CONSTRUCTION STANDARD SPECIFICATION

SECTION 13854

PREFABRICATED OFFICE UNITS

FIRE ALARM SYSTEM

Page

PART 1 - GENERAL

1.01 Summary 2
1.02 References 2
1.03 Definitions 3
1.04 Submittals 3
1.05 Quality Assurance 6
1.06 Sequencing And Scheduling 7

PART 2 - PRODUCTS

2.01 Fire Alarm Control Panel 7
2.02 Manual Fire Alarm Pull Stations 8
2.03 Smoke Detectors 9
2.04 Detectors Heat 9
2.05 Notification Appliances 10
2.06 Addressable Modules 10
2.07 Fire Alarm Terminal Cabinet 11
2.08 Wire And Cable 11

PART 3 - EXECUTION

3.01 General Requirements 11
3.02 Equipment Installation 12
3.03 Conduit And Raceways 13
3.04 Wiring Installation 14
3.05 Identification 15
3.06 Grounding 15
3.07 Field Quality Control 15
3.08 Cleaning 15
3.09 Warranty 16

PART 4 - CADD SOFTWARE GUIDELINES FOR DRAWING SUBMITTALS

4.01 MicroStation J 16
4.02 AutoCAD 16

CONSTRUCTION STANDARD SPECIFICATION

SECTION 13854

PREFABRICATED OFFICE UNITS

FIRE ALARM SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish all labor, materials, equipment and services to design, construct, and install a complete intelligent fire alarm system consisting of pull stations, smoke detectors, heat detectors, bells, and strobes. This Section also includes the requirements for a fire alarm system that will be connected to an existing Honeywell FACP.

B. The fire alarm control panel (FACP) will transmit signals via a DACT to Sandia's Central Station. The communication format for the DACT shall be Ademco Contact ID. Two dedicated phone lines will be utilized for the DACT communications to the Central Station.

1.02 REFERENCES

A. The current editions of the following standards are part of this Section:

1. NFPA 70 - National Electrical Code

2. NFPA 72 - National Fire Alarm Code

3. International Fire Code

4. International Building Code

5. Sandia National Laboratories – NM Facilities CADD Standards Manual

B. Conflicts between the references and this Section shall be referred to the Sandia Delegated Representative (SDR) who will determine which standard shall govern.

C. Construction Specifications included the following:

1. Section 09900, “Painting”.

2. Section 16001, “Electrical Work”.

D. Standard Drawings include the following:

1. E-0006STD, “Standard Symbols List & General Notes”.

2. FA5003STD, “Installation Details”.

3. FA7001STD, “Fire Alarm Wiring Diagrams”.

4. FA7002STD, “Notification Appliance Wiring Diagrams”.

1.03 DEFINITIONS

A. DACT: Digital Alarm Communicator Transmitter

B. FACP: Fire Alarm Control Panel

C. FATC: Fire Alarm Terminal Cabinet

D. FPE: Fire Protection Engineer(ing)

E. IDC: Initiating Device Circuit

F. NAC: Notification Appliance Circuit

G. NICET: National Institute for Certification of Engineering Technologies

H. SCO: Sandia Construction Observer

I. SLC: Signal Line Circuit

J. SNL: Sandia National Laboratories, Albuquerque, New Mexico

K. Definitions in NFPA 72 apply to fire alarm

1.04 SUBMITTALS

A. Equipment Data Sheets:

1. Equipment data sheets shall be submitted for all standard equipment and devices used in the fire alarm system. If options are listed on the data sheets, the specific option for the project shall be clearly marked. The equipment submittals shall include but not be limited to the following:

a. Fire alarm control panel and components.

b. Batteries and enclosures.

c. Wire utilized for SLC, IDC, NAC, and communication circuits.

d. Notification appliances, including NAC power supplies.

e. Initiating devices.

f. Addressable input/output modules.

g. Isolating modules.

h. Filters or surge suppression devices.

B. Shop Drawings:

1. SNL Facilities Management and Operations Center utilizes MicroStation J for Windows/NT as its standard CADD software. If MicroStation J is not utilized, use AutoCad 2000 or later version. Refer to Part 4 in this Section for description of CADD software submittal requirements.

