February 24, 2020

Brigil
98 Rue Lois
Gatineau, QC J8Y 3R7

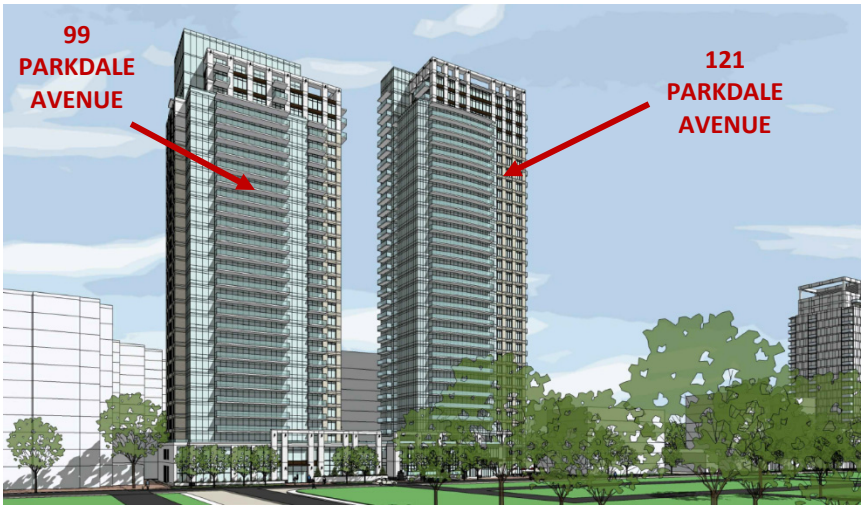
Attn: Philip Thibert, Project Manager
pthibert@brigil.com

Dear Mr. Thibert:

Re: Pedestrian Wind Comfort Opinion Letter
99 Parkdale Avenue, Ottawa
Gradient Wind File 18-082

Following the completion of a detailed pedestrian level wind (PLW) study for the proposed condominium development located at 99 Parkdale Avenue in Ottawa, Ontario (hereinafter referred to as "subject site"), Gradient Wind Engineering Inc. (Gradient Wind) was retained by Brigil to provide a professional opinion regarding anticipated pedestrian wind conditions on the common terraces at Levels 3 and 30 serving the subject site, and to recommend suitable mitigation for these terraces corresponding to the programming of the common areas. The file number for the detailed technical report is 18-082-PLW-2019, dated October 21, 2019.

The subject site comprises a 29-storey tower with a two-storey podium above underground parking levels which are connected to the underground parking levels serving 121 Parkdale Avenue immediately to the south of the subject site. The proposed building rises 91.5 meters (m) above grade to the top of the mechanical penthouse. The podium planform is rectangular with the long axis oriented along Parkdale Avenue. Access to the underground parking levels is shared with 121 Parkdale and is from the laneway to the east of the building. The main building access point is at the centre of the west elevation from Parkdale Avenue and there are additional access points at the east elevation from the laneway. Above the podium, the tower sets back primarily from the south side of the building and slightly from the north and west elevations, creating an outdoor terrace at the south side at Level 3. The rectangular tower planform shares the same orientation as the podium and is consistent until Level 28 where the floorplate sets back slightly from the north and west elevations. Balconies protrude from the façade of the tower at all elevations.



Architectural Model, West Perspective
(Courtesy of RLA Architecture Inc.)

Regarding wind exposures, the near-field surroundings of the development (defined as an area falling within a 200-m radius of the site) are characterized by a mixture of low and medium-rise residential buildings to the east of Parkdale Avenue, the 33-storey development currently under construction at 121 Parkdale Avenue immediately to the south of the subject site and connected at the podium levels, institutional buildings comprising Tunney's Pasture (including the Jean Talon Building and the Health Canada building at 70 Colombine Driveway) to the west of Parkdale Avenue, and green space followed by the Ottawa River to the north. The far-field surroundings (defined as the area beyond the near field and within a two-kilometer (km) radius) are characterized by similar exposures in all directions, with a transition to low-rise residential buildings beyond Tunney's Pasture, and park space followed by low-rise industrial buildings to the east.

The detailed technical report for the subject site identified wind conditions on the Level 3 terrace as suitable for standing during the summer season, becoming suitable for a mix of standing and strolling for the remainder of the year; conditions that do not achieve the City of Ottawa requirements for amenity areas that include lounging activities. Programming for the space has been refined to encourage activities for which the expected wind conditions will be comfortable. The terrace will comprise a community garden, with an access corridor leading from the subject site to the adjoining terrace at 121 Parkdale Avenue. In addition, the perimeter guards surrounding the common area of the terrace will be raised to 1.8 m above the local walking surface. Wind conditions on the Level 3 terrace will be calmer than those predicted in our original study due to the raised perimeter guards and the increased vegetation throughout the terrace. While conditions are still predicted to be mostly suitable for standing during the summer season, we recommend that they be considered acceptable for a community garden, which is an active space.

