



Figure 1 – Proposed Development. Rendering by Sam Morgan Architect

SHADOW IMPACT STUDY REPORT

NEW 6-STORY MULTI-
RESIDENTIAL UNITS' BUILDING
1368 LABRIE AVENUE, BEACON
HILL-CYREVILLE, OTTAWA, ON

Date:
March 25, 2021
Prepared for:
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Infiniti Real Estate Solutions

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Our File No.: 200907

1.0

INTRODUCTION

SMA has been retained by Infiniti RE Solutions (hereinafter referred to as the “Applicant”) to undertake a Shadow Impact Study in support of a proposal for the redevelopment of the properties municipally known as 1368 Labrie Avenue, in the City of Ottawa (hereinafter referred to as the “site” or the “subject lands”). The subject lands are generally bound by Labrie Avenue to the east, Residential Buildings to the north and south and Parking lot of St. Joseph Documents print shop to the west.



Figure 2 – Proposed Development. Site Location by Sam Morgan Architect

The proposal consists of a 6-storey apartment with 48 residential dwelling units, one level of underground parking containing 31 parking spaces, Bicycle storage for 31 Bicycles at the main level and underground garage ramp at the rear yard.

Surrounding the site are the following uses:

NORTH: A residential neighborhood consisting of single detached homes is located directly

- north of the subject land.
- EAST: Labrie Avenue and further east located Rony's Auto Car dealer and A Plus Auto Centre.
- SOUTH: Immediately south of the subject lands is a residential single detached home. Further to the south, the lands fronting onto Kenastone Street.
- WEST: Large Parking lot for St. Joseph Documents Print Shop are located directly to the west of the subject lands, with an office complex and range of businesses situated further west.

In undertaking the evaluation of the Shadow Study, this report has relied on the following information:

- Sun / Shadow Study by Sam Morgan Architect provided as Appendix A;
- City of Ottawa Standardized Shadow Impact Criteria as discussed in Section 3.0 of this report.

2.0

PURPOSE AND INTENT

The purpose of this report is to undertake a Shadow Study to assess the impact of the proposed development shown in Figure 1 on the surrounding areas. This Shadow Study has relied on the City of Ottawa Standardized Shadow Impact Criteria, the details of which are expanded on in Section 3.0 of this report.



Figure 3 – Proposed Development. Site Plan by Sam Morgan Architect

This Shadow Study meets the in-effect City of Ottawa Official Plan requirement to mitigate the impact of shadow in relation to housing intensification within established neighborhoods and Significant sun-shadowing for extended periods on adjacent properties, particularly outdoor amenity areas, is at an acceptable level.

3.0

METHODOLOGY

In undertaking and evaluating potential shadows on the site and surrounding areas, this report applied the following methodology and approach.

3.1 Shadow Study Criteria

The City of Ottawa provides Standardized Shadow Impact Criteria that outline the shadow schedule that shadow plan submissions must adhere to. The testing timeframes used for this report are based on a schedule of 1-hour increments which allow for a rigorous assessment of shadow impact throughout the day. The testing dates and evaluation method allow for the ability to quantify the shadow impact as it moves across a property. Together, the testing times and evaluation method are appropriate and comprehensive for the evaluation of shadow impact.

3.2 Testing Times

The evaluation of acceptable solar access will rely on 1-hour increments between the time frames indicated below. These timeframes will be applied equally to the following dates:

- June 21st (Summer Solstice) between 8am – 8pm
- September 21st (Fall Equinoxes) between 8am – 6pm
- December 21st (Winter Solstice) between 9am – 3pm

3.3 Evaluation of Potential Impacts

The evaluation of the Sun / Shadow Study in Appendix A will determine whether acceptable sun- shadowing levels are available on sensitive uses namely:

- Neighboring streets; and
- Surrounding low-rise residential properties.

