

## SHADOW STUDIES

**1110 LORNE PARK ROAD  
MISSISSAUGA, ONTARIO**

AUGUST 2018

**eka**

EUGENE KUAN ARCHITECT  
1 WEST PEARCE STREET  
RICHMOND HILL, ON. L4B 3K3  
T:(905) 882-8817 F:(905) 882-8918

## INTRODUCTION

This property is located at the south west corner of Lorne Park Road and Albertson Crescent. The site is surrounded by streets on north, east and south side and is neighbouring a detached residential bangalo on the west side (1221 Bramblewood Lane). The proposed developement faces a 2 storey commercial building (1100 Lorne Park Road) detached residential bangalo (1087 Albertson Cres.) at the east side of Albertson Cres. A one story commercial building is located on the north side of Lorne Park Road.

## GENERAL INFORMATION

Property's coordination is taken from the City of Mississauga maps.

Latitude: 43° 31' 52.26" N

Longitude: 79° 36' 48.03" W

North Determination:

ArcGIS version of City of Mississauga map on which north direction is perpendicular to horizontal line.

Dates and Times:

Shadow Studies and Analyses are conducted for the following dates:

- June 21
- September 21
- December 21

Time Zone:

Eastern Standard Time: GMT– 5 hour

One hour of daylight saving time for June & Sep. 21st

Test Time:

- Solar Noon (SN)
- Hourly intervals before and after Solar Noon (SN)
- Start time:1.5 hours after sunrise
- End time:1.5 hours before sunset

Base map and Shadow Determination:

Online map of the City of Mississauga is used for base map. the scale is confirmed with the Survey drawings.

A 3d Model of the building was created in AutoCAD and located on the base map. Building shadow is determined by the program with given location, date and time information.

## **REQUIRED CRITERIAS**

### RESIDENTIAL PRIVATE OUTDOOR AMENITY SPACES

Proposed development shadow has impact the residential property at the west side of the site.

On June 21st, No Impact Zone (NIZ) is in the shadow from the start of test time, 7:07am. By 9.20 am 94% of NIZ is out of the shadow. NIZ is completely clear at 9.50. Duration of shadow impact is 13 minutes over the permitted time for 94% clearance and 43 minutes for total clearance.

On Sep. 21st, half of the NIZ is in the shadow at the start time of test, 8.35 am, and by 10.12 only a small portion of NIZ is in the shadow and NIZ is in the sun at 10.35. The shadow impact complies with this criteria on this day.

### PUBLIC REALM

#### **LOW AND MEDIUM DENSITY RESIDENTIAL STREET:**

On Sep. 21st, the proposed building has no impact on the streets located on the north and south side.

There is no sidewalk on the opposite side of Albertson Cres. The opposite side of street is in full sun all morning, at 3:12 pm and 4:12 pm. but it is in shadow at 5:12.

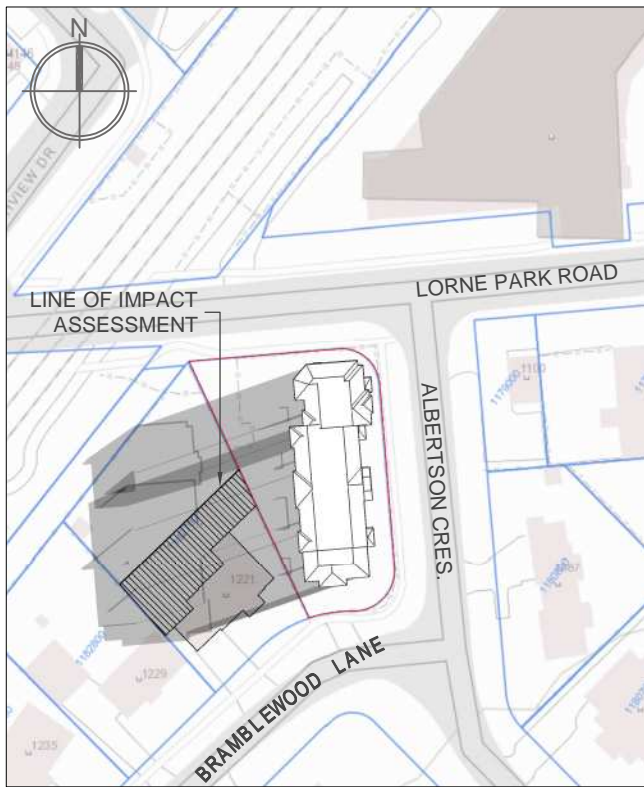
#### **MIXED USE, COMMERCIAL, EMPLOYMENT AND HIGH DENSITY RESIDENTIAL STREETS:**

The opposite boulevard at Albertson Cres. is in full sunlight from 9:12 am to 2:12 pm. Requirement of this criteria is met.

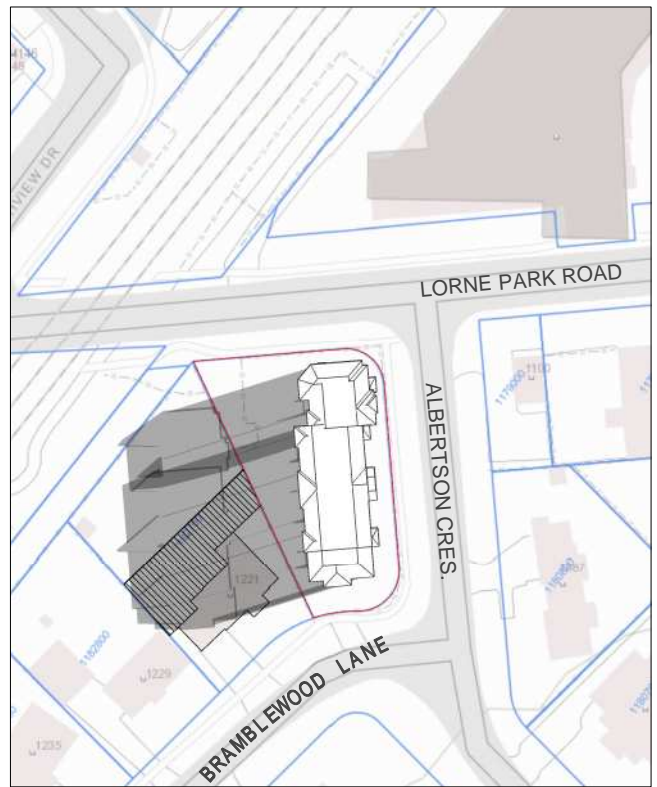
### BUILDING FACES TO ALLOW FOR THE POSSIBILITY OF USING SOLAR ENERGY:

On Sep. 21st, the roof of 1221 Bramblewood lane is partially in shade, for less than 2 hours, from the start of test time (8:35 am) until 10:12 am. There is minor shadow on the roof and front face of 1087 Albertson Cres. for a few minutes at the end of the test time.

