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July 22, 2019

Sheppard Pharmacy GP Inc.
150 Connie Crescent, Unit #4
Concord, ON, L4K 1L9

c/o Manny Karimi
Manny@copedevcorp.com

Cope Project Management Corp.
457A Danforth Avenue
Toronto, ON
M4K 1P1

Re: Preliminary Pedestrian Wind Study for ZBA
3005 Sheppard Avenue East & 1800 Pharmacy Avenue
Scarborough, ON
RWDI Reference # 1901321

Dear Manny,

Rowan Williams Davies & Irwin Inc. (RWDI) was retained to assess the pedestrian wind conditions for the proposed development at 3005 Sheppard/1800 Pharmacy in Scarborough, ON. This Preliminary Wind Study was completed in support of the Zoning Bylaw Amendment (ZBA) Application as required by the City of Toronto under their Development Guideline – Appendix 3: Pedestrian Level Wind Study Terms of Reference.

This preliminary study was based on a review of the local wind climate, the current design drawings and our experience of wind-tunnel testing for similar building projects in the Greater Toronto Area.

A Final Wind Study in support of the Site Plan Approval (SPA) application involving wind-tunnel testing will be conducted to quantify these wind conditions and, if needed, develop wind control solutions for the site plan approval.

Building and Site Information

Based on drawings received by RWDI on June 14, 2019, the proposed development will consist of a 21-storey tower plus a penthouse for a total height of approximately 69.65m. It will be located at the southwest corner of the intersection of Sheppard Avenue East and Pharmacy Avenue in Scarborough, Ontario (see Images 1 and 2). The tower will be located at the northeast corner of the site, with the 7-storey podium stepping down to 6 storeys to the west and to 3 storeys to the south.

Surrounding buildings are generally low, except some high-rise buildings in the area of Victoria Park Avenue and Sheppard Avenue and farther away from the site. Buildings of a similar height are currently existing, under construction and pending approval at the intersection of Sheppard Avenue East and Pharmacy Avenue.

Pedestrian areas of interest include public sidewalks around the site, the main residential entrance, retail entrances along Sheppard Avenue East and Pharmacy Avenue, green spaces on the west and south sides of the building, and outdoor amenity spaces at grade and on the podium at Level 8.

Image 1: Context Plan

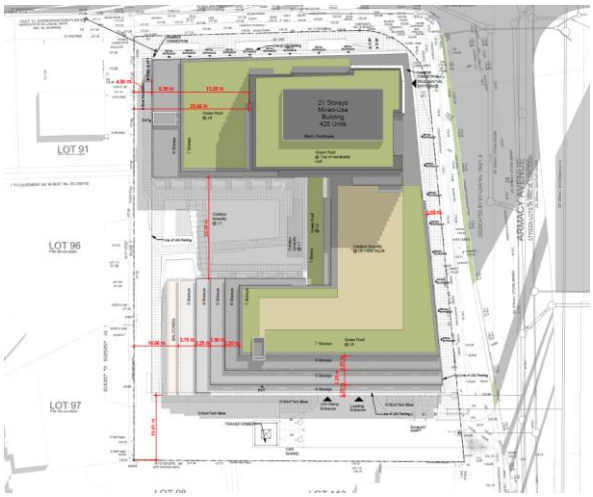
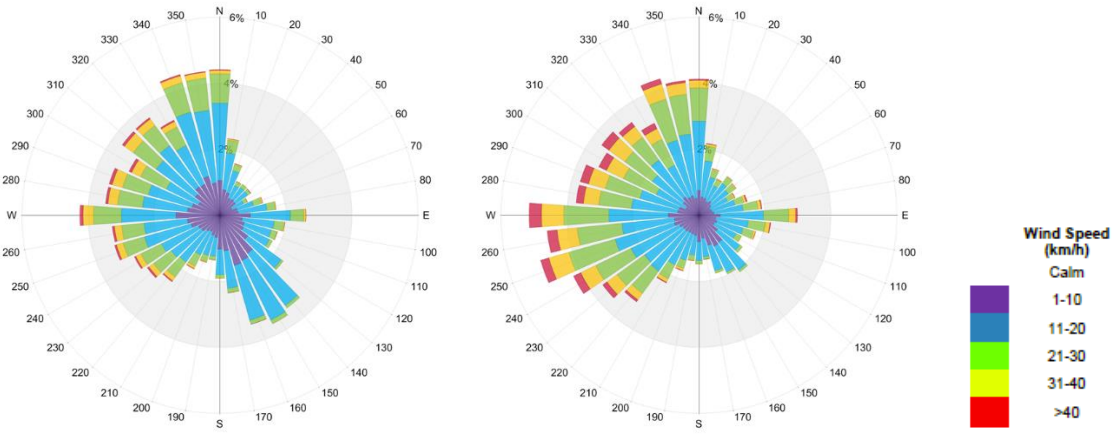