3.4 Building Massing

This Shadow Study is based on the preliminary massing model prepared at the time of submission. It is acknowledged that the design and articulation of the built form will be finalized at a later stage. The shadow impact analysis provides a clear assessment of the proposed building height, massing and orientation for the purposes of this submission to the City of Ottawa.

It is noted that the shadow impact of accessory structures is generally not included in typical evaluations as their impact is minimal. Should future accessory structures or building protrusions, such as balconies, rooftop structures, retaining walls, etc., be introduced, the shadows cast by these structures would be minimal but may be evaluated as required at the detailed Site Plan Approval stage.

4.0

EVALUATION

The following are the findings resulting from the analysis of the Sun / Shadow Study for the proposed development. The image documentation of the Sun / Shadow Study can be found in Appendix A of this report.

The evaluation of shadow impact on sensitive uses focuses on: A) the streets bordering the subject lands, particularly Labrie Avenue and Kenastone Street, and B) the existing low-rise residential properties adjacent the site.

Neighboring Streets

The proposed development will have minimal shadow impact on the neighboring streets surrounding the subject lands.

Labrie Avenue will have full solar access for nine consecutive hours between 8:00 a.m. and 5:00 p.m. for the Summer Solstice. During the Spring and Fall Equinoxes, Labrie Avenue will have full solar access between 8:00 a.m. and 4:00 p.m., During the Winter Solstice, a narrow shadow will be cast on Labrie Avenue between 1:00 p.m. and 3:00 p.m., with full solar access provided between 9:00 a.m. and 1:00 p.m. Generally, shadows on Labrie Avenue will be minimized due to the east-west orientation of the proposed development and the rectangular building envelope which steps back in height in all directions.

Shadow has no impact on Kenastone Street.

The design and orientation of the proposed apartment building ensure that adequate solar access is achieved on neighboring streets throughout the day and will lessen the shadow impact during each of the seasons.

Low-Rise Residential Properties

There will be limited shadow impact on the existing low-rise properties to the north and south of the proposed development. During the Spring and Fall Equinoxes, shadows will only be cast on the property to the north between 1:00 pm and 4:00 pm, During the Winter Solstice, between 9:00 am and 3:00 pm. During summer equinox, shadows will only be cast between 7:00 pm and 8:00 pm.

As a result of the orientation of the proposed development, shadow impact on the existing low-rise residential properties to the north and south of the site will be negligible and significantly minimizes shadow impact on neighboring properties and sensitive uses throughout the day and during each of the seasons.

It is noted that, while part of the large parking lot to the west of the site will be partially in shade during the morning hours of the Summer Solstice (8:00 am to 10:00 am) and Spring and Fall Equinoxes (8:00 am to 12:00pm), but the shadow has no impact during Winter Solstice.

Summary of Shadow Impact on the surrounding properties and streets:

Testing Time	North Surrounding	East Surrounding	South Surrounding	West Surrounding
June 21st (Summer Solstice)	No impact	Between 5:00 pm and 8:00 pm	Between 7:00 pm and 8:00 pm	Between 8:00 am and 10:00 am
September 21st (Fall Equinoxes)	Between 1:00 pm and 4:00 pm	Between 4:00 pm and 6:00 pm	No Impact	Between 8:00 am and 12:00 pm
December 21st (Winter Solstice)	Between 9:00 am and 3:00 pm	Between 1:00 pm and 3:00 pm	No Impact	No Impact

5.0

CONCLUSION

Based on the evaluation undertaken in this report, it is concluded that there is an acceptable level of shadow impact from the proposed development relative to neighboring streets and the low-rise residential properties surrounding the site. The proposed development orientation and building envelope maximizes compatibility with the surrounding area in terms of mitigating shadow impact.

It is our opinion that the proposed development results in acceptable levels of shadow on the site and surrounding land uses, and acceptable solar access has been maintained for the public realm and adjacent properties.

