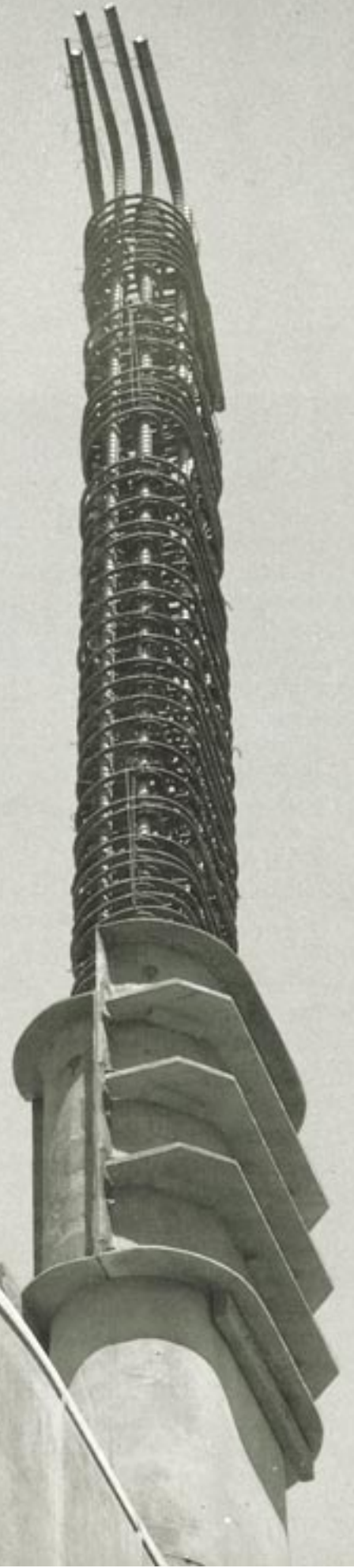


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CAST-IN-PLACE

MFG. A MOLDED FIBER GLASS CONCRETE
FORMS COMPANY PUBLICATION



CUSTOM CONCRETE FORMING IN SAN JOSE

Cast-In-Place Concrete: Shaping Architectural Design For The Future



When completed in April of '92, the Visitor Paid Garage at the Santa Clara County Government Center in San Jose, California will have five levels, housing over 420,000 sq. ft. of space.

A parking garage being built at the Santa Clara County Government Center in San Jose, California, embodies all of the finer elements achievable with cast-in-place concrete technology. It also points to the direction of architectural design for the future.

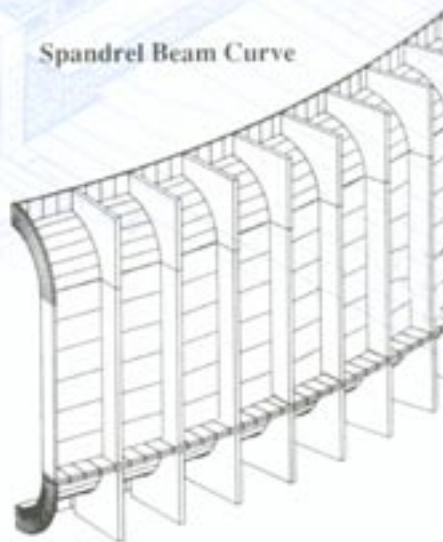
"When we designed this structure," says Michael Smith, project manager for the Watry Design Group, an architectural design firm from Belmont, California, "we wanted to provide an aesthetically pleasing and unique use of concrete. We also wanted to soften its frequent negative connotation of being considered a 'hard' material."

When completed in April of '92, the Visitor Paid Garage will accomplish that and more. The exterior spandrel beams have rounded edges and wind continually from grade to the top of the deck in one, seemingly uninterrupted, gradual spiral. Corners are curving radii instead of hard, sharp angles. In short, the design has the building looking soft and light, yet substantial at the same time.

