

| ABBREVIATIONS                                                                                                                                                                                                                                                                                                                                                    |                               |       |                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------|-----------------------------|
| &                                                                                                                                                                                                                                                                                                                                                                | AND                           | GPM   | GALLONS PER MINUTE          |
| Ø                                                                                                                                                                                                                                                                                                                                                                | ROUND                         | HD    | HEAD                        |
| /R                                                                                                                                                                                                                                                                                                                                                               | ON ROOF                       | H.P.  | HIGH PRESSURE               |
| A                                                                                                                                                                                                                                                                                                                                                                | AIR                           | HTG   | HEATING                     |
| AB                                                                                                                                                                                                                                                                                                                                                               | ABOVE BASE                    | IN    | INCH                        |
| ABV                                                                                                                                                                                                                                                                                                                                                              | ABOVE                         | INL   | INLET                       |
| ACOUS                                                                                                                                                                                                                                                                                                                                                            | ACOUSTICAL                    | INSUL | INSULATION                  |
| ADD                                                                                                                                                                                                                                                                                                                                                              | ADDENDUM                      | INWG  | INCHES WATER GAUGE          |
| ADDL                                                                                                                                                                                                                                                                                                                                                             | ADDITIONAL                    | ITC   | INSPECTOR TEST CONNECT      |
| AFF                                                                                                                                                                                                                                                                                                                                                              | ABOVE FINISHED FLOOR          | JT    | JOINT                       |
| AG                                                                                                                                                                                                                                                                                                                                                               | ABOVE GROUND                  | LAB   | LABORATORY                  |
| AHJ                                                                                                                                                                                                                                                                                                                                                              | AUTHORITY HAVING JURISDICTION |       |                             |
| ALT                                                                                                                                                                                                                                                                                                                                                              | ALTERNATE                     | LB    | POUND                       |
| ALV                                                                                                                                                                                                                                                                                                                                                              | ALARM VALVE                   | LB/HR | POUNDS PER HOUR             |
| ALUM                                                                                                                                                                                                                                                                                                                                                             | ALUMINUM                      | LF    | LINEAL FOOT                 |
| AP                                                                                                                                                                                                                                                                                                                                                               | ACCESS PANEL                  | LOC   | LOCATION                    |
| ARCH                                                                                                                                                                                                                                                                                                                                                             | ARCHITECT/ARCHITECTURAL       | LP    | LOW PRESSURE                |
| AUTO                                                                                                                                                                                                                                                                                                                                                             | AUTOMATIC                     | MA    | MIXED AIR                   |
| AUX                                                                                                                                                                                                                                                                                                                                                              | AUXILIARY DRAIN               | MAN   | MANUAL                      |
| BFF                                                                                                                                                                                                                                                                                                                                                              | BELOW FINISHED FLOOR          | MAX   | MAXIMUM                     |
| BFV                                                                                                                                                                                                                                                                                                                                                              | BUTTERFLY VALVE               | MD    | MOTORIZED DAMPER            |
| BSMT                                                                                                                                                                                                                                                                                                                                                             | BASEMENT                      | MFR   | MANUFACTURER                |
| BTWN                                                                                                                                                                                                                                                                                                                                                             | BETWEEN                       | MIN   | MINIMUM                     |
| CAP                                                                                                                                                                                                                                                                                                                                                              | CAPACITY                      | MISC  | MISCELLANEOUS               |
| CFCV                                                                                                                                                                                                                                                                                                                                                             | CONSTANT FLOW CNTRL. VL.      | MRA   | MOST HYDRAULICALLY          |
