National Winner
US $100M and above

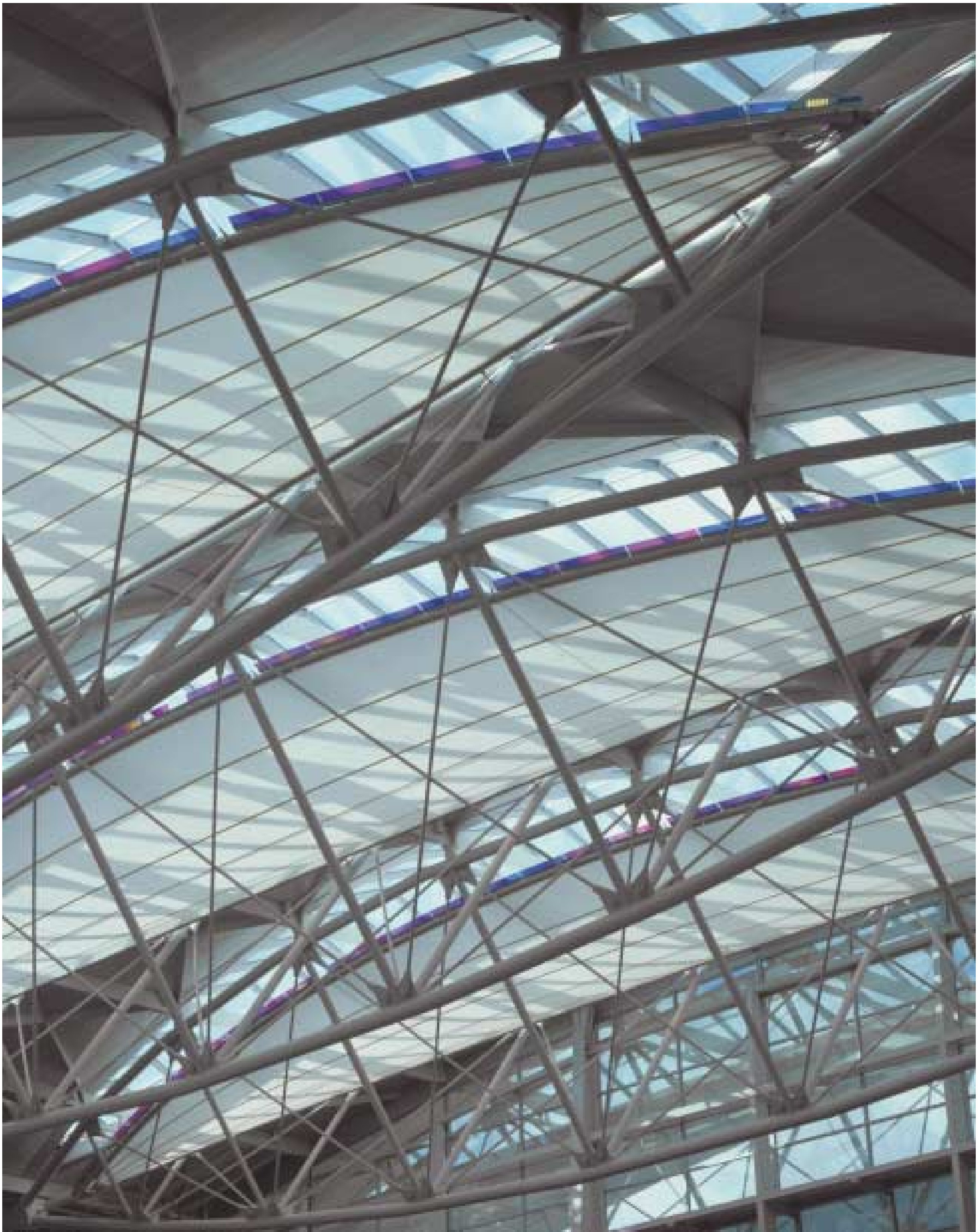
NEW INTERNATIONAL TERMINAL

San Francisco, CA

JUROR'S COMMENTS

The design is both an elegant and compelling reception hall that accentuates its purpose as transportation gateway. The innovative roof structure is a delightful metaphor to flight and aircraft.

