



CITY OF VANCOUVER

**POLICY REPORT
ENVIRONMENT**

Report Date: October 17, 2005
Author: Trish French/Dale
Mikkelsen
Phone No.: 604.873.7041/604.871.6168
RTS No.: 04441
CC File No.: 3501
Meeting Date: November 3, 2005

TO: Standing Committee on Planning and Environment

FROM: Director of Central Area Planning, in consultation with the Manager of Sustainability Office and Chief Building Official

SUBJECT: Vancouver Green Building Strategy

RECOMMENDATION

- A. THAT Council endorse the development and implementation of the Vancouver Green Building Strategy for all buildings regulated under Part Three of the Vancouver Building By-law (e.g. generally buildings four stories and above) in accordance with the "City Regulation with Voluntary LEED" approach described in this report;
- B. THAT Council approve a total budget allocation of \$100,000, with the existing sources of funding being \$75,000 remaining in the green building budget approved by Council in July 2004, and \$25,000 from the Sustainability Office operating budget, and
- C. THAT Council approve the creation of a temporary Civil Engineer 1 position for a period of one year, to be assigned to the Office of the Chief Building Official, to undertake work as described in this report.

CITY MANAGER'S COMMENTS

The City Manager RECOMMENDS adoption of A to C above.

GENERAL MANAGER'S COMMENTS

The General Manager RECOMMENDS adoption of A to C above.

COUNCIL POLICY

City Council has passed a range of sustainability policies, as listed in Appendix A. Those most closely related to green buildings include:

- June 2004 - revisions to the Energy Utilization By-law to improve energy performance of large buildings.
- July 2004 - approval of LEED Gold certification for civic buildings greater than 500 square meters, and LEED Silver (without certification) for SEFC.
- March 2005 - approval of Southeast False Creek (SEFC) Official Development Plan with LEED Silver minimum and an objective of LEED Gold for the Athlete's Village, and LEED Silver as an objective for other developments within the SEFC area.
- March 2005 - approval of the Community Climate Change Action Plan, which contains elements addressing improved building performance with respect to greenhouse gases.

PURPOSE AND SUMMARY

The main purpose of this report is to present Council with a proactive green building strategy (GBS) to reduce the environmental impacts that buildings have on the local environment and global climate change. This strategy suggests a long-term commitment to improving energy, water, wastewater, stormwater, and material conservation and indoor environmental quality in all new and retrofitted buildings in Vancouver. This report outlines the first and most significant effort to 'green' Vancouver's building stock by creating a year-long Building By-law review and upgrade all buildings regulated under Part Three of the Vancouver Building By-law (e.g. generally buildings four stories and above) in the City of Vancouver to meet green building practices that could equate to a LEED Certified equivalent. This is a significant regulatory effort and will affect a significant amount of new buildings built each year.

City staff consulted with the building and development industry with regard to the City's consideration of a green building strategy. As part of that consultation, the City presented a number of options for moving forward. Stakeholders include the Urban Development Institute, small developers, architects, engineers, green building professionals, and government partners, and all relevant trade associations. These consultations led to building and development industry support for the City's approach outlined in this Council Report, and the City has received support letters from UDI and the National Association of Industrial and Office Properties.

Other elements of the City's Green Building research to date includes studying an equivalent policy for multi- and single-family residences under four stories, and exploring a complementary economic development strategy, but are not explicitly outlined as a product of this report.

The report outlines staff work and external stakeholder consultation that led to the recommended GBS approach: "City Regulation with voluntary LEED". The approach entails revising some existing City regulations to set a green baseline that will ensure non-combustible developments and developments generally four storeys or greater, achieve the equivalent of LEED Certified, and make equivalent of LEED Silver very likely. The baseline will be compatible with LEED, so developments can enter the LEED accreditation system if they wish. The GBS approach reflects the City's priorities related to sustainability and proposes an integrated strategy to be folded into normal City development processing,

permitting, inspection and enforcement system, without requiring additional staff beyond the scope outlined in this report in the first year. Current staff will be trained on the by-law adjustments in order for the GBS to fully achieve its goals.

