RSIO

Winter 1990

Volume 4 No. 1

Case History Report

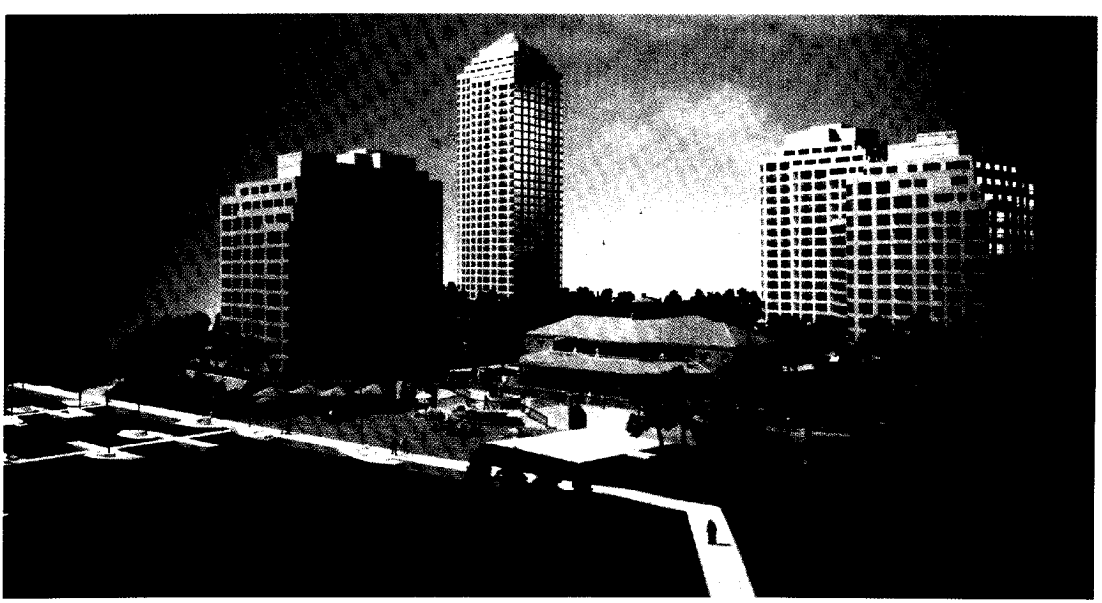
Condominiums

The Residences of Marina Del Rey

A major focal point of the City of Etobicoke's revitalization of the "Motel Strip" is the Residences of Marina Del Rey project, a development of Camrost Development Corporation. Located just west of Park Lawn Road on Lake Shore Boulevard, the project, designed by Page & Steele Architects, consists of three condominium buildings, a recreation centre, and an office building.

Marina Del Rey, which won the Urban Development Institute of Ontario's (UDI) 1989 Residential Award of Excellence, is a forerunner of the upcoming construction boom that will transform the narrow band of land sandwiched between Lake Ontario and Lake Shore Boulevard, running along the Humber Bay.

In designing the waterfront project, the architects and engineering consultants were faced with a number of considerations. These included: height restrictions; the irregular shape of the condominium buildings; speed of construction to accommodate the fact that many of the condominium units were pre-sold; fire proofing; access to the site for materials storage; and the proximity to Lake Ontario and the resultant water table level.

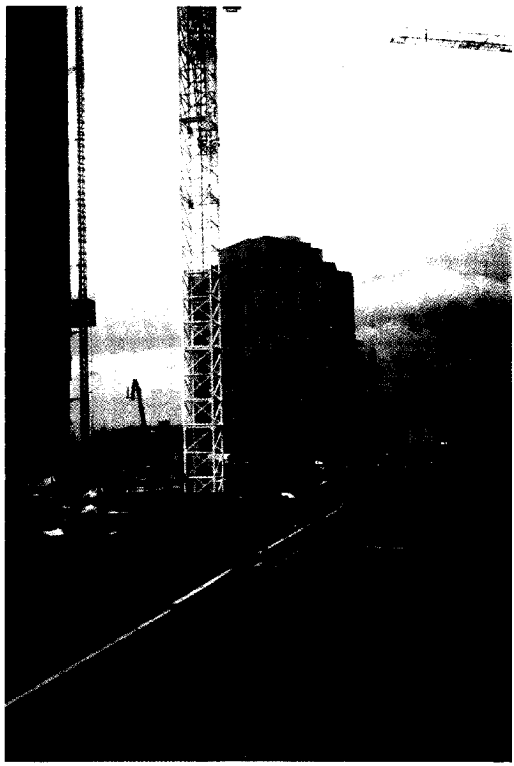


Award winning Marina Del Rey Project on Lake Ontario.

The first consideration, easily handled by the choice of cast-in-place reinforced concrete as the building material, concerned height, says Ed Sweerts, an engineer with Kazmar Associates Limited, Consulting Engineers. "In residential construction, only prestressed or reinforced concrete is considered economical. The main reason is the floor to floor height which can be maintained at 2.6 metres. This is very important where height restrictions apply." By using concrete on the project, in effect, for every four floors, the architects were able to gain one additional floor, says Denis Rioux, architect and a partner with Page & Steele Architects.

