

LOCAL AMENDMENT
TECHNICAL ADVISORY GROUP MEETING
May 4, 2009

Attendees:

Please see complete list at the end of this document.

1. Approval of Meeting Minutes

The group approved the meeting minutes from April 20th.

2. Smart Site Development and Other Requirements

Reduction of Light Pollution (Residential and Commercial)

Debbie Cleek began the meeting with an overview of content of the Model Light Ordinance (MLO), its status, and other light ordinances in Oregon. The MLO is a national dark-sky model that has been being developed for over three years, and is about a year away from being completed. She summarized the reasons that staff is recommending not including this requirement in the TAG document at this time.

The group generally concurred. Jeff Fish expressed his concern is that there are probably a lot of details in the MLO that we are not aware of, and concerns over security issues relating to lighting.

David Posada was concerned that if we don't put it in now, how do we guarantee that it won't be lost when the MLO is ready? Hank McDonald suggested putting in a rider regarding this issue with the TAG document when it goes to Council. There could be a resolution asking them to implement it in the future.

Michael Sestric wondered if there weren't some basic technologies that we could implement now, such as shielded lighting in parking lots, but agreed that it is more of a Zoning issue. Gabrielle Schiffer noted that Wilsonville is also in a holding pattern right now, waiting for the MLO. There was a concern over street lighting as well, but even the MLO wouldn't address lighting in the Public Right of Way. A resolution from council would help provide direction for lighting on both public and private property.

The group agreed to omit light pollution from the TAG document, with the resolution to council.

Permeable Paving (Residential and Commercial)

Debbie introduced the topic of permeable paving, and gave an overview of regulations in the BES Stormwater Management Manual. The manual does allow permeable sidewalks, but requires a system that would be substantial then a typical on-site sidewalk, which could be a cost factor. Generally sidewalks are allowed to sheet flow into landscaped areas, so the permeability is not typically a factor. In addition, there are

several concerns with dealing with the infiltration and stormwater quality when designing permeable surfaces.

Mike O'Brien opened with a discussion of residential driveways. There appears to be some confusion between staff and the public resulting in the impression that the City does not allow permeable paving for driveways, but the group consensus is that that is not the case. Stephen Aiguier thought there might be some confusion because there were different types of paving, such as interlocking pavers versus concrete and asphalt that are pervious and allow water through. The stormwater manual allows these paving types, but does require engineering to address specific site and soil conditions where they are proposed. Mike recommended that we have clarifying language, tying the requirement to sites that are within areas covered by the downspout disconnect program.

Debbie clarified that the original TAG direction was to only address pedestrian walking surfaces. The scope had been narrowed specifically because of issues with vehicle loads and potential oil contamination from vehicles. Jeff Fish expressed concern over the tendency of pavers to shift over time, creating a tripping hazard. Debbie asked for clarification of the TAG directive, since the most sidewalks just sheet flow to the edges anyway, and the Stormwater Manual requires treatment of new impervious paving over 500 SF in area. Mike O'Brien raised the question of public sidewalks, but this paving would be outside the scope of the TAG document. Discussion centered on impervious areas less than 500 sf. Hank McDonald is under the impression that the City is encouraging the use of pervious paving wherever possible.

The group consensus was to uphold the BES threshold of 500 sf, and let them deal with the review and requirements for paving over that amount. Debbie noted that the original requirement came out of the Homebuilder's document, which would not have taken into account that Portland has one of the best stormwater manuals in the country and is generally looked to as a model.

The group agreed to omit pervious paving from the TAG document, but strongly encouraged the writing of a BDS Code Guide that would clarify the confusion regarding permeable driveways. It would be written to summarize when you can and can't use permeable paving, generally encourage its use where appropriate, and specifically address issues that come up when using it for driveways, including issues on sloping sites.

Foundation Drainage Protection (Residential)

Debbie gave an overview of existing language in the Residential building code that pertains to foundation drainage and protection.

The code calls for damproofing on basement foundation walls, or waterproofing if the basement is in an area with a high water table. The group thought it was not sufficient to be only damproofed when there is habitable space in the basement. Jeff Fish suggested changing "damproofing" to "waterproofing" in section 406.1. The group discussed the unreliability of waterproofing. This system fails if the foundation cracks. Mike O'Brien brought up the need to relieve the hydrostatic pressure against the wall by backfilling with gravel to create a drainage plane. It was agreed that a drainage sheet, such as an

"inca drain" would also work to create a hydrostatic break. In these instances the waterproofing was not as critical, and damproofing would be sufficient. The group agreed that we should add language requiring this drainage sheet where new foundations were being constructed. The group did not want to require this where habitable space was being created by converting storage space to habitable space in an existing basement.