The Vancouver GBS would be implemented within a year, under a work program jointly led by the Sustainability Group, Planning, and the Chief Building Official, with support from Engineering Services, Environmental Protection, and others as necessary. Some of the regulation changes can be done by staff of the Engineering Department and Environmental Protection Office within their existing work programs. Other changes need to be done by the Office of the Chief Building Official. In order to allow this office to undertake the GBS work at the same time as meeting their commitment to developing the new Building By-law, the report recommends hiring a temporary 1 year Engineer in Training at a cost of \$62,200 not including overhead.

Total cost of developing the GBS, including the EIT, will be \$100,000. No new funding will be required: it is proposed to use the \$75,000 of remaining green building funding approved by Council in July 2004, and \$25,000 from the existing operating budget of the Sustainability Group.

BACKGROUND

1. City Policy and Council Requests

The City has an evolving history of policy related to environmental sustainability in general, and green buildings in particular. (See Appendix A).

On July 8, 2004, Council approved a series of recommendations related to green buildings, including the adoption of LEED Gold for civic buildings greater than 500 meters squared, and LEED Silver as a minimum for the Athlete's Village SEFC. In two of the recommendations in the July 2004 report, Council specifically asked staff to:

- "... investigate the development and implementation of a new green building strategy for private sector development using knowledge gained in SEFC; to expand discussions with the development industry and other stakeholders to ensure the cooperative development of a green building strategy for new development in medium to high density residential zones, as well as commercial and industrial zones; and to continue to promote events, research and publications which promote green building development and more sustainable thinking", and
- "... develop and report back on an interim strategy to address current, privately initiated green building applications outside of Southeast False Creek." [This direction would require consideration as part of rezoning applications to the City.]

Council also approved a temporary 18 month Planner 1 position, and related budget, to undertake the work described above.

2. LEED

LEED (Leadership in Energy and Environmental Design) is internationally recognised as the leading voluntary green building standard in North America. LEED enables developers to freely choose from a range of environmentally sustainable design elements in various categories (e.g. energy efficiency, indoor air quality) to incorporate into their developments. The combination of mandatory and voluntary elements count for points towards a LEED certification at various levels: Certified, Silver, Gold, and Platinum. LEED is applicable to medium and high density residential, mixed-use, commercial, and industrial developments.

In Canada, the LEED system is administered and verified by the Canadian Green Building Council (CAGBC). Upon registration of a development by the developer, the CAGBC reviews and verifies the documentation and the building performance. Approximately 3 months after occupancy of the building, the CAGBC awards the appropriate level of certification.

LEED was designed as a rating system, to transform the top 25% of the building marketplace, not as a regulatory system for all buildings. It is revised every 3 years by the CAGBC to reflect current trends in green building design.

DISCUSSION

The discussion below covers:

- an overview of Phase 1: Green building strategies and activities since July 2004, including the work of the Green Building Planner and the “interim” green building strategy for private development that is currently operating in an ad hoc manner;
- an overview of Phase 2: Proposed Vancouver Green Building Strategy for all buildings regulated under Part Three of the Vancouver Building By-law (e.g. generally buildings four stories and above), and
- an initial implementation program, including staffing and resources, the cost of which will be covered from existing budgets.

1. Phase 1: Green Building Strategy - Activities since July 2004

In 2004, the City funded a policy initiative to expand market penetration of green building practices and technologies in Vancouver. Initial work focused on policy development, building industry consultation, and plan review technical assistance. Both the scope and diversity of work that the City is undertaking to advance green building practices and technology has grown. A Planner was tasked with LEED assessments of rezoning and development applications, providing advice to inquirers and staff, and supporting green building initiatives in City design charrettes and policy statement development, with the time breakdown approximately as follows:

- | | |
|--|-----|
| • Technical Assistance/Interim Strategy: | 25% |
| - LEED assessments, rezoning conditions, project meetings | |
| • Input to SEFC Green Building Strategy: | 10% |
| - Formalisation of LEED program, public lands & private lands strategy | |
| • Energy Precinct: | 25% |
| - Concept development, RFP development/supervision/evaluation | |
| • Green Building Strategy Development: | 30% |

