

REPORT

Climate Action, Planning and Development and Engineering Services

To: Mayor Cote and Members of Council **Date:** February 14, 2022

From: Serena Trachta
Acting Director of Climate Action,
Planning and Development **File:** 05.1020.20

Lisa Leblanc
Director of Engineering

Item #: 2022-104

Subject: Construction Noise Bylaw Exemption Request: 660 Quayside Drive (Bosa Development)

RECOMMENDATION

THAT Council grant an exemption from Construction Noise Bylaw No. 6063, 1992 to Bosa Development on Friday March 11, 2022 from 6:00 AM to Saturday March 12, 2022 to 9:00 AM to enable a monolithic concrete pour for the creation of the East Tower foundation.

and

THAT Council grant an exemption from Construction Noise Bylaw No. 6063, 1992 to Bosa Development for either Friday March 18, 2022 from 6:00 AM to Saturday March 19, 2022 at 9:00 AM OR Friday March 25, 2021 from 6:00 AM to Saturday March 26, 2021 at 9:00 AM to enable a monolithic concrete pour for the creation of the East Tower foundation if unfavorable weather conditions prohibit the work from occurring on the weekend of Friday March 11, 2022.

PURPOSE

To seek Council's approval for an exemption from Construction Noise Bylaw No. 6063, 1992 to enable Bosa Development to conduct an overnight monolithic concrete pour for the creation of the East Tower foundation at Pier West Development located at 660 Quayside Drive.

BACKGROUND

Project Description

Pier West by Bosa Development is one of the tallest waterfront residential properties in the Lower Mainland. It is set within an 11 acre site on the City's celebrated riverfront boardwalk and connects the downtown with Westminster Pier Park.

The land at 660 Quayside (also known as the Larco site) was sold and in 2016, Bosa Development applied to revise the Master Plan to allow for two residential high rises and one commercial building. This proposal was approved by Council in 2017. The residential high rises will be forty-three and fifty-four storeys. The three storey commercial building will accommodate childcare and retail.

Features of the new plans include: approximately two acres of additional park and public open space, including an extension to Westminster Pier Park, a public plaza and esplanade space; the missing riverfront link between the Fraser River Discovery Centre and Westminster Pier Park; a fully accessible pedestrian and cyclist overpass at Sixth Street (complete); and improved pedestrian and cyclist access to the riverfront via Begbie Street.

Bosa Development proposes to conduct one overnight concrete pour for the creation of the foundation of the East Tower at Pier West Development located at 660 Quayside Drive to occur sometime between Friday, March 11, 2022 and Saturday, March 26, 2022.

DISCUSSION

Construction Schedule

Bosa Development has confirmed that the monolithic pour of 4500 cubic meters for the East Tower core needs to occur as one single continuous event estimated to take approximately 24 hours. Bosa's engineers report that the core footing needs to be a monolithic slab as it will be located below the water table due to its close proximity to the South Fraser River. Splitting the pour over two days is not recommended as it would result in a seam within the slab and introduce concerns regarding future water seepage issues due to hydrostatic pressures. The seam also would introduce a risk of water migrating into the elevator shaft. Those risks are eliminated by conducting one continuous pour. Photographs and map showing the location of the work relative to the development can be found in Appendix A.

During the pour there will be four concrete pump trucks located around the foundation area of the work site. Concrete will be supplied by approximately 19 concrete supply trucks per hour for a total load of 429 trucks during the duration of the entire concrete pour.

Bosa would like to begin the pour on Friday March 11, 2022 at 6:00 AM (one hour earlier than permitted hours) and continue around the clock to 9:00 AM on Saturday March 12, 2022 (13 hours past the end of permitted hours). The length of the proposed

pour will allow one continuous pour and will provide a buffer for any unforeseen delays such as weather conditions, supply of concrete materials, settling of concrete poured at site.