Protection of the Exterior of the Building (Residential)

Debbie gave an update on the status of Zoning code change proposals that would allow greater eave projections into setbacks. Currently only 12" projections are allowed into the setbacks. One of the pitfalls of mandating eave depth is the reduction of design flexibility. David Posada brought up the example of a Cape Cod house that has virtually no eaves. Mike O'Brien argued that the deeper eaves were more appropriate for Portland, and was able to use them on his house, and explained that the ground at base of the wall is completely dry.

The group felt that modern (eave-less) house designs could still be used since drainage is provided behind parapets in this building type. The group concluded that the biggest problem occurs where roofs slope towards the roof edge and drainage water runs down the wall.

The issue of fire rated construction came up, since the building code requires that eaves be rated when they are between 2 and 3 feet from the property line. Eaves at smaller "bump outs" were also discussed, and the group thought there could be some exceptions for these conditions.

The group would like to see deeper eaves, but agreed that the condition could be improved by creating a drain plane with an appropriately constructed rainscreen on the wall. There would need to be a sufficient gap in this plane, and 3/8" was determined to be sufficient. Venting can be tricky in this system; Jeff Fish brought up the condition where the building paper gets wet and stays wet for any length of time, then the system fails. There is currently a Task Force working on the rainscreen issue at the state level, so the timing is good to pick up on this option.

The group decided to have the requirement say that if you are going to provide eaves they have to be 18", but create an exception that would allow no eaves if an enhanced rain screen is provided. This requirement would not apply to non-habitable detached structures. The inclusion of this requirement would be dependent on the change to the Zoning code and the findings of the rainscreen Task Force.

Non-poured foundations (Residential)

Debbie summarized the conclusion that the code already allows this foundation type. Creating a non-engineered prescriptive path that may only end up being used by a small number of projects would be a challenge. The group agreed that we would omit this from the TAG document.

Previously, Stephen Aiguier had brought up the need to create alternatives to using pressure treated wood, particularly on sill plates. In explanation, he described his experience on a couple job sites where he wanted to use redwood or black locust as a sill plate and was not allowed to use it. Hank McDonald said that the code specifically allows these naturally decay-resistant woods to be used, and that that call was in error.

It was agreed that no additional code language was needed.

High ~~Low~~ Solar Reflective Index Roofs. (Commercial)

Debbie summarized the proposed language. Mike O'Brien asked to clarify the wording to read "High", rather than "Low", and to include "Cool Roof Rating Council" in item a1.

Michael Sestric wanted to clarify the walking surface exception in b.1.c did not mean maintenance paths. Debbie stated that it was meant to cover paths to the occupied areas, and to ecoroof displays, and that we can revise that wording.

David Posada stated that this document is different than LEED with regards to the photovoltaics. LEED allows these to be excluded from the calculation of roof deck surface area. The TAG document will be changed to match the LEED method.

Mike O'Brien suggested that the energy modeling exception should be clear about what baseline should be used.

- a. Requirement. At least of 75% of the total roof deck surface area shall be covered by either:
 1. A High ~~Low~~ Solar Reflective Index (SRI) roofing material the meets the following:
 - For roofs with a slope less than or equal to 2:12: a roof material with a minimum initial SRI of 78, and
 - For roofs with a slope of more than 2:12: a roof material with a minimum initial SRI of 29, or
 2. A USEPA's Energy Star or Cool Roof Rating Council qualified roofing material.
- b. Calculating roof deck surface area.
 1. The following may be subtracted from the total roof deck area:
 - a. Portions of the roof area used for an eco-roof, and
 - b. All roof penetrations, and
 - c. Areas of the roof used for habitable space, such as balconies, decks and walking surfaces excluding maintenance walkways.
 2. Roof deck area occupied by permanently mounted mechanical equipment, including photovoltaics or solar thermal collectors, shall be ~~included~~ subtracted from in the total roof deck area calculation, but these areas do not need to meet the roof surface requirements of Section a.
- c. Exceptions. The following roofs are not required to meet the roof surface requirements of Section a.
 1. Projects where an annual energy analysis simulation demonstrates that the total annual building energy cost will be less than a 2% increase if a roofing product that does not comply with Section a is used.
 2. Roofs used for parking.

