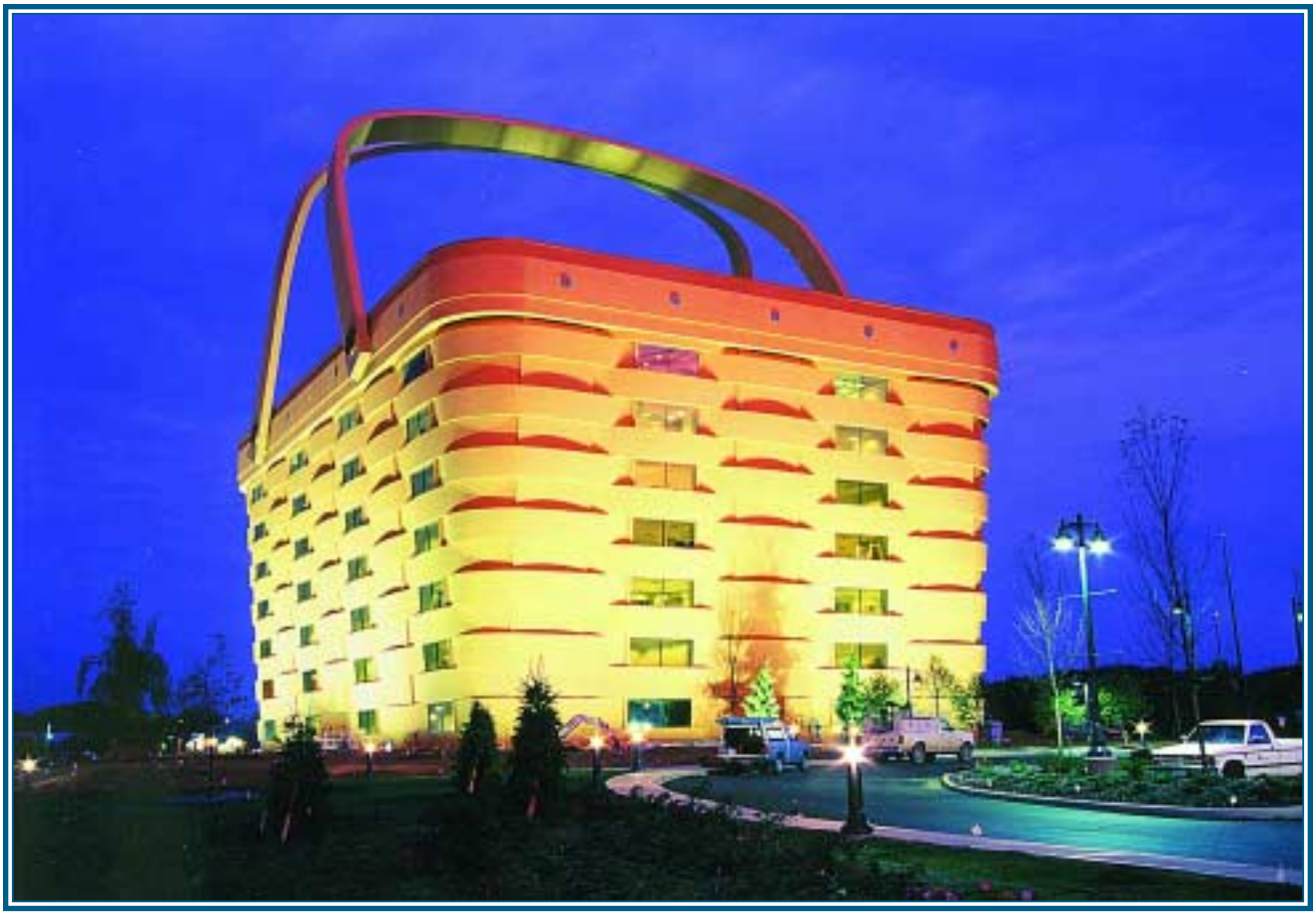

No Picnic For Designers

While the design for the headquarters of this world-renowned basket maker seemed obvious, the execution was extraordinarily challenging

IF YOU DRIVE THROUGH NEWARK, OHIO, DON'T BE SURPRISED if you see a seven-story basket. No, giants with a penchant for picnics don't inhabit the town. This basket is actually the new corporate headquarters for the family-owned Longaberger Company, the largest manufacturer of handmade baskets in the U.S. and a $611 million direct sales company.

