

HEAVY CONSTRUCTION NEWS

Incorporating Construction Record

COVER STORY

**Innovative design cuts
cost of '94 games pool**





COMMONWEALTH GAMES' aquatic centre will contain one acre of water under one roof.

COMMONWEALTH GAMES

By Correspondent David Kosub

Huge aquatic centre features unique designs

IF FACILITIES construction at the Montreal Olympics of 1976 and the Los Angeles Olympics of 1984 taught us anything it's that there's a right way and wrong way to do things. Build it too big without due attention to the rising costs of materials and a volatile labour situation, ignore the people who have to pay the bills after the last marathon runner has made his way down the home stretch and you've pretty much guaranteed everyone a fiscal nightmare.

That's why the design and construc-

tion of an Olympic-sized swimming facility for the 1994 Commonwealth Games in Victoria is so impressive. Officials there are managing to build it big at a fraction of the \$100-million to \$200-million price tags routinely rung up at the sites of earlier Commonwealth games—for the sake, let us be reminded, of ensuring a handful of swimmers backstroke or scissor-kick their way to athletic glory.

How small is the cost of a swimming facility for Victoria in 1994? At \$22 million, as these things go, it's mere

petty cash.

How big? Very big: a 50 m high performance competition pool, a 50 m warm-up pool, a 4.5 m dive tank, a leisure pool for area residents once the games are finished—an entire acre of water, in fact, under a single roof.

Add a sports development centre for use by West Coast athletes, the usual bevy of change rooms, a weight lifting room and gymnasium, then top it all off with a 930 m² library and you've constructed a facility that stands out as one of the most ambitious projects ever

AQUATIC CENTRE

undertaken—anywhere.

The facility, known officially as Saanich Commonwealth Place, is the brainchild of the guru of 50 m swimming pool design, Joe Hunsaker of St. Louis. The firm charged with the task of building it is Campbell Construction Ltd., Victoria, builder of the city's Grand Pacific Hotel, home to one of the most sophisticated commercial indoor pools in British Columbia.

Ken Farey, president of Campbell, says the sheer magnitude of this project had immediate implications for construction: making sure all necessary embedded structures were cast "at the right locations and at the right heights" of an enormous layout.

"After that, our biggest concern is casting the pool tanks and making sure there's no leaking. That is where the crunch comes. The day of reckoning will come down the road a bit when we test the tanks. We expect we won't have any problem with them, but it's always a concern."

What makes the aquatic centre unique, Farey says, are features unlike any others in the history of the Commonwealth Games.

Most Olympic-sized pools are laid out in the "dotted-i formation"—dive tank at one end of a 50 m competition pool and the warm-up pool located in



ONE of the centre's prominent areas is the competition pool (foreground).



CREW works in dive tank. The tank's diving tower will be the last major piece of work at the centre.



ENTRANCE to Saanich Commonwealth Place. another building.

In Victoria, the warm-up pool and the dive tank lie end to end *alongside* the competition pool, allowing swimmers to move immediately from warm-up exercises to the main competition a few metres away.

Better still for swimmers is the fact that a bulwark separating the dive tank and the warm-up pool can be moved to one end giving them a full 50 m in which to warm up prior to actual competition.

Overlooking it all—the facilities single most important structural feature—a single column at the centre instead of the usual web of pillars and posts used to support roofs at other pools. Again, the advantage is space: an entire unobstructed acre of water opened up for both sports and recreational water activities.

"There was no temporary bracing necessary," Farey says. "This column comes off a spread footing with the bottom coming up to a certain height in

concrete and then of course it takes off from that with a big round structural steel column, Canron doing the structural steel work for us."

Like a lot of contractors, Farey keeps an important rule uppermost in his mind: People seem to pay attention to the job you've done only when something fails to work. That's why he and Douglas Campbell (whose firm, Campbell Moore Architects, oversees the project) paid particular attention to the most important aspect of the aquatic centre—the competition pool itself.

A "fast" pool, Campbell says, is one that generates minimum turbulence at the middle of the pool or as the swimmer makes a turn. But to maximize swimming speeds at the height of a competition you have to pay particular attention to the design of a pool's bottom and gutters.

"Another consideration is the psychology of the space. How does the athlete feel when he first walks out into the space? Uplifted and challenged? Wor-



COMPLEX is large enough to accommodate large trucks.

ried and intimidated? Spectators can't be too close to the swim lanes or too far away, just enough so the athlete feels that there's a lot of support close to him without feeling hemmed in."

If there's one thing that both Campbell and Farey are pleased about it's the speed at which 100 employees and sub-trades have worked since excavation began at the site in May 1992. By the time the backfill at Saanich Commonwealth Place is finished and perimeter walls poured this spring, a vast network of piping will circulate beneath the facility's concrete slabs and around the perimeter.

"Then of course we'll pour the slab on grade around all the tanks to form the walking areas or decks at apron level," Farey says. "The last major piece of work is the diving tower, which is all cast in concrete, an interesting, intricate piece of work." The entire facility should be finished by Nov. 1, several months ahead of the March 1994 contract date. ♦



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