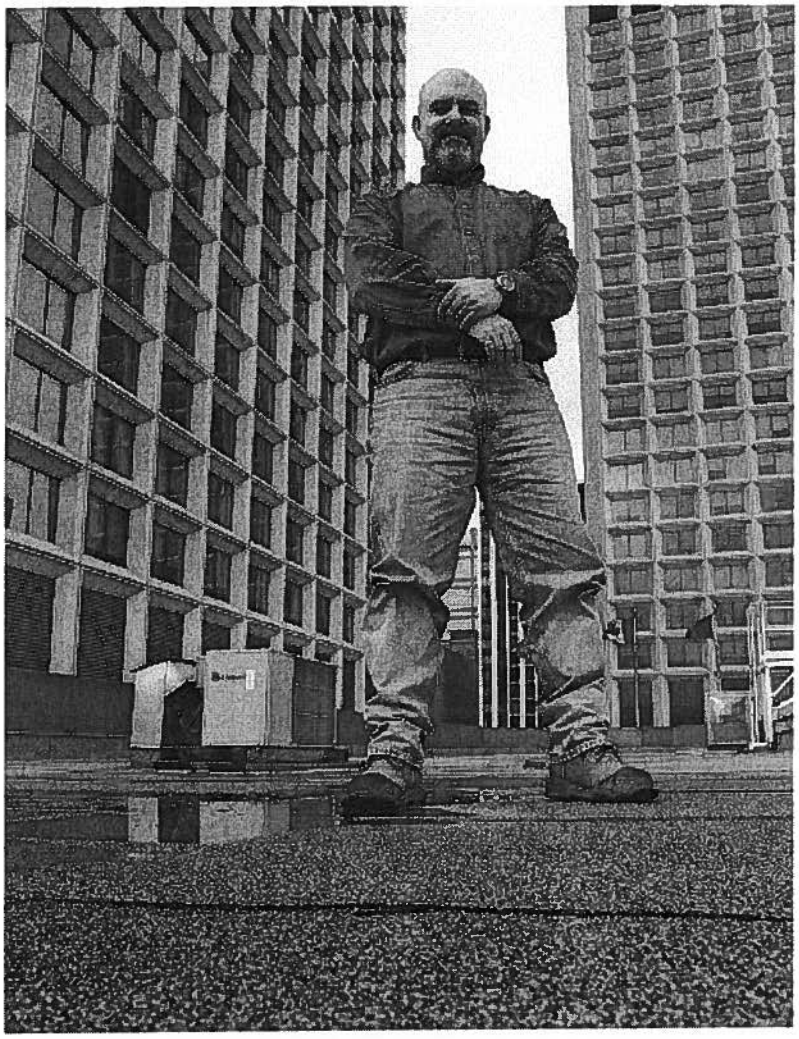
Business blooms on high

Williams Engineering hopes its 'living roof' takes root

BY DAVID FINLAYSON, EDMONTON JOURNAL MARCH 27, 2010



Gord Rajewski, regional director at Williams Engineering, stands on the downtown building's roof where a garden will be planted.

Photograph by: Ed Kaiser, The Journal, Edmonton Journal

When a sea of wild flowers blooms on top of Williams Engineering's downtown headquarters this summer, it will be more than just a pretty place.

It will provide insulation, help lower urban air temperatures, and filter pollutants and carbon dioxide out of the air.

The firm hopes the "living roof" it starts installing next week will be the benchmark for the increasing number of companies planning on going green.

When it's completed in May, the project will include test plots so partner NAIT can determine the best plants for Williams' -- and downtown Edmonton's -- dry and windy rooftop environments.

The two-storey, free standing building at 10010 100th St. is a good research subject because it's open to the river valley winds, and has two office towers looming over it that throw off heat and cast shadows at certain times of the day, says Gord Rajewski, Williams' northern region director.

"If we can make it work here, it will be a lot easier for others to make informed decisions on their buildings."

And it's not just throwing down soil and scattering seeds.

Some complex construction and environmental engineering is involved in creating a sustainable bio roof, Rajewski says.

The roof needs replacing anyway, so the timing was right. But the former Edmonton Club was built in 1966 with a roof structure that tapers from eight inches thick on the outside to four inches in the centre.

"We had our structural engineers do a lot of thinking about the weight. They decided the centre could support only three to four inches of soil, and the edge six to eight inches, so we're not going to be growing redwoods," Rajewski says.

The soil has to be a special mixture that's water retentive but doesn't create a silt that clogs the drains.

Since an automatic drip irrigation system that senses when different areas need water is being used, the roof will have to be of highest quality waterproof material.

And interlocking grids are used so the important parts don't blow away in a strong wind.

It's more expensive to build than a normal roof, and the maintenance costs are higher, Rajewski says.

"You don't do it unless you are really interested in the green movement."

In Williams' case, it's an extension of a rebranding last year toward a more eco-friendly culture, symbolized by new green and brown logo colours.

The building's owners, Health Care of Ontario Pension Plan, were all for it. And apart from NAIT, which will use the garden as a classroom for final year bachelor of technology students, other companies and groups have come on board to make it work.

The Alberta Real Estate Foundation contributed $40,000, and Tremco Roofing, Alberta Irrigation Supply, Erskine Environmental are all contributing materials and services.

Part of the mandate is to end up with a roof that will last longer than the current lifespan of about 20 years, and Rajewski says this one will be good for at least 30 years.

NAIT's challenge is to create a thriving green roof in a city known for its dry and windy climate,

research scientist Leonie Nadeau says.

A trial on another Edmonton building last year using containers found that plants from the dry southeast Alberta area such as low goldenrod, flax and cinquefoil did well.

The Native Plant Producers Society of Alberta has donated 1,500 seedlings to the Williams project, and more will be bought if necessary, Nadeau says.

"There's a huge interest in green roofs in Alberta. It will be interesting to see how this one develops over the year."

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