

PCI AWARDS PROGRAM

1968 WINNERS



The Sixth Annual Awards Program of the Prestressed Concrete Institute was successfully completed with the selection of 10 winning structures, including 7 buildings and 3 bridges, from a record number of entries.

Mr. Robert L. Durham, chairman of the 5-man jury, observed: "The jury was impressed with the high quality of the many entries studied, and particularly with the ample evidence of efficient employment by today's architects of the inherent and distinctive characteristics of prestressed and precast concrete."

Winning architects and engineers will be honored in ceremonies at the 1968 PCI Annual Convention in Seattle, Washington, October 6-10.

The five awards judges (above, left to right) are Robert L. Durham, FAIA, president of the American Institute of Architects; Richard H. Tatlow, III, president of the American Society of Civil Engineers; James E. Searle, B. Arch., FRAIC, president of the Royal Architectural Institute of Canada; W. C. Kruger, AIA, W. C. Kruger & Associates; and Ward Goodman, chairman AASHO Committee on Bridges and Structures.

GULF LIFE TOWER Jacksonville, Florida

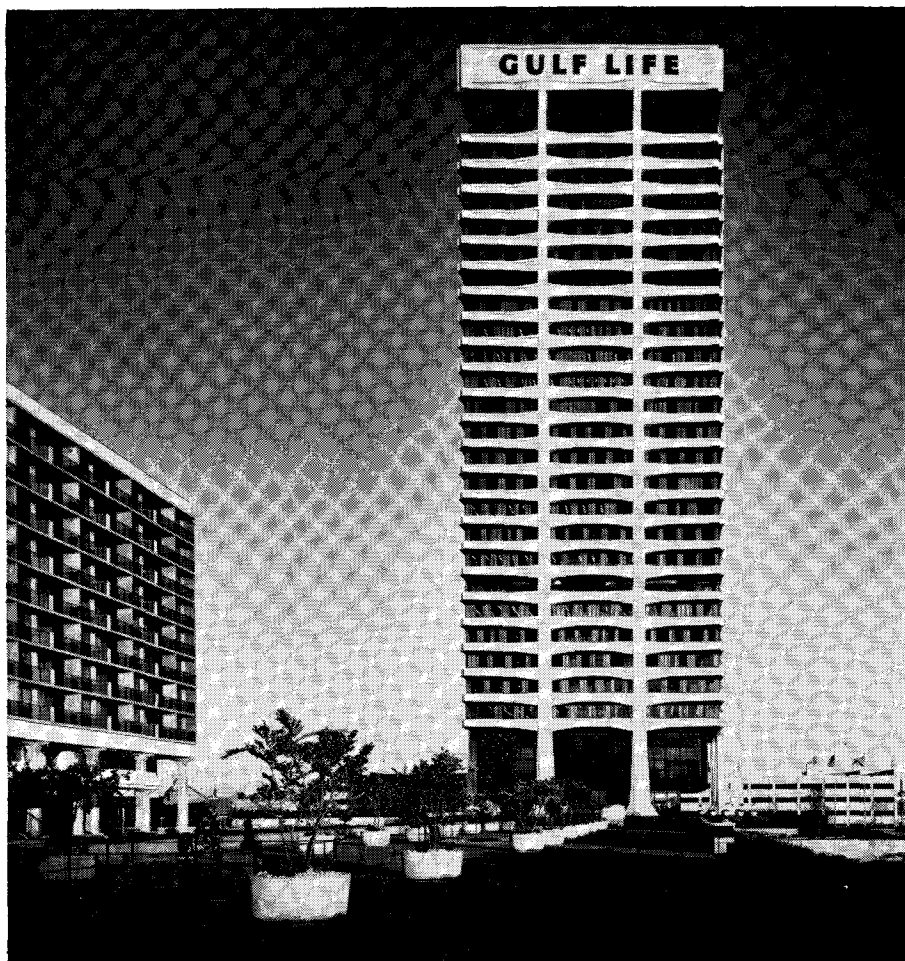
Architect: Welton Becket and Associates

Associate Architect: Kemp, Bunch and Jackson

Engineer: Richard Bradshaw

Prestressed concrete: Capitol Prestress Co. and Concrete Materials of Georgia, Inc.

Post-tensioning: Freyssinet Co., Inc.