- Technical team, public process, reports, research and technical work
- Partnership and Outreach: 10%
 - Presentations, LEED BC/CAGBC/Cascadia Chapter, community outreach

In the past year, this strategy has evolved to include:

- Rezoning: on the basis of applicants' offering or Council requesting, green building elements are being incorporated in many of the more major rezonings. Most often these reference LEED, but not all enter the LEED system;
- Development Applications: on applicants' initiative or staff suggestion, some applications are incorporating some green building elements, and
- Policy Statements or Official Development Plans: ensuring green building principles are incorporated.

Phase 1 has had some positive results, with the number of "green" projects increasing in the past 12 months. Currently, the City is working with over 15 active LEED applications. Additionally, green building principles are incorporated in the East Fraserlands and Langara Policy Statements. However, this more or less "ad hoc" approach suffers from a lack of consistent standards, as well as the limited capacity of the single staffer currently involved. Both these issues are to be addressed by the development of a Vancouver Green Building Strategy.

2. A Vancouver Green Building Strategy (GBS)

a. Process

The City of Vancouver is involved in reviewing and regulating almost every aspect of urban development, and the objectives of green buildings touch most of the areas of our mandate. Accordingly, the focus of the GBS is institutionalising green building practices and technologies into the City's regulatory framework. A staff technical team including representation from the Office of the Chief Building Official, Development Services, Planning, Sustainability Group, Engineering, Licences and Inspections, Facilities Management, and Environmental Protection was formed to develop the GBS. The team members reviewed the scope of the City's current regulations and policies using LEED categories. The team also helped identify qualities and priorities a Vancouver GBS should have (see below). They also reviewed a range of possible strategies, and short-listed two for discussion with external stakeholders.

Staff held two workshops and a final information session to discuss the possible strategies with an external stakeholder group consisting of the UDI, small developers, architects, engineers, green building advocates, multiple levels of government, and others. Additional meetings were held with associated stakeholder groups, including the Architectural Institute of B.C. (AIBC), Association of Professional Engineers and Geoscientists of B.C. (APEGBC), the Urban Development Institute (UDI), Business Alliance for Local Living Economies BC (BALLE BC), and the B.C. Building Envelope Commission (BCBEC).

Letters of support for the proposed approach to a Vancouver GBS, generally as described in this report, have been received from UDI and the National Association of Industrial and Office Properties (NAIOP), and are on file with the City Clerk.

b. Qualities and Priorities for a GBS

In developing the GBS, staff kept in mind certain qualities that it would need. An effective Vancouver GBS needs to:

- be simple to use and cost effective for both developers and the City;
- be enforceable so that results are delivered;
- be able to be referenced to LEED;
- address City sustainability priorities, particularly energy, water, and waste, amongst others;
- not impair the viability of development;
- be updateable, and
- be developed in a transparent manner in consultation with internal and external stakeholders.

LEED allows points to be earned in a range of categories, some of which are more relevant to the City's sustainability priorities than others. The following six elements are proposed as Vancouver's green building priorities, based on staff review of current policies (refer to Appendix B).

1. Energy Efficiency and Green House Gas Reduction
2. Water Management
3. Landscape Standards and Open Space Design
4. Transportation and Transportation Alternatives
5. Waste Management; Construction and Occupancy
6. Healthy Interior Environments

Two different GBS approaches were considered: a "Mandatory LEED Regulation" approach; and, a "City Regulation with Voluntary LEED" approach. Staff recommends the latter as a basis for the Vancouver GBS, but both are discussed below to provide understanding and comparison.

c. Mandatory LEED Regulation (LEED Dedicated Path)

This approach would seek to use LEED as a regulation by writing a new City By-law that would require development to meet a specific LEED rating. The City would review LEED documentation supplied when the rezoning and/or development application was submitted to ascertain that the development was likely to meet the target, but the applicant would register the project with the CAGBC, which would, post-occupancy, formally certify the developments' level of compliance.

