**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 4.0: Mechanical – Changes the first sentence to: “The Contractor shall validate, adjust, test, and balance the existing site HVAC systems to ensure patient comfort considering the additional head load from people and equipment.”**
4. **Paragraph 7.0: 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 8.0 – Communications: Clarifies to indicate Customer follow-on equipment purchases.**

**Performance Work Statement (PWS)**

**Convert a Convention Center into a Temporary Alternate Care Site (ACS)**

**Non-COVID Non-Acute**

**04 April, 2020**

**Target Audience:** NFPA 99 Category 3 Patient, which is defined as patient care “activities in which the failure of equipment or a system is not likely to cause injury to patients, staff, or visitors but can cause discomfort” (NFPA 99 para. 4.1.3).

*\*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 Marshal 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) t**o serve ambulatory, non-COVID-19 patients.** This effort is to provide an Alternate Care Site meeting basic healthcare functions with an emphasis on patient care, infection control, fire protection, and life safety. Advantages to the user of this space are greater patient density enabling a reduction in healthcare workers and faster construction time as well as greater use of prefabricated construction (e.g. Portable Bathroom Trailers, conex for support service spaces etc.). The ACS shall serve as a satellite patient ward supported by a nearby full service hospital.

[The Contractor shall be responsible for the demobilization and removal/disposal of all facilities and equipment upon completion of this work and the restoration of the permanent site as necessary in order to return it to its original state.] – *This can be edited, removed, or included as contract and site lease agreements dictate.*

**2. FUNCTIONAL REQUIREMENTS**

**Concept of Operations**

The space shall serve as an Alternate Care Site (ACS) serving ambulatory, non-COVID-19 with semi-private beds segregated by temporary partitions. Patients are considered to be NFPA 99 Category 3, which is defined as patient care “activities in which the failure of equipment or a system is not likely to cause injury to patients, staff, or visitors but can cause discomfort” (NFPA 99 para. 4.1.3). The full service hospital would provide the logistics, materials and waste management support, nutrition care etc. All dirty and clean supplies would be transported to/from the full service hospital. The Contractor shall divide the space into “zones” as such: Zone 1 - Utility zone at perimeter, Zone 2 – Support at Perimeter**,** Zone 3 – (Center) – Patient Care Area. The Contractor shall provide all temporary facilities in order to execute a fully functional ACS within the convention center space. This includes, but is not limited to, toilets, showers, medical waste, pharmacy, general waste, & hand-washing facilities.

**Site Modifications Required**

The following are the anticipated site modifications needed to convert an enclosed open space (e.g. convention center) to an ACS. Site selection should be based on confirming the critical technical features to achieve minimum life safety and infection control standards.

The Contractor shall provide all necessary labor, materials, and equipment to provide the following equipment and temporary/portable facilities in order to convert the selected space into an ACS:

Patient areas/bays segregated by temporary partitions with an orientation that will maximize patient density while maintaining patient comfort, semi-privacy, and life safety requirements. Minimum area per patient space is 10 feet wide x 10 feet deep (approximately 100 square feet) to accommodate patient beds and necessary medical and non-medical equipment. Patient bays can consist of 6, 8, 10, or more beds. The patient care module may consist of 8 or more bays to a maximum allowable boundary/perimeter meeting smoke compartment limitations per NFPA 101. The Contractor shall provide, install, and maintain full-height perimeter walls (9 feet tall) around the module and half-height interior walls (4’ high) to divide each bay. Wall materials shall be non-combustible or limited combustible. Wall and ceiling finishes for room/pods constructed on-site or with solid surfaces shall have a Class A rating. Individual patient spaces/partitions may be prefabricated, constructed on site, or variations of as long as they conform to the non-combustible and patient ingress/egress requirements presented herein.

Temporary/Portable Facilities to Support Patients & Medical Staff:

Hand washing sinks should be provided within patient areas for hand-washing:  The Contractor shall provide 1 sink per 3 bays. Temporary/portable hand-washing station shall have the ability to maintain hot water in accordance with all applicable codes/requirements. The Contractor shall either utilize the site’s potable water/wastewater utilities and tap into these utilities where practicable OR provide the services to provide potable water and wastewater disposal services at a rate of 15 L/per day per Patient & Caregiver. Temporary/portable structures shall be comprised of non-combustible materials and shop drawings/product data sheets shall be submitted to the Government for review and approval.