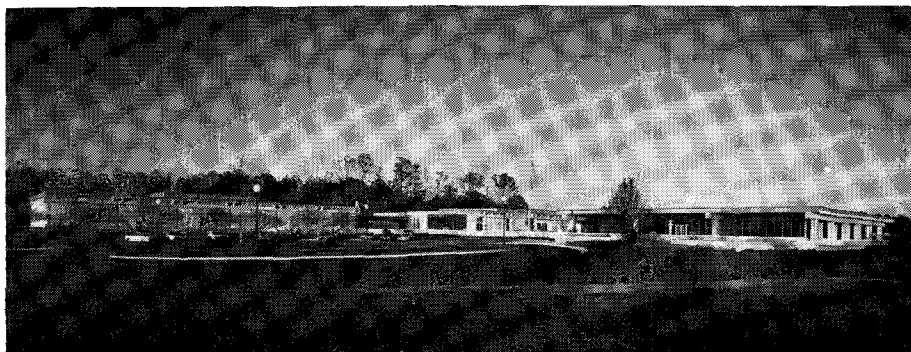


Using 14 segmented, precast, post-tensioned lightweight concrete units, a continuous beam, with 44 ft. between exterior columns and 42-ft. cantilevers at each end, is achieved. This 27-story, 500,000 gross sq. ft. tower, 140 ft. square, rises 430 ft. above the podium level. Precast, prestressed concrete double-tees 18 in. deep, 4 ft. wide and 41 ft. long and shorter span 15-in. deep tees were used in the typical floors, spanning from a central core to exterior beams. The podium and concourse levels were framed with 7-ft. wide single tees. Precast facing panels, 6 in. thick, formed the cast-in-place columns. All exposed exterior concrete utilized white quartz aggregate and white cement.

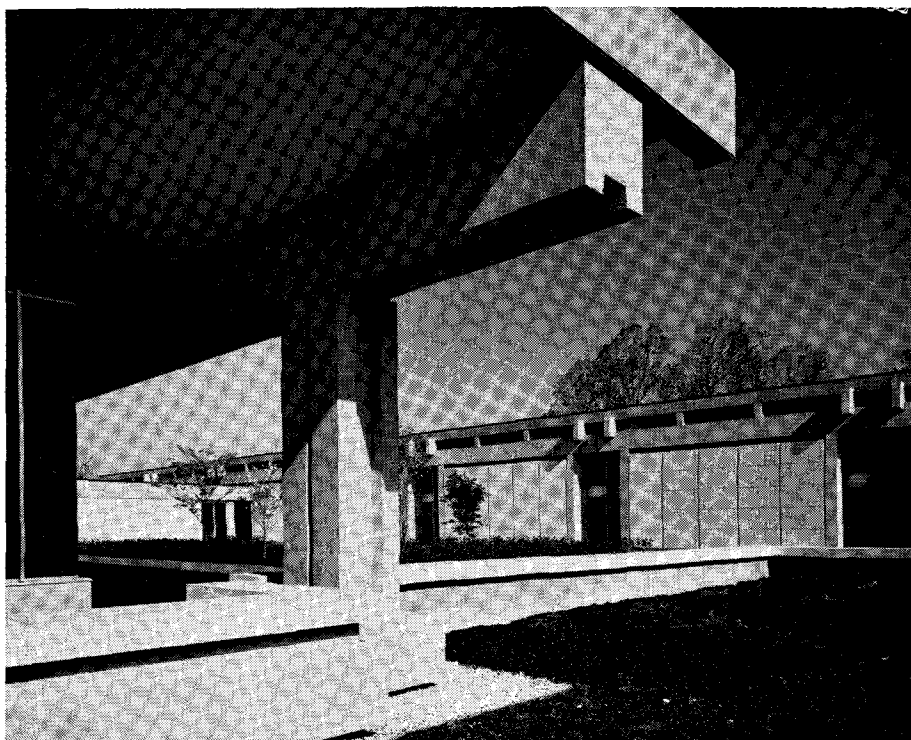
BURLINGTON INDUSTRIES RESEARCH AND DEVELOPMENT CENTER Greensboro, North Carolina

Architect-Engineer: A. G. Odell, Jr. and Associates

Precast, prestressed concrete: Arnold Stone Company and Concrete Material's, Inc.

