

GRADIENTWIND

ENGINEERS & SCIENTISTS

October 4, 2024

Windmill Development Group
150 Elgin Street, Suite 1000
Ottawa, ON K2P 1L4

Attn: Jessica Bellissimo, Development Coordinator
Jessica.bellissimo@windmilldevelopments.com

Dear Ms. Bellissimo:

Re: Pedestrian Level Wind Study Addendum
384 Arlington Avenue, Ottawa
Gradient Wind File 22-131

Gradient Wind Engineering Inc. (Gradient Wind) completed a computational pedestrian level wind (PLW) study to satisfy a Zoning By-Law Amendment (ZBLA) application submission¹ for the proposed development located at 384 Arlington Avenue in Ottawa, Ontario. The study was conducted based on architectural drawings of the proposed development provided by NEUF architect(e)s in June 2022². An updated set of architectural drawings was provided to the consultant team in March 2023³ and a formal update to the PLW study was completed by Gradient Wind in April 2023⁴ in preparation for resubmission of the ZBLA application. Furthermore, an addendum to the pedestrian level wind study⁵ was provided in June 2024, based on drawings of the proposed development provided in May 2024⁶.

The current architectural drawings, which were distributed to the consultant team in September 2024⁷ in preparation for a Site Plan Control application submission, include some changes to the proposed development as compared to the March 2023 massing.

¹ Gradient Wind Engineering Inc., 'Pedestrian Level Wind Study, 384 Arlington Avenue', [Aug 22, 2022]

² NEUF architect(e)s, 'Arlington and Bell Avenue', [Jun 22, 2022]

³ NEUF architect(e)s, '384 Arlington Ave', [Mar 3, 2023]

⁴ Gradient Wind Engineering Inc., 'Pedestrian Level Wind Study, 384 Arlington Avenue', [Apr 13, 2023]

⁵ Gradient Wind Engineering Inc., 'Pedestrian Level Wind Study Addendum, 384 Arlington Avenue', [June 6, 2024]

⁶ NEUF architect(e)s, '384 Arlington Avenue', [May 16, 2024]

⁷ NEUF architect(e)s, '384 Arlington Avenue', [Sept 27, 2024]

At the ground floor, a small setback has been added at the southeast corner, and a canopy has been added above the main entrance near the northeast corner along Arlington Avenue. Furthermore, the overhang of the podium along the east elevation has been removed. At Level 4, the podium now setbacks back from the east elevation to align with the tower, instead of stepping back at Level 7 from this elevation. In addition, the tower setback from the podium at the south elevation at Level 7 has been removed.

The 2023 PLW study concluded that all grade-level areas within and surrounding the subject site were predicted to experience conditions considered acceptable for the intended pedestrian uses throughout the year. Specifically, wind comfort conditions over the surrounding sidewalks, the laneway along the east elevation, the landscaped area along the west elevation, and in the vicinity of all building access points were considered acceptable.

Moreover, wind comfort conditions over the common amenity terrace at Level 4 were predicted in the 2023 study to be suitable for sitting within most of the area during the typical use period (defined as May to October, inclusive), which was considered acceptable.

Regarding the Level 7 terrace, wind comfort conditions were predicted in the 2023 study to be mostly suitable for standing during the typical use period. Conditions over the northwest portion of the Level 7 terrace were considered acceptable as the area was programmed as an urban farming terrace. For the northeast portion of the Level 7 terrace, which was programmed as a common amenity space, mitigation in the form of tall perimeter wind screens extending at least 2 metres (m) above the local walking surface in combination with targeted mitigation inboard of the perimeter around sensitive areas was recommended. The targeted inboard mitigation was recommended to take the form of wind screens and canopies around designated seating areas, dependent on programming. Notably, the design team has adopted the recommendation for tall wind screens along the terrace perimeter.

The differences between the 2023 and September 2024 massing designs are considered modest from a wind engineering perspective, and the conclusions and recommendations in the 2023 PLW study are expected to remain representative of the current architectural design.

Specifically, conditions at grade within and surrounding the subject site are expected to remain suitable for the intended pedestrian uses. Regarding the outdoor amenity terrace serving the proposed development at Level 4, wind conditions are expected to be similar to the previously reported conditions and to remain acceptable for the intended pedestrian uses. Regarding the Level 7 amenity terrace, the previously reported wind comfort conditions and the mitigation recommendations detailed in the 2023 study are expected to remain representative of the current site massing.

Sincerely,

Gradient Wind Engineering Inc.



David Huitema, M.Eng., P.Eng.
CFD Lead Engineer