Temporary/portable bathrooms: The Contractor shall provide and install temporary/portable toilets with sinks to be located inside the space in close proximity to the patient areas. The number of toilets shall be 1 per 20 people and ADA compliance is required. The total number of temporary/portable units is based on the Contractor’s selection per the International Plumbing Code (IPC) with respect to the design/construction of the individual units (i.e. 2 toilets/sink per trailer, etc.). These temporary/portable facilities shall be tied into the existing potable/wastewater utilities where practicable. If this is not practicable, then the Contractor shall provide the services to maintain adequate potable water and waste disposal services for the duration of this requirement.

Temporary/Portable Showers: The Contractor shall provide and install temporary/portable showers to be located inside the space in close proximity to the patient areas. The total quantity of individual showers shall be based on a need of 3 people per hour for 24 hours and ADA compliance is required per IPC. The total number of temporary/portable units (i.e. 4 showers per trailer/conex, etc.) is based on the Contractor’s selection of the design/construction of the individual units.

*\*Note – The following paragraphs may need to be edited contingent on the agreement with the supporting medical care facilities for the operation of laundry/linens/medical waste/general waste. They may be supported by the site and their existing service contracts OR operated by the Contractor.*

[Temporary/Portable Laundry: The Contractor shall provide and install temporary/portable laundry facilities to be located inside the space in close proximity to the patient areas. Laundry facilities shall include automatic washer & dryer (separate or two-in-one style units) and be able to service 2 sets of clothes per day for all patients and caregivers. Water & wastewater shall be tied into the site’s existing potable and sewer utilities where practicable. If not practicable, the Contractor shall provide services for potable water provision and wastewater disposal as necessary to allow for full functionally as described above.

Temporary/Portable Soiled Linen Storage: The Contractor shall provide/install temporary/portable soiled linen storage to be located inside the space in close proximity to the patient areas. Storage facilities shall be considered hazardous areas per NFPA 101. Provisions shall be provided for protection.

Temporary/Portable Medical Gas (Med Gas): The Contractor shall provide and install temporary medical gas storage and use facilities to support the patient areas. Temporary/portable structure shall be fabricated from non-combustible materials and conform to all applicable local/state/federal transportation and utilization criteria and laws. Medical gases required for this ACS will be: Oxygen (O2). Med gas storage facilities shall be considered hazardous areas per NFPA 101. Provisions shall be provided for protection based on quantity. Separation of full / empty tanks with appropriate signage, tank restraints or holding container per code.

Temporary/Portable Ice Machines: The Contractor shall provide and install temporary/portable ice machines in order to provide ice at a rate of 5 lbs./day per patient, not to exceed 3,100 lbs./day. The Contractor shall tie the temporary/portable ice machine into the site potable water utility where practicable. If not practicable, the Contractor shall supply the ice machine with potable water in order to fulfill the requirements above.

Temporary/Portable Medical Waste: The Contractor shall provide and install temporary/portable medical waste facilities for the collection, storage, and removal of medical waste generated by this ACS. Medical waste storage facilities shall be considered hazardous areas per NFPA 101. Provisions shall be provided for protection.

Temporary/Portable General Waste: The Contractor shall provide and install general waste facilities for the collection, storage, and removal of all general waste generated by this ACS.]

All temporary/portable facilities listed above can be, but are not limited to, prefabricated units (“off the shelf”), “conex”-type units converted for the uses required above, custom-build units for the applications required above, or a combination thereof. The units shall be fire-rated and comprised of sturdy, non-combustible, washable, materials that can be maintained and disinfected.

Nurse’s Stations: The Contractor shall provide and install nurse’s stations that can be fully equipped (by others) to accept all required equipment and materials for full-functionality of a typical primary-care site Nurses Station.

**3.0 Architectural**

The Contractor shall, prior to mobilization and execution of the facilities and units described above, place rubber, sheet vinyl, or other acceptable material that has the ability to be seamless (welded seams or other method of achievement) as the flooring for the entire space, including temporary/portable support facilities. The proposed flooring material shall be washable and cleanable while maintaining a safe, non-slip surface.

The Contractor shall provide a patient area that conforms to life safety criteria. Arrangement could be multiple bay areas on both sides of a race track style center core with nurse station(s) and support spaces such as clean/soiled linen, equipment storage and other necessary ancillary spaces to support patient care for module/zone. The Contractor shall propose a layout that maximizes patient density while maintain ingress/egress requirements, life safety code requirements, patient access and visibility requirements, and ensures temporary/portable support facilities can be maintained in close proximity to the patient zone. The minimum corridor/walkway widths shall be 4 feet. These patient care modules can be aligned/ stacked/ arranged in rows or larger groupings to create multiple and larger capacity patient care. Each patient area or “block” shall contain beds, storage/supplies, equipment and circulation – carts, equipment, hand-washing station and staff work areas.

