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### FIRE ALARM SPECIFICATIONS

A. SYSTEM SHALL BE A CENTRALIZED, ANALOG, ADDRESSABLE, FULLY ELECTRONICALLY SUPERVISED (INCLUDING AUXILIARY SYSTEMS INTERCONNECT WIRING SYSTEM LISTED BY UL IN COMPLIANCE WITH ALL APPLICABLE NFPA 72 AND OTHER STANDARDS AS WELL AS THE AMERICAN WITH DISABILITIES ACT (ADA). ALL FINAL CONNECTIONS, TESTING AND ADJUSTMENTS SHALL BE PERFORMED BY OR UNDER DIRECT SUPERVISION OF AN AUTHORIZED FACTORY REPRESENTATIVE. SYSTEM SHALL BE SIMPLE, NOTIFIER, SIEMENS, OR APPROVED EQUAL AS ACCEPTED BY THE ENGINEER. SYSTEM SHALL HAVE A 24HR MINIMUM BATTERY BACKUP.

B. INITIATING DEVICE ACTIVATION SHALL CAUSE OPERATION OF THE PROPER ALARM CIRCUIT IN THE CONTROL PANEL, AND OPERATE ALL AUDIBLE AND VISUAL INDICATING ALARMS. ALL AIR HANDLING UNITS SHALL BE STOPPED UPON ANY ALARM INPUT. EACH AIR HANDLER UNIT SHALL BE PROVIDED WITH A SYSTEM CONTROLLED RELAY TO EFFECT SHUTDOWN. ALL ALARM DEVICES AND LAMPS SHALL CONTINUE TO OPERATE UNTIL THE INITIATING DEVICE IS RESET. SUBSEQUENT ALARMS SHALL RESOUND THE SYSTEM. AN AUDIBLE AND VISUAL SIGNAL SHALL INDICATE SYSTEM TROUBLE. THE CONTROL PANEL SHALL PROVIDE FOR ACTIVATING A UL LISTED CENTRAL STATION SIGNAL FOR NOTIFYING THE FIRE DEPARTMENT.

C. MANUAL STATIONS SHALL BE NON-CODED, WITH DUAL-ACTION PULL AND KEY TYPE RESET, SEMI-FLUSH MOUNTED. COMBINATION LIGHT AND HORN SIGNALS SHALL BE FLUSH MOUNTED. WIRING SHALL BE IN CONDUIT AS PREVIOUSLY SPECIFIED, #14 AWG MINIMUM, THHN. ALL J-BOXES USED FOR THE FIRE ALARM SYSTEM SHALL BE PAINTED RED.

D. SPRINKLER SYSTEM TAMPER SWITCHES SHALL BE CONNECTED INTO A COMMON ZONE WHICH SHALL DISTINGUISH BETWEEN A CONDUIT FAULT AND A CLOSED VALVE. A CLOSED VALVE SHALL BE INDICATED AS AN ALARM CONDITION, BUT WILL NOT ACTIVATE THE AUDIO-VISUAL DEVICES AND SHALL CAUSE A SUPERVISORY SIGNAL TO BE TRANSMITTED TO THE FIRE DEPARTMENT.

E. CONDUCTORS SHALL BE PLENUM-RATED AND INSTALLED IN CONDUIT AND INSTALLED IN COMPLIANCE WITH NFPA 70, ARTICLE 760, IN ADDITION TO WIRING METHODS 300.4.