Yours truly,

SAM MORGAN ARCHITECT








Sam Morgan
Architect, B. Arch. OAA, CBCO
Principal



Appendix A



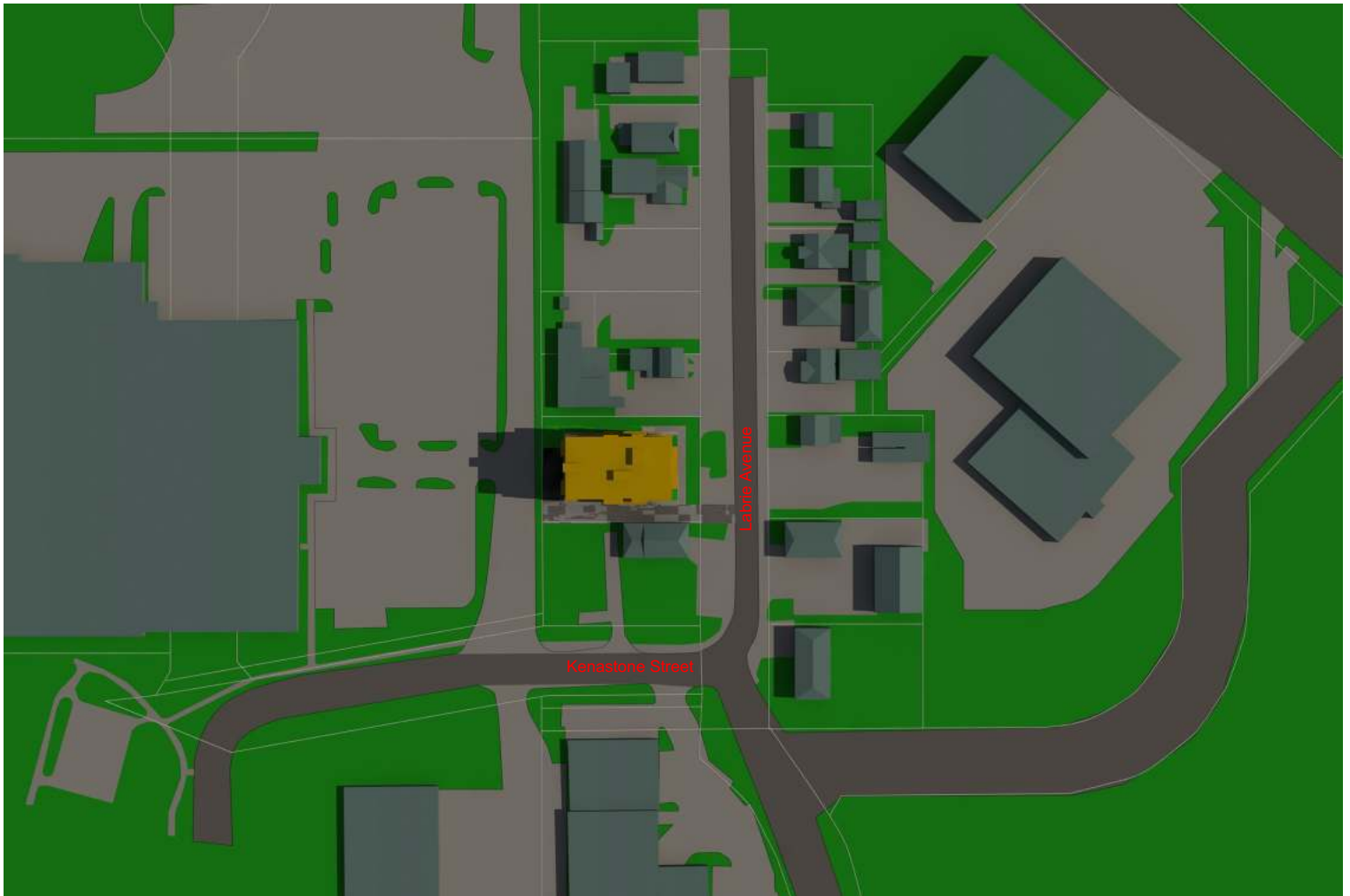
-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
 Top View Shadow Study