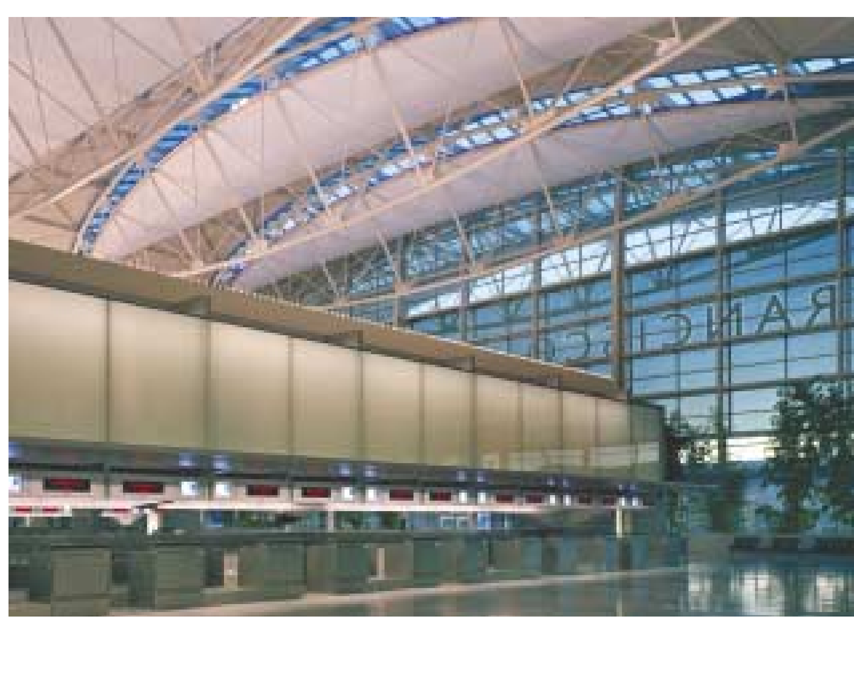
The new International Terminal Building (ITB) is the centerpiece of the airport's $2.6 billion expansion and modernization program. Its completion greatly increases the efficiency and capacity of all international arrivals and departures with 26 new gates and maintains the city's standing as America's gateway to the Pacific Rim. The roof structure and main façade of the terminal, visible from approaching roadways and the air, give the entire airport a visual cohesiveness and an iconic sense of identity, both as a major public facility and as the city's front door to the world.



The terminal's five-story vertical organization presents a model for other urban airports with limited buildable land. The form of the building reflects the need to span existing entry and exit roadways that run under the terminal. It was a significant accomplishment to keep these roadways 100% operational during construction. The Main ITB is supported by two sets of up to 29′ deep cantilever trusses, which, in turn, support a central third set of trusses. Together, the trusses span 380′ at their center and 160′ at each end with an overall roof span of 860′.

At the Main ITB Departure's Hall—700′ long, 200′ wide, and up to 83′ high—the exposed structural steel elements are brought to a majestic integration of functional, architectural and structural design requirements through the use of natural light from all sides, contrasted with civic art and the use of natural materials of glass, wood, terrazzo, stainless steel and filtering trees. At night, the Hall becomes a simple lantern with a single clear overall symbolic identity with an interior aesthetic of exposed structure of high-lighted details like that of a great cathedral. The space creates a dramatic departure point for travelers, but it does so with an economy of material and form.

At a total construction cost of $840 million, the Main ITB consists of an in-



tegrated and innovative creative solution to complex project requirements and constraints. Framed in structural steel, the structure includes 1.8 million sq. ft. of framed steel area (25,200 tons), 172,000 sq. ft. of exposed trussed steel roof (4,040 tons including main roof cantilevered box columns) and 760 tons of exposed steel at Main ITB departure's level window walls and entrance canopy. The careful implementation and use of simple technology in the design allowed the structure to transform itself above expected levels of practice. The exposed steel trusses utilize state-of-the-art steel tubular T-Y-K joint detailing and fabrication techniques of trusses sitting on spherical ball-joints atop 20 cantilevered concrete filled steel box columns. The center spans are interconnected by "cast steel" pinned joint assemblies, and the top and bottom truss chords are made from straight segments for economy while achieving overall curved aesthetic forms covered by a 4-$^1/_2$" deep exposed steel acoustical roof deck.