F. ALL FIRE ALARM WIRING SHALL BE CLASS B.

G. PROVIDE ALL REQUIRED MODULES, POWER EXTENDERS, PROGRAMMING, ETC. FOR A COMPLETE AND OPERATIONAL SYSTEM.

H. SUBMIT FIRE ALARM SHOP DRAWINGS CONSISTING OF PRODUCT DATA, TO THE ENGINEER AND FOR APPROVAL.

I. FILL OUT NFPA 72 CERTIFICATION REPORT AND SUBMIT TO ENGINEER AND AUTHORITY HAVING JURISDICTION.

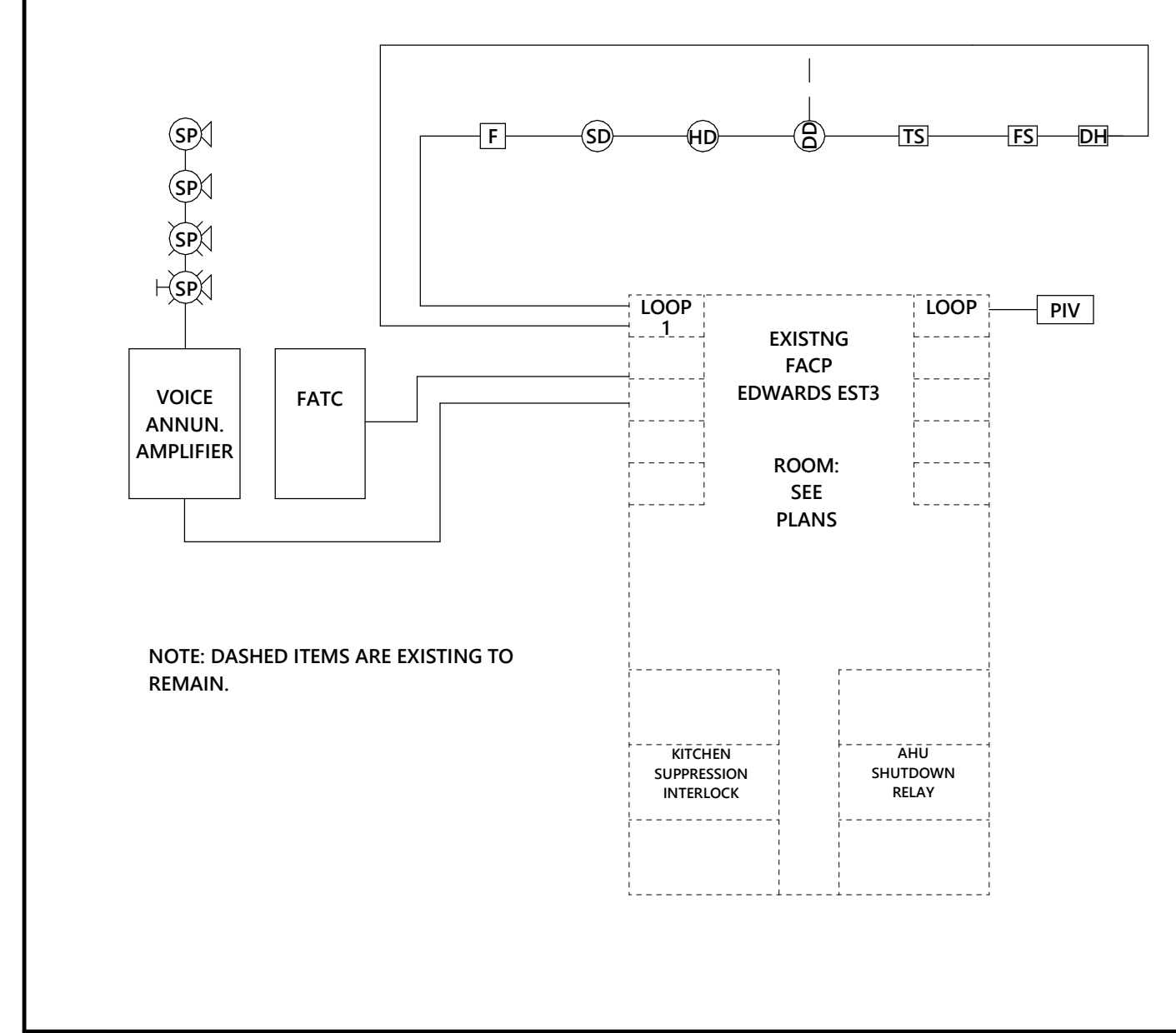
J. WARRANTY - ALL WORK PERFORMED AND ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE FREE FROM DEFECTS AND SHALL REMAIN SO FOR A PERIOD OF AT LEAST TWO (2) YEARS FROM THE DATE OF ACCEPTANCE BY THE PROFESSIONAL ENGINEER AND/OR OWNER. THE FULL COST OF MAINTENANCE, LABOR, AND MATERIALS REQUIRED TO CORRECT ANY DEFECT DURING THIS TWO YEAR PERIOD SHALL BE IMMEDIATELY CORRECTED AT NO ADDITIONAL COST TO THE OWNER. ANY DEFECTS THAT RENDER THE SYSTEM INOPERATIVE SHALL BE REPAIRED WITHIN 24 HOURS OF THE OWNER NOTIFYING THE CONTRACTOR. OTHER DEFECTS SHALL BE REPAIRED WITHIN 48 HOURS OF THE OWNER NOTIFYING THE CONTRACTOR.

K. AUDIBLE DEVICES WITHIN SLEEPING ROOMS SHALL PROVIDE A SQUARE WAVE 520HZ TONE COMPATIBLE WITH NFPA 72 18.4.5.3.

| FIRE ALARM SYSTEM MATRIX          | BUILDING SYSTEM OUTPUTS |   |   |   |   |   |   |  |   |  |  |  | CENTRAL COMM |  |  |  |
|-----------------------------------|-------------------------|---|---|---|---|---|---|--|---|--|--|--|--------------|--|--|--|
| MANUAL FIRE ALARM PULL BOXES      | X                       | X |   |   |   |   |   |  |   |  |  |  |              |  |  |  |
| BUILDING SMOKE DETECTOR           | X                       | X |   |   |   |   |   |  |   |  |  |  |              |  |  |  |
| DUCT SMOKE DETECTOR               |                         |   | X | X | X | X |   |  |   |  |  |  |              |  |  |  |
| SPRINKLER WATER FLOW              | X                       | X |   |   |   |   | X |  |   |  |  |  |              |  |  |  |
| SPRINKLER TAMPER                  |                         |   | X | X |   |   | X |  |   |  |  |  |              |  |  |  |
| 1ST FLOOR ELEV. LOBBY SMOKE DET.  | X                       | X |   |   | X | X | X |  | X |  |  |  |              |  |  |  |
| UPPER FLR. ELEV. LOBBY SMOKE DET. | X                       | X |   |   | X | X | X |  | X |  |  |  |              |  |  |  |
| HOOD SUPPRESSION SYSTEM           | X                       | X |   |   | X | X | X |  |   |  |  |  |              |  |  |  |
| NOTIFICATION DEVICE SHORT CIRCUIT |                         |   |   |   | X | X | X |  | X |  |  |  |              |  |  |  |
| OPEN CIRCUIT                      |                         |   |   |   | X | X | X |  |   |  |  |  |              |  |  |  |
| GROUND FAULT                      |                         |   |   |   | X | X | X |  | X |  |  |  |              |  |  |  |
| FIRE ALARM A.C. POWER FAILURE     |                         |   |   |   | X | X | X |  | X |  |  |  |              |  |  |  |
| FIRE ALARM SYSTEM LOW BATTERY     |                         |   |   |   | X | X | X |  | X |  |  |  |              |  |  |  |
| BDA SYSTEM                        |                         |   | X |   |   |   | X |  |   |  |  |  |              |  |  |  |
| CARBON MONOXIDE DETECTORS         | X                       | X |   |   | X | X | X |  |   |  |  |  |              |  |  |  |

