**PWS Summary of Changes: Revision 1**

**04 April, 2020**

1. **Title Block: Added the word “Temporary” in front of Alternate Care Site.**
2. **Title Block: Added clarifications as to which patients this PWS should be used for (COVID vs Non-COVID; Acute vs Non-Acute)**
3. **Paragraph 3.5: Mechanical – Adds the following sentence: “Methods to achieve room pressurization include increasing the exhaust or return air to each room and/or increasing corridor supply air.”**
4. **Paragraph 3.8: Fire Protection/Life Safety - Adds requirement for the Contractor to employ the services of a registered Fire Protection Engineer (FPE) for the design of the A2HC Conversion.**
5. **Paragraph 3.9: Communications - Clarifies to indicate Customer follow-on equipment purchases.**

**Performance Work Statement (PWS)**

**Convert a Closed Hospital into a Temporary Alternate Care Site (ACS)**

**COVID Acute**

**04 April, 2020**

**Target Audience:** NFPA 99 Category 2 “Plus” Patient Space, which is defined as NFPA 99 Category 2 (General Care) “activities, systems, or equipment whose failure is likely to cause minor injury of patients, staff, or visitors” (NFPA 99 para. 4.1.2) plus additional NFPA 99 Category 1 provisions (Critical Care - risk of major injury or death) as relates to the specific needs of a COVID-positive patient on a ventilator (NFPA 99 para. 4.1.1).

*\*USACE: Italicized fonts within this PWS are for directions or recommendations unique to the Government. They generally precede or follow bracketed sections or statements of the PWS. These bracketed sections can be left remaining in the PWS, or removed depending on the site specific conditions and needs. Please remove all brackets and italicized font before issuing to the Contractor.*

**1.      GENERAL**

This PWS provides minimum criteria for “sufficiency of care” to provide a rapid response to the expected need, therefore, it is critical that local authorities and/or Area Fire Marshall are involved in the development of the design and acceptance of this site.

The Contractor shall retrofit the selected space into an Alternate Care Site (ACS) **to serve acutecare (COVID-19) patients**. The Contractor shall provide all necessary labor, materials, and equipment in order to reenergize /rehabilitate to meet or exceed the requirements of an Alternate Care Site in order to achieve a “sufficiency of care” model meeting critical elements of healthcare for an infectious COVID-19 patient. Category 2 Plus is defined by the NFPA 99 to mean Category 2 as “activities, systems, or equipment whose failure is likely to cause minor injury of patients, staff, or visitors” (NFPA 99 para. 4.1.2) plus additional NFPA 99 Category 1 provisions (Critical Care - risk of major injury or death) as relates to the specific needs of a COVID-positive patient on a ventilator (NFPA 99 para. 4.1.1).  The hospital has an existing Intensive Care Unit which needs to befunctional. Current hospital layouts provide the opportunity for the other single patient rooms with negative pressure isolation to meet infection control requirements and additional requirements for use for COVID patients that require ventilator support. Existing hospital infrastructure has many built-in fire protection and life safety safeguards. The existing emergency duty generators shall be tested along with essential power circuits to ensure patient safety due to the heavy reliance on ventilators and patient telemetry. Communications systems will be reconnected to ensure redundant telephone and internet access. Challenges will be mostly logistical as this ACS will need to be fully outfitted and may need to be supported by a nearby full service hospital to provide logistics, materials, and waste management support and nutrition care.

**2.      FUNCTIONAL REQUIREMENTS**

**2.1 Concept of Operations**

**This Alternate Care Site (ACS) will act as a temporary Acute-Care service hospital**. The local hospital, healthcare organization, FEMA, or others will provide the logistics, materials and waste management support, nutrition care etc.  All dirty and clean supplies would be processed on site. Clinicians will utilize existing bathroom sinks for hand washing. Family visitation capabilities will not be provided. Patient beds would be reinstalled into the existing hospital rooms. Building shall be free of asbestos, lead paint and mold.

Security measures shall be assessed and provided with perimeter fence, site access control, door access control and security guards.  Security guards shall be a service contract with local security company procured by the Contractor for the duration of this project.

Patients will be transported to the site via ambulance from local hospital or clinic.  No walk in patients are allowed. Labor and delivery rooms will not be utilized and will be physically secured prior to occupancy.

