



# MAX AITKEN ACADEMY



## GREEN STRATEGIES



### 1) Sustainable Sites: Site Selection

As non-urban development increases, the importance of prudent site selection increases as well. Prevention of habitat encroachment is an essential element of sustainable site selection. The best strategy for selecting a building site is to choose a previously developed site. Because these sites have already been disturbed, further damage to the environment is limited and sensitive land areas can be preserved. This prevents the need for expanded transportation and utility infrastructure limiting the overall environmental impact of the development project. Max Aitken has been built on a previously developed site of an existing school.

### 2) Materials & Resources: Recycled Content

Max Aitken Academy has incorporated materials that contain recycled content into its building design. This reduces the environmental impact resulting from the extraction and processing of new virgin materials. Moreover, using recycled materials in the building helps to avoid the use of intensive energy and greenhouse gas as part of the industrial manufacturing processes. Many commonly used products are now available with recycled content, including metals, concrete, masonry, gypsum wallboard, acoustic tile, carpet, ceramic tile, rubber flooring and wall base, and insulation.

### 3) Indoor Environmental Quality: Low Emitting Materials

Canadians spend close to 90% of their time indoors, so the quality of the indoor environment has a significant influence on their well-being, productivity, and quality of life. For schools and schoolchildren indoor environmental quality is even more important. Many pollutants from building products and materials cause adverse health reactions such as asthma and contribute to chronic illness. Max Aitken Academy has incorporated low emitting paints, adhesives, sealants, flooring and composite materials through out its design to provide better indoor air quality.

Max Aitken Academy has been designed to meet LEED (Leadership in Energy and Environmental Design) Silver certification. This is awarded to buildings that meet performance benchmarks in areas of human and environment health, sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. Max Aitken Academy uses a wide array of strategies to meet the requirements of certification. Some of these strategies are outlined in this brochure. For more detailed information please visit:

<http://http://maa.nbed.nb.ca/>





## LEADING BY EXAMPLE



### 4) Sustainable Sites: Parking Capacity

The Max Aitken Academy site takes into account proximity to transportation and community services and is within walking distance of multiple amenities. Developments located within walking distance of existing or planned basic services limit urban sprawl and reduce transportation impacts, such as air pollution and greenhouse gas emissions. Facilitating walkable access to basic services may improve productivity of building occupants by reducing the time spent driving and finding parking space. In addition, increased levels of physical activity can improve occupants' health.

### 5) Indoor Environmental Quality: During and After Construction

Construction inevitably introduces contaminants into building interiors. If unaddressed, contamination can result in poor Indoor Environmental Quality extending over the lifetime of a building. Reducing contaminants inside buildings results in greater occupants comfort, lower absenteeism, and improved productivity. The Max Aitken Academy's construction team developed and implemented a IAQ Management Plan for the construction and pre-occupancy phases of the building focusing in 5 areas: HVAC protection, source control, pathway interruption, housekeeping, and scheduling.

### 6) Energy and Atmosphere: Refrigerant Management

Chlorofluorocarbons (CFCs), used in refrigeration equipment, cause significant damage to Earth's protective ozone layer when they are released into the atmosphere. The reaction between CFC and ozone molecules in the stratosphere destroys the ozone and reduces the stratosphere's ability to absorb a portion of the sun's ultraviolet radiation increasing negative climate change. Max Aitken has eliminated the use of CFC-based refrigerants in the building and so is helping to lower the detrimental effects of CFCs on the world's ozone layer.

### 7) Materials and Resources: Construction Waste Management

Construction and demolition generate enormous quantities of solid waste. Commercial construction generates an average of 19 kg of waste per square metre of building area. Recycling of construction and demolition debris reduces demand for virgin resources and reduces the environmental impacts associated with resource extraction, processing and, in many cases, transportation. Over 86% of the debris generated from the construction of the school was diverted from landfills and redirected to recycling facilities to be reused in recycled content materials.

### 8) Water Efficiency: Water Use Reduction

Reducing potable water use in buildings for urinals, toilets, shower heads, and faucets decreases the total amount withdrawn from rivers, streams, underground aquifers, and other water bodies. These strategies contribute to protecting the natural water cycle and save on water resources for future generations. The Max Aitken Academy uses low flow water using fixtures throughout the building which minimizes water use. This not only reduces potable water usage, it will save on the building's operating costs and lowers the impact on municipal water utility system.

### 9) Energy and Atmosphere: Optimized Energy Performance

Max Aitken Academy has a reduced energy use of over 35% more than a comparable base building. Fossil fuels, such as coal and oil, are the most common source of energy used in buildings. However, these fuels are also finite resources. The process of extracting and consuming energy from fossil fuels causes many environmental impacts, including air and water pollution, land degradation, solid waste generation, and greenhouse gas emissions. By reducing the energy use of buildings through careful planning and design the impact of energy use on the planet can be reduced.