

# 5100 Erin Mills Town Centre - Block 1

Shadow Study

6 May 2024

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Toronto, ON M5V 0S8

# BDP. Quadrangle

**Date:** 6 May 2024

**Project:** 5100 Erin Mills Town Centre, Mississauga, Ontario

**Prepared by:** Melissa Alt

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## Sun/Shadow Study Analysis

Sun angles used in this study are based on the following latitude and longitude of the proposed development at Erin Mills Town Centre in Mississauga, Ontario.

Latitude: 43°55' 81.31"N

Longitude: 79°71' 10.03"W

The base plan was drawn from a combination of the site survey and Google Earth images. This drawing was created in Sketch Up. Astronomic north was never altered from the original site survey used for the base plan. All images in this document are scaled at 1:10,000 and are illustrated in colour. The second page is the key plan showing the areas surrounding the proposed development that were included in the study as set out in the document "Standards for Shadow Studies" from the City of Mississauga, dated February 2023.

Pages 3-20 of the study show the incremental and existing shadow images for the proposed development and its surrounding context. Existing shadows are represented by the gray and the incremental shadows of the proposal are in dark and light purple. Where proposed and existing shadows overlapped, proposed shadows will be deducted from existing. As outlined in the Mississauga standards document, September 21 shadows are similar to March 21 and therefore, deemed to apply in March 21 in this analysis.

All calculations and analysis in this report are based on the shadows cast by the proposed 9 tower development as follows:

- Pages 3-10 of the study show the existing and incremental shadows on June 21 at the following times: 7:07, 7:20, 8:20, 9:20, 10:20, 11:20, 12:20, 13:20 (Solar Noon), 14:20, 15:20, 16:20, 17:20, 18:20, 19:20 and 19:33.
- Pages 11-16 show the existing and incremental shadows on September 21 at the following times: 8:35, 9:12, 10:12, 11:12, 12:12, 13:12 (Solar Noon), 14:12, 15:12, 16:12, 17:12 and 17:48
- Pages 17-20 show the existing and incremental shadows on December 21 at the following times: 9:19, 10:17, 11:17, 12:17 (Solar Noon), 13:17, 14:17 and 15:15.



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**Analysis based on proposed 9 tower development as follows:**

- Buildings 1 – 8: 20 to 44 storeys, Mechanical Penthouse – 5 metres

**Areas Analysed and Reviewed for Shadow Impact Criteria**

• **Residential Private Outdoor Amenity Spaces**

Study images were analysed for shadow impacts on residential private outdoor amenity spaces as below;

• **Townhouses to the North of Erin Centre Boulevard**

The townhouses affected by the proposed building shade was analyzed to ensure the possibility of using solar energy on building faces. The shadow impact criteria was met for June 21 and September 21, as the no impact zone was impacted by the incremental shadow of the proposed development for no more than two (2) consecutive hourly test times.

• **Communal Outdoor Amenity Area**

• **John Fraser School Yard**

The outdoor school yard and play area at 2665 Erin Centre Boulevard was analysed to ensure a minimum of 50% sun access factor as part of the communal outdoor amenity areas. This area located at grade at the northwest of the site was found to meet the criteria on June 21 as the proposed building shadows do not impact this area. On September 21, the sun access factors are over 50% sun coverage at each hour. On December 21, the sun access factors 50% sun coverage all the time. Therefore, the criterion is met.

• **Quenippenon Meadows Community Park**

The community park area at 5315 Middlebury Drive was analysed to ensure a minimum of 50% sun access factor as part of the communal outdoor amenity areas. This area located at grade at the west of the site was found to meet the criteria on June 21 as the proposed building shadows do not impact this area. On September 21 and December 21, the sun access factors are over 50% sun coverage at each hour. Therefore, the criterion is met.

• **Public Realm**

• **Sidewalk North of Erin Centre Boulevard and Glen Erin Drive**

The opposite boulevard along Glen Erin Drive meets the criterion. Erin Centre Boulevard is not shadowed during the times outlined in the criterion from 3:12pm to 5:12pm. There are incremental shadows cast on Erin Centre Boulevard from 12:12pm to 2:12pm, therefore, the criterion is not met.

• **Subject Site: Urban Square**

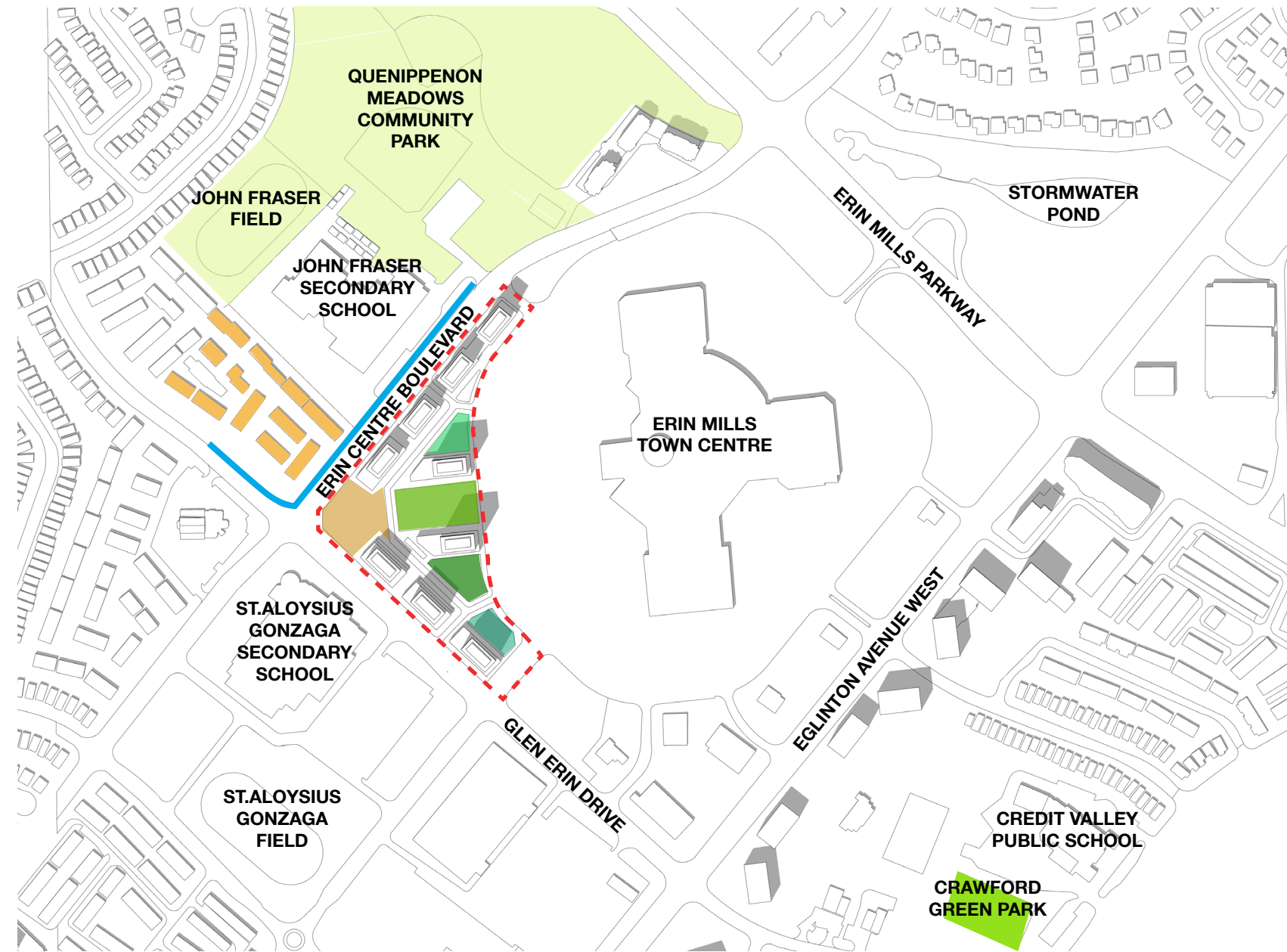
The urban square within the site should have a sun access factor of at least 50% during the test times in September 21. During September 21, the sun access factor is 74%.


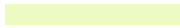






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ON




- **Subject Site: Parkland Dedication**  
The parkland dedication area within the site should have a sun access factor of at least 50% during the test times in September 21. During September 21, the sun access factor is 62%.
- **Subject Site: Open Space 1**  
Open Space 1 within the site should have a sun access factor of at least 50% during the test times in September 21. During September 21, the sun access factor is 36%.
- **Subject Site: Open Space 2**  
Open Space 2 within the site should have a sun access factor of at least 50% during the test times in September 21. During September 21, the sun access factor is 60%.
- **Subject Site: Open Space 3**  
Open Space 3 within the site should have a sun access factor of at least 50% during the test times in September 21. During September 21, the sun access factor is 52%.

# KEY PLAN



Residential Private Outdoor Amenity Area Analyzed and met shadow impact area   
 Communal Outdoor Amenity Area Analyzed and met shadow impact area 

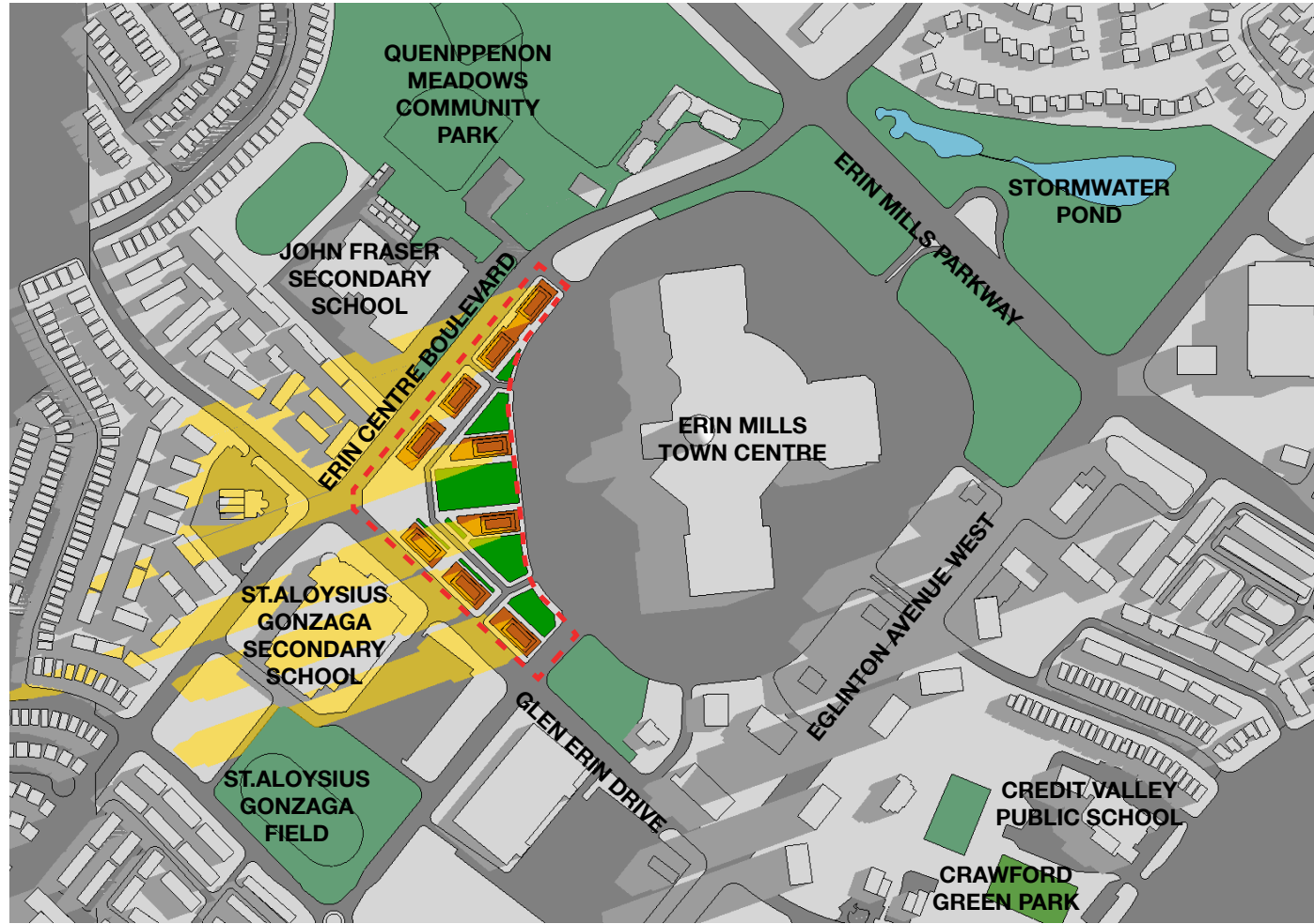
Applicant Proposal   
 Public Realm (sidewalk in shadow)   
 Urban Square   
 Parkland Dedication 

Open Space 1   
 Open Space 2   
 Open Space 3 

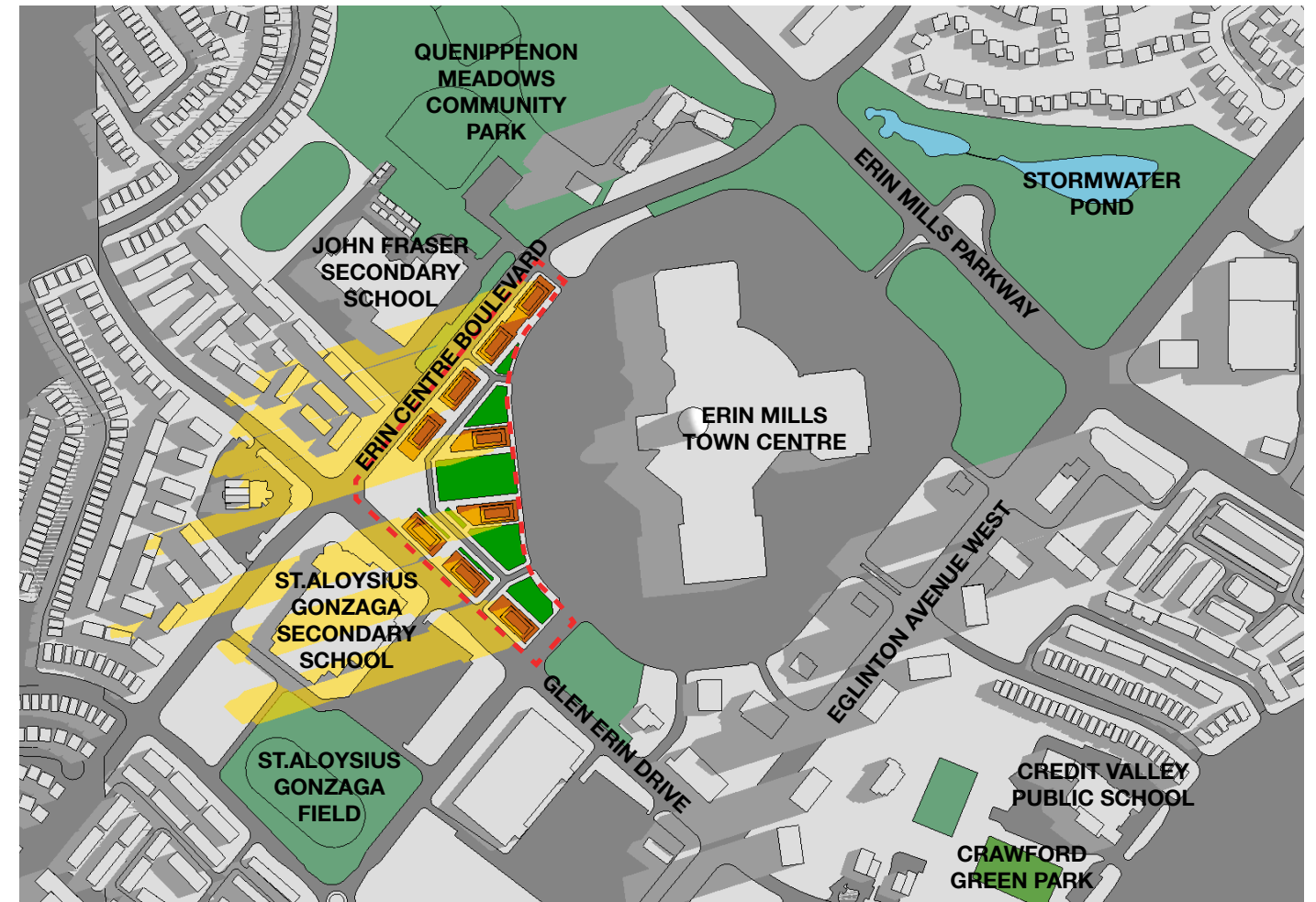
NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

Plans, dimensions, and calculations are preliminary and approximate. Conceptual design as shown is subject to municipal approvals