| CFM                                                                                                                                                                                                                                                                                                                                                              | CUBIC FEET PER MINUTE         |       | DEMANDING AREA              |
| CI                                                                                                                                                                                                                                                                                                                                                               | CAST IRON                     | NIC   | NOT IN CONTRACT             |
| CIS                                                                                                                                                                                                                                                                                                                                                              | COMMON INTELLIGEBELITY SYS.   | NFPA  | NATIONAL FIRE PROTECTION    |
| CEG                                                                                                                                                                                                                                                                                                                                                              | CEILING                       |       | ASSOCIATION                 |
| COL                                                                                                                                                                                                                                                                                                                                                              | COLUMN                        | NP    | NOT POTABLE                 |
| COMB                                                                                                                                                                                                                                                                                                                                                             | COMBINATION                   | NTS   | NOT TO SCALE                |
| CONC                                                                                                                                                                                                                                                                                                                                                             | CONCRETE                      | O     | OXYGEN                      |
| CONT                                                                                                                                                                                                                                                                                                                                                             | CONTINUE/CONTINUATION         | OPNG  | OPENING                     |
| COORD                                                                                                                                                                                                                                                                                                                                                            | COORDINATE                    | PD    | PRESSURE DROP               |
| COR                                                                                                                                                                                                                                                                                                                                                              | CONTRACTOR OFFICES REP.       | PIV   | POST INDICATOR VALVE        |
| CTR                                                                                                                                                                                                                                                                                                                                                              | CENTER                        | PR    | PAIR                        |
| CUFT                                                                                                                                                                                                                                                                                                                                                             | CUBIC FEET                    | PREL  | PRELIMINARY                 |
| D/°                                                                                                                                                                                                                                                                                                                                                              | DEGREE                        | PS    | PRESSURE                    |
| DCA                                                                                                                                                                                                                                                                                                                                                              | DETECTOR CHECK ASSY.          | PRIM  | PRIMARY                     |
| DCDA                                                                                                                                                                                                                                                                                                                                                             | DOUBLE DETECTOR CK. ASSY.     | PRV   | PRESS. REDUCING VALVE       |
| DIA                                                                                                                                                                                                                                                                                                                                                              | DIAMETER                      | PSI   | LBS. PER SQ. IN.            |
| DI                                                                                                                                                                                                                                                                                                                                                               | DUCTILE IRON                  | PSIG  | LBS. PER SQ. IN. GAUGE      |
| DISCH                                                                                                                                                                                                                                                                                                                                                            | DISCHARGE                     | PW    | POTABLE WATER               |
| DMPR                                                                                                                                                                                                                                                                                                                                                             | DAMPER                        | REC   | RECESSED                    |
| DN                                                                                                                                                                                                                                                                                                                                                               | DOWN                          | RED   | REDUCER                     |
| DWG                                                                                                                                                                                                                                                                                                                                                              | DRAWING                       | REQD  | REQUIRED                    |
| EA                                                                                                                                                                                                                                                                                                                                                               | EACH                          | RF    | SQUARE FOOT                 |
| ECS                                                                                                                                                                                                                                                                                                                                                              | EMERGENCY COMM. SYSTEM        | SD    | SMOKE DAMPER                |
| EAH                                                                                                                                                                                                                                                                                                                                                              | EXHAUST HOOD                  | SIM   | SIMILAR                     |
| EX                                                                                                                                                                                                                                                                                                                                                               | EXISTING                      | SLV   | SLEEVE                      |
| EXP                                                                                                                                                                                                                                                                                                                                                              | EXPANSION                     | SP    | STATIC PRESSURE             |