Figure: 4 Page 11

Test Date: June 21
 Test Time: 8:00 am
 Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area






1368 Labrie Avenue
 Top View Shadow Study

Figure: 5 Page 12

Test Date: June 21
 Test Time: 9:00 am
 Sam Morgan Architect





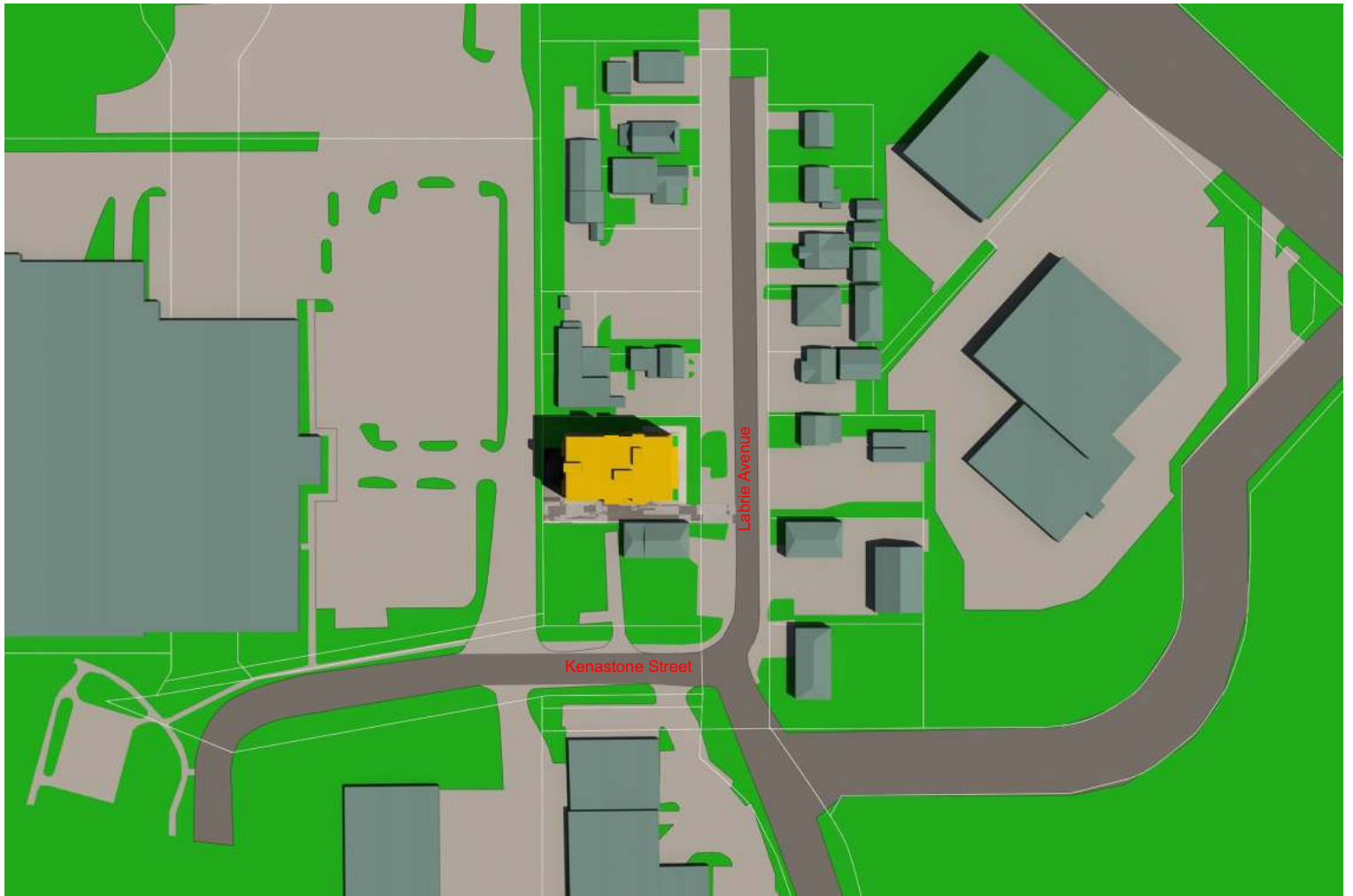
-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure: 6 Page 13