3. Roofs used to shade or cover parking areas that have a minimum initial SRI of 29.

OHSU Appeals List

Debbie went over the reasons that staff is recommending that the appeal items that came up on OHSU not be included in the TAG document. The issues are so specific that they need to be looked at on a case by case basis. She described the bureau's Code Guides. Similar issues that the appeals board sees on a regular basis are sometimes then written into a Code Guide, which is effectively a pre-approved appeal.

The group agreed that the list of appeal items would be more appropriate to be in a Code Guide. Michael Sestric made the point that when the issue originally came up, he heard that there were 65 appeals that they had to go through, and it seemed like a much bigger issue.

David Posada specifically thought that the item regarding garage exhaust would be a good candidate for a Code Guide, since it would be most common across many buildings.

Daylighting by Toplighting

Debbie summarized the work that she, David Cohan, and outside consultants had done to try and come up with code language that could regulate toplighting in a way that could provide meaningful amounts of light inside a building without increasing the energy load. Her conclusion based on the language development by the consultant was that it would be very challenging to regulate.

She noted that Seattle had been trying to develop code language as well, but abandoned it because they did a study that found that it would increase energy use in warehouse. It is very challenging to hit the sweet spot between saving energy through daylighting and wasting energy to compensate for overheating from skylights. It's not just a percentage of roof area, but requires an analysis of wall location within the building. It is easy to overdo it - creating glare and over-lit spaces.

Jeff Fish brought up the issue of shell buildings where there is no tenant yet, and the location of interior walls is not known. He supports not including this in our document.

Michael Sestric recommended trying to incentivize the use of daylighting instead. He acknowledged that including the requirement would be like codifying a design process. Gabrielle Schiffer noted that this is an issue that the state is looking at in the scope of the energy code. They are looking at trade offs: for example, greater efficiency of mechanical equipment in exchange for skylight area.

David Posada noted that daylighting requirements would mainly impact big-box stores and warehouses, that are often designed by engineers who don't do much of a lighting analysis. Daylighting is a big component of improving indoor environmental quality, and important beyond energy savings. He would like to see more incentives for it, similar to

ecoroofs. Mike O'Brien noted the studies done by Lisa Hesching as further evidence of this.

The group concluded by agreeing that this should not be mandated at this time.

Green Building Technical Advisory Group
May 4, 2009

Participant	Organization	Position	Here
Melissa Peterson	Enterprise Community	Affordable Housing	
Logan Cravens	AIA/SERA Inc	Architect	
Bill Capps	Arciform LLC	Building Designer	X
John McAlister	Washington County	Building Officials	
Susan Steward	BOMA	Building Operators	
Byron Courts	Melvin Mark	Building Operators (Alt)	
Dennis Wilde	Gerding Edlen	Developer	
David Posada	GBD Architects	DRAC	X
Tom Skaar	Pacwest Homes	DRAC (Alt)	
Andrew Shepard	Earth Advantage	Green Certifier	X
Stephen Aiguier	NW EcoBuilding Guild	Green Contractor	X
Jeff Fish	Fish Construction	Homebuilder	X
Michael Sestric	Institutional Facilities Coalition	Institutions	X
Tary Carlson	Ethos Development/AGC	Large Contractor	
Dave Williams	Interface Engineering	Mechanical Engineer	
Ron Murray	Local 290	Organized Labor (Plumbing)	
Larry Harvey	Pac West Communications	Organized Labor Construction Trades	
Ali Goudarz Eghtedari	Laurelhurst Neighborhood Association	Person at Large	
Patrick Sughrue	Structures NW, LLC	Product Manufacturer	
Julee Welch	Bonneville Power Administration	ReCode Portland	
Joshua Klyber	Living Walls	ReCode Portland (Alt)	
Steve Heiteen	Heiteen Construction	Remodeler	
David Cohan	Northwest Energy Efficiency Alliance	State Agencies	
Andrea Simmons/ Gabrielle Schiffer	Building Codes Division	State Agencies	X
Steve Lacey	Energy Trust of Oregon	State Agencies	
Amit Kumar	Metro Area Structural Engineers	Structural Engineers	X
Greg Nelson	Portland General Electric	Utilities	

Staff Present: Hank McDonald, Catherine Heeb, Mike O'Brien

Others: none