**3.0 The following are the anticipated site modifications required to make the hospital fully operational.**

The Contractor shall provide all necessary labor, equipment and materials in order to provide the following equipment, materials, and services in accordance with this PWS and all applicable guidance, codes, and regulations. This scope applies to all areas of the site designated for patient or staff use as an ACS and all systems and equipment which support those areas.

**3.1 Architecture**

The finishes throughout the site (floors, walls, doors, ceilings, etc.) must be inspected, repaired or replaced as necessary for a clean and aseptic environment.

Building Envelope: Exterior walls, windows, curtain wall systems, entrances, roof, parapets, joints, sealants, etc. must be inspected, repaired or replaced as necessary in order to maintain the integrity of the building envelope.

 All doors, hardware and function must be inspected, repaired or components replaced as necessary for proper operation, ingress and egress for the site.

Wayfinding, signage as well as interim life safety measures must be implemented and integrated into the site based on areas occupied to those that are not occupied. Travel distances, dead end corridors and other life safety measures must be adhered.

Seal utility penetrations with appropriate fire rated materials between each patient room and the corridor to achieve the required negative pressure.

**3.2 Life Safety**

The Fire Protection Engineer qualification: The contractor shall provide the services of a qualified registered fire protection engineer. A qualified registered fire protection engineer shall be a registered professional engineer (P.E.) who has passed the National Council of Examiners for Engineering and Surveys (NCEE) fire protection engineering written examination and has relevant fire protection engineering experience. The fire protection engineer shall be an integral part of the design team and shall be involved in all aspects of the design of the fire protection system. The Fire Protection Engineer of Record shall witness all final tests for the fire protection systems. The contractor FPE shall perform Fire Protection and Life Safety Code Review and submit life safety plan to the City Fire Marshall for review, acceptance, and coordination.

 The existing elevators will be tested repaired and certified by all local/state/federal codes and regulations. The Contractor shall validate elevator(s) in order to confirm that an ambulance stretcher and/or patient bed could be accommodated.

The existing fire suppression system will be tested and re-certified per all local/state/federal requirements. Such as NFPA Standards 13, 20, and 25. The fire suppression system shall be fully operational and work in conjunction with all life safety alarm systems.

All existing fire extinguishers will be repaired, tested, certified and/or replaced. Provide additional fire extinguishers as required by local, state and federal code. Such as NFPA 10.

Existing security systems shall be assessed, repaired and re-activated. This includes all video surveillance, intrusion detection, intrusion control, fire detection and alarms, and any building automation systems. Such as NFPA 72 for interior fire alarm systems.

Physical security such as perimeter fencing, site access control, door access control and security guards will be inspected, repaired and fully functional.  [24/7 Security guards shall be a service contract with local security company procured by the Contractor for the duration of this project.]

Existing phone systems, including any support functions such as voicemail, PA and other functions shall be tested and activated. All four feeds to the building shall be active to ensure redundant communication systems.

**3.3 Cleaning**

Prior to patient occupation, the contractor shall provide terminal cleaning to the entire site. Ongoing cleaning, after turnover will be by others.

**3.4 Medical Equipment**

Medical equipment initial outfitting is to be provided by others. Existing equipment may be reused after it is inspected, tested and verified as suitable for use. Existing equipment not reused should be labeled as “Not in Service” to avoid inadvertent use.

**3.5 Mechanical**

Existing HVAC systems shall be tested adjusted balanced (TAB) to provide negative pressure and space conditioning for each patient room to meet ASHRAE 170 requirements of 0.01 inches water column. Methods to achieve room pressurization include increasing the exhaust or return air to each room and/or increasing corridor supply air. Validate/TAB and repair the HVAC system to ensure that all other supporting clinical spaces (e.g. clean utility, soiled linens etc.) are meeting their original design space pressurization and conditioning requirements. The intent is to utilize every patient room for acute care (patients potentially on ventilators).

All HVAC central equipment (air handlers, boilers, chillers, cooling towers, water treatment) will inspected, repaired and retro-commissioned for operation in accordance with the design sequence of operations.

Contractor shall replace all central station air filters utilizing MERV 7 pre-filters and MERV 14 final filters where existing frames will accommodate. For any AHU’s which recirculate air from the patient care spaces, retrofit HEPA filters as feasible or operate with maximum outside air.

All testing, adjusting and balancing shall be performed by a qualified HVAC specialist and a certified and accredited TAB specialist.

