

The Westhills LEED ND Pilot in Langford, B.C.

A Case Study

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Stepping out of status quo into new practice is a challenging task. This is perhaps especially the case in Local Government which is, generally speaking, a conservative, risk adverse creature. However, there are times when conditions require innovative actions to be taken. This was the case in the City of Langford in 2005 when staff were called upon to approach neighbourhood planning in a new and different way for an area of land to be called the Westhills Green Community. My tasks as the Chief Administrative Officer in this exercise were 1) to find and implement new tools for planning 2) develop partnerships to assist in achieving new goals 3) develop and assign appropriate staff teams and 4) review administrative structures to facilitate the work needed for implementing the development of the Westhills plan.

Background:

The City of Langford is a rapidly growing community of 25,000 people in the Westshore area of the Capital Regional District. In April 2006, the City of Langford received a rezoning application for 472 acres of land near the Town Centre. The content and nature of the application was a positive response to the City's strong direction to prepare a new type of neighbourhood plan which departed radically from traditional suburban developments.

Prior to the development of the Westhills plan, the site had two separate owners, Oakcrest park Estates and Quadra Pacific. The Oakcrest site had gone through a neighbourhood planning process in the late 1990s and had an approved plan and zoning in place. The Quadra Pacific lands did not have a neighbourhood plan or zoning in place.

When the owner of the Quadra Pacific lands approached the City to initiate a neighbourhood planning process, they were strongly encouraged to consider undertaking a new, more rigorous and sustainable approach for the development. They were also encouraged to consider acquiring the Oakcrest Park Estate lands which were on the market. The intent was to have a new comprehensive plan for both properties which followed the

most progressive and sustainable planning principals known. To achieve this, a partnership was struck with the Canada Green Building Council and the Ministry of Community Services to design the plan as the first LEED neighbourhood demonstration project in Canada.

Locational Characteristics

The City of Langford is located in the Western Community area of the Capital Regional District. Located adjacent to the Core area of Langford, the land comprising the Westhills Neighbourhood is approximately 191 hectares (472 acres) of undeveloped greenfield land. It includes a variety of terrain including wetlands, seasonal streams, hills, woodlands and rocky outcrop areas. To the north, across a rail corridor, is Langford Lake, a developing business park and a residential area.

Policy Direction

Prior to the Development of the Westhills Plan, the lands were designated as Comprehensive Development and Potential Neighbourhood lands in the Official Community Plan. They were also located in the Regional Growth Strategy's servicing and growth area. Councils' growth management policies for new neighbourhood development were expressed in several policies in the OCP (especially policies C1 to C4); however, with the Mayor's encouragement, staff were asked to find a more sustainable, innovative and "green" approach to neighbourhood planning for this development. This approach was initiated with discussions between the Mayor, myself, senior staff and the land owner. The approach was endorsed by Council and direction was given to staff to pursue partnerships with the Canadian Green Building Council and the Ministry of Community Services.

Issues and Challenges

As the City was breaking new ground with this project, there were numerous issues and challenges I was faced with as the CAO in establishing processes to deal with a development of this nature. These included:

- a) Having an appropriate tool to achieve the overall goal of a higher standard of sustainable, green development,
- b) Securing the legal framework to be able to require compliance with the stated development goals,
- c) ensuring that staff were aware and supportive of the initiative,
- d) focusing staff on the need to modify administrative processes and old standards to facilitate the initiative,
- e) developing an implementation tool to ensure that the development achieves the stated LEED ND goals.

OVERVIEW OF LEED ND

Role of the United States Green Building Council and the Canadian Green Building Council:

With advice from planning staff, I presented the LEED ND rating tool as the preferred method to achieve the goal of a “greener” more sustainable development model. This approach was endorsed by Council and the property owner.

LEED ND is being developed by the United States Green Building Council (USGBC). It is now being reviewed and adapted for Canadian use by the Canadian Green Building Council (CaGBC). The CaGBC uses the LEED rating system under license from the USGBC. A draft of the rating system was available from the USGBC at the time the Westhills’ initiative was launched. Since then, a revised draft has been released to be tested by about 240 LEED ND pilots in Canada and the United States.

