE EQUIPMENT GROUND LEAVING FROM THE FDS CONNECTING TO THE FIRE ALARM EQUIPMENT SHALL INCLUDE A #10 GREEN GROUND. THE FDS PANEL SHALL BEAR AN ENGRAVED WHITE-CORE PHENOLIC OR BAKELITE IDENTIFICATION NAMEPLATE STATING IN MINIMUM ONE-QUARTER INCH (1/4") HIGH WHITE LETTERS ON A RED BACKGROUND "FIRE ALARM FUSED DISCONNECT".

U. WHERE ADDITIONAL CIRCUITS ARE REQUIRED BY THE FIRE ALARM SYSTEM, A FUSED CUTOUT, PROPERLY SIZED SHALL BE INCLUDED, WIRED AFTER THE FDS. THE SIZE OF THE FUSES SHALL BE SIZED APPROPRIATELY BUT BE TWENTY (20) AMPERES MINIMUM. THE FUSED CUT-OUT PANEL SHALL BEAR AN ENGRAVED WHITE-CORE PHENOLIC OR BAKELITE IDENTIFICATION NAMEPLATE STATING IN MINIMUM ONE-QUARTER INCH (1/4") HIGH WHITE LETTERS ON A RED BACKGROUND "FIRE ALARM FUSED CUT-OUT". THE NEUTRAL SHALL NOT BE BONDED IN THE FUSED CUTOUT".

