



Green Roofs By-Law And Construction Standards

Item 5

Monday, March 30 2009

BOARD OF DIRECTORS**To:** Board of Directors**Report:** TCHC:2009-33**From:** City Building Committee**Date:** March 12, 2009

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PURPOSE:

To inform the Board of Directors of a forthcoming City by-law that will require the installation of green roofs on certain kinds of new buildings and regulate the design and construction of green roofs in Toronto.

RECOMMENDATION:

That the Board of Directors receive the report for information.

CITY BUILDING COMMITTEE COMMENTS:

At its meeting on March 11, 2009, the City Building Committee received the report and recommended it be forwarded to the Board of Directors for information.

BACKGROUND:

As of January 1st, 2007, the new City of Toronto Act provided the City with the regulatory tools to require green-roofs and to govern their construction. Section 108 of the Act includes exceptions to the Building Code Act (1992) which prohibited municipal by-laws from exceeding requirements contained in the Building Code.

The City began drafting preliminary green roof construction standards in 2007. Facilitated discussion sessions were hosted during November of 2008 to review the emerging by-law and standards. The City has also established a technical advisory group, comprised of green roof industry professionals, architects, landscape architects and engineers to assist with drafting technical standards which will regulate the design and construction of green roofs.

Toronto Community Housing staff have been proactively commenting on the potential impact of this policy on affordable housing development. Staff attended the first consultation in November of 2008 and reviewed the draft by-law and technical

standards with the assistance of engineers from Dillon Consulting. A letter dated December 4th, 2008 was issued to the Chief Building Official and City Planning outlining the following concerns:

- Exemptions for renovation projects were requested as the added weight and additional detailing results in costly and complicated proposals.
- Initial documents were inconsistent regarding the applicability of the policy for low-rise townhouse developments. Toronto Community Housing requested that low-rise (townhouses) residential developments be exempt.
- It was recommended that the by-law require green roofs only on flat roofs (less than 4%). This will address the complexity and instability of installing growing medium on sloped surfaces.
- Many of Toronto Community Housing's developments will include other sustainable features that may occupy roof space, such as solar panels, wind turbines, heat recovery units and central energy cooling towers. It was requested that roof area allocated to such uses be credited towards the space required for green roofs.
- Any permit required for installation of green roofs should be incorporated into the existing Building Permit process.
- The City has proposed an incentive program to assist industrial developments with costs associated with installing green roofs. The letter recommended that this incentive program be extended to include residential buildings.
- As there are no additional funds to cover the costs associated with mandatory green roofs, Toronto Community Housing requested that grants for the full cost associated with green roofs be provided for all of its developments. This was to include any market housing as market profits used to cross-subsidize the rental replacement would be impacted by these additional costs.
- It was requested that by-law not be applicable for projects which have applied for Site Plan Approvals process up until November 1st 2009.

Current Draft By-Law

Based on feedback and comments received at the end of 2008, the City issued a revised draft by-law dated February 12, 2009, and arranged another series of consultation sessions.

Toronto Community Housing staff attended a subsequent consultation session on February 25th. The revised policy presented at this session requires all residential, institutional and commercial use buildings who apply for a building permit **after January 1st, 2010** to comply with the by-law. However, developments with zoning or site plan applications submitted prior to this date will be grandfathered and not required to provide green-roofs, even if the building permit is submitted after the deadline.

The new draft by-law proposes that all residential developments over 5,000 m² (53,820 sq ft) and all institutional, commercial and industrial ('ICI') developments over 2,000 m² (21,530 sq ft) install a green roof. For mixed use buildings, the area of the largest use in the building is applicable. A graduated system was also introduced to take into account buildings of different sizes. The coverage of the green roof is to be based on a percentage of the building's footprint:

Residential		Institutional, Commercial, Industrial	
GFA (m ²)	Green Roof Coverage (based on % of Footprint Area)	GFA (m ²)	Green Roof Coverage (based on % of Footprint Area)
5,000-9,999	20%	2,000-4,999	20%
10,000-14,999	30%	5,000-6,999	30%
15,000-19,999	40%	7,000-9,999	40%
20,000 and up	50%	10,000 and up	50%

This graduated policy will mean that the larger the building, the greater the portion of the roof dedicated to green roofs.

DISCUSSION:

This revised by-law addressed a number of the concerns raised in Toronto Community Housing's December 4th letter. The most significant change is a proposed exemption of all GFA used for affordable housing from the green roof requirements. Other important revisions include:

- Approvals for green roofs to be incorporated into the existing building permit process
- Townhouses are implicitly exempted from the by-law, as no residential developments under 5,000 m² are required to comply. (As an example, the townhouse blocks proposed in Phase 1 and 2 of Regent Park range between 1,800 to 4,350 m².)
- The extension of the implementation deadline to January 1st 2010.

While Toronto Community Housing is pleased that the City is intending to exempt all affordable housing, there are still a number of concerns regarding the impact of the policy that have not been addressed.

Importantly, the policy may still impact the market housing projects currently in Toronto Community Housing's development program. It is also not clear at this time what the technical standards will include regarding green roofs on sloped roofs or if any credit will

be granted for other sustainable measures, as requested in Toronto Community Housing's letter. These issues were raised during the consultation session, and City staff indicated in subsequent conversations that they are still considering the content of the final by-law on these and other issues.

Discussion at the February 25th consultation session also focused on potential requirements for irrigation and maintenance of green roofs. The City may be considering such requirements for the final draft of the by-law as a result of these comments, which came predominantly from green roof manufacturers participating in the session. It is important to note that these measures would result in additional costs, and would be contrary to LEED™ scoring, which reward points for drought-resistant landscaping not requiring irrigation.

Also importantly, Comments were also raised regarding the implementation timeline, and the City has expressed its willingness to consider extending the compliance date beyond January 2010. Toronto Community Housing staff would like to recommend that all projects currently in the development pipeline be grandfathered until December 2010.

CONCLUSION:

Despite potential exemptions for affordable housing, Toronto Community Housing will continue to install green roofs on new buildings, where appropriate. At the present time, green roofs are planned for all buildings in design and construction stages. This includes the rental buildings at 501 Adelaide, 92 Carlton, 60 Richmond, 246 Sackville, 1 Oak and the market building at 1 Cole. The City is to be commended for pursuing an aggressive policy such as this. Toronto Community Housing is supportive of the direction the City is taking, and has appreciated opportunities to comment on the emerging by-law.

The draft by-law and construction standards are scheduled to go to the City's Planning and Growth management committee on April 14th 2009. The report will be made available to the public prior to this date. Toronto Community Housing staff will review the final draft of the by-law and associated technical standards to determine whether a deputation to express outstanding concerns about the impact of the by-law would be warranted.

FINANCIAL IMPLICATIONS:

There are no immediate financial implications arising from this report. As noted above, the by-law will result in additional costs for those market tenure apartment buildings within Toronto Community Housing’s developments which, as per the current draft of the by-law, submit for zoning, site plan approval or building permit after January 1st 2010.

LEGAL IMPLICATIONS:

There are no immediate legal implications for Toronto Community Housing arising from this by-law.

COMMUNICATION IMPLICATIONS:

Toronto Community Housing has been communicating with the City of Toronto, through the Office of the Chief Building Official and City Planning Division. There are no other communication implications at this time.

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