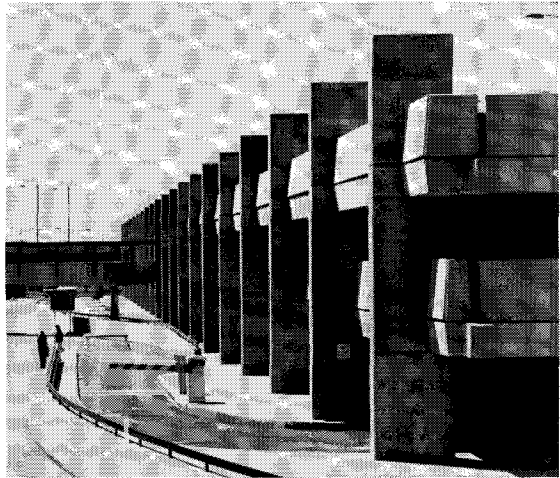


Extensive use of exposed, textured concrete characterizes this 3-building, 100,000 sq. ft. research and development center. Framing consists of precast columns and prestressed beams. Double-tees, 14 in. and 18 in. deep, were used in the floors and accessible space for all utilities was provided in the floor system. Single-tees for the roof, up to 36 in. deep, provide necessary long spans for column-free laboratory and pilot plant work areas.



LOGAN INTERNATIONAL AIRPORT PARKING STRUCTURE Boston, Massachusetts

Architect: Perry, Dean and
Stewart
Engineer: Nichols, Norton and
Zaldastani, Inc.
Prestressed concrete: San-Vel
Concrete Corp.
Post-tensioning: Atlas
Prestressing Corp.



This three-level garage, covering seven acres, provides 1,000,000 sq. ft. and parking for 3150 cars. The design can accept two additional levels when needed. A bay size of 25 x 60 ft. was selected as optimum for a self-parking structure. 1350 precast, prestressed modified channel beams 55 ft. long were used in the floor system. A top flange 8 in. thick and 24 in. wide has an end detail that enables flush framing with girders spanning the short dimension, thus providing a uniform depth of 30 in. Three simply supported beams per 25-ft. bay support a 4-in. post-tensioned, cast-in-place slab. The garage was constructed at a cost of \$1549 per car.

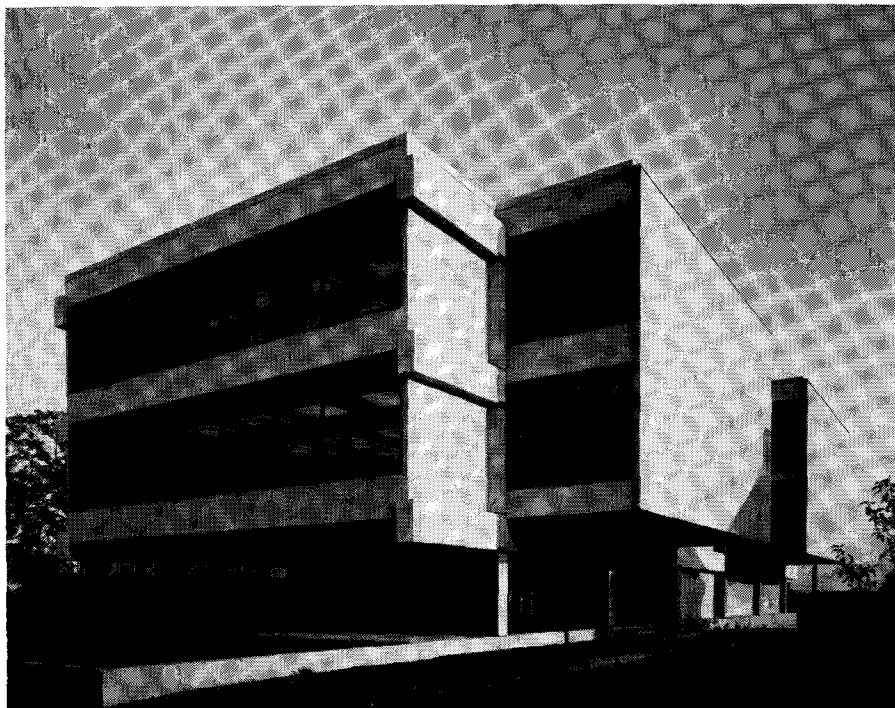
BRADY MOTORFRATE OFFICE BUILDING

Des Moines, Iowa

Architect: Charles Herbert and Associates

Engineer: Vanderlinden and Dennis

Prestressed concrete: Prestressed Concrete of Iowa, Inc.