2. For drawings prepared and reviewed by a NICET certified designer, provide copies of the NICET certificates with the drawings submitted for approval. For drawings prepared and reviewed by a registered professional Fire Protection Engineer, the drawings shall be stamped with the engineer's stamp.

3. Floor Plans: Provide the following information on fire alarm floor plans:

   a. All fire alarm component equipment and device locations, including location of addressable modules.

   b. On final as-built drawings, indicate SLC address for all devices and addressable modules (e.g., D15, M9). If there is more than one SLC indicate loop number with address (e.g., L2D15, L1M4).

   c. Location of notification appliance power supplies with identification label (e.g., PS1, PS5).

   d. Indicate NAC zone number for all notification appliances (e.g., Z-1, Z-4, PS1-3, PS4-1).

   e. Show location and identification of power panels with connected fire alarm system load. Indicate branch circuit number(s) utilized by fire alarm equipment.

4. System Riser Wiring Diagram: Provide the following information on the fire alarm riser wiring diagram drawing:

a. Each FACP, annunciator, initiating device, and addressable module. On final as-built drawings indicate the SLC address for each device and module.

b. All notification appliances with zone number.

c. Locate all initiation devices and notification appliances on the riser diagram to reflect the general location in the prefabricated office units.

d. Notification appliance power supplies with branch circuit number.

e. Cable and wire types and sizes.

f. All addressable modules and the devices/equipment they are monitoring or controlling (e.g., flow switches, tamper switches).

g. The 120 Vac panel and circuit number for each fire alarm power circuit.

5. System Operation Description: Provide an input/output matrix for describing the sequence of operations for each type of circuit for manually and automatically initiated system inputs and outputs. Refer to Appendix A in NFPA 72 for sample of an input/output matrix.

6. Device Address List: After commissioning fire alarm system, provide device/module address list (8½ x 11") for all devices connected to or controlled by the FACP. The device list shall include the following information:

a. Device type.

b. Device address.

c. Descriptor of device location that will be used for FACP programming.

d. For control and relay addressable modules, list descriptor of operation the module will perform.

7. Calculations:

a. Batteries: Battery size calculations to provide 24 hours supervisory, 5 minutes alarm secondary backup power.

b. NAC Calculations: Load and voltage drop calculations for each NAC.

C. Qualification Data:

1. Fire Alarm Installer: For each installer, provide documentation verifying compliance with one of the requirements listed below.

a. Minimum NICET Fire Alarm Level II certification.

b. Fire alarm equipment manufacturer training certification for the fire alarm system equipment being installed.

2. Fire Alarm Designer: Provide documentation verifying compliance with one of the requirements listed below.

a. Minimum NICET Fire Alarm Level III certification.

b. Registered Professional Fire Protection Engineer in the State of New Mexico.

D. Operation and Maintenance Data: Provide complete operation, installation, and maintenance manual for the fire alarm system components installed.

E. Submittals to SNL Fire Protection Engineering: In addition to distribution requirements for submittals specified in Section 01300, "Desctiptive Submittals", make an identical submittal to the designated Sandia Fire Protection Engineer for approval. Approval of submittal by the FPE is required prior to proceeding with the installation of the fire alarm system.

F. Contract Closure Documentation:

1. Record of Completion: Complete the "Record of Completion" form in NFPA 72 (included as attachment in this Section) upon commissioning of fire alarm system installation and submit to the SNL FPE.

2. Final Test Records: Provide a copy of the fire alarm system test report results for the inspection/tests performed in accordance with NFPA 72.

3. As-Built Drawings: Provide 2 hard copies (for Maintenance and SNL FPE records) and the electronic media of the as-built fire alarm floor plans, wiring diagrams, input/output operational matrix, and device address list to the SNL FPE.

4. Upon completion of fire alarm system installation or modification, provide both a hard copy and the electronic media of the as-built drawings to the Sandia CADD Coordinator for incorporation into the SNL Document Management System.

