ERV

ERA Architects Inc. #600-625 Church St Toronto ON, M4Y 2G1

May 5, 2023

Sent by EMAIL

City Clerk Toronto City Hall 100 Queen Street West, 2nd Floor Toronto ON M5H 2N2 <u>hertpb@toronto.ca</u>

Attention: Administrator, Secretariat, City Clerk's Office

RE: Notice of Objection to the Notice of Intention to Designate Property 200 University Avenue, Toronto

Dear Sir/Madam,

This letter is issued on behalf of the property owner of 200 University Avenue, Toronto, in response to the intention to designate under Part IV, Section 29 of the Ontario Heritage Act (OHA).

On June 23, 2022, an application for Official Plan Amendment and Zoning By-law Amendment (22 166819 STE 10 OZ) was made related to the proposed redevelopment of the subject property. The proposal is for a 35-storey addition above the existing 16-storey building, which will be retained in situ to accommodate the proposed development of 35-storey addition (resulting in an overall height of 51-storeys).

As part of the application, ERA Architects Inc. (ERA) issued a Cultural Heritage Evaluation Report (CHER) and Heritage Impact Assessment (HIA) dated June 2, 2022. In addition, ERA and the applicant team met with City planning staff to discuss the proposal and solicit feedback. A complete application notice was issued by the City Clerk August 5, 2022. The property owner also agreed to a waiver to extend the 90-day timeline established under Bill 108 through to May 31, 2023.

On March 16, 2023, the applicant was notified of the intention to designate 200 University Avenue under Section 29, Part IV of the OHA, and that it would be considered by the Toronto Preservation Board (TPB) on March 23, 2023 (PB4.1). TPB adopted the staff recommendation for Council to state its intent to designate, and City Council subsequently adopted the motion to state its intent to designate on March 29th without amendments or debate.

We have several concerns with the Statement of Significance and identified heritage attributes as drafted, particularly as they relate to the configuration of the entrance hall and elevator bays. Our concerns are as follows:

"The entrance lobby, accessed through two sets of doors on the east and west elevations and aligned directly across from each other on the same east-west axis"

- The east elevation entrance is no longer accessed by two sets of doors but by a revolving door with flanking man doors.
- The addition of new residential elevators and reconfiguration of the exit stairs requires a wholesale reorganization of the building core. Integrating new elevator cores requires organizing new elevators into single banks of four, located back-to-back with separate lobbies. The existing egress stairs at the south end of the core do not conform with the current OBC requirements for separation of exits and the new core exit stairs must be located at the north and south ends of the core to meet Code. The resulting layout forces the elevator core to the center of the plan making the through-building lobby passage infeasible.
- A new Zoning-compliant interior loading dock is required to replace the existing (non-conforming) loading dock that currently causes trucks to obstruct the sidewalk on the east side of Simcoe St. Accommodating a new loading dock requires a significant portion of the Ground Floor footprint on the west side of the building, making the conservation of the through-building lobby unachievable.

"Unobstructed view of the east, north, and west elevations from University Avenue, Richmond Street West, and Simcoe Street"

- City Staff have expressed concern that the proposed piers that extend the existing pilasters upwards from their current termination at the 14th floor of the existing building to the base of the new tower would obstruct views of the east and west elevations for the existing penthouse.
- The proposed piers are the most structurally efficient and feasible approach to provide the necessary lateral support to the tower above. Options that consider elimination of these piers would require the adoption of structural concepts that are so extreme as to be virtually unprecedented in Toronto. Such options would also significantly alter the core size and organization, disrupting at least four new residential floors with major additional structural elements that would severely constrain unit layouts on these levels resulting in significant inefficiency. Entuitive, the applicants engineering consultant, have provided a letter (attached) outlining the impact of eliminating the new piers and further detailing these concerns.
- The added structural measures proposed by City Staff run counter to the building's sustainability mandates which include preserving as much of the existing building structure as possible while using new materials in efficient ways to lower the embodied carbon of the project.

"The granite public plaza, terracing and entrance steps on the east and west elevations"

• There is no granite public plaza on the west elevation.

It should be noted that the staff report recommending that council state its intention to designate, dated March 20, 2023, includes the following statement acknowledging that language in the by-law may be revised and incorporated in the final designation by-law:

"While the research and evaluation of the property referenced above is, in Staff's determination, sufficient to support the designation of the property at 200 University Avenue, it should be noted that new and additional relevant information on the subject property further expanding on its cultural heritage value following community input and additional access to archival records may be incorporated in the final version of a Part IV designation by-law"

ERA is committed to continuing to work collaboratively with city planning staff to balance heritage conservation with other city building objectives. However, until the resolution of the issues regarding the Heritage Attributes noted above, our client must object to the designation of the property at this time.

Sincerely,

Neil Phillips

Neil Phillips, MLA, BURPL

Project Manager, ERA

CC.