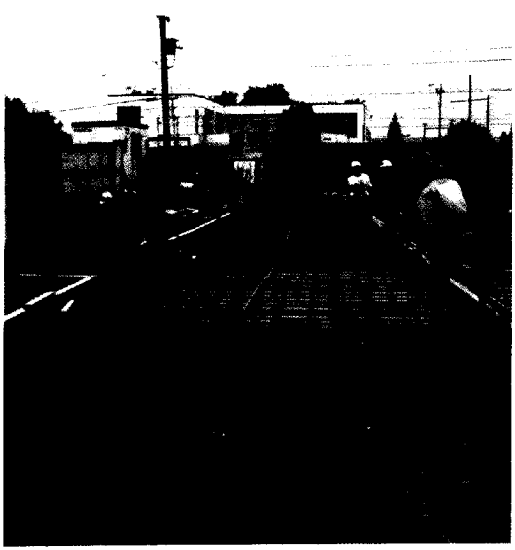
Even still, the irregular design of the project, bent on its own axis, depended on the flexibility of concrete, according to engineer Sweerts. "The unique architectural design of Marina Del Rey, in which the upper floors step back at several levels, was structurally accomplished by locally increasing the slab thickness, thereby transferring the loads with a minimum increase in floor to floor height," he says.

The construction of the Marina Del Rey project, including the below grade parking garages, utilized over 54 500 cubic metres of concrete. Reinforcing this were more than 5 000 tonnes of rebar.



Epoxy-coated rebar was used throughout the parking structures for corrosion resistance.

5,000 tonnes of rebar were used.



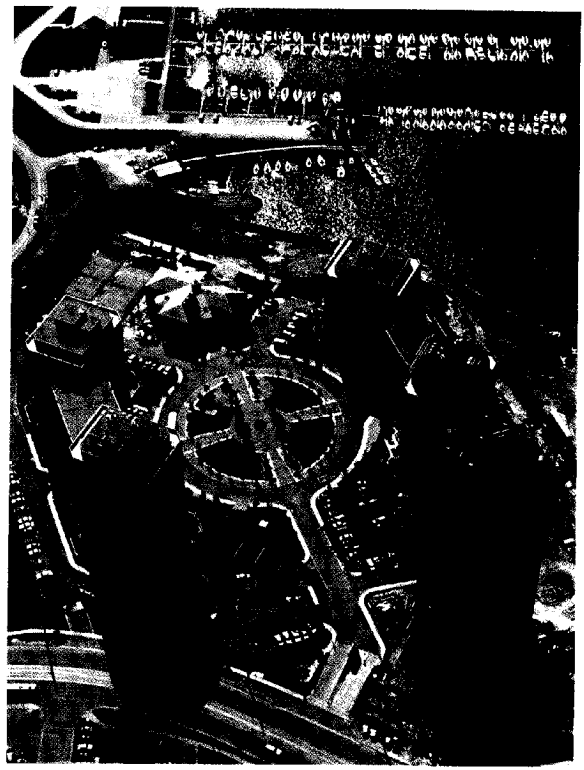
The sheer size of the project might have been daunting if construction had needed to proceed all in one phase. But, says Bill Jamieson, job captain of the project for Page & Steele Architects, the use of concrete allowed for the project to be erected in stages. The building was built in four separate blocks and then literally tied back together again.

Still, the speed of construction was one of the foremost considerations in everyone's mind and therefore, formed much of the decision to go with concrete, acknowledges El Ardizzi, project manager with the contractor, Edilcan Construction Corporation. Construction of the 300-unit Phase One began in 1988, continuing with the 264-unit Phase Two and 255-unit Phase Three through 1989. It is expected that Phase Four, the commercial office building, will be completed in 1990.

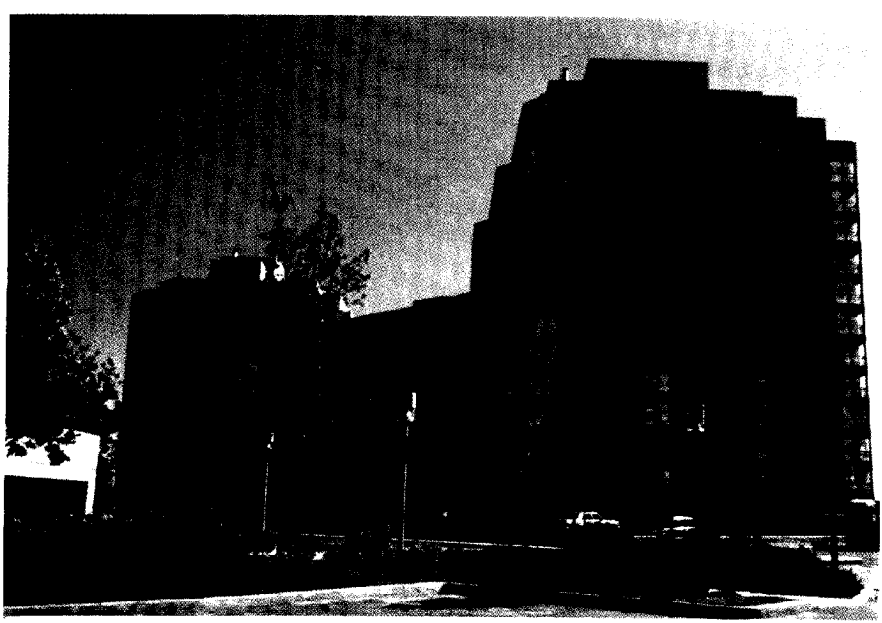
"Many of these condominium units were pre-sold. We needed to get the building up and occupied in a reasonable time frame," says Ardizzi, "With concrete, we were able to complete a floor slab every four days by utilizing a special concrete mix with 75% of 28-day strength at 40 hours. The advantage with concrete is that we had choices available to us by customizing the mix."