PART III – EXECUTION

1.1 INSTALLATION

W. THE ENTIRE SYSTEM SHALL BE INSTALLED IN A WORKMANLIKE MANNER, IN ACCORDANCE WITH APPROVED MANUFACTURER'S WIRING DIAGRAM. THE CONTRACTOR SHALL FURNISH ALL CONDUIT, WIRING, OUTLET BOXES, JUNCTION BOXES, CABINETS AND SIMILAR DEVICES NECESSARY FOR THE COMPLETE INSTALLATION. ALL WIRING SHALL BE OF THE TYPE RECOMMENDED BY THE MANUFACTURER, APPROVED BY THE NYC FIRE DEPARTMENT, NYC FIRE CODE, NYC ELECTRICAL CODE, AND SPECIFIED WITH IN.
X. ALL PENETRATION OF FLOOR SLABS AND FIREWALLS SHALL BE SLEEVED (1" CONDUIT MINIMUM) FIRE STOPPED IN ACCORDANCE WITH ALL LOCAL FIRE CODES.
Y. END OF LINE RESISTORS SHALL BE FURNISHED AS REQUIRED FOR MOUNTING AS DIRECTED BY THE MANUFACTURER. DEVICES CONTAINING END-OF-LINE RESISTORS SHALL BE APPROPRIATELY LABELED. DEVICES SHOULD BE LABELED SO REMOVAL OF THE DEVICE IS NOT REQUIRED TO IDENTIFY THE EOL DEVICE.
Z. ALL MANUAL PULL STATIONS SHALL BE MOUNTED 42 – 48 INCHES ABOVE THE FINISHED FLOOR, AS MEASURED TO THE HANDLE.
AA. ALL AUDIO/VISUAL DEVICES SHALL BE MOUNTED 80 INCHES ABOVE THE FINISHED FLOOR, AS MEASURED TO THE LENS. DEVICES SHALL BE MOUNTED NO LESS THAN 6 INCHES FROM THE CEILING. AUDIO VISUAL DEVICES SHALL BE MOUNTED PER NFPA 72.
AB. NO AREA SMOKE DETECTORS SHALL BE MOUNTED WITHIN 36 INCHES OF ANY HVAC SUPPLY, RETURN AIR REGISTER OR LIGHTING FIXTURE.
AC. NO AREA SMOKE OR HEAT DETECTOR SHALL BE MOUNTED WITHIN 12 INCHES OF ANY WALL. ALL DETECTORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH NFPA 72 AS AMENDED IN APPENDIX Q GUIDELINES FOR SUCH DEVICES.
AD. ALL MECHANICAL ROOMS, BOILER ROOMS, ETC. OR AREAS WITH NO HUNG CEILINGS SHALL BE PIPED WITH 3/4" CONDUIT AND INSTALLED AS NECESSARY BY THE NYC ELECTRICAL CODE. ALL AREAS IN PUBLIC VIEW SHALL BE IN METAL CONDUIT. ALL BOXES MUST BE PAINTED RED AND LABELED "FIRE ALARM".
AE. ALL ADDRESSABLE MODULES SHALL BE MOUNTED WITHIN 36 INCHES OF THE MONITORED OR CONTROLLED POINT OF TERMINATION. THIS SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, FAN SHUTDOWN, ELEVATOR RECALL, SHUNT TRIP, SPRINKLER STATUS POINTS, OR DOOR RELEASE. LABEL ALL ADDRESSABLE MODULES AS TO THEIR FUNCTION.
AF. ALL LOW VOLTAGE WIRING TERMINATED TO THE FIRE ALARM SYSTEM SHALL BE NO LESS THAN NO. 14 AWG IN SIZE FOR NAC CIRCUITS AND 16 AWG FOR INITIATING CIRCUITS, AND SOLID COPPER PER THE NYC ELECTRICAL CODE. EXPOSED WIRE ABOVE 8FT AFF SHALL BE 150 DEGREES C AND AS SPECIFIED IN THE ELECTRICAL CODE.
AG. ALL LINE VOLTAGE (120VAC) WIRING SHALL BE NO LESS THAN NO. 12 AWG IN SIZE, AND SOLID COPPER. THIS SHALL INCLUDE ALL SYSTEM GROUNDING.
AH. ALL WIRING SHALL BE COLOR-CODED THROUGHOUT, TO NATIONAL ELECTRICAL CODE STANDARDS.
M. POWER-LIMITED/NON-POWER-LIMITED NEC WIRING STANDARDS SHALL BE OBSERVED.
N. ALL JUNCTION BOX COVERS SHALL BE PAINTED RED AND LABELED FIRE ALARM SYSTEM.
O. FIRE ALARM SYSTEM WIRING SHALL NOT CO-MINGLE WITH ANY OTHER SYSTEM WIRING IN THE FACILITY. CONDUITS SHALL NOT BE SHARED UNDER ANY CIRCUMSTANCE. ONLY WHEN FIRE ALARM WIRING ENTERS THE ENCLOSURE OF A MONITORED OR CONTROLLED SYSTEM WILL CO-HABITATION BE PERMITTED (I.E. AT FAN STARTERS OR ELEVATOR CONTROLLERS). THIS WILL BE FIELD INSPECTED BY THE PROJECT ENGINEER.
P. FIRE ALARM CONTROL PANEL ENCLOSURES SHALL HAVE ENGRAVED LABELS INDICATING, "FIRE ALARM SYSTEM", AND THE AREAS OF THE BUILDING SERVED BY THAT PANEL.
Q. AUXILIARY RELAYS SHALL BE APPROPRIATELY LABELED TO INDICATE "FIRE ALARM SYSTEM" AND THEIR SPECIFIC FUNCTION (I.E. FAN S-1 SHUTDOWN).
R. ALL FIRE ALARM WIRING SHALL BE CONTINUOUS AND UNSPLICED. TERMINATIONS SHALL ONLY OCCUR AT FIRE ALARM DEVICES OR CONTROL PANEL ENCLOSURES UNDER TERMINAL SCREWS. ALL OTHER SPLICING METHODS ARE SPECIFICALLY DISALLOWED (I.E. PLASTIC WIRENUTS).
S. ALL FIRE ALARM WIRING SHALL BE INSTALLED USING A DEDICATED SYSTEM OF SUPPORTS (I.E. BRIDLE RINGS). FIRE ALARM WIRING SHALL NOT BE BUNDLED OR STRAPPED TO NEW CONDUIT, PIPE OR WIRE IN THE FACILITY. THIS WILL BE FIELD INSPECTED BY THE PROJECT ENGINEER.
T. ALL FIRE ALARM WIRING SHALL BE SLEEVED WHEN PASSING THROUGH ANY WALL, USING CONDUIT SLEEVES (1" MIN.) WITH BUSHINGS, AND FIRE STOPPED IN ACCORDANCE WITH CODE.
U. ALL LOW VOLTAGE OPERATION SHALL BE PROVIDED FROM THE FIRE ALARM CONTROL PANEL.
V. ALL FIRE ALARM DEVICES SHALL BE ACCESSIBLE FOR PERIODIC MAINTENANCE. SHOULD A DEVICE LOCATION INDICATED ON THE CONTRACT DRAWINGS NOT MEET THIS REQUIREMENT, IT SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO BRING IT, IN WRITING, TO THE ATTENTION OF THE PROJECT ENGINEER. FAILURE TO BRING SUCH ISSUES TO THE ATTENTION OF THE PROJECT ENGINEER SHALL BE THE EXCLUSIVE LIABILITY OF THE INSTALLING ELECTRICAL CONTRACTOR.
W. THE INSTALLING ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ENTIRE NEW FIRE ALARM SYSTEM COMPONENTS AND CONTROLS ON THE DEMOLITION DRAWING SHOWN OR NOT, UPON APPROVAL OF THE AHJ AND THE CONSULTING ENGINEER. THE END-USER RESERVES THE RIGHT TO RETAIN ANY NEW FIRE ALARM SYSTEM COMPONENTS, UPON THEIR REQUEST. ALL NEW FIRE ALARM SYSTEM COMPONENTS REQUIRING SPECIAL HANDLING FOR DISPOSAL (DUE TO RADIOACTIVITY) SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. WRITTEN PROOF OF PROPER DISPOSAL BY THE INSTALLING CONTRACTOR SHALL BE REQUIRED PRIOR TO RELEASE OF OUTSTANDING RETAINAGE.