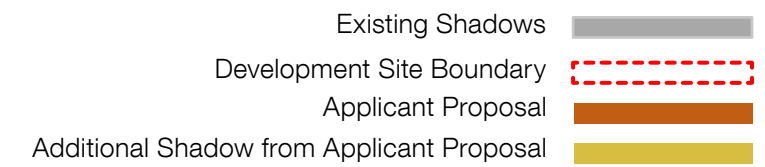
# JUNE SHADOW STUDY



June 21 | 7:07 am



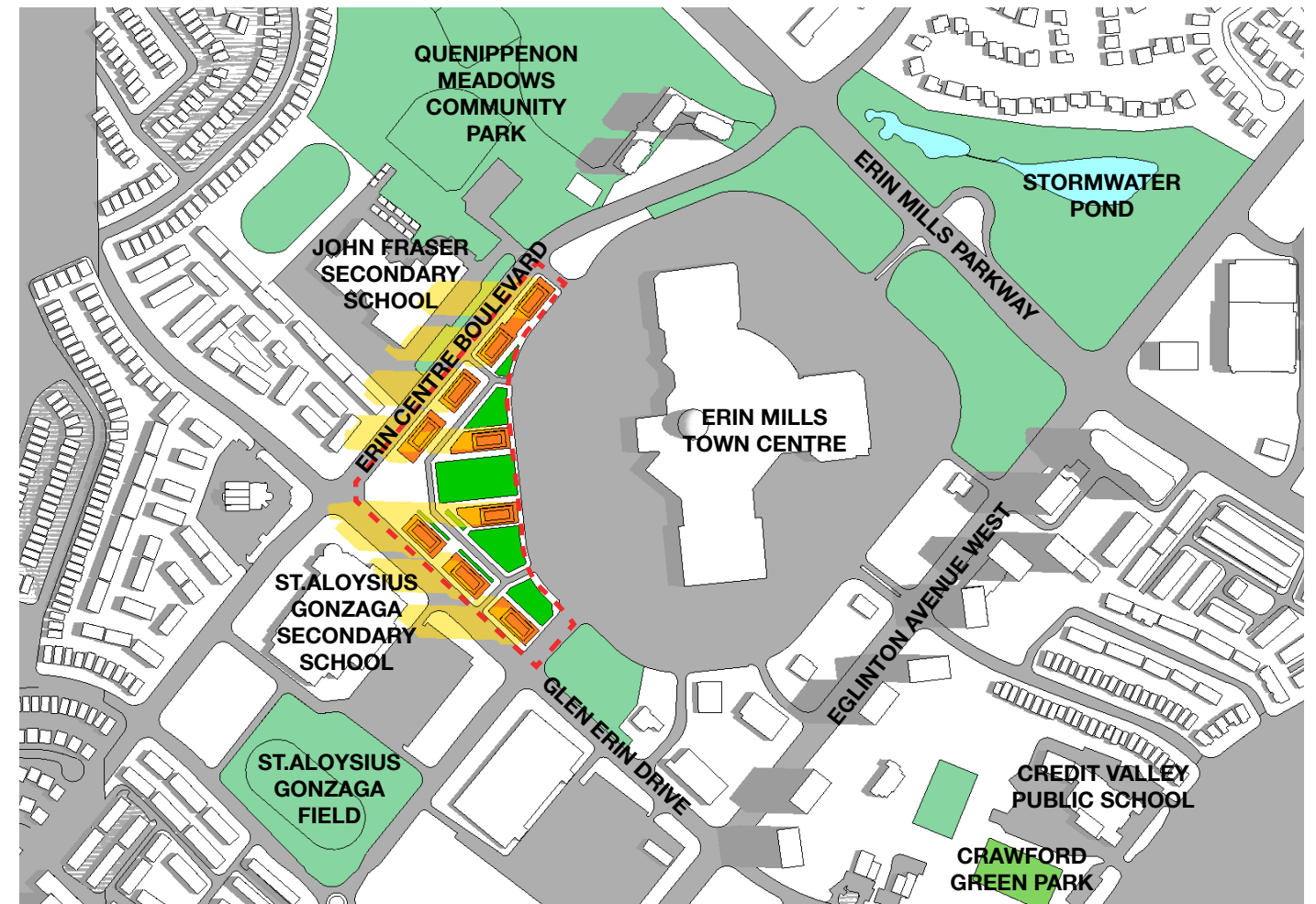
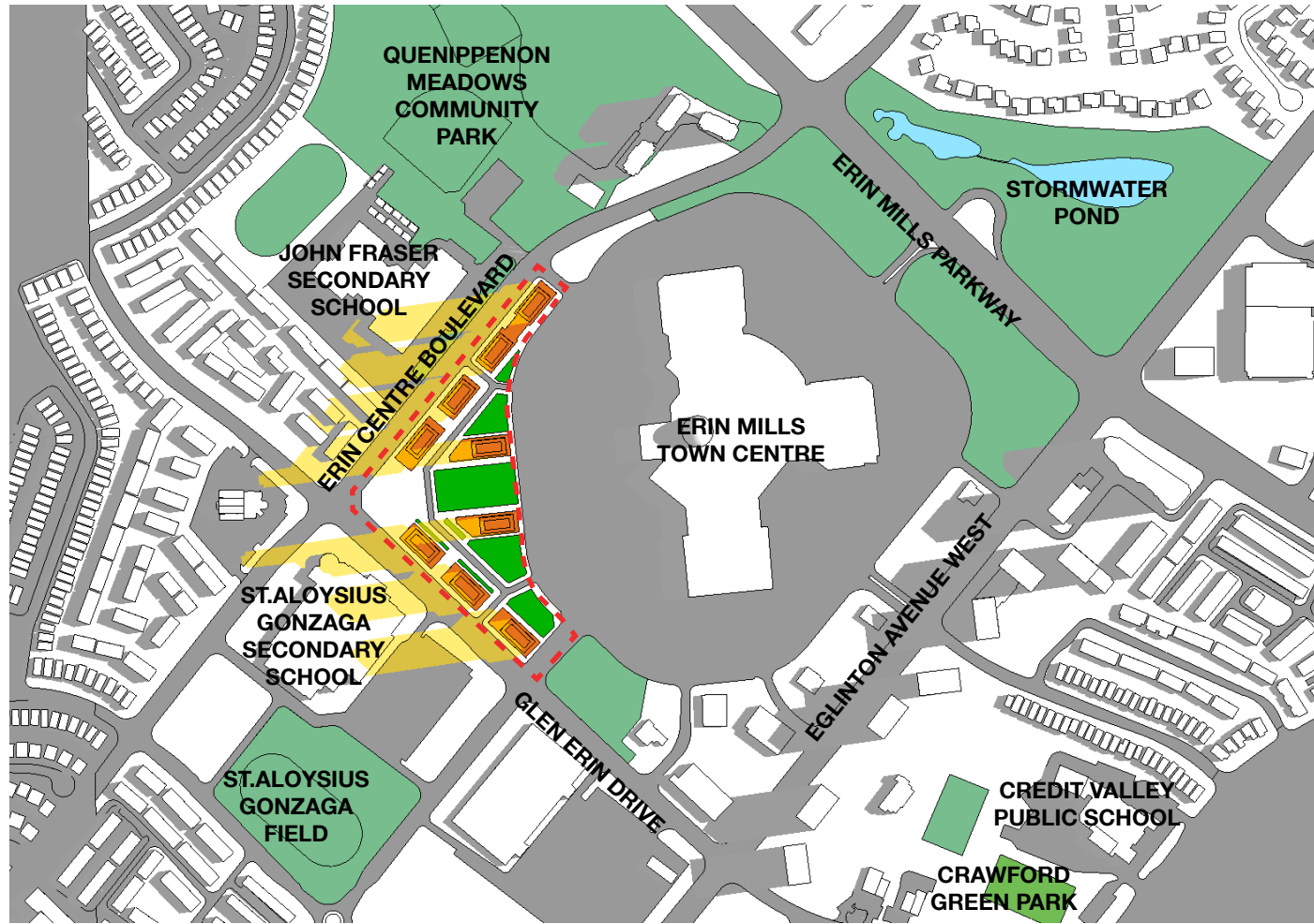
June 21 | 7:20 am



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

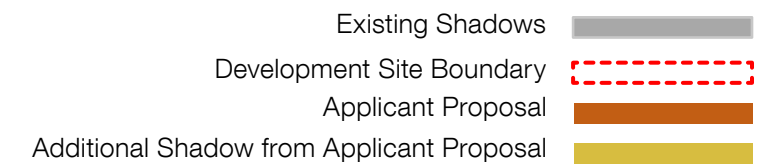
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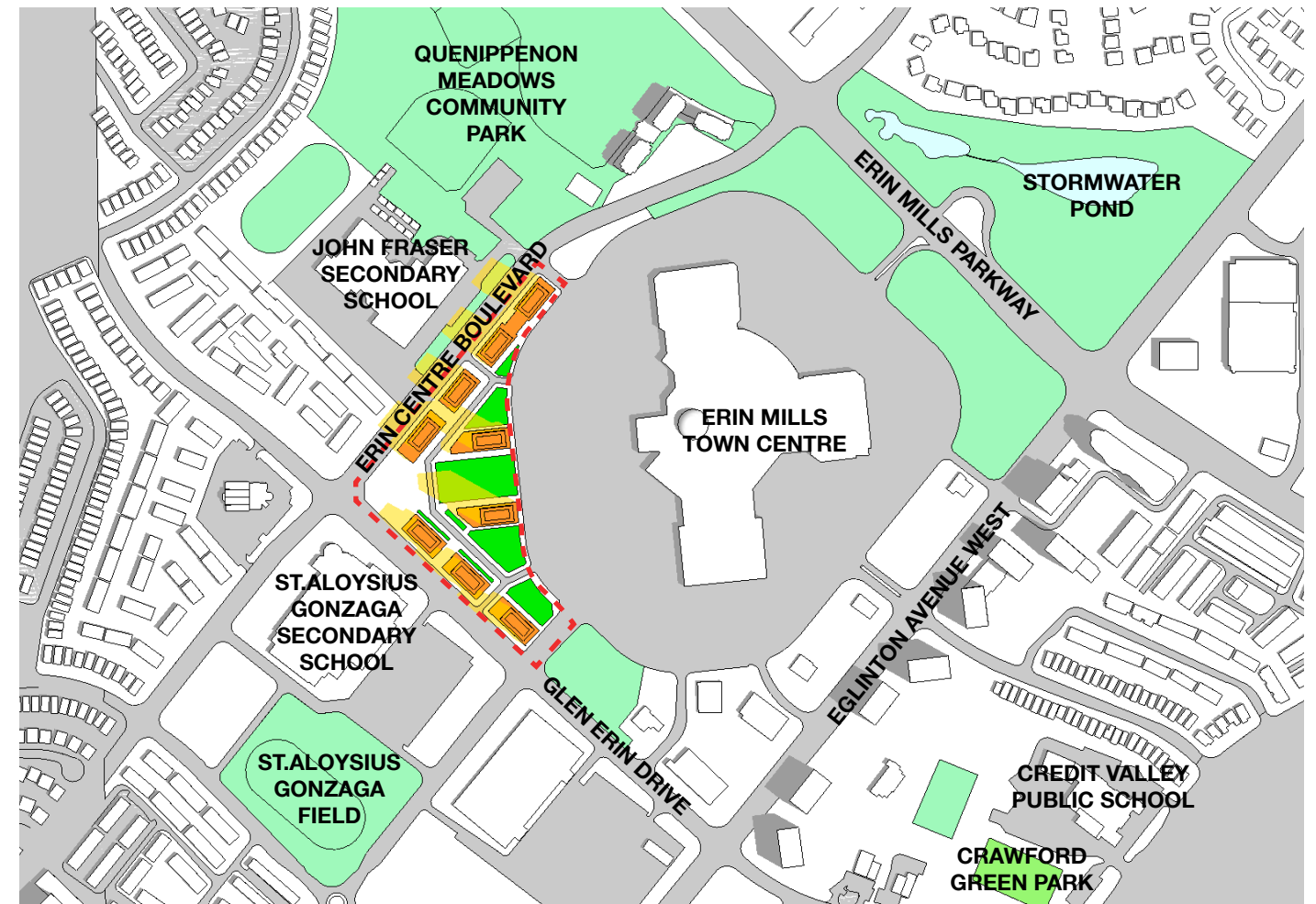
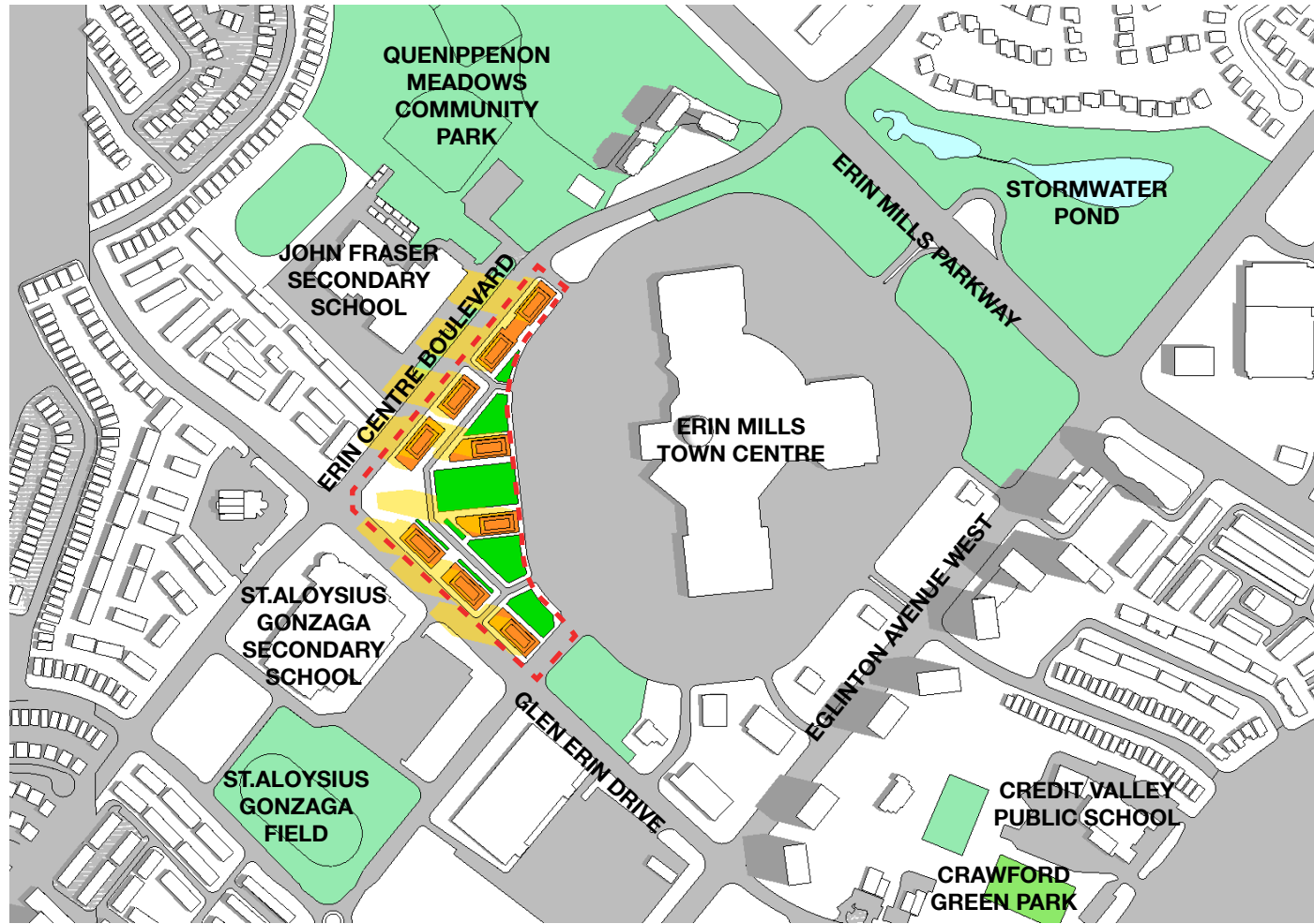
June 21 | 8:20 am

June 21 | 9:20 am



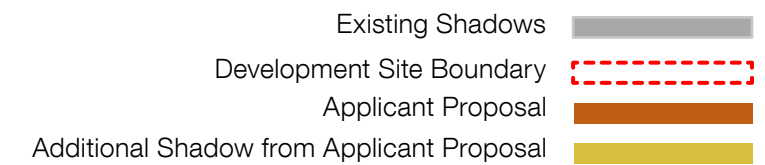
NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