Image 2: Site Plan

Local Wind Climate

Wind data recorded at Toronto Pearson International Airport from 1989 to 2018, inclusive, were analyzed for the Summer (May through October) and Winter (November through April) seasons. This is the nearest weather station with long-term, reliable wind data.

Image 3 graphically depicts the directional distributions of wind frequencies and speeds for the two seasons. Winds from the southwest through north directions are predominant in both the summer and winter, with the secondary winds from the southeast and east directions, as indicated by the wind roses. Strong winds of a mean speed greater than 30 km/h measured at the airport (red and yellow bands in Image 3) occur more often in the winter than in the summer.



Summer (May to October) Winter (November to April)

Image 3: Directional Distribution of Winds Recorded at Toronto Pearson International Airport (1989–2018)

Predicted Wind Conditions

To provide an opinion on the potential wind effects caused by the proposed development, RWDI reviewed long-term wind data for the area, drawings of the proposed development and information regarding the surroundings. These data, in conjunction with our experience of wind-tunnel testing for buildings in the Scarborough area and our engineering judgement, allowed us to summarize the expected wind effects as below. Key pedestrian areas are labeled on the ground floor plan and Level 8 plan in Image 4, which can be used as a reference for the following discussions.

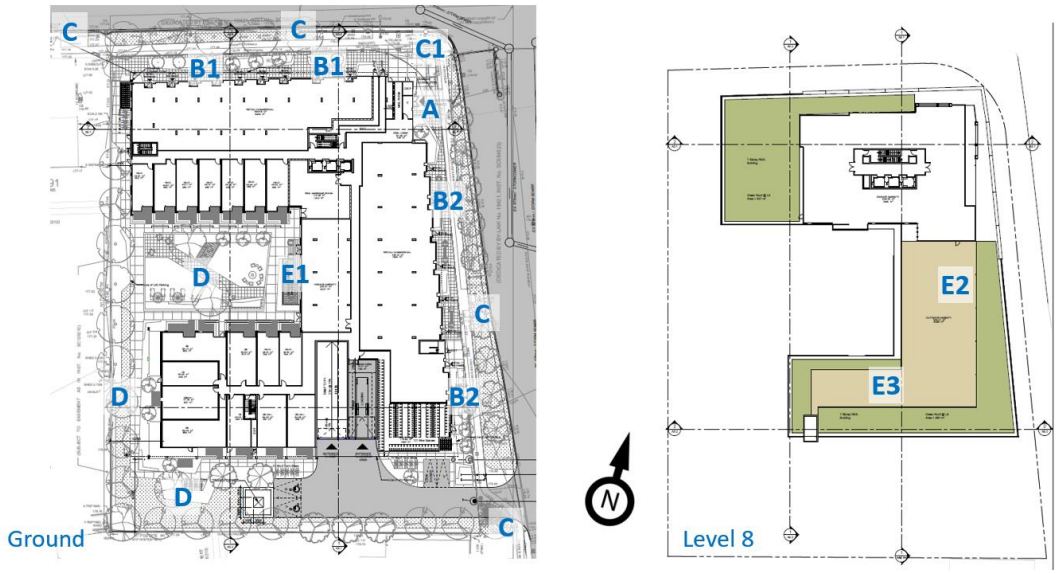


Image 4: Ground Floor and Level 8 Plans

- A building taller than its immediate surroundings tends to intercept the stronger winds at higher elevations and redirect them down to the ground level. Such a downwashing flow is the main cause for increased wind activity at grade, especially around exposed building corners. When two buildings are situated side by side, wind flows tend to accelerate through the space between the buildings due to a channelling effect.