1.05 QUALITY ASSURANCE

A. Designer Qualifications: The designer of the fire alarm system shall meet one of the requirements listed below.

1. Certified, as a minimum, NICET Fire Alarm Level III.

2. A registered professional Fire Protection Engineer in the State of New Mexico.

B. Installer Qualifications: Each installer of the fire alarm system shall meet one of the requirements listed below.

1. Certified, as a minimum, NICET Fire Alarm Level II.

2. Trained and certified by manufacturer as qualified to install fire alarm system components being installed for this Project.

C. Electrical Components, Devices, and Accessories:

1. All equipment and devices furnished shall be Factory Mutual (FM) approved or Underwriter Laboratories (UL) listed, unless specifically noted otherwise. Approved or listed equipment shall be so noted in the latest edition of the FM Approval Guide or the UL Fire Protection Equipment Directory.

2. All initiating devices and addressable modules shall be UL listed for use with the FACP.

1.06 SEQUENCING AND SCHEDULING

A. FPE Submittal Acceptance: Do not proceed with the fire alarm system installation until fire alarm submittals have been approved by Sandia Fire Protection Engineering.

B. DACT Phone Lines: Contact SCO no later than 14 days prior to final commissioning of the fire alarm system to request phone line number assignments for the DACT. The FPE will issue the paperwork necessary to obtain telephone service to the DACT.

C. Acceptance Testing: Contact SCO to request acceptance testing by SNL Fire Alarm Maintenance personnel after commissioning the fire alarm system and completing the "Certificate of Completion". A fire alarm installer representative shall be present during the SNL acceptance test.

PART 2 -PRODUCTS

2.01 FIRE ALARM CONTROL PANEL

A. Description: Provide an intelligent fire alarm control panel (FACP)with the internal components required for a fully operational fire alarm detection and evacuation system meeting the requirements of NFPA 72.

B. Manufacturer/Model Number:

1. Edwards Systems Technology, Inc. (EST), Model QS4-12-R-1

2. Notifier, Model NFS-640 with SBB-B4 and DR-B4 backbox/door assembly.

C. Transmission to Central Station: Provide a Digital Alarm Communicator Transmitter (DACT) utilizing Ademco Contact ID communication format to automatically transmit alarm, trouble, and supervisory signals to Sandia's Central Station.

D. Primary Power: 24 Vdc obtained from 120 Vac service and a power-supply module. Initiating devices and DACT shall be powered by the 24 Vdc source.

1. The alarm current draw of the entire fire alarm system shall not exceed 80 percent of the power-supply module rating.

2. Power supply shall have a dedicated 20-amp branch circuit breaker from the nearest power panel.

E. Secondary Power: 24 Vdc supply system with batteries and automatic battery charger and an automatic transfer switch.

1. Batteries: Sealed, valve-regulated, recombinant lead acid.

2. Battery and Charger Capacity: Comply with NFPA 72. The batteries shall be sized to operate the system under the maximum normal load for 24 hours and then be capable of operating the system for 5 minutes in the alarm condition.

F. Surge Protection: Install surge protectors recommended by FACP manufacturer on all system wiring external to the office units housing the FACP and internal to the FACP as required for the protection of electronic components.

2.02 MANUAL FIRE ALARM PULL STATIONS

A. Manufacturer/Model Number:

1. EST, Model SIGA-278, double action fire alarm station.

2. Notifier, Model NBG-12LX, dual-action addressable pull station.

B. Surface Mounting Boxes: If surface mounting of pull station is required, provide the following box:

1. EST, Model 276B-RSB, red surface mount box for SIGA-278 series pull station.

2. Notifier, Model SB-10, surface back box for NBG-12LX pull station.

C. Connection to Existing Honeywell FACP: If the office units fire alarm system will be connected to an existing Honeywell FACP, the manual pullstation shall be Honeywell Model S464A1128 with dual-action accessory #14504581.

2.03 SMOKE DETECTORS

A. Photoelectric Smoke Detectors:

1. Manufacturer/Model Number:

a. EST, Model SIGA-PS, mounted on standard detector base SIGA-SB4.

b. Notifier, Model FSP-751, mounted on standard detector base B710LP.

2. Detector Isolator Bases: Where required on drawings, provide the following detector isolator base:

a. EST, Model SIGA-IB4.

b. Notifier, Model B224BI.

