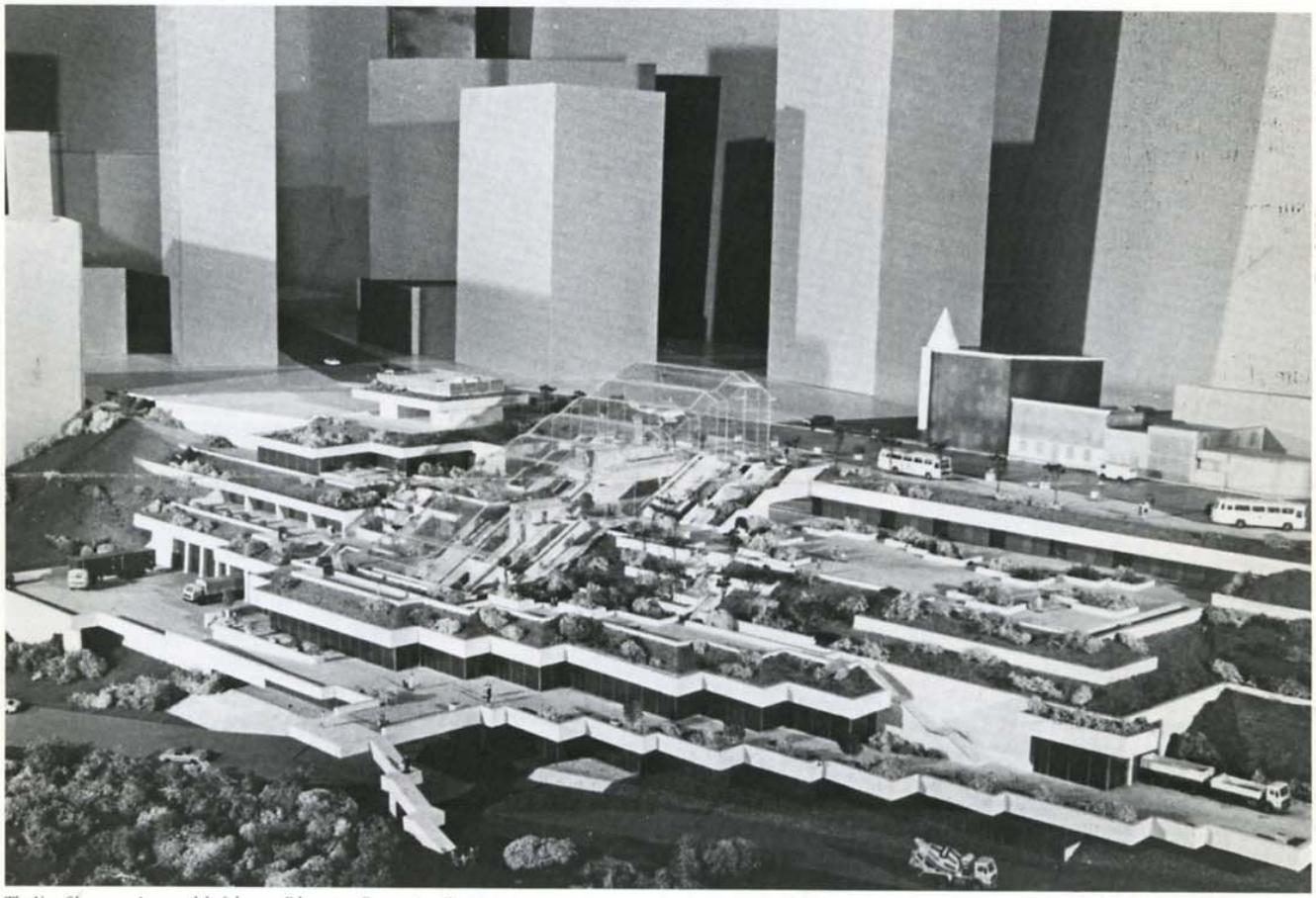
GENSTAR Cement

inform

VOL. 7, NO. 6, DECEMBER 1982

Dining out...under Jasper Avenue!



'The Non-Skyscraper'—a model of the new Edmonton Convention Centre.

If you'd like to host an intimate dinner party for 3,000 of your closest friends next spring, reserve now...at the new Edmonton Convention Centre!

Slated for completion by May, 1983, the "Non-Skyscraper" (as the centre is currently dubbed) "soars" four stories into the earth, making it one of the world's most unique convention facilities.