Recognizing that the draft LEED ND rating system was in the development stage and that the City had a need to understand it well, we entered into a partnership with the Canada Green Building Council (CaGBC) to:

- (1) participate in developing the Canadian Leadership in Energy and Environmental Design – Neighbourhood Development (LEED-ND) standard; and
- (2) cooperate with the CaGBC in creating a master development plan that reflected this new standard.

This partnership has evolved to include myself as the City of Langford's Administrator (CAO) as a member of the CaGBC core committee charged with evaluating and adapting the draft rating system. This has enabled me to participate on the Core Committee and to chair its Transportation Sub-committee. As I was functioning as the principal coordinator in this process and the liaison with CaGBC, and as it was important to maintain continuity with CaGBC, I undertook this role rather than delegating it to a staff member.

State of the LEED ND Rating System:

The LEED ND rating system was under development in the United States by the USGBC at the time staff had been tasked with finding or developing a new, more sustainable approach to new neighbourhood development. A draft version of LEED ND was produced by the USGBC and this draft was used to inform and guide the City's planning exercise. Subsequent to the launch of our initiative, the USGBC launched their LEED ND pilot program and the CaGBC formed a core committee of professionals from across Canada to review the draft LEED ND rating system with a view to adapting it to Canada. The City of Langford is a participant in this process.

The intent of the LEED ND rating system is to encourage “developers to revitalize existing urban areas, reduce land consumption, reduce automobile dependence, promote pedestrian activity, improve air quality, decrease polluted stormwater runoff, and build more livable, sustainable, communities for people of all income levels” (Pilot version: LEED for Neighbourhood Development Rating System, June 2007).

FORMATION OF A PARTNERSHIP

The City of Langford embarked on the Westhills Green Master Plan initiative with the developer, Canada Green Building Council and the British Columbia Ministry of Community Services to ensure that the development of these lands met LEED ND guidelines with a specific view that they would be guided by significant innovations in energy conservation and ecological responsibility.

Process Participants:

The City of Langford, working with the land owner, the Canada Green Buildings Council and the Ministry of Community Services, gathered a team of professionals to help prepare the plan desired by the City. The team included:

- *City of Langford Staff from several Departments;*
- *Ministry of Community Services staff;*
- *Quantity Surveyor;*
- *Property owner's representatives;*
- *Professional biologist;*
- *Civil engineer;*
- *Economist / rapid transit specialist;*
- *Professional forester;*
- *LEED consultants;*
- *Architects;*
- *Landscape architects;*
- *Land development contractor;*
- *Smart growth consultants; and*
- *Transportation engineer.*

Role of draft LEED ND documents:

Prior to the commencement of public consultation, a multidisciplinary review was conducted on the draft LEED ND criteria prepared by the USGBC. The draft criteria were reviewed by the planning team and used to guide the subsequent planning process. The

criteria were divided into five main categories: Location Efficiency, Environmental Preservation, Compact, Complete and Connected Neighbourhoods, Innovative Design and Resource Efficiency.

Charrette process and outcome:

A Charette design process was conducted with the team members and facilitated by the Design Centre for Sustainability at UBC. The design exercise relied on a statement of project goals and the draft LEED-ND criteria to guide design decisions. The design workshop produced a conceptual plan based on the discussion, drawing, and general agreement on the many planning issues related to “green” site development.

Following the preparation of a conceptual plan, a rigorous analysis of topographic and environmental limitations and servicing requirements was conducted in order to turn the conceptual plan into a more detailed land use site plan which could be physically achieved. This analysis and the product went through several iterations as input from the project’s team members was received and addressed. An important part of the analysis of the proposal included an assessment of how the proposal rated against the draft LEED ND criteria.

PUBLIC PROCESS

Open House:

To engage the Public in this process, a large open house was held to introduce the proposal, the partners and the team members. The open house included a significant educational component on LEED and the Canada Green Building Council by CaGBC staff. Over 3000 invitations went out to adjacent residential areas and invitations were placed in newspaper advertisements. The open house was well attended with over 200 residents at the meeting. The results of a questionnaire

handed out at the meeting showed strong support for all elements of the plan and the green/LEED approach.

