



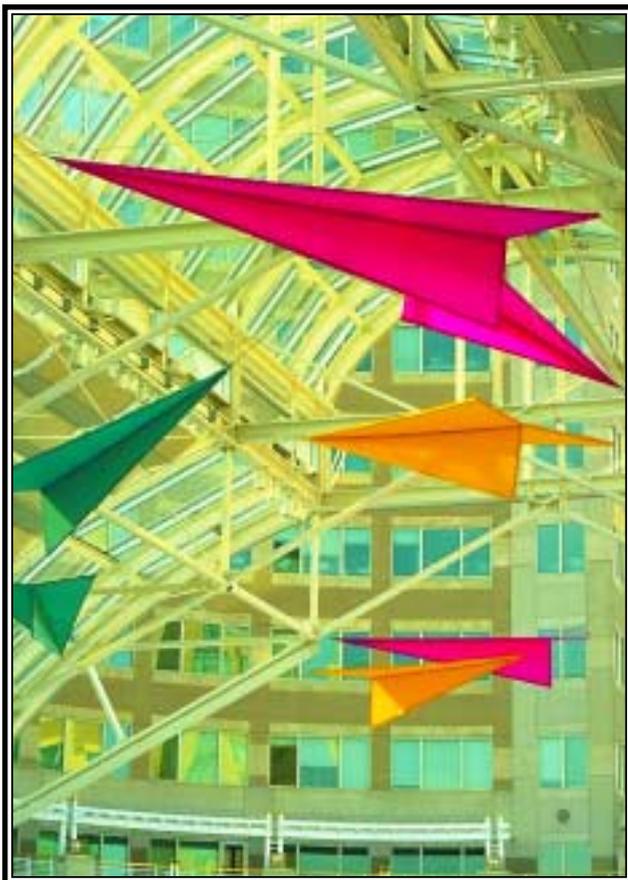
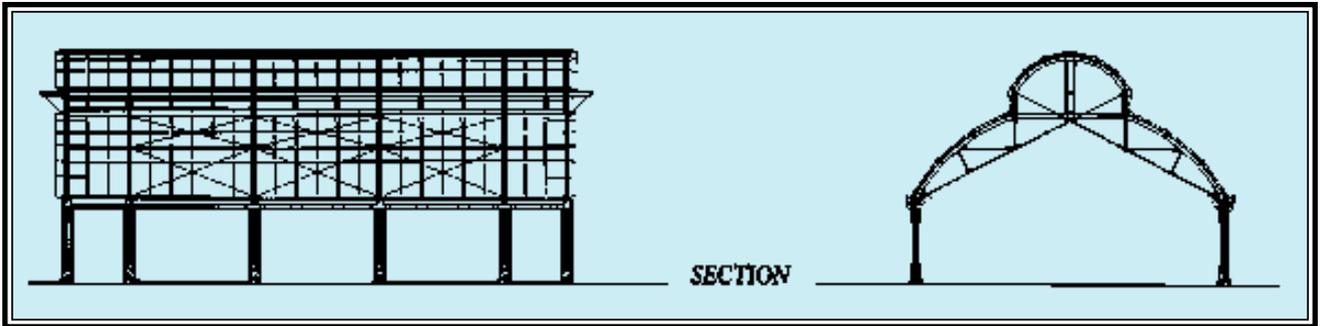
CREATING A NEW TOWN CENTER

A new multi-use pavilion is the emotional heart of Reston, VA

By Goodluck Tembunkiart, AIA

THE RESTON TOWN CENTER, LOCATED IN FAIRFAX COUNTY, VA, is an award-winning mixed-use project consisting of 1.3 million sq. ft. of office/retail/entertainment facilities in the initial phase of development. In praising the quality of urban design that earned a national award from the Urban Land Institute, the design jury noted that the ultimate success of its most important public space, named Fountain Square, would be dependent on the appropriate development of the open space at the edge of the square. However, until 1995, the appropriate use of the space was unresolved.

The concept for Town Center was based on a re-centering of a residential suburb. It was to become Reston's downtown, complete with a Main Street and a plaza area for people to gather. Originally, as designed, the plaza area was limited to the space around Fountain Square, an area with grade changes



The pavilion is 59-ft.-wide-by-96-ft.-long-by-50-ft.-high and is oriented so that its east-west axis aligns with a major hotel entrance and its north-south axis aligns with the Mercury fountain at Fountain Square and the space between the two major office buildings.