| EXPJT                                                                                                                                                                                                                                                                                                                                                            | EXPANSION JOINT               | SPS   | STATIC PRESSURE STATION     |
| ESP                                                                                                                                                                                                                                                                                                                                                              | EXTERNAL STATIC PRESSURE      | SQ    | SQUARE                      |
| F°                                                                                                                                                                                                                                                                                                                                                               | DEGREES FAHRENHEIT            | SS    | STAINLESS STEEL             |
| FD                                                                                                                                                                                                                                                                                                                                                               | FIRE DAMPER                   | STD   | STANDARD                    |
| FDV                                                                                                                                                                                                                                                                                                                                                              | FIRE DEPARTMENT VALVE         | T     | THERMOSTAT                  |
| FHR                                                                                                                                                                                                                                                                                                                                                              | FIRE HOSE STATION             | SYS   | SYSTEM                      |
| FHV                                                                                                                                                                                                                                                                                                                                                              | FIRE HOSE VALVE               | TCP   | TEMP. CONTROL PANEL         |
| FPI                                                                                                                                                                                                                                                                                                                                                              | FINS PER INCH                 | TD    | TEMPERATURE DROP            |
| FLEX                                                                                                                                                                                                                                                                                                                                                             | FLEXIBLE                      | TEMP  | TEMPERATURE                 |
| FLG                                                                                                                                                                                                                                                                                                                                                              | FLANGE                        | TSP   | TOTAL STATIC PRESSURE       |
| FT                                                                                                                                                                                                                                                                                                                                                               | FOOT/FEET                     | TYP   | TYPICAL                     |
| FTG                                                                                                                                                                                                                                                                                                                                                              | FOOTING                       | U/G   | UNDER GROUND                |
| FUT                                                                                                                                                                                                                                                                                                                                                              | FUTURE                        | U/S   | UNDER SLAB                  |
| GAL                                                                                                                                                                                                                                                                                                                                                              | GALLON                        | UNO   | UNLESS NOTED OTHERWISE      |
| GALV                                                                                                                                                                                                                                                                                                                                                             | GALVANIZED                    | VL    | VALVE                       |
| EQUIPMENT ABBREVIATIONS                                                                                                                                                                                                                                                                                                                                          |                               |       |                             |
| DBP                                                                                                                                                                                                                                                                                                                                                              | DOMESTIC WATER BOOST PUMP     | FDCP  | F.A. ACCESS PANEL           |
| DCA                                                                                                                                                                                                                                                                                                                                                              | DETECTOR CHECK ASSY.          | FMCP  | F.A. MASS NOTIFICATION PNL. |
| DDCA                                                                                                                                                                                                                                                                                                                                                             | DOUBLE DETECTOR CHECK ASSY.   | FAA   | F.A. ANNUNCIATOR PNL.       |
| FHR                                                                                                                                                                                                                                                                                                                                                              | FIRE HOSE STATION             | LOC   | LOCAL OPERATOR CONSOLE      |
| F.A.                                                                                                                                                                                                                                                                                                                                                             | FIRE ALARM                    | NRSV  | NON-RISING STEM VALVE       |
| FPU                                                                                                                                                                                                                                                                                                                                                              | FIRE PUMP                     | ITC   | INSPECTOR'S TEST            |
| FDC                                                                                                                                                                                                                                                                                                                                                              | FIRE DEPARTMENT CONTROL       | PNL   | PANEL                       |
| FIRE ALARM PHASING                                                                                                                                                                                                                                                                                                                                               |                               |       |                             |
| <div><div></div><div>NEW CONSTRUCTION FIRE EQUIPMENT (TYPICAL TAG FOR ALL NEW CONSTRUCTION)</div><div>FACP</div></div> <div><div></div><div>EXISTING FIRE ALARM EQUIPMENT FOR ALL EXISTING TAGS) (TYPICAL</div><div>(E)FACP</div></div> <div><div></div><div>FIRE ALARM EQUIPMENT FOR DEMOLITION (TYPICAL FOR ALL DEMOLITION TAGS)</div><div>(D)FACP</div></div> |                               |       |                             |
| FIRE ALARM SHEET SET NOTE                                                                                                                                                                                                                                                                                                                                        |                               |       |                             |
| * NOTE *<br>ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.                                                                                                                                                    |                               |       |                             |