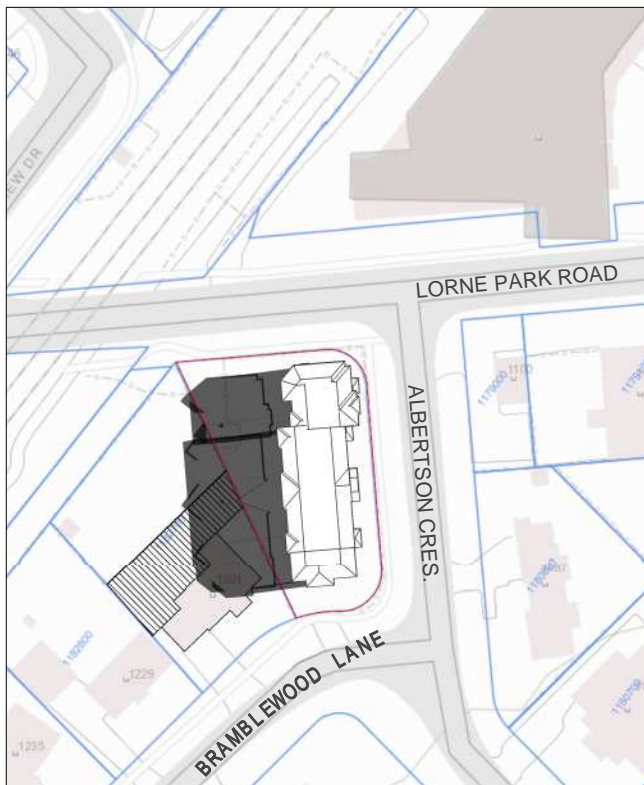
Requirements of this criteria is met.



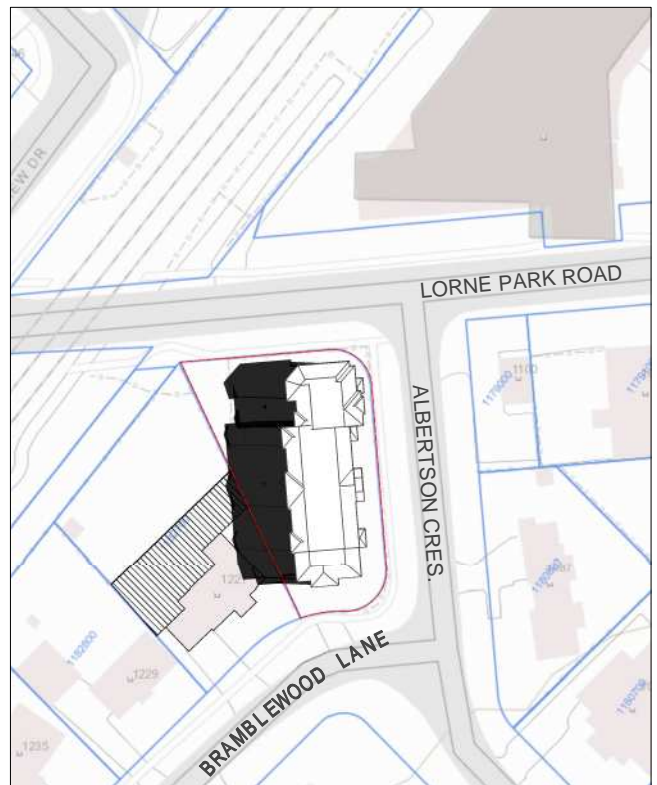
TIME 7:07 AM (RISE +1.5 HR)



TIME 7:20 AM



TIME 8:20 AM



TIME 9:20 AM

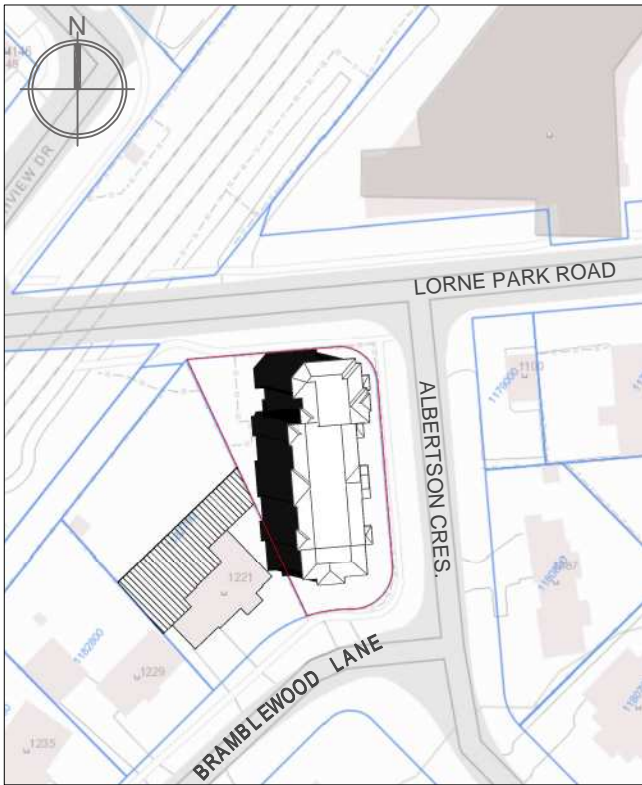
DATE: JUNE 21

 RESIDENTIAL NO IMPACT ZONE

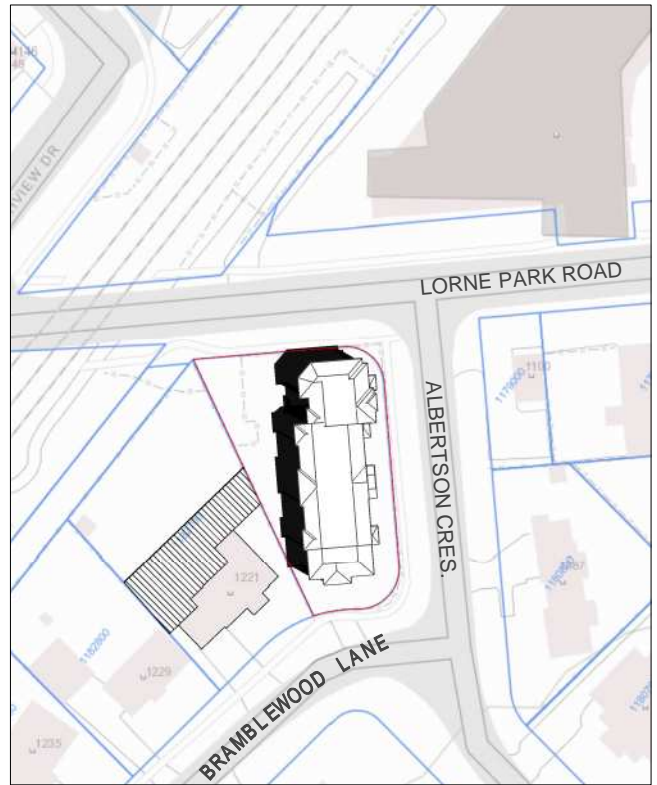
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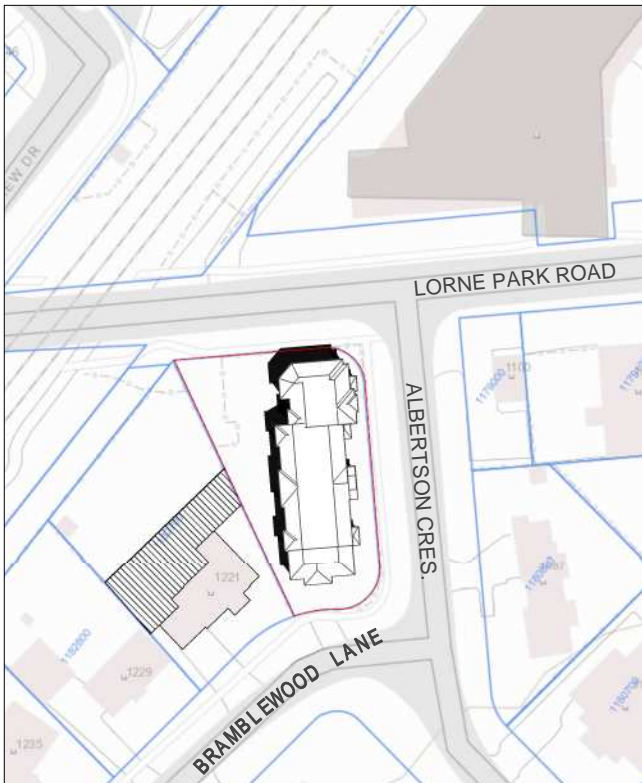