The speed of construction was also bolstered by the fact that no special treatments are required for fireproofing when concrete is used, adds Ardizzi.

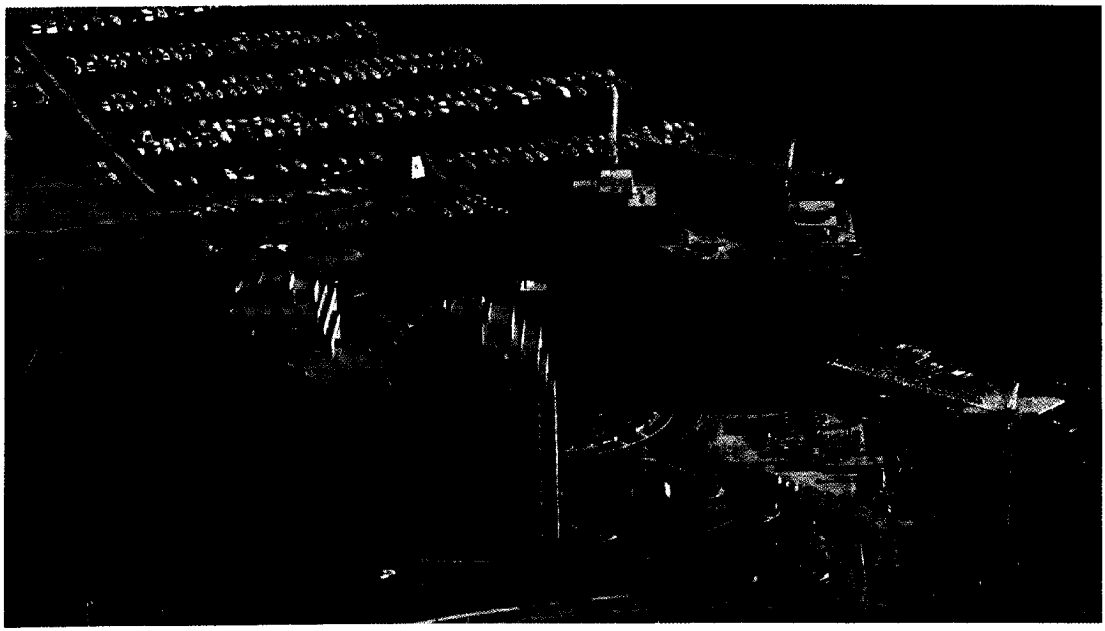
"Access to the site, with its back on Lake Ontario, forced us to consider our use of on-site space very carefully," says Ardizzi. "With concrete you need only have on site the material required at that particular stage of construction. Your site is not used as a holding yard."



Concrete slabs for parking decks enabled extensive landscaping. ►



◄ Speed of construction with concrete, allowed fast occupancy of pre-sold units.



Proximity to Lake Ontario required special considerations during design and construction.

Another consideration in designing the Marina Del Rey project was its proximity to Lake Ontario and the water table. Since the site is a former landfill, the buildings could not be constructed loadbearing, says architect Rioux. In addition, the three condominium buildings have a common, one-level below grade parking structure. Phase Four has a separate, two-level underground parking garage. In the case of the Phase One condominium, the level of the water table was only about 25 centimeters below the parking level says Rioux. Following discussion, it was decided to support the entire project with more than 3,000 poured concrete caissons extending into the bedrock.

The use of the concrete slabs for the parking garages let the architects plan for extensive landscaping, or green areas, on the 12-acre site. This fact has been noted by both the UDI in giving its award, and appreciated by the City of Etobicoke planners who hope to create an integrated, mixed-use, "green/landscaped" area out of what was once an underutilized strip that has so much potential.

Credits:

Owner & Developer: Camrost Development Corporation
Architect: Page & Steele Architects
Consulting Engineers: Kazmar Associates Limited
Contractor: Edilcan Construction Corporation

REINFORCING STEEL INSTITUTE OF ONTARIO
1 Sparks Avenue, Willowdale, Ontario M2H 2W1
(416) 499-4000 / Fax (416) 497-4143