

MEMORANDUM

TO: City of Bainbridge Island Planning Commission and COBI Planning Staff
FROM: Sustainable Bainbridge Green Building Committee
DATE: August 3, 2007 (Revised)
RE: Recommendations for Standards for Green Building and Low Impact Development

Summary:

This memorandum provides a brief overview of documents presented to the Planning Commission by the Green Building Committee that was formed early in 2007 by Sustainable Bainbridge, a local nonprofit organization. The presented documents include proposals for green building elements to be incorporated into the Winslow Tomorrow code and the design guidelines currently before the Commission.

The first three parts of this memo provide explanations, and suggested text, for:

- Part 1) Zoning amendments pertaining to the definition of the downtown “amenities” that would be eligible for FAR bonus densities in the Winslow Core,
- Part 2) Winslow Core design guidelines: Proposed text that would add green building and low impact development elements to the design guidelines, and
- Part 3) COBI’s Development Code: Proposed code language for a new green building ordinance.

In addition, Part 4 of this memo suggests some future opportunities for supplementing and expanding City code and policy pertaining to green building and low impact development standards.

Background:

The Green Building Committee of Sustainable Bainbridge formed to assist the City in the development of a green building code. These efforts began during the Winslow Tomorrow process in response to the vision of the Winslow Tomorrow Congress. Winslow Tomorrow Recommendation #3 (of 32) calls for the following action “Require sustainable green building standards (e.g. LEED silver rating) on all development that exceeds current permitted density.”

The current members of the Sustainable Bainbridge Green Building Committee are: Ryan Vancil – Vancil Law Offices – Committee Chair; David Balas – Architect; Richard Blumenthal – Richard Blumenthal Construction; Matthew Coates – Coates Design Architecture; Gregory Hepp – Architect; Brigetta Johnson – Realestate Green Built Specialist; Chip Maguire – O’Connor Architects; Jason McLennan – CEO, Cascadia Green Building Council; Satu Muldrow – Windermere Realestate; Barry Peters – President, Sustainable Bainbridge; Andy Rovelstad – Architect; Chris Wierzbicki – City of Bainbridge Island.

1. Recommendations for Downtown Amenities FAR Bonus.

The proposed Winslow Tomorrow Core District Zoning Code Amendments includes a component for an FAR Bonus Program. The 2nd Tier of the Proposed Bonus Program is the Downtown Amenities Component. The Committee recommends consideration of the following as downtown amenities that could be provided to achieve bonus density:

Definition of “downtown amenities”: Add the following alternatives to the proposed definition of the term:

- a. The equivalent value of the cost charged by the Green Building Council for a completed review and approval of a LEED Silver (or higher) certification application.
- b. The value of the cost difference between conventional building materials and equivalent green materials (but not any labor or professional costs associated with such materials) used for green building features that are listed on a LEED Silver (or higher) checklist. Example: The dollar amount by which the materials costs for pervious parking surfaces exceeds the materials cost for conventional (e.g. blacktop) impervious surfacing.
- c. Publicly available green space with water-absorbent rain-garden soils or similar low impact development groundwater absorbent features.
- d. Note: Items in “a”, “b” and “c” (above) shall not apply in the case of a project that is otherwise legally required by any applicable City ordinance to comply with LEED or other green building standards.

2. Recommendations for Mixed Use Town Center Design Guidelines.

The Planning Commission is also currently considering the Draft Design Standards and Guidelines for the Mixed Use Town Center: Core. The following additions to the Design Guidelines are also recommended for the **Winslow Way Streetscape Project**.

At minimum, the Committee advises that a new Section F “Green Building Standards” (containing the text stated under “F” in this Part 2, below) be added to the Design Guidelines.