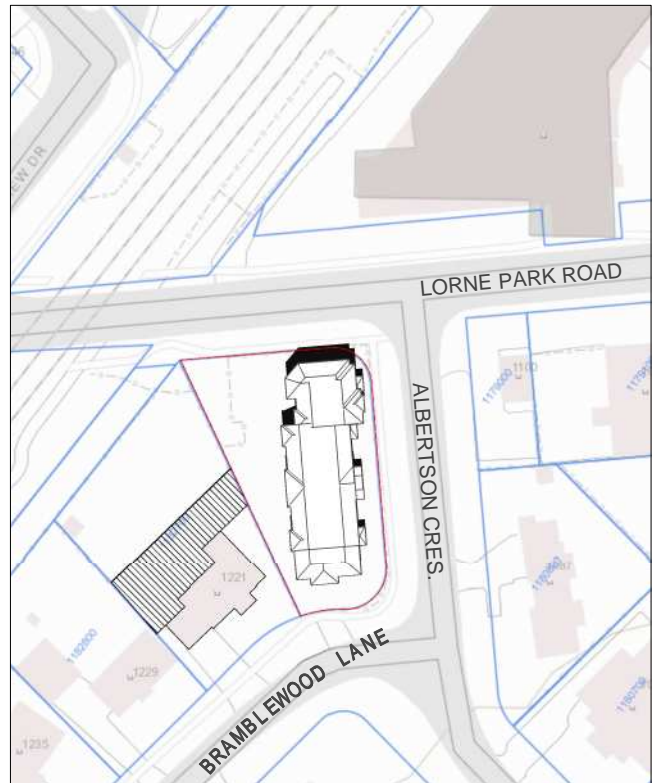
TIME 10:20 AM



TIME 11:20 AM



TIME 12:20



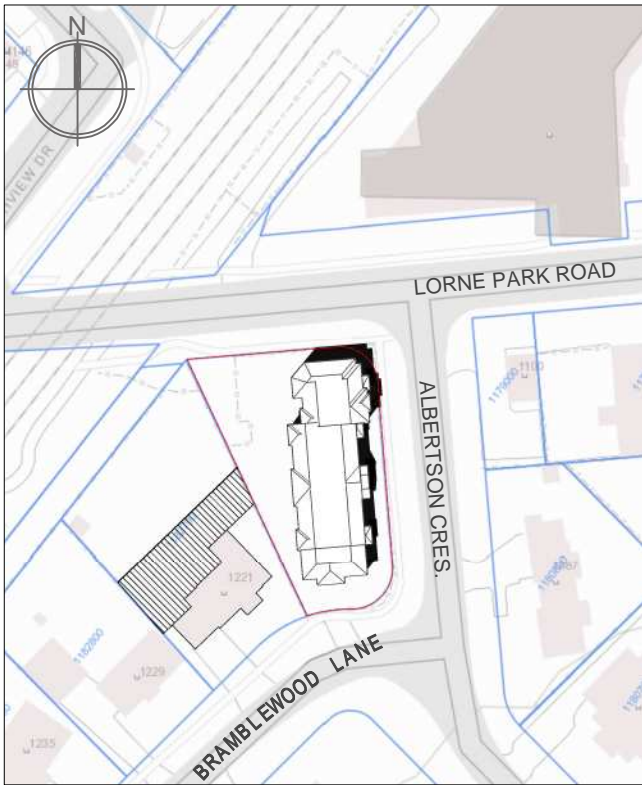
TIME 13:20 (SOLAR NOON)



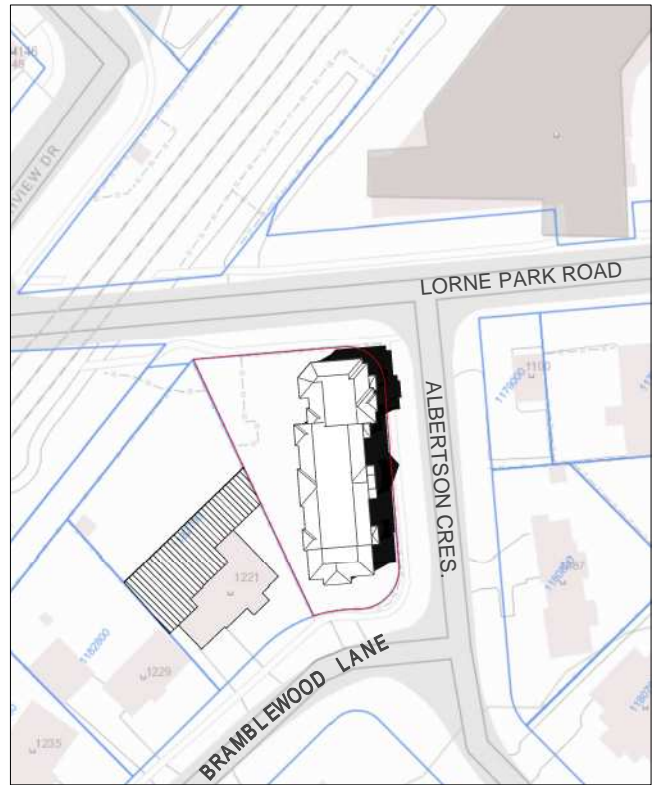
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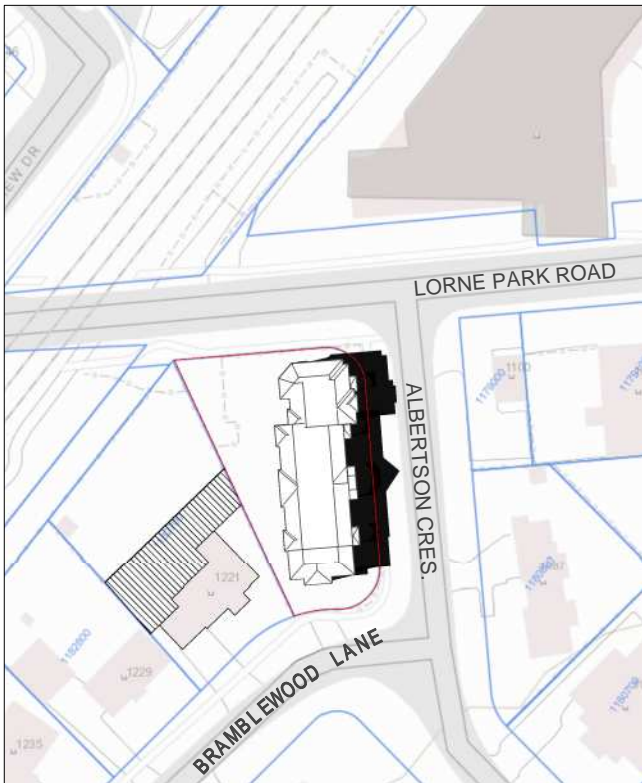
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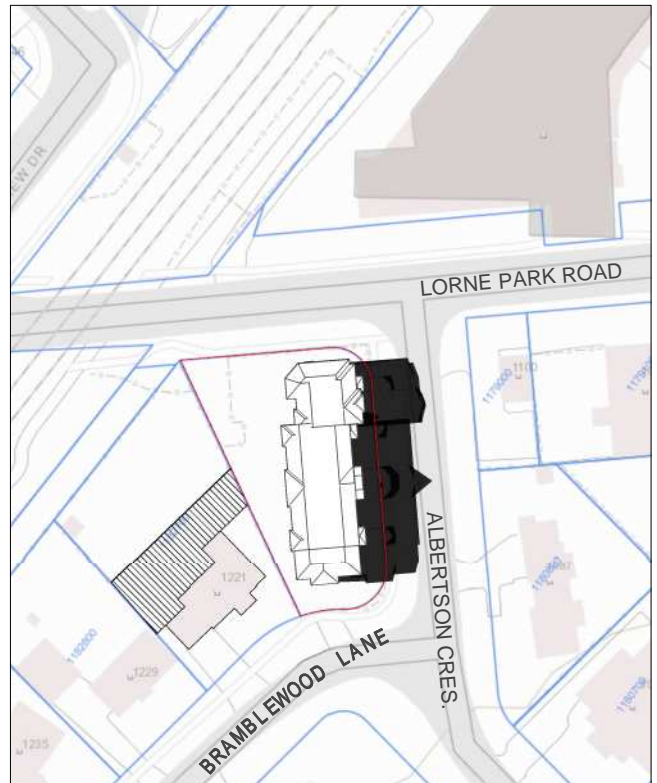
TIME 14:20