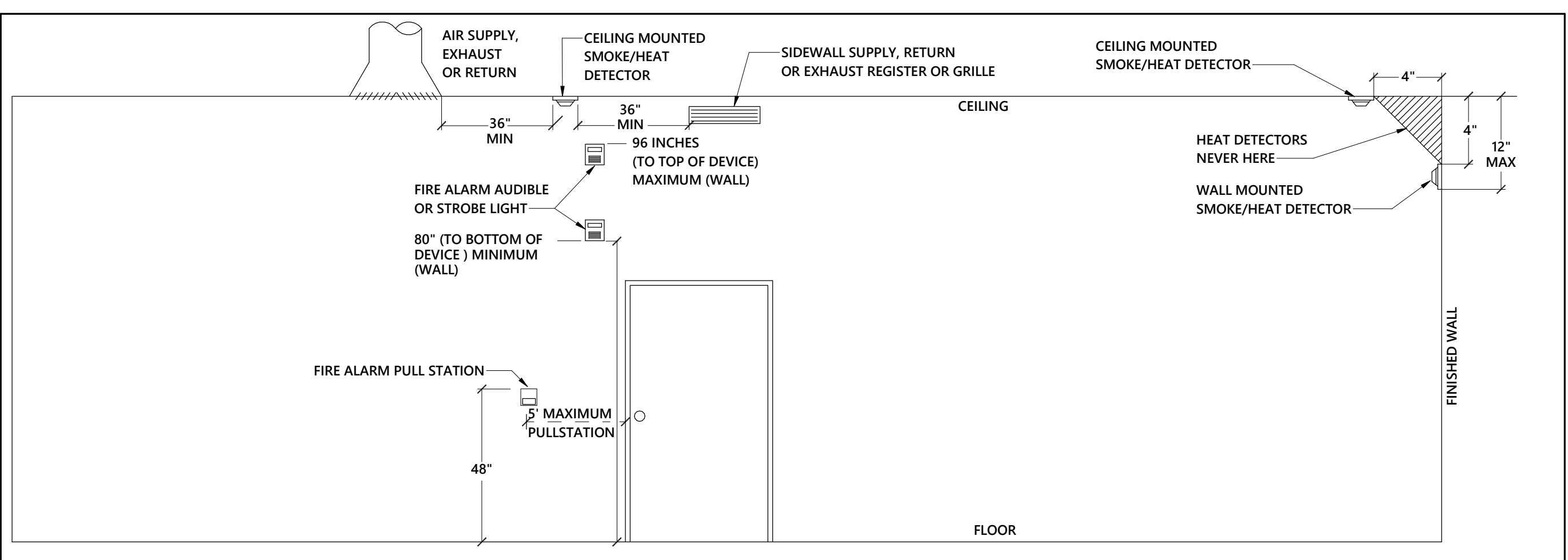
### NFPA FIRE ALARM LEGEND

| SYMBOL   | DESCRIPTION   |
|----------|---|
| [FACP]   | FIRE ALARM CONTROL PANEL  |
| [FATC]   | PRE-ACTION PANEL - PROVIDED BY SPRINKLER CONTRACTOR   |
| [BDA]    | BI-DIRECTIONAL AMPLIFIER SYSTEM   |
| [AM]     | ADDRESSABLE CONTROL MONITOR   |
| [CD]     | CO DETECTOR   |
| [HDS]    | HEAT DETECTOR/SENSOR, X-TYPE  |
| [PFA]    | PULLSTATION/FIRE ALARM  |
| [SDS]    | SMOKE DETECTOR/SENSOR (DEFAULT PHOTOELECTRIC TYPE)  |
| [FADH]   | FIRE ALARM DOOR HOLDER  |
| [FACIM]  | FIRE ALARM CEILING MOUNT INDICATOR  |
| [R]      | RECTANGULAR DUCT SMOKE DAMPER, FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, CONNECTED TO FIRE ALARM SYSTEM BY ELECTRICAL CONTRACTOR. |
| [DD]     | DUCT SMOKE DETECTOR (NFPA 72, SECTION 17.7.5.5)   |
| [S]      | FIRE ALARM SPEAKER, WHITE FINISH  |
| [S+SL]   | ADA COMPLIANT WALL MOUNTED FIRE ALARM SPEAKER WITH STROBE LIGHT, 15CD UNLESS OTHERWISE NOTED. WHITE FINISH.**                             |
| [S+SL+D] | FIRE ALARM SPEAKER W/STROBE (CANDELAS), WHITE FINISH  |