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June 21 | 10:20 am

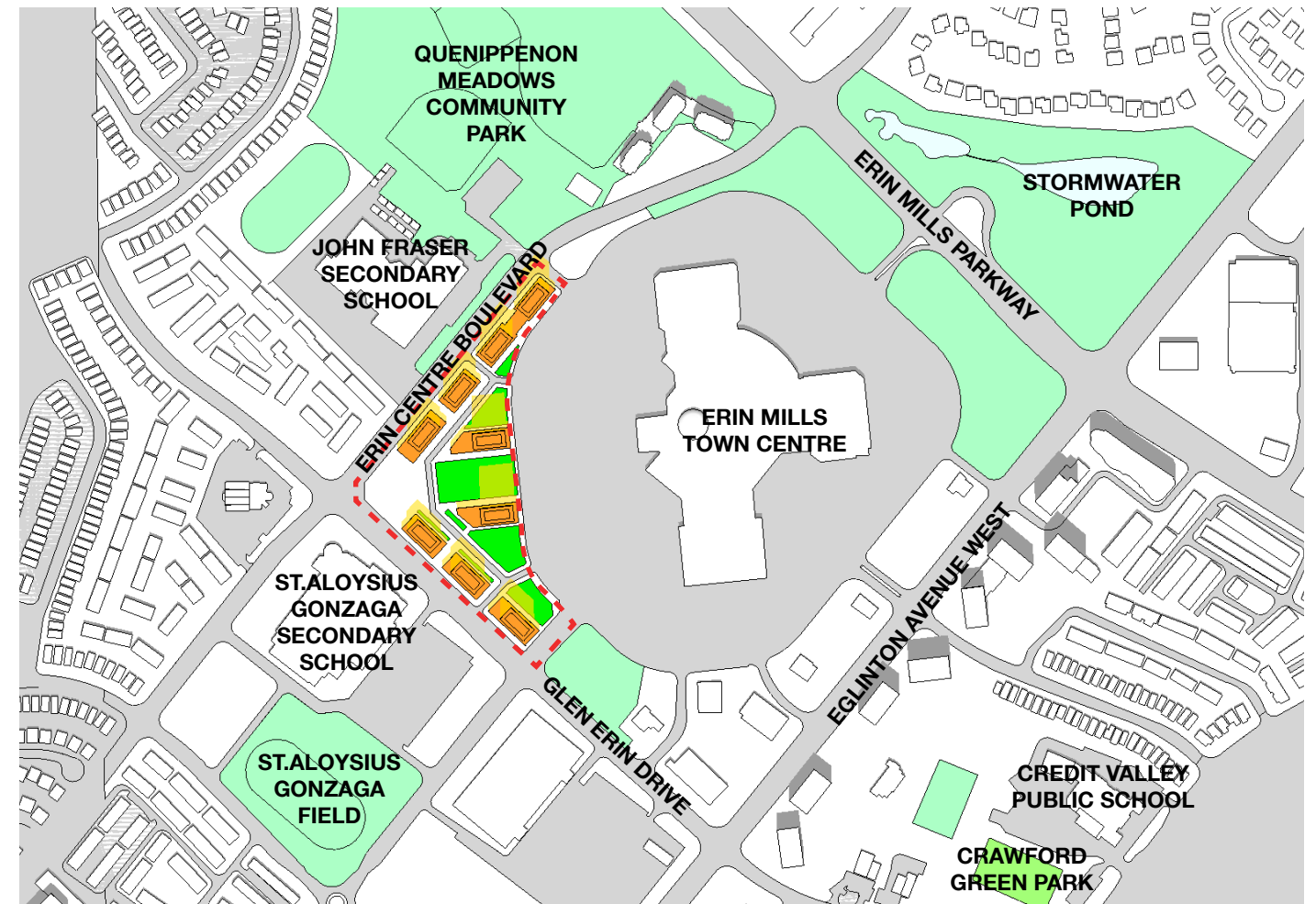
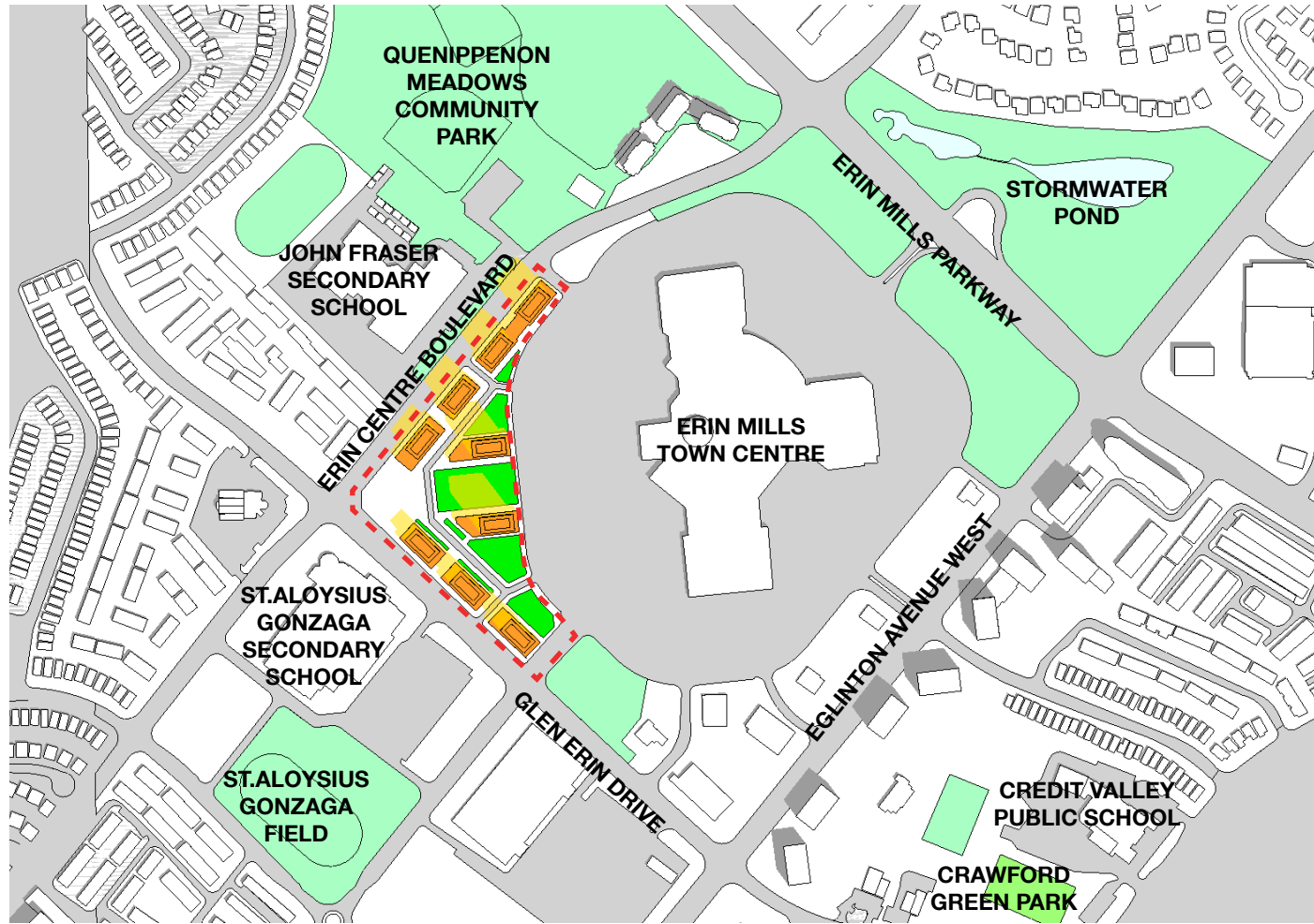
June 21 | 11:20 am



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

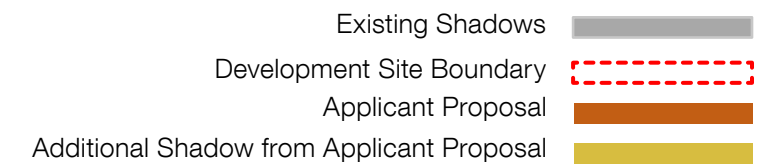
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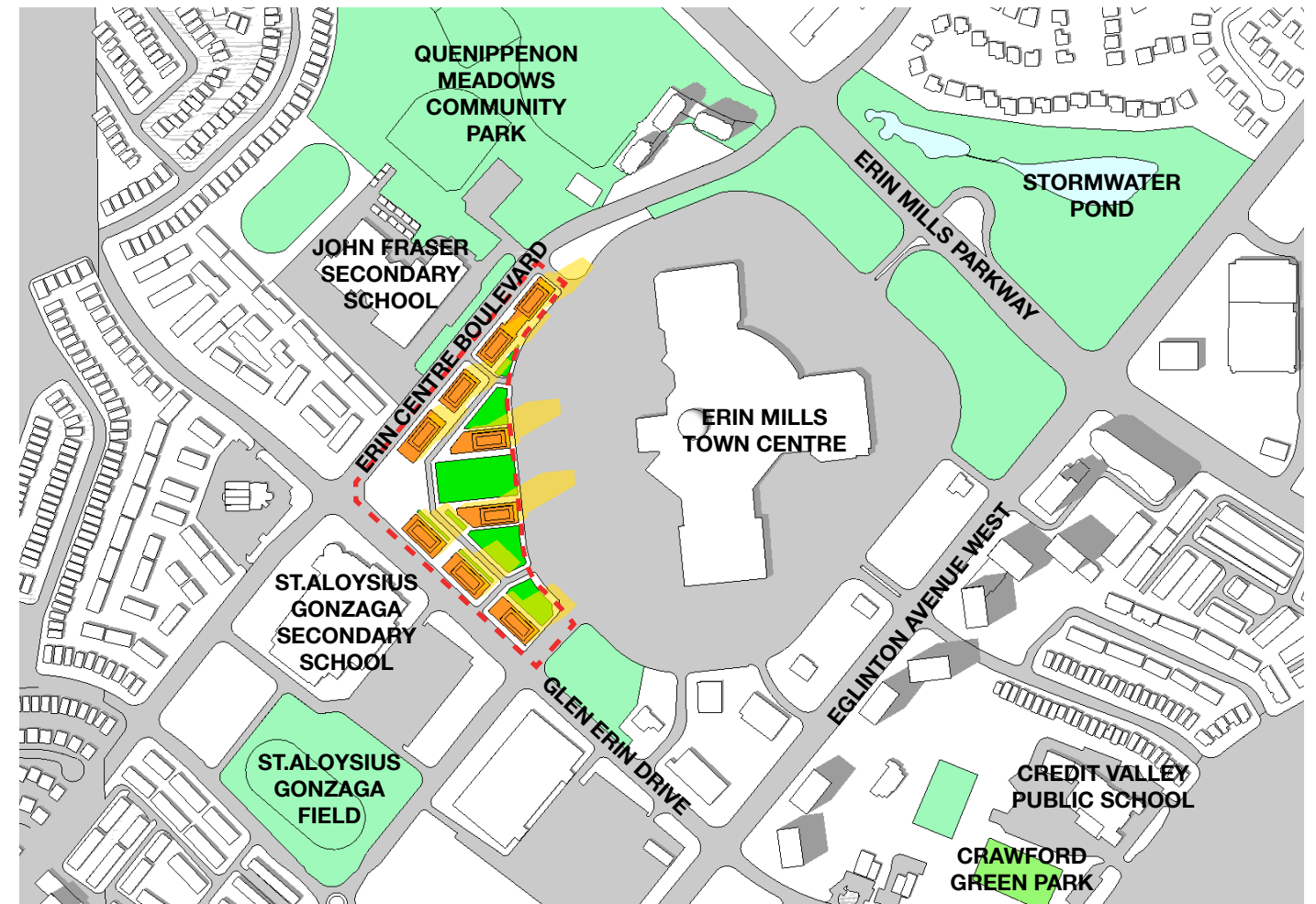
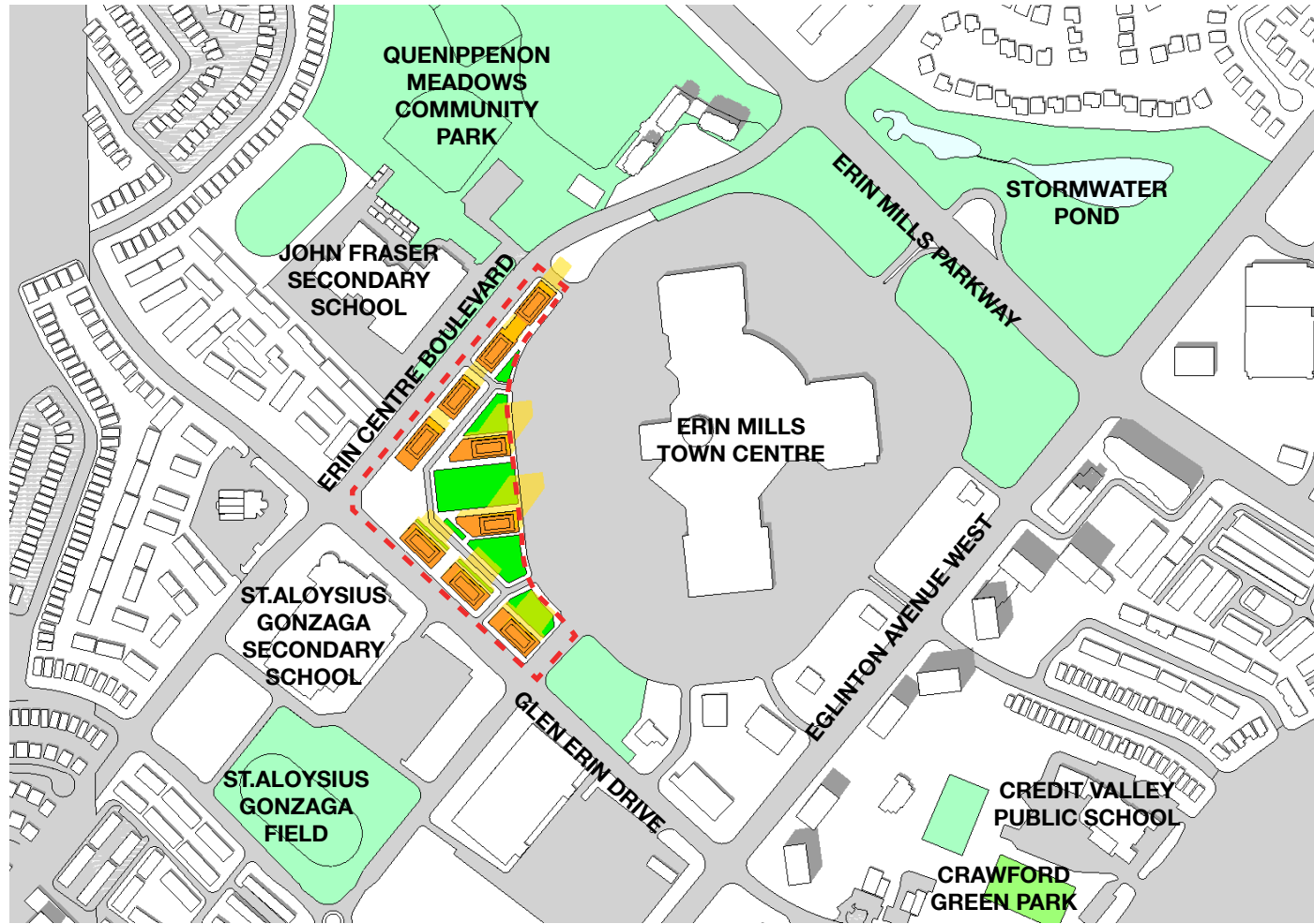
June 21 | 12:20 pm

June 21 | 1:20 pm (Solar Noon)



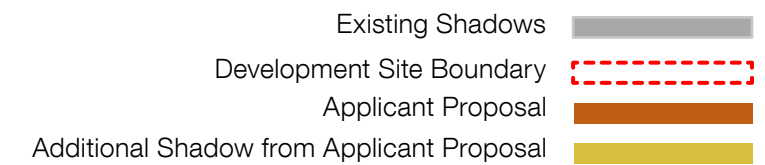
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June 21 | 2:20 pm

