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June 20, 2017 Ref. No.: 15-201-11

City of Ottawa
Planning, Infrastructure and Economic Development Department
100 Constellation Crescent, 6th Floor West
Ottawa, Ontario K2G 6J8

Attn: Mr. Ziad Ghadban, Manager CSST

RE: Air Quality Monitoring and Sampling at CSST Site 5, Stanley Park – June 12 to 18, 2017

Dear Mr. Ghadban:

The following letter memo summarizes the results of the air quality monitoring completed at the Stanley Park construction site (CSST Site 5) between June 12 and 18, 2017.

1 PARTICULATE MONITORING

Continuous monitoring of airborne particulates was completed using a DustTRAK DRK Aerosol Monitor 8533, equipped with telemetry to provide real-time, continuous records of particulate matter (PM) concentrations.

Starting on June 12, 2017, particulate monitoring was completed on a 24 hour, 7 day basis at two dedicated monitoring stations. Station 1 was established east of the shaft excavation area to capture particulate matter originating from the excavation and soil stockpile location. This station is downwind of the prevailing west wind direction. The second monitoring location, Station 2 was established in the northwest portion of the site, near the entrance from Queen Victoria Street. Ongoing stockpiling of material was noted at this location and it was identified as a suitable location for ongoing particulate monitoring.

2 APPLICABLE CRITERIA

The results of the air quality monitoring are compared to Ontario's Ambient Air Quality Criteria (MOECC, 2012). Relevant health related criteria (particulate) include the following:

- **$PM_{2.5}$ – 25 µg/m^3 (24 hour)**
- **PM_{10} – 50 µg/m^3 (24 hour)**

3 RESULTS

Table 1 presents the results of the average (mean) particulate concentration recorded at each monitoring station

Table 1 - Average Daily (24 hour) Particulate Concentration (June 12 to 17, 2017)

Date	Station 1 (µg/m³)		Station 2 (µg/m³)	
	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}
Monday, June 12, 2017	32	35	30	33
Tuesday, June 13, 2017	20	23	17	19
Wednesday, June 14, 2017	7	9	7	9
Thursday, June 15, 2017	7	9	11	15
Friday, June 16, 2017	16	17	15	15
Saturday, June 17, 2017	16	17	14	14

Higher particulate concentrations were noted at both air monitoring stations during periods of hot, humid weather on June 12 and 13. It was observed that the average overnight (June 12-13) $PM_{2.5}$ concentration at both stations remained relatively stable at approximately 30 to 40 µg/m³. The concentration of $PM_{2.5}$ measured on June 12 exceeds the 24-hour average criteria; however this concentration is considered representative of regional air quality during this time period. Furthermore, there were no observations of increased dust generation at the site on June 12.

Fine particulate matter ($PM_{2.5}$) is also recorded by the Ontario Ministry of the Environment and Climate Change (MOECC) at monitoring station located in Downtown Ottawa (Wurtemburg St./Rideau St.), approximately 1 km, east-southeast of the site. The MOECC monitoring station reported $PM_{2.5}$ concentrations approximately 10 µg/m³ higher than the average weekly baseline condition of approximately 5 µg/m³. The Downtown Ottawa station reported a peak $PM_{2.5}$ concentration of 24 µg/m³ at 11 am on June 12, which is consistent with the on-site monitoring.

With the exception of $PM_{2.5}$, measured on Monday June 12, all other particulate matter concentrations, as presented in Table 1, are below Ontario's AAQC.

4 COLLECTION OF LABORATORY SAMPLES

The following ambient air samples was collected during the week of June 12th at a downwind monitoring location for laboratory analysis:

- CSST-Site5-17-04 – Metals and Total Suspended Particulate (June 15, 2017)

The sample was submitted to Maxxam Analytics Inc. on June 16, 2017. Typical turnaround time is 10 business days. Results will be reviewed and forwarded upon receipt.

Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,
Geofirma Engineering Ltd.

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Geo-Environmental Engineer

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Attach.

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