COVID & CONSTRUCTION: WHAT HAS CHANGED AND WHAT'S TO COME?

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> Andy Briggs, Senior Vice President, Managing Partner & Clancy Cipkala, Senior Managing Partner, President & CEO Solara Hospitality

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An aerial view of patient care units under construction inside the Jacob K. Javits Convention Center in New York City. Credit: USACE. **he novel coronavirus (COVID-19)** surprised everyone, especially our nation's hospital systems. Hospitals throughout the United States, especially in the state of New York, were overwhelmed with patients with coronavirus symptoms and could not provide them beds.

During the stretch run of the virus at the beginning of the year, Tara Clampett, a registered nurse in the Intensive Care Unit at Long Island Community Hospital, said the facility was inundated. "A majority of them are going into respiratory distress and are being intubated. Even if they get stable, many aren't stable enough to leave."

Clampett said that with many coronavirus patients coming to the hospital, there was less space for patients with other health conditions, so less attention could be given to their health issues.

The hospital did all it could do to create more patient space, but it was stretched to its limits. To relieve the burden New York area hospitals, the US Army Corps of Engineers, New York District, collaborated with other agencies to convert existing buildings into alternate care facilities to provide hospitals extra space to care for coronavirus and non-coronavirus patients.

"What the Army Corps is doing is making me hopeful," Clampett said. "We are overwhelmed and we can use all the help we can get."

The US Army Corps of Engineers performed the work as part of a national Federal Emergency Management Agency mission. The Army Corps is working in collaboration with FEMA, Department of Defense, and other federal, state and local partners.

In New York State, this work is considered especially critical. The state, primarily New York City, was considered the nation's epicenter. There were more virus cases and deaths in the state than anywhere else in the country. To accommodate all of these cases, it is estimated that New York needed more than 100,000 hospital beds for COVID-19 patients, compared to the state's current capacity of 53,000 beds.

To help state hospitals deal with this, Army Corps' New York District volunteers worked 24 hours a day, seven days a week. They sought locating existing buildings that could be converted into alternate care facilities, and designed and constructed them.

Four key locations served as these alternative care facilities, including the Jacob K. Javits Convention Center in New York City; Westchester County Center in White Plains; Stony Brook University in Stony Brook, and the State University of New York in Old Westbury.

Jacob K. Javits Convention Center, New York City

The first alternate care facility to be constructed—and completed in one week—was the Jacob K. Javits Convention Center, located in midtown New York City. The center is a well-known location for expos and business events. The center's 1,800,000-square-feet seemed like an optimum location for an alternate care facility.

The Army Corps converted the center's multiple floors of space into an alternate care facility, providing beds for more than 2,500 coronavirus and non-coronavirus patients. The facility was designed and constructed to resemble a hospital setting. There were rows of individual patient care units or rooms that included beds, privacy curtains, medical supplies and equipment. In addition, there was overhead lighting, restrooms, showers, nursing stations, food service and a computer station, powered by multiple generators.

While touring the center, Chief of Engineers Lt. Gen. Todd T. Semonite said that in order to quickly and efficiently get these centers up and running for a peak in coronavirus cases, a "super simple solution" had to be applied. He said the Javits Center's design served as the model for other care facilities being constructed throughout the nation.

Charles Paray, Lead Architect, New York District, US Army Corps of Engineers, volunteered to work on Jacob Javits and the other alternate care locations because he thought he could help make a difference.



Workers prepare the flooring inside a climate-controlled tent under construction that will serve as an alternate care facility at the State University of New York at Stony Brook, New York. Credit: Michael Embrich, Public Affairs.

Westchester County Convention Center, White Plains

The center is known for its large gatherings for basketball tournaments and live shows. The Army Corps converted 60,0000 squarefeet of the center into an alternate care facility, providing 110 beds for COVID-19 patients.

Fifty-four of the beds were located inside the center, while 56 were located in a temporary tent structure located in the center's parking lot across from the center. Both areas were designed and constructed to resemble a hospital setting. There were rows of individual patient care units or rooms that included beds, privacy walls, medical supplies and equipment. Each of the rooms were equipped to provide oxygen/medical gas for patients.

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In addition, there was overhead lighting, restrooms, showers, nursing stations, food service and a computer station, powered by multiple generators. The facility also was equipped with an isolation exhaust fan with HEPA filtration located outside of the facility, so that contaminated exhaust air within the facility was discharged to outside the facility.