On the Level 30 terrace, 1.8 m tall solid perimeter guards in place of standard height guardrails are expected to result in conditions that are suitable for sitting during the summer season, suitable for a mix of sitting and standing during the autumn season, becoming mostly suitable for standing during the remaining colder seasons. These conditions are considered acceptable. The foregoing opinions are based on detailed simulations involving several mitigation strategies for the subject site.

This completes our opinion of the wind conditions on the elevated terraces serving the proposed tall building located at 99 Parkdale Avenue. Please advise the undersigned of any questions or concerns.

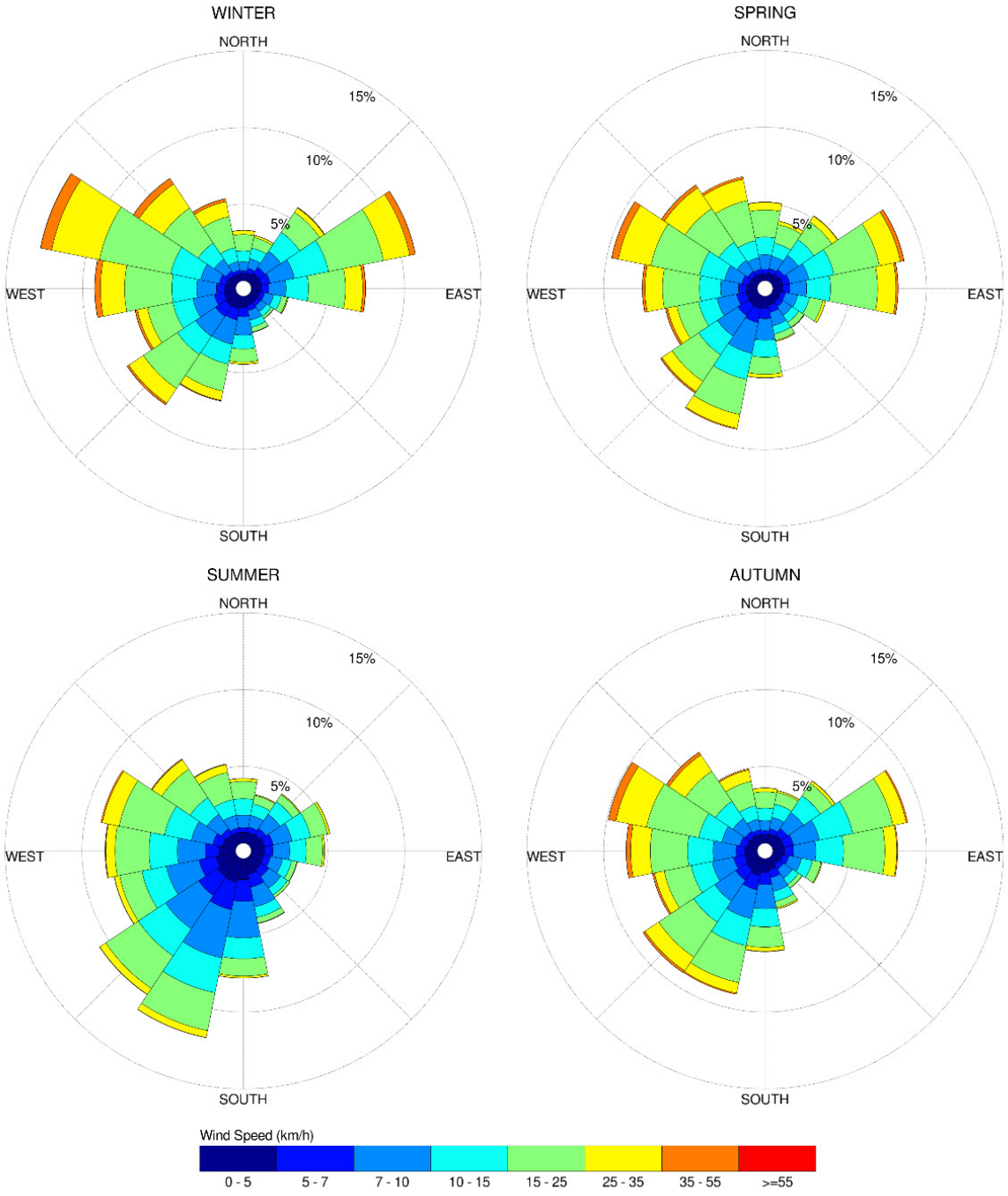
Sincerely,

Gradient Wind Engineering Inc.

LICENSED PROFESSIONAL ENGINEER
J. D. FERRARO
100158495
NOV. 24, 2020
PROVINCE OF ONTARIO

Sacha Ruzzante, MASc.
Junior Wind Scientist

Justin Ferraro, P.Eng.
Principal



Notes:

1. Radial distances indicate percentage of time of wind events.
2. Wind speeds are mean hourly in km/h, measured at 10 m above the ground.

FIGURE 1: SEASONAL DISTRIBUTION OF WIND
OTTAWA MACDONALD-CARTIER INTERNATIONAL AIRPORT