B. Connection to Existing Honeywell FACP: If the office units fire alarm system will be connected to an existing Honeywell FACP, the smoke detectors shall be Honeywell photoelectric detector, Model TC804C1001 mounted on detector base #14506587-001.

2.04 DETECTORS HEAT

A. Heat Detector, Combination Type: Actuated by either a fixed temperature of 135 deg F (57 deg C) or rate-of-rise of temperature that exceeds 15 deg F (8 deg C) per minute, unless otherwise indicated.

1. EST, Model SIGA-HRS, mounted on standard detector base SIGA-SB4.

2. Notifier, Model FST-751R, mounted on standard detector base B710LP.

B. Heat Detector, Fixed-Temperature Type: Actuated by temperature that exceeds a fixed temperature of 135 deg F (57 deg C), unless otherwise indicated.

1. EST, Model SIGA-HFS, mounted on standard detector base SIGA-SB4.

2. Notifier, Model FST-751, mounted on standard detector base B710LP.

C. Connection to Existing Honeywell FACP: If the office units fire alarm system will be connected to an existing Honeywell FACP, the heat detectors shall be Honeywell Model T4057A1023.

2.05 NOTIFICATION APPLIANCES

A. Multitone Horn Description: Wheelock MT-241575W-FR multitone strobe, 24 Vdc, 15/75 candela, surface-mounted on a Wheelock IOB-R backbox.

B. Strobe Description: Wheelock RSS-241575W-FR strobe, 24 Vdc, 15/75 candela, surface-mounted on a Wheelock SHBB backbox.

C. Weatherproof Multitone Horns: Wheelock MTWP-2475W-FR weatherproof multitone strobe, 24 Vdc, 75 candela surface-mounted on an IOB-R back-box.

D. NAC Power Supply:

1. Description: Wheelock PowerPath PS-12/24-8 power limited 8-ampere power supply/charger with batteries to provide a secondary backup power supply.

2. Batteries: Power-Sonic PS-12120 (or equal) 12 Vdc, 12AH sealed lead-acid batteries (two required).

E. Synchronizing Module:

1. Wheelock SM-24-R.

2. Wheelock DSM-24-R.

2.06 ADDRESSABLE MODULES

A. Description: Addressable modules shall be compatible with the FACP.

B. Monitor Modules: Provide addressable modules to connect supervised IDC zones of conventional alarm initiating devices (any N.O. dry contact device) to a FACP Signal Line Circuit.

C. Control and Relay Modules: Capable of providing a dry relay contact to control other building system components during an alarm signal as indicated on the fire alarm system input/output matrix for fire alarm system operation.

D. Isolator Modules: Fault isolator modules compatible with the FACP provided where indicated on the drawings.

2.07 FIRE ALARM TERMINAL CABINET

A. Fire Alarm Terminal Cabinet: NEMA 3R weather-tight enclosure with hinged door, latch handle, painted red, 18” x 18” x 6” or sized as indicated on Drawings.

2.08 WIRE AND CABLE

A. Wire and cable for fire alarm systems shall be UL listed and labeled as complying with NFPA 70, Article 760.

B. Initiating Device Circuits: IDC cables from FACP to and between initiating devices shall be Belden 6220UL-0021000, 2 solid conductor #16 AWG, plenum-rated, or equivalent.

C. Signal Line Circuits: SLC cables from FACP to and between initiating devices shall be Belden 6220UL-0021000, 2 solid conductor #16 AWG, plenum-rated, or equivalent.

D. Notification Appliance Circuits: NAC cables from FACP/NAC power supplies to and between NAC devices shall be Belden 6120UL-0021000, 2 solid conductor #14 AWG, plenum-rated, or equivalent.

E. DACT Telephone Cables: 2-pair Cat 5E telephone cable, plenum-rated, AVAYA Part No. 2061004BBL W 1000, or equivalent.

F. FACP 120 Vac Cable: Type AC (BX) cable, with ground wire.

G. Cable Fasteners: B-Line #BX6 flexible conduit/cable to stud fastener.

PART 3 -EXECUTION

3.01 GENERAL REQUIREMENTS

A. The Contractor shall install, program, and test all new fire alarm equipment identified in contract.

B. The Contractor shall furnish and install all required conduit and all associated hardware, and shall install (pull), terminate, and test all cable for a complete operational fire alarm system. Refer to Section 16001, “Electrical Work” for further requirements for raceway installations.

