

**CASE STUDY**

# Commissioning a \$1 Billion Correctional Facility for the State of Utah

Our firm served as the commissioning manager for the ground up design and construction of a 33-building correctional campus with a comprehensive array of supporting facilities and infrastructure, housing 3,600 inmates and providing more operational space for prison staff. This new campus project is the largest construction project ever undertaken by the State of Utah.



## Challenge

Built in 1951, the aging state prison facility in Draper, Utah, had developed maintenance issues with \$239 million in repairs and upgrades expected over the next 20 years. The state government decided the most economical long-term course of action was to construct a completely new facility, to be built on a 230-acre site near Salt Lake City.

In addition to driving long-term savings in maintenance and operations costs, this new facility includes room for expanded treatment offerings and evidence-based programming, modern safety features that protect inmates and guards alike, and advanced control systems to help drive energy savings.

## Project Stats

### Client

Utah Division of Facilities  
Construction and Management  
Utah Department of Corrections

### Location

Salt Lake City

# 1.36M

**SQUARE FEET OF  
BUILDING SPACE**

# 33

**BUILDINGS ON CAMPUS**

# \$1B

**TOTAL PROJECT COST**

This secure campus includes 1.3 million square feet of building space providing a broad array of support facilities and services including:

- 3,600 inmate beds
- 150,000+ square-foot medical and mental clinic
- Administration building
- Food service building/dining hall
- Offices
- Classrooms
- Digital/virtual hearing and medical consultation services
- Commercial kitchen facilities
- Industrial laundry
- Industry work areas/shops
- Communications, data center and electronic security rooms
- Warehouse and maintenance buildings

All of these elements were designed and constructed in accordance with the unique requirements of a corrections facility, including 24/7 high-density residential occupation, large ventilation loads, robust access control and riot/crowd control considerations. Each building requires readiness for different operational modes in case of either a security event where tear gas is required or a life-threatening emergency.

## Solution

The State of Utah selected our firm as the commissioning manager (CxM) for this project, with responsibility for developing, managing and overseeing the commissioning program through the design, construction, acceptance and occupancy phases of the new Utah State Correctional Facility.

Our team took charge of the commissioning process from the early design stages. With no existing facilities on-site, we maintained a continuous on-site presence to monitor progress of the design and construction from day one of groundbreaking. All required infrastructure was built from the ground up. Construction began with an extensive soil mitigation phase, with nearly 1 million cubic yards of fill materials deposited at this swampy site to compact the soil and raise the ground level immediately adjacent to the Great Salt Lake.

Our team assumed a hands-on role managing every aspect of the commissioning of the new campus, from conducting initial owner's project requirement (OPR) meetings to developing specifications, reviewing contractor submittals, designating acceptance criteria and assisting with facility operations/

maintenance training. Our team partnered with and managed the activities of four other local firms and over two dozen Cx contributors to accomplish the Cx scope of this project. All Cx work completed as part of this project was conducted in accordance with Utah's rigorous High Performance Building Standard, which exceeds the standard LEED Enhanced Commissioning Requirements.

In addition to managing the commissioning of all 33 buildings on campus, our team was responsible for directly performing the acceptance testing for the campus critical power systems, including a 12.5-kV central electrical substation, backed up with a 10-MW emergency power generation plant capable of powering the campus for 72 hours via on-site bulk fuel storage and an intricate power load shedding system. This acceptance testing included a final emergency power sitewide blackout and power load shed test with over 100 participants contributing more than 1,000 work hours to perform more than 5,000 lines of test.

Other vital on-site systems include:

- On-campus pumping stations with a 1.5 million-gallon domestic and fire water storage and distribution system
- Pressurized natural gas distribution
- A cooling water distribution loop
- Networking for security, data and communication networks
- Fire suppression systems

## Results

The new campus was completed and turned over to the Utah Department of Corrections (UDC) in July of 2022.

Now that the facility is open, occupied and under continuous operation, our team continues to monitor the campus systems using the digital analytics-based commissioning software SkySpark. This ongoing monitoring and commissioning effort allows facilities staff to identify and resolve issues before challenges become serious problems, helping to provide continuous successful facilities operation. The process is also instrumental in improving energy efficiency and identifying warranty issues that require correction by the design-build joint venture contractors, bringing further value to the state of Utah.

During the early occupancy phase, we are also assisting the UDC operations staff with integration of operations and maintenance (O&M) manual data with their eMaint asset management system. This generates long-term value for maintenance, budgeting and procurement.

“We feel the entire commissioning team provided significant quality assurance on behalf of the state and UDC and helped to greatly minimize the number of problems encountered after facility turnover,” said Steve Turley, director of the UDC Clinical Services Bureau. “The commissioning team remained attentive, responsive, flexible and success-oriented throughout this demanding undertaking and provided valuable assistance through the most challenging interruptions.”

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