The airport's seismic performance goal of continued operation following a major earthquake is achieved using a strategy of seismic base isolation. The isolation system utilizes 267 friction-pendulum "cast steel" base isolators, installed at the foot of each structural column, which allow up to 20" lateral displacement. The seismic design of the new international terminal, with its long spans and tall curtain walls, is a milestone. With more than 1.2 million sq. ft. of floor space and more than 22 million cubic feet of interior volume, the terminal is the largest base-isolated building in the world. While the use of seismic isolation achieved superior seismic performance goals, the significant reduction in force levels allowed the overall architectural vision to take place in the Main ITB Departure's Hall roof and window wall.

PROJECT TEAM

ARCHITECT:
Skidmore, Owings & Merrill LLP,
San Francisco

Del Campo & Maru, San Francisco

Michael Willis Architects, San Francisco

OWNER:
Airports Commission,
City and County of San Francisco

STRUCTURAL ENGINEER:
Skidmore, Owings & Merrill LLP,
San Francisco

STEEL FABRICATOR:
The Herrick Corporation AISC member), Pleasanton, CA South Shoulder, 2/3 of isolated area & roof infill

PDM Strocal, Stockton, CA North Shoulder & 1/2 of isolated area

Nesco-XKT, Mare Island, CA
Roof Trusses

Canron. Vancouver, Canada
Curtainwall

STEEL ERECTOR:
The Herrick Corporation (AISC member), Pleasanton, CA
South Shoulder & Isolated Area

PDM Strocal (AISC & NEA members), Stockton, CA
North Shoulder

STEEL DETAILER:
Cal-West (NISD member), Pleasaton, CA
South Milestone 1

Baseline (NISD member),
Toronto, Canada
South Milestone 2

Candraft (NISD member),
Vancouver, Canada
North Milestone 1 & 2

Hargrave (NISD member), Dallas, TX
Areas 8 & 10

Lannon & Associates, Grapevine, TX
Area 9

NC Engineering (NISD member),
Vancouver, Canada
Roof & Curtainwall

GENERAL CONTRACTORS
(Joint Venture)**:**
Tudor Saliba, Perini Corp & Buckley & Company, Sylmar, CA

