

March 20, 2019

City of Mississauga Planning Department
300 City Centre Drive,
Mississauga, Ontario
L5B 3C1

re: **Shadow/Shading Impact Study for 6620 Rothschild Trail, Mississauga, Ontario**

The following is a Shadow Impact Study relative to the proposed development at 6620 Rothschild Trail in the City of Mississauga, Ontario, Part of lot 9, concession 2 west of Hurontario Street, Blocks 21 and 22. This study has been prepared by the architectural firm pml.A at 7283 Bendigo Circle, Mississauga, Ontario. The purpose of this study is, as outlined by the City of Mississauga Planning and Building Department, “to illustrate the impact of development in terms of sun and daylight access to the surrounding context” and “to demonstrate that the location and height of a proposed building greater than 10.7m will not cause undue shade on the subject lands, and on surrounding context including building facades, private and public outdoor amenity and open spaces, public parklands, sidewalks and other components of the public realm.”

The proposed development is a 4 storey residential condominium building containing 4 storeys of residential units and 1 storey of below ground parking. The building has street access from Rothschild Trail at the North end of the lot allowing vehicular and pedestrian access. The lot area is approximately 9,286.8 square meters (approx. 0.93 Hectares). The allowable development area is 5,420.4 sqm, with the proposed development covering approximately 1,947.1 sqm, or 36% of the lot, and 7,200.0 sqm of Gross Floor Area for a Floor Area Index of 0.8.

Shadow Testing Method

The study was carried out using Trimble SketchUp modelling software. An image taken from the ‘Mississauga Maps’ online mapping service showing the site and adjacent properties was digitally inserted into the model to orient the proposed building to Astronomic North accurately and geo-located the lot using the coordinates 43°37’42.5”N 79°42’41.9”W.

The study was conducted at three separate times over four calendar days, one from each season as follows:

- **Summer** - June 21st at 7:07, 7:20, 8:20, 9:20, 10:20, 11:20, 12:20, 13:20(SN), 14:20, 15:20, 16:20, 17:20, 18:20, 19:20 and 19:33. (UTC -4:00)
- **Fall** - September 21st at 8:35, 9:12, 10:12, 11:12, 13:12(SN), 14:12, 15:12, 16:12, 17:12 and 17:48. (UTC -4:00)
- **Winter** - December 21st at 9:19, 10:17, 11:17, 12:17(SN), 13:17, 14:17 and 15:15. (UTC -5:00)

As outlined in the ‘Standards for Shadow Studies’ the September 21 conditions are similar to March 21 (Spring) and are deemed to apply to March 21 and are therefore not provided separately.

Shadow Test Analysis

1. Residential Private Outdoor Amenity Spaces

Summer – June 21:

The proposed development does not cast a shadow into any Residential Private Outdoor Amenity Space “No Impact Zones” during the summer test times.

Fall – September 21 (deemed similar to Spring – March 21):

The proposed development does not cast a shadow into any Residential Private Outdoor Amenity Space “No Impact Zones” during the fall/spring test times.

Winter- December 21:

The proposed development at 6620 Rothschild Trail casts a shadow on the South corner of the proposed adjacent residential lot, currently part of 6616 and all of 6612 Rothschild Trail, in the estimated “No Impact Zone” of the future residence’s rear yard. The shadow enters the zone on test time 3:15 pm, an hour and a half before sunset. Because the shadow does not impact the adjacent proposed residential yard for more than two consecutive hourly test times it is considered that the criterion is met.

2. Communal Outdoor Amenity Areas

Summer – June 21:

The proposed development does not cast a shadow into any existing communal outdoor amenity areas as described in the ‘Standards for Shadow Studies’ during the summer test times.

The proposed development does cast some shadow into the proposed condominium amenity area. The calculated Sun Access Factor for this amenity area is 84.2% on this test date and therefore meets the required criteria.

Fall – September 21 (deemed similar to Spring – March 21):

The proposed development does not cast a shadow into any existing communal outdoor amenity areas as described in the ‘Standards for Shadow Studies’ during the fall/spring test times.

The proposed development does cast some shadow into the proposed condominium amenity area. The calculated Sun Access Factor for this amenity area is 90.9% on this test date and therefore meets the required criteria.

Winter- December 21:

The proposed development does not cast a shadow into any existing communal outdoor amenity areas as described in the ‘Standards for Shadow Studies’ during the winter test times.

The proposed development does cast some shadow into the proposed condominium amenity area. The calculated Sun Access Factor for this amenity area is 97.7% on this test date and therefore meets the required criteria.

3. Public Realm During Shoulder Seasons (spring and fall)

a) Low and Medium Density Residential Streets:

The criterion is met as the proposed development does not cast a shadow onto the opposite boulevard or sidewalks.

b) Mixed Use, Commercial, Employment and High Density Residential Streets:

The criterion is met as the proposed development does not cast a shadow onto any applicable areas.

c) Public Open Spaces, parks and Plazas:

The criterion is met as the Sun Access Factor on the adjacent Greenlands Park of Fletcher's Flats (aprox. 16 hectares) is far greater than 50% on the September 21 test date.

4. Turf and flower gardens in public parks

The criterion is met as the proposed development does not cast a shadow onto any turf or flower gardens of the adjacent public park.

5. Building faces for solar energy.

The criterion is met as the proposed development does not cast a shadow onto any roofs, front, rear and exterior side walls of any adjacent low rise residential buildings.

Shadow Impact Test Conclusions

The shadows cast by the proposed development will have a minor impact on one adjacent property during the winter months, with no impact during the spring, summer and fall, and no impact on any other adjacent residential properties. The shadows cast by the proposed development will have no significant impact on the adjacent Greenlands Park of Fletcher's Flat. The proposed development will cast shadows on its own amenity area while still allowing far above the preferred sun access factor percentages throughout the year.

Based on our analysis, we feel the proposed four storey residential development conforms to the City of Mississauga's master plan and does not require any additional revisions to height or position on the lot to reduce its shadow impact.

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OAA, MRAIC

pml.A