| FIRE ALARM DEVICES                                                                                                                                                                                                                                                                                                                                          |                     | GENERAL SYMBOLS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--|
| <div><div><div><div></div><div>####</div></div><div><div></div><div></div></div></div><div><div>FIRE ALARM CONTROL PANEL</div><div>FIRE ALARM PANEL TYPE</div></div></div>                                                                                                                                                                                  |                     | <div><div><div></div><div>1</div></div><div>REVISION NUMBER SHOWN ON PLANS</div></div> <div><div><div></div><div></div></div><div>POINT WHERE NEW CONNECTS TO EXISTING</div></div> <div><div><div></div><div></div></div><div>DEMOLISH TO POINT INDICATED</div></div> <div><div><div>1</div><div>FX001</div></div><div>NUMBER OF DETAIL ON SHEET<br/>NUMBER OF SHEET WHERE DETAIL APPEARS</div></div> <div><div><div>1</div></div><div>KEYNOTE</div></div> <div><div><div></div></div><div>PIPE CONTINUATION</div></div> <div><div><div>SPACE TAG:</div><div>OFFICE</div><div>101</div></div><div><div>SPACE NAME</div><div>SPACE NUMBER</div></div></div> <div><div><div></div></div><div>ITEM TO BE DEMOLISHED</div></div> <div><div><div></div></div><div>AREA NOT IN CONTRACT</div></div> |             |  |
| FIRE ALARM DEVICE MOUNTING NOTE                                                                                                                                                                                                                                                                                                                             |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| WALL MOUNTED VISUAL DEVICES TO BE LOCATED SUCH THAT THE ENTIRE LENS OF THE STROBE IS BETWEEN 80" AND 96" AFF. ALL WALL MOUNTED NOTIFICATION DEVICES SHALL BE MOUNTED AT THE SAME HEIGHT AFF TO ACHIEVE A UNIFORM APPEARANCE OR AS DIRECTED BY THE A/E. WATTAGE AND CANDELA ARE GUIDELINES. CONTRACTOR RESPONSIBLE FOR FINAL SPACING AND TOTAL DEVICE POWER. |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| <div><div><div><div></div><div>F</div></div><div><div></div><div>###</div></div></div><div><div>FIRE ALARM ABORT SWITCH</div><div>FIRE ALARM ABORT SWITCH TYPE</div></div></div>                                                                                                                                                                            |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| ABORT SWITCH ABBREVIATIONS:                                                                                                                                                                                                                                                                                                                                 |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| AS                                                                                                                                                                                                                                                                                                                                                          | ABORT SWITCH        | SYMBOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DESCRIPTION |  |
| CO2                                                                                                                                                                                                                                                                                                                                                         | CARBON DIOXIDE      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| CA                                                                                                                                                                                                                                                                                                                                                          | CLEAN AGENT         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| DL                                                                                                                                                                                                                                                                                                                                                          | DELUGE SPRINKLER    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| DC                                                                                                                                                                                                                                                                                                                                                          | DRY CHEMICAL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| EPO                                                                                                                                                                                                                                                                                                                                                         | EMERGENCY POWER OFF |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| F                                                                                                                                                                                                                                                                                                                                                           | FOAM                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| HL                                                                                                                                                                                                                                                                                                                                                          | HALON               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| PRE                                                                                                                                                                                                                                                                                                                                                         | PREACTION SYSTEM    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| WM                                                                                                                                                                                                                                                                                                                                                          | WATER MIST          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| WC                                                                                                                                                                                                                                                                                                                                                          | WET CHEMICAL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| <div><div><div><div></div><div>F</div></div><div><div></div><div>###</div></div></div><div><div>FIRE ALARM PULL STATION</div><div>FIRE ALARM PULL STATION TYPE</div></div></div>                                                                                                                                                                            |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| PULL STATION ABBREVAITIONS:                                                                                                                                                                                                                                                                                                                                 |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| CO2                                                                                                                                                                                                                                                                                                                                                         | CARBON DIOXIDE      | SYMBOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DESCRIPTION |  |
| CA                                                                                                                                                                                                                                                                                                                                                          | CLEAN AGENT         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| DL                                                                                                                                                                                                                                                                                                                                                          | DELUGE SPRINKLER    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| DC                                                                                                                                                                                                                                                                                                                                                          | DRY CHEMICAL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| F                                                                                                                                                                                                                                                                                                                                                           | FOAM                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| HL                                                                                                                                                                                                                                                                                                                                                          | HALON               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| M                                                                                                                                                                                                                                                                                                                                                           | MANUAL              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| P                                                                                                                                                                                                                                                                                                                                                           | PULL STATAION       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| WM                                                                                                                                                                                                                                                                                                                                                          | WATER MIST          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| WC                                                                                                                                                                                                                                                                                                                                                          | WET CHEMICAL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| <div><div><div><div></div><div>15</div></div><div><div></div><div>C</div></div></div><div>CEILING MOUNT SPEAKER AND CLEAR STROBE, 15 CANDELA UNLESS NOTED OTHERWISE</div></div>                                                                                                                                                                             |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| <div><div><div><div></div><div>15</div></div><div><div></div><div>C</div></div></div><div>WALL MOUNT SPEAKER AND CLEAR STROBE, 15 CANDELA UNLESS NOTED OTHERWISE</div></div>                                                                                                                                                                                |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| <div><div><div><div></div><div>15</div></div><div><div></div><div>C</div></div></div><div>CEILING MOUNT CLEAR STROBE, 15 CANDELA UNLESS NOTED OTHERWISE</div></div>                                                                                                                                                                                         |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |
| <div><div><div><div></div><div>15</div></div><div><div></div><div>C</div></div></div><div>WALL MOUNT CLEAR STROBE, 15 CANDELA UNLESS NOTED OTHERWISE</div></div>                                                                                                                                                                                            |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |  |