- ### FIRE ALARM NOTES
- EXISTING FACP IS FULLY ANALOG ADDRESSABLE.
  - EXISTING FACP HAS A MINIMUM 24HR. BATTERY BACKUP.
  - EXISTING FACP IS CONNECTED TO A UL APPROVED CENTRAL STATION.
  - ZONE PER NFPA 72, 2013, AND NOTIFIER'S RECOMMENDATIONS WITH NO ONE ZONE EXCEEDING 15,000 S.F. PER FLOOR.
  - COORDINATE QUANTITY AND LOCATIONS OF DEVICES WITH CONTRACT DRAWINGS.
  - LOCATE SMOKE DETECTOR WITHIN 5' OF THE MAGNETIC HOLD OPEN DOORS, (TYPICAL)
  - LOCATE FIRE ALARM PULL STATION WITHIN 5' OF THE EXIT DOOR.
  - LOCATE SMOKE/HEAT DETECTOR WITHIN 5' OF THE FA EQUIPMENT (FACP, FATC).
  - LOCATION OF CEILING MOUNTED SMOKE/HEAT DETECTOR SHALL BE FIELD COORDINATED PRIOR TO ROUGH IN. THE DETECTOR SHALL BE A MINIMUM OF 2' AWAY FROM LIGHT FIXTURE AND A MINIMUM OF 3' AWAY FROM AIR DISTRIBUTION DEVICES.
  - AUTOMATIC DOOR CLOSING SHALL BE ACCOMPLISHED BY THE ACTIVATION OF THE LOCAL SMOKE DETECTORS AT THAT DOOR. SMOKE DETECTOR ACTIVATION SHALL ALERT THE BUILDING FIRE ALARM SYSTEM. THE FIRE ALARM SYSTEM SHALL CAUSE ALL HOLD OPEN DOORS TO CLOSE UPON ALARM ACTIVATION IN THE BUILDING.
  - ACTIVATION OF AN ALARM ZONE SHALL CAUSE ALL AIR HANDLING EQUIPMENT TO SHUT DOWN (ALL DAMPERS, AIR HANDLERS AND EXHAUST FANS MUST STOP).
  - ACTIVATION OF KITCHEN HOOD SUPPRESSION SYSTEM PROVIDES SIGNAL TO FACP WHICH IN TURN ACTIVATES ALL ANNUNCIATING ZONES & CUTS OFF AHU SUPPLY AIR.
  - ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL FLOW, PRESSURE, & TAMPER SWITCHES WITH FIRE PROTECTION CONTRACTOR PRIOR TO INSTALLATION.
  - ALL VISUAL DEVICES WITHIN THE SAME AREA SHALL BE SYNCHRONIZED. IT SHALL BE A THREE BEAT TEMPORAL PATTERN.
  - ALL FIRE ALARM WIRING SHALL BE IN CONDUIT.
  - PROVIDE MULTI-TEMPORAL SOUNDING CAPABILITY AT ALL AUDIO DEVICES FOR EMERGENCY NOTIFICATION FOR NON VOICE SYSTEMS COMPONENTS.
  - THE FIRE ALARM SYSTEM MANUFACTURER SHALL PROVIDE NOTIFICATION APPLIANCE CIRCUIT (NAC) POWER EXTENDERS AS REQUIRED.
  - THE DUCT SMOKE DETECTORS SHALL COMPLY WITH IFC 907.12.
  - THE CIRCUIT FEEDING THE FIRE ALARM PANEL IS DEDICATED FOR THE FIRE ALARM ONLY. BREAKER SHALL BE PROVIDED WITH A LABEL "FIRE ALARM CIRCUIT" AND SHALL BE RED.
  - PROVIDE REMOTE LIGHT FOR DUCT SMOKE DETECTOR ON CEILING WHERE UNIT IS ABOVE CEILING.
  - CONTRACTOR RESPONSIBLE FOR SHOP DRAWINGS AS REQUIRED BY LOCAL AHJ.
  - DUCT DETECTORS SHALL BE VERIFIED WITH THE MECHANICAL DRAWINGS FOR QUANTITY AND LOCATION. TOTAL QUANTITY MINIMUM SHALL BE BASED ON BOTH MECHANICAL SCHEDULES AND MECHANICAL PLAN LOCATIONS AND ELECTRICAL PLANS. WHEN DEVICE QUANTITIES (ELECTRICAL VS. MECHANICAL) ARE IN CONFLICT, PROVIDE THE GREATER QUANTITY OF DETECTORS.

**2 FIRE ALARM RISER DIAGRAM**  
NOT TO SCALE



- ### 3 MOUNTING HEIGHTS OF DEVICES - ELEVATION
- NOT TO SCALE
- NOTES:
- LOCATIONS WHERE TV MOUNT IS BACK TO BACK ON SAME WALL, AN OFFSET OF 8-12" WILL BE NEEDED FOR INSTALLATION OF JACK/RECEPTACLE.
  - DEVICES ABOVE COUNTER TOPS SHALL BE A MAXIMUM OF 48" TO TOP OF DEVICE.
  - DEVICES NEXT TO DOOR EXIT SHALL BE WITHIN 8" (MAXIMUM) TYPICAL OF DOOR UNLESS OBSTACLES SUCH AS SIDELITES, ETC.
  - ALL DEVICES ARE TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED.

