

Infrastructure: Balancing Function with Aesthetics

It was once said, “Most people are more comfortable with old problems than with new solutions.”

The occurrence of large scale improvements to our aging civic infrastructure is increasingly becoming a sensitive issue for many communities that have grown up around these facilities. The ability to balance the functional and aesthetic demands of complicated and highly integrated structures is key to meeting the needs of both city services and responding to issues raised by property owners.

In the \$72-million expansion to the Ullrich Water Treatment Plant in Westlake Hills at the edge of downtown Austin with million dollar views of the skyline, the design team of Camp Dresser McKee (www.cdm.com) and CasaBella Architects (www.casabella-architects.com) was challenged with carefully balancing the values and con-

cerns of surrounding neighbors with the functions of a massive expansion—100 mgd to 160 mgd—in the treatment capacity.

By listening to the concerns of all stakeholders, particularly in the planning phases, and understanding the complex requirements of the treatment process, the architects confirmed the engineers’ efforts through thoughtful design solutions. In doing so, the City of Austin Public Works was able to follow through with its on-going commitment to its customers to improve service and capacity without sacrificing core values of the neighborhood.

When the project began in spring 2002, several issues were important to the adjacent neighbors. They included 1) site design that maintained the maximum distance possible from the edge of

the new expansion buildings to the property line, 2) minimizing the impact of the largest new building planned to house five new lime silos and its associated equipment, 3) careful site lighting design, necessary to meet security



Translucent panels provided the opportunity to generate a soft glow from the center of the plant at night.

standards while minimizing its effect on the surrounding homes, and 4) design of additional buildings, that while smaller were visible because of their proximity to neighborhood streets.

In the beginning, neighborhood stakeholder meetings were held to receive comments and get a better understanding of the real issues of the local residents. One of the neighbors, whose house was built before the water treatment plant, invited the design team to see the views of the city’s skyline and the plant, during the day and at night.

The second critical issue was to design a large multi-story building that would be respectful to its context of large scale single-family homes, often with extensive panoramic views from the hilltops. First, the height of the building was reduced by as much as possible. This was achieved by reducing the



Interior daylight lighting at the Ullrich Water Treatment Plant.

actual and perceived overall height of the building by 15 ft by allowing the tops of the lime silos to protrude beyond the roof and reducing the size of the box enclosure. An additional cost benefit resulted by making the roof the access to the tops of the silos and not constructing an additional interior level or catwalk for maintenance of the silos.

All the accessory equipment was located in the lower levels, creating a stepping effect with the widest parts of the building being at grade and stepping the structure back to minimize the size of the upper part of the building.

Because of cost constraints, concrete panels were chosen for the exterior of the building. The north face of the building provided an additional design opportunity. Because this side of the building was narrow and tall the architects decided to clad this entire face with “Kalwall” (www.kalwall.com), a translu-

cent material that created a contrasting elevation allowing large amounts of natural light to enter during the day, without direct exposure to sunlight. At night the Kalwall also provided the opportunity to create a soft glow from the center of the plant site, creating a visual focal point for the viewer’s eye.

The success of the design was recognized with a design award from the Austin Chapter of the American Institute of Architects.

Whether or not American infrastructure can return to a time when design values intertwined with their core function is still difficult to determine. What



To reduce the impact of the largest building, lime silos were allowed to protrude beyond the roof.

we can predict is when engineers and architects put the values and needs of the whole community into the team’s planning and design efforts, we continue to foster a mindset where public infrastructure can be an asset beyond its original purpose to the benefit of everyone affected.

