



STAFF REPORT ACTION REQUIRED

Motion Controlled Apartment Building Corridor Lighting

Date:	October 19, 2009
To:	Licensing and Standard Committee
From:	Executive Director, Municipal Licensing and Standards
Wards:	All
Reference Number:	P:\2009\Cluster B\MLS\ Ls09022mls

SUMMARY

The purpose of this report is to recommend an amendment to Toronto Municipal Code Chapter 629, Property Standards, § 629-36 to permit owners of existing multiple residential apartment buildings to install and use motion controlled switches for the operation of corridor and garage lighting and thereby realize energy savings.

This would reconcile the requirements of Toronto Municipal Code Chapter 629, § 629-36 with the requirements of the current Ontario Building Code, Section 12.2.2.1

RECOMMENDATIONS

The Executive Director, Municipal Licensing and Standards recommends that:

1. City of Toronto Municipal Code Chapter 629, Property Standards, be amended per Appendix "A" attached to this report; and
2. The City Solicitor prepare the necessary bill to give effect to the recommendations of this report.

Financial Impact

There are no financial impacts beyond what has already been approved in the current year's budget.

DECISION HISTORY

In December 2008, the Executive Director, Municipal Licensing and Standards was approached by representatives of the apartment building industry, with a request that, as the Ontario Building Code now permits new construction to include motion controlled lighting in apartment building common areas, the Toronto Municipal Code, Chapter 629, Property Standards, which is the standard to which apartment buildings have to be maintained, be amended to also permit motion controlled lighting.

A report was tabled before the Licensing and Standards Committee on May 7, 2009 at which time it was referred back to staff with the direction to consult the industry.

ISSUE BACKGROUND

In June 2006, the Ontario Provincial Government passed regulation 349/06, which amended the Ontario Building Code with section 12.2.2.1, permitting motion sensor controlled lighting in the common areas of apartment buildings. In the case of existing buildings, the TMC does not permit the use of motion sensor controlled lighting.

In December 2008, Municipal Licensing and Standards was approached by owners of existing buildings amend the Toronto Municipal Code, Chapter 629, Property Standards, to permit the use of motion sensor controlled lighting in the common areas of existing apartment buildings. A review of the chapter and the Code was conducted and bearing in mind safety and security concerns, a number of amendments are recommended.

COMMENTS

Ontario Building Code

On June 28, 2006 the Ontario Government passed regulation 349/06 which became Section 12.2.2.1, of the Ontario Building Code (see Appendix B). This section primarily concerns energy savings. In addition to section 12.2.2.1, the Ontario Building Code also has a section 12.3.4.9. Interior Lighting Controls (see Appendix B).

Although the automatic control of lighting in some buildings is beneficial from an energy conservation perspective, there are safety and security considerations with respect to reducing the level of illumination. In this regard, the requirements of the Ontario Building Code, in clauses 12.3.4.9, (2) (a) and (c) prescribe that the use of motion sensor controlled lighting is not permitted in exits.

From a safety and security perspective, it is considered desirable to maintain a minimum level of illumination at all times, in all areas. It is recommended that this minimum level of illumination be the same as that provided by Emergency lighting, namely 10 lux.

Consultations

As directed by the Licensing and Standards Committee, consultations were conducted with members of the rental apartment and lighting industries and the Office of the Ontario Fire Marshal,

These consultations confirmed that all exit stairwells are considered to be exits under the Building Code. As a result, motion controlled lighting in stairwells has not been permitted. In addition, the primary type of motion sensor used for this type of application, is usually a “Passive Infrared Detector” (PID), which is known by the industry (and confirmed by the Office of the Fire Marshal) to be impaired by the presence of smoke. As a result a requirement has been placed in the amendments that motion controlled switches be of a type that is not impaired by the presence of smoke.

The following internal and external stakeholders were consulted on reporting the preparation of this report: Legal Services, Tower Renewal – City Managers Office, the Toronto Police Service, the Energy Efficiency Office, City Planning Division, the Canadian Apartment Properties Real Estate Investment Trust, the Crime Prevention Association of Toronto, Crime Prevention Through Environmental Design Ontario, the Greater Toronto Apartment Association and the Office of the Ontario Fire Marshall.