3.2 FIELD QUALITY CONTROL

A. THE SYSTEM SHALL BE INSTALLED AND FULLY TESTED UNDER THE SUPERVISION OF A TRAINED MANUFACTURER'S REPRESENTATIVE. THE SYSTEM SHALL BE DEMONSTRATED TO PERFORM ALL OF THE FUNCTION AS SPECIFIED.
B. THE INSTALLING CONTRACTOR OR FIRE ALARM EQUIPMENT VENDOR SHALL HAVE NO LESS THAN TWO (2) NICET LEVEL II FIRE ALARM TECHNICIANS DEDICATED TO THIS PROJECT.
C. THE INSTALLING CONTRACT AND THE FIRE ALARM SYSTEM VENDOR SHALL, UPON THE REQUEST OF THE CONSULTING ENGINEER OR END-USER, ATTEND ANY AND ALL PROJECT MEETINGS FOR THE PURPOSE OF ACCURATELY DETERMINING PROGRESS.
D. IT SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ASSURE THAT CONSTRUCTION DEBRIS DOES NOT ADVERSELY AFFECT ANY SENSING DEVICES INSTALLED AS PART OF THIS PROJECT. SHOULD IT BE DEEMED NECESSARY BY THE CONSULTING ENGINEER, END-USER OR AHJ, THE INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING OF ALL SMOKE DETECTORS PRIOR TO FINAL ACCEPTANCE.

3.3 TESTS

A. THE FIRE ALARM SYSTEM VENDOR SHALL TEST THE SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND NFPA 72 AS AMENDED BY THE NYC BUILDING CODE. THE VENDOR SHALL PROVIDE COMPLETED REPORTS TO THE CONSULTING ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE.
B. EACH INDIVIDUAL SYSTEM OPERATION ON A CIRCUIT-BY-CIRCUIT BASIS SHALL BE TESTED FOR ITS COMPLETE OPERATION. THE PROCEDURE FOR TESTING THE ENTIRE FIRE ALARM SYSTEM SHALL BE SET FORTH WITH THE CONSENT OF THE CODE ENFORCEMENT OFFICIAL, THE ENGINEER AND THE MANUFACTURER.

