

April 12, 2018

Mr. Faris Mansour  
Toronto District School Board

VIA EMAIL: [Faris.Mansur@tdsb.on.ca](mailto:Faris.Mansur@tdsb.on.ca)

**Re: Construction hazards at Eglinton Junior Public School  
ECOH Project No. 19133**

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At the request of the Toronto District School Board (TDSB), representatives of ECOH Management Inc. (ECOH) visited Eglinton Junior Public School (EJPS) at 223 Eglinton Avenue East to assess concerns regarding hazards associated with construction of the Eglinton Crosstown Light Rail Transit by Metrolinx. The visit was conducted on April 12, 2018 by ECOH Principal and CEO Om Malik, and ECOH Senior Associate, Marianne Levitsky. TDSB was represented by EJPS Vice-Principal, Head Caretaker and staff from TDSB Facilities.

The visit was prompted by concerns arising from media reports that an excavator bucket on the construction site had swung dangerously close to the school windows. During the visit, staff raised other concerns about dust, vibration and high noise levels associated with the construction.

### **OBSERVATIONS**

Construction of the subway is presently in the excavation phase. The property line on the north side of the school is approximately 0.6 meters from the north school wall. The excavation site is immediately on the north side of the property line.

It is believed that construction will enter the pile driving phase within two months.

Observations and information provided by EJPS staff during the visit indicated the following:

1. Hoarding wall made of metal grating, covered in some areas with plastic, has been erected to enclose the construction site. (Photos 1 and 2, Appendix)
2. Site activities at the time of the visit consisted of excavating ground from the trench by means of the excavator. (Photo 3)

3. EJPS Door #6 on the North West corner of the school exits very close to the construction site. Materials are stacked within the site against the hoarding grate. Sandbags have been placed along the bottom of the hoarding wall, presumably to make it more stable. (Photos 4,5 and 6)
4. There is an opening in the hoarding wall for entry and exit to the site on the west side of the project (Photo 7). This appears to be left open on a permanent basis and is not guarded.
5. Two bins are stacked against the hoarding wall about 1 meter from the western section of the school's north wall. The higher of these two bins (Photo 6) was reported to have been placed there after the episode of the bucket approaching the window, to form a barrier to protect the school. This bin is open at the top. As it was raining at the time of the visit, the bin was collecting rain water. It was not observed to contain any other materials (Photo 8).
6. While noise was not perceived to be very high at the time of the visit (55-65dBA), staff reported that noise in the classrooms and offices on the north side of the school has been high at times that it interfered with teaching and other voice communications. There is also concern that noise will be even higher when the project reaches the pile driving phase.
7. A generator was observed at the construction site close to some of the classrooms. Operations of the generator is also expected to produce high noise levels and diesel exhaust fumes (assuming it is a diesel-powered generator)
8. Staff also reported perceptions that indoor air quality has deteriorated and that levels of dust have increased since start of construction.
9. The school is air conditioned during hot weather so that it is not necessary to open the windows near the construction site. Air intakes for the school HVAC (Heating, Ventilation and Air Conditioning) system are on the roof approximately 1.5 to 4.5 meters from the north edge. Staff reported that the HVAC system is regularly serviced, including replacement of air filters.
10. Staff reported effects on the school attributed to vibration from the project. These included minor wall cracks and separation of panels from the frames of glass-enclosed cabinets on the ground floor, prompting removal of some of the glass panels (Photo 9)

## DISCUSSION

Information gathered during this visit indicates some risks that may be associated with the construction project. These include the following.

1. The area outside Door #6 may pose several safety hazards if children are present near the site. As the placement of sandbags suggests that the hoarding wall may be unstable, there is a danger that it may fall over, or the materials stored against this may fall. It is therefore advisable that a barrier be erected to prevent children from being close to the hoarding in this area. The barrier could be openable by TDSB staff and contractors, as staff need access to this area to remove waste and conduct other maintenance functions.
2. There is a risk that children may enter the site itself through the unguarded opening on the west side of the project. Steps should be taken to prevent this possibility, either through guarding the entry or keeping it closed to prevent unauthorized access. A less desirable option is to relocate the entry so that it is less accessible from the school.
3. Noise is likely to be high enough to interfere with teaching and communications during some project activities, including the pile driving that is projected to start this spring. Noise levels should be assessed and mitigation measures considered for the north side of the school.
4. There is a possibility of higher dust levels inside the school due to construction, although this is mitigated by the fact that windows can be kept closed, and the school is conditioned with filtered air. Dust levels should be evaluated to determine whether they are higher than expected.
5. While during the visit the excavator bucket was not observed to swing close enough to the school to present a danger, construction activities conducted close to the north side of the school pose a risk of injury or damage if equipment or materials strike the school wall or windows. Discussions should be held with the constructor about mitigating these risks, and consideration be given to installing barriers to protect the school.
6. Although materials are not being stored or placed in the bin that has been placed opposite the western area of the north school wall, concerns may arise that materials are being dumped into this bin. Furthermore, the bin was observed to be collecting rainwater. Accumulation of stagnant water or contamination of this water can be a hazard due to infestation by insects or other biological agents, especially as weather gets warmer.
7. There is a possibility that vibration levels are high enough to affect school structure.