Test Date: June 21
Test Time: 10:00 am
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area






1368 Labrie Avenue
 Top View Shadow Study

Figure:7 Page 14

Test Date: June 21
 Test Time: 11:00 am
 Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:8 Page 15

Test Date: June 21
Test Time: 12:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:9 Page 16

Test Date: June 21
Test Time: 1:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure: 10 Page 17

Test Date: June 21
Test Time: 2:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure: 11 Page 18

Test Date: June 21
Test Time: 3:00 pm
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area






1368 Labrie Avenue Top View Shadow Study

Figure: 12 Page 19

Test Date: June 21
Test Time: 4:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure: 13 Page 20

Test Date: June 21
Test Time: 5:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure: 14 Page 21

Test Date: June 21
Test Time: 6:00 pm
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure: 15 Page 22

Test Date: June 21
Test Time: 7:00 pm
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure: 16 Page 23

Test Date: June 21
Test Time: 8:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure: 17 Page 24

Test Date: Sep. 21
Test Time: 8:00 am
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area

1368 Labrie Avenue
 Top View Shadow Study

Figure: 18 Page 25

Test Date: Sep. 21
 Test Time: 9:00 am
 Sam Morgan Architect





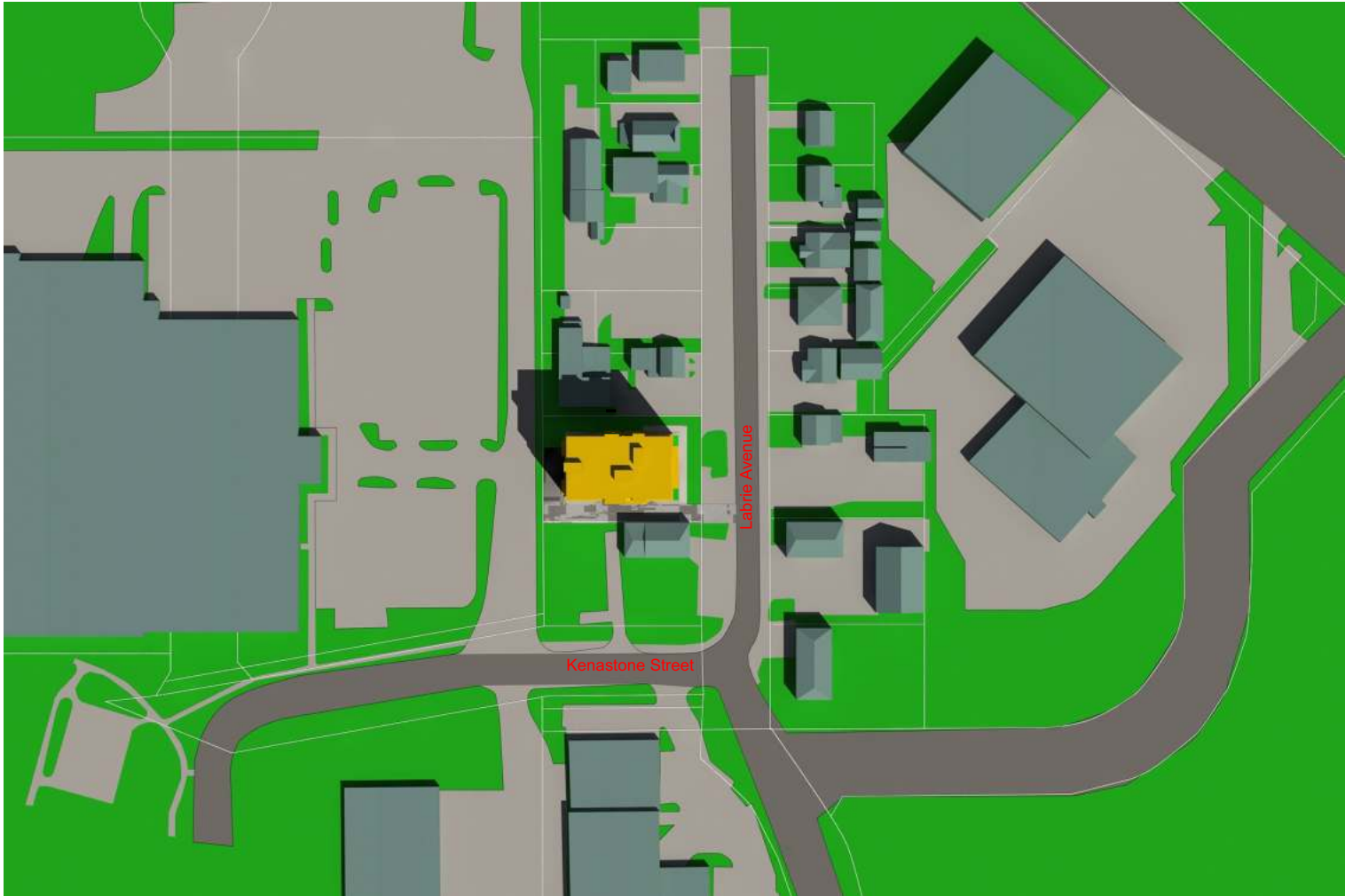
- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure: 19 Page 26

