



Government

City of Toronto Maintenance Garage



The City of Toronto wanted to highlight its efforts to save energy and reduce greenhouse gas emissions. This large sign was painted on the SolarWall® cladding to raise awareness to motorists driving on the adjacent Lakeshore Boulevard.

Background

Maintaining an appropriate indoor temperature had always been a challenge at this City of Toronto Vehicle Maintenance Garage on Lakeshore Boulevard. The inside was chronically hot in the summer and cold in the winter, and heating the building was very difficult and costly. One major problem was that like many buildings of its age, the garage had only single-pane glass on three of the four walls.

Another important consideration was the indoor air quality. As it is a repair facility for city vehicles, like garbage trucks and snowplows, fresh air is needed to replace fumes which are exhausted. Maintaining an adequate level of ventilation air within the building was essential.

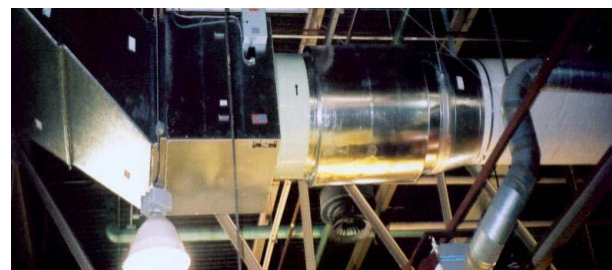
Solution

Conserval Engineering received a design build contract to install 613m² (6,600ft²) of SolarWall® cladding. They also specified three air make-up fans which deliver 81,600m³/hr (48,000 cfm) of solar-heated fresh air to improve the air quality in the building, and to relieve the negative pressure situation. (Occurs when more air is exhausted than brought into the building)

Prior to the building upgrades, the R-value of the existing glass wall was R-1. The new SolarWall system increases the insulation, and any heat loss is mixed with incoming air from the solar panels and is returned to the building.

The all-metal solar air heating system measures 91m long by 6.7m high (300ft by 22 ft), and was installed on the south wall of the building, which faces Lakeshore Boulevard. In addition to reducing heating costs and enhancing the indoor working environment, the cladding has also improved the overall appearance of the building.

The Toronto Atmospheric Environment Fund contributed funding support to this project.



One of three SolarWall fans distributing solar heated fresh air over the workplace.

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