## GENERAL

- FIRE ALARM SYSTEM AND DEVICES SHALL BE INSTALLED TO THE LATEST EDITION OF NFPA 72, NFPA 70, AND LOCAL REQUIRMENTS.
- ALL FIRE ALARM INSTALLATIONS, INCLUDING PULLING OF WIRE AND MOUNTING OF DIVICES, SHALL HAVE OVERSIGHT OF A NICET LEVEL II FIRE ALARM TECHNICIAN OR HIGHER.
- STROBES SHALL BE SYNCHRONIZED PER NFPA 72.
- ALL FIRE ALARM CABLE SHALL BE RUN IN RED FACTORY COLORED CONDUIT.
- THESE DESIGN DOCUMENTS PROVIDE GENERAL SPACING, LOCATION, AND COORDINATION CRITERIA. CONTRACTOR SHALL BE RESPONSIBLE FOR CIRCUIT CONFIGURATION, SYSTEM PERFORMANCE, SOFTWARE CONFIGURATION, DEVICE PROGRAMMING, SYSTEM COMMISSIONING, AND SYSTEM WARRANTY.
- CONTRACTOR SHALL SUBMIT FIRE ALARM, DATA CUT-SHEETS, AND VOLTAGE DROP CALCULATIONS TO AHJ AND A/E FOR REVIEW AND APPROVAL PRIOR TO BEGINNING ANY WORK ON THE FA SYSTEM.
- NO FA DOCUMENTS/PLANS SHALL BE USED FOR INSTALLATION OF THIS SYSTEM UNLESS THEY CONTAIN A REVIEW AND APPROVAL STAMP FROM THE AHJ AND THE A/E. THE LOCAL AHJ HAS THE AUTHORITY TO STOP ANY WORK UNTIL SUCH PLANS ARE ON SITE AND IN USE.
- SEPARATE FIRE ALARM SPECIFICATIONS CONTAIN VERY DETAILED INFORMATION ABOUT THIS SYSTEM AND SHALL BE FOLLOWED, ON-SITE AND AVAILABLE DURING ANY CONSTRUCTION.
- SECONDARY POWER PERFORMANCE TO MEET NFPA 72: 24 HOURS OF STANDBY POWER FOLLOWED BY 15 MINUTES OF ALARM FOR ALL CONNECTED DEVICES AT MAXIMUM LOAD. SECONDARY POWER FOR THE SYSTEM SHALL ALSO BE DESIGNED TO OPERATE MAXIMUM CONNECTER ALARM LOAD FOR 60 MINUTES IMMEDIATELY FOLLOWING DISCONNECTION OF PRIMARY POWER.
- CIRCUITS TO BE 24V TYPICAL.
- ALL NEW SYSTEMS AND DEVICES MUST INTERFACE WITH APPLICABLE EXISTING SYSTEMS. SHELL PANEL AND DEVICES MUST COMMUNICATE WITH EXISTING SITE FIRE ALARMS AND TENANT FINISH DEVICES MUST INTERFACE WITH EXISTING SHELL PANEL AND SYSTEMS.

