

## SHADOW STUDY ANALYSIS

DATE	August 6 <sup>th</sup> , 2019
TO	City of Mississauga 300 City Centre Drive, Mississauga ON L5B 3C1
ATT	Planning & Building Department
FROM	James Fryett Architect Inc.
RE	15055 Erinview Redevelopment OZ 17/01 W2 & Site Plan Application – Shadow Studies

Accompanying this report, please see Shadow Study drawings A500, A501, A502, A503, A504, A505, A506, A507, A508 & A509.

Shadow Studies have been prepared by James Fryett Architect Inc. utilizing Autodesk Revit 3D software to analyze the shadows of the existing building conditions at 2132 Dundas Street W. The software permits the following information to specifically be input into the program:

Latitude: 43 degrees 35' 20" N

Longitude: 79 degrees 38' 40" W

Astronomic North was provided through a survey of the property completed by Tarasick McMillan Kubicki Limited dated November 29<sup>th</sup>, 2016. This document provided an initial base with which to start modeling the built context of the site. Additionally, utilizing Existing Conditions Plans prepared by MTE Consultants, the modeling software was able to model existing topography and built form of the existing building on site, and proposed topography and building to populate the site in the future. The shadow studies were further enhanced by underlaying a map taken from Google Earth to provide graphical context of the surrounding site.

Mature vegetation was modelled based upon the Tree Inventory Plan prepared by Landscape Architect Catherine Kirk for the purposes of demonstrating their existing shadows cast onto residents' properties. Catherine Kirks Tree Inventory and Preservation Plan was also utilized within the analysis to anticipate the future planting of vegetation.

### EXISTING BUILDING:

June 21: Within the month of June, the shadows cast from the existing building do not pass the Line of Impact till 6:20pm in the evening, yet the shadows from the trees pass the Impact Line at 6:20pm. The shadows extend their onwards till past sunset at 9:03pm.

September 21: Within the fall, while the existing trees start to cast shadows on the Residential Private Outdoor Amenity Spaces at 3:12pm, the building shadow does not encroach the Line of Impact till approximately 4:12pm through till sunset at 7:18pm.

December 21: Within the winter period, mature trees begin to cast their shadows at roughly 2:17pm in the afternoon. At this point the existing facilities shadow has yet to hit the Line of Impact within the rear yards of the residences. The buildings shadow will not cross the Line of Impact till 3:15pm extending till sunset after 4:45pm in the evening.

#### PHASE 2: FUTURE RETIREMENT & INDEPENDENT SENIORS LIVING

June 21: Within the summer, the shadow of the future building cross the Line of Impact at 5:20pm and the shadows are cast through till sunset at 9:03pm at night.

September 21: During the month of September, the future building's shadow crosses the Line of Impact at 4:12pm in the Residential Outdoor Amenity Spaces. The shadows will remain in the rear yards till sunset.

December 21: Within December, existing vegetation shadows cross the line of impact for the residential homes at 2:17pm continuing till the sun has set. The future buildings shadow does not cross the Line of Impact.

#### ASSESSMENT:

In the month of June, both the existing conditions and the proposed building on the property do not meet the shadow impact criteria of the City of Mississauga. The existing mature trees have not permitted sun to be cast onto the residences rear yards for the same duration that the future development will cast. While this does not meet requirements, the shadow of the future building is maintaining the current shadows cast, while not increasing the amount of shadows.

September in both the existing conditions and future development meet the shadow impact area. Therefore the fall is not a time of concern.

Within the winter, December 21, the shadows due to the existing trees and the residential homes themselves cast shadows within their rear yards at the time of 2:17pm onwards. The month of December meets the shadow impact criteria for both the existing conditions and future development.

#### SUMMARY

The future development at 2132 Dundas Street W., will be a 5 Storey wing facing Dundas Street joined via link to a split 4 and 3 storey wing of the building parallel to the south property line adjacent to the rear yards of single detached homes along Herridge Dr. The split 3-4 storey wing is already under construction. The shadows cast by this portion of the building are the shadows of concern within this analysis during the summer period at June 21. Yet the shadows cast by this wing of the building will not worsen the shadows that were already existing as a result of the

mature trees that inhabit the rear yards of the properties. For that reason, this development adheres to the context of the site and shadows cast should not be of concern.

Regards,

James E. Fryett  
B.E.S, B.ARCH, OAA, MRAIC