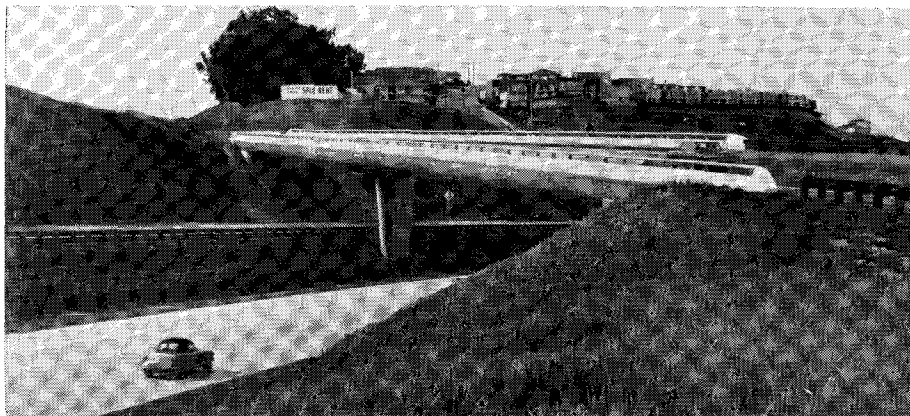


Precast concrete columns, prestressed beams and double-tee floor units, and prestressed, hollow-core wall slabs combine to form a 3-story, 24,420 sq. ft. office structure. Exterior walls at the cantilever portions are precast, prestressed lightweight concrete slabs 4 ft. wide, 8 in. thick and ranging in length up to 28 ft. They are filled with insulation and sand-blasted on the inner surface. Using double-tee floor slabs (maximum size 20½ in. deep x 6 ft. wide x 69 ft. long) permitted a column-free general office space, while the cantilevered areas identify perimeter private offices. Maximum truckable length units contributed to the economy of erection with the final construction cost being \$13.50 per sq. ft.

ROUTE 35/280 GRADE SEPARATION Hillsborough, California

Engineering: California Division of Highways Bridge Department

Post-tensioning: Freyssinet Company, Inc.

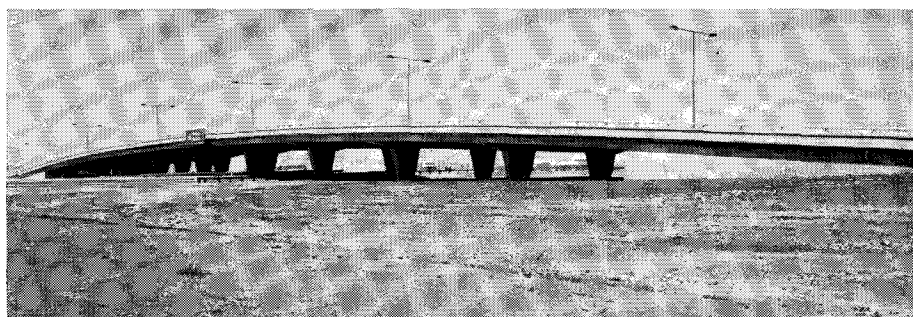


Post-tensioned, cast-in-place concrete box girders, with spans of 192 ft. 6 in. and 177 ft. 6 in., form this bridge with a deck width of 37 ft. The prestressing tendons are carried through five girder stems that vary in width from 12 to 32 in. Total depth of superstructure was held to 7 ft. 6 in., but the upward curving soffit creates a shallow effect for the relatively long spans. A two-span structure was selected for safety and improved appearance.