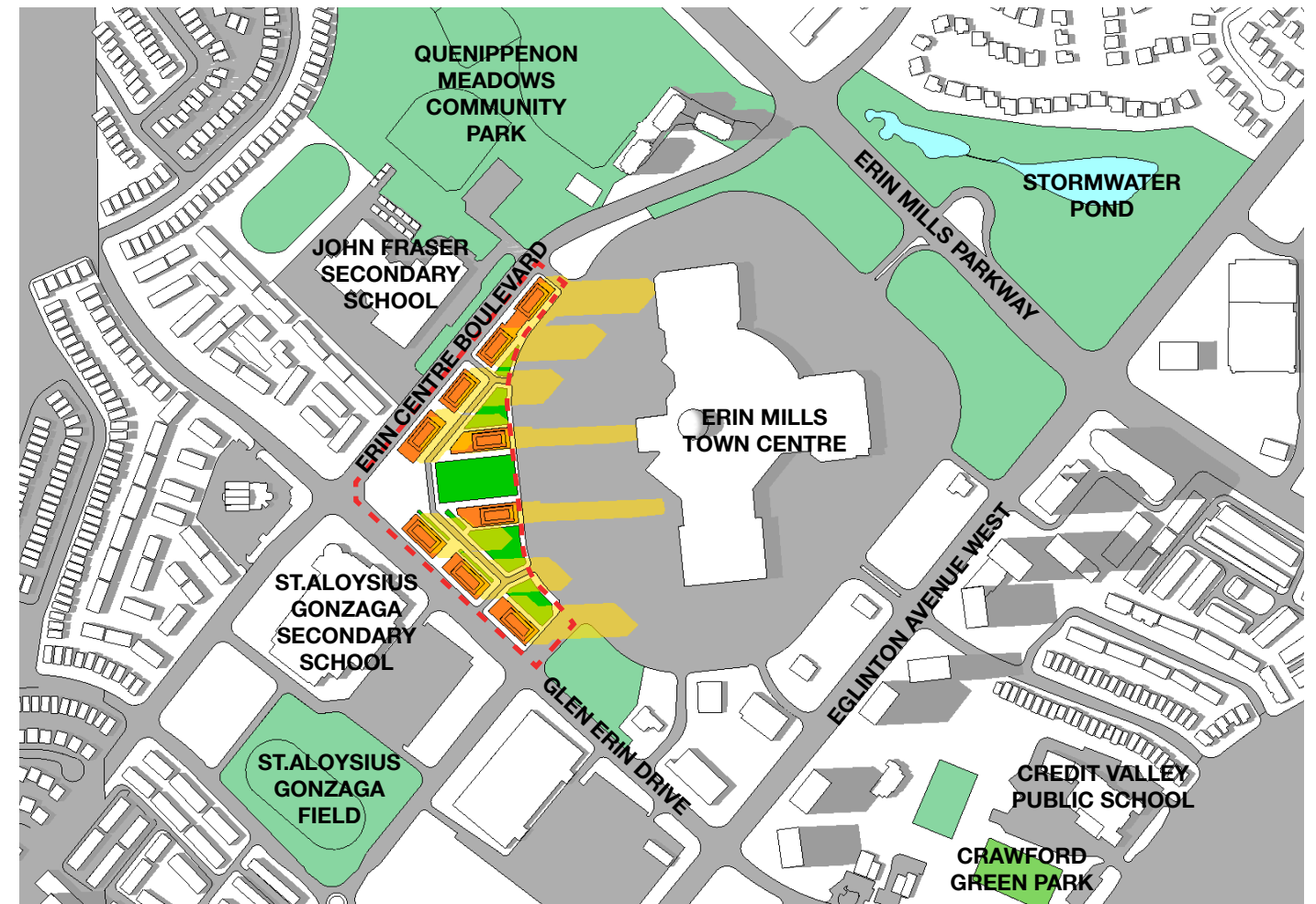
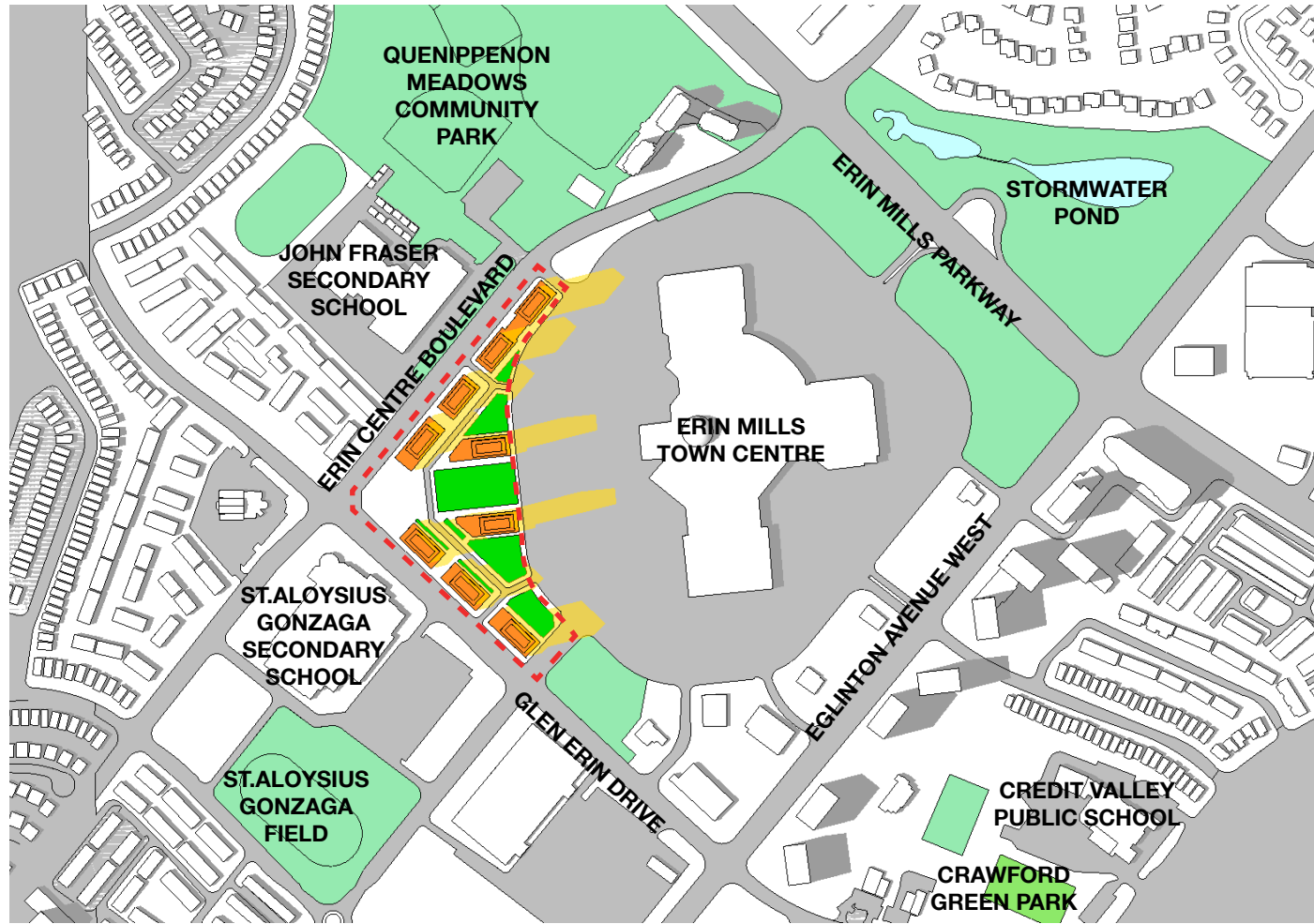
June 21 | 3:20 pm



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

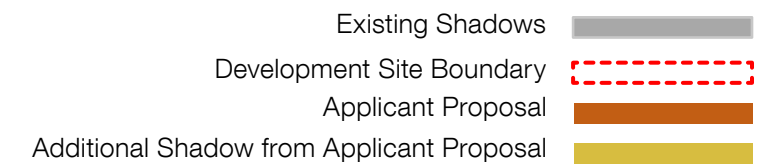
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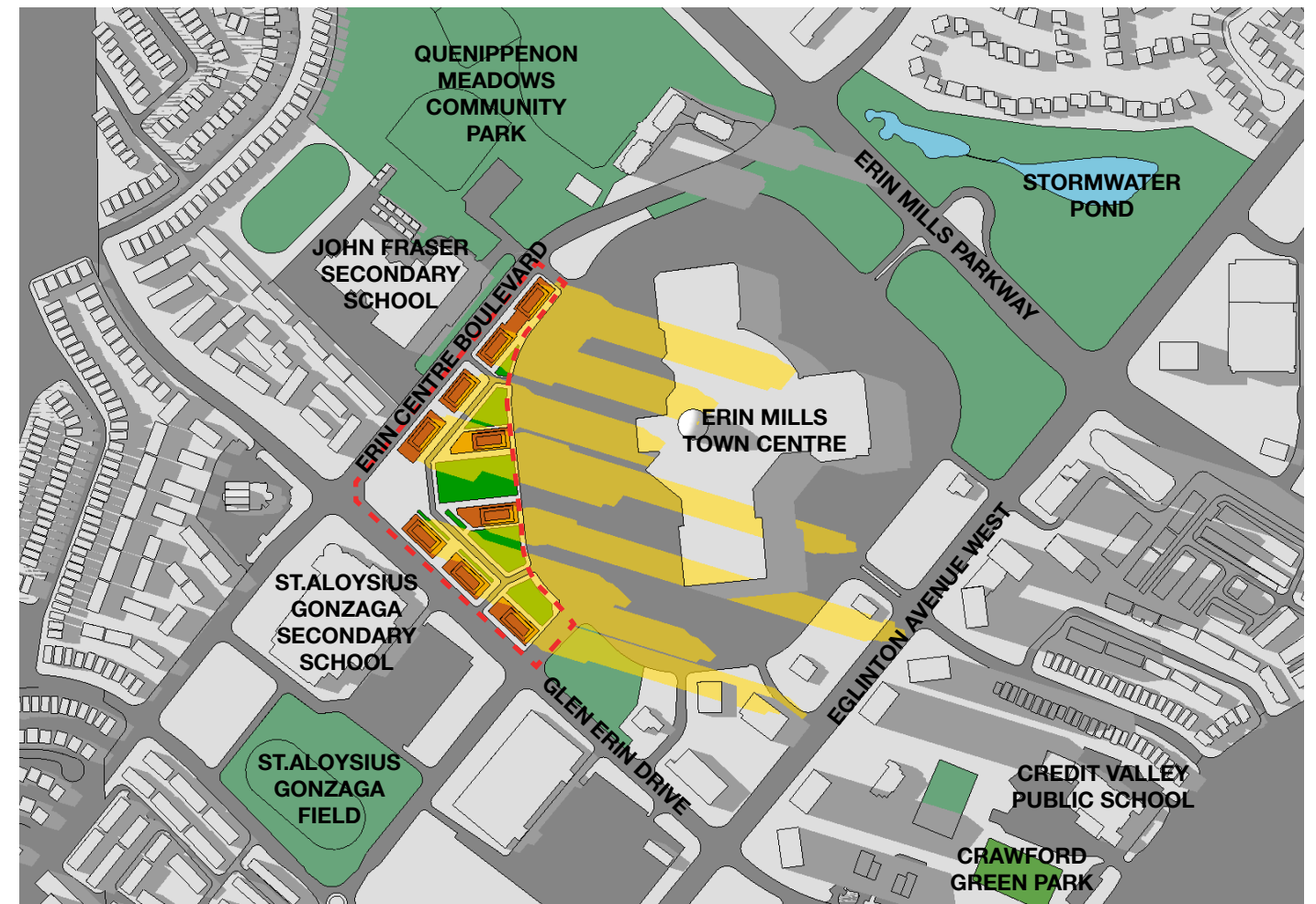
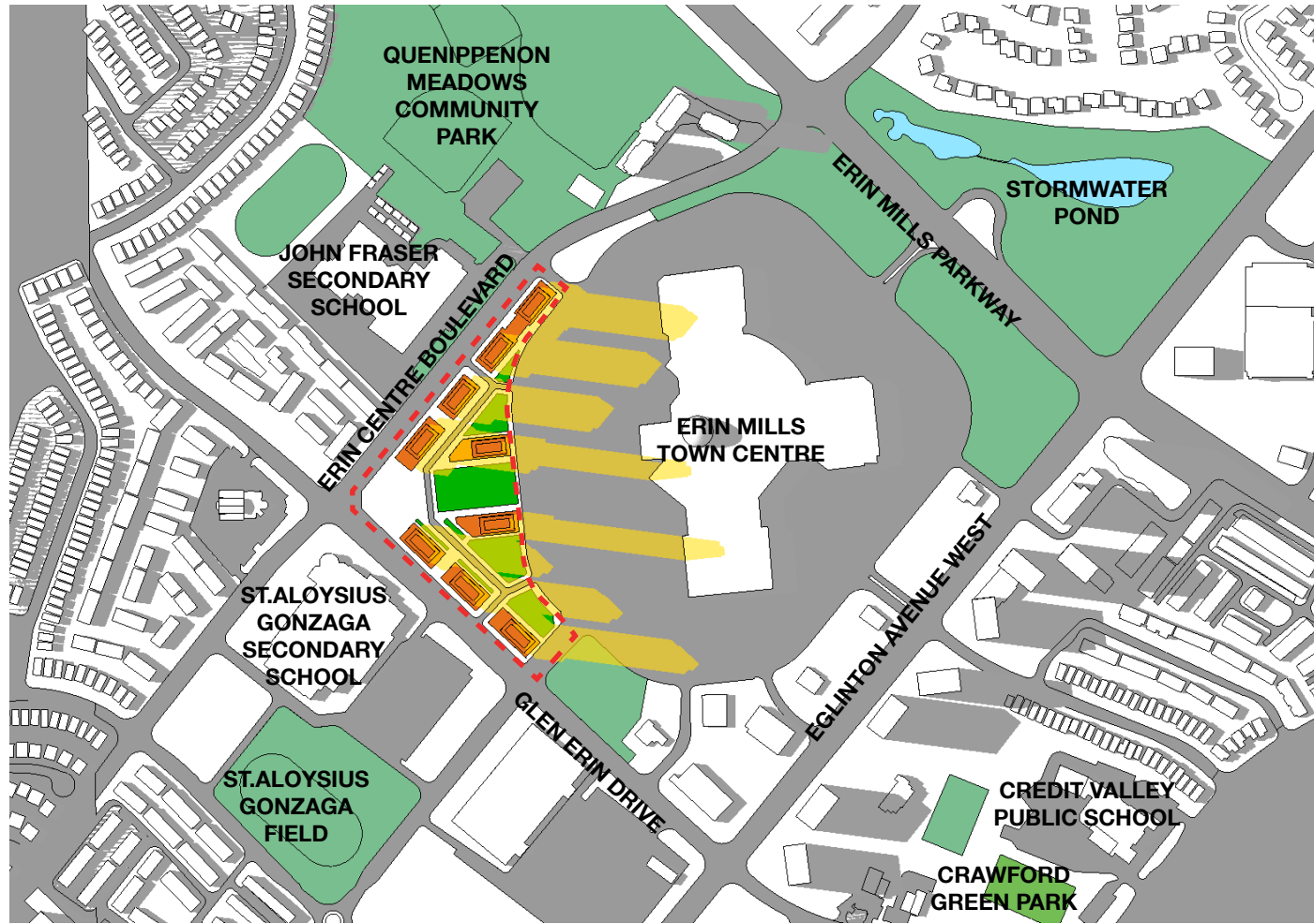
June 21 | 4:20 pm

June 21 | 5:20 pm



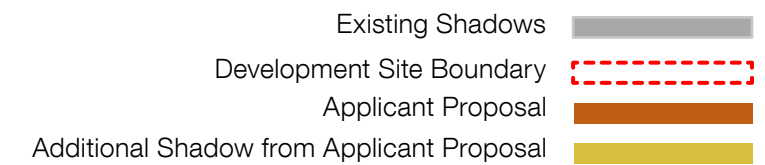
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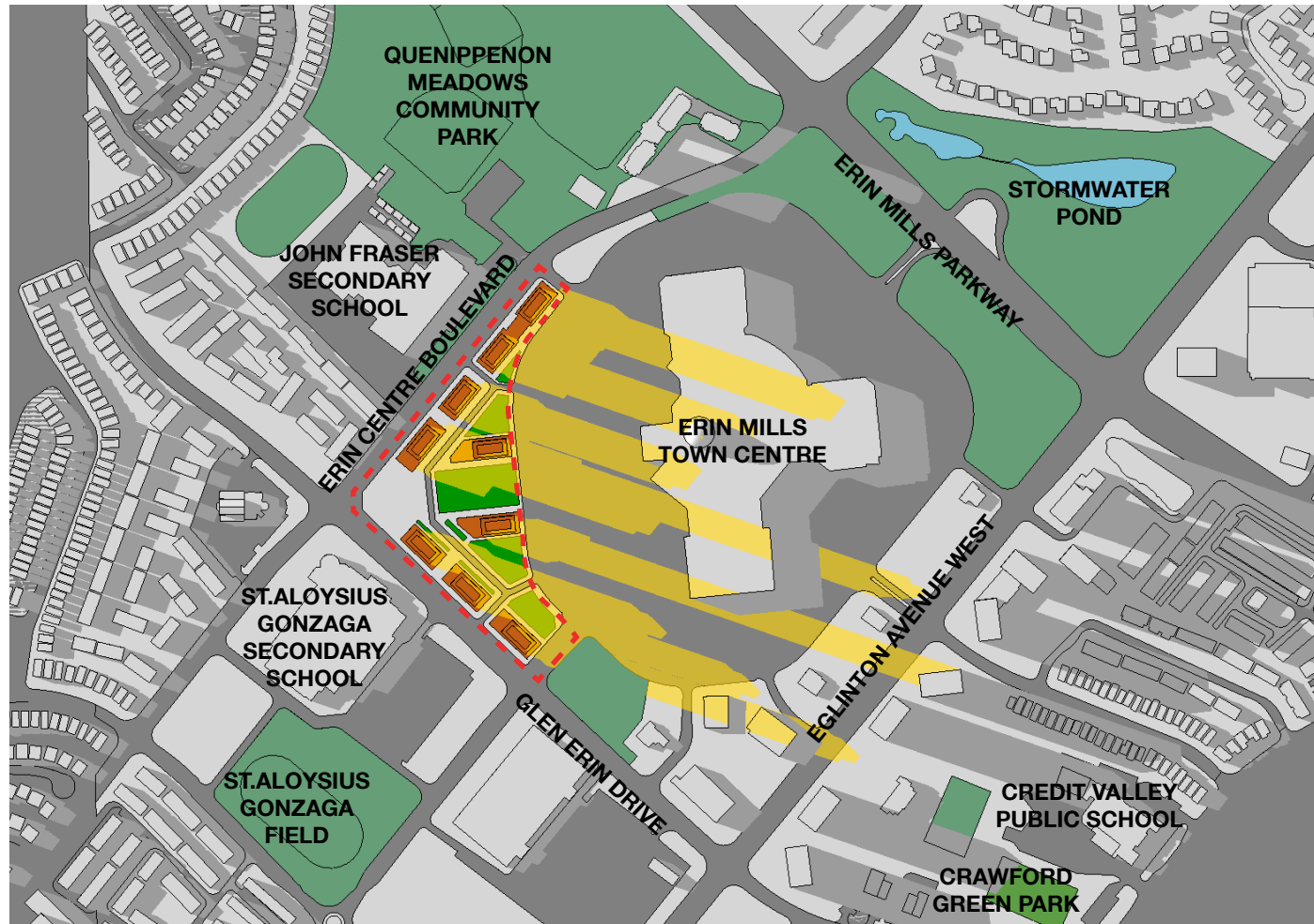
June 21 | 6:20 pm