The Committee recommends the following additions to the Design Guidelines:

Streetscape Design

- The area and type of paved surfaces can signal their use by cars, parking or pedestrians. Wherever traffic requirements allow it, install surfaces that encourage non-automobile traffic, and allow stormwater infiltration. Use impervious pavement (concrete and asphalt) only where regular and intense car, bus or truck traffic is expected. Match the surface to the need:
 - Porous asphalt, paver blocks or large aggregate pervious concrete for parking and highly used bicycle and pedestrian areas

- Lattice blocks (or similar products) that permit grass growth for fire lanes and overflow parking
- Crushed stone or brick for lightly used pedestrian paths
- Recycled asphalt and recycled concrete in the base course of pervious and/or impervious surfaces
- Use rain gardens and other water-absorbent plant growth media, with drought tolerant plants, combined with curb cuts and other proven low impact development techniques for rainwater catchment and absorption, to lessen stormwater runoff
- Where there is to be an earthen separation between street and sidewalk, use bioswales
- For planted areas, use drought-tolerant species. Consider fruiting trees and other plantings that attract song birds and desirable wildlife.

Public Space

- Use Environmentally Friendly Landscaping. Environmental landscape design involves selecting slow-growing, drought-tolerant plants that require less water and maintenance, significantly reducing water consumption. Native Washington plants and well-adapted non-native plants can be combined in wildlife-friendly and visually attractive landscapes suited to difficult urban conditions.
- Landscape design can re-create habitat lost to urban development, and attract resident and migratory wildlife. In addition, connecting landscaping with neighborhood and regional open spaces creates a network of wildlife corridors.
- Dedicated Space for Urban Gardens: Provide dedicated space for pea-patch or other forms of citizen-maintained gardens.

Design considerations include:

Food

- Consider plants and trees that produce native seeds, nuts and fruits for diverse food sources throughout the year, among species that are suitable to survive in an urban landscape in the Puget Sound locale.

Water

- Include bird baths for drinking and cleaning. Locate them in open areas and keep them shallow with gently sloping sides and rough surfaces for easy access and escape.

Cover and Shelter

- Combine plants to provide horizontal and vertical diversity, with upper-story tree canopies, middle-story shrubs and low groundcovers for refuge from predators and weather and nesting sites.
- Size and locate nest boxes for the requirements of desired birds and bats. Hang boxes 5 ft. from tree limbs or in open areas on predator-proof metal or metal-clad wood posts.
- Design areas that can retain leaf litter, and fruit- and nut-drop to provide additional food and habitat, particularly for beneficial insects.

Building Design

- Recycling of building materials. Specific demolition salvage and waste recycling instructions for the contractor must be included in the construction contract and verified onsite by project management. The contract or specification should require that the contractor tracks salvage, recycling and landfill shipments and keeps disposal receipts. The project architect or manager should review these, and recycling and disposal reports submitted to the City's Solid Waste Division. Where buildings already exist on a development site, require an initial site inspection with the architect or project manager to identify materials for salvage and reuse or for recycling.
- Design should consider how repairs or removal will occur, and allow access for these purposes. Specify materials and methods with high potential for recyclability, e.g. those which can be separated into recyclable components such as single metals, plastics, gypsum and glass. Wherever possible, avoid composite products that make this separation difficult or impossible.
- Reuse salvaged materials. From both environmental and heritage perspectives, materials salvaged from buildings already existing on the site or from the surrounding locale or Puget Sound region are preferable; less transportation is required, and historic continuity is preserved. If there is little worthwhile on-site material, demolition sales and stockpiles of regional demolition and salvage contractors and suppliers should be surveyed to establish what and how much is available. Internet recycling information services and materials exchanges are useful resources. Once a decision is made, contract to reserve and store the materials until required for construction.
- Reduce Indoor Air Pollution. Healthy buildings are largely a result of healthy materials choices. Minimize use of high-emission carpet, paints, adhesives, ceiling tiles, wood composite products, acoustic materials and insulation materials. Choose low-emission materials by a recognized selection procedure, such as low-toxicity rated products, or a pick list of low-emission materials by "generic type" i.e. by product category.
- Reuse Graywater. Specify and install wastewater plumbing piping to capture "graywater" - drain water from baths, showers, laundry and bathroom sinks - for sub-surface irrigation of outdoor landscaping. Graywater piping should be labeled to distinguish it from other sanitary piping.
- Collect rainwater for use. Collect rainwater with rain barrels, catch basins or cisterns at each rainwater leader or downspout. The collected rain displaces potable water otherwise wasted for irrigation, or may be used to provide water for a decorative water feature or art piece.