Interactive Web Site:

A website was developed by the applicant and launched for the purpose of further engaging and informing the public as well as providing a means to receive further input on the plan. Newspaper advertisements were used to advise the public of the website.

Committee meeting and

Public Hearing:

Following the Open house and website launch, the City of Langford also invited the public to its Planning and Zoning Committee meeting. This meeting was well attended and allowed for another opportunity to exchange information and views between the public, staff, the developer and committee members. Following these processes, a Public Hearing was held where strong community support was again expressed.

OVERVIEW OF THE PLAN'S KEY COMPONENTS

The overall vision for Westhills Green Community consists of buildings that will include live and work spaces, a village centre, neighbourhood retail service centres, a free internal shuttle bus service, community agricultural lands, bicycle paths and pedestrian trails, cobbled village centre streets and a commuter rail station. High quality public spaces, mixed uses, cultural and educational facilities, and a range of residential densities will provide for a walkable community available to all ages and income levels.

The Westhills Green Community Master Plan embodies a significant number of innovative planning concepts and environmentally responsible elements including:

- A reduction in automobile dependence through the provision of the free shuttle busses, light rail transit, bicycle paths and facilities, pedestrian facilities and the inclusion of employment and recreational lands within (and adjacent to) the neighbourhood. The net residential density is planned to be approximately 12 units per hectare (30 units per acre);
- The preparation and provision of Community agricultural lands to the residents
- Preservation of 40% of the area as parkland and open space that is improved through ecological restoration initiatives;



Fig. 1 - Wildlife and green corridor connectivity

- A requirement for the use of an integrated pest management program;
- Use of an affordable housing scheme including mandatory secondary suites and mandatory rental units;
- Environmental protection and enhancement;
- The design of all Multi-family, commercial, and institutional buildings to LEED for New Construction (NC) standards (e.g. energy-efficient buildings with low pollution

lighting, low-flow toilets, grey water irrigation systems, and pesticide-free landscaping) and all single family and town houses constructed to “Built Green” standards;

- A requirement to use locally produced and recycled materials;
- A requirement for innovative construction waste and water management plans;
- A requirement for a district energy system, heat recovery and geothermal energy sources to be used as a part of an integrated green utility as well as the use of grey water in irrigation and other non-potable water uses;
- A requirement for all residential properties to have onsite composting facilities;
- A requirement for the Village Centre and both local neighbourhood mixed use centres to use permeable paving unit cobbles on the streets rather than concrete or asphalt paving for storm water management and aesthetic purposes.

The Westhills Green Community is designed to support residents in living an active and healthy lifestyle by encouraging them to walk or cycle to work, school and other retail and service amenities in the community and to use public transit (Shuttle buses and Urban Rail).

IMPLEMENTATION MEASURES

To ensure that the goals and objectives of the Westhills plan could be legally required of the property owner after adoption of the neighbourhood plan and zoning bylaw, I recommended using the density bonussing provisions of the Local Government Act as well as a registered Section 219 Development Agreement. The Zoning Bylaw density bonussing provisions were used to secure the following amenities:

- 40% open space
- Commuter Rail contribution and free local commuter busses
- Amenity fund and a Sports field
- Village centre amphitheatre and cultural facility/building
- Affordable rental housing

The Section 219 Development Agreement was registered to affect all of the non-land use development requirements such as:

- Erosion and stormwater control plan
- Construction waste management plan
- Participation in local commuter bus tax levy
- Requirement for LEED certification of all multifamily, institutional and commercial buildings
- Provision of rental units for housing
- Trail construction in accordance with the Trail Master Plan
- Requirement for a LEED accredited professional to assist in the overall site planning and documentation accumulation to allow the project to be evaluated by the Canadian Green Building Council (CaGBC) evaluation teams

Studies:

Currently the site is completing all of the base line environmental assessments. Some of the areas have been completed and cleared for site work. LEED ND sets strict environmental goals and achievement of these can only be measured against Environmental inventories for wetlands and other sensitive ecosystems.