FOSTER CITY OVERCROSSING Foster City, California

Engineering: California Division of Highways Bridge Department

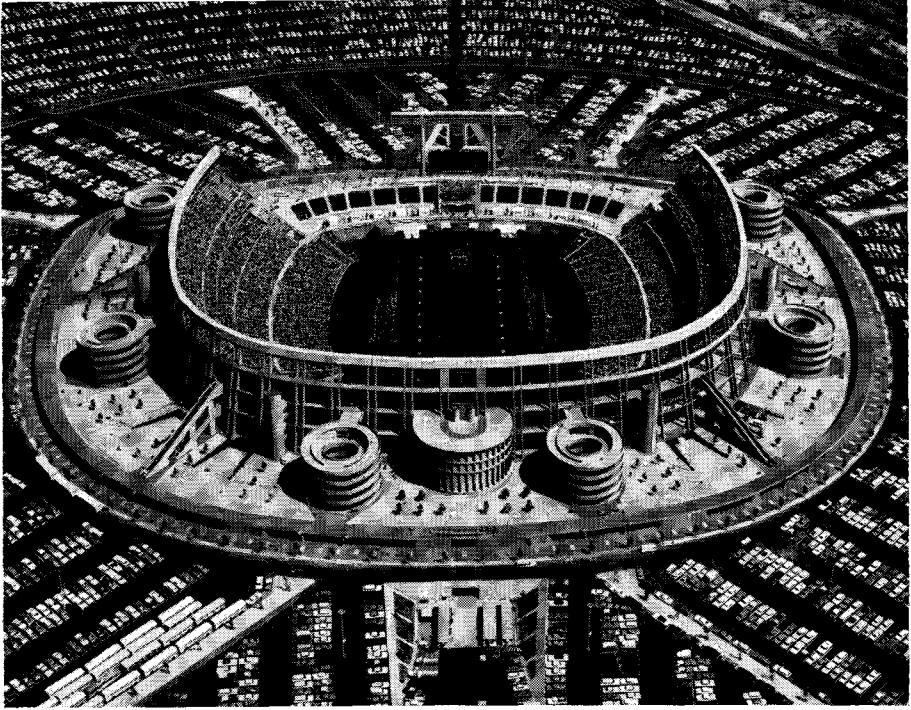
Prestressed concrete: Castcon, Inc. and Delta Prestressed Concrete, Inc.



With a total length of 805 ft., the use of precast, prestressed concrete girders reduced superstructure depth and thereby shortened the overall length. Substructure consisted of 80-ft. prestressed concrete pile bents. Deck girders are 60 ft. long. The bridge was divided into 3-span units designed for continuity under live load.

MULTI PURPOSE STADIUM San Diego, California

Architect-Engineer: Frank L. Hope & Associates
Precast and prestressed concrete: H. G. Fenton Material, Inc.,
K & N Structural Concrete Co., Inc. and San Diego
Prestressed Concrete Co.



The 50,000-seat San Diego Stadium has an eight radius, three-sided symmetrical seating arrangement adjustable for football, baseball, soccer or general assembly. Forty paired rigid frames support three levels of prestressed concrete seating risers, concourses, and a precast lighting ring with sections ranging in weight from 28 to 34 tons. The self-contained lighting is capable of producing 300 foot-candles on the playing field for night color T. V. There are 10,000 cu. yd. of precast, prestressed concrete, with 1715 precast pieces in 234 different shapes. One-half of the field level seats are mounted on movable stands supported by rubber tires for easy conversion.

NORTH AND SOUTH PARKDALE BRIDGES OTTAWA RIVER PARKWAY Ottawa, Canada

Engineer: M. M. Dillon Ltd.

Post-tensioning: Conenco Canada, Ltd.



Two parallel three-span continuous bridges, one 135 ft. long and the other 137 ft., utilize post-tensioned, variable depth decks for attractive, light appearance. The westbound bridge, 28-80-27, has three lanes and the eastbound bridge, 28-81-28, has two lanes. Minimum depth over the middle 30 ft. is 15 in., increasing in a parabolic curve to 39 in. at the sloping piers. Decks were post-tensioned with 12-strand tendons on either 17½- or 21-in. centers. Post-tensioned back piers were tied to the end spans and abutments in such a fashion as to reduce the moment at center span midpoint. Post-tensioned rock anchors were used to provide an adequate safety factor for footing anchorage in the faulty limestone. Each structure has two cantilevered sidewalks 8 ft. wide and 12 in. deep. They were post-tensioned longitudinally before being connected to the deck by high-strength bolts. The twin bridges meet the multiple requirements of economy, attractiveness and low maintenance.