June 21 | 7:20 pm



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June 21 | 7:33 pm

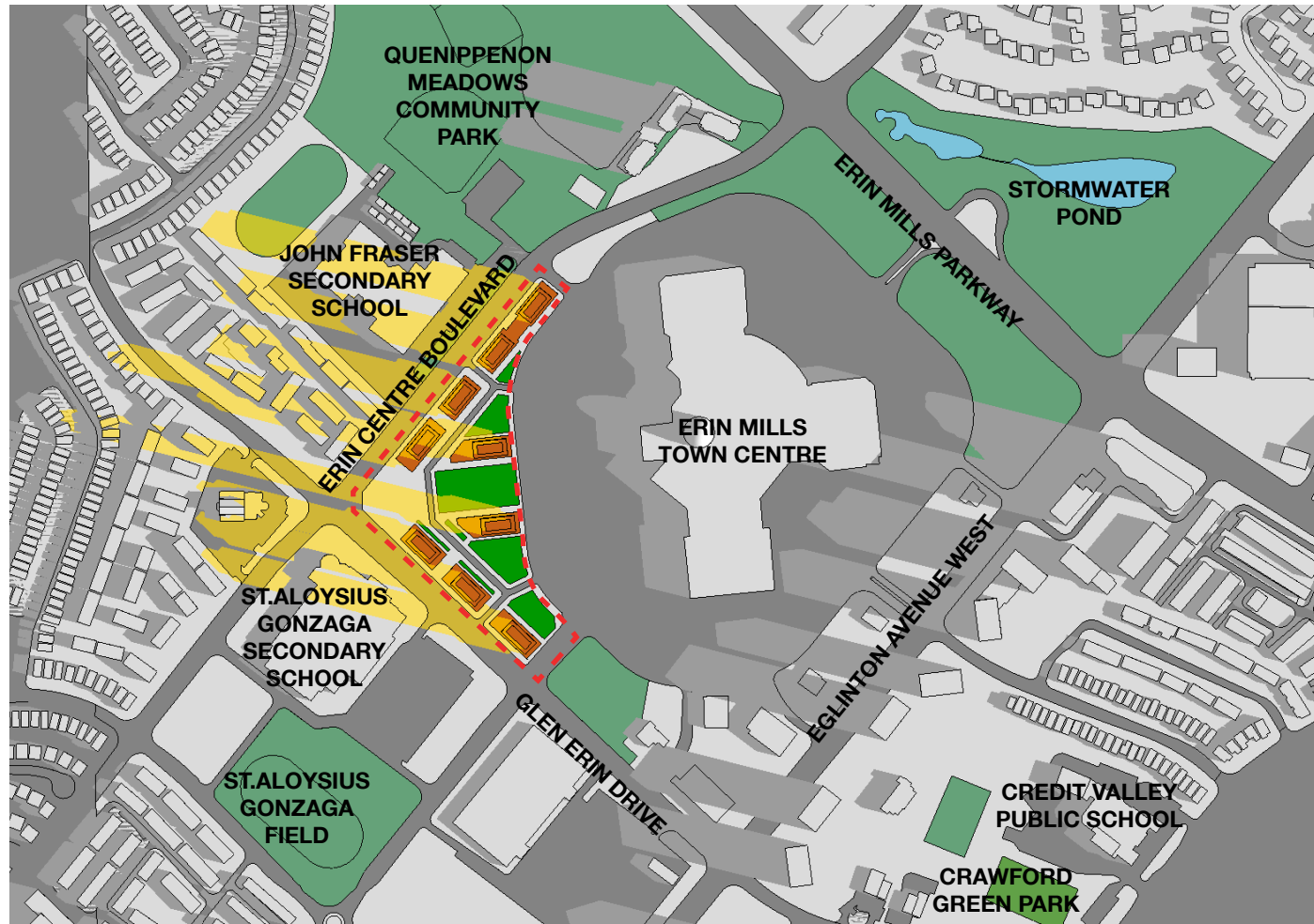


NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

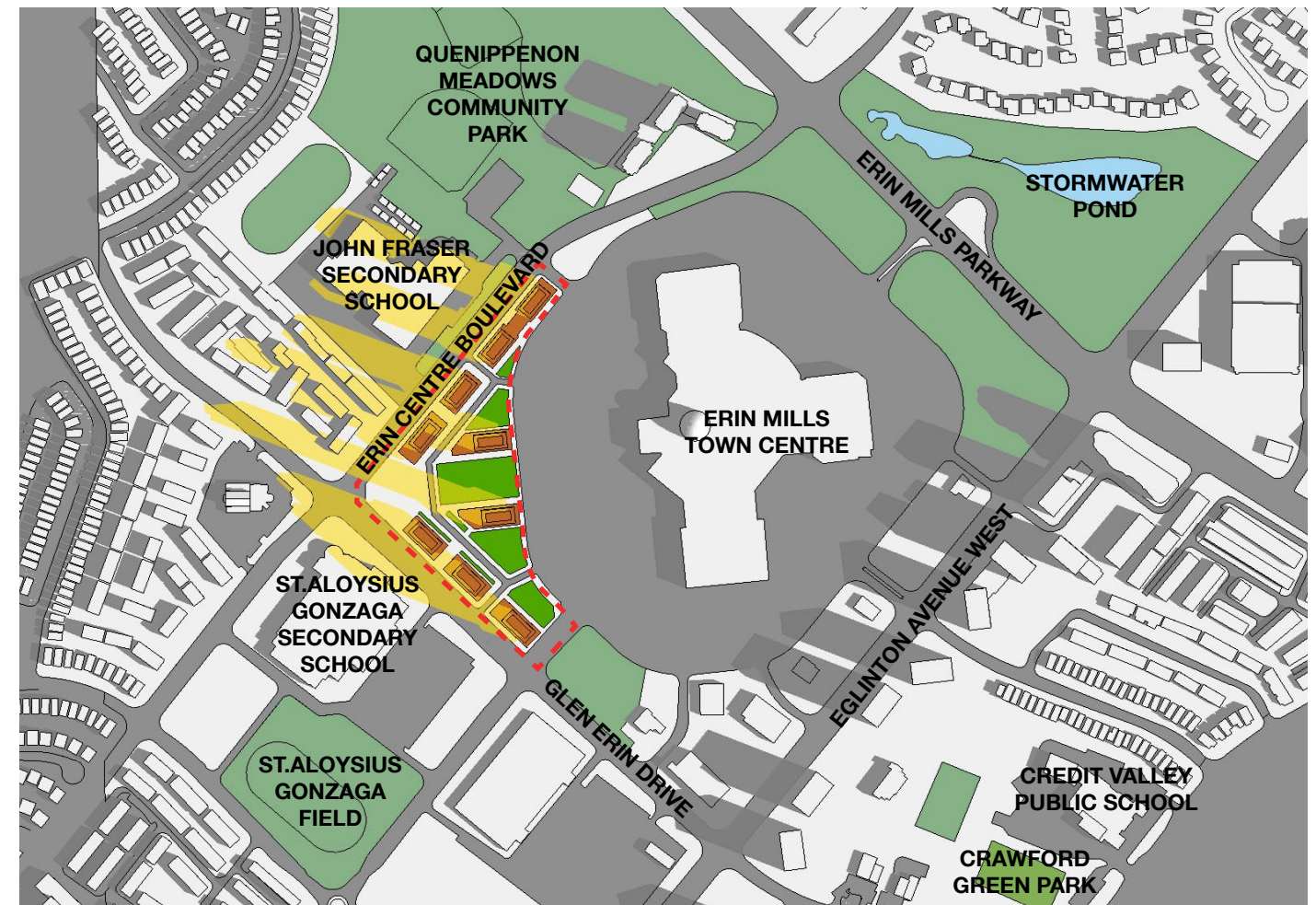
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# SEPTEMBER/MARCH SHADOW STUDY



September/March 21 | 8:35 am

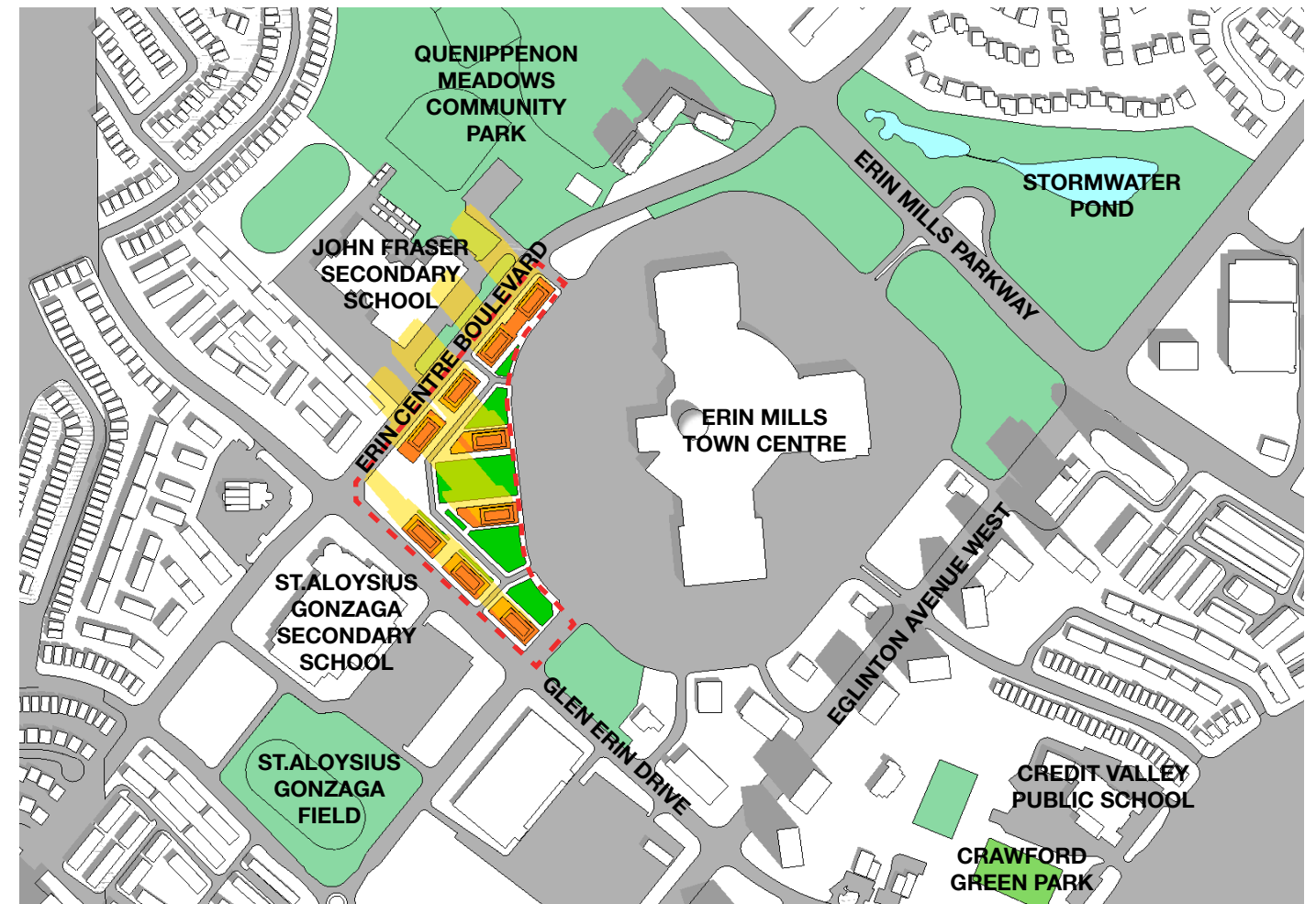
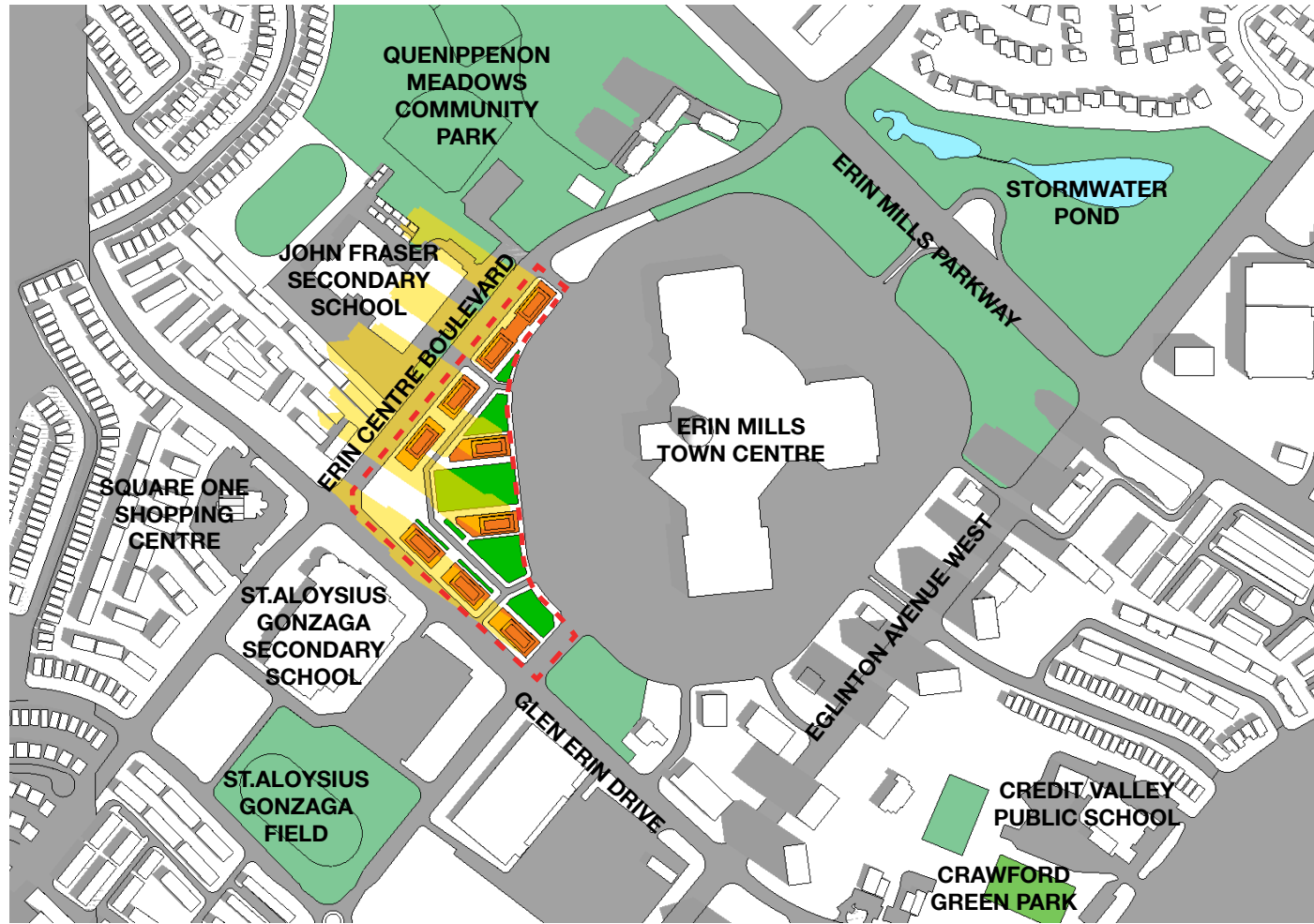


September/March 21 | 9:12 am



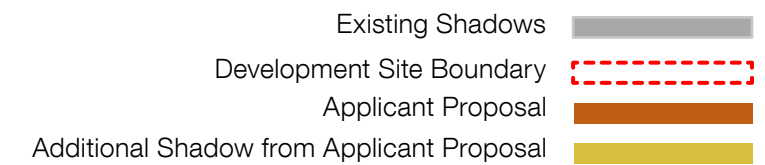
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September/March 21 | 10:12 am

