DATA SHEET

NEW HIGH-ENERGY-EFFICIENCY BUILDING

Approach
The innovativeness and commitment behind the Quebec designer and maker of covered mobile stages take a new turn: the second Stageline Group building in L'Assomption adheres to very stringent environmental criteria. A trailblazer in the show business industry, the firm is now playing the same role with regard to the environment, equipping itself with new industrial facilties compliant with the LEED certification standards (Leadership in Energy and Environmental Design), as laid down by the Canada Green Building Council.

Building surface area
3,670 square meters (39,503 square feet)

Integrated design
The new Stageline Group building is designed according to recognized LEED principles. Throughout the design process, the following five aspects were taken into consideration:

- Ecological layout of the site
- Energy efficiency of the building
- Water management and preservation
- Selection of safe materials
- Quality of the interior environment

A request for certification has been filed with the Canada Green Buildings Council (CaGBC).

Energy efficiency
The building was designed to operate at a level of high energy efficiency and integrates a number of components that allow for an important reduction in consumption:

- High-performance windows and light wells that maximize entrance of light
- Double windows and curtain wall with low-emissivity film, which maintains heat and reduces infrared radiation
- White coating of indoor walls to promote light reflection
- High-efficiency lighting technology combined with an intelligent monitoring system
- Solar thermal collector, which preheats cool air
- Ventilation units, which recycle heat from exhaust air
- Closed loop geothermal system, which captures Earth's natural heat
- Radiant floor, which increases the confort of occupants and the building's thermal inertia
- Ventilation and air-conditioning systems optimized on the basis of energy-efficiency measures taken

The project's energy-systems modeling made it possible to select the most cost-effective technologies. The building consumes 69.2 percent less energy than a similar structure compliant to the codes and standards in effect. The facilities rank first in Quebec and second in Canada among industrial buldings in terms of energy-efficicency.

Lighting
One of the challenges of the project was to provide lighting tailored to the firm's needs. The products manufactured by Stageline Group have opaque roofs, which when deployed inside the building block light coming through the ceiling. Lighting fixtures were laid out as to maximize the distribution of light, and a significant portion of the plant's lighting comes from wall fixtures.

Materials
Materials used for this building were selected to minimize impact on the environment:

- Steel structure, with a high proportion of recycled steel
- Construction work waste minimized by the Murox prefabricated-building system
- Ecological furnishings and floor coverings

Greenhouse gas emissions
Operation of the building does not require the use of fuel. Hence, the building's systems do not emit greenhouse gases (GHG). The design and construction of an industrial building that does not emit GHG are a very rare thing, and this is one of the first industrial structures in North America to reach that objective.

The building operation rely on hydroelectricity, which indirectly emits several tons of such gases. Despite those emissions, the building is one of the first to meet the targets of the 2030 Challenge, which calls for an 80 percent reduction in GHG emissions stemming from building operation by the year 2020. The Stageline Group building is therefore 12 years ahead of the most stringent design criteria to date.

Cost-effectiveness
The energy-efficiency measures adopted for this project are also efficient in terms of cost. A portion of the additional expenses incurred by the technologies selected are paid by Hydro-Québec's financial incentive program for energy-efficient buildings. The other portion of the cost premium is self-financed by the cost-savings that Stageline Group will achieve on its electricity bills. All of the energy-efficiency measures were adopted on the basis of what the client considered a satisfactory cost-effectiveness timeframe.

Ecological characteristics
Some of the technologies described above will be visible, but other components and features, like the geothermics, will be concealed. The building boasts the following environmental features:

- Integration of solar energy and geothermic energy
- Management of air qualit;
- Use of recycled, non-toxic materials
- Collection and storage of rainwater
- Use of rainwater in washing processes

In addition to the ecological choices made for the building, Stageline Group will incorporate the following elements for an ecological management of the site:

- Reduction of visual impact through landscaping
- Ecological landscaping
- Ecological garden and vegetable garden
- Composting
- Interpretive guided tours

The companies

Stageline Group

Stageline Group is the world's leading designer and manufacturer of covered hydraulic mobile stages, a product it created. The company also manufactures hydraulically operated mobile structures for mobile promotional and marketing activities. MSR Mobile Stage Rentals networks rental centres, with a fleet of more than 80 units dispached accross major North American cities. Stageline Group employs over 180 people at its two facilities in L'Assomption, and leverages a steady pool of subcontractors in Canada and the United-States.

Murox

Murox designs, manufactures and installs high-performance building envelope systems for the commercial, industrial and institutional construction markets. Thanks to an innovative technology of factory-assembled load-bearing walls, Murox offers owners, developers and general contractors buildings of superior quality, in a design-construction formula.