3.4 DOCUMENTATION AND TRAINING

A. THE CONTRACTOR SHALL COMPILE AND PROVIDE TO THE OWNERS THREE (3) COMPLETE MANUAL ON THE COMPLETED SYSTEM TO INCLUDE SITE SPECIFIC OPERATING AND MAINTENANCE INSTRUCTION, CATALOG CUTS OF ALL EQUIPMENT AND COMPONENTS, AS-BUILT WIRING DIAGRAMS AND A MANUFACTURER'S SUGGESTED SPARE PARTS LIST, AND AN END USER TRAINING VIDEO ON DVD DISK.
B. IN ADDITION TO THE ABOVE MANUALS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SERVICES OF THE MANUFACTURER'S TRAINED REPRESENTATIVE FOR TWO (2) SEPARATE CALENDAR DAYS FOR A PERIOD OF FOUR (4) HOURS PER DAY TO INSTRUCT THE OWNERS' DESIGNATED PERSONNEL ON THE OPERATION AND MAINTENANCE OF THE ENTIRE SYSTEM.

C. AS-BUILT DRAWINGS SHALL CONSIST OF THE FOLLOWING:
5. COMPLETE REVISION OF ALL PREVIOUSLY SUBMITTED DRAWINGS.
6. POINT-TO-POINT DEPICTION OF ALL DEVICE WIRING ON THE DEVICE LAYOUT FLOOR PLANS.
7. ONE (1) SET OF B-SIZE, LAMINATED AS-BUILT DRAWINGS.
8. TWO (2) SETS OF 30"X42"INCH 1\16"=1' SCALE DRAWINGS SHOWING ALL POINTS OF FIRE ALARM. ONE SET SHALL BE SUBMITTED WITH THE CLOSE-OUT DOCUMENTS. SECOND SET SHALL BE MOUNTED IN FRAME WITH A LEXAN COVER. THESE DRAWING MUST BE SUBMITTED TO PROJECT ENGINEER OR APPROVAL.
9. FIRE ALARM MATRIX DESIGNED PER NFPA 72: FIGURE A.14.6.2.3(9).

D. TURNOVER OF ALL SOFTWARE DATABASE HARD/SOFT COPIES SHALL BE REQUIRED. THIS SHALL INCLUDE ALL POSSIBLE PROGRAMMING SOFTWARE LOGS, DISKETTES OR CDS CONTAINING EXPORTED PROJECT FILES, HARD COPIES OF ALL DEVICE MAPS, THE REVISION NUMBER OF THE VERSION OF PROGRAMMING UTILITY USED, AND ALL REQUIRED PASSWORDS. THE TURNOVER OF ALL DATABASE INFORMATION SHALL OCCUR PRIOR TO THE END OF THE ONE (1) WARRANTY PERIOD (OR PERIOD AS AMENDED EARLIER IN THIS SPECIFICATION).

FIFIELD | PIAKER | ELMAN
ARCHITECTS, PC

740 Broadway, Suite 601
New York, NY 10003
tel 212 979 9272
www.fpe-architects.com

NO USE, REPRODUCTION OR DISSEMINATION MAY BE MADE OF THIS DRAWING & CONCEPTS SET FORTH HEREON WITHOUT THE PRIOR WRITTEN CONSENT OF

FIFIELD PIAKER ELMAN ARCHITECTS P.C.
COPYRIGHT © 2023

MEP CONSULTANT:
AVCON
ENGINEERING PC
AVCON ENGINEERING
580 8TH AVE, 14TH FLOOR
NEW YORK, NY 10018
PH: (646) 572-0488

Project:
CHABAD DOWNTOWN

30 WALL STREET
BINGHAMTON, NY 13901

No:	Description:	Date:
06	100% CD SET / BID AND PERMIT	08/19/25
05	100% REVIEW SET	06/16/25
04	95% CD SET	01/20/25
03	80% COORDINATION SET	08/07/24
02	ISSUED FOR PROGRESS	12/01/23
01	ISSUED FOR REVIEW	10/05/23

Revisions:

Job No: 10015
Scale: AS SHOWN
Date: 10/02/23
Drawn: NL

Sheet Title:
FIRE ALARM SPECIFICATIONS II

Drawing No.:
FA-801