

## BUILDINGS

# Natural History Museum Reflects Utah Landscape

Unlike other modular construction components, the shipping containers can be transported economically over roadways with trucks of standard size. The transportation costs are thus significantly lower than for other types of modular construction, says Robinson, who points out that “the costs are a quarter of the normal transport costs for this type of building.”

The interiors of the containers are prefinished at the factory, including the rooms’ bathrooms, closets, flooring, plasterboard walls, and electrical and plumbing systems. The company has also experimented with transporting the rooms’ furnishings within the rooms themselves. “Everything—the beds, the artwork on the walls—was plastic-wrapped inside the container and shipped across,” Robinson says.

“If you can imagine a thousand mattresses being delivered in the normal way and then [imagine] them actually arriving in the room itself when the module is delivered, it is a major difference,” says Robinson. Streamlining the delivery process of materials to the site is an important benefit, he notes, not only for the effect it has on the local environment but also because it decreases the waste produced at the construction site.

Using shipping containers as construction modules significantly reduces the length of the on-site construction cycle because the containers simply need to be stacked in place by crane and bolted together. Interior work can begin almost immediately because the rooms are self-contained and protected from the weather. Construction workers finish the building’s services by connecting the electrical and plumbing fixtures from each room to a main system that runs through the ceiling of the hallways. The interiors of the hallways are then finished on-site.

A second Travelodge hotel created in part from shipping containers—this one a six-story, L-shaped building containing 250 rooms—is slated for completion this month near London’s Heathrow Airport.

Robinson notes that while the shipping container construction typically requires only a light roof, the Heathrow hotel has a 150 mm thick concrete roof to block the noise from arriving and departing airplanes. The robust construction of the containers can easily accommodate the additional weight of the roof.

—Catherine A. Cardno, Ph.D.

In a sense, the future home of the Utah Museum of Natural History enjoys a premier lakefront location, but visitors should not expect to arrive by boat. The ancient body of water, which geologists call Lake Bonneville, disappeared thousands of years ago.

The lake may be gone, but the views from its former shoreline remain spectacular. Taking advantage of those views, the planned building will occupy a sloping, 17 acre (7 ha) site perched in the foothills of the Wasatch Range at the edge of the University of Utah’s Salt Lake City campus. Even the building’s close proximity to an active fault, which demands that its designers pay careful attention to seismic issues, seems fitting for a structure designed to highlight the region’s natural history.

The context-sensitive structure will replace the museum’s current home, a Depression-era library building. “We grew out of it years ago,” says Sarah George, the museum director. The architectural design team—comprising design architect Polshek Partnership Architects, of New York City, and GSBS, of Salt Lake City, the architect of record—strove first to create a building that would be spacious and functional. With a total floor area of 161,000 sq ft (15,000 m<sup>2</sup>), the \$103-million facility will provide ample space not only for public galleries but also for classrooms, research laboratories, administrative offices, and storage areas for the museum’s collection of more than 1.2 million artifacts.

Beyond mere functional considerations, however, the team also wanted to create a structure that would reflect the geography of Utah. “Land in Utah is everything,” says Todd Schliemann, the partner in charge of the design for Polshek. After traveling extensively throughout the state to gain a deeper understanding of the natural and cultural landscape, team members conceived a structure that would creatively extend and interpret that landscape.

Perhaps the feature of the building that most obviously reflects Utah’s geography is the facade. The portion of the facade closest to the ground will be composed of cast-in-place concrete. Most of the building, however, will be clad in copper, a resource that has

**The design of the Utah Museum of Natural History reflects the natural geography of the state and takes advantage of spectacular views. The 161,000 sq ft (15,000 m<sup>2</sup>) structure includes space for galleries, classrooms, research laboratories, administrative offices, and storage for the museum’s more than 1.2 million artifacts.**