C. Mount initiation devices and notification appliances at the elevations and locations specified in NFPA 72 and the manufacturers’ specifications. Initiating devices shall be located where they are accessible for maintenance and testing.

3.02 EQUIPMENT INSTALLATION

A. Fire Alarm Control Panel (FACP):

1. Location: Install fire alarm control panel at main entrance to the office units.

2. AC Power: Primary power, 120 Vac, for the panel shall be from a 20 amp dedicated branch circuit at the nearest power panel. The electrical breaker of the branch circuit shall be identified by a red paint dot adjacent to each breaker.

3. Mounting Height: Surface mount with top of FACP not more than 72 inches (1830 mm) above the finished floor.

B. Manual Fire Alarm Pull Stations:

1. Location: Install pull stations on surface-mounted back boxes 4'-0" above finished floor in highly visible locations on exit egress routes. Install pullstation on the latch side of egress door immediately adjacent to the door.

C. Smoke Detectors:

1. Location: Install smoke detectors to provide complete coverage protection in the office units. Install smoke detectors in locations and at the spacing listed in NFPA 72 and per the manufacturers recommendations. If a sprinkler system is installed throughout the office units, install smoke detectors only in the IDR and in the immediate vicinity of the FACP.

D. Heat Detectors:

1. Location: Install heat detectors in rest rooms and other locations where the installation of smoke detectors is inappropriate due to the potential for nuisance alarms. Install heat detectors at the spacing listed in NFPA 72 and per the manufacturers recommendations. If a sprinkler system is installed throughout the office units, do not install heat detectors.

E. Notification Appliances:

1. Location: Install combination multitone horn/strobe appliances at locations to comply with NFPA 72 requirements for audible levels. Install strobes in restrooms, conference rooms, hallways, and open areas with 10 or more occupants. Install weatherproof multitone horn/strobe on the exterior of the office unit at the main entrance readily visible to emergency responders.

2. Installation: Surface-mount notification appliances on the wall between 80 and 96 inches above finished floor, and not less than of 6 inches (150 mm) below the ceiling.

F. Flow Switches/Tamper Switches: If an automatic sprinkler system is installed, provide each flow switch and tamper switch with addressable modules connected to the SLC.

G. Connection to Existing Honeywell FACP:

1. Fire Alarm Terminal Cabinet (FATC): If the Statement of Work (SOW) requires the IDC and NAC devices to connect to an existing Honeywell FACP, do not install a FACP. Instead, install an 18" x 18" x 6" NEMA 3R enclosure on the exterior of the trailer where the raceway going to the Honeywell FATC is located. Terminate IDC and NAC conductors on left side of terminal blocks mounted on backboard inside the enclosure. Others will complete the fire alarm system installation and testing of IDC and NAC devices.

2. Provide non-addressable manual pull stations, smoke detectors, and heat detectors per the requirements in Part 2.

3. Zoning:

a. Manual Pull Stations: Wire all manual pullstations and heat detectors within the same connected office units on the same IDC zone.

b. Smoke Detectors: Wire all smoke detectors in office units on the same IDC zone, unless the number exceeds the FACP manufacturers IDC limit.

c. Flow Switches: Wire sprinkler system water flow devices on a dedicated IDC zone.

d. Tamper Switches: Wire sprinkler system tamper switches on the same IDC zone.

3.03 CONDUIT AND RACEWAYS

A. Conduit and raceways shall be installed in accordance with the National Electric Code (NEC) and Section 16001, "Electrical Work".

B. Install 1" EMT from the FACP to 4" above the drop-in ceiling for installation of the SLC, NAC, and telephone plenum-rated cables into the ceiling space.

C. Install 1" EMT from the FACP to 4" above the drop-in ceiling for installation of Type AC (BX) cabling to the power panel and the FACP grounding conductor.