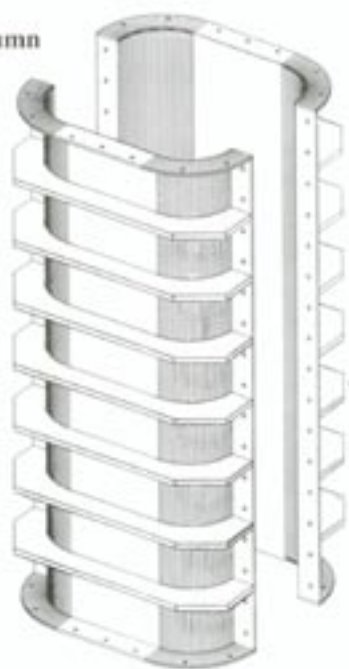
The exterior spandrel beam form is in an upturned position and serves several purposes. Aesthetically, it gives a decorative finish to the exterior. Structurally, it carries the slab and other building loads. And

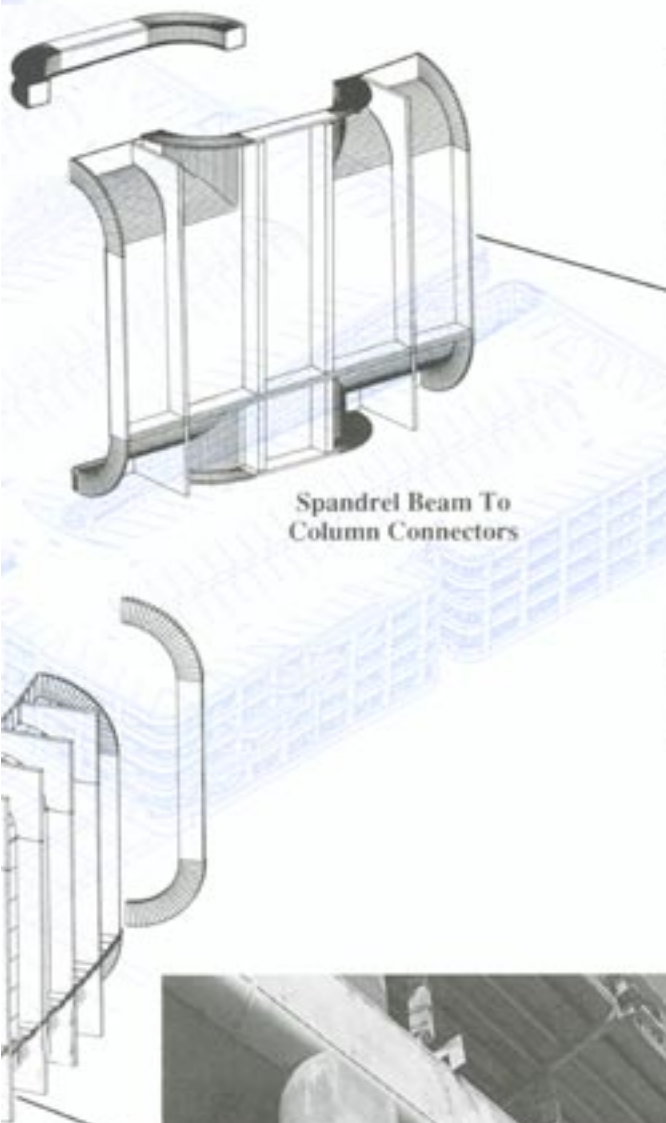


Spandrel Beam Curve



Column





Spandrel Beam To
Column Connectors



The forms shown here are but a few of the 150 variations of custom forms needed to cast-in-place this parking garage for the San Clara County Government Center in San Jose, CA.

