

## **Division 21**

SECTION 216000  
FIRE ALARM SYSTEM

PART 1. GENERAL

1.01 SUMMARY

- Section includes the equipment for a complete fire alarm system at the Port Ewen Firehouse. This shall include heat sensors, smoke detectors, strobe lights, and fire alarm control panels. This section will also include the monitor system and modules necessary to complete the systems.
  - The fire alarm system supplier shall also be the integrator and installer of the systems.
  - The integrator of the fire alarm systems shall furnish and install of the wiring for all of the devices included in the fire alarm systems.
- A. Related Sections: Section(s) related to this section include:
1. Wiring, General – 600 Volts and Under: Section 260519.

1.02 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide heat sensors, smoke detector, horns, strobes, control panels, radio equipment, pull stations, etc. that have been manufactured, assembled, and installed to maintain performance criteria stated by manufacturer without defects, damage, or failure.
- B. Performance Testing Requirements:
1. Manufacturer shall test 100% of equipment prior to shipment. Sample testing is not acceptable.
- C. Code Requirements:
1. All sensor and power packs shall be UL listed.
  2. All sensors shall be FCC compliant where applicable.
  3. Building Codes: All units shall comply with applicable, local building codes.

1.03 SUBMITTALS

- A. Bill of Materials: Complete list of all parts needed to fully install selected fire alarm system.
- B. Product Data: Submit product data, including catalog cut sheets for specified products.
- C. Shop and Wiring Drawings: Submit shop drawings detailing all mechanical and electrical equipment including wire counts, and physical dimensions of each item.
- D. Installation and Maintenance Instructions: Submit manufacturer's installation and maintenance instructions.
- E. Closeout Submittals: Warranty documents specified herein.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Installer shall be one who is experienced in performing the work of this

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section, and who has specialized in installation of work similar to that required for this project.

- B. Source Limitations: To assure compatibility, obtain sensors from a single source with complete responsibility over all products. The use of subcontracted component assemblers is not acceptable.
- C. Manufacturer Requirements: The manufacturer will be one who has been continuously engaged in the manufacture of fire alarm equipment no less than 10 years.

1.05 DELIVERY, STORAGE & HANDLING

- A. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged packages with intact identification labels.
- C. Storage and Protection: Store materials away from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

1.06 WARRANTY

- A. Manufacturer's Warranty: All equipment shall be warranted free of defects in materials and workmanship.
  - 1. Warranty Period: Five years from date of purchase.
  - 2. Owner Rights: Manufacturer's warranty is in addition to, not a limitation of, other rights the Owner may have under contract documents.

PART 2. PRODUCTS

2.01 FIRE ALARM SYSTEM

The fire alarm and security system architecture as shown on the contract drawings and the equipment specified herein shall be supplied by the electrical contractor.

- A. Fire Alarm Control Panel:
  - 1. Shall include a 198-point addressable capability.
  - 2. Shall have an SLC loop.
  - 3. Shall include an 80-character LCD display.
  - 4. Shall be 120V powered.
  - 5. Shall include black dress panel.
  - 6. Shall have battery backup
  - 7. Shall include a power expander module.
  - 8. Shall include surge protection device.
  - 9. Shall come with a system documentation cabinet SRD ACE-11 or equal.
  - 10. Shall be compatible with remote annunciator panel N-ANN-80 or equal.
  - 11. The Fire Alarm Control Panel shall be Notifier NFW-100X or engineer approved equal.
- B. Smoke Detectors:

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1. Shall be addressable.
  2. Shall be photoelectric.
  3. Smoke detectors shall have an insect screen that is easily cleanable.
  4. Smoke Detectors shall be Notifier NP-200 or engineer approved equal.
- C. Thermal Detectors:
1. Shall be addressable.
  2. Shall use thermistor sensing circuit.
  3. The Thermal Detectors shall be Notifier NH-200 for alarm detection at 135degF and NH-200H for activation at 195degF or engineer approved equal.
  4. Mechanical Heat detectors shall be 5601-P.
- D. Strobes & Horn/Strobes:
1. Shall be addressable.
  2. The Strobes and Horn/Strobes shall be Notifier SRL and P2RL or engineer approved equal.
- E. Exterior Siren Strobe:
1. Shall be rated for exterior use.
  2. Shall have a single tone piezo siren – warble.
  3. Strobe shall flash at same rate as siren sounding.
  4. Shall mount on single gang box.
  5. Siren shall be a 105db tone.
  6. Shall be Honeywell or approved equal.
- F. Manual Pull Station:
1. Shall be addressable.
  2. Shall be non-code.
  3. Shall include a key or reset lock for testing.
  4. Shall automatically condition itself so as to be visually detected as activated.
  5. Shall be constructed of red colored LEXAN.
  6. Shall be Notifier BG-12LX or approved equal.
- G. Carbon Monoxide Detector:
1. Shall be addressable.
  2. Shall include visual notification at unit of alarm.
  3. Shall be Notifier CO1224T or approved equal
- H. Room Temperature Switch:
1. Shall be addressable.
  2. Shall be a normally open room temperature switch.
  3. Shall be Potter RTS-O or approved equal
- I. Fixed Gas Detectors:
1. Shall be addressable.
  2. Shall monitor carbon monoxide and nitrogen dioxide.
  3. Shall have the capability of turning on fans in alarm condition.
  4. Shall include a control panel.
  5. Shall include calibration kits for gasses used.

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6. Shall be Macurco Commercial Series or approved equal
- J. Fire Alarm Annunciator Panel:
1. Shall be red.
  2. Shall be of same manufacturer as Fire Alarm Control Panel.
  3. Shall be backlit 80-character LCD
  4. Shall mimic all information from host panel.
  5. Shall include a key switch to enable/disable control switches
  6. Shall be Notifier N-ANN-80 or approved equal.

PART 3. EXECUTION

3.01 PREPARATION

- A. Site Verification: Verify that conditions are acceptable for product installation in accordance with manufacturer's instructions.
- B. Inspection: Inspect all material included in this contract prior to installation. Manufacturer shall be notified of unacceptable material prior to installation.

3.02 INSTALLATION

- A. The Contractor, as part of the work of this section, shall coordinate, receive, mount, connect, and place into operation all equipment. The Contractor shall furnish all conduit, wire, connectors, hardware, and other incidental items necessary for properly functioning fire alarm and security system as described herein and shown on the plans. The Contractor shall maintain performance criteria stated by manufacturer without defects, damage, or failure.
  1. Compliance: Contractor shall comply with manufacturer's product data, including shop drawings, technical bulletins, product catalog installation instructions, and product carton instructions for installation.
- B. Power: The contractor shall test that all branch load circuits are operational before connecting loads to sensor system load terminals, and then de-energize all circuits before installation.
- C. Related Product Installation: Refer to other sections listed in Related Sections for related products' installation.

3.03 TESTING

- A. Upon completion of all line, load and interconnection wiring, and after all equipment is installed, a qualified factory representative shall completely check the installation prior to energizing the system. Each installed sensor shall be tested in the test mode to see that the device works.
- B. At the time of checkout and testing, the owner's representative shall be thoroughly instructed in the proper operation of the system.
- C. At the final inspection, a minimum NICET Level II technician shall demonstrate that the system functions properly in every respect.

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- D. Instruction shall be provided as required for operating the system. Hands-on demonstrations of the operation of all system components and the entire system including program changes and functions shall be provided.

3.04 PROTECTION

- A. Contractor shall protect installed product and finished surfaces from damage during all phases of installation including preparation, testing, and cleanup.

END OF SECTION 216000

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