

January 13, 2016

Mr. Patrick Karremans
Toronto Building
100 Queen Street West
16th Floor, East Tower
Toronto, Ontario
M5H 2N2

Dear Mr. Karremans,

Re: Application No. 14 172874 BLD 00 NB
571 Dundas Street West
(Tentative address 38 Cameron Street)

Architectural Drawings Reissued for Permit (enclosed):

A 001 Cover Sheet & Statistics
A 110 Exterior Construction Assemblies
A 111 Interior Construction Assemblies
A 202 Level P1 Plan
A 203 Level 1 Plan South
A 204 Level 1 Plan North
A 207 Level 3 Plan South
A 208 Level 3 Plan North
A 211 Level 5 Plan South
A 221 Level 10 Plan
A 222 Level 11 Plan

Appendix (enclosed):

2007 List of Equipment and Materials Fire Resistance – ULC Design No.W453
Daylight Availability Code Compliance Comparison Guide prepared by ALD Inc. – Suite 727

Please find below our response to your Ontario Building Code Notice dated December 10, 2015 in accordance with the Code of Record (2012 OBC, O.Reg. 332/12 as amended to O.Reg. 368/13):

1. OBC 3.4.2.5: A204 – Loading Bay 174 & Garbage/Recycling Room 175

Travel distance to an exit from Loading Bay 174 is 44.5 m. Travel distance to an exit from Residential Garbage & Recycling 175 is 36.7 m. Refer to notation on A204 reissued for Permit (enclosed).

OBC 3.3.1.10.(2): A202 – Vestibule 110

Doors P110.1 and P110.2 are revised to swing in the direction of travel. Refer to A202 reissued for Permit (enclosed).

OBC 3.3.1.10.(2): A203 – Bike Storage 145

Based on 46 m² area per person for Storage (OBC Table 3.1.17.1.7), the occupant load is 3 people for 128 m² room area. As the occupant load is less than 60, door 145.2 is not required to swing in the direction of travel.

OBC 3.1.17: A203 – Amenity/Fitness 143

Based on 4.6 m² area per person (International Building Code 2015 Table 1004.1.2), the occupant load is 16 people for 73 m² room area.

OBC 3.8.3.3.(11)(b)(i): A202 – Vestibule 101

A minimum distance of 1200 mm is required between door swings. Door P101 has been relocated to provide the required clearance. Refer to A202 reissued for Permit (enclosed).

OBC 3.8.3.3.(1): Barrier-Free Suites

All barrier-free suites are provided with bedroom doors of 865 mm clear width (type S02), and doors to one bathroom of 760 mm clear width (type S04) where the door is served by a corridor or space not less than 1060 mm wide, and 810 mm clear width (type S03) where the door is served by a corridor or space less than 1060 mm wide. Refer to A207 for revised door type at suite 315 issued for ASI-20 and reissued for Permit (enclosed).

OBC 3.8.1.3.(1): Barrier-Free Suites

All barrier-free suites are provided with a minimum unobstructed width of 1100 mm from the suite entrance door to the doorway of one bathroom and to the doorway of one bedroom. Refer to A208 for revised dimensions at Suite 302 issued for ASI-20 and reissued for Permit (enclosed).

OBC 3.8.1.22: A207 – Suite 327; A203 – CACF 168

Door swing at CACF 168 is revised; refer to A203 reissued for Permit (enclosed). Typical doors at electrical closets are provided with adjustable spring hinges for 90-degree maximum opening; refer to A207 reissued for Permit (enclosed).

2. OBC 3.2.7.8: A111 – Wall Legend

Wall assembly P2B (ULC W-453) meets 2-hr FRR requirement. Refer to A111 reissued for Permit (enclosed) and ULC Design No. W453 from 2007 List of Equipment and Materials Fire Resistance (enclosed).

OBC 3.4.4.1: A204 – Stair B

South wall of Stair B is revised to 2-hr FRR assembly type P2B. Refer to A204 reissued for Permit (enclosed).

OBC 3.2.3.1.(3).(a): A211, A213, A215, A217

Refer to A001 for revised OBC Data Matrix reissued for Permit (enclosed).

Based on a minimum limiting distance of 6.8 m for south-facing units at levels 6, 7 and 8, and an exposing building face area of at least 30 m², 100% unprotected openings are permitted and exterior walls for compartments are not required to be constructed with a fire-resistance rating for spatial separation purposes (OBC Table 3.2.3.1.D).

For southeast suite 519, which has a 5.8 m limiting distance, based on an exposing building face area of less than 30 m², 100% unprotected openings are permitted and exterior walls for compartments are not required to be constructed with a fire-resistance rating for spatial separation purposes (OBC Table 3.2.3.1.D).