This approach appears simplest at the outset. It requires the writing of a single by-law, and adding cross-references to it in the City's existing zoning district schedules and CD-1 By-laws. However, there are a number of attributes that led staff to not favour this approach.

- buildings can achieve LEED accreditation without reflecting the City's sustainability priorities;
- verification of compliance only occurs 3 months after occupancy, and the City currently has no effective means (penalty) to take action against a building that does not comply;
- all developments would be required to pay costs for LEED registration and documentation, in addition to normal City fees;

- additional specialist City staff would be required to review the LEED documentation supplied by the applicants;
- the LEED system is significantly updated every 3 years, and purposely seeks to be ahead of the market: it can do this because it is voluntary. Neither Council nor the local development industry has significant input into these updates, which may not take account of local considerations such as cost, climate, and local environmental prioritisation. If this LEED-driven approach is adopted, the City would appear obligated to accept the new standards. There is a good chance that this will lead to a withdrawal of support for the GBS by external stakeholders, and
- it is legally challenging for a City by-law that imposes a mandatory requirement but effectively turns over enforcement to an external organisation (CAGBC).

d. City Regulation with Voluntary LEED (Minimum Baseline with LEED parallel)

This approach, reflected in Recommendation A, entails revising key existing City regulations to ensure that developments achieve a certain green building baseline. The baseline would be compatible with LEED, so developments could enter the LEED system voluntarily.

Many of the LEED categories are aspects of development that the City currently regulates. Most buildings in Vancouver already would achieve about eleven LEED points simply based on their urban location and other existing City regulations. Staff has determined that revisions to a few key by-laws—some of which are slated for updates anyway—would add an additional sixteen points. This will be the equivalent of LEED Certified. Beyond that, there are 6 LEED points easily achieved by elements the City cannot readily regulate, but which most developments find easy to do because they are low cost and readily marketable (e.g. use of local or regional materials, low-emitting materials and paints). With the recommended By-law changes, it is likely that most buildings would achieve the equivalent of LEED Silver level.

The by-laws that are proposed to be changed are referenced in Appendix C, noting that they are subject to cost analysis and consultation.

This approach has the following positive attributes:

- the green building baseline achieved through by-laws will reflect City priorities (energy efficiency/greenhouse gas reduction, water management, etc);
- processing can be done in the normal processing stream by regular staff who administers the by-laws. In addition, green building expectations become embedded in the normal routine, and familiar to a range of staff rather than just specialists;
- because the baseline is built into City regulations, compliance is obtained through the normal permitting, inspection, and enforcement system;
- no additional fees are required of the developers, and
- the by-law changes, and any future changes (whether from a desire to raise the baseline, to reflect LEED changes, or for other reasons) can be fully scrutinized and costed in the Vancouver context.

Despite the positive attributes implementation will pose some challenges as discussed in Section 3a.

3. Implementation of the Vancouver GBS

Staff recommends undertaking implementation of the Vancouver GBS by updating a package of by-law changes, as outlined below. This will be completed within existing department budgets and green building funding approved by Council in July 2004.

a. Scope of Work

Staff propose that over the course of a year, they will undertake

- the By-law changes generally as described in Appendix C (subject to testing and consultation with stakeholders);
- integration of the changes into the review and permitting and inspection system; including submission requirements, procedural changes and monitoring service delivery performance;
- training of the relevant staff who use the By-laws including development of policies, procedures, guidelines, and bulletins;
- consideration of the impact to building design aesthetics and urban design objectives, and
- development of a "Vancouver Green Building Reference Guide" that provides details on all By-law changes and relevant green building resources.