SOFTWARE:
SAP90, ETABS (v6.0), and 3DBASIS-ME

PHOTOGRAPHER:
Timothy Hursley, Little Rock, AR

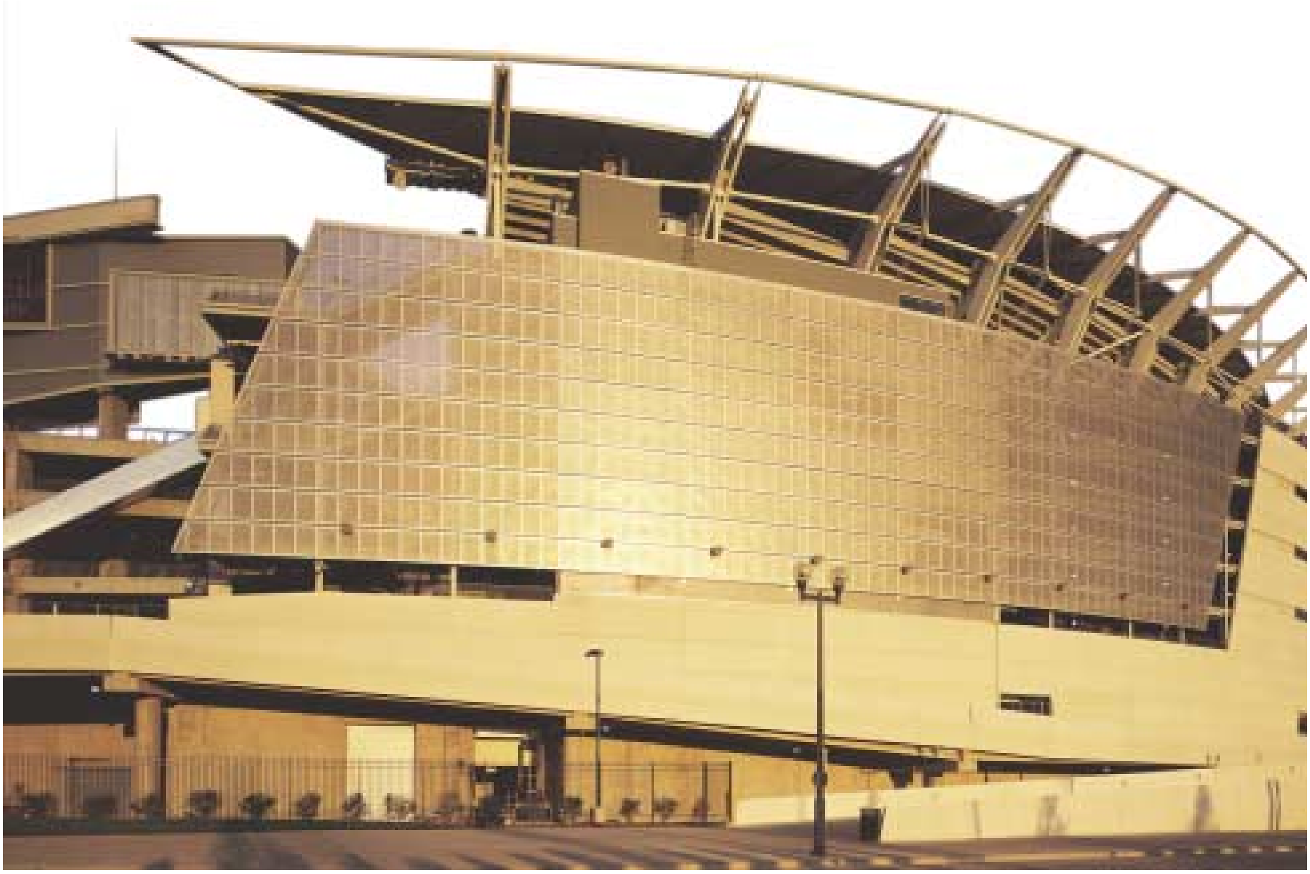
Merit Award
US $100M and above

PAUL BROWN STADIUM

Cincinnati, OH

JUROR'S COMMENTS

The structure appears light and airy and belies the size and mass of this type of facility. The imagery of stadium as coliseum is recaptured and enhanced by the flowing shape of the structure and the skillful combination of materials and design details.



"Sooner or later, someone was going to reach out for a tailor-made and innovative design...It's going to take the NFL stadium to a new level—the changes will be dramatic." In this statement, NFL Commisioner Paul Tagliabue endorses the successful design of this new 65,000-seat stadium.

The elegant swooping roof is the signature feature for the building's spectacular design, diffusing sunlight, creating intimacy within the bowl and focusing attention towards the field. The goal was to create a sensual line as the roof meets the sky; by applying intricate geometry, structural steel clad with translucent fabric enabled full expression of the canopy's sophisticated design.

Exposed steel, fabric and pre-cast concrete work in concert with perforated steel and glass skins, provided tactile elements that blend with the cityscape, creating mood-enhancing environments with the changing light.

Cantilevers 85 feet-long, supported by twin box-section boomerang columns were stiffened by rear tie members, prestressed to enable them to resist load reversal from wind uplift on the roof. This trussing action increased the efficiency of the steel structure while adding dramatic form and visual dynamics. Judicious application of the prestress halved the maximum bending moments in the boomerangs. Key

parameters, such as sight lines, helped generate raker beam and boomerang column positions.

Elimination of the end zones breaks up the massing of the bowl and invites passers-by to glimpse stadium action. The 60′ cantilevered design for the last two bays of the exposed upper seating bowl achieves column-free sightlines, elegant aesthetics and acceptable vibration levels for foot-stomping, dancing crowds.