**NORTH TERMINAL, DETROIT METROPOLITAN
WAYNE COUNTY AIRPORT
Romulus, Michigan**

**Architect-Engineer: Smith, Hinchman & Grylls Associates, Inc.
Consulting Engineer: T. Y. Lin & Associates
Precast concrete: Precast/Schokbeton, Inc.
Post-tensioning: Conesco-Midcontinent, Inc.**



The unusual roof of the North Terminal Building was economically achieved with post-tensioned, cast-in-place concrete, providing a column-free interior of 150 x 300 ft. and large overhangs of 35 ft. or 41 ft. on all four sides. Each of 5 roof panels, 72 ft. wide and 232 ft. long, are supported on two cruciform columns, 60 ft. high and spaced 150 ft. on centers. A typical panel consists of roof slab, upturned perimeter beams, two horizontally curved girders and two cross arm girders. The girders are post-tensioned; the curved girders have horizontal arcs of 150-ft. radius and extend from corner to corner of the panel, intersecting at the column heads. The clever arrangement permits easy enlargement when required without affecting the structural or architectural design. Wall panels of exposed aggregate, precast concrete complement the board-textured roof structure.

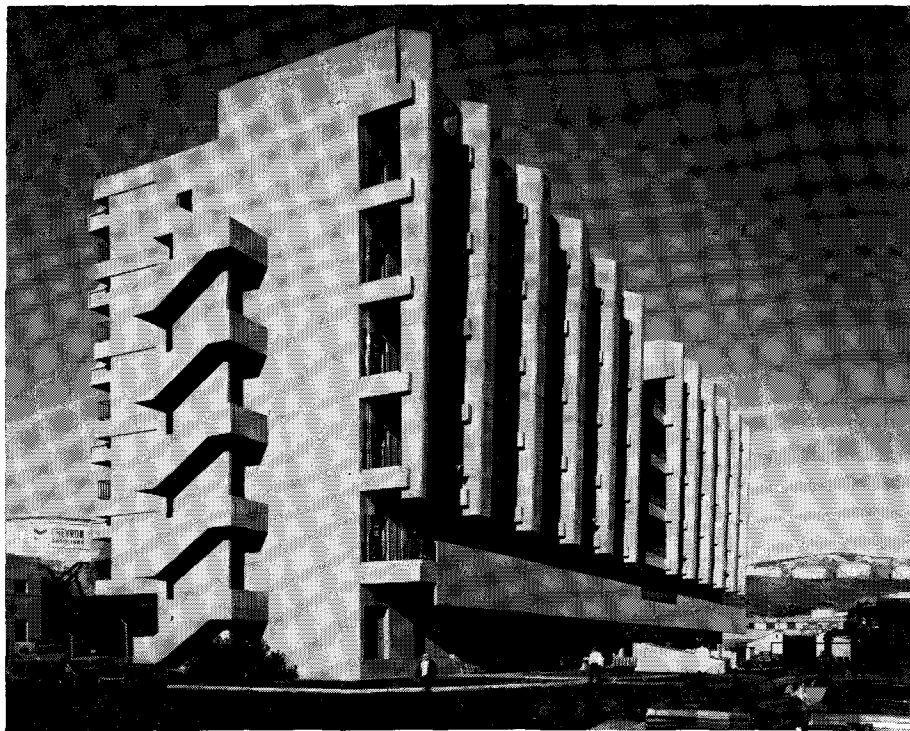
CHEVRON RESEARCH COMPANY LABORATORY

Richmond, California

Architect: McCue Boone Tomsick Architects

Engineer: John A. Blume & Associates

Precast, prestressed concrete: Ben C. Gerwick Co., Division of
J. H. Pomeroy & Co., Inc.



Research Laboratory "D" of this industrial complex, with 105,000 sq. ft. of gross area, has a cast-in-place reinforced concrete frame combined with precast concrete supply and exhaust air ducts and precast, prestressed concrete wall panels. The air ducts are precast boxes with 4-in. walls and are supported on the exterior of the structure by the cantilevered framing. This permits maximum clear floor-to-ceiling heights in the laboratory areas. The use of high quality concrete resists corrosive effects of the exhaust gases. The prestressed wall panels, roughly 15 x 11 ft. and 4 in. thick, are smooth faced, as are the precast concrete ducts, thus complementing the rough, board-texture of the cast-in-place concrete.