



THE UNIVERSITY OF
WINNIPEG

University of Winnipeg STUDENTS ASSOCIATION DAYCARE

Investing in Sustainable Community



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WINNIPEG

The building is certified LEED® Silver by
the CaGBC for LEED .



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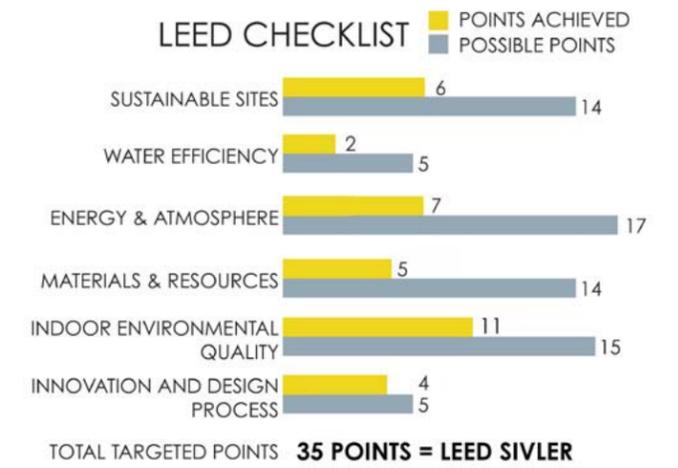
The University of Winnipeg Students Association daycare building is a new facility to accommodate an expanded number of daycare spaces for 112 children. The new building is located adjacent to the new Student and Community Housing complex and the new Richardson College for the Environment. The building is designed as a series of light-filled pavilions in a linear formation each one with a large bay window opening onto the large protected play yard to the east. Each of the play areas is a form full of colour and delight to ensure warm daylighting for the space. The exterior play space is accessible at two central cubbie areas which open into a flowing interior galleria. A covered entrance welcomes children into an inviting lobby with a parents lounge and open kitchen visible as one enters the space. The building is designed as a LEED® Silver facility with many energy and water saving features, high quality fresh air, durable and natural materials and high levels of natural light. The \$2 million project was completed in August 2009.

Eco•Facts

University of Winnipeg

Student Association Daycare

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The following is a summary of the health, performance and environmental features of the building based on the LEED (Leadership in Energy and Environmental Design) criteria:



Sustainable Sites

The University of Winnipeg Students' Association (UWSA) Daycare is constructed on a **previously developed site** on campus located close to 6 bus routes that serve the campus. **Bicycle storage** has also been provided so families and staff can cycle to the Daycare instead of drive.

Adjacent to the daycare is a **large area of green space** that the university has committed to maintaining through the life of the building. The open green space and light coloured pavers and concrete used on the site, will help to reduce the heat island effect on campus. Heat island effects are detrimental to site habitat, wildlife and migration corridors. Reduction in heat islands lowers the cost of cooling and HVAC equipments needs. **Interior and exterior lighting has been designed to reduce light pollution** into the night sky or adjacent properties.

Interior Daylight in Daycare

Simulation model showing daylight penetration into spaces



Water Efficiency

The Daycare has toilets and lavatories for children and adults. Each toilet is a **dual flush Caroma model and all faucets have aerators** on them to reduce water usage. The simulation model indicates a reduction of **46%** better than the Model National Energy Code for Buildings or a **saving of 447,790 gallons annually**.



Energy & Atmosphere

A well **insulated building envelope, energy recovery ventilators, energy efficient light fixtures, and occupancy sensors** were used to achieve an energy cost savings **45%** better than the Model National Energy Code for Buildings.

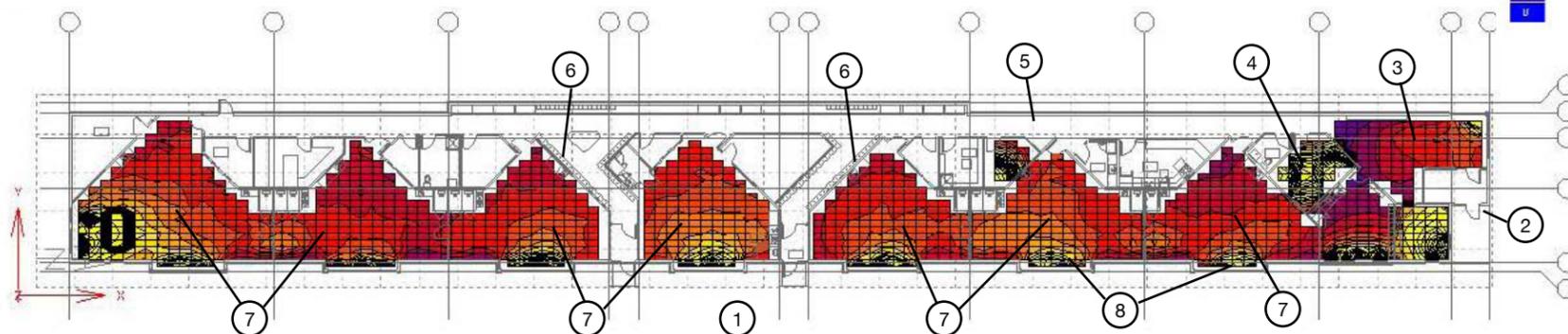
To minimize the impact of the building on the depletion of the ozone layer, all systems are CFC and HCFC free and the fire suppression system contains no halons.

Light tubes illuminate interior rooms from solar reflectance and reduce electrical requirements. Increased energy efficiency reduces environmental impact in relation to energy production and building systems emissions. Our EEA energy simulation indicates that these energy efficient features will save the university \$9,139 annually.



Materials & Resources

The University of Winnipeg has an **extensive recycling program and storage for recyclables** has been provided throughout the daycare. During construction, **80% of construction wastes were recycled or salvaged**. **11.5%** of materials used in this project, including carpet, concrete and steel, contained recycled content and **25%** of building materials used were extracted and manufactured within an 800km radius of the project site or transported by rail within a 2400km radius.



Indoor Environmental Quality

The UWSA daycare is a non-smoking building and has been designed with optimal ventilation to provide excellent indoor air quality for staff and students. **Carbon Dioxide sensors** signals the ventilation system when there is a higher need for fresh air. All adhesives, sealants, paints, coatings, and carpet used in the building were specifically chosen to have a **low level of Volatile Organic Compounds (VOC)**. VOC's can cause irritating effects or health issues for the installers as well as the building occupants.

94.96% of occupied spaces have a direct line of site to the outdoors and 78.9% of the regularly occupied areas receive daylight. This reduces the requirements for electrical lighting during the day and provides occupants with a connection to the outdoors, improving the well-being and productivity of the staff and students. All occupied spaces have operable windows and lighting control so staff can adjust the comfort of the daycare spaces.

During construction measures were taken to protect the indoor air quality of the building such as covering openings in ductwork, keeping a clean worksite, and scheduling. After construction was complete a building flush was performed to ensure a high level of indoor air quality prior to the occupants moving into the building.



Innovation & Design Process

The University of Winnipeg has a detailed program for procuring more environmentally friendly materials. All cleaning products used on campus must meet Ecologo standards and paper products must have more than 90% recycled content.

To further reduce the waste leaving the building, **the UWSA Daycare participates in the University of Winnipeg's composting program and composts all lunch scraps from the children.** Since Daycare facilities use a significant amount of water and energy for laundry, they have selected a new Energy Star washing machine to help reduce their impact.

This project estimates an annual reduction of 29 tonnes of CO₂ per year.