PROJECT TEAM

ARCHITECT:
NBBJ Sports & Entertainment,
Marina del Rey, CA

OWNER:
Hamilton County, Department of Public Works, Cincinnati

Cincinnati Bengals, Cincinnati

National Football League, New York City

STRUCTURAL ENGINEER:
Arup, Los Angeles

STEEL FABRICATOR:
Southern Ohio Fabricators,
Batavia, OH (AISC member)

STEEL ERECTOR:
SOFCO Erectors, Inc., Cincinnati

Ben Hur Construction Co.,
Fairfield, OH (NEA member)

STEEL DETAILER:
T&T Structural, Inc, Rocky Hill, CT

Dowco Consultants Ltd, Burnaby, British Columbia (AISC & NISD members)

GENERAL CONTRACTOR:
Tuner Construction, Cincinnati

Barton Malow Company, Baltimore

DAG Construction Company, Cincinnati

SOFTWARE:
SAP 2000, and FLOOR (& ETABS for the concrete frames supporting the 60’ cantilevers). Additional design programs include: RISA 3D, ADOSS, PCACOL, ENERCALC

PHOTOGRAPHER:
Tim Griffith,
NBBJ Sports & Entertainment

National Winner
US $25M or greater, but less than US $100M

WILLIAM J. NEALON FEDERAL BUILDING & UNITED STATES COURTHOUSE

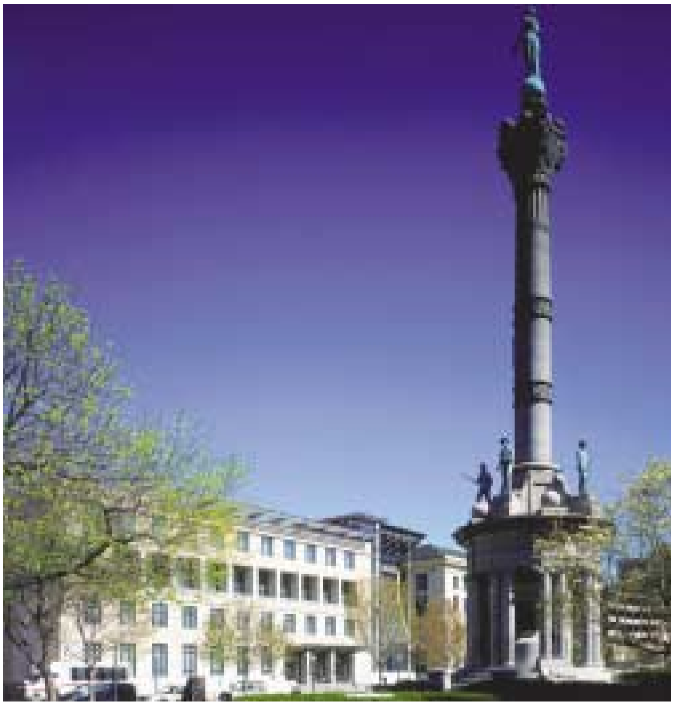
Scranton, PA

JUROR'S COMMENTS

The design helps reflect the dignity and stature of the building's users and blends in well with the existing context.

This 113,500 sq. ft., $24 million courthouse addition and 156,500 sq. ft., $10 million renovation succeeds in making these two buildings into a unified complex whose courtrooms, access and circulation are tightly integrated. The new building avoids stylistic references to the existing building's neo-classical ornament, while it is careful to respect the older building's exterior materials and proportions, making them read as different generations of the same family.

The unity of the complex is created by the large steel-framed, sky-lit atrium through which the public accesses both buildings, requiring only a single security checkpoint. Clusters of steel jacketed, concrete encased steel columns carry the exposed steel bridges that cross the atrium to the courtrooms in the existing building, providing dramatic overlooks of the space. Steel pipes form the bowstrings of the trusses supporting the main skylight of this central space, which substitutes for the classical rotunda. The high roof structure cantilevers toward the existing building to hand the atrium clerestory en-



closed to a seismic joint above the existing building's parapet, so that load is not transferred from the new building. A grand steel staircase connects from the main level to second and fourth floor arcades that access the new building courtrooms and bridges, while exposed steel frames the surrounds of the open-backed elevators. The ends of girders, rafters and stair stringers are cantilevered, tapered and capped to enhance the layered, decorative quality of the exposed structure. The warmth of the older building's brick serves to soften the new building's palette of concrete, stone and steel.

