



Policy Title: Sustainable Building Policy

Policy Number: CS005

Report Number: UE2004-43, UE2008-01, UE2009-23, UE2010-19, UE2011-18, UCS2012-0098

Approved by: City Council

Effective Date: 2004 September 13 and amended 2008 February 25

Business Unit: Infrastructure and Information Services

BACKGROUND

On 2002 July 22, Council approved Alderman Hawkesworth's Notice of Motion NM2002-42, Sustainable Building Policy, from the Nominating Committee, dated 2002 July 16, be adopted, after amendment to: report back to the S.P.C. on Operations and Environment no later than the 2002 December regular meeting.

On 2002 December 04, the S.P.C. on Operations and Environment approved tabling the response to Alderman Hawkesworth's Notice of Motion NM2002-42 on Sustainable Building Policy to its regular meeting of 2003 February 24.

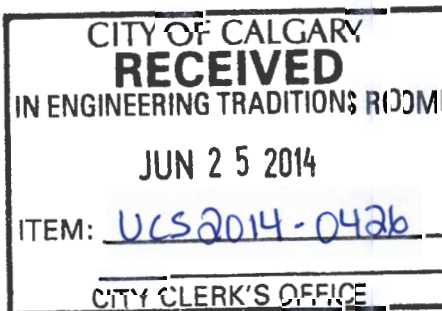
This policy is an amendment to the former Council approved implementation of the piloting of the Sustainable Building Policy dated 2003 February 24 and Council approved the recommendation from Administration made on 2004 September 09 to convert the Sustainable Building Policy from a pilot to a permanent policy.

In 2008, amendments to the policy are required to ensure that all City-owned and City-financed facilities are operated and maintained in a sustainable way including the appropriate adherence to sustainable building Rating Systems when developing new and occupied facilities, when redeveloping Brownfield sites and when undertaking all major building renovations, including those of an affordable housing nature.

PURPOSE

The purpose of The City of Calgary's Sustainable Building Policy is to ensure all City-owned and City-financed facility planning, designing, constructing, managing, renovating, operating, and demolishing is carried out:

- in a sustainable manner and,
- considering all triple bottom line (TBL) impacts,
- while enhancing The City of Calgary's reputation as a fiscally responsible municipal government, and





- addressing the health and well-being of the people who use and occupy City-owned buildings.

Definitions

- City-Owned Building: Buildings that are constructed, owned, or managed or financed by The City.
- City-Financed Building: Civic and Community Partner Buildings that receives funding from The City.
- Leadership in Energy and Environmental Design (LEED™) Rating System: LEED™ is a voluntary, consensus based, market driven, and green building rating system. It is based on existing, proven technology and evaluates environmental performance from a "whole building" perspective. LEED™ New Construction (NC) is a self-certifying system designed for rating new and existing commercial and institutional buildings. LEED™ Commercial Interiors (CI) is a self-certifying system designed for rating new or existing tenant improvements and renovations. Both contain prerequisites and credits in six categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality and Innovation and Design Process. There are four rating levels ranging from Certified through Silver, Gold and up to Platinum with each level requiring a greater incorporation of sustainable elements.
- Built Green™: Built Green™ is a program that promotes sustainable or "green" building practices to reduce the impact that building has on the environment. There are three achievement levels: Bronze, Silver and Gold. Built Green™ is a voluntary program, owned and managed by the Built Green™ Society of Canada that uses buyer demand, market education and builder training to encourage builders to build homes that look at Energy Efficiency, Indoor Air Quality, Resource Use and Overall Environmental Impact.
- Life Cycle Cost Analysis: Life cycle analysis is an inclusive approach to costing a program, facility, or group of facilities that encompasses planning, design, construction, managing, renovation operation, maintenance and decommissioning or disassembly costs over the useful life of the program or facility. Life cycle analysis looks at the net present value of various designs options as investments. The goal is to achieve the highest, most cost-effective environmental and social performance possible, while achieving the highest health and productivity of its occupants, over the life of the facility.
- Sustainable Building: A sustainable building integrates building materials and methods that promote environmental quality, economic vitality, and



social benefit through the design, construction and operation of the built environment. Sustainable building merges sound environmentally responsible practices into one discipline that looks at the environmental, economic and social effects of a building or built project as a whole. Sustainable design encompasses the following broad topics: appropriate management of land, efficient management of energy and water resources, management of material resources and waste, protection of the environment, protection of indoor and outdoor air quality and reinforcement of natural systems through an integrated design approach.