D. Securely install mounting boxes for the mounting of pullstations, smoke detectors, heat detectors, multitone horns, and strobes. Install surface-mounted ½" EMT

below the ceiling to protect the plenum-rated wiring to the manual pull stations and audio/visual appliances. Paint the raceway to match the wall-mounting surface.

3.04 WIRING INSTALLATION

A. Signal Line Circuits (SLC): SLCs shall be installed as NFPA 72 Class A, Style 7 using plenum-rated cabling, 2 solid conductor #16 AWG. No splices are permitted.

B. Initiating Device Circuits (IDC): IDCs shall be installed as NFPA 72 Class A, Style D. Initiating devices will be connected in zones using plenum-rated cabling, 2 solid conductor #16 AWG. No splices are permitted.

C. Notification Appliance Circuits (NAC): NACs shall be installed as NFPA 72 Class B, Style Y. Notification appliances will be connected in zones using plenum-rated cabling, 2 solid conductor #14 AWG. Do not exceed 80% of the NAC rated amp load on each NAC. No splices are permitted.

D. Install 2 plenum-rated telephone cables to the IDR room for DACT communication to the Central Station.

E. Utilize flexible conduit/cable containers fastened to studs for plenum-rated cable installations, spaced per NEC requirements. Do not lay fire alarm cables on ceilingtiles. Do not use staple guns or tie wraps for fastening cables to the structure.

F. Color-Coding:

1. Signal Line Circuit (SLC): Red (+), Black (-)

2. Initiating Device Circuit (IDC): Red (+), Black (-)

3. Notification Appliance Circuit (NAC): Red (+), Black (-)

4. Control Circuit: Red (+), Black (-)

5. 120 VAC: Hot (Phase A – Black, Phase B – Red, Phase C – Blue), Neutral – White, and Ground – Green.

G. Notification Appliances:

1. Synchronize strobes per the requirements in NFPA 72 and the manufacturer's instructions.

2. Do not exceed 80% of the permissible NAC amperage load during initial installation to allow future appliance additions to the NAC.

3.05 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals according to Section 16001, “Electrical Work" and Standard Drawing FA7001STD.

B. Identify dedicated fire alarm circuit breakers with a red paint dot and label "FIRE ALARM."

C. Label cable jackets at each termination point to indicate IDC zone number (when connected to existing Honeywell FACP) and NAC zone number. Refer to Section 16001, “Electrical Work” and Standard Drawing FA7001STD for the approved methods.

3.06 GROUNDING

A. Ground the FACP and associated circuits; comply with IEEE 1100. Provide grounding for the FACP and NAC power supplies as required by NFPA 70 and the manufacturer’s recommendations.

3.07 FIELD QUALITY CONTROL

A. The fire alarm system installer shall perform the following field tests and inspections and prepare test reports:

1. Before requesting final acceptance testing of the installation, submit a completed Record of Completion form shown in NFPA 72 (included as attachment in this Section).

2. Perform each electrical test and visual and mechanical inspection listed in NFPA 72. Certify compliance with test parameters.

3. Visual Inspection: Conduct a visual inspection before any testing. Use as-built drawings and system documentation for the inspection. Identify improperly located, damaged, or nonfunctional equipment, and correct before beginning tests.

4. Testing: Follow procedure and record results complying with requirements in NFPA 72.

3.08 CLEANING

A. Cleaning: Remove paint splatters and other spots, dirt, and debris. Touch up scratches and marred finishes to match original finish.

3.09 WARRANTY

A. All equipment, materials and installation shall be warranted by the Contractor/Manufacturer during construction and for a period of one year after the final acceptance testing of the fire alarm system installation.

PART 4 - CADD SOFTWARE GUIDELINES FOR DRAWING SUBMITTALS

4.01 MICROSTATION J

A. SNL Facilities maintains MicroStation J for Windows/NT, release 05.07.01.14 (vector) as its standard CADD software. When future upgrades occur, it is required that the Fire Alarm Designer utilize the new workspace and MicroStation software. To maximize efficiency, SNL will provide a custom MicroStation J workspace environment, which includes toolboxes, tool frames, macros, MicroStation Development Language (MDL) application, user commands, help routines, and menu bars to help in the production of facilities CADD files. Refer to the Facilities CADD Standards Manual for further instructions.