Staff have carefully considered this request and how the construction objectives can be met in the manner most conducive to local residents' ability to rest. It was determined an overnight pour involving early morning noise disruptions of two consecutive mornings occurring on a Friday/Saturday was preferable to any other two morning combination.

If the concrete pour is delayed from Friday March 11, 2022, Bosa requests an exemption to enable them to pour for a similar extended period at some point over the next subsequent 14 day period ending Saturday March 26, 2022.

Transportation Impact

Due to the fact that access to and from the pour site will be the same for the monolithic pour of the east core footing as it was for the west core footing, the Traffic Management Plan will be a replication of the successful Traffic Management Plan utilized previously for the monolithic pour of the west core footing. A minor update regarding additional concrete truck staging at the 600 & 700 block of Quayside Drive has been included for this pour event.

As it was previously, during this pour of the east core footing, impact to pedestrian access to and from the River Market area is expected to be minimal. A temporary closure of the 600 & 700 block Quayside Drive to motor vehicles will be required to facilitate the movement of concrete trucks to and from the site and use as a truck staging area. However, this will not impact the sidewalks along Quayside Drive nor the crosswalk in front of Discovery Centre. With the increased truck traffic, a Traffic Control Person (TCP) will be directing pedestrian traffic and asking cyclists to dismount. Other pedestrian walkways at Hyack Square and McInnes Street Overpass will remain unaffected.

Quayside Drive is a shared bicycle facility with a speed limit of 30km/h. Although a cycling connection will remain on Quayside Drive, additional traffic is anticipated when there is a train event at Begbie Street. Up to 19 concrete trucks per hour are expected to detour through Quayside Drive. Truck operators will be instructed and expected to safely share the road with cyclists. A cyclist detour will be provided around the proposed work zone via McInnes St. Overpass, Carnarvon Street and Begbie Street. For cyclists that continue through the work zone on Quayside Drive, they will be asked to dismount and walk their bike across the north sidewalk.

The #103 bus route will not have any bus stop closures but may experience some minor delays due to additional congestion on Quayside Drive and the McInnes Street Overpass during peak times as a result of diverted traffic.

Regarding vehicle traffic, an anticipated 429 concrete trucks will enter and leave the Bosa site at Begbie Street for the duration of the pour. These concrete trucks will primarily enter the site at Begbie Street via westbound Front Street and exit the site on to Begbie Street and turn east onto Front Street. As noted previously, Begbie Street south of Front Street and the 600 & 700 block of Quayside Drive will be closed to motor vehicle traffic for the duration of the pour.

Front Street is classified as an arterial road with one motor vehicle travel lane in both eastbound and westbound directions. In addition, Front Street is a 24-hour truck route and is an important corridor for the movement of goods in the region. Based on the latest traffic count data from 2018, this section of Front Street carries weekday peak AM volumes averaging approximately 570 vehicles per hour and peak PM volumes averaging 625 vehicles per hour. On Saturdays, the AM peak volume is 690 vehicles per hour and the PM peak volume is 780 vehicles per hour. It should be noted that vehicle volume does start to increase on Front Street from 6:00 AM onwards. After 6:00 PM, the average vehicle volume lowers approximately 15% every hour to a low of 66 vehicles per hour between 3:00 AM and 4:00 AM. There is no transit service on this section of Front Street.

Begbie Street is classified as a local road with one motor vehicle travel lane in both northbound and southbound directions. Based on the latest traffic count data from 2014, this section of Begbie Street - Quayside Drive has weekday peak AM volumes averaging approximately 80 vehicles per hour and peak PM volumes averaging 120 vehicles per hour. On Saturdays, the volume is slightly higher with the AM peak at approximately 120 vehicles per hour and the PM peak at 150 vehicles per hour respectively. A review of the traffic volume characteristics during the requested extension hours before 7:00 AM and after 8:00 PM indicates that traffic volumes are significantly lower than during the peak periods, particularly from 10:00 PM to 6:00 AM. There is no transit service on this section of Begbie Street.