## LOCATION / SPACING

- IN ACCORDANCE WITH 2019 NFPA 72, STROBES MAY BE MORE THAN 15 FEET FROM THE END OF A CORRIDOR WHEN ROOM SPACING CRITERIA APPLIES USING THE APPROPRIATE CANDELA.
- WALL MOUNTED SPEAKER, STROBES, OR SPEAKER/STROBES SHALL BE AT 96" OR 6" BELOW THE CEILING, WHICHEVER IS LOWER.
- ALL SMOKE DETECTORS SHALL BE LOCATED WHERE THEY CAN BE READILY SERVICED.
- ALL SMOKE DETECTORS SHALL BE CEILING MOUNTED OR WITHIN 12" OF THE CEILING.
- SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 3' OF AN AIR-SUPPLY OR RETURN GRILLE PER MFG CRITERIA AND APPENDIX 'A' OF NFPA 72.
- EACH POWER BOOSTER PANEL OR FIRE ALARM PANEL SHALL BE PROTECTED BY A SMOKE DETECTOR. WHEN PROVIDED, AREA DETECTORS WITHIN THE SAME SPACE WILL SATISFY THIS REQUIREMENT.
- AIR HANDLER SYSTEMS OVER 2,000 CFM SHALL BE PROVIDED WITH MEANS TO SHUT DOWN UPON THE DETECTION OF SMOKE. THESE DETECTORS SHALL NOT INITIATE A GENERAL FIRE ALARM.
- DAMPER AND HVAC SMOKE DETECTORS SHALL BE PROVIDED BY THE FIRE ALARM CONTRACTOR, LISTED WITH THE FIRE ALARM SYSTEM, AND INCORPORATE ADDRESSABLE MODULES.
- WHERE APPLICABLE, SMOKE DETECTORS FOR AIR-HANDLER SHUT DOWN SHALL BE ON BOTH SUPPLY AND RETURN DUCTS.
- WALL MOUNTED VISUAL DEVICES TO BE LOCATED SUCH THAT THE ENTIRE LENS OF THE STROBE IS BETWEEN 80" AND 96" AFF. ALL WALL MOUNTED NOTIFICATION DEVICES SHALL BE MOUNTED AT THE SAME HEIGHT AFF TO ACHIEVE A UNIFORM APPEARANCE OR AS DIRECTED BY THE A/E. WATTAGE AND CANDELA ARE GUIDELINES. CONTRACTOR RESPONSIBLE FOR FINAL SPACING AND TOTAL DEVICE POWER.