For southwest suite 521, which has a 4.6 m limiting distance, based on an exposing building face area of less than 40 m², 80% unprotected openings are permitted and the remainder of the wall requires a 45-minute fire resistance rating as noted (OBC Table 3.2.3.1.D).

Refer to A110 for revised ULC listing for assembly W1B (enclosed) and A211 for wall assembly notation at suite 521 (enclosed) reissued for Permit.

OBC 3.7.2.1.(1): A221 & A222 – Suites 1014 & 1114

Suites 1014 and 1114 are revised to incorporate a 3 m² wall opening in accordance with OBC Section 9.5.1.4 for combination rooms. Refer to A221 and A222 issued for ASI-20 and reissued for Permit (enclosed).

A215, A217, A219 – Suites 727, 827, 927

A minimum window area of 10% is provided for the combined area. Further to calculation below, refer also to Daylight Availability Code Compliance Comparison (Suite 727) prepared by Architectural Lighting Design Inc. (enclosed).

Suite 727 & 827: $10.61 \text{ m}^2 \text{ (window area)} / 73.9 \text{ m}^2 \text{ (combined area)} = 14.4\%$

Suite 927: $11.11 \text{ m}^2 \text{ (window area)} / 75.3 \text{ m}^2 \text{ (combined area)} = 14.8\%$

Kind regards,



Tanya Cazzin OAA

APPENDIX

2007 List of Equipment and Materials Fire Resistance – ULC Design No.W453

Daylight Availability Code Compliance Comparison Guide prepared by ALD Inc. – Suite 727

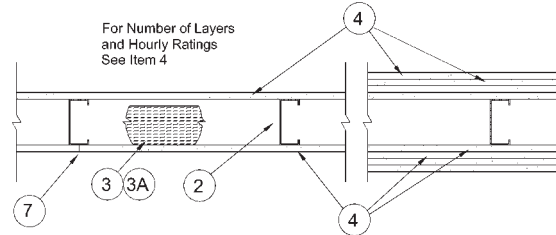
square edge, designated "Durock", attached to studs over gypsum wallboard with 41 mm long, Type S-12, corrosion resistant steel screws spaced 203 mm OC and staggered 203 mm from gypsum wall board screws. Joints covered with glass fibre mesh tape. Joints parallel with framing staggered one stud cavity from gypsum wallboard joints. Joints perpendicular with framing staggered a minimum of 305 mm from the gypsum wallboard joints.

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8. **Laminating Adhesive** — (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 6 mm square notched trowel. See Adhesives (BYWRC) in the Fire Resistance Directory or Adhesives (BJLZC) in the Building Materials Directory for names of Listed companies.

Design No. W453

Assembly Ratings — 1, 2, 3 or 4 h (See Items 3 & 4) Nonbearing Wall



1. **Floor and Ceiling Track** — (Not shown) — Channel shaped, fabricated from 0.46 mm minimum base metal thickness, corrosion-protected steel, minimum width to accommodate stud size, with minimum 25 mm long legs, attached to floor and ceiling with fasteners 610 mm OC maximum.

2. **Steel Studs** — Channel shaped, fabricated from 0.46 mm minimum base metal thickness, corrosion-protected steel, minimum width as indicated under Item 4, minimum 32 mm flanges and 6 mm return, spaced a maximum of 610 mm OC. Studs to be cut 10 to 19 mm less than assembly height.

3. **Batts and Blankets** — (Required as indicated under Item 4) — Friction fitted between studs and tracks, any mineral fibre batts produced from rock or slag, bearing the ULC Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. Minimum nominal thickness as indicated under Item 4. See Batts and Blankets (BKNVC or BZJZC) Categories for names of Listed companies.

3A. **Batts and Blankets** — (Optional) — Placed in stud cavities, any mineral fibre insulation produced from rock, slag or glass bearing the ULC Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNVC or BZJZC) Categories for names of Listed companies.

