

March 15, 2023

Nick Lopresti

Dexel Architecture
[REDACTED]

Re: Spring Garden West
Pedestrian Wind Assessment
CPP Project 15208

Dexel Architecture retained Cermak Peterka Petersen Wind Engineering (CPP) to conduct a wind impact study (WIS) around the proposed Spring Garden West (SGW) development located at the corner of Spring Garden Road and Robie Street. The results of this detailed quantitative wind tunnel evaluation are summarized in the “Pedestrian-Level Winds Report” dated March 8, 2022.

Following this study, several refinements have been made to the design of the development with the intention of improving wind conditions along Spring Garden Road and Robie Street. Within this letter, CPP provides our professional opinion on the impact of these design changes on pedestrian wind conditions at grade.

Utilizing wind speed and direction data collected during wind tunnel testing and our experience, CPP identified the wind flow patterns contributing to the anticipated wind conditions along Spring Garden Road and Robie Street. Following this, CPP identified several forms of street hardscaping and landscaping features, as well as building integrated wind screens that would provide positive wind reduction. CPP provided suggestions for placement of these features where they would be expected to improve conditions.

Dexel incorporated these conceptual design suggestions into a comprehensive landscaping and design approach that includes raised planters with marcescent trees with a minimum established crown of 2m – 3m along Spring Garden Road and Robie Street as indicated in Image 1. Marcescent trees are species which retain most of their dead foliage throughout the winter when the prevailing winds create the uncomfortable conditions. These trees in raised planters distributed along the sidewalks can provide beneficial wind mitigation.

Dexel has also incorporated several features into the building design that are expected to improve wind conditions along the sidewalk, near building entrances and within the grade level amenity space along Robie Street. These features, as indicated in Image 1, include glass screen walls 2.5 m in height, and raised planters along the facades that include a solid lattice with evergreen climber, including a vertical lattice planter at the northeast podium corner. The use of a lattice structure with evergreen climber were specifically identified as features that will help to provide positive wind protection. The repeated use of these planters with screens along the façade are expected to have a multiplicative positive effect and result in significantly improved conditions from those presented within the wind tunnel report. Additional wind control features incorporated into the design include extending the northeast corner canopy, providing a large bus shelter, solid bench seating, and including a raised planter with evergreen plantings near the northwest corner.