4.02 AUTOCAD

A. AutoCAD 2000 or later version may be used in lieu of MicroStation J under the condition that the following requirements will be met:

1. The translated MicroStation architectural floor plan must be referenced into AutoCAD model. Each AutoCAD model will show the Fire Alarm Design for a given floor.

2. Reference SNL standard border files into all project sheets (layout tabs). Each layout tab will contain border, keyed notes, general notes, details, and title block information. Each layout tab will be identified (labeled) with correct SNL plotted file name.

3. All data, designs, records, graphics and supporting tools generated during project creation shall be included in the deliverable file package.

4. Any fonts, line styles, or blocks used to generate these files that are not AutoCAD 2000 standard must be submitted as part of the deliverable package.

5. All layers will follow CAD Layer Guidelines, 2nd edition or newer, established by the American Institute of Architects.

6. A table, listing all line, text, and block information will be created within each design file just outside of the plotted area. Information to include: layer names,

color, pen width association, line style, description, text size, block names and identification of frozen layers.

7. When design is completed, submit all shop drawings in electronic format to the FPE. Any assistance or questions should be directed to and from the SNL CADD Coordinator.

END OF SECTION

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Fire Alarm System

Record of Completion

Name of protected property: _____

Address: _____

Representative of protected property (name/phone): _____

Authority having jurisdiction: _____

Address/telephone number: _____

1. Type(s) of System or Service

_____ NFPA 72, Chapter 3 – Local

If alarm is transmitted to location (s) off premises, list where received: _____

_____

_____ NFPA 72, Chapter 3 – Emergency Voice/Alarm Service

Quantity of voice/alarm channels: _____ Single: _____ Multiple: _____

Quantity of speakers installed: _____ Quantity of speaker zones: _____

Quantity of telephones or telephone jacks included in system: _____

_____ NFPA 72, Chapter 5 – Auxiliary

Indicate type of connection:

_____ Local energy _____ Shunt _____ Parallel telephone

Location of telephone number for receipt of signals: _____

_____

_____ NFPA 72, Chapter 5 – Remote Station

Alarm: _____

Supervisory: _____

_____ NFPA 72, Chapter 5 – Proprietary

If alarms are retransmitted to public fire service communications centers or others, indicate location and telephone numbers of the organization receiving alarm:

_____

Indicate how alarm is retransmitted: _____

_____ NFPA 72, Chapter 5 – Central Station

Prime contractor: _____

Central station location: _____

Means of transmission of signals from the protected premises to the central station:

_____ McCulloh _____ Multiplex _____ One-way radio

_____ Digital alarm communicator _____ Two-way radio _____ Others

Means of transmission of alarms to the public fire service communications center:

(a) _____

(b) _____

System location: _____

Organization name/phone Representative name/phone

Installer _____ _____

Supplier _____ _____

Service organization _____ _____

Location of record (as-built) drawings: _____

Location of owners manuals: _____

Location of test reports: _____

A contract, dated _____ for test and inspection in accordance with NFPA standard(s)

No(s). _____ dated _____ is in effect.

2. Record of System Installation

(Fill out after installation is complete and wiring checked for opens, shorts. ground faults, and improper branching, but prior to conducting operational acceptance tests.)

This system has been installed in accordance with the NFPA standards as shown below, was inspected by _____ on _____, includes the devices shown below, and has been in service since._____

_____ NFPA 72. Chapters 1 2 3 4 5 6 7 (circle all that apply)

_____ NFPA 70, *National Electrical Code*, Article 760

_____ Manufacturer's instructions

_____ Other (specify):_____

Signed:_____ Date:_____

Organization:_____

3. Record of System Operation

All operational features and functions of this system were tested by _____ on _____, and found to be operating properly in accordance with the requirements of:

_____ NFPA 72. Chapters 1 2 3 4 5 6 7 (circle all that apply)

_____ NFPA 70, *National Electrical Code*, Article 760

_____ Manufacturer's instructions

_____ Other (specify):_____

Signed:_____ Date:_____

Organization:_____

4. Alarm-initiating Devices and Circuits

Quantity and class of initiating device circuits *(see NFPA 72, Table 3-5)* Quantity: _____ Style: _____ Class: _____

MANUAL

(a) _____ Manual stations _____ Noncoded, activating _____ Transmitters _____Coded

(b) _____ Combination manual fire alarm and guard's tour coded stations

AUTOMATIC

Coverage: Complete: _____ Partial: _____

(a) _____ Smoke detectors _____ Ion _____ Photo

(b) _____ Duct detectors _____ Ion _____ Photo

(c) _____ Heat detectors _____ FT _____ RR _____ FT/RR _____ RC

(d) _____ Sprinkler waterflow switches: _____ Transmitters _____ Noncoded, activating _____ Coded

(e) _____ Other (list):_____

5. Supervisory Signal-Initiating Devices and Circuits (use blanks to indicate quantity of devices)

GUARD'S TOUR

(a) _____ Coded stations

(b) _____ Noncoded stations, activating _____ transmitters

(c) _____ Compulsory guard tour system comprised of _____transmitter stations and _____ intermediate stations

Note: Combination devices are recorded under 4(b) and 5(a).

SPRINKLER SYSTEM

(a) _____ Coded valve supervisory signaling attachments

Value supervisory switches, activating _____ transmitters

(b) _____ Building temperature points

(c) _____ Site water temperature points

(d) _____ Site water supply level points

Electric fire pump:

(e) _____ Fire pump power

(f) _____ Fire pump running

(g) _____ Phase reversal

Engine-driven fire pump:

(h) _____ Selector in auto position

(i) _____ Engine or control panel trouble

(j) _____ Fire pump running

Engine-driven generator:

(k) _____ Selector in auto position

(1) _____ Control panel trouble

(m) _____ Transfer switches

(n) _____ Engine running

Other supervisory function(s) (specify):_____

_____

_____

_____

6. Alarm Notification Appliances and Circuits

Quantity and class *(see NFPA 72, Table 3-7)* of notification appliance circuits connected to the system:

Types and quantities of notification appliances installed: Quantity: _____ Style: _____ Class: _ _____

(a) _____ Bells _____ Inch

(b) _____ Speakers

(c) _____ Horns

(d) _____ Chimes

(e) _____ Other: _____

(f) _____ Visual signals Type: _____

_____ with audible _____ w/o audible

(g) _____ Local annunciator

7. Signaling Line Circuits

Quantity and class *(see NFPA 72, Table 3-6)* of signaling line circuits connected to system:

Quantity: _____ Style: _____ Class: _____

8. System Power Supplies
   (a) Primary (main): _____ Nominal voltage: _____ Current rating: _____
   Overcurrent protection: Type: _____ Current rating: _____
   Location: _____
   (b) Secondary (standby):
   _____ Storage battery: Amp-hour rating: _____
   _____ Calculated capacity to drive system, in hours: ____ 24 _____ 60
   _____ Engine-driven generator dedicated to fire alarm system:
   Location of fuel storage:_____
   (c) Emergency or standby system used as backup to primary power supply, instead of using a secondary power supply:
   _____ Emergency system described in NFPA 70, Article 700
   _____ Legally required standby system described in NFPA 70, Article 701
   _____ Optional standby system described in NFPA 70, Article 702, which also meets the performance requirements of Article 700 or 701
9. System Software
   (a) Operating system software revision level(s): _____
   (b) Application software revision level(s): _____
   (c) Revision completed by: _____
   (name) (firm)
10. Comments:

_____

(signed) for central station or alarm service company or installation contractor/supplier (title) (date)

Frequency of routine tests and inspections. if other than in accordance with the referenced NFPA standard(s):

_____

_____

_____

System deviations from the referenced NFPA standard(s) are: _____

_____

_____

(signed) for central station or alarm service company or installation contractor/supplier (title) (date)

Upon completion of the system(s) satisfactory test(s) witnessed (if required by the authority having jurisdiction):

_____

(signed) representative of the authority having jurisdiction (title) (date)