Philip Evans, BArch, OAA, CAHP, MRAIC

Principal, ERA

ENTUITIVE

May 3, 2023

Agnes Sliwa GWL Realty Advisors 1000 – 33 Yonge Street

Re: Structural Response to HPS Meeting 03/24, 200 University Ave, Toronto Our Project No. C020-1201

Dear Agnes,

We are writing to summarize the structural approach to supporting the vertical expansion of 200 University Avenue and to respond to the proposal from HPS to eliminate the vertical structure between the top of the existing tower and the underside of the new residential expansion.

EXISTING STRUCTURE

The existing building is framed with a mixture of structural steel, precast concrete, and cast in place concrete. The floor slabs are generally precast concrete slabs supported on steel beams supported by steel columns located on the perimeter of the tower and around the perimeter of the core. The lateral system for the tower is moment frames spanning between the perimeter of the tower and the perimeter of the core. The existing gravity and lateral system was not designed to support vertical expansion and does not have inherent capacity for the proposed redevelopment.

PROPOSED STRUCTURAL SYSTEM

The proposed structural system to support the vertical expansion of the tower must consider the new gravity and lateral demands on the tower. To resist lateral loads a new concrete core is proposed central to the floor plate. This core will house the commercial and residential elevators, mechanical spaces, exit stairs, and is the primary lateral load resisting element.

The gravity load of the new tower is carried by concrete walls and columns that are positioned to suit the layout of residential units. These elements are spaced a maximum of 6600 to 6800 in order to maintain the typical 200mm thick flat plate slab seen in residential developments and to accommodate standard unit sizes and mixes. The layout of the walls and columns does not work with an open commercial office design and therefore these elements must be transferred above the existing roof. Since the existing office

building only has columns around the perimeter it is necessary that this transfer structure, proposed as structural steel trusses, connect at the perimeter to the existing columns and at the interior to the new core. Figure 1 shows the proposed tower structure in dark gray compared to the existing office building structure below.



Figure 1 - Residential Tower Layout vs. Commercial Layout



Figure 2 - Outrigger Trusses

These transfer trusses also act as outriggers that stabilize the tower in resisting the lateral load demands from wind and seismic forces. This concept is seen in many natural environments including the use of hiking poles to stabilize walkers and in traditional outrigger canoes. These trusses provide stability to the core helping reduce drifts and accelerations. The tower does not meet the code limits for movements and accelerations without these outriggers. Engaging the perimeter steel columns is fundamental to the outrigger structural system being effective.

LAYOUT PROPOSED BY HERITAGE PLANNING

We understand that an alternative building massing has been proposed. This revised massing sets the vertical expansion back from the edge of the office building. It also proposes that no vertical support is provided between the roof of the existing building and the underside of the new tower. In other words, there is no vertical support being provided for the perimeter of the tower. While this structural diagram technically would work it is not an efficient or practical structural diagram. There is also little precedent in the City of Toronto for towers designed in this manner.

i) Removing the connection of the tower to the perimeter columns eliminates the steel outrigger trusses that provide lateral support to the tower. If these outriggers are removed the tower would not meet the drift and acceleration limits set forth in the code and the design is not code compliant.

ii) The structural system required to support the proposed massing would need large structural steel trusses that are supported on the edges of the concrete core and cantilever the 7-8m required to reach the façade. These trusses would be roughly four stories deep and would negatively impact the use, layout, and effectiveness of the four floors. Conceptual truss diagram is shown in figure 3.



Figure 3 – Transfer Truss Schematic

iii) The layout of the core would need to be revised to accommodate the layout of the steel trusses that span across the floor plate. The thickness and size of the core will need to be enlarged because the new core is not acting to support 100% of the gravity and lateral loads of the tower. The layout of this revised core does not work with the current elevator and stair cores nor the suite design and layouts.

iv) It is certain that with the revised size of the core we could no longer maintain the line of interior steel columns around the existing core. These columns provide the vertical and lateral support for the building during construction. Removing them results in an unstable structure throughout construction period and increases the amount of existing material that is being demolished.

v) The size and weight of these trusses may not be constructable. A tower crane has maximum pick weights that can be accommodated and the truss members proposed here will exceed that limit. Therefore, mobile cranes will need to be setup on Simcoe Street, Richmond Street, and University Avenue. Obtaining road closure permits and receiving TTC approval to use a crane in close proximity to the University Avenue subway tunnel is a concern.

In closing, it is our opinion that the revised massing proposed by HPS is fundamentally inefficient from a Structural Engineering perspective. The proposal has next to no precedence in the City and its constructability is questioned. The proposal is a very expensive solution that results in inefficient layouts and use of the new constructed space. It also requires significant materials to be added to the project including structural steel, concrete, and reinforcement. This outcome is at odds with the sustainability goals of the project which is focused on adaptive reuse of the site, maintaining as much of the existing building as possible, and minimizing Carbon by minimizing material quantities.

Sincerely, Entuitive

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