- Sustainable Building Best Practices: Identified processes, practices or systems widely recognized as ways of improving building sustainability. Best practices endure, for the most part, longer than labels because they're more about patterns of behavior rather than convention. Examples of Sustainable Building Best Practices can be found on the Infrastructure & Information Services intranet site. This list is high level and not a comprehensive list of practices available. It is intended as a starting point to review options for integrating sustainable practices into the entire building lifecycle.
- Major Renovation: Any renovation to a City-owned or City-financed facility that is to exceed 40% of the existing gross floor area of the facility or any addition to a City-owned facility.
- Minor Renovation: Any renovation to a City-owned or City-financed facility that is below 40% of the gross floor area of the facility or is to include general maintenance and replacement of building components. Example: Staff restack (interior reorganization of staff working area arrangement in a building or floor area) that involves design and construction but is less than 40% of the total gross floor area of the facility.
- Specialized Function Buildings: Any buildings that have a specialized function e.g. lift stations, storage buildings, operations plants and bus shelters.
- Operations and maintenance: Costs directly related to the operation, maintenance, repair, and management of a property and the utilities that service it. These include insurance, property taxes, utilities, maintenance, and management expenses.
- Brownfield: – Abandoned, idled, or under utilized industrial and commercial facilities/sites where expansion or redevelopment is complicated by real or perceived environmental contamination. They can be in urban, suburban, or rural areas.



POLICY

The City of Calgary's Sustainable Building Policy

The City of Calgary will lead in developing and managing adaptable facilities to improve *economic, environmental and social benefits* by:

- Informing, supporting and promoting sustainable building practices and benefits inside and outside the Corporation.
- Implementing sustainable building practices in all City-owned and City-financed buildings, -and achieving measurable life cycle cost savings, when planning, designing, constructing, managing, renovating, operating, and demolishing to meet or exceed the Rating System deemed appropriate from the Rating List found on Attachment 1 and summarized below:
 - When developing new occupied facilities in excess of 500m² on non-Brownfield sites must meet or exceed the Gold Level Rating of the LEED™ New Construction (NC) Rating System.
 - When redeveloping Brownfield sites with new occupied facilities in excess of 500m² must meet or exceed, wherever technically practical, the Gold Level Rating of the LEED™ NC Rating System. Must fully assess the cost of achieving the LEED™ Gold standard, based on full life cycle cost analysis. At the discretion of the Director of Infrastructure Services, in cases where:
 - the cost and time required to achieve an intended land use outweigh any resulting benefit, and
 - the resulting land use still falls under the purpose of The Sustainable Building Policy,the LEED™ NC Gold standard requirement may be adjusted to a level where the intent of The Policy is still met but achieved in a more cost effective or timely manner.
 - When undertaking major renovations must meet LEED™ Silver for Commercial Interiors (CI) or LEED™ Certified for New Construction (NC).
 - Affordable Housing projects will be piloted against BuiltGreen™ Silver for the next two years and a decision made as to its suitability after this time.