Once this work has been completed, staff will report back to Council on options to further the GBS. These would require additional resources. These might include:

- revised landscape design guidelines that would provide advice on how landscape design can assist green building design. Presently, landscape is addressed in the many different design guidelines documents associated with various zoning districts, as well as in stand-alone regulations like the Private Property Tree By-law. Because of the complexity of the existing situation, as well as the fact that landscape design guidelines need to address a range of objectives besides green buildings, developing new guidelines would be a major work item that would require prior scoping;
- additional by-law changes raising the regulation baseline (e.g. addressing reuse of stormwater run-off, further water use reduction, increased ventilation effectiveness);
- explore opportunities to partner in the development of standards for combustible buildings and those buildings generally under 4 storeys;
- create green building resource and technical assistance programs to expand market penetration to complement the City's regulatory improvements, and
- develop a green building economic development strategy and on-going growth of trades' personnel to encourage market penetration and growth.

b. Staffing and Resources

The GBS workplan for the coming year will come out of currently budgeted resources in the Sustainability Group, Engineering Department, Environmental Protection Office, and Planning Department. It is recommended that the effort be facilitated by Planning and the Sustainability Group. By-law adjustments will be done within the existing work programs of the Engineering Services, the Environmental Protection Office, and the Office of the Chief Building Official. These departments all have professional staff with the appropriate engineering expertise. However, additional staff support is required to deliver the GBS in a timely fashion.

It is therefore proposed that an Engineer in Training (EIT) be hired in the Office of the Chief Building Official for one year at a cost of \$62,200. This added resource would allow the professional engineers in the Office of the Chief Building Official to undertake both the new Building By-law and the GBS related by-law changes. In addition to assisting the Office of the Chief Building Official, this EIT will be responsible for coordinating their by-law changes across departments and facilitating/supporting the changes to other by-laws being undertaken by Engineering and the Environmental Protection Office, as well as for organizing internal and external consultation and staff training.

In addition, \$20,000 is needed for consultancies, particularly related to cost/benefit and triple bottom line analysis of some initiatives. An amount of about \$17,000 is needed for expenses related to stakeholder consultation, staff training, CAGBC fees, and education. In round numbers, the total cost for this work will be \$100,000.

c. Consultation

Staff will continue to consult both internally with the staff through a technical committee comprised of staff representatives of the relevant departments, and externally with the interested stakeholders to ensure both the technical robustness and the acceptability of the By-law changes.

d. Management and Supervision

The GBS will be facilitated and led by the Sustainability Group. This includes convening internal and external meetings, scheduling staff trainings, and reporting. Day-to-day supervision of the EIT will be provided by a professional engineer in the Chief Building Official's office.

The GBS will be further informed by a steering committee composed of senior level staff of Planning, Sustainability, Building Official's, Environmental Protection, Engineering, and Development Services.

5. Additional Workplan Activities

Prior to completion of the GBS, Phase 1 activities will continue to be supported. Consequentially, Planning has agreed to allocate a portion of the time of an existing staff person to undertake the work related to rezonings, with advice from the staff member who until recently held the green building Planner 1 position. Other tasks that the green building Planner was responsible for, as listed in section 1, have also been reassigned to other existing staff. The Sustainability Group has offered to provide technical assistance for all relevant projects.

6. Relationship of Vancouver GBS to SEFC

Council approved the working Green Building Strategy for SEFC in both the July 8, 2004 Council Report and the March 1, 2005 Official Development Plan. Currently, the City is starting a rezoning process for the 2010 Olympic Athlete's Village area and the privately owned lands between 1st and 2nd Avenue. It has been envisioned that buildings developed in SEFC will lead the market, reaching at least a LEED Silver standard, and excel in ways that

may not be immediately replicated at a city-wide scale, but may offer a target to reach over time.

The timing of the SEFC rezonings for the Olympic Athletes Village and private lands (Public Hearings anticipated in late spring 2006) will provide learning opportunities for staff and the development community. The rezoning, application, permitting, and some of the construction phases will be completed concurrent with development of the city-wide green building strategy as identified in this report. This will provide an opportunity for dialogue, issue resolution, training, and capacity building among the design, trades, and supply communities.

FINANCIAL IMPLICATIONS

It is proposed that the total \$100,000 cost of developing the Vancouver GBS be met through reallocating existing funds approved by Council in July 2004 for the green building initiative, as well as funds that could be made available from the Sustainability Group's existing operating budget. There will be no financial implications for the City's 2006 Operating Budget.