TIME 15:20



TIME 16:20



TIME 17:20

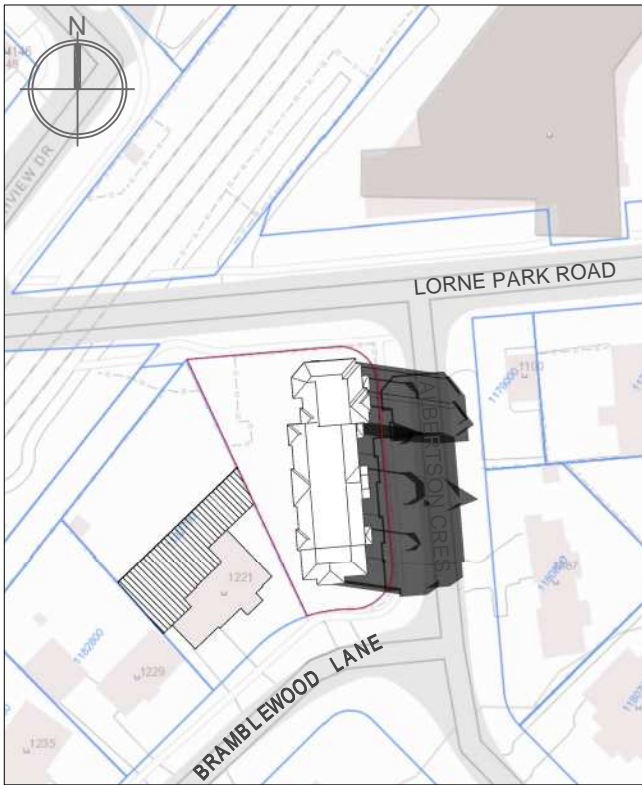
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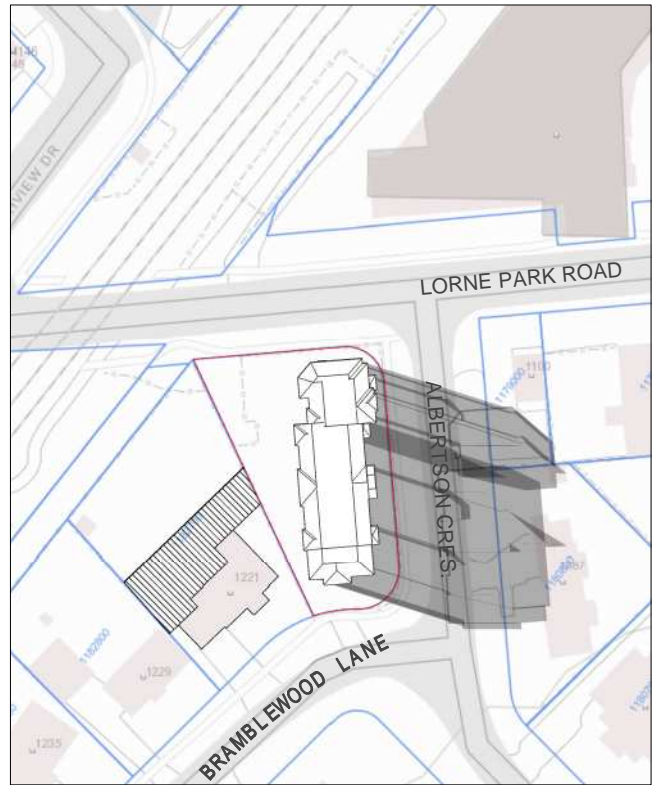
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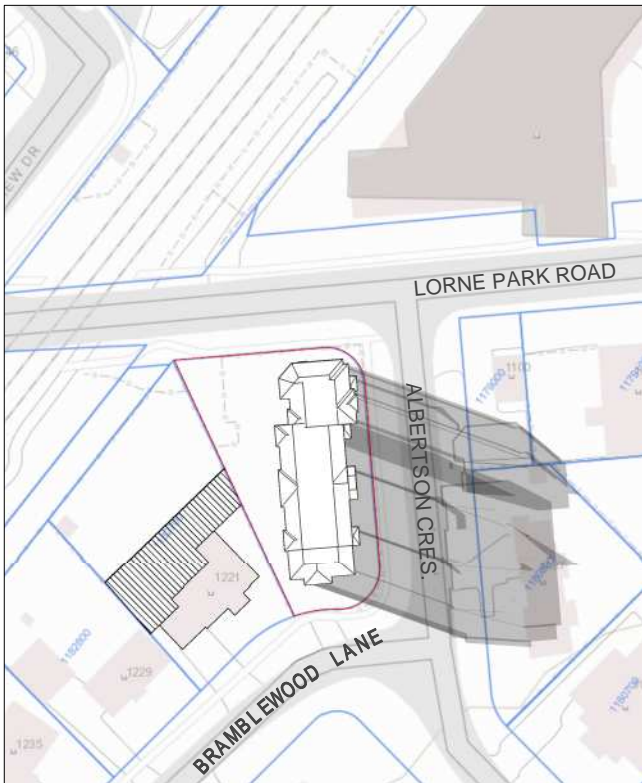




TIME 18:20



TIME 19:20



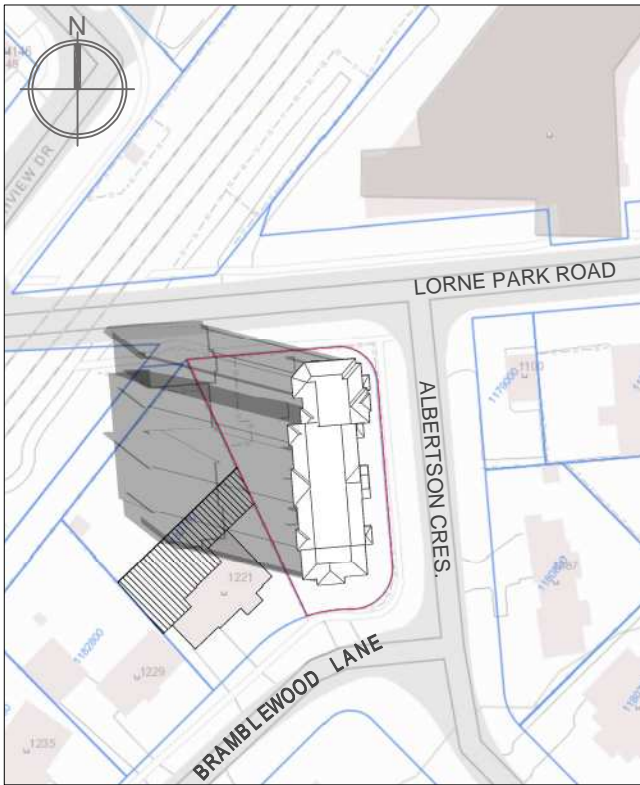
TIME 19:33 (SUNSET -1.5 HR)