- It is a positive design feature to have lower podiums on the west and south sides of the 21-storey tower, which will reduce the direct impact of winds downwashing off the tower on the ground-level pedestrian areas. However, the podium and tower setback on the north and east sides of the tower are relatively small and not sufficient to have a significant wind effect. As a result, increased wind activity is anticipated at the base of the proposed tower at the northeast tower corner.

- The residential entrance (Location A in Image 4) is well located in a slightly recessed area on the east side, near the northeast corner of the proposed building. The easterly winds will have some effect on this entrance area and are expected to result in wind conditions that are less than ideal for a main entrance in the winter. Potential wind control measures may include adding an overhead canopy to protect from downwashing winds and coniferous landscaping on either side of the entrance.

- The retail entrances along Sheppard Avenue East (Location B1) are well designed because they are recessed from the north façade. Entrance canopies could also be considered for additional weather protection.

- When compared to the existing wind conditions, increased wind speeds are expected along the sidewalks around the development (Locations C in Image 4). Users of sidewalks are usually active and can tolerate slightly higher wind speeds. The resultant wind conditions are likely acceptable throughout the year, except around the northeast corner of the proposed tower (C1 in Image 4) where winds are expected to accelerate around the tower corner and to channel between the existing and proposed towers, causing uncomfortable or potentially unsafe wind conditions in the winter. Wind mitigation will be required for this area of the building. Wind tunnel testing for the SPA submission will be able quantify these wind conditions and help develop wind control solutions.

- Green spaces on the south and west sides of the (Location D) are expected to be subject to the prevailing winds downwashing off of the proposed tower and podium. The resultant wind conditions are expected to be comfortable for standing in the summer. Landscaping elements such as trees, screens and trellises are recommended for any seating areas to improve the summer wind conditions.

- There is a small outdoor amenity space at the east end of the courtyard immediately adjacent to the building (E1 in Image 4). The downwashing winds described will generally affect areas away from the building. As a result, wind conditions at E1 are predicted to be comfortable for passive uses during the summer.

- On the amenity spaces at Level 8, the northern portion (Location E2 in Image 4) is expected to be sheltered by the proposed tower from the north and northwest winds, but the west, southwest and east winds will downwash off of the tower toward the podium and increase the wind activity. Wind activity on the southern portion of the podium (Location E3) is also expected to be higher than desired for passive summertime activity due to its elevation and exposure. Wind control measures for these spaces can include tall guardrails / perimeter wind screens, trellises and other landscaping elements.

Summary

Based on the local wind climate and the current building design, it is our opinion that wind conditions will be suitable for the intended uses at most pedestrian areas, including most public sidewalks, retail entrances along both Sheppard and Pharmacy Avenues, the outdoor amenity and green spaces at grate.

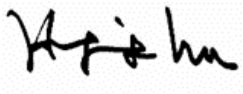
Higher-than-desired wind speeds are expected on the podium amenity spaces in the summer, and around the residential entrance in the winter. During the winter, wind conditions at the northeast corner of the proposed tower may become uncomfortable or potentially unsafe. Conceptual wind control solutions have been outlined herein. Wind tunnel testing will be conducted in support of the SPA submission to quantify these wind conditions and better refine any wind control solutions presented herein.

Closing

We trust this satisfies your current requirements. Should you have any questions or require additional information, please do not hesitate to contact us.

Yours truly,

RWDI



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