ENVIRONMENTAL IMPLICATIONS

The Green Building Strategy will assist in reducing greenhouse gases, energy consumption, potable water use, toxic material use, harmful indoor water quality, and material waste.

CONCLUSION

The proposed Vancouver Green Building Strategy will establish a City regulated baseline, but be compatible with voluntary LEED participation. This approach manifests the qualities a GBS needs: simple and low cost to use; enforceable; clear relationship to LEED; focus on City sustainability priorities; updateable; and not impairing development viability. The Vancouver GBS will ensure that all mid- and high- density residential, mixed use, commercial and industrial development in Vancouver will reach at least the equivalent of LEED Silver, with an emphasis on the City's sustainability priorities such as GHG reduction and energy efficiency.

Consequentially, the GBS will significantly improve market penetration of green building practices and technologies in Vancouver. This will help bring costs down and increase professional capacity, providing an opportunity to create a complementary economic development strategy to create a competitive position for Vancouver.

* * * * *

SELECTED COUNCIL POLICY RELATED TO ENVIRONMENTAL SUSTAINABILITY

- October 16, 1990: Clouds of Change - Recommendation #1 to reduce carbon dioxide emissions by 20%. Reduced greenhouse gas (GHG) production through better energy efficiency of buildings was recommended.
- 1992 Central Area Plan: introducing high density residential to balance jobs and assist with reducing commuting demand
- 1995: Vancouver joined the Federation of Canadian Municipalities' "20% Club", which became the Partners for Climate Protection Program in 1998.
- 1995: Vancouver CityPlan adopted: directions related to establishing neighbourhood centres, prioritizing non-automobile transportation, clean air and water
- 1997 Vancouver Transportation Plan; directions for pedestrian, cycle, transit, goods movement, and automobile, in that order of priority.
- 2001: Southeast False Creek Policy Statement adopted by Council, including the development of green buildings and technologies.
- May 2, 2002: Council carried the motion, proposed by the Federation of Canadian Municipalities, to support the Canadian Government's ratification of the Kyoto Protocol, with the City's biggest impact being on new construction and building retrofits.
- March 25, 2003: Council approved an emissions reduction target of 20% from 1990 levels for the corporation of the City of Vancouver. Council created the Cool Vancouver Task Force and a Greenhouse Gas Reduction Action Plan. Green buildings are a big part of this plan, and represent up to 40% of all GHG emission in the Lower Mainland.
- December 9, 2003: Council approved the Action Plan for Creating a Just and Sustainable Food System for the City of Vancouver. This policy report includes a specific action area for the City to facilitate and support the inclusion of rooftop gardens on residential developments, commercial and industrial buildings.
- June 8, 2004: Council approved revisions to the Energy Utilisation By-law to improve the energy performance of new, large commercial and residential buildings by approximately 13% by updating references to the 2001 version of ASHRAE90.1.
- July 8, 2004: Council approved a program to promote the development of green building policy in the City. This included LEED Gold certification for all civic buildings, and LEED Silver design for SEFC. Council specifically asked for the development of a city-wide strategy to be developed.
- March 1, 2005: Vancouver City Council approved the Southeast False Creek Official Development Plan (ODP) at Public Hearing. In its approval, Council approved LEED Silver as the minimum and an objective of LEED Gold for the Olympic Athletes' Village and Council approved a working green building strategy for all other development with LEED Silver as a design goal.
- March 29, 2005: Council approved the Community Climate Change Action Plan. The Plan contains specific elements related to improving building performance.