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### FIRE ALARM SHEET INDEX

| SHEET NUMBER | SHEET NAME                  |
|--------------|-----------------------------|
| FA-001       | FIRE ALARM LEGEND AND NOTES |
| FA-101       | ADDITION FIRE ALARM PLAN    |
| FA-601       | FIRE ALARM DETAILS          |

Harnett County Schools

## LILLINGTON-SHAWTOWN ELEMENTARY ADDITION

865 Old US Highway 421  
Lillington, NC 27546

ENERGY  
STAR  
PARTNER

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PROJECT #: 02110.300  
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FIRE ALARM  
LEGEND AND NOTES

## FA-001

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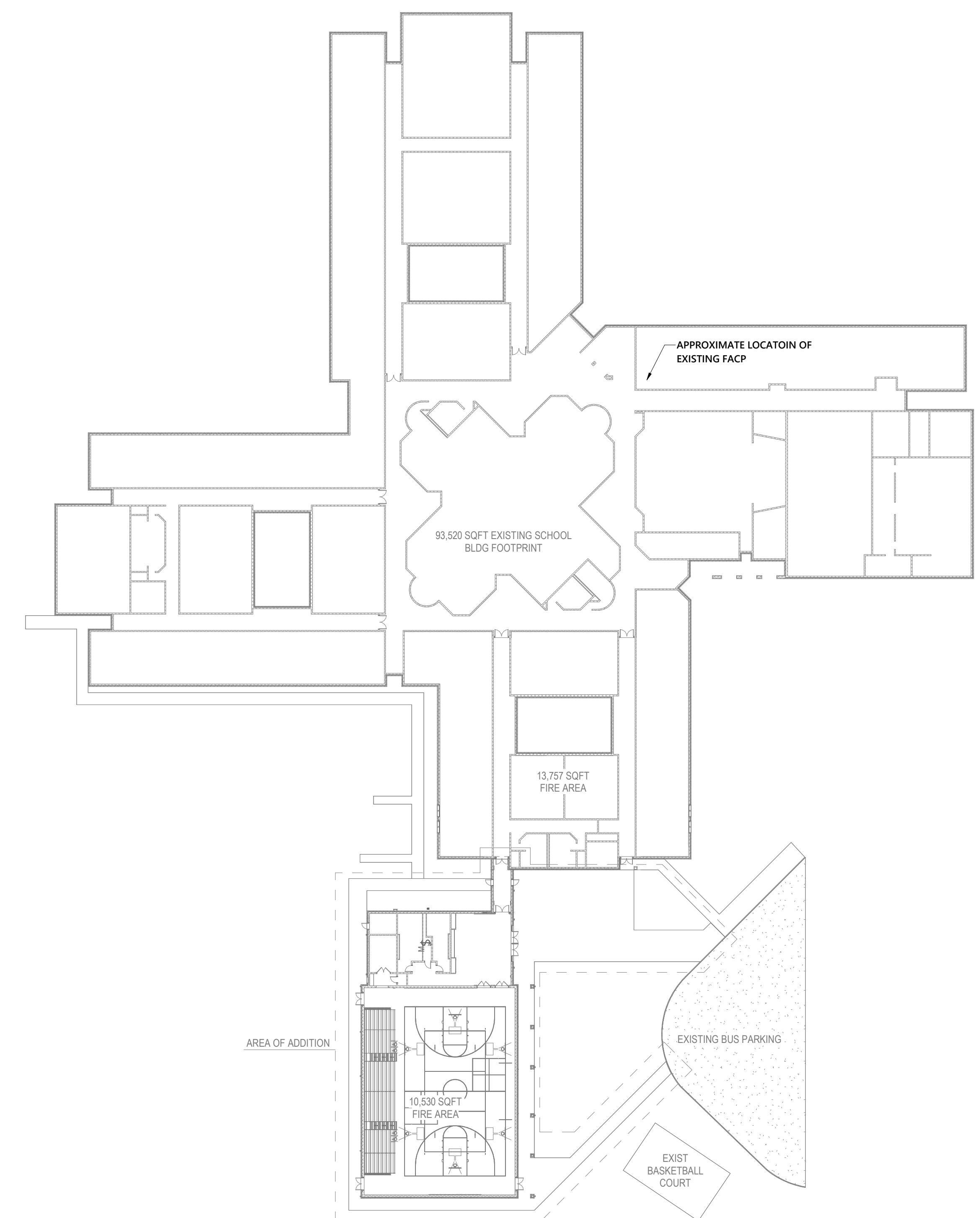
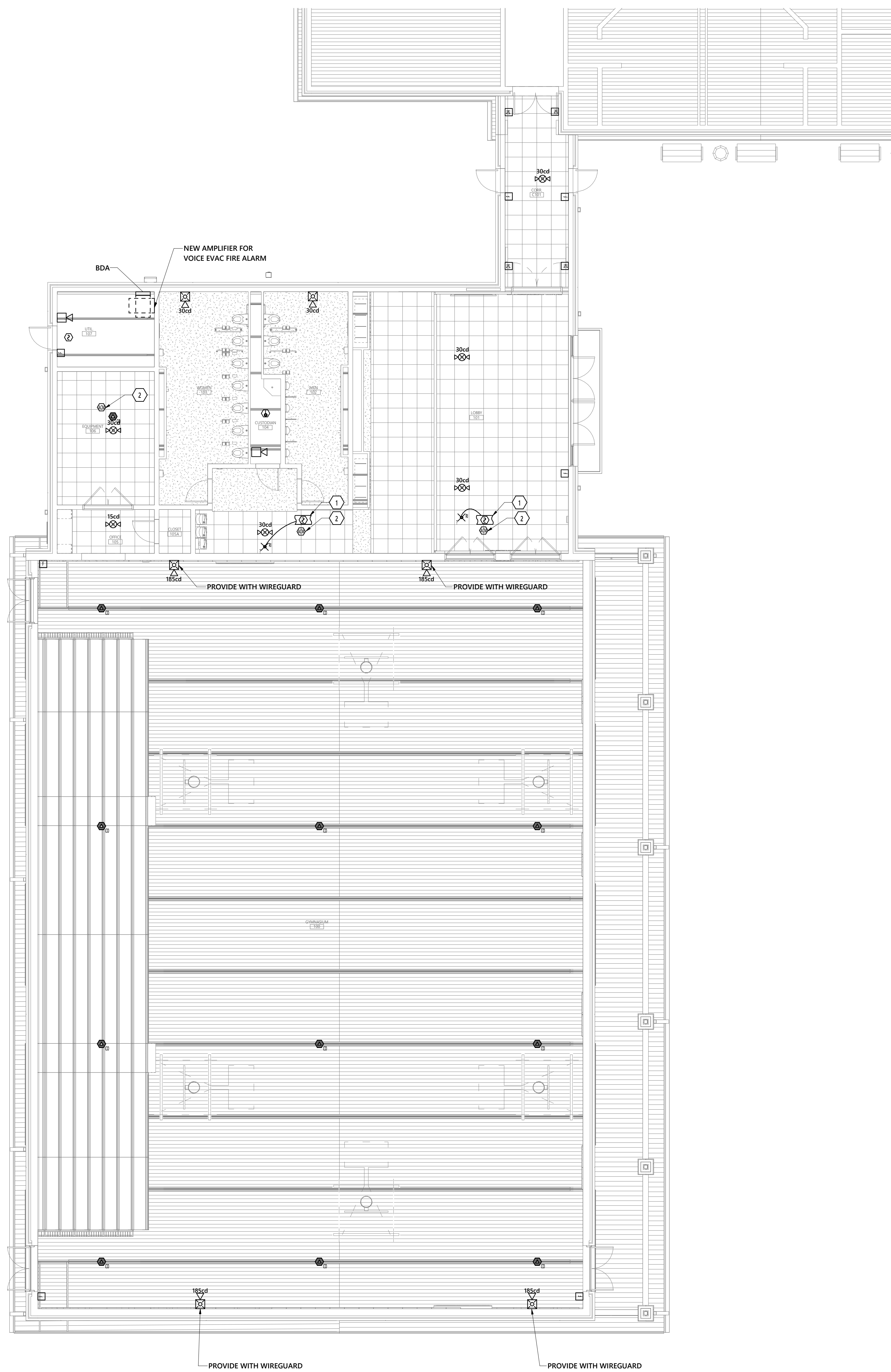
| WALL LEGEND |                 |
|-------------|-----------------|
| SYMBOL      | DESCRIPTION     |
|             | 1 HR FIRE RATED |
|             | 2 HR FIRE RATED |