Quayside Drive is classified as a collector road with one motor vehicle travel lane and one parking lane in both eastbound and westbound directions west of McInnes Overpass. It is also a shared bicycle facility in both directions with a speed limit of 30 kmh. Based on the latest traffic count data from 2018, Quayside Drive has weekday peak AM volumes averaging approximately 220 vehicles per hour and weekday peak PM volumes averaging 390 vehicles per hour. Weekend peak AM volumes are approximately 240 vehicles per hour and weekend peak PM volumes are 260 vehicles per hour respectively. The #103 bus uses the McInnes St overpass and Quayside Drive to service the neighborhood.

Adding to the complexity of this operation is the presence of rail crossings. There are three railways that intersect Begbie Street and Front Street. These railways are owned and operated by Southern Railway, Canadian Pacific and Canadian National. There is a single railway crossing Front Street at Fourth Street operated by Southern Railway. The latest train count available for Canadian Pacific and Canadian National, taken from Front Street at Fourth Street in 2020 suggests an average of seven train events during the weekdays and an average of six train events on Saturdays between the hours of 6:00 AM and 9:00 PM. These train events ranged from three rail cars up to 103 rail

cars; therefore the duration for a train crossing may also vary greatly. Train count data for Southern Railway was not available at the time of writing this report but Bosa's traffic consultant was advised their trains typically do not cross Front Street on Saturdays.

Train events at either crossing will disrupt the monolithic pour and will immediately require an alternate route as each concrete truck has a 90-minute window for delivery before the concrete falls out of its minimum specifications for use in core footings:

- During a train event at the Begbie Street crossing, truck access to the site will not be available via Begbie Street. Concrete trucks will detour and access the site via Stewardson Way, Third Avenue Overpass and Quayside Drive and vice versa when trucks must leave the site. As it is critical that the monolithic concrete pour is continuous, this detour through the Quayside neighborhood is necessary and must be utilized when Begbie Street is unavailable; however, it will only be used when there is a train event at Begbie Street and returned to the primary route as soon as the train event has cleared. Bosa's traffic consultant has performed an analysis to show that concrete trucks can successfully navigate this route. In addition, TCPs will be stationed at the Third Ave overpass and Quayside Drive at K de K Court to safely manage motor vehicle and cyclist traffic in the presence of these trucks.
- During a train event at the Front Street crossing, concrete trucks will be diverted away from Front Street at E. Columbia Street to take McBride Boulevard, Royal Ave, Columbia Street, back to Front Street and vice versa for concrete trucks leaving the site.

To coordinate and manage train events, Bosa will contract staff from CN & CP to work in conjunction with their TCPs and traffic engineer to communicate and direct concrete trucks as required.

If onsite staging areas are fully occupied, to prevent truck traffic from queuing through Quayside Drive and to minimize disturbance to the neighbourhood, any waiting concrete trucks will be staged nearby on 14th Street but outside the Quayside neighbourhood and released in an evenly-timed, continuous manner to the site through the Traffic Control Supervisor.

It is proposed that the traffic signal at Begbie Street and Front Street be put into flash during the pour operation to facilitate movement of the concrete trucks to and from the site as well as to keep the flow of trucks and goods moving along Front Street. Vehicle movement will be controlled by experienced TCPs along with a Traffic Control Supervisor.

Putting the signal under TCP control is necessary for several important reasons:

- Left turns are prohibited for westbound traffic on Front Street. TCPs will allow the anticipated 19 concrete trucks arriving per hour to make the left turn onto Begbie Street and prioritize their movement to and from the site to prevent congestion on Front Street;

- TCPs can monitor and manage any queuing on Front Street or Begbie Street while also prioritizing emergency access vehicles, if needed;
- TCPs can direct the concrete trucks to the Third Avenue Overpass detour should train operations interfere with their concrete deliveries; and
- TCPs can follow and operate under an approved Traffic Management Plan and ensure a safe operation of this construction activity.