PROJECT TEAM

ARCHITECT:
Bohlin Cywinski Jackson,
Wilkes-Barre, PA

OWNER:
United States General Services Administration, Region 3, Philadelphia

STRUCTURAL ENGINEER:
Ryan-Biggs Associates, Troy, NY

STEEL FABRICATOR:
Amthor Steel, Erie, PA (AISC member)

STEEL ERECTOR:
Mid-Valley Contracting, Olyphant, PA

STEEL DETAILER:
Amthor Steel, PA (AISC member)

GENERAL CONTRACTOR:
Mascaro Construction Company,
Pittsburgh

SOFTWARE:
AutoCAD, RAM Steel (4.1), RISA 2D

PHOTOGRAPHER:
Michael Thomas, Exeter, PA, and
Matt Wargo, Philadelphia

National Winner

US $10M or greater, but less than US $25M

MODULAR VII CHILLER PLANT

Philadelphia, PA

JUROR'S COMMENTS

The facility is an appealing object that elevates an ordinary use to a noble level. The design is an excellent urban design solution to a complex site and conspicuous vehicular portal to the campus.

A distinguished mid-Atlantic university required a new water chiller plant to serve the campus at a highly visible location along a prominent river on a site previously used for athletic fields. This competition winning design for the new structure creates an attractive gateway presence, while retaining maximum use of the site for a new varsity baseball field.

The screen wall consists of large panels of corrugated, perforated stainless steel sheets supported by a galvanized structural steel framework. The skin is transparent to the eye but opaque to wind due to the size of holes; therefore, the system had to be designed for full wind force. The building only assists for one-quarter of the perimeter against the wind forces.

Each end of the oval has a horizontal truss at the top to collect the forces. At the east end this truss transmits the forces back to the building. The west

end is an open courtyard for a planned expansion of the building; hence there is no structure to absorb the wind forces. This half of the oval is braced by 12″ diameter pipe sections battered to interior foundations. These batters had to be located to avoid interfering with the foundations of future building extension.

As shown in the diagrams, the layout of the wall is a parabolic oval, which creates continuously varying radii for the curvature of the members. The system was slightly simplified by establishing a single radius for each panel; the radius then varied from one panel to the next. The wind girts are laid flat as one would expect, so the curved shape of the wall required the girts to be bent against their strong axis during fabrication.

PROJECT TEAM

ARCHITECT:
Leers Weinzapfel Associates, Boston

OWNER:
University of Pennsylvania, Philadelphia
Structural Engineer: Keast and Hood Company, Philadelphia

STEEL FABRICATOR:
Cives Steel Company (Eastern Region), Lansdale, PA (AISC member)

STEEL ERECTOR:
Cornell, Woodbury, NJ

STEEL DETAILER:
Keast and Hood Company, Philadelphia

GENERAL CONTRACTOR:
Sordoni Skanska USA, Parsippany, NJ

SOFTWARE:
STAAD, AutoCAD 14

PHOTOGRAPHER:
Peter Aaron, Esto Photographics, Mamaroneck, NY

National Winner
Up to $US 10M

PALMER COLLEGE OF CHIROPRACTIC —FRIENDSHIP COURT

Davenport, IA

JUROR'S COMMENTS

The project is an effortless, economical and graceful solution to a previously undistinguished site, transforming a featureless back alley into a wonderful public room and circulation hall. The design is simple and unpretentious.

The campus for this college of 1,800 students is located in a moderately dense midwestern urban setting and consists of a dozen or so contiguous buildings of various ages and styles arranged closely on either side of a major arterial roadway. In this project, an existing service alley has been converted to an enclosed two-level circulation court connecting six campus building entrances, additionally providing student gathering spaces and a coffee bar. It provides a much-needed central orientation space for the college complex and serves as an extension of the existing pedestrian skywalk connecting the divided campus.

BEFORE


AFTER

The architecture for the enclosed courtyard is developed as a formal insertion made as lightly as possible, which allows the alley facades of the existing buildings to remain essentially unaltered and provides for complimentary interaction between new and existing. The central row of columns fully supports all structural loads developed at the sloped roof, including moment-induced stresses, relieving the need for loads to be carried by adjacent aging parapets. Primary lighting of the space is indirect by means of metal halide fixtures mounted within the structure. Additional incandescent lighting accents various aspects of the project, such as the column shafts. HVAC is located on the adjacent existing roof, with supply and return located along the top of the existing parapet. Finished materials are painted steel, exposed waxed concrete, glazed curtainwall and the existing building facades.