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SIGNATURE

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ATTACHMENTS

Appendix ‘A’: Proposed Amendments to Toronto Municipal Code, Chapter 629,
Property Standards
Appendix ‘B’: Excerpts from the Ontario Building Code

Appendix A
Proposed Amendments to Toronto Municipal Code, Chapter 629, Property Standards

- a. The following definition be inserted in alphabetical order in § 629-1, Definitions:

MOTION SENSOR CONTROLLED SWITCH — an electrical control device activated by movement within a defined area, for the purpose of operating one or more electrical fixtures

- b. Section 629-36, Lighting, be amended by adding the following:

H. Motion sensor controlled switches.

- (1) All interior lighting required by this chapter, to provide a minimum level of illumination in buildings having an area in excess of 500 square metres, may be controlled by motion sensor controlled switches, except where the lighting is:
- (a) For an exit including, an exit stairway and lobby area.
 - (b) Adjacent to or within a doorway identified as an exit.
 - (c) Required to conform to section 36B.(2).(d)
 - (d) Emergency lighting.
- (2) A motion sensor controlled switch permitted under Subsection H.(1) shall:
- (a) Be designed for fail-safe operation so that if the motion sensor controlled switch fails, the electrical fixture which it controls activates.
 - (b) Be of a type, the operation of which is not impaired by the presence of smoke.
 - (c) Control an area that is not more than 240 square metres or 7.5 metres in any direction.
 - (d) Maintain the lights within its area of control active for a minimum of 15 minutes after the activity that caused the light to activate has stopped or left its area of control.

- (3) Where lighting is activated by motion sensor controlled switches permitted under Subsection H.(1):
 - (a) All of the lighting within an area contained between vertical partitions shall be activated by the operation of any motion sensor controlled switch located within that area.
 - (b) A minimum average level of illumination of 10 lux, shall be provided to all areas, at all times.

Appendix B

Excerpts from the Ontario Building Code

Ontario Building Code Section: 12.2.2.1. Motion Sensors

- (1) Lighting installed to provide the minimum illumination levels required by this Code may be controlled by motion sensors except where the lighting
 - (a) is installed in an *exit*,
 - (b) is installed in a corridor serving patients or residents in a Group B, Division 2 or Division 3 *occupancy*, or (*hospitals or care facilities*)
 - (c) is required to conform to Sentence 3.2.7.1.(5).
- (2) Where motion sensors are used to control minimum lighting in a *public corridor* or corridor providing *access to exit* for the public, the motion sensors shall be installed with switch controllers equipped for fail-safe operation and illumination timers set for a minimum 15-minute duration.
- (3) A motion sensor shall not be used to control emergency lighting.

Ontario Building Code Section: 12.3.4.9. Interior Lighting Controls

- (1) Except as provided by Sentence (2), interior lighting in a *building* that exceeds 500 m² in *building area* shall be controlled with an automatic control device to shut off *building* lighting in all spaces.
- (2) Sentence (1) does not apply to,
 - (a) lighting intended for 24-hour operation,
 - (b) emergency lighting, or
 - (c) lighting for spaces where an automatic shut-off would endanger safety or security
- (3) The automatic control device required in Sentence (1) shall operate on,
 - (a) a scheduled basis using a time-of-day operated control device that turns lighting off at specific programmed times,
 - (b) an occupant sensor that shall turn lighting off within 30 minutes of an occupant leaving a space, or

(c) a signal from another control or alarm system that indicates the area is unoccupied.

(4) Where the automatic control device conforms to Clause 12.3.4.9.(3)(a), an independent program schedule shall be provided for each floor.

(5) Each space enclosed by *partitions* that extend to the ceiling shall have at least one control device to independently control the general lighting within the space.

(6) Each manual operated control device shall be readily accessible and located so the occupants can see the controlled lighting.

(7) Except as required by Sentences (8) and (9) and except for reasons of safety or security, an individual control device shall,

(a) be capable of being activated,

(i) either manually, or

(ii) automatically by sensing an occupant,

(b) control a floor area having an area not more than 240 m², and

(c) be capable of overriding at any time of-day scheduled shut-off control for not more than 4 h.

(8) Except in spaces with multi-scene control, a control device that automatically turns lighting off within 30 minutes of all occupants leaving a space shall be provided in,

(a) conference rooms, (b) meeting rooms, and (c) employee lunch and break rooms.

(9) A separate control device shall control,

(a) display lighting, (b) accent lighting, (c) case lighting, (d) task lighting, (e) non-visual lighting, and (f) demonstration lighting.