

# Utah Construction & Design

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an example of stout growth in Utah County.

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UPS Facility a Precursor to Inland Port

# Massive 840,000 SF UPS Regional Hub

## a Precursor to SLC's Future Inland Port

By Brad Fullmer



The perimeter of the main building is more than 1.3 miles long with 25-ft. high tilt-up concrete panels. Crews placed an average of 40 panels a day during peak construction activity. The project is located in the heart of the proposed 'Inland Port', one of the more hotly debated future projects in the state currently in its infancy. (photos courtesy Layton Construction)

It might be apropos to say the design and construction team had to 'think outside the box' on the new \$275 million (\$80 million construction cost), 840,000 SF UPS Regional Hub facility at 380 South 6400 West in Salt Lake City – the firm's largest hub in the northwest, and one of the largest ever 'big box' projects to grace the Beehive State.

The project is a notable investment to the local economy by the international shipping behemoth, as it creates more than 1,500 jobs at this 160-acre site that will process some 69,000 packages – per hour(!) – within a facility that functions as one massive integrated machine, designed to streamline all aspects of the distribution process. The facility is a precursor – the first of what is likely to be many future projects in this area – for the northwest quadrant of Salt Lake, transforming it from a sheep/horse pasture into what will ultimately be an internationally recognized Inland Port, solidifying Utah's century-old claim as the 'Crossroads of the West' and strengthening its economic base.

Poor soil and groundwater conditions challenged contractors from the outset, who came up with a soils remediation plan that included 31,000 CY of grubbing, moving 270,000 CY of earth, and adding 802,000 tons of imported structural fill and compaction.

Tilt-up concrete panels are 25-feet high (clear height), and Layton crews placed more than 900,000 LF of concrete form edge and 34,000 CY total. Robinson Bros. Construction of Draper efficiently placed an average of 40 panels per day, with a one-day record of 50 panels.

The facility's central core parcel receiving building is connected to five outbound distribution buildings with a complex conveyance system. The system is operated and supported by a decentralized network of 32 independent office areas within the larger hub. Interwoven into the three-dimensional field of conveyors, these "buildings within the building" house a central automated hub control center, administrative offices, engineering and maintenance, locker rooms, etc. Interior office pods are stand-alone spaces that required their own footings and shear walls – essentially separate structures within the main building.

The concrete tilt panels form the perimeter gravity and lateral load resisting system; along building joints, buckling restrained braces also provide lateral resistance, with numerous stand-alone, cold-formed steel stud and joist buildings used in office spaces.

Hunt Electric of Salt Lake installed a 12mw substation for the facility's massive electrical requirements. During

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**David Anderson,**  
Principal, Babcock Design



preconstruction, Hunt’s survey team captured accurate underground as-builts to help pre-determine the best routes for laying conduit during the underground phase.

The perimeter of the building is approximately 1.3 miles, with the cumulative length of joists measuring an astonishing 23 miles. All joist and decking sections were pre-fabricated on the ground and lifted into place, improving schedule, safety and quality. Hunt also pre-installed interior and exterior wall conduit prior to tilt-up, which helped expedite the schedule.

“It was cool being part of a project of that size and scope, with such a tight schedule,” said Michael George, Project Manager for Layton. “The poor soil conditions were one of the hardest parts of the job. The subcontractors really stepped up.”

According to David Anderson, Principal-in-Charge for Salt Lake-based Babcock Design, design aesthetics operated on two scales. The Guard House and Customer Counter are the two ‘outward-facing’ buildings that interface with employees and the public, respectively. These components provide comfortable, inviting areas – collaborative spaces for people to talk/mingle – in addition to promoting the UPS brand >>



## UPS Regional Hub

through design, graphics and service.

On a larger scale, the brown and gold arcs abstracted from the iconic UPS logo adorn the end of each wing, visible from both the Interstate and on the flight path into the Salt Lake International Airport. The graphic termination to the otherwise crisp, white building wings has become a standard that UPS will incorporate on future projects.

Anderson said there were “numerous unique qualities about this project” including the design-build process that required phased permitting and close coordination between designers and contractors throughout.

“From the very beginning there was a unique and pervasive culture of problem seeking and problem solving,” said Anderson. “Every assumption was critically challenged and evaluated to see if there was a better solution – shorter construction times, lower cost, better functional value to UPS. That process of continuous improvement was initiated by UPS, and executed by the entire team.”

Construction was completed in late spring; the facility is expected to be fully operational in November. ■

### UPS Regional Hub/ Parcel Distribution Facility

**Location:** Salt Lake City

**Cost:** \$275 Million

(\$80 M construction cost)

**SF:** 840,000

**Owner:** United Parcel Service

#### DESIGN

**Architect:** Babcock Design

**Civil:** Dominion Engineering

#### ELECTRICAL:

**Mechanical:** David L. Jensen & Assoc.

**Structural:** Dunn Associates

#### CONSTRUCTION

**GC:** Layton Construction

**Electrical:** Hunt Electric

**Mechanical:** DB Mechanical

**Plumbing:** Chaparral Plumbing

**Earthwork/Utilities:** Newman Construction

**Tilt-up Concrete:** Robinson Bros. Construction

**Masonry:** IMS Masonry

**Precast:** Olympus Precast

**Drywall:** Standard Drywall

**Roofing:** Superior Roofing & Sheet Metal

**Painting:** Universal Painting

**Steel:** Wasatch Ornamental Iron

**Rebar:** Western States Rebar Fabrication

**Concrete Paving:** Geneva Rock

**Asphalt:** Morgan Asphalt

