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MEMORANDUM

May 26, 2026 Reference No.: 25340

TO: **Blair Scorgie, Scorgie Planning**

FROM: Felipe Vernaza, LEA Consulting Ltd.

CC: Christopher Sidlar, LEA Consulting Ltd.

RE: Mixed Use Laneways, Background Review (Noise)

From an acoustics perspective, we have reviewed the challenges and opportunities that may result from implementing small mixed-use developments along City of Toronto residential neighbourhood laneways.

NOISE REQUIREMENTS

There are two sets of requirements such developments must adhere to:

1. The Ministry of the Environment, Conservation and Parks (MECP) **Publication NPC-300**
   - NPC-300 publishes noise limits related to stationary noise sources. For context, a stationary noise sound source is a source that does not move or remains within a property. Typical examples include rooftop HVAC mechanical equipment, generators, powered equipment use, workshops, repair shops, etc.
   - **Stationary sound levels** at a point of reception (typically living areas, bedrooms or backyards) **shall not exceed 50 dBA and 45 dBA during the daytime and nighttime**, respectively, in a Class 1 Area. The City of Toronto is considered a Class 1 area, as defined by the MECP (i.e. an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum.")
   - However, if the quietest ambient daytime and nighttime hours exceed the above 50/45 dBA limits, ambient sound levels can be used as the stationary sound level limits.
   - On this basis, a mixed-use laneway site located in an area with high ambient noise (e.g. close to a 400-series expressway) will be able to emit higher sound levels than a site in a quieter area, before their applicable limits are reached.

2. The **City of Toronto Noise Bylaw (Chapter 591)**, which deals with nuisance noise of a temporary nature and is complaint-based process. The following are key exerts of the City's Noise Bylaw that relates to implementing neighbourhood laneway developments:

- **Prohibitions on the use of Power Devices** (defined as powered equipment used to maintain lawns or properties): not permitted from 7 PM to 8 AM on weekdays, and from 7PM to 9 AM on Saturdays, Sundays and statutory holidays
- Prohibitions on **Amplified Sound or instrument sound**: cannot exceed 50 dBA (or 65 dBC) from 11PM to 7PM or 55 dBA (or 70 dBC) from 7AM to 11PM.
- No person shall cause or permit the **use of stationary sound sources and residential air conditioners** exceeding 50 dBA and 45 dBA at a noise-sensitive point of reception, or a sound level prescribed in provincial guidelines. Note that these levels are based on the NPC-300 requirements listed above.
- **Construction** is not permitted from 7 PM to 7 AM during the weekdays, and from 7 PM to 9AM on Saturdays. Construction is not permitted on Sundays and statutory holidays.
- The Bylaw also has provisions related to **Unreasonable and persistent noise**. This can include noise due to loitering, persistent noise due to powered equipment, or any activities/equipment that generates noise that is considered unreasonable and persistent.
- The City of Toronto Bylaw 514-2008 deals with vibration impacts to structures related to construction activities. Further information is provided below.

ACOUSTICAL CHALLENGES ON LANEWAY MIXED-USE DEVELOPMENTS

There are several potential acoustical challenges in implementing mixed-use developments along residential neighbourhood laneways:

1. **Short sound source-to-receiver distances**: some of the mixed-use developments may feature stationary noise sources that could impact neighbouring residences or themselves. Examples include carpentry machines and power tools, dust collectors, HVAC rooftop equipment, and kitchen exhausts (e.g. in a café or restaurant). The distance between these noise sources and noise sensitive uses (noise sensitive uses include backyards or plane-of-windows at living areas and bedrooms) are expected to be small. Therefore, even relatively minor mechanical equipment may have significant acoustical impacts. For example, a single small 3-ton HVAC rooftop unit could exceed the 50/45 dBA daytime/nighttime criterion at only about 20-25 metres (assuming it's not mitigated and there is no shielding due to intervening structures).
2. **Limited space to enclose noise equipment:** Given the small nature of these laneway developments, it may be challenging or unfeasible to enclose noisy mechanical equipment in a mechanical room. Exposed mechanical equipment may acoustically impact the neighbourhood.

3. **Noise Impact Studies** will likely be required for any laneway mixed-use development that is noise sources to the neighbourhood, even if these noise sources are typically considered minor or negligible. As noted previously, the short sound source-to-receiver distances result in minor noise sources potentially having a large impact on nearby noise-sensitive spaces.
4. **Construction:** Although construction noise may present a temporary nuisance to the neighbourhood, it is permitted as per the Bylaw and the MECP. However, as per the City of Toronto Bylaw 514-2008, the monitoring of construction vibration may be required at neighbouring structures if construction equipment results in significant vibration levels. Please note that "structures" includes uninhabited spaces such as the parking garages structures lining the laneways. The distance between these garage structures and a laneway redevelopment site could be less than 5 metres. For reference, vibration monitoring is typically required at a structure if a vibratory roller is working within 8.0 metres, an excavator is working within 4.5 metres, or dump trucks are working within 4.0 metres. As such, construction vibration assessments and construction vibration monitoring may be required to implement mixed-use developments along Toronto's laneways.