The Contractor shall provide ball-in-wall style visual negative pressure indicators (mechanical) at each room.

Fuel systems supporting the generators shall be inspected and fuel tested for quality. Poor quality fuel shall either be filtered and polished or removed and replaced.

**3.6 Electrical**

The existing emergency duty generators shall be tested along with essential power circuits that serve the areas to be used to ensure patient safety due to the heavy reliance on ventilators and patient telemetry. Electrical panels and circuits supporting mechanical equipment or equipment in place related to patient rooms shall be inspected and tested. Contractor shall correct deficiencies.

Clean and inspect light fixtures in patient rooms and areas supporting patient rooms, including related utility spaces. Replace defective lamps or associated features to restore normal operation with materials in kind.

Provide a minimum of 4 receptacles for each category 2 patient bed, connected to critical power, in order to meet NFPA 70 articles 517.18A and 517.18B.

Confirm and correct wiring for category 2 patient care beds to provide redundant grounding and for distribution panels serving patient care spaces to have ground busses interconnected, in order to meet NFPA 70 articles 517.13A and 517.14.

Provide electrical connections to mechanical or equipment in place provided under this PWS.

Conform to NFPA 70 and 99.

**3.7 Plumbing / Medical Gas**

The Contractor shall inspect, test and repair the existing domestic hot and cold water system and hot water return to validate that it is functioning as designed in regards to supply and return temperatures and any scald prevention devices.

The Contractor shall flush all fixtures (hot and cold) and then perform potability/bacteriological testing per State requirements at distal sites (minimum 1 test at the end of each wing, 4 per floor). If any bacteriological test fails, Contractor shall perform a chemical disinfection/flushing of the existing domestic water system flushing all distal points and retest as needed.

Contractor shall test all water treatment systems and replenish/replace media to ensure operability.

Medical Air and Oxygen systems and all associated alarms should be inspected, repaired and the systems re-verified by an ASSE 6030 Verifier in accordance with the NFPA 99 version applicable at the time of the design, including a piping purge, standing pressure test, cross-connection test, alarm test, and piping particulate test. All other medical gas systems inlets and outlets, equipment and alarm panels related to systems not being re-activated must be labelled as “out of service”.

**3.8 Fire Protection / Life Safety**

Additional nurse stations may be required to provide a direct line of sight of the patients by the nursing staff to minimize staff travel distances and increase efficiency during emergencies. Where a direct line of sight cannot be maintained, a smoke alarm must be provided within the in-patient room.

Hazardous areas shall be separated from adjacent areas via 1- hour fire resistance rating and provided with a ¾ hour fire rated door. i.e. central/bulk laundries larger than 100 square feet, pharmacy, rooms with soiled linen in volumes exceeding 64 gallons, storage rooms larger than 100 square feet and storing combustible material, rooms with collected trash in volume exceeding 64 gallons, and laboratories employing flammable and combustible materials in that would be classified as severe hazard.

Medical gas storage rooms shall comply with NFPA 99.

The Contractor shall provide and install emergency lighting in areas which patients would require the use of life support systems.

The local authorities and/or Area Fire Marshall shall be involved in the recertification and acceptance of this site.

**3.9 Communications**

The Contractor shall utilize existing site systems to the greatest extent practical. Reinstalling systems such as building automation, nurse call, etc., is not practical under time constraints. Work with system vendors to repair patient rooms working with the contracting officer. Utilize broadband capabilities for clinicians to VPN into their regional center for health record accessibility and other needs. This VPN connection will enable leveraging the main hospital's cybersecurity posture. Beds intended for acute patients outside immediate line of site from the nursing stations shall provide [wired/wireless] camera infrastructure if identified lacking from the site survey. Patient cameras shall display in real time (not recorded) at the nursing stations.

If another regional hospital cannot support the influx of additional patient records then off the self, cloud based electronic health records should be considered to expedite schedule compared to fitting out the previous server room.

**4. Schedule**

The Contractor shall submit a schedule to the Government within 24 hours of Notice-To-Proceed (NTP).

**5. Phased Construction and Patient Occupancy**

The State of [XXXX] is pro-actively expanding capacity healthcare to meet projected needs. Contractor may be asked to develop and execute a phased construction plan that would allow partial occupancy to meet the demand. For instance, a floor is ready to receive patients, while construction continues on other floors.

**6. References**

Site Assessment Reports - Include partial as-built drawings.