To assist in directing customers and deliveries to the River Market businesses during the pour operation, a TCP will be stationed at the intersection of K de K Court and Quayside Drive and additional wayfinding signage will be placed at decision points for motorists.

In addition to the Metro Vancouver Interceptor Rehabilitation project on Columbia Street and the associated impacts there, with proper traffic management coordination, Transportation staff do not anticipate these coinciding projects to directly affect each other significantly. Transportation staff will perform a final review of the traffic management plan at the Street Occupancy Permit application stage. It should be noted that a similar traffic management plan was implemented for the monolithic pour of the west tower and was considered very successful.

Although the variance to extend the available hours for the concrete pour may increase the possibility of noise in the early morning and late evening, the need for a continuous concrete pour is critical. Given the scope and duration of work, the ability to maintain walking and biking connections, limited impacts to transit, and the successful execution of the monolithic pour of the west tower previously, City staff consider the requested exemption to be reasonable under these circumstances.

Noise and Light Impact

Pump trucks setting up and concrete supply trucks arriving on site will create construction noise. The work will include coordination between the four pump trucks and approximately 19 concrete supply trucks per hour bringing concrete supplies to the site. Noise will also occur from back-up beepers as vehicles position themselves on site for the duration of the pour. Noise may also result from the use of hand tools by construction workers.

Bosa Development has committed to the following noise mitigation measures:

- ensuring all equipment is in good operating order;
- operating equipment at minimum engine speeds consistent with effective operation;
- educating and supervising construction personnel to ensure potential noises are minimized;
- avoiding unnecessary idling, revving, use of airbrakes and banging of tail gates;
- turning off equipment when not in use;

- having a contact person available to respond to any calls from affected residents and businesses; and
- performing spot checks using hand held noise monitors.

During the overnight time of the concrete pour the Bosa site will be lit with flood lights for construction workers' safety and for crews to be able to perform their tasks in relation to the concrete pour. While a direct intrusive light into neighbouring residences and businesses is not anticipated, there may be some reflections of light towards the nearby properties. Bosa will do their best to keep any light reflection to a minimum. Appendix B shows lighting map for the Bosa site.

Notification

Advance notification will be provided to nearby residents and businesses according to Bosa's community engagement protocol. This will include:

- posting information and updates to the Bosa Development website at www.660QuaysideDr.com;
- sending direct emails to approximately 200 business and resident stakeholders; and
- conducting a mail drop to residents and businesses in the following locations:
 - 300 to 700 Block of Front Street (north side);
 - 300 to 700 Block of Columbia Street (north and south side);
 - 400 to 700 Block of Clarkson Street (north and south side);
 - 400 to 700 Block of Carnarvon Street (south side); and
 - 20 to 40 Block of Sixth Street (east and west side).
 - 1 to 10 Block of Renaissance Square (all properties);
 - 8 to 12 Block of Laguna Court (all properties);
 - 30 Block of Reliance Court (all properties);
 - 3 to 15 Block of K De K Court (all properties);
 - 700 to 1400 Block of Quayside Drive (north and south side).

A notification map can be found in Appendix C and a sample of notification letter can be found in Appendix D.

Staff have carefully considered Bosa's request for a 27-hour concrete pour event for the weekend and weekdays, have consulted with businesses on Quayside Drive, reviewed the traffic impact study, and are aware of residents still working from home due to the ongoing Covid-19 pandemic and present to Council the following options with their recommendation.

OPTIONS

The following options are presented for Council's consideration:

1. That Council grant an exemption from Construction Noise Bylaw No. 6063, 1992 to Bosa Development on Friday March 11, 2022 from 6:00 AM to Saturday March 12, 2022 to 9:00 AM to enable a monolithic concrete pour for the creation of the East Tower foundation.

and

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2. That Council provide staff with alternative direction.

Staff recommends Option 1.

ATTACHMENTS

Appendix A: Area of Proposed Work
Appendix B: Lighting Map for the Bosa Site.
Appendix C: Map of Construction Notification
Appendix D: Sample of Notification Letter

APPROVALS

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