- When developing new buildings of an affordable housing nature must meet or exceed the BuiltGreen™ Silver achievement level.
- When undertaking major renovations of buildings of an affordable housing nature must demonstrate the BuiltGreen™ Silver checklist has been used as a guide throughout the process. Any applicable requirements on the checklist must be met or exceeded.
- When undertaking minor renovations, new or renovation of unoccupied buildings or smaller facilities under 500m² and buildings that serve specialized functions (e.g. lift stations, storage buildings and bus shelters), which are excluded from the LEED™ requirement and therefore do not need to go through the exemption process, must follow the relevant sustainable building practices that apply and demonstrate that the project goals aim to increase the benefits on the City in an environmental, social and economic way.
- Operating and maintaining all City facilities in a sustainable way. Operations and Maintenance (O&M) practices are an important contributor to the sustainability of buildings. It is the policy that all City facilities will be maintained and operated in such a fashion that supports implementing sustainable building practices such as: demonstrate consideration of appropriate management of land, alternative transportation, efficient management of energy and water resources, management of material resources and waste, protection of the environmental, healthy indoor and outdoor air quality and reinforcement of natural systems through integrated design. Infrastructure & Information Services will continue to work with Departments to help City facilities operate in this more sustainable way.
- Supporting the adoption of best practices suggested by Business Units with expertise in areas of sustainable building such as appropriate management of land, alternative transportation, efficient management of energy and water resources, management of material resources and waste, protection of the environmental, provision of healthy indoor and outdoor air quality and reinforcement of natural systems through integrated design.

Given our unique political, geographical, economic and regulatory environment, Canadian green building and sustainable design standards are the model performance frameworks used.



PROCEDURE

- The General Managers of City departments and related agencies and societies whose responsibilities include planning, designing, constructing, managing, renovating, operating, and demolishing City-owned and City-financed facilities, working in conjunction with Infrastructure & Information Services, shall be responsible for ensuring that facilities and buildings comply with the "Sustainable Building Policy".
- Infrastructure & Information Services shall be responsible for coordinating any educational, technical and financial resources available to City departments, agencies and societies that promote sustainable building planning, designing, constructing, managing, renovating, operating, and demolishing.
- Infrastructure & Information Services shall be responsible for annually evaluating and reporting to the S.P.C. on Utilities and Corporate Services on how well City facilities meet the goal of sustainability.
- Infrastructure & Information Services shall, in conjunction with the department, related agency or society, establish the minimum number of credits required in each of the LEEDTM (or other assigned system) categories so that projects demonstrate performance in all categories. Where possible, The Policy attempts to utilize Canadian Ratings Systems.
- The City shall maintain a Sustainable Building Team, consisting of representatives of Business Units involved in environmental and sustainable building practices, to provide input into reviewing and updating the Sustainable Building Policy, helping provide technical expertise on specific sustainable building issues and coordinating sustainable building knowledge and LEEDTM (or other assigned rating system) training. The Sustainable Building Team is also responsible for assisting project managers to understand and apply The Policy and to help determine the most appropriate rating system and level.

Implementation Principles

- All buildings meeting the requirements of the Sustainable Building Policy shall be designed to achieve the highest, most cost-effective social and environmental performance possible over the life of the facility. Sustainable building design elements shall be incorporated in all buildings as appropriate for the Rating System selected.



- Redeveloping Brownfield Sites
 - Redeveloping Brownfields presents The City with unique opportunities and challenges. Many Brownfields are strategically located in proximity to the Bow and Elbow Rivers, to the Centre City, and major transportation corridors. However, some Brownfields (such as the Former Imperial Oil refinery) have been contaminated by prior industrial activity, requiring technically difficult, costly and time-consuming programs for risk management and/or remediation to safely accommodate new land uses.
 - Council's approved Strategy for redeveloping City-owned Brownfield sites recognizes both the opportunities and challenges, but encourages innovative solutions that will allow Brownfields to be redeveloped to support key City operational needs, and community sustainability goals. Within the LEED™ rating system, redevelopment of Brownfield sites is seen as a positive factor, with credits provided.
 - As with development and redevelopment of non-Brownfield sites, this policy supports Council's Brownfield Strategy by seeking to achieve, wherever technically practical, the LEED™ Gold Standard for all redevelopments. All proposed redevelopments of City-owned Brownfields, and any private-sector Brownfield projects which are financially supported by The City will fully assess the cost of achieving the LEED™ Gold standard, based on full life cycle cost analysis.
 - This policy also recognizes that the approval of Alberta Environment and consent by the Calgary Health Region is required for any program of risk management/remediation associated with a proposed Brownfield land use. In some cases, the cost and time required to achieve an intended land use may outweigh any resulting benefit, reducing the land use to industrial developments, to which the LEED™ standard may have little relevance.
- Upon the request of the Director of Infrastructure & Information Services and the Director of the building owning business unit, the General Manager of Corporate Services shall have the discretion, in cases where the cost and time required to achieve the applicable rating system outweigh any resulting benefit, to adjust the requirement to a level where the intent of The Policy is still met but achieved in a more cost effective or timely manner.