"I worked on the Westchester Center because I wanted to help to provide additional hospital space for nurses and doctors to take care of our neighbors who have been diagnosed with the coronavirus," said Patrick Nejand, Quality Assurance Representative, New York District, US Army Corps of Engineers.

Stony Brook University, Stony Brook

The Army Corps converted 255,676-square-feet of the university's campus to provide care for 1,028 non-coronavirus patients and low acuity coronavirus patients. They built five climate-controlled tents on an open field on the campus grounds.

The inside resembled a hospital setting, with rows of individual patient care units or rooms that included beds, privacy walls, medical supplies and equipment.

In addition, there was overhead lighting, restrooms, showers, nursing stations, food service and a computer station, powered

To help New York State hospitals deal with this, Army Corps' New York District volunteers worked 24 hours a day, seven days a week.



Kevin McGann, New York City resident with Coronavirus symptoms. Credit. Kevin McGann.



In front of the Westchester County Center where an alternate care facility is taking shape. Credit: USACE.

by multiple generators. "New York is the epicenter of the COVID-19 Pandemic in the nation and that is why we worked diligently and swiftly to complete four alternate care facilities in New York," said Col. Thomas Asbery, Commander, New York District.

"I am honored and humbled to have led this team of experts and professionals who set the standard for the emergency response to this public health crisis," Asbery said. "What we did in New York is historic and unprecedented and will be carried out many times over nationwide."

Nonetheless, there was much work to do as they supported FEMA, New York State and its local partners and stakeholders across New York. The US Army Corps of Engineers continue to work tirelessly at all levels to help the American people recover.

Anthony Ciorra, Mission Manager, New York District, US Army Corps of Engineers, who worked on the Stony Brook Alternate Care Center, said his brother had contracted the coronavirus in March and became very sick.

"He developed pneumonia and was admitted to a hospital for 10 days," Ciorra said. "This is an unprecedented time in all our lives and I wanted do my small part in making a difference in a monumental effort to fight this virus."

State University of New York at Old Westbury

At the university, the Army Corps provided beds for 1,024 coronavirus and non-coronavirus patients. They built four climate-controlled tents in a large expanse of athletic fields and another unit in a gymnasium. The tents also resembled a hospital setting, including rows of individual patient care units or rooms that included beds, privacy walls, medical supplies and equipment.

In addition, there were overhead lighting, restrooms, showers, nursing stations, food service, a computer station, powered by multiple generators and overhead cameras to enable medical staff to monitor patients.

"You do whatever needs to be done to prepare for the possible onslaught of patients."

 New York City resident Kevin McGann, who was hospitalized in an alternative facility after contracting the virus

William Maher, Mission Manager, New York District, US Army Corps of Engineers, who worked on the State University of New York at Old Westbury Alternate Care Center, said they had to work diligently to meet the challenge of building a high-quality, patient care facility in a very short period of time.

Army Corps personnel are used to volunteering for national missions. Nejand volunteered for recovery operations for Hurricane Sandy and 9-11. "During missions, I'm always impressed with the Army Corps ability to quickly mobilize personnel with local knowledge with technical experts nationwide to provide comprehensive response with methods to maintain accountability of all costs and scheduled completions."



One of four climate-controlled temporary hospital units being con-structed on the athletic fields at the State University of New York at Old Westbury, New York. Credit: James D'Ambrosio, Public Affairs.



Tara Clampett, Intensive Care Unit (ICU), Registered Nurse with Long Island Community Hospital. Credit. Tara Clampett.

These volunteers give more than just their time for these missions. "A lot of people are putting not only their lives on the line, but the lives of their love ones at risk to get this mission executed," Paray said.

As the state worked through the glut of cases impacting every healthcare system, the alternate care facilities served as complementary and vital structures, helping lesson some of the burden on their medical staff. "Based on all of the numbers that came out of New York State's Governor Cuomo's daily briefings, I supported the Army Corps mission 100%," said Kevin McGann, who had been hospitalized with coronavirus symptoms.

The 49-year-old New York City resident said the tents, converted dormitories and hotels were critical. "You do whatever needs to be done to prepare for the possible onslaught of patients. Worst case is we look back and realize we didn't need all of them, but it was better to have them than have to decide who lives and who dies." **FC**

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