### GENERAL NOTES

A. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON THE DRAWINGS, EXCEPT ITEMS LISTED ON SHEET 60.01 GENERAL ELECTRICAL NOTES.

### KEYNOTES

- DUCT DETECTOR FOR MECHANICAL UNIT LOCATED ON ROOF. PROVIDED BY MC, INSTALLED BY FA CONTRACTOR.
- PROVIDE CONTROL MODULE TO SHUT DOWN ROOFTOP UNIT UPON ALARM.



**1 ADDITION FIRE ALARM PLAN**  
1/8" = 1'-0"

**2 OVERALL FIRE ALARM PLAN**  
1" = 40'-0"

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ADDITION FIRE  
ALARM PLAN

**FA-101**

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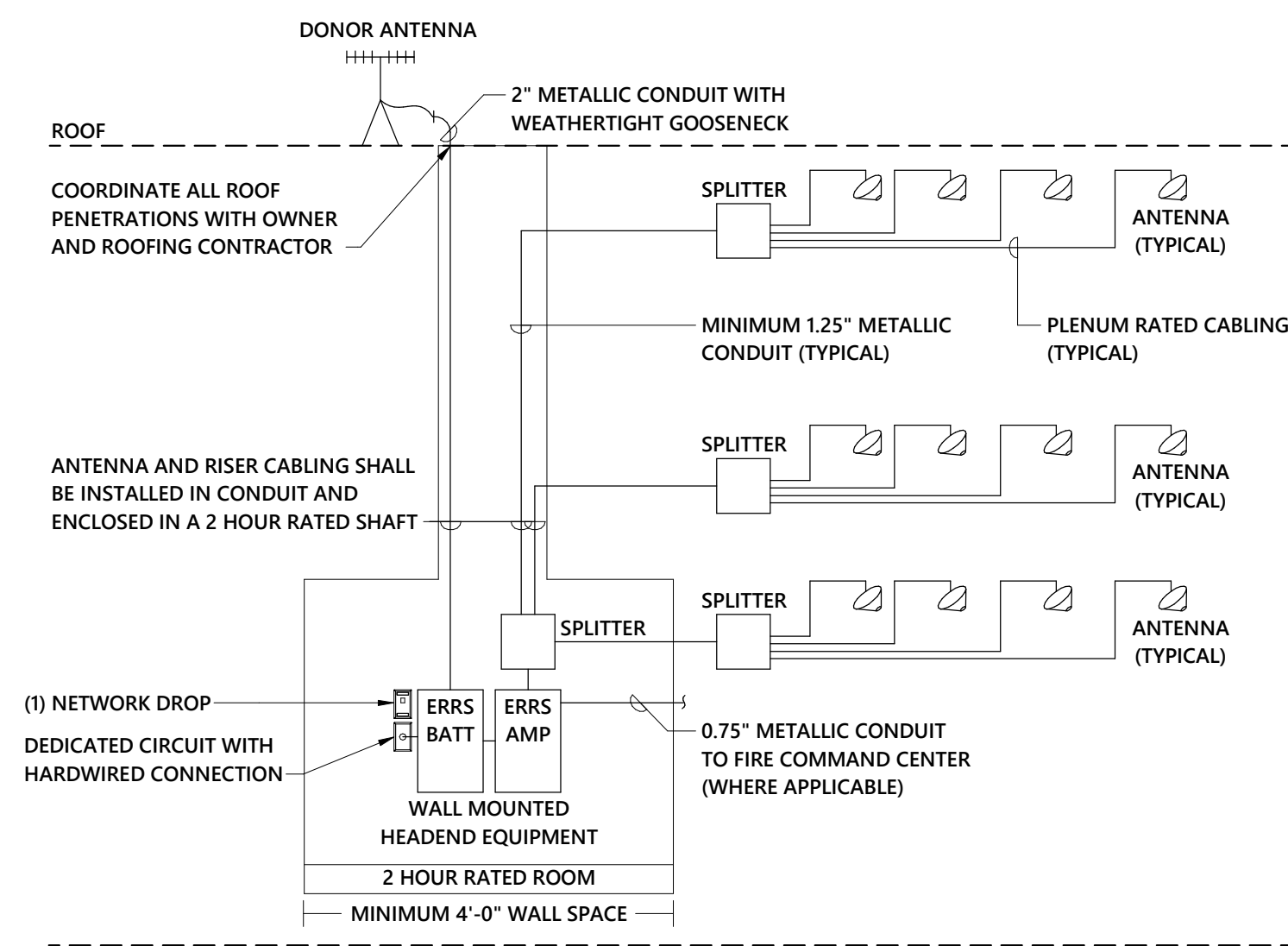
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GENERAL NOTES:

- A. ELECTRICAL CONTRACTOR SHALL PROVIDE THE COMPLETE SYSTEM COVERING 100% OF THE BUILDING.
- B. EMERGENCY RESPONDER RADIO SYSTEM (ERRS) MAY ALSO BE REFERRED TO AS BI-DIRECTIONAL ANTENNA SYSTEM (BDA) OR FIRST RESPONDER DISTRIBUTED ANTENNA SYSTEM.
- C. ERRS SYSTEM SURVEY SHALL CONSIST OF TWO PARTS. PART ONE SHALL BE ADMINISTERED AT THE START OF CONSTRUCTION TO DOCUMENT THE AVAILABLE SIGNAL AT THE SITE. PART TWO SHALL BE ADMINISTERED WHEN ALL STEEL, GYPBOARD, AND WINDOWS HAVE BEEN INSTALLED.
- D. DETAIL IS DIAGRAMATIC AND ONLY INDICATES MAIN COMPONENTS AND APPROXIMATE LOCATIONS. QUANTITY AND LOCATIONS OF EQUIPMENT ARE DETERMINED BY THE 3RD PARTY DELIGATED DESIGN. SYSTEM DESIGN SHALL BE BASED ON THE ACTUAL CONSTRUCTION OF THE BUILDING. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH VENDOR.

SPECIFICATIONS:

- A. ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL, AND TEST A COMPLETE AND OPERATING EMERGENCY RESPONDER RADIO SYSTEM ("SYSTEM"). THE SYSTEM SHALL BE PROVIDED FOR THE PURPOSE OF ASSURING RELIABLE EMERGENCY COMMUNICATIONS.
- B. THE REQUIREMENTS ESTABLISHED BY THE AHJ IN EFFECT AT THE TIME OF SYSTEM INSTALLATION SUPERSEDE THE SPECIFICATIONS IN THIS SECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THE INSTALLED SYSTEM COMPLIES WITH ALL CURRENTLY APPLICABLE LOCAL, NATIONAL AND INDUSTRY CODES AS ADOPTED BY THE AHJ.
- C. TWO SETS OF FREQUENCIES ARE TO BE UTILIZED ON THE SYSTEM. THE FOLLOWING FCC-LICENSED FACILITIES ARE TO BE CARRIED ON THE SYSTEM: FCC CALL SIGN, DOWNSTREAM/BASE TO MOBILE FREQUENCY, UPSTREAM/MOBILE TO BASE FREQUENCY AND CHANNEL BANDWIDTH. TRANSMISSIONS ON EACH SET OF FREQUENCIES MUST INDIVIDUALLY MEET THE COVERAGE, MINIMUM SIGNAL AND MINIMUM VOICE QUALITY REQUIREMENTS OF THE AHJ. EQUIPMENT SELECTED FOR THIS SYSTEM MUST BE CAPABLE OF BEING CONFIGURED TO DIFFERENT FREQUENCY PAIRS IN THE 700-800 Mhz PUBLIC SAFETY FREQUENCY BANDS. THESE CHANGES MAY LATER BE NECESSARY DUE TO FUTURE ADDITIONS OR OPTIMIZATION OF RADIO SYSTEMS MAINTAINED BY THE AHJ. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM THE FREQUENCIES IN USE WITH THE AHJ BEFORE PROCEEDING WITH THE SYSTEM INSTALLATION. ALL CABLE AND PASSIVE ELECTRONIC COMPONENTS SHALL HAVE A MINIMUM PASS BAND OF 400-2700 Mhz.

