

LEED - SUSTAINABLE DESIGN



LEED Canada-NC v1.0 Score Card		Project: Southwest Community Facility		31/10/2006	
Total Project Score		Certified 26-32 / Silver 33-38 / Gold 39-51 / Platinum 52+		Total Possible Points 79	
Sustainable Sites Possible Points: 5		Materials & Resources Possible Points: 14		Indoor Environmental Quality Possible Points: 15	
SS-1	Erosion & Sedimentation Control	MR-1	Storage & Collection of Recyclables	IEQ-1	Minimum IAQ Performance
SS-2	Site Selection	MR-2	Building Reuse: Minimum 75% of Existing Walls, Floors and Roof	IEQ-2	Environmental Tobacco Smoke (ETS) Control
SS-3	Development Density	MR-3	Building Reuse: Minimum 85% of Existing Walls, Floors and Roof	IEQ-3	Carbon Dioxide (CO ₂) Monitoring
SS-4	Redevelopment of Contaminated Sites	MR-4	Building Reuse: Minimum 95% of Existing Non-Structural Elements	IEQ-4	Ventilation Effectiveness
SS-5	Alternative Transportation: Public Transportation Access	MR-5	Construction Waste Management: Over 20% Reuse Landfill	IEQ-5	Construction IAQ Management Plan: During Construction
SS-6	Alternative Transportation: Bicycle Storage & Changing Rooms	MR-6	Construction Waste Management: Over 25% Reuse Landfill	IEQ-6	Construction IAQ Management Plan: Testing Before Occupancy
SS-7	Alternative Transportation: Hybrid and Alternative Fuel Vehicles	MR-7	Resource Reuse: Specify 5%	IEQ-7	Low-Emitting Materials: Adhesives & Sealants
SS-8	Alternative Transportation: Parking Capacity	MR-8	Resource Reuse: Specify 10%	IEQ-8	Low-Emitting Materials: Paints and Coatings
SS-9	Reduced Site Disturbance: Forest or Riparian/Open Space	MR-9	Recycled Content: 10% (post-consumer + 1% post-industrial)	IEQ-9	Low-Emitting Materials: Carpets and Carpeting
SS-10	Reduced Site Disturbance: Development Footprint	MR-10	Recycled Content: 15% (post-consumer + 5% post-industrial)	IEQ-10	Indoor Chemical & Pollutant Source Control
SS-11	Stormwater Management: Rate and Quality	MR-11	Regional Materials: 10% Excluded Manufactured Regionally	IEQ-11	Controllability of Systems: Passive Spaces
SS-12	Stormwater Management: Treatment	MR-12	Regional Materials: 20% Excluded Manufactured Regionally	IEQ-12	Controllability of Systems: Non-Passive Spaces
SS-13	Heat Islands Effect: Non-Roof	MR-13	Regional Materials: 25% Excluded Manufactured Regionally	IEQ-13	Thermal Comfort: Compliance with ASHRAE 55/2004
SS-14	Heat Islands Effect: Roof	MR-14	Rapidly Renewable Materials: 1% of Total Material Cost	IEQ-14	Thermal Comfort: Monitoring
SS-15	Light Pollution Reduction	MR-15	Certified Wood: 50% of Total Wood Products	IEQ-15	Daylight & Views: Design 10% of Space
SS-16		MR-16	Durable Building	IEQ-16	Daylight & Views: Views for 50% of Space
Water Efficiency Possible Points: 5		Indoor Environmental Quality Possible Points: 15		Measurement & Verification Possible Points: 5	
WE-1	Water Efficient Landscaping: Reduce to 50%	IEQ-17	Minimum IAQ Performance	MV-1	Innovation in Design: Exemplary Performance (EP) Credit
WE-2	Water Efficient Landscaping: No Potable Use or No Irrigation	IEQ-18	Environmental Tobacco Smoke (ETS) Control	MV-2	Innovation in Design: Sustainable Education Program
WE-3	Alternative Wastewater Technologies	IEQ-19	Carbon Dioxide (CO ₂) Monitoring	MV-3	Innovation in Design: Specify Tree
WE-4	Water Use Reduction: 20% Reduction	IEQ-20	Ventilation Effectiveness	MV-4	LEED Accredited Professional
WE-5	Water Use Reduction: 30% Reduction	IEQ-21	Construction IAQ Management Plan: During Construction		
Energy & Atmosphere Possible Points: 17		IEQ-22	Construction IAQ Management Plan: Testing Before Occupancy		
EA-1	Fundamental Building Systems Commissioning	IEQ-23	Low-Emitting Materials: Adhesives & Sealants		
EA-2	Minimum Energy Performance	IEQ-24	Low-Emitting Materials: Paints and Coatings		
EA-3	CFC Reduction in HVAC/R Equipment and Elimination of Phase 0	IEQ-25	Low-Emitting Materials: Carpets and Carpeting		
EA-4	Optimize Energy Performance: 24% New / 17% Existing (AMEC)	IEQ-26	Indoor Chemical & Pollutant Source Control		
EA-5	Optimize Energy Performance: 26% New / 20% Existing (AMEC)	IEQ-27	Controllability of Systems: Passive Spaces		
EA-6	Optimize Energy Performance: 28% New / 22% Existing (AMEC)	IEQ-28	Controllability of Systems: Non-Passive Spaces		
EA-7	Optimize Energy Performance: 30% New / 24% Existing (AMEC)	IEQ-29	Thermal Comfort: Compliance with ASHRAE 55/2004		
EA-8	Optimize Energy Performance: 32% New / 26% Existing (AMEC)	IEQ-30	Thermal Comfort: Monitoring		
EA-9	Optimize Energy Performance: 34% New / 28% Existing (AMEC)	IEQ-31	Daylight & Views: Design 10% of Space		
EA-10	Optimize Energy Performance: 36% New / 30% Existing (AMEC)	IEQ-32	Daylight & Views: Views for 50% of Space		
EA-11	Optimize Energy Performance: 38% New / 32% Existing (AMEC)				
EA-12	Optimize Energy Performance: 40% New / 34% Existing (AMEC)				
EA-13	Optimize Energy Performance: 42% New / 36% Existing (AMEC)				
EA-14	Optimize Energy Performance: 44% New / 38% Existing (AMEC)				
EA-15	Optimize Energy Performance: 46% New / 40% Existing (AMEC)				
EA-16	Optimize Energy Performance: 48% New / 42% Existing (AMEC)				
EA-17	Optimize Energy Performance: 50% New / 44% Existing (AMEC)				
EA-18	Optimize Energy Performance: 52% New / 46% Existing (AMEC)				
EA-19	Optimize Energy Performance: 54% New / 48% Existing (AMEC)				
EA-20	Optimize Energy Performance: 56% New / 50% Existing (AMEC)				
EA-21	Renewable Energy: 1%				
EA-22	Renewable Energy: 5%				
EA-23	Renewable Energy: 10%				
EA-24	Renewable Energy: 20%				
EA-25	Best Practice Commissioning				
EA-26	Commissioning				
EA-27	Measurement & Verification				
EA-28	Green Power				