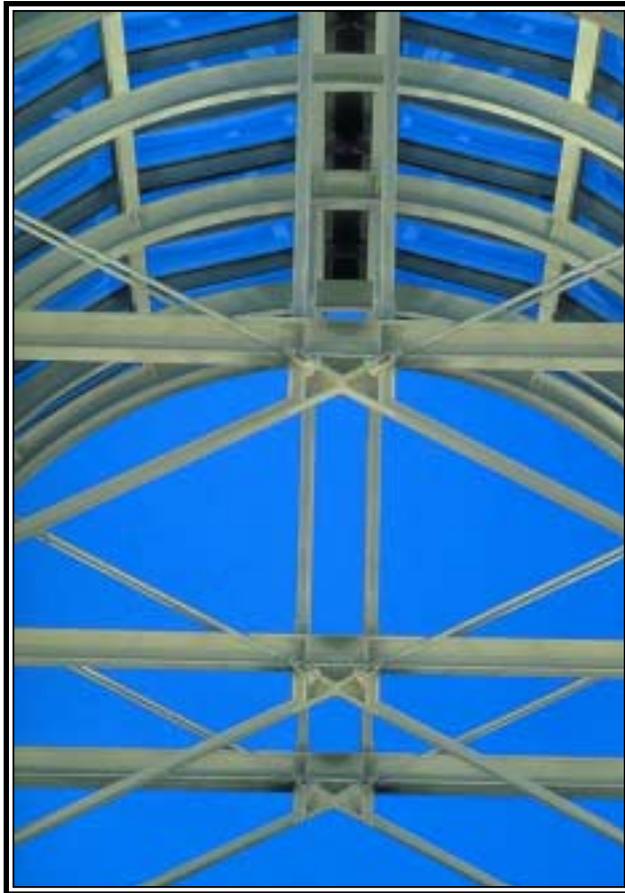
focused on an ornamental fountain. A large grass area which lay to the south edge of Fountain Square was planned to be the site of a future art museum. This was the last piece left to complete phase 1 of Town Center and the place where the Pavilion would eventually be placed.

In phase 1 of Town Center, the twin 250,000-sq.-ft. office towers at the north side of Fountain Square, a 400-room hotel and low-rise offices and street level retail were completed to form the three sides of the square. During the planning of the art museum, Town Center gained in popularity, in large part because of the large grass area where people could congregate within an “urban environment.” This undefined, and largely unplanned space, became an opportunity for seasonal amenities such as a summer concert series, a temporary ice rink in the winter, a large tent for Oktoberfest, and a great variety of informal public uses. In short, the “empty” space had become useful. It became a place where people could go for relaxation, recreation, entertainment and to enjoy being together. It became one of the main reasons why people wanted to be in Reston Town Center.

This is a case where the use of a space evolved and those responsible for its ultimate development were aware enough to understand what was happening. The client, Mobil Land Development, in a bold move, scrapped the idea of having a museum at that location. Instead, they approached RTKL Associates, which would ulti-



The columns support W12x58 girders, upon which continuous gutters are mounted, supported by metal "skate blades."



mately serve as both architect and structural engineer, with a concept of a flexible "pavilion" that would allow all of their "temporary" activities to be accommodated in a more permanent way.

To design a facility that would serve many diverse activities was a tall order. It had to programmatically and functionally accommodate the following:

- permanent ice rink surface with demountable dasher board
- flexible concert and performances with lighting truss and sound system
- catered parties
- special events, i.e. art shows, farmer's markets, exhibitions, etc.
- A protective glazed covering
- Shading devices
- Acoustical devices
- A method for quickly and easily opening and enclosing the entire structure

All this, with the stipulation that the final structure should be so light that the perception of the plaza space and the ability to flow through it would be unimpeded. As well, the structure would have to look active even when unoccupied. Needless to say, the solution would also have to be economical.

DESIGN

The structure is 59-ft.-wide-by-96-ft.-long-by-50-ft.-high and is oriented so that its east-west axis aligns with a major hotel entrance and its north-south axis aligns with the Mercury fountain at Fountain Square and the space between the two major office buildings.