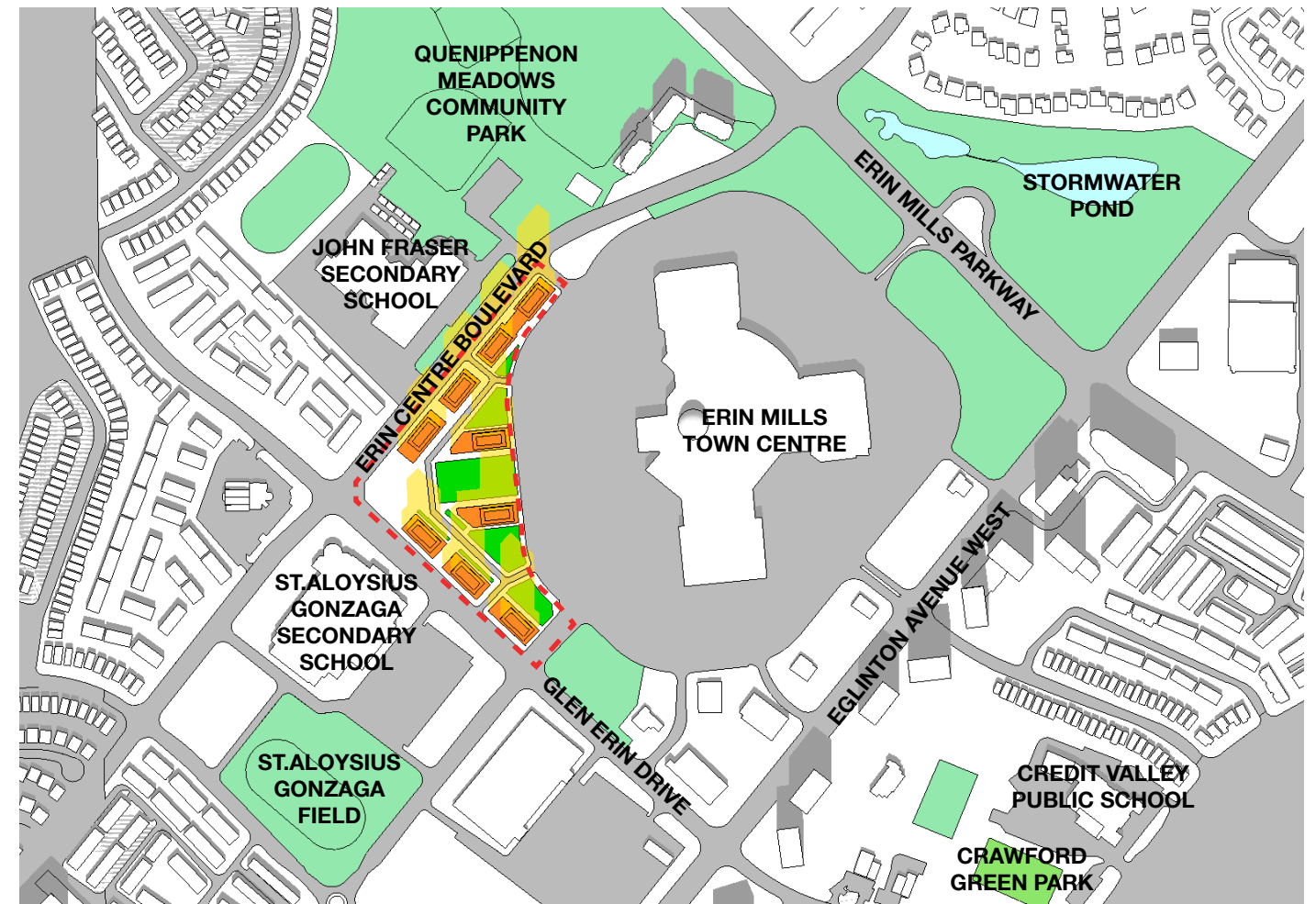
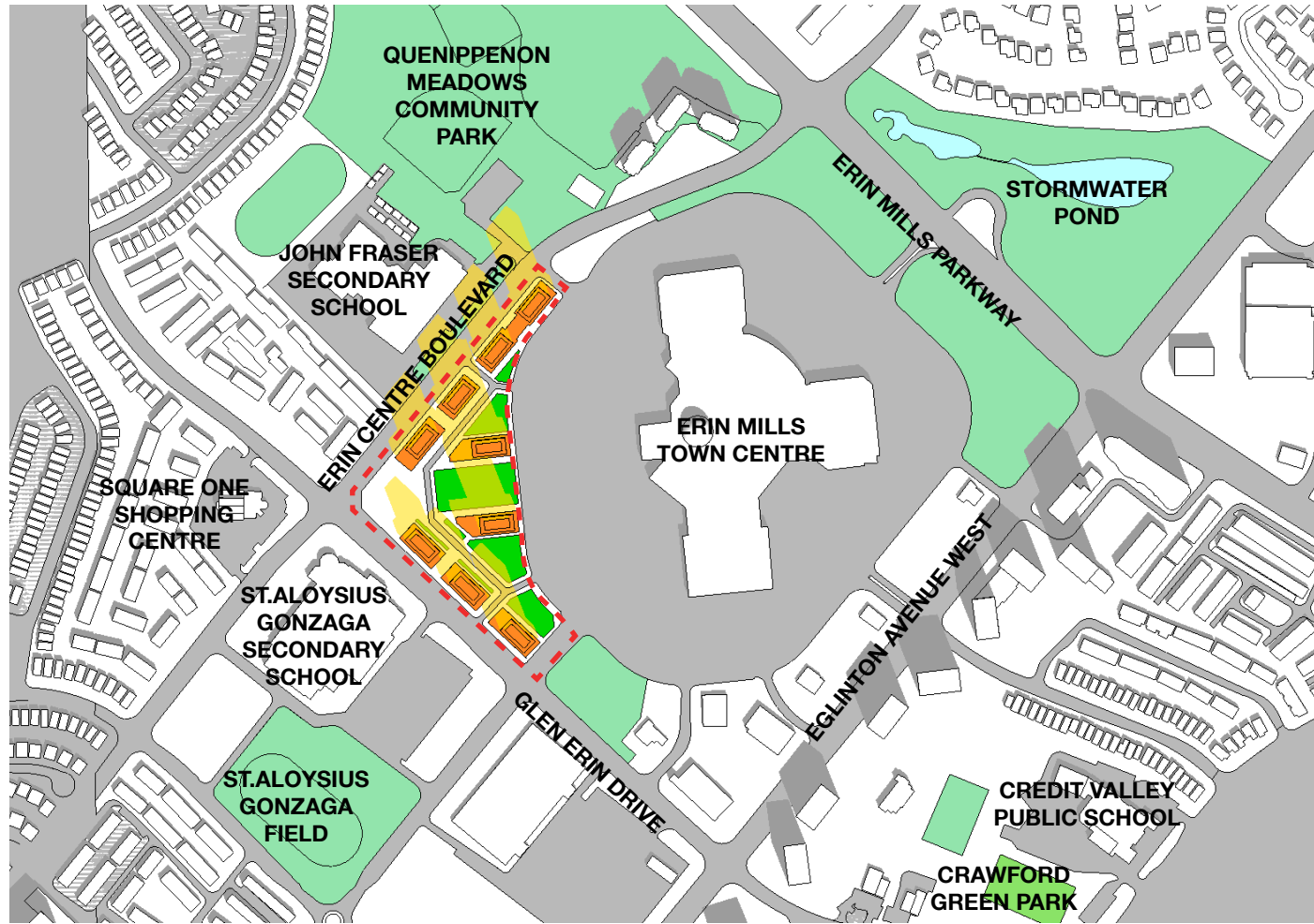
September/March 21 | 11:12 am



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

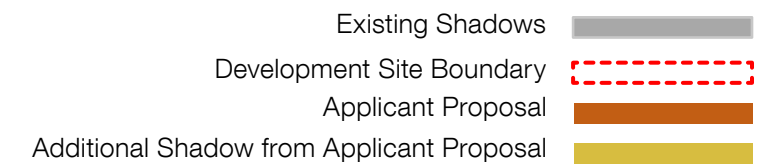
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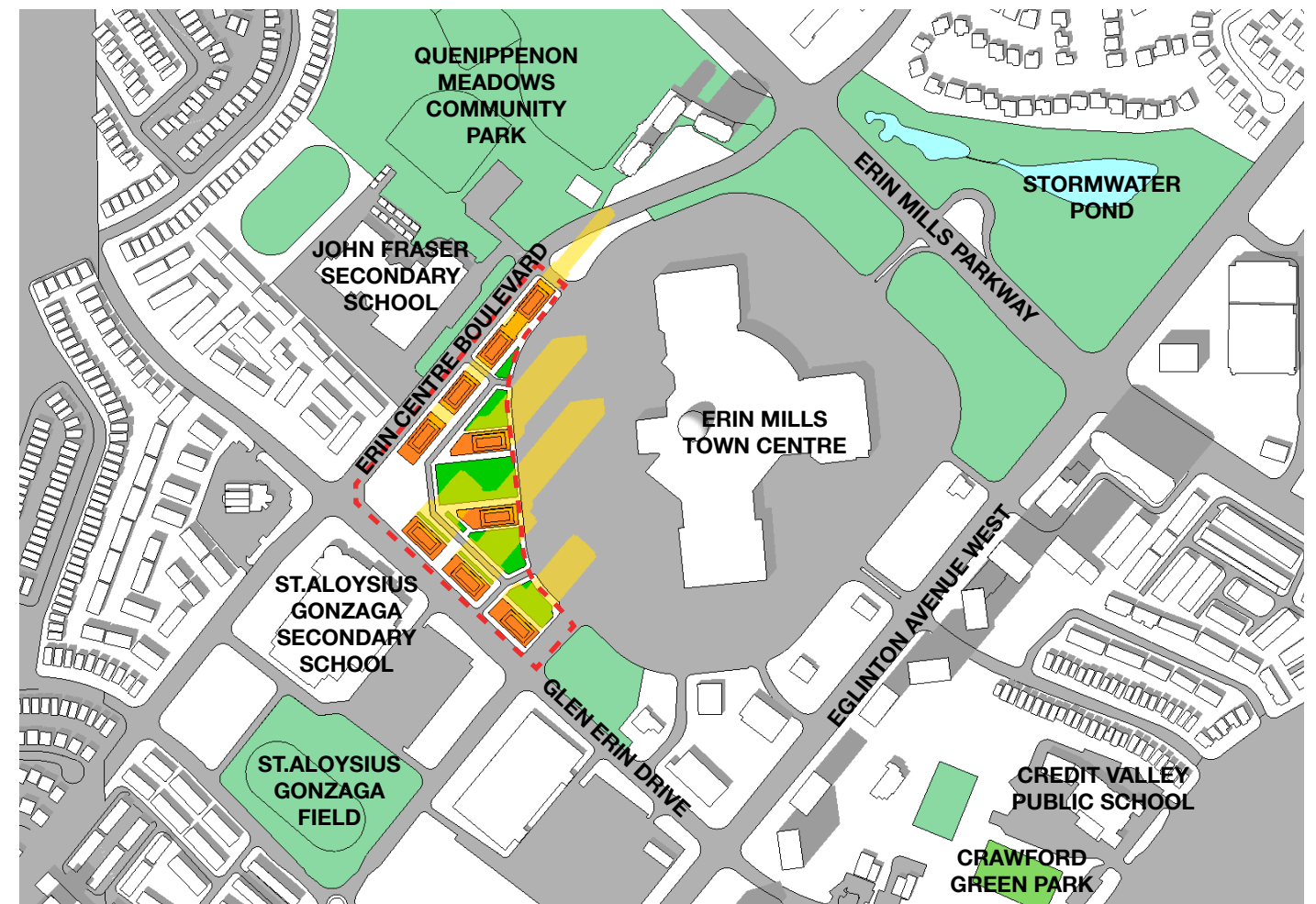
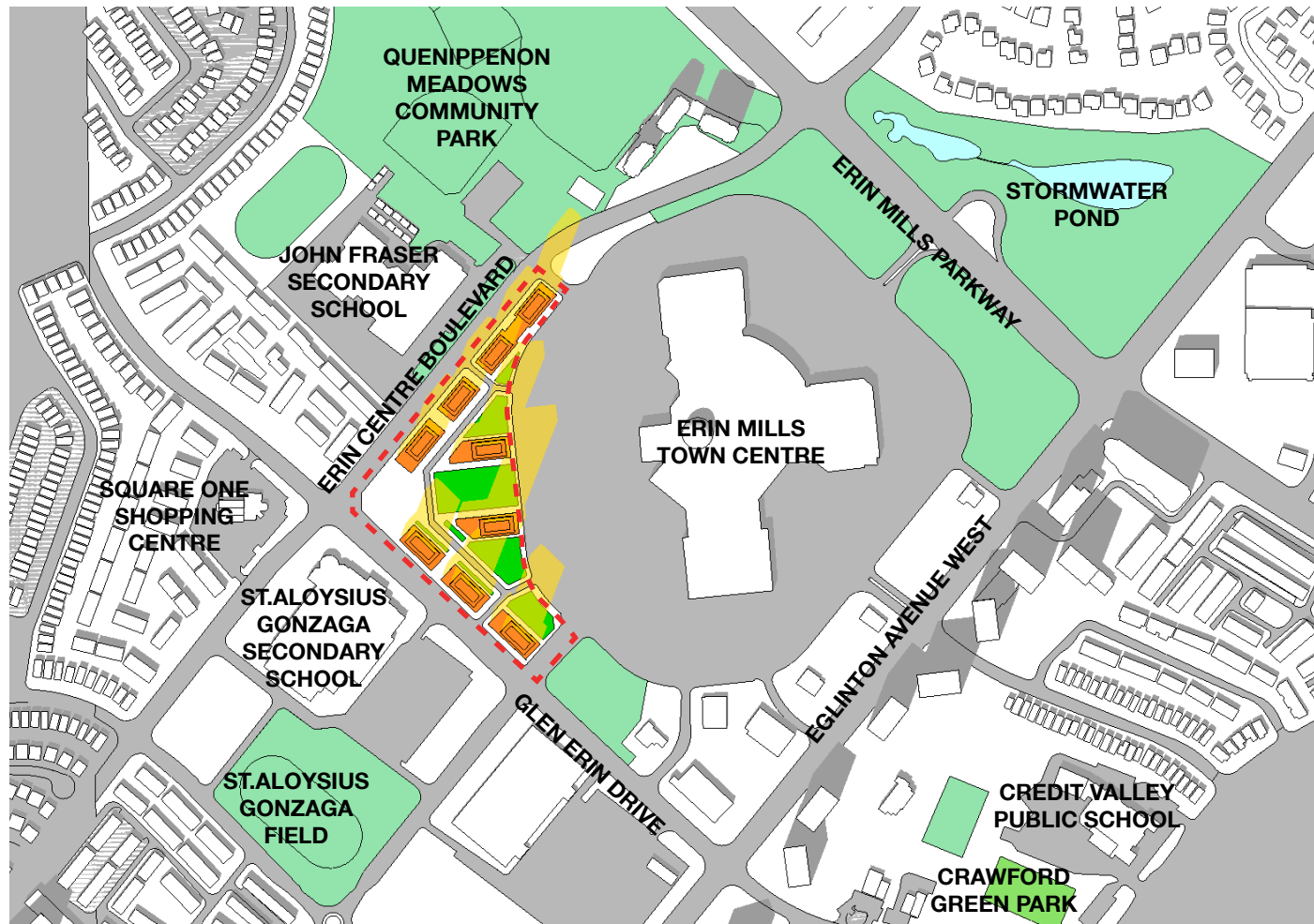
September/March 21 | 12:12 pm

September/March 21 | 1:12 pm (Solar Noon)



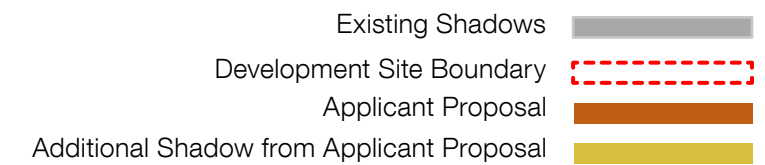
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September/March 21 | 2:12 pm

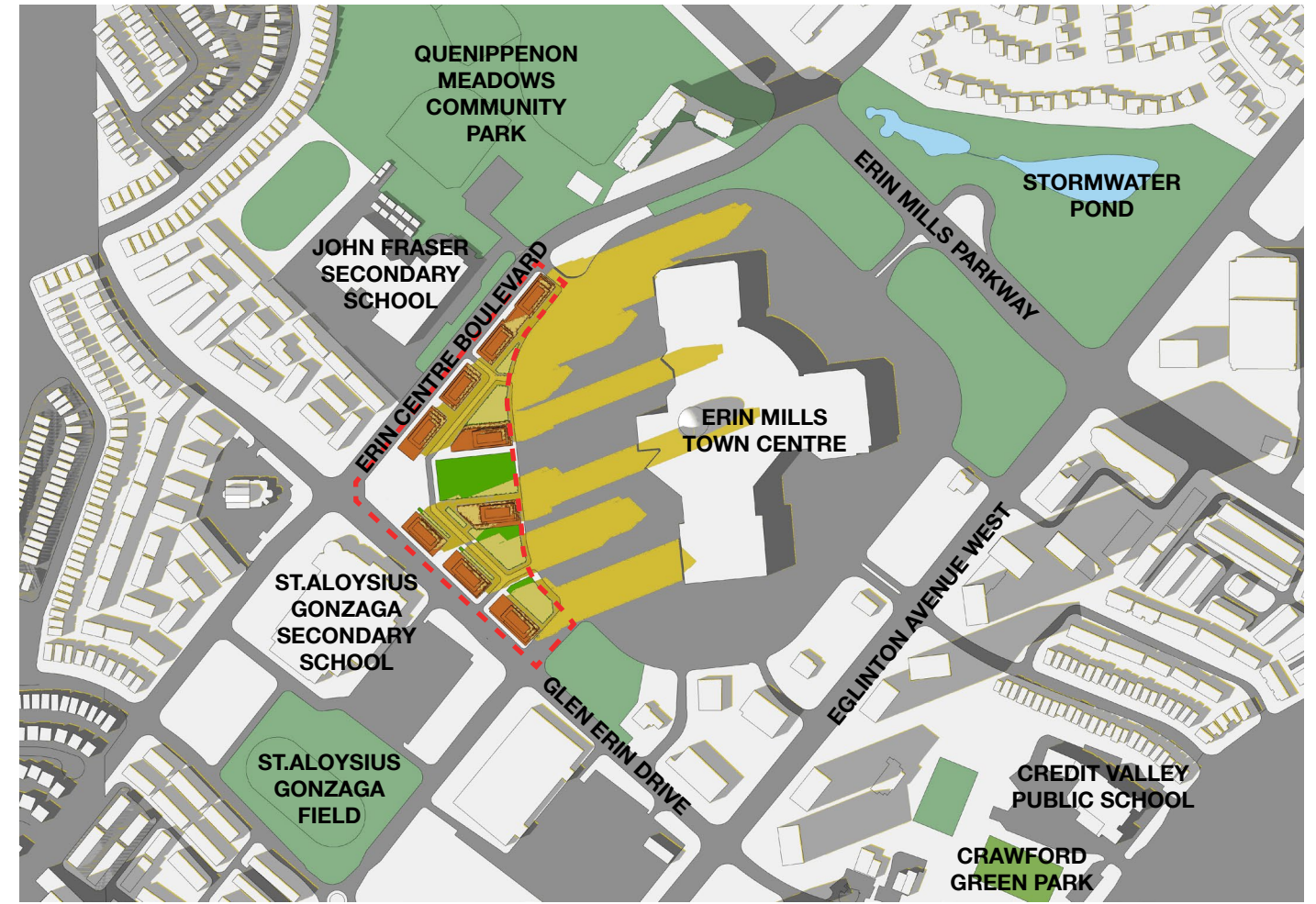
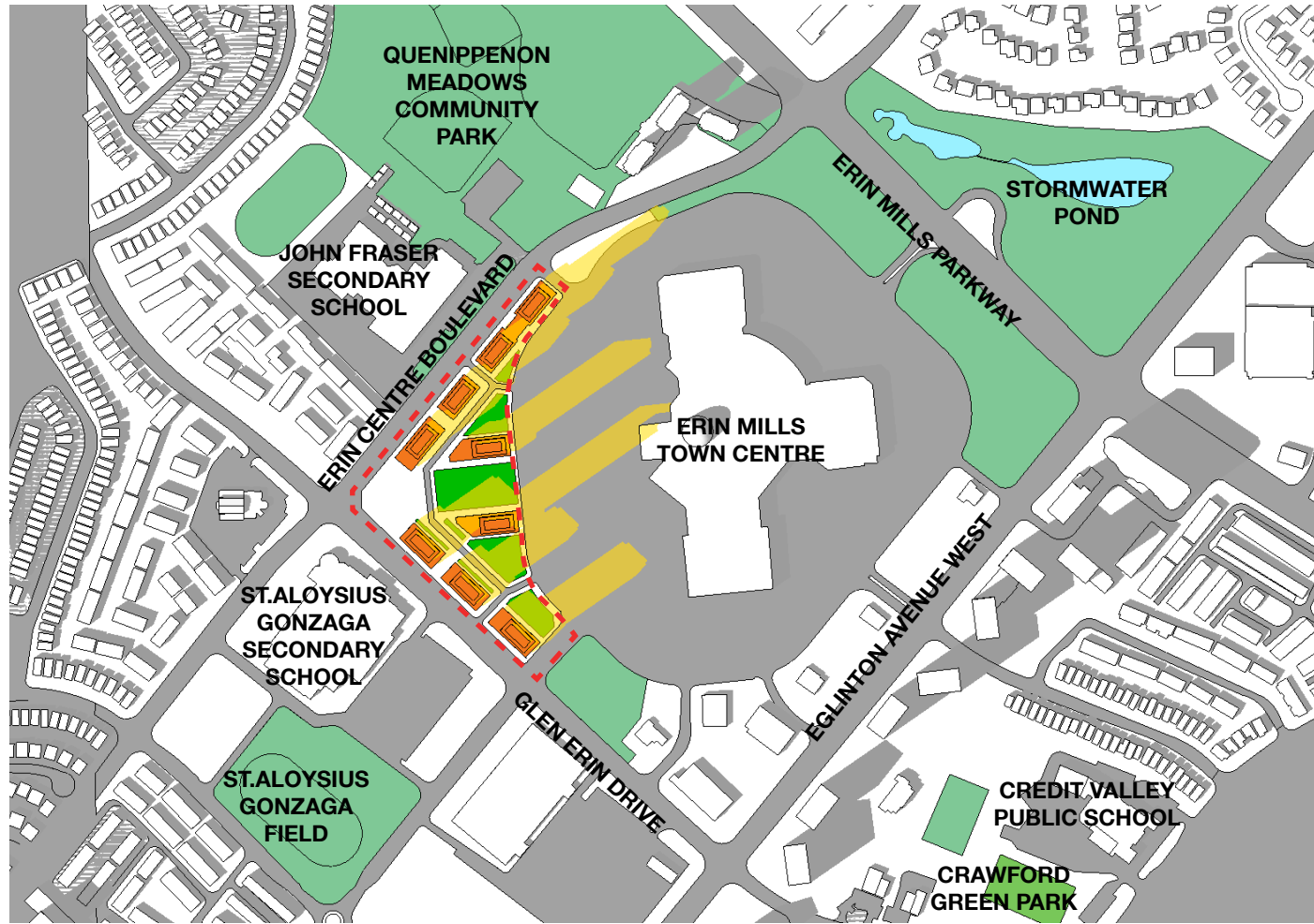
September/March 21 | 3:12 pm