Test Date: Sep. 21
Test Time: 10:00 am
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area






1368 Labrie Avenue
 Top View Shadow Study

Figure:20 Page 27

Test Date: Sep. 21
 Test Time: 11:00 am
 Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:21 Page 28

Test Date: Sep. 21
Test Time: 12:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:22 Page 29

Test Date: Sep. 21
Test Time: 1:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure:23 Page 30

Test Date: Sep. 21
Test Time: 2:00 pm
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:24 Page 31

Test Date: Sep. 21
Test Time: 3:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure:25 Page 32

Test Date: Sep. 21
Test Time: 4:00 pm
Sam Morgan Architect





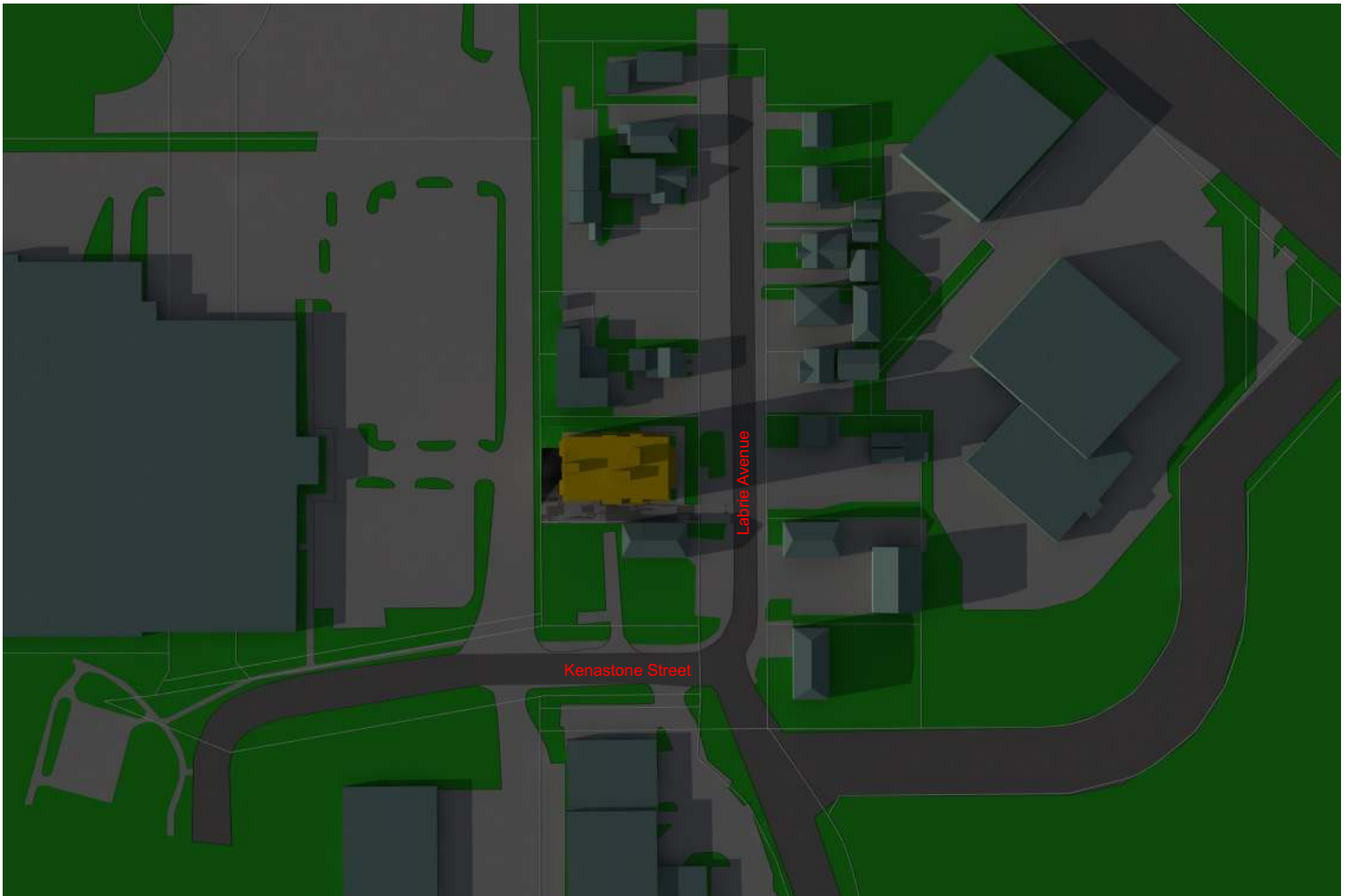
- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure:26 Page 33

Test Date: Sep. 21
Test Time: 5:00 pm
Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:27 Page 34

