

PROJECT OF THE YEAR ■ Submitted by Hensel Phelps Construction Co.

International Expansion Builds Service at Hobby

Teams were tested by budget constraints and a very tight schedule, all while completing both new construction and renovation work **BY LOUISE POIRIER**

WILLIAM P. HOBBY INTERNATIONAL FIS EXPANSION PROJECT

Houston **BEST PROJECT, AIRPORT/TRANSIT**

KEY PLAYERS

GENERAL CONTRACTOR Hensel Phelps Construction Co.

OWNER Southwest Airlines

LEAD DESIGN FIRM Corgan

STRUCTURAL Henderson Rogers Structural Engineers LLC

CIVIL Atkins Global

MEP Jacobs Engineering Group

MECHANICAL Kilgore

PLUMBING Kilgore and Humphrey

ELECTRICAL Wayne and Fisk

BAGGAGE Pteris Global Ltd.

FIRE PROTECTION Casteel Automatic Fire Protection

DRYWALL Texas Exterior Systems LLC

METAL PANELS Crown Corr Inc.

METAL ROOF PRC Roofing Co.

MODIFIED ROOF Gulf Star Roofing and Sheet Metal

TILE Impact Stone Design Inc.

PAINTING Bamex Painting Inc.

FORMWORK/CONCRETE Gralan Enterprises Inc. and HP

STRUCTURAL STEEL CMC Steel Fabricators

GLAZING Southwest Glass

PAVING Webber

EARTHWORK AYG Construction Ltd.

FUEL Kinley

CEILINGS Clunn Acoustical Systems

TERRAZZO American Marble Mosaic Co.

SITE UTILITIES Lazer and Gennoa French Enterprises Inc.

PILES Berkel & Co. Contractors Inc.



When Southwest Airlines made the decision to add new gates at Houston's William P. Hobby Airport as part of its effort to move into the international market, the airline turned to a team that it had worked with before. As the \$122-million International Federal Inspection Station (FIS) Expansion Project at Hobby Airport began in 2013, "many of Corgan's design team, Hensel Phelps's construction team and myself relocated from Dallas Love Field project, a public-private partnership project with a budget of \$519 million, to the Houston Hobby project, and it was like we never slowed down, just started over," says William A. Manning, program manager of the FIS Terminal Project at Hobby Airport.

That history of collaboration proved beneficial to the team as they moved forward with the project. Southwest Airlines reached an agreement with the Houston Airport System (HAS) to add five international gates to Hobby, which at the time was strictly a domestic hub, Manning notes. "Southwest Airlines agreed to fund the project and run the project as well," he says.

Included in the scope of the job was the new five gate

MEETING DEMAND A view of the international terminal at Houston's Hobby Airport.



FORWARD DESIGN
This exterior view showcases one of the structural design elements on the project.



EXPANDING VOLUME Teams removed some existing structures in the lobby of the airport to open up the area.

international terminal and associated Federal Inspection Station facilities, plus an expansion to the terminal building to add a U.S. Customs and Border Protection international arrivals processing facility.

Time was a major challenge, explains Gary Perrin, operations manager with Hensel Phelps. “We had the deadline from Day 1, basically a countdown of when the first flight was going to fly, and we had to get design out of the way; we had to do some enabling projects to existing facilities ... then there were some challenges on the site, the utilities, unforeseen conditions we had to get out of the way,” he says.

“One of the initial challenges was just the budget,” Perrin adds. “We had a budget that Southwest had established early on, but the initial cost models were significantly over that. So straight out of the gate, the project was, I’d say, 25% over budget—we were able to overcome that and get everything back on budget and still keep the project moving.”

Southwest chose CM at-risk delivery “because it allowed us to explore and study the existing facilities,” Manning says. “It also provided us pricing assistance and constructibility assistance during the design. We determined what groups and spaces needed to be relocated to allow for this expansion; we had forces ready to start that construction ahead of the actual terminal construction.”

But the project was unusual. Southwest was funding and overseeing construction, but the project was being built for HAS, the airport owner.

“Southwest agreed to follow all the programs HAS uses in their procurement, including minority and women business enterprise goals, Hire Houston First program and small business enterprise goals,” Manning says.

Other project elements were the relocation of an HAS administrative facility and several offices and shops into an existing HAS facility, plus relocating the communications facilities. The team also relocated, reconfigured and expanded Southwest’s ticket counters and offices.

“HAS wanted an improved curbside for passenger drop-off, as the existing area was very crowded, as well as an improved security checkpoint,” Manning says. “We added several hundred feet to the curbside along

the new ticket hall, and we were able to remove some structures in the existing lobby that opened up the volume. We also filled in an area that was the route to the baggage claim. This allowed for a rotation of the security checkpoint and increased the usable area by 50% to accommodate more lanes and more queuing.”

The project also connected the existing utility plant to a new satellite plant. However, the team determined that the only place that connection could go was underneath the new terminal, Manning says.

“An agreement was reached as to the size to fit the chilled water and hot water piping for the airport,” he says. “Several areas of the tunnel were enlarged to allow installation of baggage handling conveyors as well.”

The team also completed work on a check-in hall and the apron and improvements to the extended hydrant-fueling system expansion associated with the new terminal facilities.

“The new construction was the easy part. The renovation was the more challenging part because you’re more constricted on work hours, you’re more constricted to work areas, you can’t affect passenger flow, you can’t affect security—so everything was very tight from Day 1,” Perrin says.

Teams also prefabricated the mechanical and plumbing systems for the facility, which allowed for offsite production of some of the bathroom headwalls and long piping runs.

Another goal was creating a new front entry for the airport. “The addition of the check-in hall was used to extend the existing roof form and create a new entry experience for vehicles approaching the upper level roadway,” explains Bob Emery, associate principal with Corgan.

The architectural finish on the columns was designed to be smooth, exposed concrete, so the project team used a Sonotube fiber form system to accomplish the desired finish. These tubes provided the form work and the finish with minimal patching, sanding or rework.

Work ended in October 2015, as scheduled. Officials estimate that the new international terminal will allow the Hobby Airport system to add around 1.6 million passengers annually.

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—Gary Perrin,
Operations
Manager,
Hensel Phelps

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