4. **Gypsum Wallboard** — Gypsum panels with beveled, square or tapered edges, applied with long edges parallel or perpendicular to framing. Joints parallel to framing centred over studs and staggered one stud cavity on opposite sides of studs. Joints parallel to framing in adjacent layers (multilayer systems) staggered one stud cavity. Joints perpendicular to framing need not be backed by steel framing. All joints perpendicular to framing on opposite sides of studs need not be staggered. All joints perpendicular to framing in adjacent layers (multilayer systems) staggered a minimum of 305 mm. The thickness and number of layers for the 1 h, 2 h, 3 h and 4 h ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	Minimum Stud Depth mm	No. of Layers and Thickness of Panel	Minimum Thickness of Insulation (Item 3)
1	89	1 layer, 15.9 mm thick	Optional
1	64	1 layer, 12.7 mm thick	38 mm
1	41	1 layer, 19.1 mm thick	Optional
2	41	2 layers, 12.7 mm thick	Optional
2	41	2 layers, 15.9 mm thick	Optional
2	89	1 layer, 19.1 mm thick	76 mm
3	41	3 layers, 12.7 mm thick	Optional
3	41	2 layers, 19.1 mm thick	Optional
3	41	3 layers, 15.9 mm thick	Optional
4	41	4 layers, 15.9 mm thick	Optional
4	41	4 layers, 12.7 mm thick	Optional
4	64	2 layers, 19.1 mm thick	51 mm

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5. **Fasteners** — (Not shown) — Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). **Single layer systems:** 25 mm long for 12.7 and 15.9 mm thick panels or 32 mm long for 19.1 mm thick panels, spaced 203 mm OC when panels are applied perpendicular to framing, or 203 mm OC along vertical and bottom edges and 305 mm OC in the field when panels are applied parallel to framing. **Two layer systems:** First layer - 25 mm long for 12.7 and 15.9 mm thick panels or 32 mm long for 19.1 mm thick panels, spaced 406 mm OC. Second layer - 41 mm long for 12.7 and 15.9 mm thick panels or 57 mm long for 19.1 mm thick panels, spaced 406 mm OC with screws offset 203 mm from first layer. **Three-layer systems:** First layer - 25 mm long for 12.7 and 15.9 mm thick panels, spaced 610 mm OC. Second layer - 41 mm long for 12.7 and 15.9 mm thick panels, spaced 610 mm OC. Third layer - 57 mm long for 12.7 and 15.9 mm thick panels or 67 mm long for 15.9 mm thick panels, spaced 305 mm OC. Screws offset minimum 152 mm from layer below. **Four-layer systems:** First layer - 25 mm long for 12.7 and 15.9 mm thick panels, spaced 610 mm OC. Second layer - 41 mm long for 12.7 and 15.9 mm thick panels, spaced 610 mm OC. Third layer - 57 mm long for 12.7 mm thick panels or 67 mm long for 15.9 mm thick panels, spaced 610 mm OC. Fourth layer - 67 mm long for 12.7 mm thick panels or 76 mm long for 15.9 mm thick panels, spaced 305 mm OC. Screws offset minimum 152 mm from layer below.

6. **Furring Channels** — (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from 0.46 mm minimum base metal thickness, corrosion-protected steel, applied perpendicular to studs spaced a maximum of 610 mm OC. Flange portion attached to each intersecting stud with 13 mm long Type S-12 steel screws.

6A. **Steel Framing Members** — (Not Shown)* — CKIVC (Guide No. 40 U18.18). (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:

i. **Furring Channels** —

Formed of 0.46 mm minimum base metal thickness, galvanized steel, 60 mm wide by 22 mm deep, spaced maximum, 610 mm



November 2, 2014

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Project: SQ Alexandra Park Condominiums - 20 Cameron Street
Developer: Tridel Architect: Teeple Architects

Study: Daylight Availability_Code Compliance Comparison

Re: SQ Alexandra Park Condominiums

This report quantifies the amount of natural daylight available in typical bedroom areas of the SQ Alexandra Park Condominium project. This project is being developed by Tridel. This project was designed by Teeple Architects Inc. Daylighting studies were prepared by ALD / Architectural Lighting Design Inc.

Methodology:

Computer simulations have been built using 3D lighting calculation software. This project utilized Luxicon lighting software. Computer simulated 3D models were built based upon the architectural plans and elevations. Simulations used a number of controlled variables (listed below) to ensure responsible and reliable results. The resulting output gives a point-by-point light level quantity, as well as the area average light level in Foot-candles. The area average light level of the proposed design suite is analyzed with a code compliant comparison model. The code compliant comparison model is based on a room with a window size based 5% of bedroom area (Ontario Building Code, Article 3.7.2.1 as required by Table 9.7.2.3 - Division B). The proposed design suite must have a light level equal or greater than the light level available in the code compliant comparison model in order to receive a pass result. The following test units were selected because they are representational of the various unit types likely to encounter the greatest borrowed daylight challenges. Typical suites on higher floors will receive equal or greater amounts of available daylight and will therefore also pass the 5% window comparison suite test. 4 Typical Units; 303, 306, 605, 727

Controlled Variables:

All of the studied bedrooms in the sample suites have two daylighting design models (computer simulations) that include the following parameters:

1. Location: City of Toronto, ON. (Latitude 43°, Longitude 79°).
2. Month/Day/Time: Solar Equinox - March 20/Sept 22 @ 12 pm.
3. Sky Condition: Clear Sky.
4. Site Orientation: typical suites facing North, East, South and West.
5. Reflectance Values: Internal (90% Ceiling, 60% Walls, 20% Floor), (White Ceiling, White Walls, Typical Floor)
6. Actual Bedroom: All dimension as per design drawings, window locations as per design.