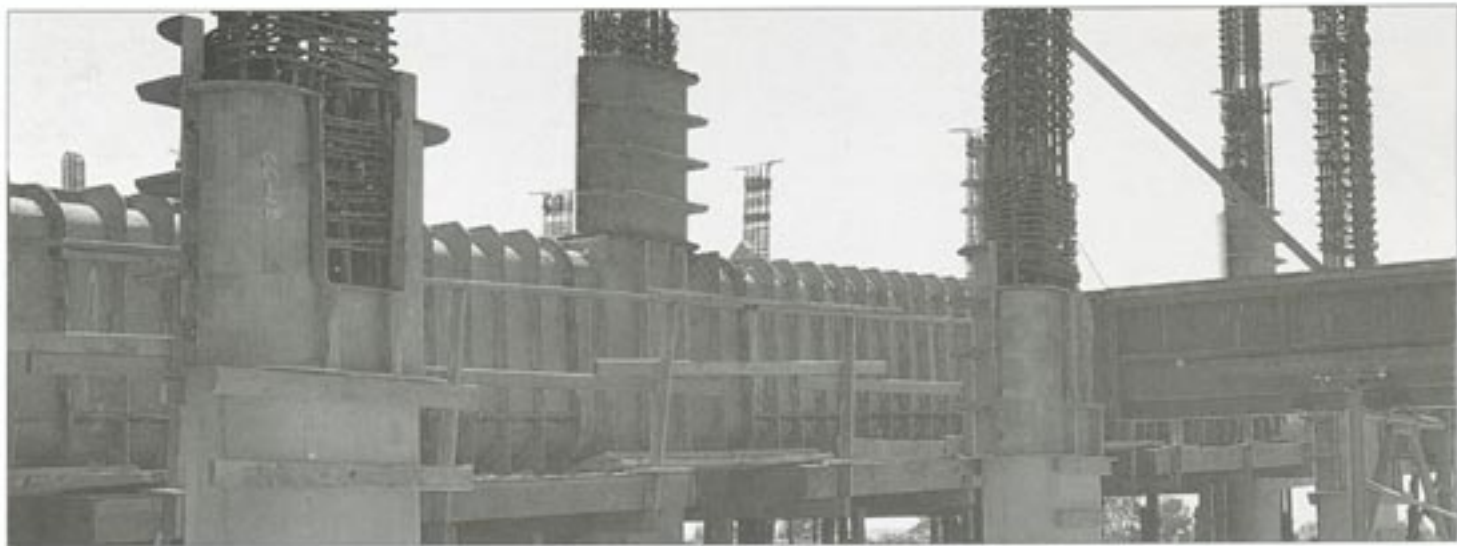


functionally, it acts like a guard rail.

The garage is huge, over 420,000 sq. ft. in all, and is comprised of five levels, four elevated slabs and one slab on grade. Building it included two miles of the architectural spandrel beam.

"We chose fiber glass forms over wood and steel forms," says Bill Barend, project manager for Concrete Form Constructors, a concrete form work subcontractor, "because they were really the only economical way to do the job. Wood forms would have been complicated, expensive and less durable. Steel forms would have been prohibitively expensive because of the number of custom forms required by the design of this structure."

The Visitor Paid Garage's unique design involves over 150 variations of custom forms. They were supplied by Molded Fiber Glass Concrete Forms Company.



Fiber glass forms were chosen because wood forms would have been too complicated and not as durable. Steel forms would have been cost prohibitive due to the number of custom forms required to meet the needs of the parking ramp design.

Nearly four months were needed to fabricate all the architectural forms at MFG Concrete Forms Company's Carson, California facility. Constant modification of tooling was necessary to make various-sized parts. Approximately 30-40% of the cost of the contract was for tooling alone.

Bill Barend designed the architectural forms and worked closely with MFG's Chief Engineer, Mario Jarin, to ensure the accurate fabrication of the forms.

"The project went smoothly because of our 3-D detailing computer system," says Mario Jarin, "and our efficient engineering management."

Bill Spurr, Western Regional Sales Manager for MFG Concrete Forms Company believes the cooperation between MFG engineers and Concrete Form Constructors' Bill Barend has played a vital role in the success of the project to date. "They were able to design the forms with the proper dimensions and tolerances so they fit together like a hand in a glove on the job site," he said.

That is no small accomplishment, considering over 200 parts were

fabricated to create beam-to-column connectors, bull nose spandrel beam-to-column connectors, spandrel beam curves, straight spandrel beam forms, radius forms and various other forms.

"The complexity and required appearance of this particular structure was an ideal application for composites," says Jim Sommer, Vice President and General Manager of MFG/West. "Approximately 50,000 pounds of materials were used. This, combined with current day technology and engineering, and all in house tooling and fabrication, made it possible for Molded Fiber Glass Company to produce and deliver these custom concrete forms in a timely manner."

The ramp areas of the parking garage require special uphill and downhill forms to meet the dimensional changes within the structure. Other areas that require special form work are the elevators, stairways, and street bridge. Most forms are being re-used on each of the five levels of the deck.

MFG also collaborated with Bill Barend in the design of vertical and horizontal reveal strips which were incorporated into most of the

forms. These strips saved the contractor money by eliminating the need to add strips after the forms were in place, reducing labor costs. No other building material provides the strength of cast-in-place concrete while allowing for the design flexibility that this technology offers. Advances in re-useable forming material such as MFG fiber glass helps keep costs down, allowing design architects to make the most of this most versatile of building materials.

The intricacy of the design of structures like the Visitor Paid Garage can only cause one to wonder at the functional beauty cast-in-place concrete buildings of the future will surely have.

For more information on the Santa Clara County Visitor Paid Garage project or to find out how fiber glass concrete forms can give you greater design flexibility at an economical price, call or write, Molded Fiber Glass Concrete Forms Company. West coast customers can contact Bill Spurr at 1-800-824-3389. On the east coast, call Joe Kusiak at 1-800-458-0863, or 1-814-438-3841.



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