



## **Seattle Daily Journal of Commerce**

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### **INDEPENDENCE STATION'S GOAL: BE FOSSIL-FUEL-FREE**

June 28, 2007 -- The developer of Independence Station, a mixed-use complex under construction in the small town of Independence, Ore., says he is aiming for his project to be the highest-rated LEED building for new construction in the world.

Developer Steven Ribeiro of Aldeia said his team is shooting for 66 out of 69 possible LEED points, though projects often don't get all the points they seek. The team says its closest competition under LEED for new construction is the Alberici Corp. building in St. Louis, Mo., with 60 points.

Ribeiro said the project is his way of proving that green, high performance buildings can be built anywhere. Ribeiro is a 44-year-old, second generation developer who started doing projects in 1985 and realized about six years ago he wanted to build sustainably. He has taken green a step further by operating a gas-efficient airplane that he claims "is probably the most efficient plane in the world." He said his plane gets about 60 miles per gallon when flying at 130 miles per hour.

Ribeiro came from Los Angeles and now lives in Salem, but he said he first fell in love with the city of Independence when he lived in an old church on the outskirts of the city.

Independence is located about 15 miles southwest of Salem. The \$15 million project is a 57,000-square-foot, three-story building with ground floor retail, office space and 16 condos. Condos will cost between \$250,000 and \$700,000. The project should be complete in late 2008.

Independence Station will be the largest building ever built in the historic downtown, according to the project team. The town has about 8,000 inhabitants, according to the 2005 U.S. Census.

With Independence Station, Ribeiro wants to show that Americans can reduce the amount of energy they consume in buildings by about 75 percent. He calls this approach "retro futurism."

"I'm taking the best of the past and the best of the future and discarding the rotten stuff," he said. The rotten stuff, according to Ribeiro, includes today's fascination with video games and the nation's dependence on oil.

Scott Thayer, principal at project architect Ankrom Moisan Architects, said avoiding oil is a primary motivator for the Independence Station team. "We're trying to make it fossil-fuel-free."

The building will produce all of its power through cogeneration.



During sunny months, most of the power will come from photovoltaic panels covering the roof. Extra energy produced from the panels will be stored in batteries in the basement for use when solar energy isn't available. Surplus power will be sold to the local utility. The building can buy power from the grid when battery power is depleted.

During cloudy months, the building will get most of its energy from a biodiesel-fueled generator. The generator works by burning biodiesel in an old tug-boat engine Ribeiro has christened Mabel. The generator will create electricity for the building and also produce heat to warm the building and make hot water. Thayer said all generators produce heat but most dissipates into the air and is wasted.

In the summer, the building will be cooled using ice stored in an underground tank. Radiant pipes within the concrete will keep the space comfortable.

Heat will be transferred the same way, creating a system that heats and cools the actual building instead of the air within it.

Because of the advanced energy system, Ribeiro said the annual utility bills are expected to be 92 percent less than those of a building built to current codes.

The generator will run on three kinds of biofuel, including recycled vegetable oil from local restaurants and fuel purchased from biodiesel manufacturers. Fuel also will come from Oregon State University's chemical engineering department. OSU will have a small classroom in Independence Station to test and create new formulas of biodiesel to determine what works most efficiently for different purposes.

Ribeiro said with biofuel storage on site, Independence Station should be able to run continuously for nine months, disconnected from the energy grid.

The multi-purpose energy and heating system is emblematic of the way the team wants the building to reuse its waste.

Rainwater that lands on the roof will be harvested, with a green roof acting as a natural filter before the water is collected and stored in tanks. That water will be used to flush toilets and irrigate the landscape. The green roof is important, Thayer said, because it works with the photovoltaic panels to keep them cool and efficient.

Some of the photovoltaic panels will have multiple purposes: producing energy, shading the building and capturing rainwater. High-efficiency plumbing fixtures like toilets and showerheads will also be used to reduce the water load.



Within a year, Ribeiro hopes to add a living machine: an on-site system that treats and purifies sewage. Eventually, Ribeiro said he would like to make the building self-sustaining, where all the products and power it uses are produced locally.

Ribeiro said his dream is to contract with a local farmer to produce sunflower seeds that can be turned into biofuel. "I'm all about keeping the dollars here in the local economy," he said.

Ribeiro wants to turn the site into a tourist destination for architects, developers, Realtors and contractors interested in green building. He will offer continuing education courses in Independence Station, and hopes it will help the local economy.

The project team includes developer Aldeia; Johnson Controls, general contractor; Ankrom Moisan Associated Architects, architect; Seder Architects, design architect; PacWest Engineering, civil engineer; Miller Engineering, structural engineer; Balzhiser Hubbard Engineers, mechanical, plumbing and electrical engineer; GreenWorks, landscape architect; and Green Building Services, consultant.

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