While major effects are not expected, vibration should be assessed or information obtained from the constructor about measured vibration levels.

## CONCLUSION AND RECOMMENDATIONS

On the basis of this visit, ECOH concludes that there are risks associated with the project that should be assessed and mitigated. While further investigation is needed, at this time we offer the following recommendations:

1. The West Entrance:
  - a. The hoarding wall should be more rigidly secured such that it wouldn't be necessary to use sand bags to stabilize the hoarding wall.
  - b. A barrier should be installed enclosing the area adjacent to the project outside EJPS Door #6, to prevent children from accessing this area. The barrier can be openable by TDSB staff when they need access.
  - c. The constructor should be asked to take steps to prevent access by unauthorized persons through the entry point on the west side of the project.
2. The North face of the School: As there are glass windows on the north side, these windows are vulnerable spots for physical damage as well noise/sound transmission.
  - a. Physical Barriers: TDSB should hold discussions with the City, the constructor/Metrolinks regarding feasibility of a physical barrier to prevent equipment and materials from striking and damaging the school particularly the glass windows. (A meeting between the constructor and TDSB has been arranged for Friday, April the 13th, 2018 afternoon to discuss various options to provide physical barriers)  
Note: If the constructor retains a temporary barrier such as the bin that is now outside the north-west area of the school, it should be placed so that it is not open at the top. Water presently in the bin should be drained in a safe manner.
  - b. Sound Barrier: To design an appropriate sound absorbing treatment of the windows, it is imperative to determine the intensity of noise being generated which depends on the type of construction activity. TDSB in consultation with the subject matter experts and the contractor should investigate options to provide sound absorbing window treatments without unduly compromising the natural light that glass windows provide. In the meantime, TDSB is advised to request the City to require that high noise and vibration producing activities be conducted outside the school hours.
3. Indoor Air Quality (IAQ): Comfort, thermal factors including dust and noise, should be

evaluated periodically inside the school. The frequency and the depth of this evaluation should be based on the type of construction activity being performed.

- a. Noise inside the school should be evaluated when project noise levels are expected to be high. The constructor should be requested to, so far as possible, conduct high noise activities outside of school hours.
- b. The HVAC company should be advised to inspect and change filters more frequently especially after high dust producing construction activities.

Note: IAQ monitoring will start on Friday, April the 13<sup>th</sup> 2018.

ECOH thanks TDSB for the opportunity to be of assistance and will be happy to conduct further assessments as needed. Should you have any questions, please do not hesitate to contact me.

Yours truly,

**Environmental Consulting & Occupational Health**



Om Malik, PhD, PEng, CIH, ROH, FAIHA, QP<sub>RA</sub>

Principal and CEO

Appendix: Site Photographs



**Client Name:** TDSB

**Site Location:** Eglinton Jr.Public  
School, 233 Eglinton Ave. East

**ECOH Project No.:** 19133

**Photo No. 1.**

**Date:**

**April 12, 2018**

**Description:**

**Hoarding wall  
(metal grating)  
around LRT  
Construction site**



**Photo No. 2.**

**Date:**

**April 12, 2018**

**Description:**

**Plastic sheeting  
on metal grating  
around  
construction site**





**Client Name:** TDSB

**Site Location:** Eglinton Jr.Public  
School, 233 Eglinton Ave. East

**ECOH Project No.:** 19133

**Photo No. 3.**

**Date:**

**April 12, 2018**

**Description:**

**Excavator on  
construction site,  
view from third  
floor classroom  
window**



**Photo No. 4.**

**Date:**

**April 12, 2018**

**Description:**

**Grating in area near  
Door #6 showing  
material stored  
against/above  
hoarding wall**





**Client Name:** TDSB

**Site Location:** Eglinton Jr.Public  
School, 233 Eglinton Ave. East

**ECOH Project No.:** 19133

**Photo No. 5.**

**Date:**

**April 12, 2018**

**Description:**

**Closer view of  
material stored  
against/above  
hoarding wall near  
Door #6**



**Photo No. 6.**

**Date:**

**April 12, 2018**

**Description:**

**View of area outside  
Door #6 showing  
sandbags  
supporting hoarding  
wall and bin near  
school wall.**





**Client Name:** TDSB

**Site Location:** Eglinton Jr.Public  
School, 233 Eglinton Ave. East

**ECOH Project No.:** 19133

**Photo No. 7.**

**Date:**

**April 12, 2018**

**Description:**

**Opening in  
hoarding wall for  
entry/exit to site**



**Photo No. 8.**

**Date:**

**April 12, 2018**

**Description:**

**Top of bin seen  
from third floor  
classroom, showing  
water collecting  
inside**





**Client Name:** TDSB

**Site Location:** Eglinton Jr.Public  
School, 233 Eglinton Ave. East

**ECOH Project No.:** 19133

**Photo No. 9.**

**Date:**

**April 12, 2018**

**Description:**

Cabinet on floor one  
of school, glass  
removed due to  
settling attributed to  
vibration. Gap  
between frame and  
wall can be seen.