SPECIFICATIONS (CONTINUED):

- D. SIGNALS AT OR ABOVE THE MINIMUM LEVELS ARE TO BE RECEIVABLE TO AND FROM 95% OF ALL AREAS WITHIN THE BUILDING. SPACES OR ROOMS DEFINED AS CRITICAL AREAS REQUIRE 99% COVERAGE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SYSTEM DESIGN AND INSTALLATION THAT PROVIDES ENHANCEMENT ONLY TO THOSE AREAS OF THE BUILDING WHERE EXISTING OFF-AIR SERVICE DOES NOT MEET THE MINIMUM LEVELS AS DESCRIBED IN THE LATEST VERSIONS OF NFPA 72 AND IFC. CARE MUST BE TAKEN IN ENGINEERING A SYSTEM THAT WILL NOT CAUSE INTERFERENCE TO THE AUTHORITY'S RADIO SYSTEM OUTSIDE THE BUILDING AND SHALL NOT CAUSE HARMFUL INTERFERENCE TO OTHER RF SYSTEMS INSIDE THE BUILDING.
- E. THE SYSTEM SHALL BE DESIGNED FOR CONTINUOUS, ALWAYS-ON SERVICE. SIX (6) MALFUNCTION ALARMS FOR THE SYSTEM SHALL BE PROVIDED AND CONNECTED TO THE BUILDING FIRE ALARM SYSTEM. CONTRACTOR SHALL PROVIDE 24 HOUR BATTERY BACKUP. BATTERIES SHALL BE CONTAINED IN A NEMA 4 TYPE WATERPROOF CABINET.
- F. ALL CABLING, WITH THE EXCEPTION OF RADIATING CABLE AND ANTENNA JUMPER CABLES MEASURING LESS THAN 2 FEET IN LENGTH, SHALL BE INSTALLED IN CONDUIT. ALL EXPOSED CABLE, INCLUDING FLEXIBLE JUMPER CABLES, SHALL BE PLENUM RATED, UTILIZING A JACKET OF NON-HALOGENATED, FIRE RETARDANT POLYOLEFIN.
- G. GROUND AND BOND CABLE SHIELDS AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS AND LATEST NFPA 70 NEC REQUIREMENTS. THE DONOR ANTENNA MAST SHALL BE GROUNDED PER LATEST NFPA 70 NEC REQUIREMENTS. GROUNDING BLOCKS AND SURGE PROTECTION SHALL BE PROVIDED FOR OUTSIDE CABLING.
- H. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER AND AHJ PRIOR TO INSTALLATION. PROVIDE A SYSTEM BLOCK DIAGRAM INDICATING THE DONOR ANTENNA(S), HEADEND EQUIPMENT, PASSIVE COMPONENTS AND IN-BUILDING ANTENNAS. INCLUDE THE RF LINK BUDGET. PROVIDE A OVERLAY OF THE SYSTEM DESIGN ON BUILDING FLOOR PLAN DRAWINGS AND OVERLAY ON FLOOR PLAN DRAWINGS OF THE PREDICTED SIGNAL STRENGTH WITHIN THE COVERAGE AREA INDICATING, AT A MINIMUM, THE -95 DBM DOWNLINK (BASE TO MOBILE) SIGNAL STRENGTH FOR ALL COVERAGE AREAS.
- I. CONTRACTOR SHALL PROVIDE THE FOLLOWING DOCUMENTS AT PROJECT CLOSEOUT: AS-BUILT DRAWINGS IN PDF AND AUTOCAD FORMATS, COVERAGE/ACCEPTANCE TEST RESULTS, DONOR ANTENNA ISOLATION, SPECTRUM ANALYSIS DEMONSTRATING ONLY THE INTENDED FREQUENCIES ARE BEING CARRIED ON THE SYSTEM, SPECTRUM ANALYSIS DEMONSTRATING NO SPURIOUS OSCILLATIONS, PIM OR OTHER INTERMODULATION DISTURBANCES ARE BEING CARRIED ON THE SYSTEM, SIGNAL LEVELS RECEIVED AT THE DONOR ANTENNA, SIGNAL LEVELS AT THE INPUT AND OUTPUT OF THE HEADEND EQUIPMENT, GAIN SETTINGS, OPERATION AND MAINTENANCE MANUAL IN HARDCOPY AND PDF FORMAT AND WARRANTY DOCUMENTS.
- J. CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY ON PARTS AND LABOR AND PROVIDE A ONE YEAR MAINTENANCE AGREEMENT. MAINTENANCE AGREEMENT SHALL INCLUDE 24/7 EMERGENCY RESPONSE WITHIN TWO HOURS OF NOTIFICATION AND ANNUAL TESTING.

1 EMERGENCY RESPONDER RADIO SYSTEM (ERRS) - DIAGRAMATIC ONLY  
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FIRE ALARM DETAILS

FA-601

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