- Final interpretation of the Policy is made by the Director of Infrastructure & Information Services.

Budgeting and Financing

- Utilizing sustainable building techniques result in significantly reduced building operations and maintenance costs; ultimately resulting in significant cost reduction over the life of the building.
- Capital budgets which are impacted by this Policy will be expected to be budgeted to meet the minimum Rating. Budget planning must involve life cycle cost analysis and address both the capital and operating costs. A higher rating is encouraged.

Other City Policies In Support Of The Sustainable Building Policy

The City of Calgary Triple Bottom Line (TBL) Policy
The City of Calgary's Environmental Policy
The City of Calgary Corporate Accessibility Policy
Water Management Strategic Plan (WMSP)
Corporate Workplace Framework Policy
Acquisition of Affordable Housing Lands for Municipal Purposes
Corporate Affordable Housing Strategy
Open Space Plan Policy
Smoking Policy
Calgary Transportation Plan
The Calgary Municipal Plan
Sustainable Environmental and Ethical Procurement Policy (SEPP)

ATTACHMENT

Attachment 1 Sustainable Building Ratings List

AMENDMENTS

2003 February 24
2004 September 13
2008 February 25

Sustainable Building Rating List

UE2008-01

ATTACHMENT 2B

Job Type	Infrastructure Type	Size of Floor Area (m ²)	RATING SYSTEM USED						Use of Sustainable Building Best Practices
			LEED™ New Construction			LEED™ Commercial Interiors		BuiltGreen™	
			Certified	Silver	Gold	Certified	Silver	Silver	
New - Non-Brownfield	City-Owned Building	> 500			✓				
New - Brownfield	City-Owned Building	> 500			✓*2				
Major renovation*1	City-Owned Building	na	✓				✓		
New	Affordable housing*4	na						✓	
Major renovation*1	Affordable housing*4	na						✓*3	
Minor renovation*1	City-Owned Building	na							✓
New & All Renovations	Unoccupied buildings	na							✓
New	City-Owned Building	< 500							✓
New & All Renovations	Landscapes & Non-building infrastructure	na							✓

The Sustainable Building Policy attempts to utilize Canadian Rating Systems

*1	See Policy for definitions.
*2	For Redevelopment of Brownfield sites with new occupied facilities in excess of 500m ² must meet or exceed, wherever technically practical, the Gold Level Rating of the LEED™ NC Rating System. Must fully assess the cost of achieving the LEED™ Gold standard, based on full life cycle cost analysis. At the discretion of the GM of AM&CW at the request of the Director of Infrastructure Services and the Director of the building owning business unit, in cases where: - the cost and time required to achieve an intended land use outweigh any resulting benefit, and - the resulting land use still falls under the purpose of The Sustainable Building Policy, the LEED™ NC Gold standard requirement may be adjusted to a level where the intent of The Policy is still met but achieved in a more cost effective or timely manner.
*3	For Major Renovation of an Affordable Housing nature must demonstrate the BuiltGreen™ Silver checklist has been used as a guide throughout the process. Achieving BuiltGreen™ is strongly encouraged.
*4	Affordable Housing projects will be piloted against BuiltGreen™ Silver for the next two years and a decision made as to its suitability after this time.