- F. Green Building Standards

1. None of the design standards or guidelines recited elsewhere in these Guidelines are intended to deter or prevent the construction of buildings that utilize or exemplify green building or low impact development standards. To the contrary, the Winslow Tomorrow congress recommended encouraging green building standards (e.g. buildings that satisfy LEED standards), especially for those buildings that exceed standard density allowances.

2. Building features designed primarily to fulfill a green-design or sustainable-design purpose (e.g. features accommodating renewable energy or water conservation) shall not be held inconsistent with these guidelines solely because of the necessary appearance or functionality of the applicable green-design or sustainable-design element of the construction.

Parking Design

- For surface parking lots, use low impact development techniques (e.g. bioswales, rain gardens, curb cuts) to absorb runoff and manage stormwater
- Clarifiers or oil/water separators should be installed in all new and rebuilt parking structures or parking areas of newly built facilities. Oil/water separators installed for parking areas and garages will be sized according to 10-minute peak flow guidelines. Ultimate discharge shall be to the city storm drain system or to an approved stormwater drainage system that is suitable for such drainage according to low impact development standards.
- Where compatible occupancies within mixed-use buildings and development projects allow sharing of parking stalls, impervious parking areas and "heat-island" effects can be reduced. Mixing compatible and complementary occupancies within a development can reduce the number of car trips, because occupants are more likely to find it convenient to walk to nearby services. Mixes of residential with commercial or retail occupancies tend to be the most compatible. Different occupancies often have parking demands that differ with the time of day or week. This allows sharing of parking spaces between occupancies, reducing the site area dedicated to car storage. Potential is often greatest for visitor parking, and for residential mixed with commercial or retail occupancies. If parking area can be reduced, there are more opportunities for natural landscaping and creative site planning. Provide signage that clearly identifies when different users may use shared parking spaces.
- Provide Parking and Charging Facilities for Electric Cars. Locate rechargeable electric vehicle (EV) parking in a conspicuous and preferred location, close to a main building entrance and the EV charging station electrical panel. Provide one EV parking stall for every 20 on-site parking stalls, and space for one charging station for every two EV parking stalls. Provide: a plinth for the charging stations, equipped with conduit to the electrical panel; curb stops and bollards that provide access space to the charging stations; and signage reserving the parking stalls for EVs.
- All new buildings or structures shall provide off-street bicycle parking.
- When planning underground parking areas:

- Provide visual links to the outdoors to provide a sense of direction. Introduce daylight, particularly near pedestrian entrances and exits.
- Make interiors logical, inherently guiding users to entrances and exits.
- Enhance security with good lighting throughout and by eliminating hiding places.
- Integrate long-term bicycle storage and changing facilities into the parking strategy.
- Design floor-to-floor heights of at least 8 ft. to permit different uses in future. In very small sites with high land costs, robotic parking devices that allow more cars to be stored in a given volume are now available – with a high cost premium. These reduce circulation areas needed in standard parking lots, allowing more efficient space use.

3. Green Building Code for City of Bainbridge Island and Commercial Structures.

One of the simplest and most common steps communities are taking across the country is to require that all new municipal development comply with green building standards. In addition, the LEED Green Building Rating System has been operating for a number of years and has been well received by the development community for commercial and mixed-use buildings in addition to civic buildings and schools. Attached to this memo is a draft of an ordinance that proposes to adopt a green building code into the Bainbridge Island Municipal Code. This should be included the City's first step in achieving the community's commitment to green building, and can serve as a foundation for future actions. The attached draft covers civic and commercial projects (including mixed-use), but not purely residential construction. The Committee intends to present at a future date a draft of an ordinance embodying Green Building standards for certain covered residential construction. In addition, the Committee proposes to present a draft ordinance for Low Impact Development standards for stormwater management, which will complement and supplement the attached green building ordinance drafts.