DATE: JUNE 21

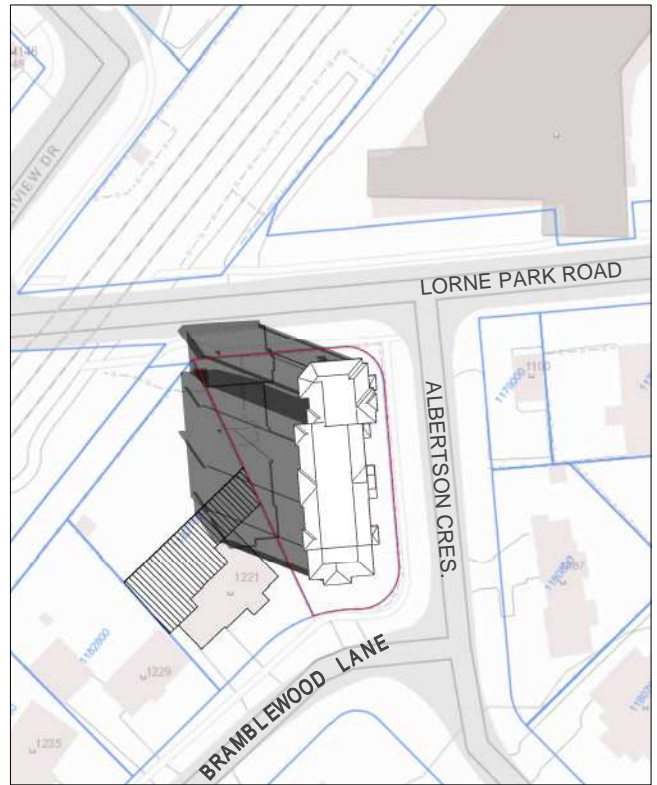


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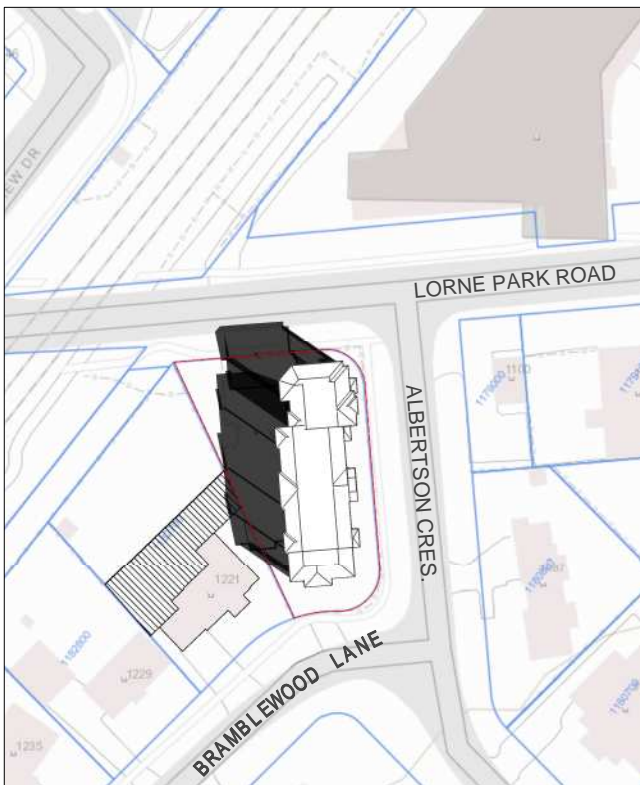
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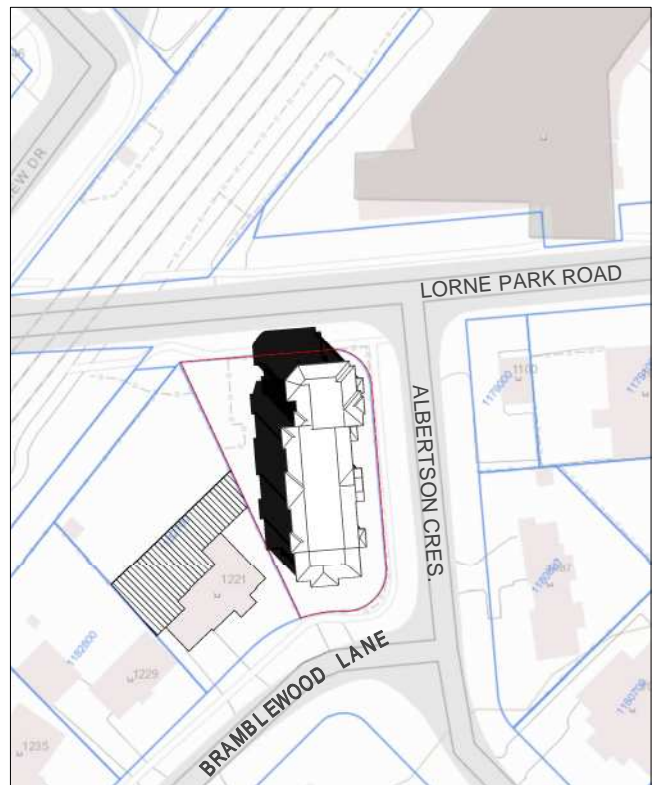
TIME 8:35 AM (RISE +1.5)