Dave Longaberger, founder, chairman and CEO of the company, had a specific design plan for the new building. Longaberger wanted everyone who drove by the office to know it was a Longaberger building. And what says Longaberger more than their baskets? But he didn't want it to just give the illusion of being a basket – he wanted it to be a basket. So the architects designed a building based on the company's signature product – the Longaberger Market Basket. The giant basket building is 160

times larger than the Medium Market Basket. It has a basket façade – 6' by 30' stucco panels giving the illusion of the vertical and horizontal weaves of a real basket.

Located on 25 acres of land, the 180,000-sq. ft. building is located between Columbus and Dresden, OH – birthplace of the Longaberger Company and home to their basketmaking facilities. The $30 million building can accommodate approximately 500 employees. The basket design limits the window space possible in the building, so an alternative was found. The offices are situated around a 30,000-sq. ft atrium, where both employees and guests can relax under an 80' x 54" skylight. Also included on the first floor is a 180-seat theater style auditorium.

Each floor in the building extends 14" beyond the floor below, growing from an area of 192' x 126' to 208' x 142' at the roof. In order to create the floor plan, W14 steel columns lean outward an additional 1' per floor. The lateral load system is through X-bracing in the vertical chords. Vertical sliding connections are fitted in columns at every level to afford each an extra half-inch of play to accommodate different loads.

Attached to the building are two handles with replica copper and wooden rivets. The handles span 155', and weigh approximately 70 tons. The centerline of each handle shape consists of straight lines and a series of circular arches of radii connected tangentially and varying from 25' to 150'. The handles are 331' long along the centerline. Each handle is a 9'-6" wide, 2'-6" deep steel box section. The box sections, which are completely galvanized, were fabricated in 11 pieces and brought to the site for assembly. The pieces were galvanized and fabricated in different steps: first, the side plates with the longitudinal angle trusses and cross bracing; and then the top and bottom plates.

In the beginning, a three dimensional model was used to simulate the final position of both handles. This was used to analyze the effects of dead, live wind and temperature loads. Other handle positions were used to simulate different erection steps. They were designed to handle a wind pressure of 80 mile per hour wind velocity and 25 pounds per sq. ft. ground snow load.

Two different erection methods for the handles were considered during the project's completion. The first method included building towers on the roof to help position the pieces of the handles in their final positions and then welding the pieces together. This provided better control of handle geometry (particularly at the roof's support points), but increased the risk for erectors working at this height. The second plan involved constructing the handles on the ground. Cranes would lift each

handle and walk them into place. This allows for easier handle assembly, but not very good control of handle behavior when they are attached at the support points. The erector decided that the latter method was more appropriate for this particular project.

The lift points were located at an area that would allow each handle to be suspended by the cranes vertically. The free ends would move towards each other at about 3¾", a critical assumption since the handle connections to the roof were based upon it. In the field, the actual movements were 4¼" and 3½".

The handles were connected to the roof at the end of each handle using 8" diameter steel pins (The handles were also attached to each other at the top). The pin shape helped to expedite the erection process. When the cranes lifted the handles and inclined them to their final position, they were rotated around the pins. The pins were placed within half round saddles; four saddles were placed on the ground and at the roof to help accept the pins. The top plate of both handles projects 3" at each side beyond the box section, and holes at 2'-0" were placed in the plates for future decoration placement.

The first handle was brought to a vertical position and pins were secured into the saddles. It was brought to its final position by rotating the handles around the two pins. Until the handles were connected together, two 1⅛" diameter cables were attached to heavy dozers and the handles to keep them in place. Once both handles were in position and attached to each other, the horizontal thrust created by the gravity loads is counterbalanced between opposite support points (which are connected through steel beams).

The handles are heated to prevent ice from forming and falling onto the skylight 80' below them. There are weep holes in the base of the handles so water can be

released, and the formation of condensation can be avoided. Also, at the top of the handles, bent plates help prevent rain spillage on the skylight by redirecting it to the roof. The new headquarters, like some of its smaller counterparts, has two Longaberger 23-carat gold plated tags attached to both sides of it.

The Longaberger Company managed the entire project, and Longaberger personnel helped with the construction. After two years of waiting, Longaberger employees were able to move into the giant basket they helped build in December 1997. It now houses their sales and marketing, purchasing, public relations, corporate affairs, finance and accounting areas of the company.

Project Team:
Longaberger Corporate Headquarters

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