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

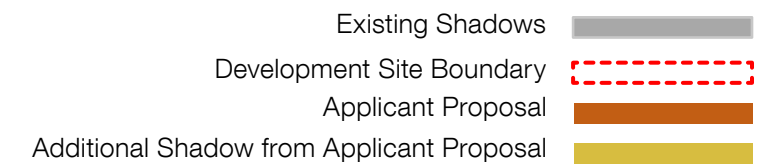
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September/March 21 | 4:12 pm

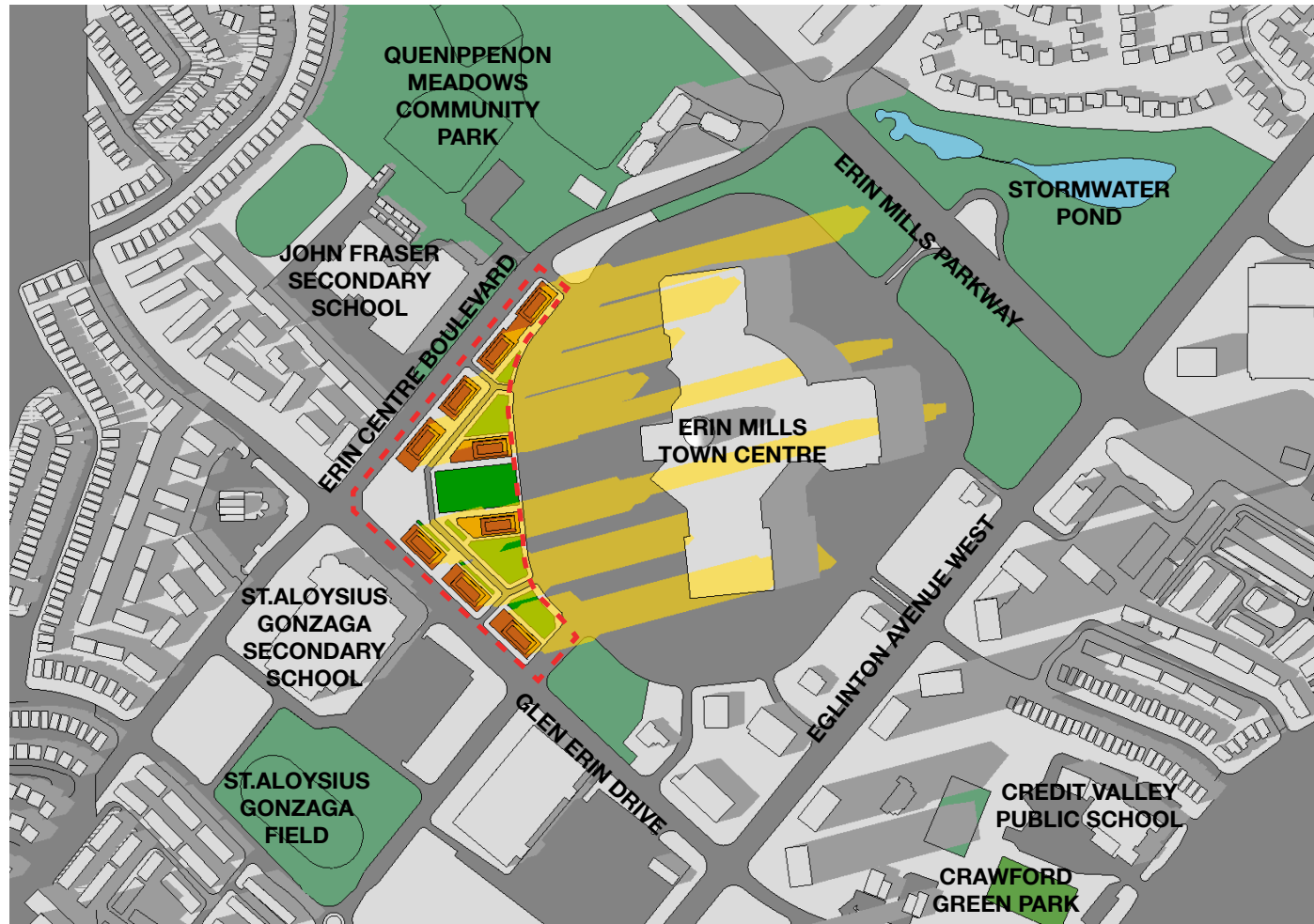
September/March 21 | 5:12 pm



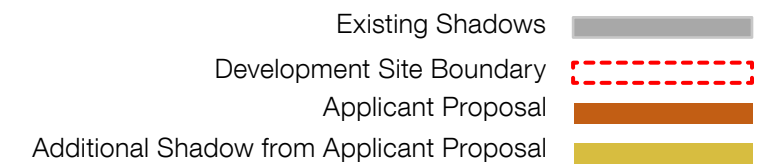
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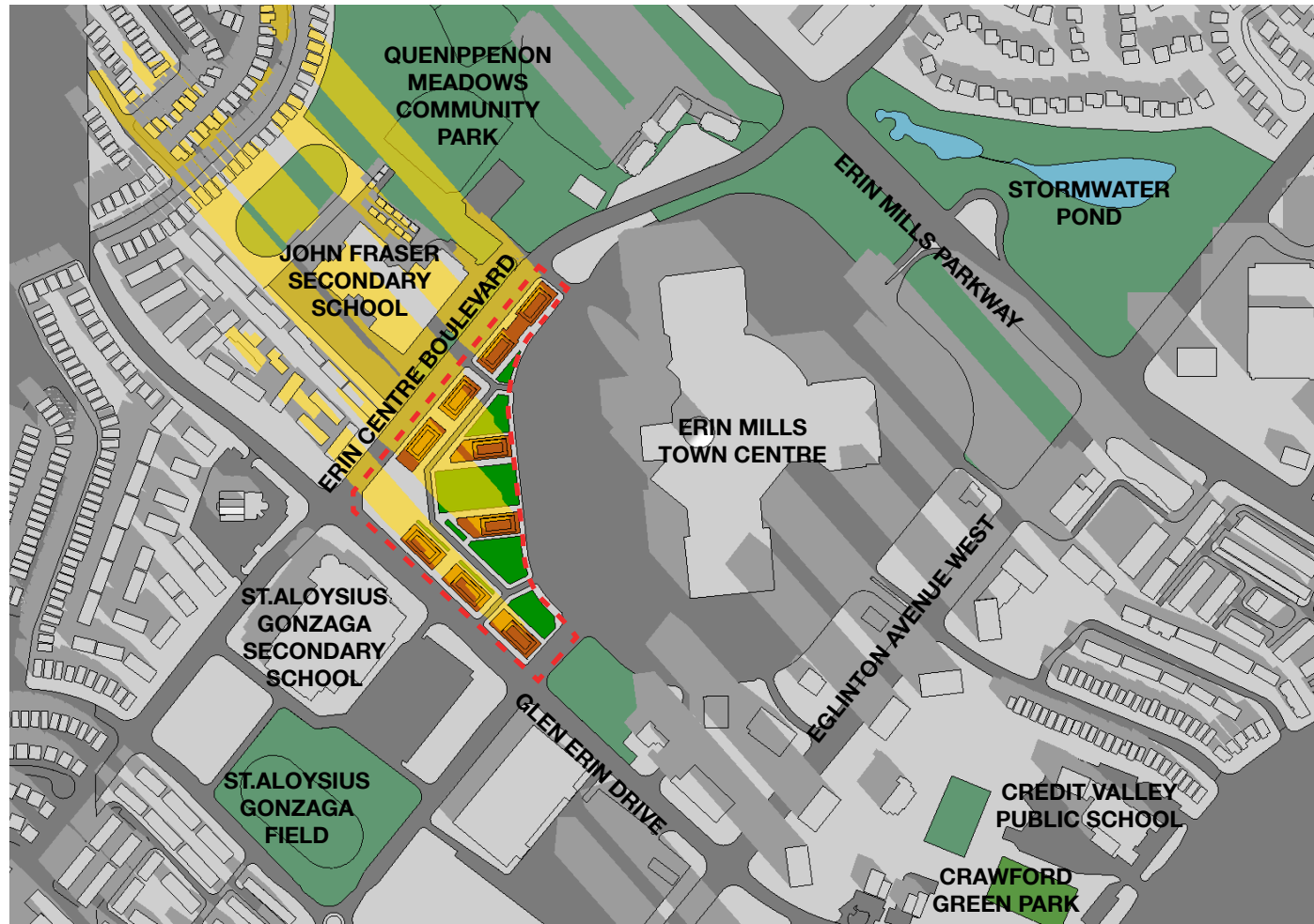
September/March 21 | 5:48 pm



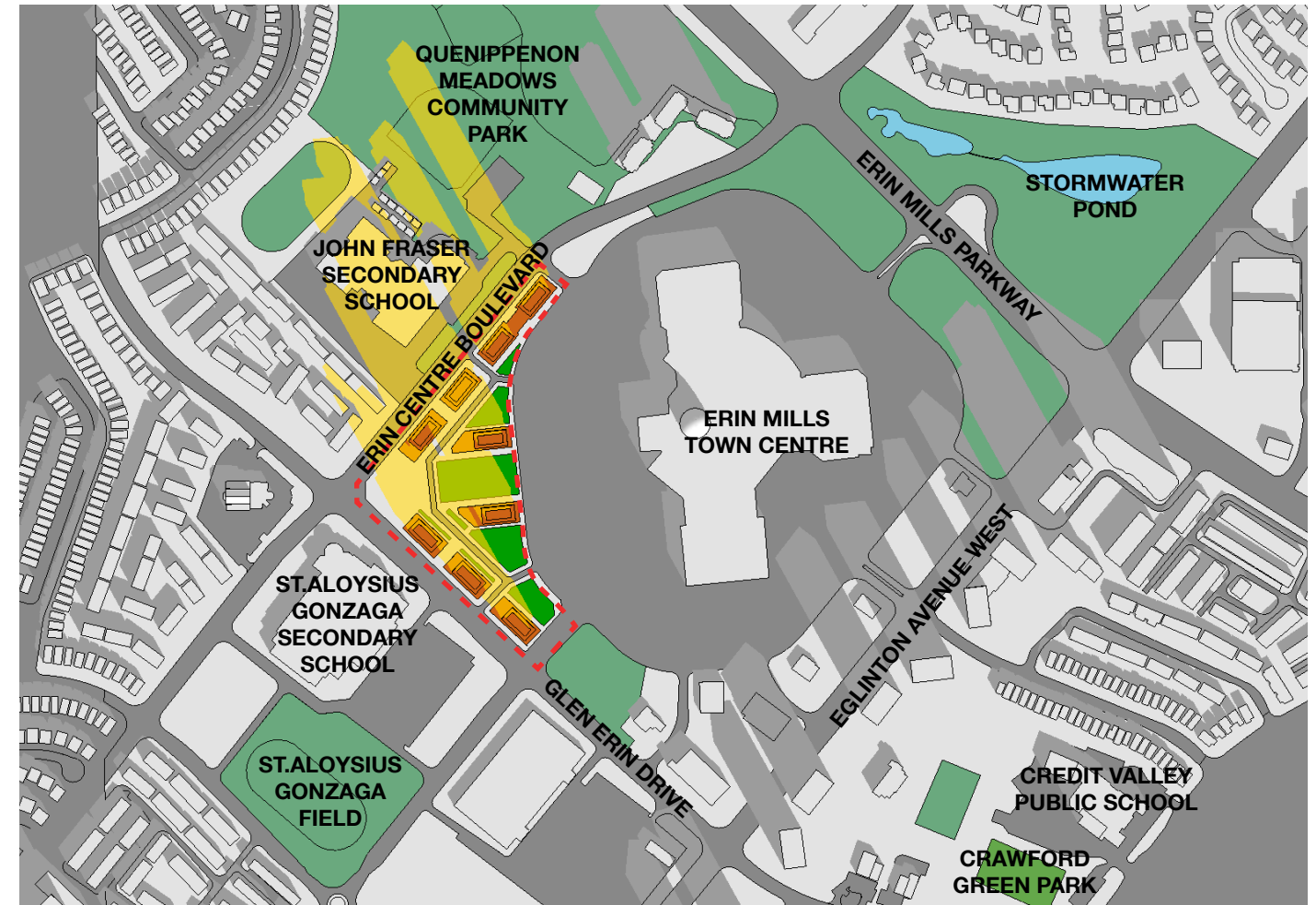
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# DECEMBER SHADOW STUDY