**4.0 Mechanical**

The Contractor shall validate, adjust, test, and balance the existing site HVAC systems to ensure patient comfort considering the additional head load from people and equipment. Space temperature requirements are 68 deg. F winter and 75 deg. F, maximum 60% relative humidity summer. This shall be performed by qualified HVAC specialist and a certified and accredited TAB specialist. The Contractor shall provide mechanical exhaust in order to route any shower, toilet, dirty utility and laundry, and other applicable temporary/portable support site exhausted to the exterior or exhaust system.

**5.0 Electrical**

The Contractor shall provide and install the electrical system for the period of performance. The Contractor shall provide an NFPA 110, type 10, level 1, emergency generator on a flatbed or on pad with skid mounted tank. Contractor to provide fuel supply in order to maintain continuous operation of generator for 24 hours before refueling. Contractor must meet state and local fuel containment requirements. The Contractor shall provide exterior switch board with automatic transfer switches; and connect switch board to generator power and site normal power to create an NFPA 99, chapter 6, type 2, essential electrical system. If the site does not have normal power, normal power has insufficient capacity, or normal power does not have the required versatility; upgrade normal power as required, including the service transformer and medium voltage service to the transformer. Depending upon existing, a separate normal power switch board may be required. The Contractor shall comply with all municipal codes, including NFPA 70, 99, and 110. The electrical system must be installed to operate for the duration of the emergency and may be installed under NFPA 70 article 590, Temporary Installations, if code compliant. The generator may be configured as a second service as allowed by NFPA 70 article 230.2A, for “special conditions”.

If the existing site is an NFPA 101 assembly occupancy, for example an arena, it should have an existing emergency generator supplying NFPA 101 emergency lighting and NFPA 70 alarm and alerting systems. If this system qualifies as part of the life safety branch, it may remain as is. If the site does not have a life safety branch, or if the branch is insufficient to connect new loads, the branch must be provided as part of the essential electrical system within the site with panels located as needed. Confirm and or connect all life safety loads to life safety branch panels.

The Contractor shall provide two power distribution panels in each patient area block, to supply patient beds in accordance with NFPA 70 article 517.18A. One shall be connected to building normal power, which is the normal branch. One shall be connected to the second generator switch board, which is the equipment branch. Panels shall be keyed to limit access. Provide a connection between ground busses in the two panels serving patient care areas, as required by NFPA 70 article 517.14.

Provide a dedicated circuit to each NFPA 99, category 3, basic care patient bed from a normal power branch panel and install 4 receptacles at the bed. Provide a task light (300 lux) and night light at each patient bed connected to an equipment power branch panel.

Type of light fixture and mounting depends on location, e.g. temporary structure, open bay beds against wall, free standing nurse station open to super-structure.

All other temporary and or portable facilities and or containers shall be provided with power and lighting. Free standing personnel stations, which are illuminated from the super-structure above, must be provided with task lights and receptacles. Provide nurse stations with task lights (700 lux) and receptacles circuited to equipment branch. Provide medication and laboratory with task lights (1100 lux) and receptacles connected to equipment branch. Showers and toilets shall be provided with general illumination connected to normal power, and with task lights connected to equipment branch. Temporary structures shall have lighting in hallway corridors and fixtures at exterior entrances connected to the equipment branch, except emergency lighting circuited to life safety. Connect laundry, if provided, to normal power.

Provide electrical connections to equipment in place and mechanical equipment, including heating and cooling equipment and isolation exhaust AHU’s. Connect isolation exhaust AHU’s to the equipment branch. Connect other mechanical equipment to normal power.

Provide connection to life safety branch for fire detection and alarm system, emergency lighting, and other alarm and alerting systems. If a fire pump is required for the sprinkler system, it shall be provided with its own listed controller.

Receptacles shall be duplex 20 ampere. Minimum size #12 branch circuits. No more than 6 receptacles in patient care areas shall be connected to a single circuit. Light fixtures shall be 90 CRI minimum. Illumination levels shall comply with IESNA unless more stringent levels are specified herein. Egress and emergency illumination shall be provided as required by NFPA 101. Provide independent switching for general, task, examination, and night lights.

