APPENDIX D

City of Toronto Accessibility Preliminary Template for Acoustics

HGC ENGINEERING

Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203
Mississauga, Ontario, Canada L5N 1P7
t: 905.826.4044

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Via Email: Alexandre.Haddad@IBIGroup.com

Alexandre Haddad
IBI Group
100 - 175 Galaxy Blvd
Toronto, ON
M9W 0C9

Re: Acoustical Review (Group 08)
City of Toronto Accessibility Upgrades
HGC Project Number 02000645

Dear Mr. Haddad,

As requested, HGC Engineering has completed a review of the 90% Submission drawing packages for the Group 08 buildings associated with the City of Toronto Accessibility Upgrades project.

Background for Acoustic Requirements

The City of Toronto's Accessibility Design Guidelines, initially published in 2004 with draft modifications issued in October of 2016, presents in Section 3.3.1. concepts to be considered for acoustics. Those concepts do not replace good practices for acoustics and noise and vibration control in office and institutional buildings but, rather, they indicate where special attention should be paid in the design for persons with limited hearing or vision. Some of these individuals rely on acoustic cues for navigating spaces and thus it is desirable to provide reasonably low ambient sound levels, modest reverberation times, a lack of confusing sound reflections, and hard floor finishes that provide acoustic feedback along the principal accessible routes.

As the design of these accessibility upgrades progresses, it is also important to ensure that the upgrades do not introduce acoustic issues for the existing spaces and uses. Thus, the transmission of speech or annoying mechanical sound into acoustically sensitive office spaces and meeting rooms needs to be considered. This implies:

- Selecting demising constructions with adequate sound transmission class (STC) values based on the activities and sensitivities in the adjoining spaces (as detailed on G1002).
- Paying attention to details that avoid compromising the STC of a demising construction such as the addition of a baffle above ceiling tiles and adequate seals at the roof deck (as detailed on D1501 and D1502), cross talk silencers where ducts

penetrate drywall or block partitions (detailed on D3501), and the appropriate selection and sealing of doors.
- Selecting mechanical equipment with attention given to the sound energy produced, adequately vibration isolating the equipment, and installing noise control hardware (silencers, etc.) where appropriate.
- Ensuring that plumbing piping is resiliently shielded where it passes through floor slabs and walls (as detailed on D3601) and is not in direct contact with drywall panels.

The acoustics within open office spaces is influenced by the selection of ceiling tiles to assist in achieving reasonable speech privacy, as is the provision of properly adjusted sound masking systems. The acoustical design for larger meeting rooms is critical to ensure good speech intelligibility.

Group 08 Review

The accessibility upgrades for the Group 08 buildings tend to focus on improving the physical access at doors, stairs, and hardware, improvements in wayfinding, and in many cases the addition of a universal washroom and/or upgrades to other washrooms. None of the buildings in this group is having an elevator added. There are no meeting rooms being added to any building within this group.

The new universal washrooms have been provided with adequate STC walls in areas where new walls have been provided adjacent to sensitive spaces. The exhaust fans, if replaced, have acceptable noise ratings on the order of 2 to 4 sones (roughly 55 dBA in the washrooms).

Where applicable, appropriate floor finishes have been provided on stairs and on access routes.

The Typical Details Booklet that covers this group presented details (as noted above) that properly address the acoustics for the buildings.

Table 1 provides the list of buildings and the major upgrades involved.

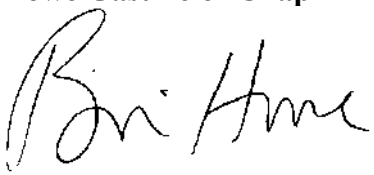
Table 1. Buildings in Group 08 and Key Upgrades Impacting Acoustics.

Number	Use/Address	Washroom	Other/Comments
8	FIRE HALL NO. 143 1009 SHEPPARD AVE WEST	New barrier free washroom opening into garage.	Acceptable STC 45 walls specified for the washroom. New exhaust fan for the washroom has acceptable sound power rating (2.5 sones).
10	FINCH YARD - BLDG A 1026 FINCH AVE W	Modifications to two washrooms, kitchen and janitorial closest.	New walls acceptable. Two new exhaust fans in washroom and kitchen have acceptable sound power rating (<2.5 sones).
13	FINCH YARD - BLDG D 1026 FINCH AVE W	Modifications to washrooms and change rooms.	New walls acceptable. New exhaust fan in washroom has acceptable sound power rating (2.5 sones).
36	TORONTO ANIMAL SERVICES 1300 SHEPPARD AVE W	Modifications to washroom.	Duct modifications only. No new fans.
110	FIRE HALL NO. 145 20 BEFFORT RD	Modifications to washroom.	Duct modifications only. No new fans.
217	FIRE HALL NO. 141 4100 KEELE ST	Modifications to two washrooms.	Duct modifications only. No new fans.
229	FIRE/EMS HQ & EMS STATION NO. 53 4330 DUFFERIN ST	Modifications to ground floor universal washroom, multi-stall washrooms on ground, first and second floors, kitchen, servery, and security desk.	No new walls. New exhaust fan in the universal washroom has acceptable sound power rating (2.5 sones).
265	FIRE HALL NO. 112 & EMS STATION NO. 16 5700 BATHURST ST	Modifications to second floor EMS washroom.	New walls between washrooms acceptable. New exhaust fan in washroom has acceptable sound power rating (3.5 sones).

All in all, it is concluded that the 90% Submission drawing packages for the Group 08 buildings properly consider acoustics.

We trust this information is sufficient for your current needs. We look forward to reviewing the drawings for the further groups as they become available. In the meantime, please do not hesitate to call should you have any questions or concerns.

Yours truly,
Howe Gastmeier Chapnik Limited



Brian Howe, MEng, MBA, LLM, PEng