



Department of Planning and Development

Diane M. Sugimura, Director

**Living Building Pilot Technical Advisory Group
Meeting Summary**

Project Number: 3012601

Address: 3400 Stone Way N.

Meeting date: October 6, 2011

Owner: Skanska

Architect: LMN

Mechanical/Energy: WSP Flack + Kurtz

Technical Advisory Group: Jon Heller, David Walsh, Mark Frankel,
Paul Schwer, Margaret Sprug, Phoebe Warren,
Tom Nelson
(Absent: Alicia Daniels-Uhlig, Chris Hellstern,
Myer Harrell, Joel Banlaben)

DPD Staff: Jess Harris, Green Permitting Lead
Lisa Rutzick, Senior Land Use Planner

The Technical Advisory Group (TAG) is meant to facilitate Living Building projects under Seattle's Living Building Pilot program via peer review of the building's design. The TAG meetings will help to identify technical issues that need further analysis, result in better communication to the DRB and generally foster collaboration on the project.

In order to provide flexibility for living building pilot projects, projects may request departures from an expanded departure list, such as, for height and floor area ratio. The design review board will make recommendations to DPD on the whether the departure would result in a development that better meets the goals of the Living Building Challenge and would not conflict with adopted design guidelines. The TAG is expected to provide technical information to the DRB on whether the project meets the goals of the Living Building Challenge.

Summary of TAG Meeting

The development team presented the project led by Lisa Picard- Skanska; Wendy Pautz-LMN; and Tom Marseille- WSP Flack + Kurtz. The team answered many questions throughout the presentation; however, it is acknowledged that responses to some comments and questions will need to occur when the design is further refined.

Skanska, a Swedish company, has a long history of commercial development in Europe and 3 years of experience in the U.S. market. They are a well known leader in sustainable building, and have received many accolades for their sustainable practices and buildings.

For this project Skanska will be the developer, lender and contractor. The goals for the project;

- Pursue Seattle's Living Building Pilot Program
- Push market acceptance of deep green
- Create a trailhead for the Burke Gilman Trail
- Make a vibrant place

Skanska is negotiating a lease for a major tenant in the building (Brook Sports-public announcement made October 20). It is clear that the tenant will need to utilize business practices that are not yet market norm in order to occupy the building and meet the sustainable requirements.

At this time, fully meeting all the Living Building petals does not financially align with the goal of creating a market rate commercial building. The pilot program acknowledges this financial and design challenge by providing minimum standards for Living Building Pilot projects. Skanska is committed to meeting the minimum requirements, which are;

- Compliance with 60% of the 20 Living Building petals
- Energy usage reduction from a comparable buildings' average usage by 75% or the converse, limited to 25% of the average energy usage.
- Water usage reduction from a comparable buildings' average usage by 75% or the converse, limited to 25% of the average water usage.
- 50% of stormwater must be captured and used on site.

The preferred option presented at Early Design Guidance and before the TAG, consists of a 5-story, 65 foot tall building with 4 floors of office space (approximately 113,850 SF), ground level retail (approximately 20,000 SF), and below grade parking for 216 vehicles. The section presented shows 15' floor to floor heights at the base and 12'6" floor to floor heights on the office floors.

The construction type is anticipated to be post tension concrete. The floor plate depths are anticipated to be from outside column to outside column approximately 110 feet, and 40 to 42 feet from core to outside column.

The preferred option would require three living building departures;

1. To allow an increase in structure height of 20 feet from 45 feet to 65 feet to better meet daylighting/energy reduction goals, human scale + humane places, and beauty and spirit.
2. To exempt retail from floor area ratio on ground floor which facilitates the location of retail in the building, makes a better connection to street, and creates a vibrant place.
3. To allow a 15% increase in floor area ratio (2.5 FAR permitted is approximately 99,000 SF) to allow for mechanical systems.

Currently, the Living Building Pilot provisions allow an increase in structure height of 10 feet and no exemption from FAR for retail. DPD has proposed a code amendment to the living building pilot provisions to allow increases in structure height of 20 feet and to allow exemption from FAR for retail. The environmental determination (SEPA) associated with these changes has been appealed to the City's Hearing Examiner.

The most challenging living building design elements relate to energy and water. Setting baselines are essential in measuring reductions; however, various factors can influence this equation, such as, type of use, hours of operation and occupant behavior. In this case, the current offices for the proposed tenants are being studied to derive energy usage.

The tenants of the proposed building, aside from the office use, are in flux, and impact the estimates of energy use in the building. There could be a restaurant

which would substantially impact the amount of energy and water used in the building.

To achieve energy goals, the following strategies are being evaluated;

- Using hydronic chilled beam system to heat and cool (active beams at the perimeter and passive beams at the interior) with back up natural gas boiler
- Innovative heat recovery/ phase change thermal storage system to generate heating and cooling
- Dedicated outside air ventilation with heat recovery
- Use of efficient lighting and reduction of light loads
- Optimizing the building envelope
- Design of office layout, hours of operation and tenant behavior.

To achieve water goals, the following strategies are being evaluated;

- Use of very efficient plumbing fixtures
- Capture rainwater on site
- Use of gray water to flush toilets and irrigate
- Reduce irrigation demand
- Reduce cooling tower demand

Key TAG and staff comments/questions

1. Appreciate the studies done so far, continue to analyze
2. Continue to refine daylighting analysis.
3. Acknowledge that restaurants use a lot of energy
4. LEED criteria should not be used for daylighting analysis
5. 12'6" floor to floor heights and floor plate depth shown will not result in a "daylit" building.

6. Not convinced design with this percentage of glazing will save energy because of the energy loss through windows and the need to heat perimeter spaces. Reduction of lighting load can create more of a demand for heating. This dynamic needs further study.
7. More floor to floor height would be needed to bring daylight into a floorplate of this depth.
8. 12'6" floor to floor heights will create better office space- occupant comfort and space livability
9. Explore options to add skylights on roof to provide more daylight into the top floor, and offsetting the floors to allow more light penetration.
10. Study the daylight available under an option that allows 10 feet of structure height now available through the pilot program.
11. Provide European case studies to demonstrate what is possible. Why can't light well/atriums work for this building? Explain why European models can't work in the US market.
12. Challenges in configuration and size of floor plates were discussed in relation to the Bullitt Center project. An atrium scheme or "U" shape building was evaluated for Bullitt; however, the size of the "U" needed to obtain the daylight adversely impacted the floor plate marketability.
13. Tenant involvement and behavior is critical with respect to plug loads, furniture/office layout, etc. How many showers will they take?
14. Bullitt Center is using "thin client" system to reduce energy use from computers. Why not make the same business case to your tenant?
15. Additional height and additional floor to floor heights results in better quality of indoor space and not necessarily better daylight or energy savings- this needs to be studied more.
16. Refer to the Packard study to get information on energy use in commercial buildings
17. Clarify how the proposed 30% water savings from cooling tower use will be accomplished (Is it entirely by load reduction?)

H:\DOC\Living Building\3400 Stone\LBTAG #1 Stone final 10-28-11.docx