Temporary power plan. The Contractor shall prepare a Temporary Power Plan, before beginning work, and make the plan available to the Government. Contractor is responsible for design, selection, and sizing of equipment to meet this PWS and municipal codes. Contractor shall prepare drawing(s) showing locations of all new equipment, connections to existing equipment, one-line diagrams with sizes, supporting calculations, and proposed installation methods for wiring and equipment.

**6.0 Plumbing / Medical Gas**

The Contractor shall provide and install water and sanitary services to serve the temporary/portable facilities as required and in accordance with the International Plumbing Code. Provide piped sanitary vent to the exterior. Provide sanitary collection tanks and lift stations as needed to automatically pump waste to a sanitary sewer connection in order to avoid the need for gravity drainage, enabling routing of utilities without obstructing egress areas.

Medical gases shall be bottled only stored in hazardous storage areas to be provided by Contractor. Patient medical gas demand is estimated at 8,600 liters per patient per day.

**7.0 Fire Protection / 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.

This is a conceptual design, therefore, it is critical that local authorities and/or Area Fire Marshal must be involved in the development of the final design and acceptance of this site.

The following items must be coordinated with the local authorities and/ or Area Fire Marshal prior to acceptance of this site.

• Provide a Fire Safety Plan in compliance with NFPA 101 or with local/State/Federal Regulations for each site.

• Dedicated fire watch must be provided 24/7 on-site. This fire watch person cannot be part of the medical staff.

• Medical staff and fire watch personal must be trained to the Fire Safety Plan.

• Fire department Operations

A life safety plan shall be provided prior to the beginning of work for review and approval by the Area Fire Marshall.

Fire extinguishers shall be provided in circulation corridors throughout the arena floor area IAW NFPA 10.

Manual fire alarm stations shall be extended into the arena floor area and located near nurses stations IAW NFPA 101.

Provide 120 Vac smoke alarms within each hazardous room.

Circulation corridors shall be constructed and maintained to allow egress and circulation of patients. Equipment cannot block or inhibit egress.

Not less than two exits shall be accessible from patient areas, and egress shall be permitted through adjacent patient areas modules, provided that the two required egress paths are arranged so that both do not pass through the same adjacent modules. Marking of means of egress shall be provided IAW NFPA 101.Dead ends are prohibited.

Travel distances from patient areas shall not exceed the requirements of NFPA 101.

Nurse’s station shall be arranged to provide a direct line of sight of the patients and minimize staff travel distances and increase efficiency during code emergencies.

All plastic and tent fabric materials shall meet the flame propagations performance criteria contained in NFPA 701.

Hazardous areas shall be separated from adjacent areas via 1 hour fire barrier and provided with ¾ hour fire rated doors and the room shall be less than 100 square feet.( i.e. central/bulk laundries, soiled linen, pharmacy, and bio-hazard waste.

Medical gas storage shall comply with NFPA 99.

**8.0 Communications**

Utilize existing 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. Existing outside plant cabling shall consist of 12 strand fiber optic cabling upgradable to at least 1 Gbps otherwise it shall be provided as part of the contract.

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.

The open space will require enhanced wired/wireless communications on the newly established clinical spaces. At least two lockable, breathable cabinets house PoE switches connecting to Wireless Access Points into existing power and data. Two RU, 48 port patch panels shall be provided to terminate ports from telecommunication outlets, WAPs, RTLS, VOIP phones and other devices. Additional cabinets are required per design for larger open spaces to meet actual port counts.

The contractor shall provide infrastructure (conduit, cabling, cable trays, and termination boxes) for DAS, WAP for facilities where coverage is lacking. Contractor shall provide a heat map indicating total coverage of the clinical space based upon manufactures recommendations. Otherwise, assume WAP placement for every 500 sq ft.

The contractor shall provide a nurse call tone visual (NCTV) system with basic functions at each patient location and in bathrooms stalls. The NCTV system shall allow each patient to communicate with/signal to the nurse’s station and allows the nurse’s station to identify the specific patient/location of the call. The NCTV system shall be UL 1069 listed.

The contractor shall provide VOIP telephones at each nurse work station and a fully populated Cat6A, RJ-45, 4 port telecommunication outlet. The Contractor shall install Cat6A, RJ-45, 4 port telecommunication outlet immediately adjacent to all patient bed locations. All ports will be terminated and ran back to the telecommunication cabinet patch panels. All category cabling shall be physically protected within conduit and/or cable trays.

**9.0 Schedule**

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