Sustainable Sites

Rather than selecting an undeveloped site, this project is taking advantage of a previously disturbed site. The site poses challenges for development, that would otherwise make it undesirable for private developers.

The building has close proximity to City of Edmonton transit which should help alleviate the amount of vehicle traffic to the site and help reduce the amount of parking to be provided.

Green roofing along with extensive landscaping throughout the parking areas will help reduce the amount, and rate, of rain leaving the site as well as help to reduce the cooling loads in the building and urban heat island effect.

Water Efficiency

In an effort to reduce potable water consumption and the demand that its use places upon municipal water treatment facilities, this project will implement strategies aimed at improving water efficiency.

The landscape design will utilize an assortment of native and adaptive plant species that will not require a permanent irrigation system; additionally these plants will require less maintenance.

Standard water saving plumbing fixtures, such as ultra low-flow sensor operated lavatory faucets (1.5 LPM / 5 GPM), low-flow institutional shower heads with push activated metering valves (7.6 LPM / 2.0 GPM), dual flush toilets (3 & 6 LPF / 3 & 1.6 GPF) and flush valves (4 & 6 LPF / 1 & 1.6 GPF), ultra low-flow urinals (1.9 LPF / 5 GPF) or even waterless urinals (0 LPF / 0 GPF) will be used resulting in an average 50% reduction in water use.

Energy & Atmosphere

Project will be model using EEA simulation software to determine the projects expected energy consumption, and compared to a typical building of identical size and scope.

The implementation of energy efficient and solar lighting fixtures, both in and out of the building, will increase the energy efficiency of the project.

Materials & Resources

Waste generated on site during construction will be separated for recycling. Items such as metal building materials, cardboard packaging and even drywall off cuts can be diverted away from landfills, and reused for new products.

Products with a high recycled content, that avoids dependency on raw materials will also be used wherever possible.

Indoor Environmental Quality

Superior indoor air quality will be achieved by selecting interior finishes such as paints and adhesives that have a low concentration of Volatile Organic Compounds (VOCs), which can contribute to respiratory problems.

Protect the building and materials from moisture during construction, to reduce the possibility for the development of mould. Protect building mechanical equipment and components from dust and debris.

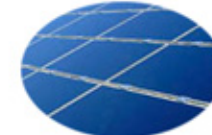
Innovation & Design

Utilizing standard water saving plumbing fixtures, it is anticipated that the project could achieve a reduction in potable water use of 40% or greater, qualifying the project for an innovation credit.

Due to the public nature of the facility, implementing an educational program to teach visitors on the benefits of Green Building Principles... Signage, training of staff, tours...

The project discharges a large amount of waste water as part of its standard operation of the pools and arenas. Strategies to divert this waste water from being directed to water treatment facilities would likely qualify this project for an innovation credit.

Coordination of the LEED documentation and the sustainable design initiatives is being carried out by William Thompson, LEED Accredited Professional with Sakur Hutchinson Brzezinski Architects.



RENEWABLE ENERGY



ECOLOGICAL MATERIALS



HEALTH & WELLNESS



SUSTAINABLE DESIGN



ALTERNATIVE TRANSPORTATION



LIFE CYCLE COST



PASSIVE STRATEGIES