December 21 | 9:19 am



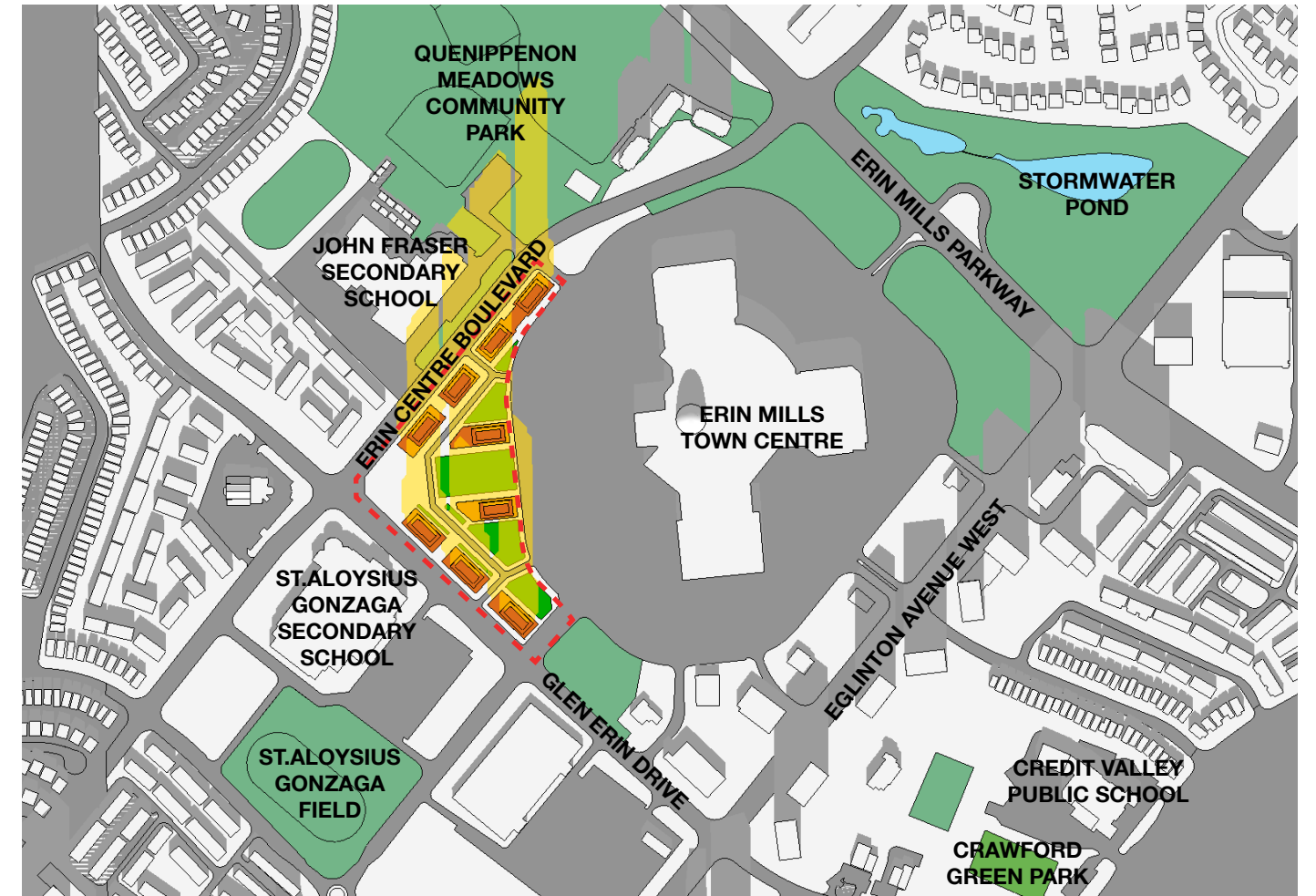
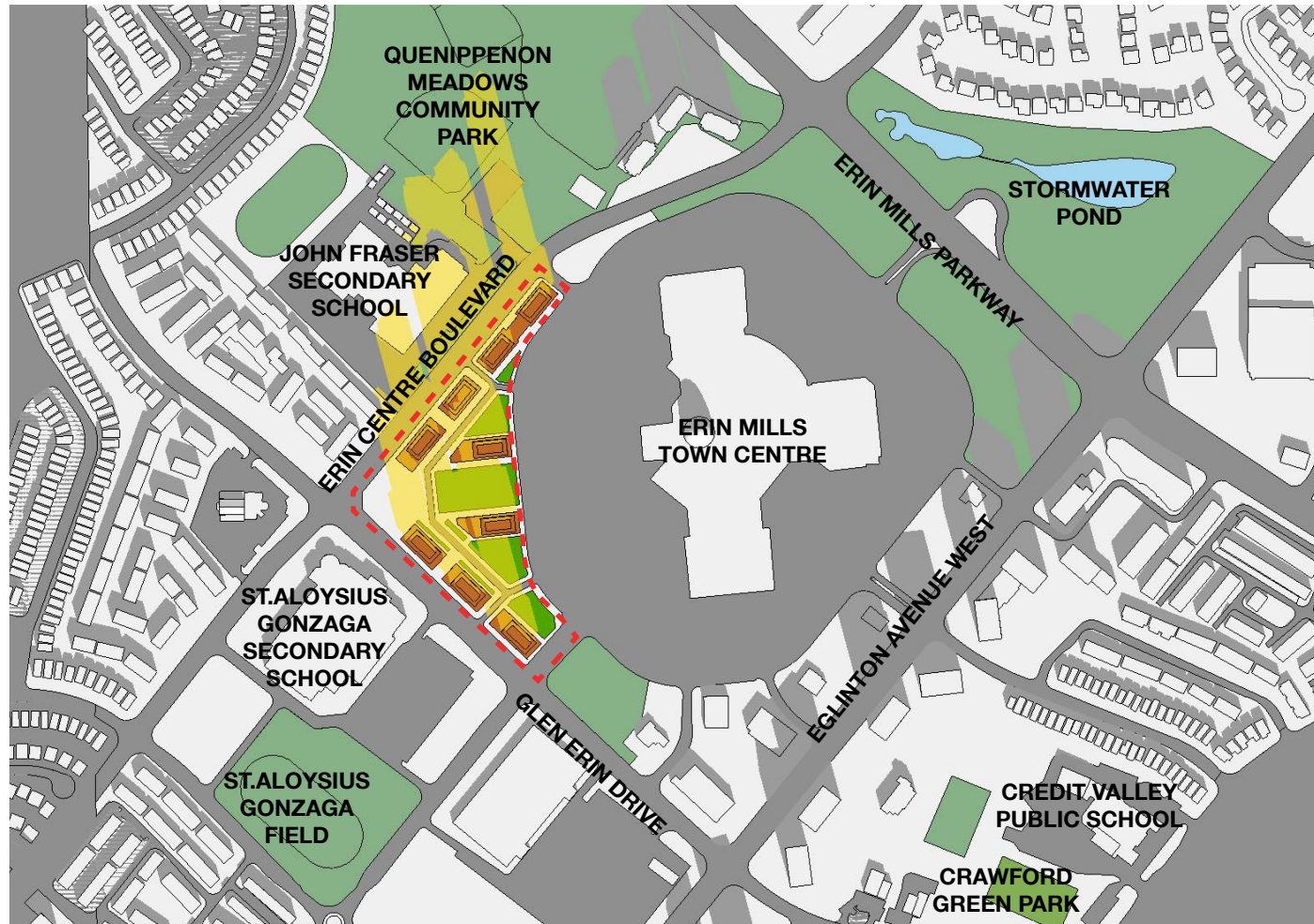
Decemeber 21 | 10:17 am



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

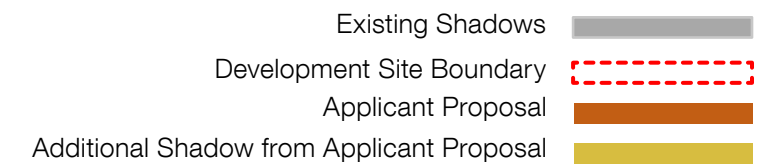
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December 21 | 11:17 am

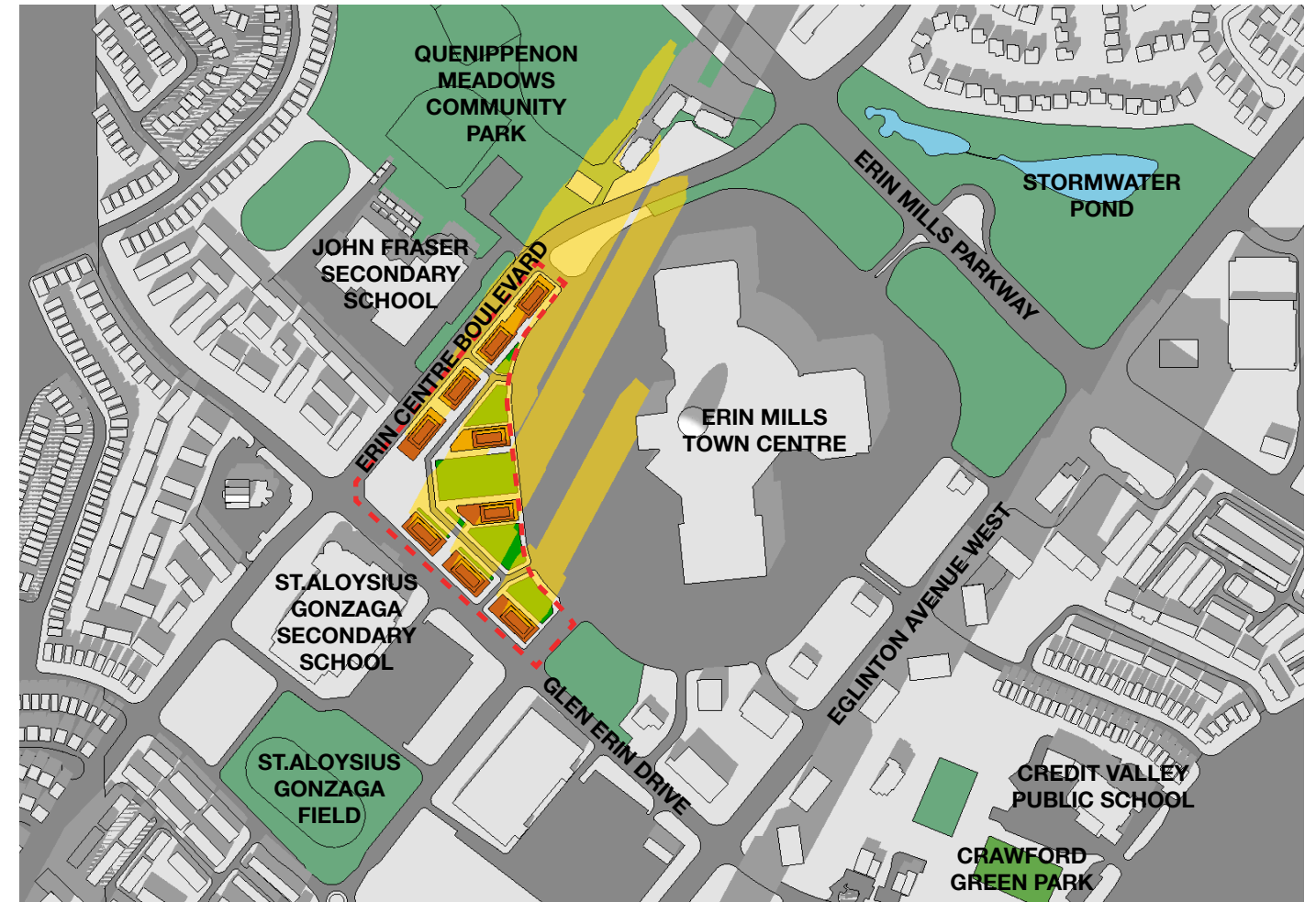
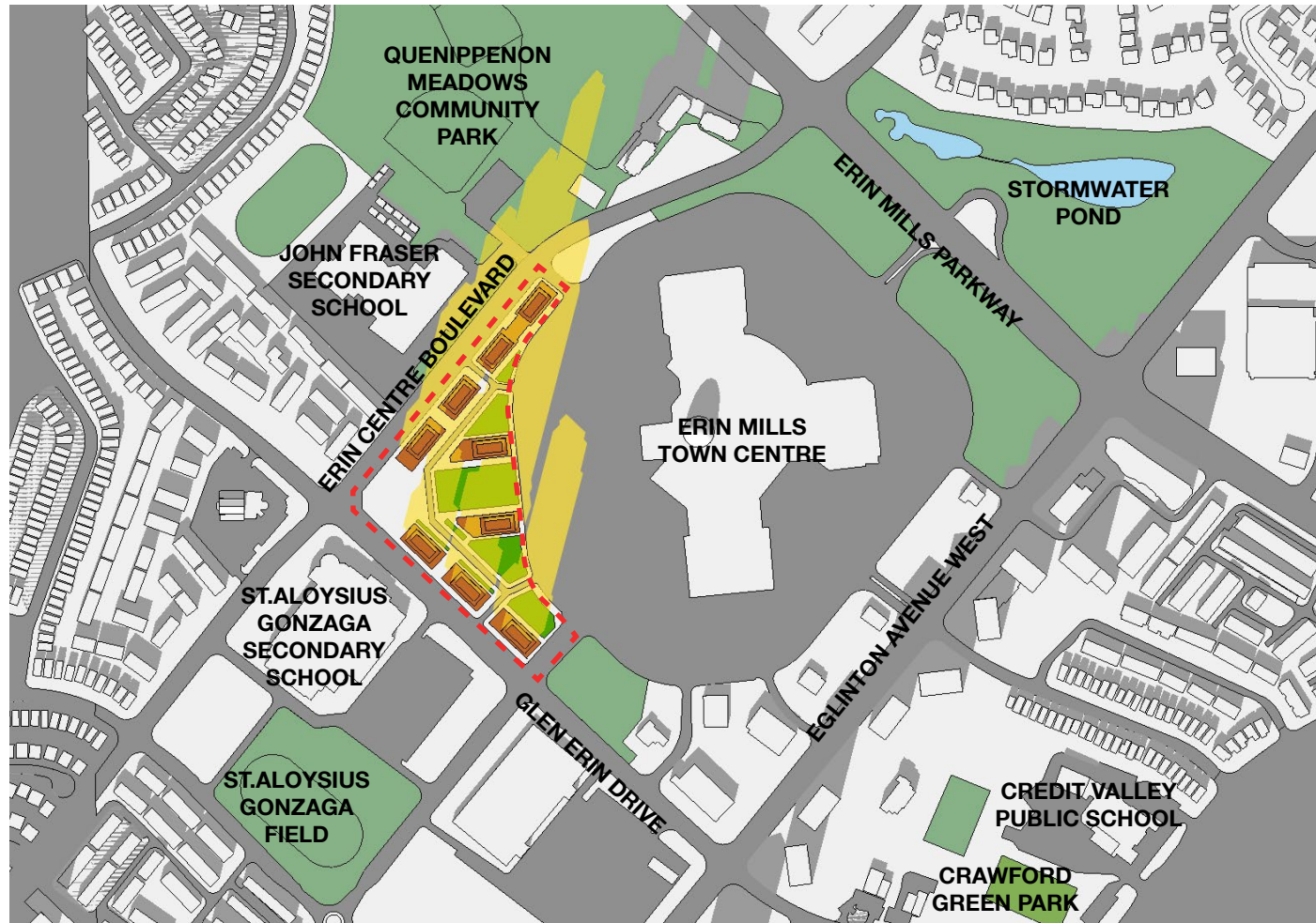
Decemeber 21 | 12:17 pm



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

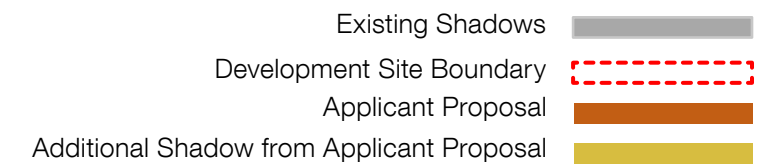
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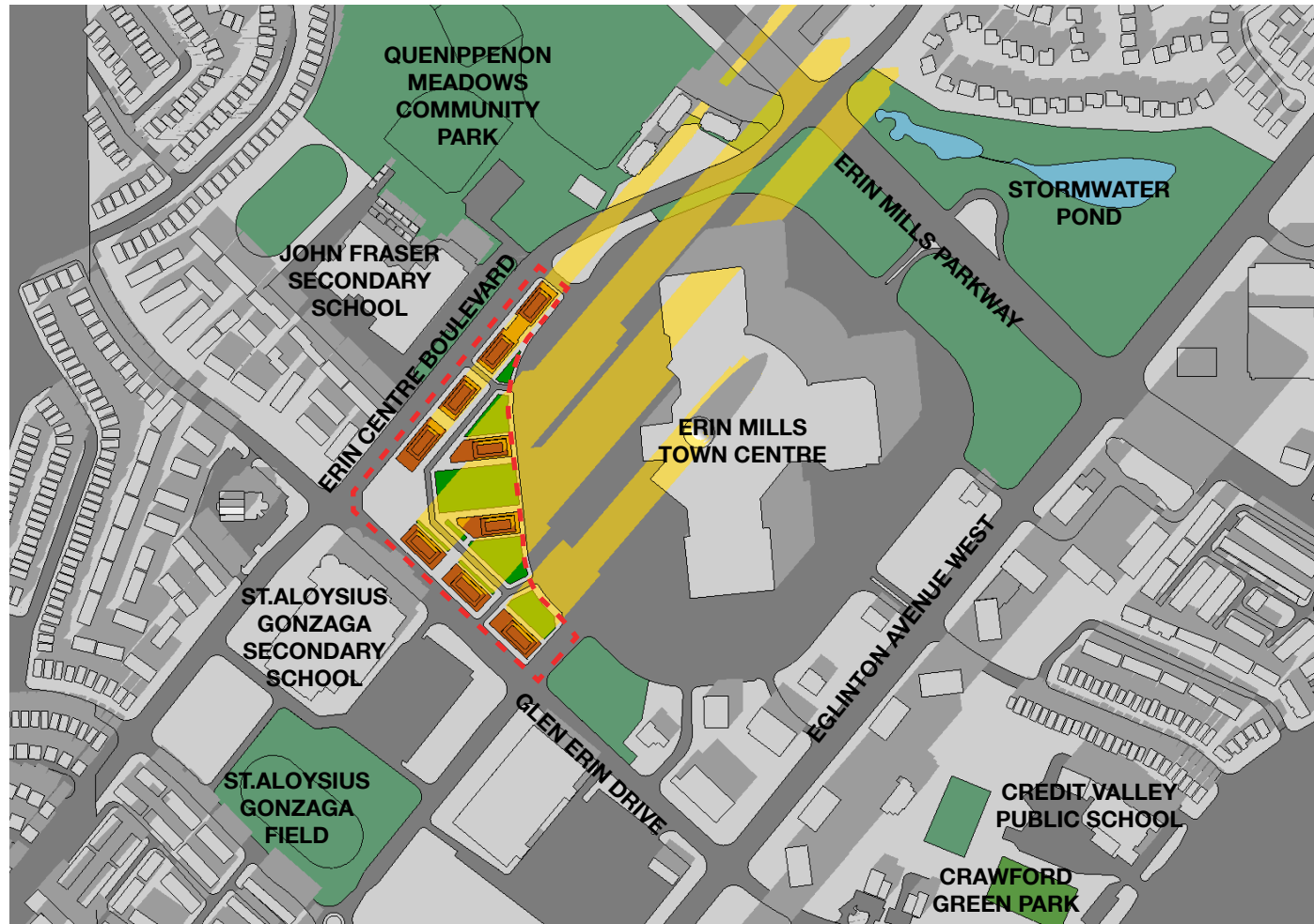
December 21 | 1:17 pm (Solar Noon)

Decemeber 21 | 2:17 pm

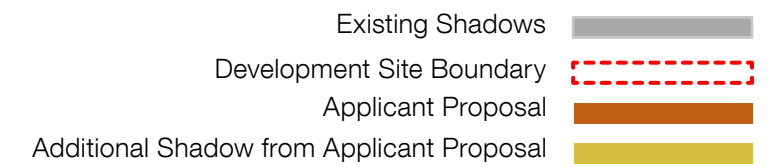


NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

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December 21 | 3:15 pm



NOTE: September 21 times and shadows reflect March 21 as stated in the Mississauga Standards for Shadow Studies 2014

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