

DONALD H. BERG, ARCHITECT

DVA PROJECT 632-CSI-402
PET/CT ROOM #A0-10 RENOVATION
BASEMENT LEVEL, BUILDING 200

ARCHITECT'S PROJECT No. 0917-02

ADDENDUM NO. 1 – JUNE 25, 2018

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ARCHITECTURAL

1. Specifications: Section 01 00 00 General Requirements. Paragraph 1.6. K.2., and K.4. page 4 (attached) change "7 days" to "15 days".

ELECTRICAL

1. Specifications: Add Specification Section 28 31 00, Fire Detection and Alarm (attached) to the specification book.

END

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The Medical Center must maintain its operation 24 hours a day 7 days a week. Therefore, any interruption in service must be scheduled and coordinated with the COR to ensure that no lapses in operation occur. It is the CONTRACTOR'S responsibility to develop a work plan and schedule detailing, at a minimum, the procedures to be employed, the equipment and materials to be used, the interim life safety measure to be used during the work, and a schedule defining the duration of the work with milestone subtasks.

- K. Utilities Services: Maintain existing utility services for Medical Center at all times. All utility interruptions must be coordinated and approved by the Resident Engineer.
1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of Resident Engineer. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without a detailed work plan, the Medical Center Director's prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS and 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS for additional requirements.
 2. Contractor shall submit a request to interrupt any such services to Resident Engineer, 15 days in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
 3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
 4. Major interruptions of any system must be requested, in writing, at least 15 calendar days prior to the desired time and shall be performed as directed by the Resident Engineer.

SECTION 28 31 00
FIRE DETECTION AND ALARM

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section of the specifications includes the furnishing, installation, and connection of new devices to the existing fire alarm equipment to form a complete coordinated system ready for operation. It shall include, but not be limited to, alarm initiating devices, alarm notification appliances, control units, and wiring as shown on the drawings and specified. The fire alarm system shall not be combined with other systems such as building automation, energy management, security, etc.
- B. Fire alarm systems shall comply with requirements of the most recent VA FIRE PROTECTION DESIGN MANUAL and NFPA 72 unless variations to NFPA 72 are specifically identified within these contract documents by the following notation: "variation". The design, system layout, document submittal preparation, and supervision of installation and testing shall be provided by a technician that is certified NICET level III or a registered fire protection engineer. The NICET certified technician shall be on site for the supervision and testing of the system. Factory engineers from the equipment manufacturer, thoroughly familiar and knowledgeable with all equipment utilized, shall provide additional technical support at the site as required by the COTR or his authorized representative. Installers shall have a minimum of 2 years experience installing fire alarm systems.
- C. Alarm signals, supervisory signals, and system trouble signals shall be distinctly transmitted to the main fire alarm system control.

1.2 SCOPE

- A. Modification of existing addressable fire alarm shall be designed and installed in accordance with the specifications and drawings. Device location and wiring shown on the drawings are for reference only unless specifically dimensioned. Actual locations shall be in accordance with NFPA 72 and this specification.
- B. All existing fire alarm equipment, wiring, devices and sub-systems that are not shown shall remain. All existing fire alarm conduit not reused shall be removed.

C. Basic Performance:

1. Maintain existing system operation and functionality per manufacturer's instructions and manuals.

1.3 RELATED WORK

- A. Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES. Requirements for procedures for submittals.
- B. Section 07 84 00 - FIRESTOPPING. Requirements for fire proofing wall penetrations.

1.4 SUBMITTALS

- A. General: Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, and Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.

1.5 WARRANTY

- A. All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of one year from the date of acceptance of the entire installation by the Contracting Officer.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS, GENERAL

- A. All devices and components shall be new and the manufacturer's current model. All equipment shall be tested and listed by Underwriters Laboratories, Inc. or Factory Mutual Research Corporation for use as part of a fire alarm system.