TIME 9:12 AM



TIME 10:12 AM



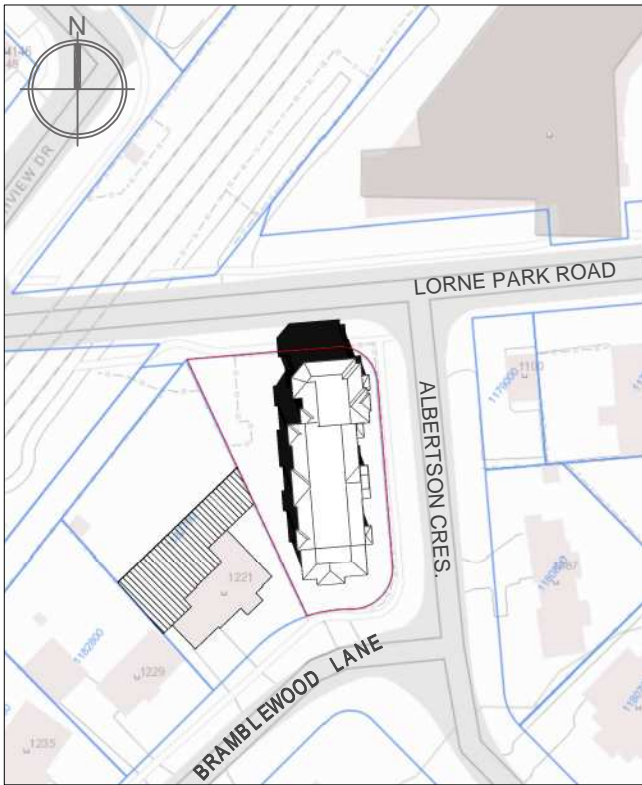
TIME 11:12 AM

DATE: SEPTEMBER 21

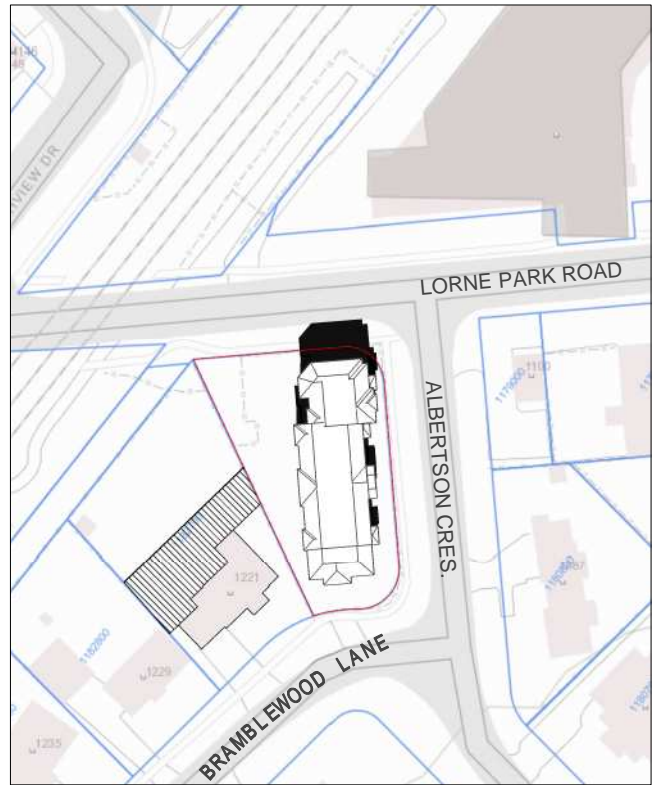


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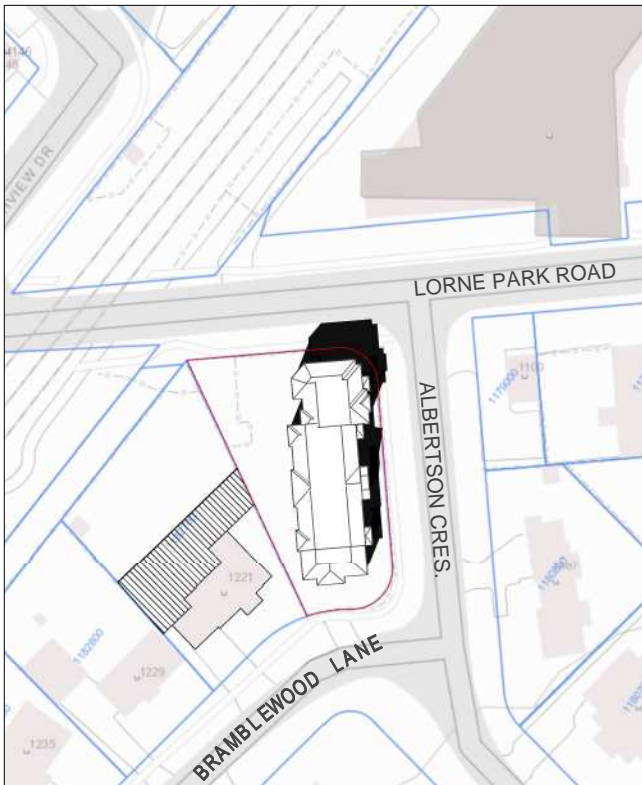




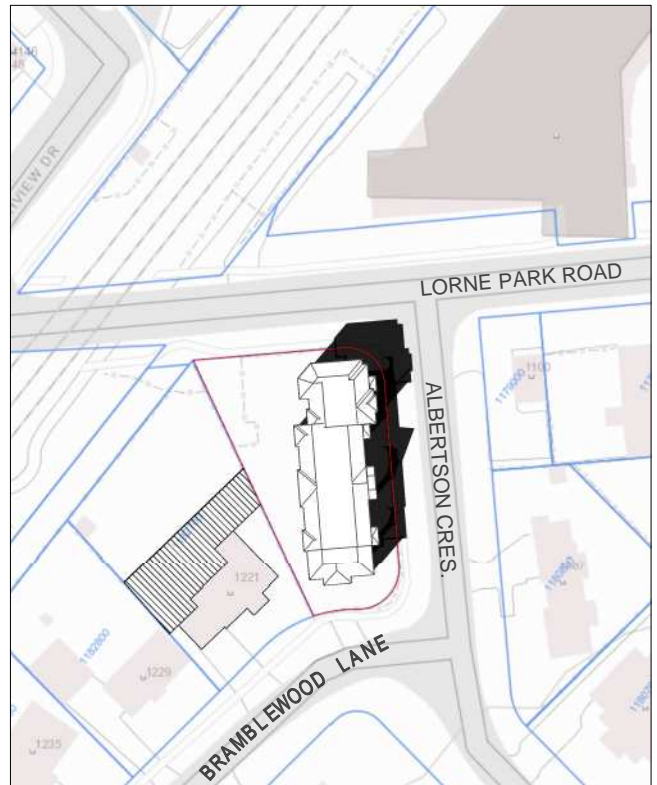
TIME 12:12 AM



TIME 13:12 (SOLAR NOON)