EMERGING RECOMMENDATIONS

The following are best practices and opportunities to tackle the above-noted challenges:

1. Mitigation through design will be most effective in mitigating noise emanating from laneway mixed-use developments. This could mean **blocking the line-of-sight** between a sensitive use and an introduced noise source using building elements, or strategically placing a noise source away from noise-sensitive spaces like bedroom and living room windows.
2. Another example of mitigation through design is **placing loud rooms below grade** or in a basement. For example, the carpentry shop would feature various loud noise sources that could impact the neighbourhood. If the louder equipment is housed below grade, the ground itself will significantly mitigate noise issues, without the need of expensive high Sound Transmission Class (STC) windows and walls.
3. If not economically feasible place loud rooms below grade, in addition to high STC walls/windows/doors, **appropriate ventilation** should be provided to the room in question to allow people to work within the workshop with the windows and doors closed. Please note that as per the MECP, a workshop is considered a stationary noise source requiring assessment though a Noise Impact Study, and if activities are loud and frequent enough, upgraded windows and walls may be required (beyond OBC's requirements).
4. **Select the proposed uses based on the context area**. It will be more appropriate to introduce louder uses (workshops, cafes or restaurants requiring exhausts) in an area with

high ambient sound levels (e.g. close to 400-series expressways or major roadways). Quieter uses such as offices or studios would be more appropriate in quieter neighbourhoods far from major roadways.

5. To avoid noise nuisance due to loitering, it is recommended these **uses do not operate beyond 7 PM** (to be consistent with the City's noise Bylaw) and that they **do not serve alcoholic drinks**.
6. As noted previously, the noise source-to-sensitive space distances are very short for developments on Toronto's laneways. Therefore, if a stationary noise source cannot be shielded/mitigated through design, it is highly recommended that an acoustical consultant be engaged as early as process in the process to prepare a **noise impact assessment.** The intent is to confirm the acoustical feasibility of the proposed development in question at the schematic/preliminary stages.
7. It is recommended that any outdoor amenities associated with residential uses be less than 4 metres in width. An outdoor amenity exceeding this width becomes a noise-sensitive space, requiring a noise assessment to determine the development's impact on itself.
8. We list below preliminary recommendations specific to each the presented concepts:
    i. **Kosower Lane Tool Library:** this concept takes advantage of ground mitigation by placing the community workshop below grade. However, it is open to above so any workshop-related activities may require noise control measures such that the above ground level can operate with windows are doors open (if desired). Significant acoustical separation (e.g. upgraded walls and floor-ceiling assemblies) may be required between the Tool Library levels and the hydraulic lift, and the residential Units A and B.
    ii. **Carpentry Shop:** this concept features significant noise sources, including carpentry machines, and a dust collector. These are considered stationary noise sources as per the MECP. The outdoor use of carpentry tools will most likely exceed the MECP sound level limits at nearby noise-sensitive uses; however, the indoor use of such tools may be acoustically feasible but will necessitate exterior walls, windows, doors and roof-ceiling assemblies of high acoustical performance (high STC ratings). To be compliant with MECP requirements, it will also need to operate with all windows and doors closed. Placing the Carpentry Shop in a city area with high ambient sound levels may result in less onerous acoustical requirements (and therefore a lower cost for noise control). The design could be modified such that all loud tools are operated from a sunken level or basement.
    iii. **Office OU:** from an acoustical perspective, this concept features a small café and another small commercial unit (shop). The small café is likely to require an exhaust

which may acoustically impact the proposed concept itself (the upper units) and also other nearby residential uses. The location of the exhaust should be carefully assessed such that its noise impacts are minimized. Alternatively, a silencer may be required. Upgraded floor-ceiling assemblies may be required between the commercial uses at the ground level and the residential uses at the upper levels.

iv. **Studio of Contemporary Architecture:** This concept only poses minor acoustical issues. Depending on the nature of the retail tenant at the ground level, upgraded floor-ceiling assemblies may be required to acoustically separate it from the residential uses at the upper levels. Retail uses related to the preparation of food or drinks (e.g. café or small restaurant) may introduce acoustical impacts to the area through exhausts which may require careful placement or silencers.

v. **StudioAC:** This concept features a mixed-use laneway development with a clothing store and sewist workshop at the ground floor, with residential uses atop. We did not identify any significant noise sources this concept introduces that could be acoustically significant for the community.

vi. **Pasta workshop**: from an acoustical perspective, this concept features a pasta workshop and a room for private diners. This implies this concept will require kitchen exhausts which may acoustically impact the proposed development itself (the upper residential units) and other nearby residential uses. The location of the exhaust should be carefully assessed such that its noise impacts are minimized. Alternatively, a silencer may be required. Upgraded floor-ceiling assemblies may be required between the workshop/commercial uses at the ground level and the residential uses at the upper levels

CONCLUSION

Although developing mixed-uses along Toronto's laneways may introduce minor-to-moderate acoustical impacts in the area, these impacts can be mitigated through design and by engaging an acoustical consultant early on. In general, we consider it is technically feasible to mitigate noise levels emitted from these laneway mixed-use developments to MECP limits.

However, for sites featuring loud noise sources (e.g. powered tool workshops) the cost of noise mitigation might become prohibitive. For example, upgrading the exterior walls and windows around an entire building envelope might be necessary for concepts introducing significant noise sources. The cost of noise mitigation might decrease in areas where the ambient sound level is high, since in these areas the sound level limits are less stringent.