Test Date: Sep. 21
Test Time: 6:00 pm
Sam Morgan Architect





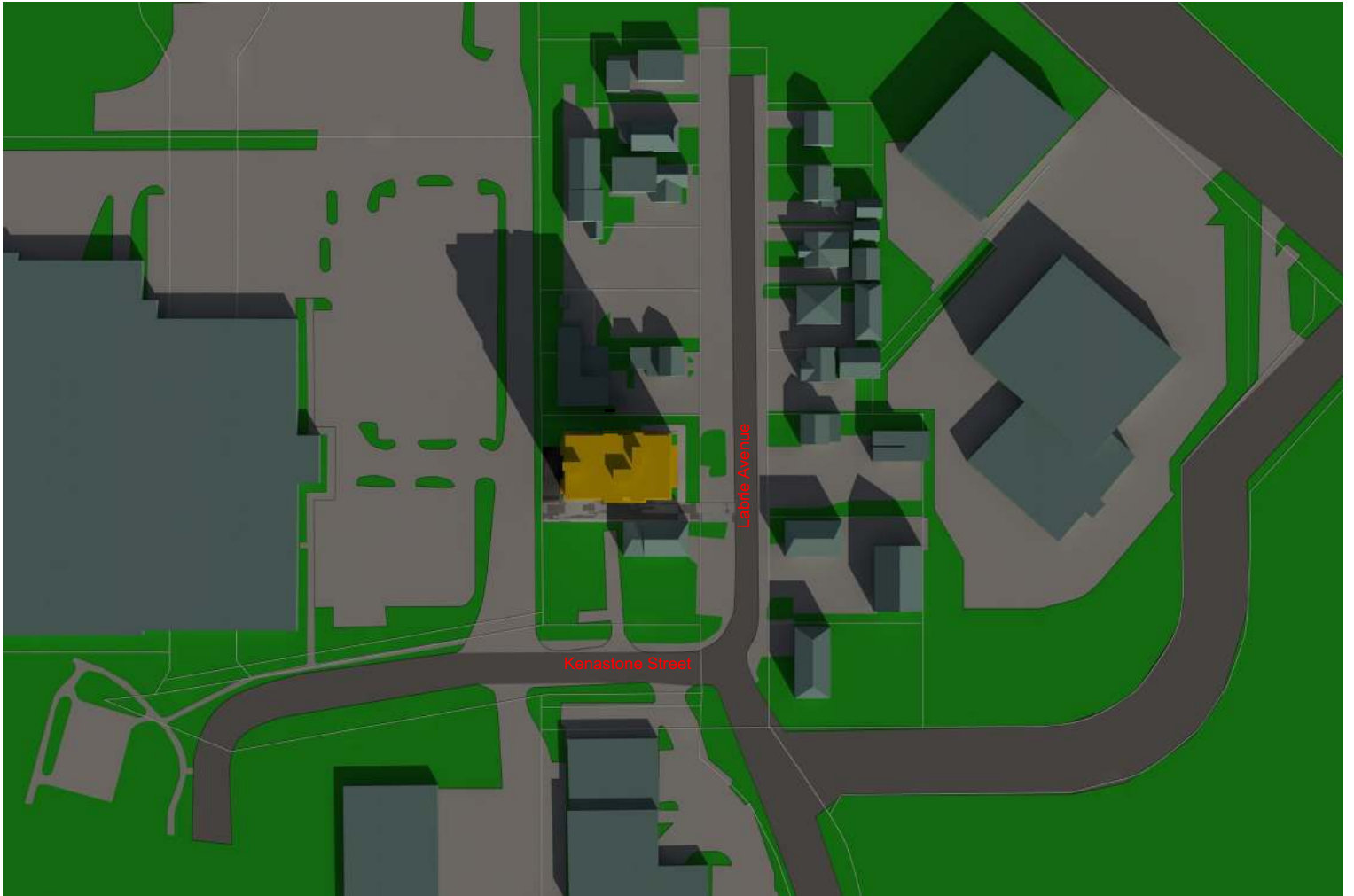
-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:28 Page 35

Test Date: Dec. 21
Test Time: 9:00 am
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:29 Page 36

Test Date: Dec. 21
Test Time: 10:00 am
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:30 Page 37

Test Date: Dec. 21
Test Time: 11:00 am
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
Top View Shadow Study

Figure:31 Page 38

Test Date: Dec. 21
Test Time: 12:00 pm
Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area






1368 Labrie Avenue
 Top View Shadow Study

Figure:32 Page 39

Test Date: Dec. 21
 Test Time: 1:00 pm
 Sam Morgan Architect





-  Proposed Shadow
-  Proposed Development
-  Existing Buildings
-  Existing Roads
-  Green Area

1368 Labrie Avenue
 Top View Shadow Study

Figure:33 Page 38

Test Date: Dec. 21
 Test Time: 2:00 pm
 Sam Morgan Architect





- Proposed Shadow
- Proposed Development
- Existing Buildings
- Existing Roads
- Green Area

1368 Labrie Avenue
Top View Shadow Study

Figure:34 Page 39

Test Date: Dec. 21
Test Time: 3:00 pm
Sam Morgan Architect