And—according to various convention fact sheets—the new centre will contain the largest "meeting hall" in Canada. It's "larger than a football field"...and is capable of seating "more than 3,000 people for dinner."

While all these people are dining out beneath Edmonton's main street, however, they'll need a pretty good roof over their heads...which is what this story is all about.

But first, a bit of background information.

In 1971 the decision was made to build the convention centre, (although the actual ground-breaking didn't take place until March, 1980). After a good deal of research and consultation, both the type of structure to be built and the construction site were selected: A tiered, multi-level building on the eastern side of Edmonton's downtown core—off Jasper Avenue, sloping down the south face of Grierson Hill.

The hillside location was chosen because the city already owned this property in the river valley...and because the city was also looking for opportunities to expand the downtown area eastward.

Another major factor in selecting both the site and the construction technique was **energy efficiency:** (a) the southern exposure of the complex; (b) the insulating advantages of being built into a hill; and (c) the extensive use of concrete. The main building alone contains 37,300 cubic metres of concrete. (An average house foundation has only 20 cubic metres—that's 1,865 homes in one centre!)

As can be seen here in the actual construction photographs as well as in the

(continued page 2)

architect's model, the convention complex is recessed into the riverbank...and consists of a series of terraces, designed to offer unobstructed, glassed-in and patio viewing of the river valley below.

There are many fascinating aspects to the construction of this massive undertaking (such as the removal of the largest volume of earth ever excavated to construct a building in Canada), but we'll concentrate primarily on the "roof" and its unique engineered fill.

Without going into all the intricate technological details, here is a simplified description of what exists beneath Jasper Avenue.

First, a structural steel frame was built to support the roof of the convention centre and to support the portion of Jasper Avenue that runs directly over the top of the roof.

This frame has a multitude of peaks and valleys necessary to provide drainage for any moisture which may seep down into the structure. The steel was then covered with a metal form called *'Q-Deck'*—over the top of which was placed 152 mm (6") of structural concrete. A waterproof membrane followed, and then 102 mm (4") of flat, rigid insulation.

But even with all of these "coverings," the peaks and valleys in the roof structure still existed and a material was needed to fill in all the spaces and "level out" the roof.

A unique geotechnical engineered fill material—known as *'Elastizell E.F.'*—was proposed and selected for the job, primarily because of its light weight and its significant cost savings.

Again in simple terms, Elastizell E.F. ("E.F." stands for "Engineered Fill") is added in a measured volume to a concentrated Portland Cement and water slurry...and then blended together in specially certified equipment. This fully automated mobile piece of equipment was designed to operate in tight work areas.

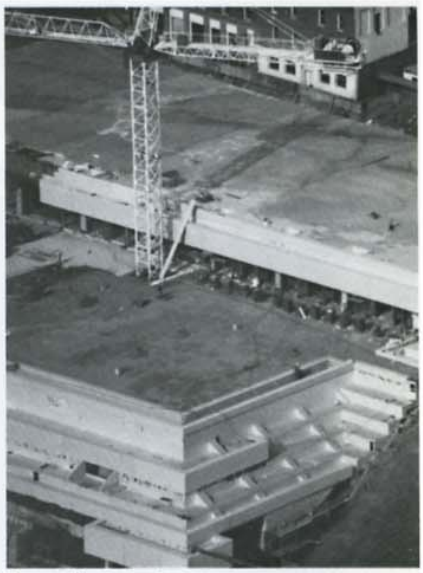
An added advantage of this lightweight fill is its insulating properties—an important consideration to this energy efficient complex.

Scolly Enterprises Ltd.—the Certified Canadian Applicator for Elastizell E.F.—placed this fill material in a very short period of time, attesting to the fact that this method is a very efficient process and can speed up the job.

To complete this aspect of the project, a structural concrete roadway was poured over the top of the lightweight engineered fill...and Jasper Avenue was once again open for business.

(contined from page 1)

Aerial view of concrete "roof" under Jasper Avenue.



Centre under construction.

Constructing the new convention complex has certainly created a lot of jobs for city residents...and it is expected that the centre will substantially increase both tourism and trade to Edmonton.

Future plans call for a variety of underground 'pedway' connections to the major downtown hotels, shopping facilities and office buildings—all of which will aid in "opening up" and expanding the downtown area.

But meanwhile, back to our dinner party. If you don't happen to have 3,000 close friends, invite 24...and play football instead.