When the structural framework is in fact the building itself, careful crafting of structural connections was employed to give the building a sense of detail to provide enrichment of the overall concept.

The roof trusses are supported by W14x90 and HP14x73 columns spaced 24-ft. o.c. and capped by 12-ft. bays along each

side. This subtle variation in bay size allows the end bays to complete the structure aesthetically. The columns are detailed to appear to grow out of granite bases. Within the steel base transition boxes, electrical and sound connections are housed. Along the outside of the column webs, rain leaders drain water down from column capitals/collector boxes, while electrical distribution is extended up on the inside face of the column webs to electrify the roof truss.

The columns support W12x58 girders, upon which continuous gutters are mounted, supported by metal "skate blades." The openings defined by the beams and columns are framed by a system of steel double T sections. Beyond defining the openings, this framing also provides anchorage for the side panels and changeable signage as required for specific events. GC on the project was the James G. Davis Company.

The trusses are constructed from curved W8 sections and paired 3x3 angles. Gusset plates are cut in shapes to smoothly enhance the line of structure, making the structure appear less industrial and more crafted. The trusses are connected to the columns with a system of through-bolts connecting 1/2-in.-thick steel end plates on trusses to 1-in.-thick steel end plates on the columns. Stiffener plates and beam outriggers are cut at angles as were the steel members at the ends of the structure in order to resolve the typically blunt appearance of wide flange beams. Repetitive vertical steel trusses are used as the main constituent elements of the roof. Lateral load is handled by W8x48 steel members and a 4-in.-diameter steel strut connecting the vertical trusses. Intermediate bracing elements are treated as lighter elements with the use of 1-in. rods and clevises converging on circular plates to stabilize the main trusses without competing visually with the primary elements of the steel frame.

The trusses were designed to coincide with the glass skylight structure to give an impression that the skylight was floating lightly over the structure. The structure is also detailed to accommodate many other elements that contribute to flexibility for varied uses. A motorized shading system rises within the curve of the structure, providing shading as well as acoustical dampening of the space.

A lighting grid is suspended within the steel framework to accommodate an infinite variety of lighting effects for general illumination and special staging. The end structure and the requirement for temporary enclosure posed a problem of how to economically cover a 31-ft. high opening in a short amount of time. Development of a solution for this aspect of the project relied on research into tent and sail technology. A system for a temporary fabric enclosure was developed that employs the use of metal guide channels mounted on the steel framework that allows two persons within two hours to hoist large panels of sail-like fabric to be laced into place when required by sudden changes in the weather.

POETIC PRAGMATISM

The goals for this project suggested an economy of means. Each element used in the project needed to have more than one purpose. Steel was selected as a skeletal spanning material that in turn would double as the framework for all the skylight, electrical system, lighting, temporary enclosures, sunshade and acoustical devices and provisions for hanging banners, etc. In essence, the requirements were similar to that of a performing arts stage without a building. This is the pragmatic aspect of the design problem that the design team faced.

The poetic aspect of the final design involves the framework itself and the seamless integration of the other functional components. A form was developed

that is distinctive but, at the same time, light and graceful; repetitive trusses that taper to slender points which appear to rest lightly on articulated steel columns. The pavilion; in its lightness, its detailing and the tendency to be visually transformed by the time of day or changes in atmospheric conditions; it is a dynamic structure in a state of constant change. It is this characteristic that gives visitors a sense of anticipation with each return visit to Town Center.

As the project evolved, it became clear to everyone involved that the project would become a unique solution in its balance between poetry and pragmatism. It has earned recognition with two American Institute of Architects (AIA) chapter awards. People are ever more inventive in their use of the space. And, more than anything else, it is a place people truly enjoy, a fitting completion for Reston Town Center, itself an AIA honor award recipient.

Project Manager Goodluck Tembunkiant AIA, is an Associate Vice President at RTKL Associates Inc. and is based in the firm's Washington, D.C. office. RTKL is a full-service architecture/engineering firm with a multidisciplinary staff of 500 and additional offices in Baltimore, Dallas, Los Angeles, London, Tokyo and Hong Kong.