PROJECT TEAM

ARCHITECT:
Herbert Lewis Kruse
Blunck Architecture, Des Moines

OWNER:
Palmer College of Chiropractic,
Davenport

STRUCTURAL ENGINEER:
Charles Saul Engineering, Des Moines

STEEL FABRICATOR:
Ramark Industries, Dexter, IA
(AISC member)

STEEL ERECTOR:
Broeker Erection Company,
Burlington, IA

STEEL DETAILER:
Ramark Industries, Dexter, IA
(AISC member)

GENERAL CONTRACTOR:
Estes Company, Davenport, IA

SOFTWARE:
RISA 3-D

PHOTOGRAPHER:
Farshid Assassi/Assassi Productions,
Santa Barbara, CA

Merit Award
Up to US $10M

AMERICAN SOCIETY OF INTERIOR DESIGNERS
MINNESOTA CHAPTER OFFICE

Minneapolis, MN

JUROR'S COMMENTS

The partition is a delightful blend of contrasts that simultaneously complements the historic building but is expressed in an uncommon and inspirational manner.

When the Minnesota Chapter of ASID was given the opportunity to move from the basement of International Market Square (IMS) to the main floor, they held a membership open design competition. LHB won by promoting two architectural strategies: "kit of parts" and "infill."

The space allocated for development was being used as building circulation, so the design and detailing of the space needed to reflect a concern for the staging of construction within the highly active IMS public space. Within the "kit of parts" strategy, all details and components were designed to be built off-site, shipped and simply bolted in place. Steel and glass doors are load-bearing and restrained at their head condition with a simple ledger and bolted stop. Storage and library casework were unitized and revealed within the steel armature. Variations within the existing masonry framework and floor were accommodated with slotted angles integral to the steel design.

The infill strategy borrowed heavily upon the building's historic, industrial past. In contrast to the typical, homogenous storefront entries provided by the building Owner, a vocabulary of heavy steel angles and plates, float glass and deep reveals was developed to promote a sense of enclosure and presence as well as provide for display


COLOR

and storage. Reference to the movement of hard goods through the typical industrial dock door has been reconsidered in this space as the movement of membership, stewardship and information through this glazed, rolling storefront. This armature of steel and glass is balanced by lighter infill finishes of maple and bamboo, providing an environment conducive to the interaction of chapter members, as well as the display for local ASID talents.

PROJECT TEAM

ARCHITESCT:
LHB, Minneapolis

OWNER:
American Society of Interior Designers (ASID) Minnesota Chapter, Minneapolis

STRUCTURAL ENGINEER:
LHB, Minneapolis

STEEL FABRICATOR:
Anderson Iron, Minneapolis

STEEL ERECTOR:
Anderson Iron, Minneapolis

Greiner Construction, Minneapolis

STEEL DETAILER:
Anderson Iron of Minneapolis

GENERAL CONTRACTOR:
Greiner Construction, St. Paul

PHOTOGRAPHER:
Saari & Forrai Photography, Bloomington, MN

Merit Award
Up to US $10M

ROBERT L. PREGER INTELLIGENT WORKPLACE CARNEGIE MELLON UNIVERSITY

Pittsburgh, PA

JUROR'S COMMENTS

The building addition is an attentive combination of design, architectural details and daylighting, which helps enhance the workplace and complement and reinforce the existing, historical building.

This project is a 7,000 sq. ft. living laboratory constructed as a rooftop addition to an existing academic building on a large urban university campus. The laboratory mission is to research office environments and innovations aimed at improving the quality of work life for the 50% of U.S. workers who work in offices through advances in individual comfort and productivity, organizational flexibility, technological adaptability and environmental sustainability.

In addition to its primary research focus, the project had to fit the environment of the historic building upon which it is sited as well as the surrounding campus. By breaking the massing of the new structure into a series of modular bays that support asymmetrical saw-tooth

hipped-roof configurations, the roof form not only maximizes solar orientation but creates a breakdown in scale sympathetic with the roofscape of the campus. Each of the 4.8m bays is enclosed by a high-performance curtain wall system and solar control system. The rhythms and color reflect both internal structure and program needs as well as the rhythms of the historic terra cotta facade.