TIME 14:12

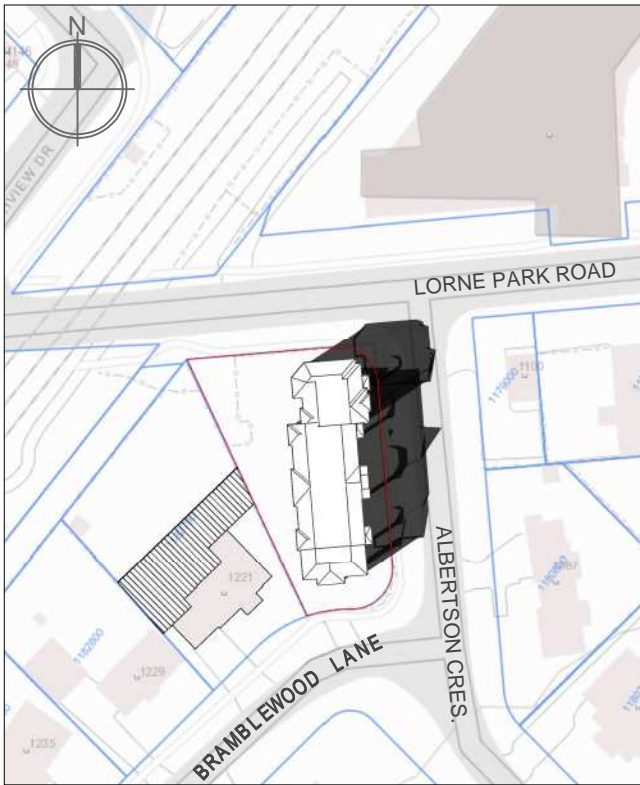


TIME 15:12

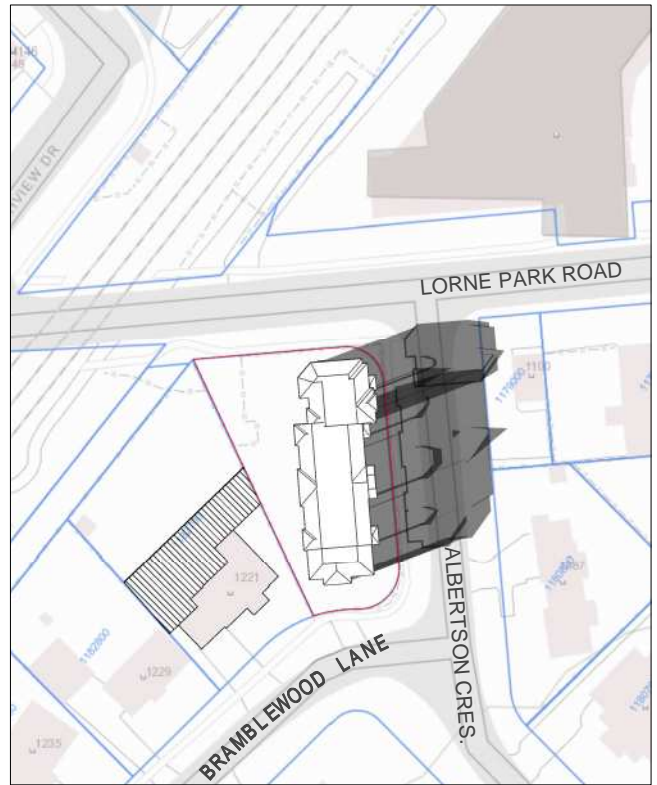
DATE: SEPTEMBER 21



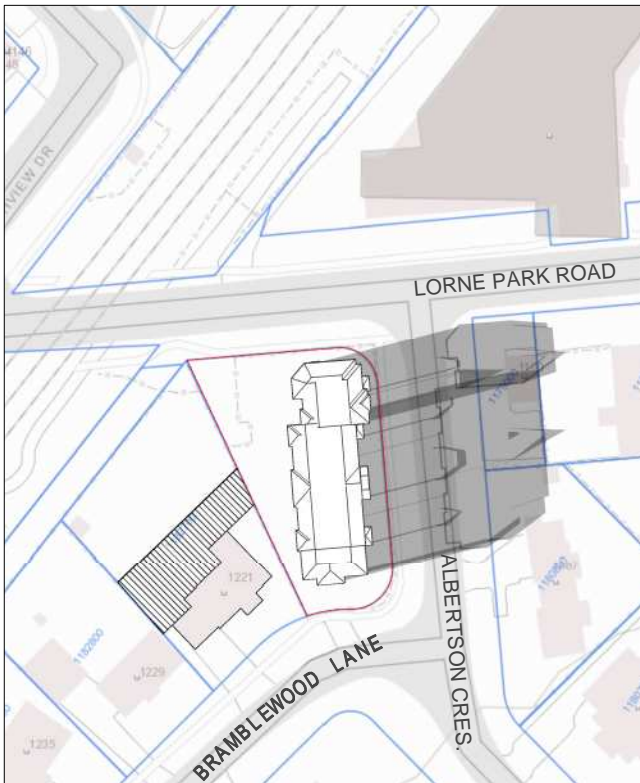
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TIME 16:12



TIME 17:12



TIME 17:48 (SUNSET - 1.5HR.)

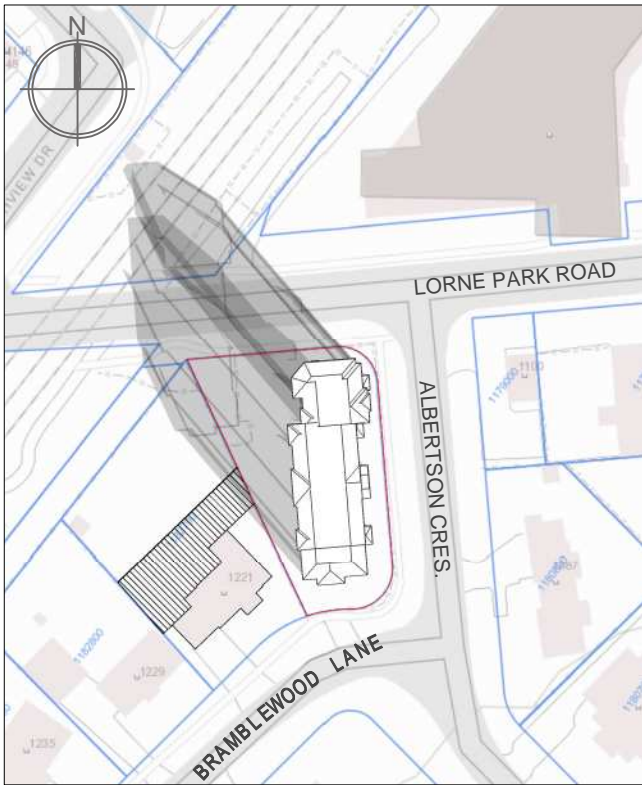
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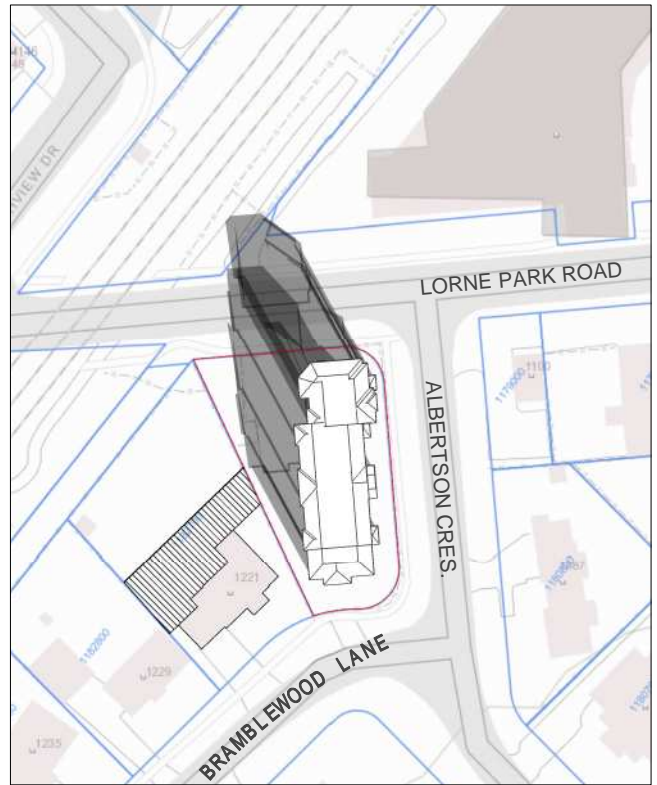
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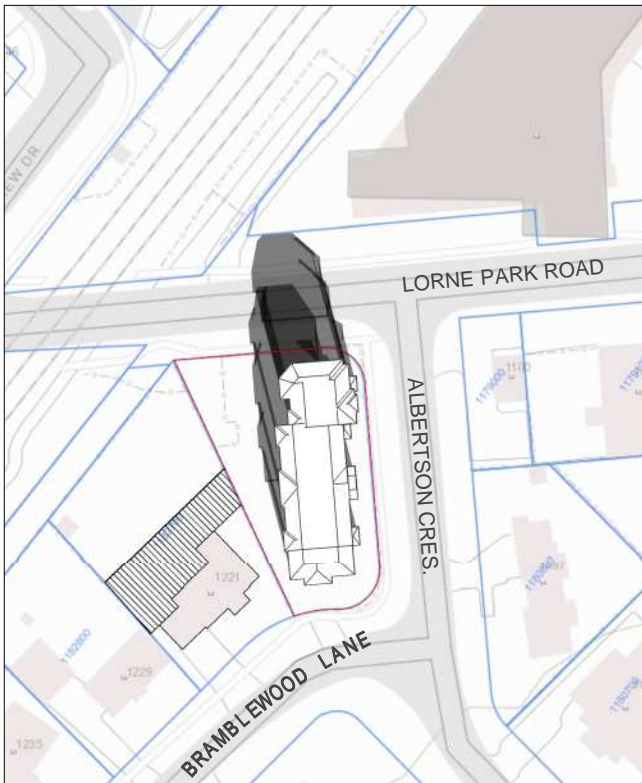