VANCOUVER GREEN BUILDING PRIORITIES AND RELATED EXISTING POLICY/BY-LAWS

PRIORITY # 1 -- Energy Efficiency and Green House Gas Reduction

- 1990 - Clouds of Change; 20% reduction in CO₂
- 1995 - FCM 20% Club; became Partners for Climate Protection Program
- 2002 - COV adopts commitment to Kyoto Protocol
- 2003 - COV adopts 6% below 1990 levels for City as a whole
- 2004 - COV adopts ASHRAE 90.1 2001 as minimum Energy Utilization Provision of the Building By-law
- 2004 - COV approves LEED Gold with 30% additional energy improvement for Civic buildings
- 2005 - COV approves Climate Change Action Plan

PRIORITY # 2 -- Water Management

- Water Shortage Response By-Law & Waterworks By-Law 8912 - reduction of seasonal irrigation water use
- Drought Resistant Planting (Waterwise Gardening) - DP's for landscape plans; required for City projects (traffic circles, medians, etc.)
- Plumbing By-law - requires minimum 6L/flush toilets
- Sewer and Watercourse By-Law sets min. for quality and quantity of discharges
- Permeable Surfaces - RS zones = 60% permeable site coverage
- Rain Barrel Program - promotes stormwater management and the reduction of potable water use for landscaping purposes
- 2004 City Works Yard - stormwater for flushing toilets

PRIORITY # 3 -- Landscape Standards and Open Space Design

- 2003 - Food Action Plan; Facilitate urban agr. for private developments
- 2004 - COV approves Urban Agriculture Indicators
- 2004 - Food Policy Council Working Group on Food Recovery
- 2004 - SEFC ODP; integrated landscape planning and min. 50% green roofs
- All water landscape water reduction by-laws and permeability by-laws as per Priority #2
- Landscape Plans required for DP's - growing integrated approach:
 - selected plantings
 - drought tolerant species guidelines
 - native species guidelines
- Green Roofs - element of structural approvals more than landscape
- Childcare Design Guidelines - Identifies safe edible planting choices

PRIORITY # 4 -- Transportation and Transportation Alternatives

- 1992 - Central Area Plan; Walkable, liveable high density communities
- 1995 Vancouver CityPlan: directions related to establishing neighbourhood centres,
- prioritizing non-automobile transportation, clean air and water

- 1997 - Transportation Plan; In priority order, design for pedestrian, bicycles, transit, goods movement, and lastly, the private vehicle
- 2002 - Downtown Transportation Plan; Balanced design approach of modes focused on providing more sustainable transportation choices
- 2002 - Vancouver Transit Strategy; Comprehensive strategy for initiatives to improve transit access and conditions
- 2005 - Climate Change Action Plan; Promoting improved transportation alternatives including more pedestrian, cycling, and transit infrastructure
- 2005 - Parking By-Law Amendment to approve substitution of Co-Op vehicle and stall for 3 required parking stalls
- Bicycles - Parking By-Law, Z & D By-law (e.g. - Bikeade); Report due back to Council on - 10% mode split; ancillary bike facilities encouraged as part of most negotiated/conditional new developments
- Public Transit - most sites currently near transit access; employee transit passes and programs being negotiated in rezonings
- Walkable Neighbourhoods - DP conditions; specified in servicing agreements, contributions to offsite improvements
- Fuel Efficient Vehicles - preferred parking; reduced rates in COV parkades
- Preferred Parking - Parking By-Law for handicap, carpooling
- Transportation Demand Management Plans - CD-1's and Rezonings

PRIORITY # 5 -- Waste Management; Construction and Occupancy

- 2005 - Construction and Demolition Waste Management Regulations w/ GVRD
- Solid Waste and Recycling By-Law - expand beyond residential
- VBBL & Solid Waste By-Law - demolition waste management (hazardous materials must be removed prior to demolition)
- Building Durability - VBBL, Part 5 references CAN/CSA S478-95 Guidelines on Durability in Buildings

PRIORITY # 6 -- Healthy Interior Environments

- Pre-occupancy air quality - Pre-Design under ASHRAE 90.1 2001, referencing ASHRAE 62
- Tobacco smoke control - Pre-design under ASHRAE 90.1 2001, referencing ASHRAE 62
- Thermal comfort - ASHRAE 90.1 2001
- Control of contaminants - ASHRAE 90.1 2001, referencing ASHRAE 62
- Daylighting and Access to Views - multiple zoning and dev. By-Laws, also through ASHRAE 90.1 2001 simulation (currently at designer's discretion)
- Daylighting - Vertical and Horizontal angle of daylight in RM zoning