Glazing Specifications:

1. Exterior Glass Properties: **49%** Visible Transmittance (VT)
2. Glass Bedroom Slider > Interior Glass Properties: **80%** Visible Transmittance (VT)
3. Code Compliant Comparison Suite: Window size based on 5% of bedroom area. (OBC. Table 9.7.2.3)
Comparison Suite Glazing values: **80%** VT

Code compliant 5% bedroom comparison:

The code compliant 5% bedroom comparison layouts are modeled as per the dimensions of the bedroom spaces noted above. The daylighting design calculations have been run for each suite as if a window equal to 5% of the bedroom area was installed on the North corresponding elevation exterior wall. The Comparison date of testing is run at the Solar Equinox (March 20/September 22 - 12PM), under clear sky conditions. The second set of layouts involves modeling the actual spaces using the proposed site conditions. The selected design suites of each type best represent a “typical scenario” for buried bedrooms encountering challenging daylight availability.

Results:

The proposed design suite must have a light level equal or greater than the light level available in the hypothetical comparison model in order to receive a pass result. Typical suites on higher floors will receive equal or greater amounts of available daylight and will therefore also pass the 5% Window Code Compliance comparison suite test.

Four Typical Units; 303, 306, 605, 727

Representative Design Suites	Average Light Level (Footcandles)	Representative code compliant comparison Suites	Average Light Level (Footcandles)	Results: Greater than or Equal to design suite.
303	13.1	Code Compliant Bedroom	12.4	Pass
306	33.1	Code Compliant Bedroom	12.5	Pass
605	18.9	Code Compliant Bedroom	11.6	Pass
727	12.2	Code Compliant Bedroom	12.2	Pass

Suites as per 303, 306, 605, 727 as tested Pass Daylighting requirements.

Data Summary: Three Typical Units; 306, 306, 605, 727

SQ Alexandra Park > Design Suite vs Comparison Suite > Summary

Representative Suite #	DESIGN SUITE			column A	column B	Status	Status
	Bedroom Sq Ft	Date & Time	Window Orientation	Design Corrected Average Light Level (fc)	Comparison Model Average Light Level (fc)	Illuminance % of Code Compliant 5% Window	Pass / Fail
303	93	March 21 @ 12:00 PM	West	13.1	12.4	106%	Pass
306	90	March 21 @ 12:00 PM	North	33.1	12.5	265%	Pass
605	85	March 21 @ 12:00 PM	West	18.9	11.6	163%	Pass
727	92	March 21 @ 12:00 PM	West	12.2	12.2	100%	Pass

*Column A must be equal to or greater than Column B

Summary: Suites as per 303, 306, 605, 727 as tested Pass Daylighting requirements.

It is the intent of the design to provide a level of natural light in the sleeping area which would be provided if the sleeping area was part of a Code-conforming bedroom and/or combination room with natural lighting provided via windows located in the exterior wall in the living/dining portion of the room and not in the sleeping area.

Natural Light Levels are not explicitly stated in the OBC. There is no Building Code objective which literally addresses natural lighting in a bedroom, let alone a level of natural lighting. However, despite this lack of direction in the Code, the design of The SQ Alexandra Park Residences is such that bedrooms which are not adjacent to exterior walls will be provided with levels of natural lighting commensurate with levels that would be provided for sleeping areas in Code-Conforming rooms. The Code-Conforming Comparison date of testing is run at the Solar Equinox (March 20/September 22 - 12PM), under clear sky conditions.

In respect to The SQ Alexandra Park Condominium project, sufficiency of compliance with building code requirements for provision of natural lighting in bedrooms that do not contain windows in exterior walls suites is provided in consideration of the following:

1. Each subject bedroom will be provided with a level of natural light that would be acceptable for a sleeping area which is compliant to the Ontario Building Code, Article 3.7.2.1 as required by Table 9.7.2.3 of Division B.

Signed and approved,
Bjarne Pedersen LC MIES BA,



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APPROVED
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