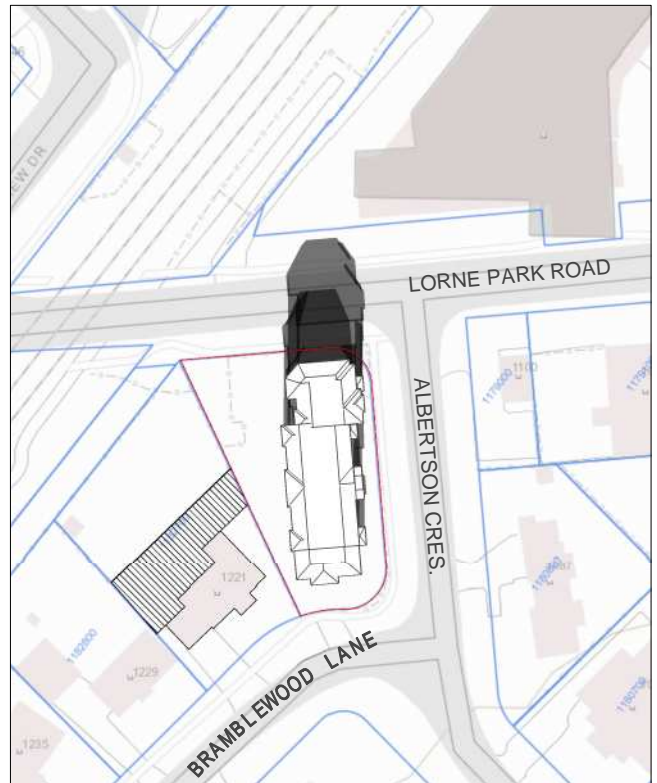
TIME 9:19 AM (RISE +1.5)



TIME 10:17 AM



TIME 11:17 AM



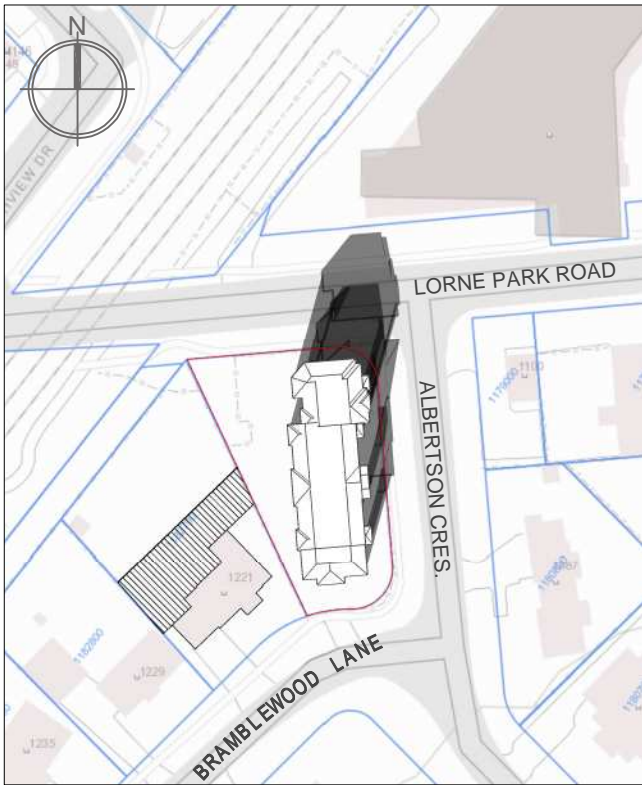
TIME 12:17 AM (SOLAR NOON)



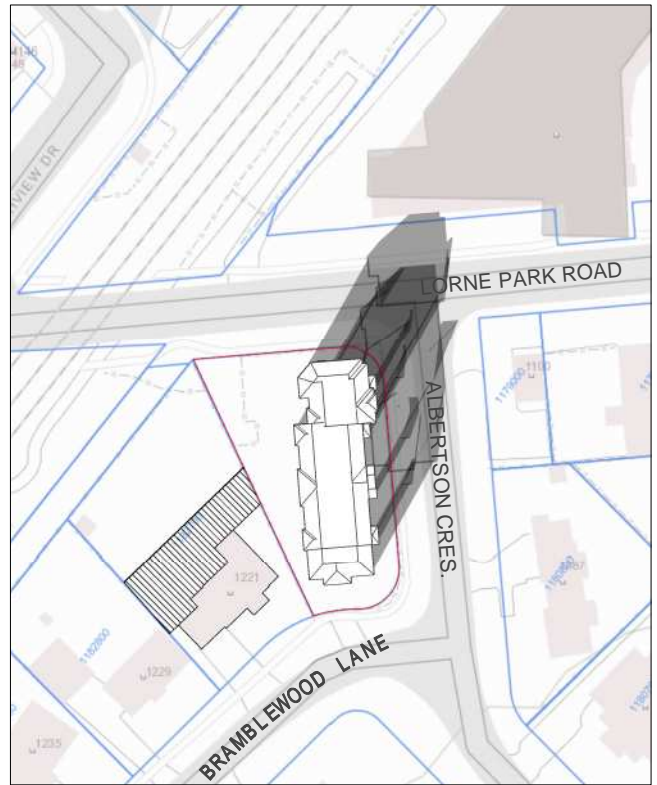
DATE: DECEMBER 21

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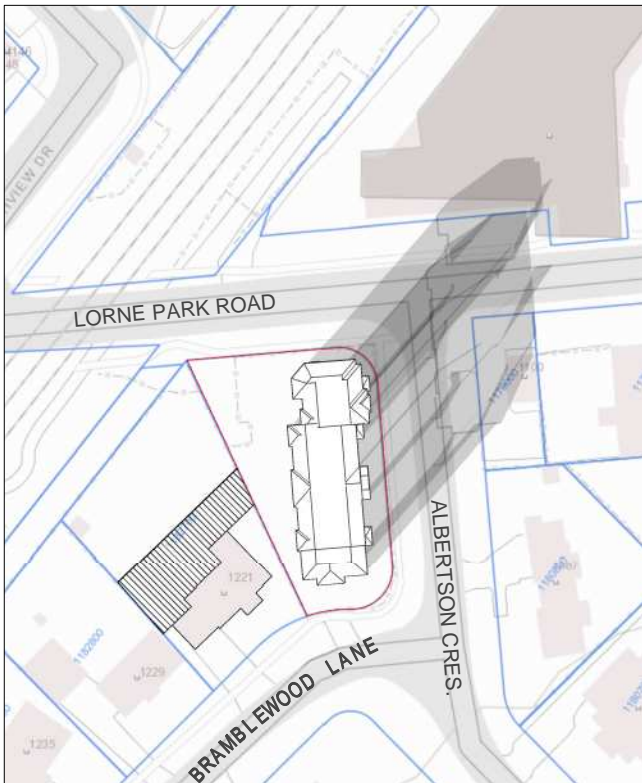




TIME 13:17 AM



TIME 14:17



TIME 15:15 (SUNSET - 1.5HR.)

DATE: DECEMBER 21



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