The primary aspects of the attached proposed green building ordinance language are:

- a. Applies to COBI civic building structures of 5,000 sq. ft. or more.
- b. Applies to all commercial and mixed-use structures of 12,500 sq. ft. or more.
- c. Applies to residential multi-family projects
- d. Requires projects to achieve the applicable LEED Gold rating (LEED Commercial or LEED for Homes). Projects would be required to register with the U.S. Green Building Council (or its Cascadia regional affiliate). The U.S. Green Building Council (or its regional affiliate) would ensure compliance.

4. Additional Steps the City and Community can Take to Implement Green Building Standards.

The Committee requests that the Commission consider including in its recommendation to the Council a request that the Council commit, beginning with the 2008 budget, to additional steps for green building implementation.

These additional steps should be explored by review of a professional consultant assisted by a community task force made up volunteer professionals and individuals interested in this subject matter. The Council should commit to hiring this professional in the 2008 budget.

The Council may wish to consider in the hiring of the consultant the following aspects of a fully developed green building program:

- a. **Adoption of Additional Ordinances:** The Green Building Committee recommends adoption of the following additional ordinances. Recommended text for such ordinances will be provided by the Committee later in 2007:
 - i. **Green Building code standards should be adopted for residential buildings.** The Committee highly recommends that its draft Green Building ordinance be supplemented with terms that would apply to (A) any or all affordable housing units which involve any public funding, and (B) some or all private residential construction or reconstruction (at least for projects that exceed a specified number of units or number of square feet).
 - ii. **Low Impact Development Code** – The Committee highly recommends the adoption of a low impact development ordinance that utilizes LID standards to lessen environmentally damaging impact to building sites, to lessen non-pointsource pollution, to minimize stormwater runoff from building sites, and to increase the amount of rainwater that recharges aquifers. The Committee will review the model guidelines for Low Impact Development that are scheduled for release in Fall 2007 by the Kitsap Homebuilders Association. The Committee will provide draft text for such an ordinance later in 2007.
- b. **Subsequent Follow-Up Activity:** The Green Building Committee recommends additional follow-up activity, to allow for broad based application of sustainable building or promote specific aspects of green building.
 - i. **Integration with Other Elements of the Code.** The Consultant hired by the City should review the entire City code and all City practices for opportunities for sustainable practices. It is expected that this integration of the Code could best be accomplished as an activity parallel and coincident with the overall rewrite of the City Code that is contemplated by the Planning Department in 2007-09.
 - ii. **Construction Site Solid Waste and Recycling Collection** – The City could require recycling of construction wastes for certain projects. For instance, in 1996 Portland, Oregon mandated recycling of construction site waste for any building project with a total job cost over \$25,000 as well as requiring recycling programs for businesses and multifamily dwellings.
 - iii. **Establish Minimum Construction Requirements for Certain Special Green Building Technologies** – For instance, the City could adopt minimum construction requirements for buildings wishing to use strawbales in wall systems.

- iv. **Adopt Energy Efficient Design Standards for Commercial and Residential Buildings** – For instance, Marin County adopted new energy code requirements for homes larger than 3,500 square-feet, to reduce the annual and peak energy consumption of large homes, and to ensure that a new single family home larger than 3,500 sf does not exceed the energy use of the standard of the equivalent home designed at 3,500 sf. Energy efficiency or renewable energy supplements can be used to meet the standard.
- v. **Promotion of Solar and Other Forms of Renewable Energy** – The City may wish to adopt ordinances which protect solar access and encourages alternative housing design, the use of wind energy conversion systems solar energy and other resource efficient technologies. (See e.g. Boulder, Colorado; Port Arthur, Texas; Soldiers Grove, Wisconsin; and New Pattonsburg, Missouri).

c. **Development of City infrastructure/staffing to promote green building practices.**

Elements of this could include:

- i. Creating an inter-department training program for relevant City development review, inspection, maintenance and operations staff;
- ii. Identify building and zoning code and process conflicts that inhibit green building practices and technologies (see e.g. (b)(ii) below);
- iii. Develop a program to provide process management and education for all public and private sector building projects interested in green building that do not qualify for the City’s required application of the green building code (this should specifically include a guidance program for single-family residential development); and
- iv. Develop a Green Building Program Member Directory to locate materials, vendors, and professionals that can help meet green building needs.