

Committee of the Whole Report

DATE: Tuesday, May 07, 2019

WARD(S): 4

TITLE: MONITORING OF FIREWORKS AT EAGLES NEST GOLF CLUB

FROM:

Mary Reali, Deputy City Manager, Community Services

ACTION: FOR INFORMATION

Purpose

To summarize information collected by Vaughan Fire and Rescue Service (VFRS) staff while monitoring fireworks displays at Eagles Nest Golf Club, located at 10,000 Dufferin Street. Staff monitored the displays in 2018 based on the recommendation from Item 10, Report 2, of the Committee of the Whole that was adopted by Council on January 30, 2018.

Report Highlights

- Fourteen fireworks display permits were issued to Eagles Nest in 2018
- Ten permits were on a Saturday, two were on a Sunday, and two were on a Friday.
- All permits were issued for short 5-minute durations.
- All firework displays ended before 10:00 p.m.
- The exterior sound level at the nearest home (approximately 307 m away from the firing site) can be compared to a handheld drill (between 94 dBA and 98 dBA) for the loudest bursts, and that of a snow blower (85 dBA) for the average burst.
- No complaints received since deputation at the Committee of the Whole on January 23, 2018.

Recommendation

1. That this report be received for information.

Background

Executive Summary:

A deputation received at the Committee of the Whole on Jan 23, 2018 raised concerns regarding noise levels from fireworks displays held at Eagles Nest Golf Club. The concerns expressed were with regards to quantity of events, frequency, day of the week, time of day, perceived sound levels, and the impact to residents in nearby homes. The Committee of the Whole recommended “that staff continue monitoring the situation of fireworks displays at Eagles Nest Golf Centre Banquet Hall.”

This report details information collected while continuing to monitor firework displays. All permits were tracked, and staff made field observations and recorded sound level measurements for half of the events.

Day of the week and frequency (2018):

A total of fourteen fireworks display permits were issued to Eagles Nest Golf Club on:

- Sunday March 18
- Friday April 20
- Saturday May 19
- Saturday May 26
- Saturday June 2
- Saturday June 9
- Saturday June 29
- Sunday July 8
- Saturday July 21
- Friday July 27
- Saturday August 11
- Saturday August 18
- Saturday October 6
- Saturday November 3

Duration and time of day (2018):

All fireworks display permits at Eagles Nest Golf Club were issued for short 5-minute durations and were required to start between 9:00 p.m. and 9:55 p.m.

Total fireworks display permits issued for the entire City in 2018

Compliance with Fireworks Bylaw 142-2006:

The fireworks display permits comply with Fireworks Bylaw 142-2006 and more specifically with Section 12 that requires the display to be further than 300 m from:

- explosives, gasoline, or other highly flammable liquid or gas substances or compounds that are manufactured or stored in bulk,
- hospitals,
- nursing homes,
- homes for the aged,
- churches,
- and schools.

Compliance with Noise Bylaw 62-2018

Fireworks display permits for Eagles Nest Golf Club comply with Noise By-law 62-2018. The bylaw prohibits fireworks displays in residential areas from 11:00 p.m. of one day until 7:00 a.m. the next day (9:00 a.m. on Sundays), and they are entirely prohibited in designated quiet zones. A quiet zone is defined as all lands located within a distance of 250 m of all exterior walls of a hospital, nursing home, or senior's retirement facility. There are no designated quiet zones near Eagles Nest Golf Club.

Formal complaints received in 2018 and 2019

No formal complaints regarding fireworks at Eagles Nest Golf Club have been received by By-law and Compliance, Licensing and Permit Services or the Vaughan Fire and Rescue Service since the January 23, 2018 Committee of the Whole.

Fireworks display location, point of observations, and relative location of nearest homes:

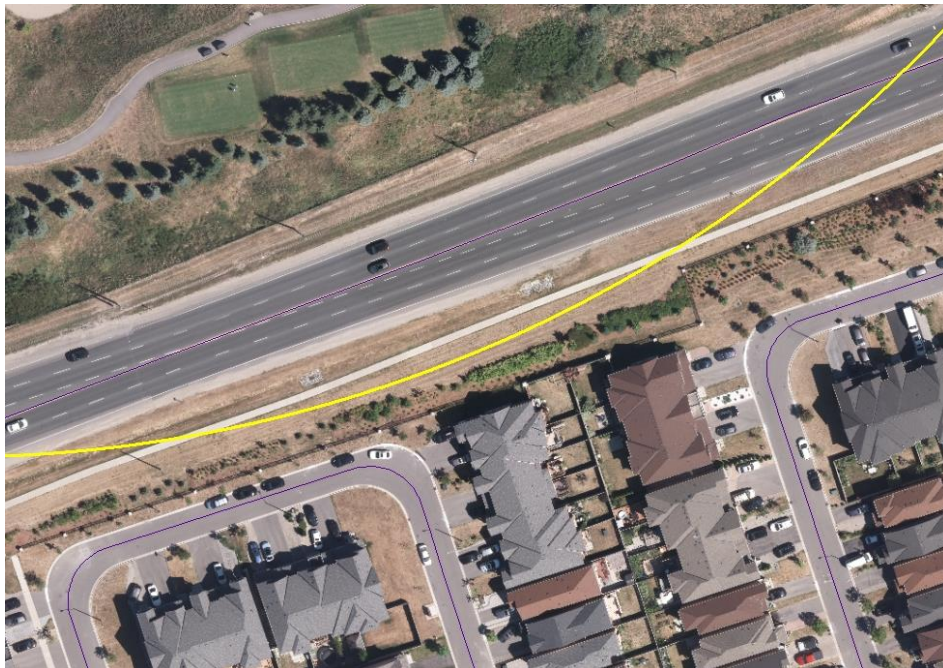
Although neither Fireworks Bylaw 142-2006 nor Noise Bylaw 62-2018 have requirements for a minimum distance between a fireworks display and a residential zone, field observations and measurements were taken at a point 300 m from the firing site and more than 300 m from the approximate burst area. The 300 m radius was selected based on the more restrictive requirements in the Fireworks Bylaw for distances from hospitals, nursing homes, etc. The 300 m radius is also more restrictive than the 250 m distance required from quiet zones in the Noise Bylaw.