2.2 CONDUIT, BOXES, AND WIRE

- A. Conduit shall be as follows:
 1. All new conduits shall be installed in accordance with NFPA 70.
 2. Conduit fill shall not exceed 40% of interior cross sectional area.
 3. All new conduits shall be 3/4 inch (19 mm) minimum.
- B. Wire:
 1. Wiring shall be in accordance with NEC article 760 and as recommended by the manufacturer of the fire alarm system. All wires shall be color coded. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG for initiating device circuits and 14 AWG for notification device circuits.
- C. Terminal Boxes, Junction Boxes, and Cabinets:
 1. Shall be galvanized steel in accordance with UL requirements.
 2. All boxes shall be sized and installed in accordance with NFPA 70.

3. covers shall be repainted red and shall be identified with white markings as "FA" for junction boxes and as "FIRE ALARM SYSTEM" for cabinets and terminal boxes. Lettering shall be a minimum of 3/4 inch (19 mm) high.
4. Terminal boxes and cabinets shall have a volume 50 percent greater than required by the NFPA 70. Minimum sized wire shall be considered as 14 AWG for calculation purposes.
5. Terminal boxes and cabinets shall have identified pressure type terminal strips and shall be located at the base of each riser. Terminal strips shall be labeled as specified or as approved by the COTR.

2.3 ALARM NOTIFICATION APPLIANCES

A. Speakers:

1. New devices shall match existing and shall be fully compatible with the existing system.

B. Strobes:

1. New devices shall match existing and shall be fully compatible with the existing system.

2.4 ALARM INITIATING DEVICES

A. Smoke Detectors:

1. New devices shall match existing and shall be fully compatible with the existing system.
2. All duct type detectors installed shall be of the photoelectric type.

2.5 SUPERVISORY DEVICES

A. Duct Smoke Detectors:

1. Duct smoke detectors shall be provided and connected by way of an address reporting interface device. Detectors shall be provided with an approved duct housing mounted exterior to the duct, and shall have perforated sampling tubes extending across the full width of the duct (wall to wall). Detector placement shall be such that there is uniform airflow in the cross section of the duct.
2. Interlocking with fans shall be provided in accordance with NFPA 99.
3. Provide remote indicator lamps, key test stations and identification nameplates (e.g. "DUCT SMOKE DETECTOR AHU-X") for all duct detectors. Locate key test stations in plain view on walls or ceilings so that they can be observed and operated from a normal standing position.

PART 3 - EXECUTION**3.1 INSTALLATION:**

- A. Installation shall be in accordance with NFPA 70, 72, 90A, and 101 as shown on the drawings, and as recommended by the major equipment manufacturer. Fire alarm wiring shall be installed in conduit. All conduit penetrations of smoke and fire barriers shall be protected as required by Section 07 84 00, FIRESTOPPING.
- B. All conduits, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished areas.
- C. All new and reused exposed conduits shall be painted in accordance with Section 09 91 00, PAINTING to match surrounding finished areas and red in unfinished areas.
- D. All existing accessible fire alarm conduit not reused shall be removed.
- E. Existing devices that are reused shall be properly mounted and installed. Where devices are installed on existing shallow backboxes, extension rings of the same material, color and texture of the new fire alarm devices shall be used. Mounting surfaces shall be cut and patched and be re-painted as necessary to match existing.
- F. All new alarm system devices shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas. Exact locations are to be approved by the COTR.
- G. Strobes shall be flush wall mounted with the bottom of the unit located 80 inches (2,000 mm) above the floor or 6 inches (150 mm) below ceiling, whichever is lower. Locate and mount to maintain a minimum 36 inches (900 mm) clearance from side obstructions.

3.2 TYPICAL OPERATION

- A. Activation of any new duct mounted smoke detector shall cause the existing pre-programmed operations to occur.

3.3 TESTS

- A. When the system modification has been completed and prior to the scheduling of the final inspection, test the functionality and operation of each new device. When any defects are detected, make repairs or install replacement components, and repeat the tests until such time that the new fire alarm system devices meet all contract requirements. After the system has passed the initial test, it shall be successfully demonstrated to and approved by the COTR.

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