POSSIBLE BY-LAW CHANGES AND LEED EQUIVALENT VALUES

A. Already Regulated or De-Facto **11 pts.**

Sustainable Sites

1. Site Selection
2. Urban Development
3. Brownfield Redevelopment
4. Alternative Transportation, Public Transit Access
5. Alternative Transportation, Bicycle Facilities
6. Alternative Transportation, Parking Capacity
7. Light Pollution Reduction - except for special situations

Indoor Environmental Quality

1. Carbon Dioxide Monitoring in public spaces
2. Daylight and Views for 75%
3. Indoor Chemical & Pollutant Source Control
4. Views for 90% of spaces

B. Proposed GBS By-law Changes **16 pts.**

(Preliminary List: subject to consultation and confirmation)

Sustainable Sites 1 pts.

Stormwater Management Rate and Quantity - 1 pt.

- Sewer and Watercourse By-law amendment to require stormwater retention

Water Efficiency 2 pts.

Water Efficient Landscaping - 1 pt.

- Water shortage response plan - can be upgraded to reduce by 50%

Water Use Reduction 20% - 1 pt.

- Plumbing Codes 7.2.10.6 (2) & (3) - lav's, sinks, showerheads, and water closets in non-residential buildings

Energy and Atmosphere 3 pts.

Optimise Energy Performance 10% - 1 pt.

- Energy Utilization Provision of the Building By-law amendment - ASHRAE "plus" (subject to cost/benefit analysis)
- Energy design guidelines developed

Ozone Depletion - 1 pt.

- Energy Utilization Provision of the Building By-law: full implementation of current ASHRAE 90.1

Additional Commissioning - 1 pt.

- Energy Utilization Provision of the Building By-law: full implementation of current ASHRAE 90.1

Materials and Resources

3 pts.

Construction Waste Management 50% - 1 pt.

- VBBL and Solid Waste By-law amendment (underway)

Construction Waste Management 75% - 1 pt.

- VBBL and Solid Waste By-law amendment (underway)

Building Durability - 1 pt.

- CSA standards for envelope/rain screen; amendment in VBBL

Indoor Environmental Quality

3 pts.

Construction IAQ post-occupancy - 1 pt.

- Pre-design under ASHRAE 90.1 and ref. to ASHRAE 62 - enforcement issue

Thermal Comfort - 2 pts.

- Energy Utilization Provision of the Building By-law: full implementation of current ASHRAE 90.1

-

Innovation and Design

4 pts.

Education Program for Owners and Operators - 1 pt.

- Energy Utilization Provision of the Building By-law: full implementation of current ASHRAE 90.1

Allocation of space for building compost collection - 1 pt

- Zoning and Development By-law, Waste Management By-law

Collection of Organics - 1 pt.

- pilot program in SEFC
- broader application subject to City organic waste collection

Alternative Vehicles/Car-Share Program - 1 pt.

- Parking By-Law (underway)

C. Often Attained: Low/No Cost (no proposed work)

6 Pts.

Materials and Resources

1. Resource Reuse 5%

2. Local/Regional Materials 20%

Indoor Environmental Quality

1. Low-Emitting Materials, Adhesives and Solvents
2. Low-Emitting Materials, Paints
3. Low-Emitting Materials, Carpets
4. LEED Accredited Professional

Summary of LEED Equivalent Points

A. Already Regulated or De-Facto	11 Pts.
B. Phase 1 GBS By-law Changes	16 Pts.
- Sustainable Sites - 1 Pts.	
- Water Efficiency- 2 Pts.	
- Energy & Atmosphere - 3 Pts.	
- Materials & Resources- 3 Pts.	
- Indoor Environmental Quality- 3 Pts.	
- Innovation & Design- 4 Pts.	
C. Often Attained (Low or no cost; non- regulated)	6 Pts.
TOTAL	33 Pts.

LEED Certified: 26-32 Points
LEED Silver: 33-38 Points