Figure 1



The top circle is a 300 m radius around the approximate point where the fireworks are being aimed and are expected to burst. The bottom circle is a 300 m radius around the firing site.

Figure 2



The arc is the magnified edge of the 300 m radius around the firing site that is also shown in Figure 1

Figure 3



Distance from firing site to the point where field observations and sound level measurements were made.

Figure 4



Magnification of Figure 3. The "X" marks the spot where all field observations and sound level measurements were made.

Field observations and exterior sound level measurements at the time of events:
Staff attended seven of the fireworks displays at Eagles Nest Golf Club and recorded the information in Table 1.

Table 1

Date (m/d/y)	Ambient Average (dBA)	Ambient Highest (dBA)	Fireworks Highest (dBA)	# of bursts at highest (dBA)	Average during event (dBA)	Time Fireworks Started	Time Fireworks Ended	Fireworks Duration
04/20/18	64.4	74.6	95	12	82	9:30 PM	9:39 PM	0:09
05/26/18	61.3	93.6	93.5	1	80.8	9:30 PM	9:35 PM	0:05
06/02/18	65.8	78	95.6	15	81	9:41 PM	9:47 PM	0:06
06/09/18	69	88.1	97.8	5	89	9:40 PM	9:47 PM	0:07
06/29/18	68	73	98	9	90	9:46 PM	9:52 PM	0:06
07/08/18	64.2	69.1	94.4	8	78.2	9:42 PM	9:47 PM	0:05
08/18/18	59.1	60.2	95	12	83	9:40 PM	9:47 PM	0:07
Average	64.5	76.7	95.6	8.9	83.4	9:38 PM	9:44 PM	0:06

Ambient Average (dBA)

The average decibel reading in the area taken over a continuous couple minutes prior to the start of the fireworks.

Ambient Highest (dBA)

The highest peak decibel reading in the area taken over a continuous couple minutes prior to the start of the fireworks.

Fireworks Highest (dBA)

The highest peak decibel reading in the area taken over the course of the entire fireworks display.

of bursts at highest (dBA)

The approximate quantity of momentary bursts that obtained the highest decibel reading during the entire fireworks display.

Average during event (dBA)

The average decibel reading of bursts in the area taken over the course of the entire fireworks display.

Noise level comparison

50 dBA= light traffic, refrigerator
60 dBA = conversational speech, air conditioner
70 dBA = shower, dishwasher
75 dBA = toilet flushing, vacuum cleaner
80 dBA = alarm clock, garbage disposal
85 dBA = passing diesel truck, snow blower
90 dBA = squeeze toy, lawn mower
95 dBA = inside subway car, food processor

100 dBA = riding a motorcycle, handheld drill
115 dBA – emergency vehicle siren
120 dBA = thunder
160 dBA = shotgun

Previous Reports/Authority

[Item 10, Report No. 2 of the Committee of the Whole, \(approved by Council January 30, 2018\)](#)

[Fireworks By-law 142-2006](#)

[Noise By-law 62-2018](#)

Analysis and Options

Compliance with permit requirements:

Duration

Firework displays averaged six minutes in duration and is a minor variance from the five-minute duration listed on all permits.

Time

All firework displays observed by staff ended prior to 10:00 p.m. in conformance with the permit requirements.

Impact of sound levels:

Sound level measured at 300 m away in open air

- On an average of nine times per event, the loudest momentary firework bursts were slightly less than sound level of a handheld drill.
- The average sound level of the firework bursts was equivalent to a snow blower.
- The sound level in the area prior to the fireworks averaged the sound level of an air conditioner, although at times peaked the sound level of a lawnmower.

Nearest home

The nearest home in the subdivision is south of Major Mackenzie Drive and is approximately 307 m to the firing site – actual firework bursts would be further than this.

Adjusting for distance

Doubling the distance reduces the dBA reading by approximately 6 dBA.

Financial Impact

N/A

Broader Regional Impacts/Considerations

N/A

Conclusion

Firework displays observed by VFRS staff at Eagles Nest Golf Club were in general compliance with the requirements of permits issued in 2018. Fourteen permits were issued – ten were on a Saturday, two were on a Sunday, and two were on a Friday. The fireworks that staff observed averaged six minutes in length and were all completed prior to 10:00 p.m.

No formal complaints have been received by By-law and Compliance, Licensing and Permit Services or the Vaughan Fire and Rescue Service since the Committee of the Whole on January 23, 2018.

The exterior sound level at the nearest home (approximately 307 m away from the firing site) can be compared to a handheld drill (between 94 dBA and 98 dBA) for the loudest bursts, and that of a snow blower (85 dBA) for the average burst.

For more information, please contact: Fire Chief Deryn Rizzi, extension 6301

Attachments

N/A

Prepared by

Darren Lynch, Chief Fire Prevention Officer, extension 6314