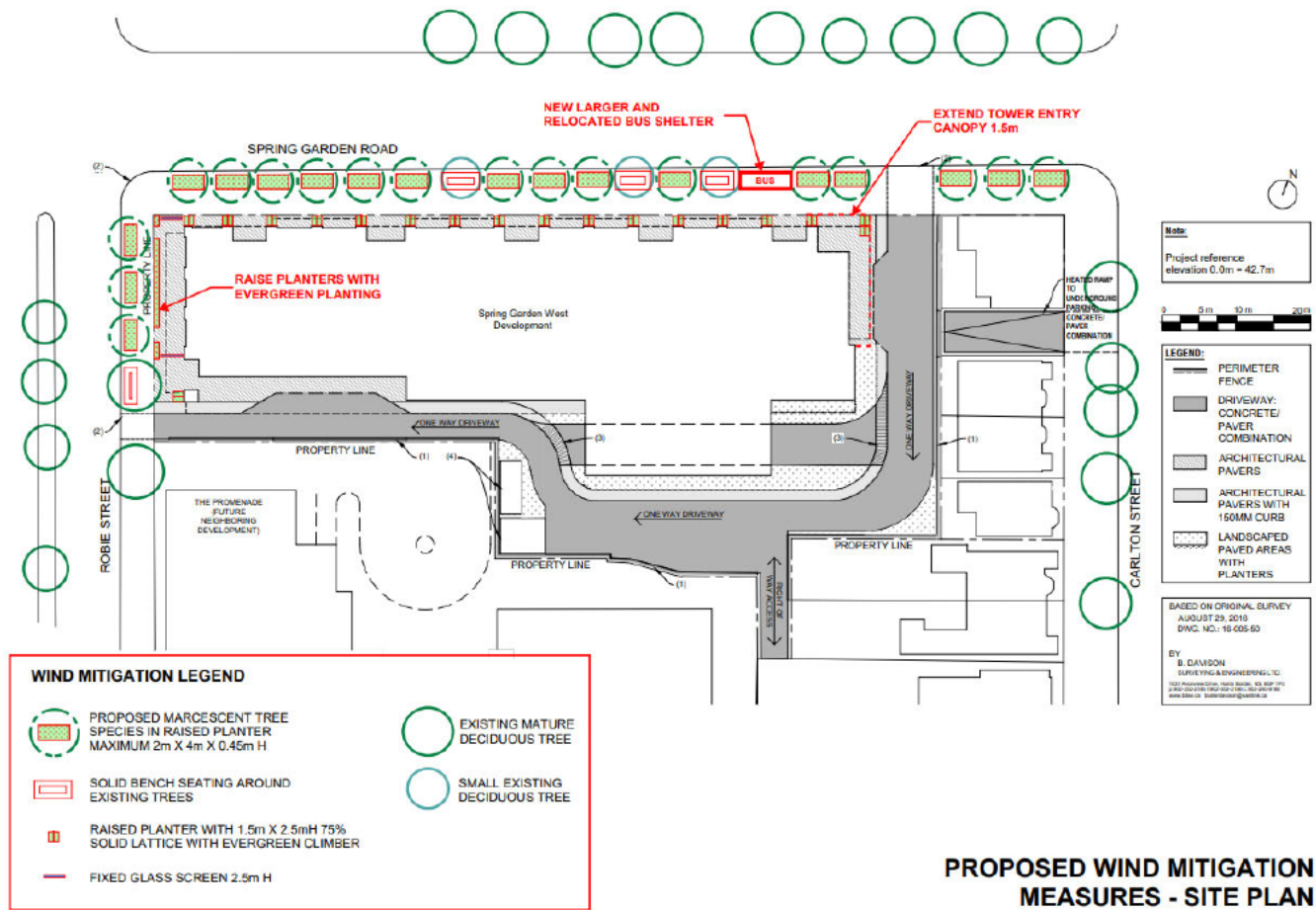
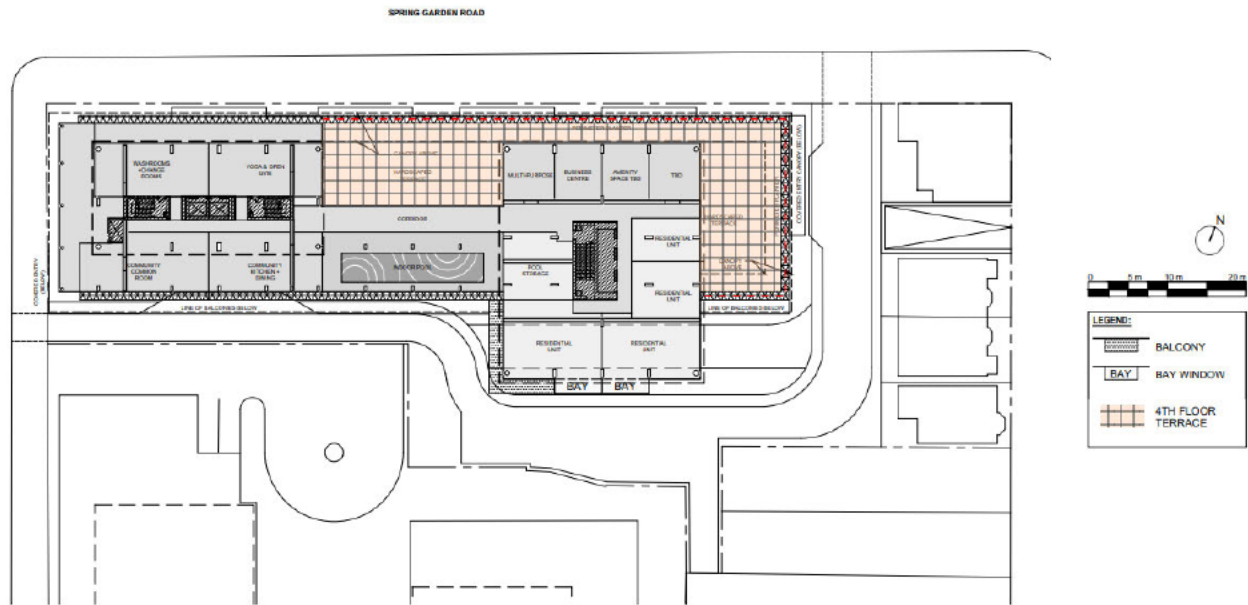


Image 1: Site Plan Illustrating the Location of Wind Mitigation Measures at Grade.

Additional wind mitigation measures in the form of a modified perimeter guardrail were incorporated into the design of the 4th floor amenity space design as indicated in Image 2. Specifically, the perimeter guardrail was modified to include a combination of fixed glass panels and lattice structures with evergreen climbers. These semi-solid surfaces are expected to provide a positive impact on wind conditions both on the amenity level and at grade by allowing some dissipation of the wind.



WIND MITIGATION LEGEND

 COMBINATION OF FIXED GLASS AND 75% SOLID LATTICE WITH EVERGREEN CLIMBER SCREENS MOUNTED ON 1.07m H PERIMETER PLANTER WITH EVERGREEN PLANTING

PROPOSED WIND MITIGATION MEASURES - 4TH FLOOR AMENITY TERRACE

Image 2: Site Plan Illustrating the Location of Wind Mitigation Measures at the 4th Floor Amenity Terrace.

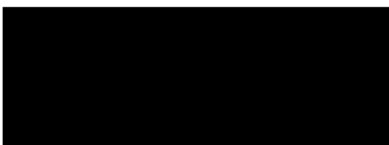
The inclusion of these features are expected to provide significant improvements to grade level wind conditions from the conditions predicted in CPP’s wind tunnel study, particularly along Spring Garden Road, Robie Road and near building entrances (Locations 6, 7, 10, 11, 12, 20, 28 in Figure 4d).

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

Yours very truly,
Cermak Peterka Petersen Wind Engineering Consultants.



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