The internal planning is conceptualized as an "intelligent village" to maximize interaction while retaining opportunities for occupants to withdraw into "coves" of greater privacy. Working with major vendors of workstation technology, researchers will test new workgroup configurations and provide feedback to manufacturers on how to more fully integrate their products with HVAC, lighting and ergonomic technologies. Throughout the project, opportunities to integrate multiple building systems in a flexible manner have been addressed. The exposed structure made of recycled steel was designed with modular, bolted connections that allow for the integration of mechanical, electrical and telecommunications systems. This modular steel system demonstrates the design's flexibility and potential use in other facilities with differing size requirements. Below the raised floor system, the spacing of the structural members forms the "chassis" of the building, allowing the reuse of the project's concept in future projects.

The $4 million facility provides training in material, component and systems choices and their integration for performance and in instrumentation and metrics for evaluating performance and occupancy comfort. The facility enables the interchangeability and side-by-side demonstrations of innovations in HVAC, enclosure, interior and telecommunication components and assemblies. As a "lived-in" office, research and educational environment, the facility provides a testing ground to assess the performance of new products in an integrated, occupied setting.

The facility is not a temporary demonstration project but rather a dynamic environment for teaching and evaluating how integrated building components, systems and assemblies affect building performance. In-house post-occupancy research is critical to validating simulation and assessing performance in an integrated setting. As a testbed of new ideas and a demonstration center for successful innovations, combined with innovative "officing" concepts and portable diagnostics, the facility is a unique living laboratory of office environments.

PROJECT TEAM

ARCHITECT:
Bohlin Cywinski Jackson,
Wilkes-Barre, PA

OWNER:
The Center for Building Performance and Diagnostics, Carnegie Mellon University, Pittsburgh

STRUCTURAL ENGINEER:
R.M. Gensert and Associates, Pittsburgh

STEEL FABRICATOR:
Littell Steel Company, New Brighton, PA

STEEL ERECTOR:
Alpha Steel, Kittanning, PA

STEEL DETAILER:
Littell Steel Company, New Brighton, PA

GENERAL CONTRACTOR:
Tedco, Carnegie, PA

PHOTOGRAPHER:
Karl A. Backus, AIA, Bohlin Cywinski Jackson, Berkeley, CA

Merit Award
Up to US $10M

TETRA PAK, INC.

Vernon Hills, IL

JUROR'S COMMENTS

The project is a wonderfully scaled and detailed ensemble that blends well with its site.

This newly constructed U.S. headquarters for the world leader in liquid food packaging demanded thorough understanding of corporate culture's need for a team-oriented, flexible and open floor plan integrating multiple office disciplines and accommodation of the corporate commitment to sustainable design, integrating economic viability and environmental integrity.

Long-span "king-post" trusses create column-free, flexible office space. The steel structure and mechanical systems are woven together and left exposed to create a technically integrated armature for office functions. Enclosed offices and "huddle rooms" are pulled back form the exterior wall, allowing exposure of open office workstations to the forest to the east and south. Expansive glazing, in tandem with soaring, 14′ to 18′ ceilings, further enhance the sense of intimacy with the natural setting.

Environmental sensitivity was demonstrated via novel construction techniques: placing the construction crane within the footprint of the facility and building out to preserve trees, utilization of recycled steel, acoustical ceiling tile and other building components, and recycling 75% of all construction debris.

PROJECT TEAM

ARCHITECT:
Solomon Cordwell Buenz & Associates,
Chicago, IL

OWNER:
Van Vissingen & Company,
Lincolnshire, IL

ENGINEER:
Robert Miller & Associates,
Park Ridge, IL

STEEL FABRICATOR:
Zalk Joseph Fabricators, LLC,
Stoughton, WI (AISC member)

STEEL ERECTOR:
Area Erectors, Rockford, IL
(NEA member)

STEEL DETAILER:
Zalk Joseph Fabricators, LLC,
Stoughton, WI (AISC member)

GENERAL CONTRACTOR:
Power Construction, Schaumburg, IL

SOFTWARE:
RAM Steel

PHOTOGRAPHER:
Hedrich Blessing, Chicago, IL