Approvals process and departmental involvements:

To be able to implement a development from planning through to occupancy by the new residents, several municipal departments must be involved including: the Planning, Parks, Engineering, Building, and Fire Departments. It was my decision to have staff members from each of these departments involved in the initiative from the early planning stages through to development approvals and construction. This was done to ensure that the initial planning documents contained the important perspectives of each department and to secure support and strong knowledge base for those who would be involved in the ongoing implementation of the plan. This was especially important considering the need to amend various bylaws and standards to facilitate the new “green” development standards.

Following the preparation and adoption of the plan in December 2006, I established a multi departmental development review team for Westhills to review all subdivision, Development Permit and Building Permit applications. This was designed to ensure that the overall vision was maintained and supported throughout the various application reviews. This team holds meetings regularly and is proving to be an invaluable tool for implementation.

To assist the “Westhills Development Review Team” in assessing and guiding the development approvals, I had staff work with the developer to prepare a LEED ND strategy guide which details how the overall project will achieve LEED ND certification and how each phase supports that strategy. The strategy intended to be flexible so that it can be amended over time, but with the understanding that with each amendment, staff are the individuals to determine if basic LEED ND certification can be achieved. I also participate with this team in order to ensure the support of all departments and to relate his work on the CAGBC core committee on LEED ND to the implementation of the Westhills development. This involvement has proved to be beneficial to the process as it enables me to regularly remind staff that changes to existing standards and processes are necessary and of the need to undertake intelligent experimentation in the process of changing standards. I quickly became aware that staff needed the ongoing reassurance from myself that the change in standards was supported by Council and required to achieve the goals of the Westhills plan.

One of the products being produced by the Westhills Development review committee is a set of recommendations for new LEED ND servicing standards or Variance Applications to implement Westhills. Again, this work is discussed and reviewed by all departments. One example of a development standard being introduced in the project is Woonerf streets. Woonerfs are designed in such a way to make automobiles work safely with the needs of other street users such as pedestrians, bicyclists and playing children. Woonerfs require lower traffic velocities by integrating landscaping and traffic calming devices.

Figure 1

Example of Woonerf streetscape



www.transport2000.org.uk / Julia Thomas

OBSERVATIONS AND CONCLUSIONS

Given the goal of significantly raising the “sustainability” bar as part of our land development processes, it was important to approach the task appropriately. In this case, the decision to bring in leaders from a full range of disciplines involved in land development enabled the City to evaluate the draft LEED ND rating tool and use it effectively in designing the Westhills plan. Establishing a partnership with CaGBC not only enabled the City to secure their participation in the planning process but also has enabled the ongoing relationship and participation of the City in the development of the LEED ND tool in Canada. Further, by working with the Province, the City was able to secure financial assistance for the process as well as received input from the Ministry’s staff during the planning process. I anticipate that the early and ongoing participation of the Province may have further benefits should the Province need to amend its own regulations to facilitate “greener” developments.

Our goal was to transform neighbourhood planning and development in the City and using the LEED ND tool proved to be valuable in reaching the goal. LEED ND is intended to be transformative, i.e., to change how development occurs. Such changes are not only required in the private sector but also in the public sector. This is inherently challenging for local government as staff often rely on standards and processes that have been developed over time to evaluate development applications and have a level of comfort in relying on past practice.

To change standards and practice in land development approvals, I needed to involve several municipal departments. I approached this challenge by forming a review committee with participants from each of the departments involved. I, as the CAO, also attended the meetings to support and encourage the transformative aspects of LEED ND compliance as well as to transfer knowledge gained through his participation on the LEED ND core committee through CaGBC. This approach proved to be of value, especially when changes to standards were discussed. Such change carries an element of risk and staff needed support and goal reinforcement during the discussions.

In addition to the decision to establish a multi department administrative structure to oversee the approval processes, we developed a strategy guide for Westhills to achieve LEED ND certification. This outlined how the overall plan would be certified and how each development phase supports that strategy. This guide, while being flexible, is proving to be a necessary tool to evaluate each approval request as our older standards were, in some cases, not achieving the goal. The strategy provided an ability to assess new standards and the rationale for departing from existing standards. The strategy guide was structured around the criteria of the draft LEED ND rating tool and is essential to guide the implementation of the Westhills plan in a structured, goal oriented manner.