## PERFORMANCE

- ANY SMOKE DETECTOR THAT HAS BEEN INSTALLED PRIOR TO THE CONSTRUCTION CLEANUP OF ALL TRADES AND WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER AND LOCAL AHJ SHALL BE MARKED IN A MANNER THAT WILL IDENTIFY IT FROM RE-USE AND SHALL BE REPLACED PRIOR TO COMMISSIONING OF THE SYSTEM OR TURNING OVER TO THE OWNER. SUCH DETECTORS SHALL BE REPLACED AT THE SOLE EXPENSE OF THE INSTALLING CONTRACTOR.
- DUCT DETECTORS SHALL BE MONITORED FOR INTEGRITY AND PROVIDE A SUPERVISORY SIGNAL AT THE FIRE ALARM PANEL. AIR HANDLER SYSTEMS SHALL BE RAN AND BLOWN OUT PRIOR TO INSTALLATION OF SMOKE DETECTORS.
- FIRE ALARM AUDIBLE ALERT SIGNALS SHALL BE SET TO TEMPORAL CODE PER NFPA 72.
- UNLESS OTHERWISE NOTED THE FOLLOWING MINIMUM SURVIVABILITY CRITERIA SHALL BE MET: SIGNALING LINE CIRCUITS CLASS "B". AND NOTIFICATION CIRCUITS CLASS "B".
- INITIATING DEVICES SHALL BE INDIVIDUALLY ADDRESSABLE.

## ACCEPTANCE TESTING

- A COMPLETED AND SIGNED RECORD (CERTIFICATE) OF COMPLETION FORM SHALL BE PROVIDED BY THE CONTRACTOR TO THE AHJ, OWNER, AND A/E PRIOR TO COMMISSION TESTING. THIS CERTIFICATE SHALL CERTIFY THAT THE CONTRACTOR HAS PRE-TESTED EVERY DEVICE AND FUNCTION OF THE SYSTEM AND REPAIRED ANY DEFICIENCIES PRIOR TO THE COMMISSIONING TEST.
- ALL SMOKE DETECTORS SHALL BE COMMISSIONED USING CANNED SMOKE OR A METHOD THAT WILL FUNCTIONALLY TEST THE SMOKE CHAMBER. THE USE OF MAGNETS FOR COMMISSION TESTING OF SMOKE DETECTORS IS STRICTLY PROHIBITED.
- EACH AND EVERY DEVICE SHALL BE TESTED DURING COMMISSIONING AND PRIOR TO BEING TURNED OVER TO THE OWNER.
- EACH NOTIFICATION CIRCUIT SHALL BE TESTED UNDER STANDBY/BATTERY POWER. ANY CIRCUIT THAT MEASURES LESS THAN 20 VOLTS DC OR THE NAMEPLATE VOLTAGE, WHICHEVER IS HIGHER, SHALL BE CONSIDERED AS FAILING THE DESIGN. NOTE: SOME SYSTEMS INCORPORATING SYNCHRONIZING MODULES CAN IMPAIR RESULTS. IF THE MODULE CANNOT BE BYPASSED FOR VOLTAGE READINGS, THE MANUFACTURER SHOULD BE CONTACTED FOR GUIDANCE. WHEN VOLTAGE CANNOT BE MEASURED, CIRCUIT WIRE RESISTANCE READINGS AND DEVICE LOAD MAY BE COMPARED TO DESIGN CALCULATIONS (MAKE SURE CIRCUIT IS REMOVED FROM POWER SUPPLY WHEN OBTAINING WIRE RESISTANCE). ONLY A QUALIFIED TECHNICIAN EMPLOYED BY THE INSTALLING CONTRACTOR SHOULD PERFORM THIS FUNCTION.
- EACH CIRCUIT'S END-OF-LINE VOLTAGE SHALL BE DOCUMENTED FOR COMPARISON TO THE DESIGN END-OF-LINE CALCULATIONS.

AEROJET BUILDING E33  
OFFICE EXPANSION  
EAST CAMDEN,  
ARKANSAS

Project

Design Phase

Revisions

| No. | Date | Description |
|-----|------|-------------|
|     |      |             |
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|     |      |             |

Stamp

CERTIFICATE OF AUTHORIZATION  
CROMWELL ARCHITECTS/ENGINEERS  
#5  
ARKANSAS-ENGINEER

STATE OF ARKANSAS  
REGISTERED PROFESSIONAL ENGINEER  
No. 19823  
JAN WORSNIM

12-19-2024

Notes

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