KNYMH INC.
1006 SKYVIEW DRIVE, SUITE 101, BURLINGTON, ONTARIO L7P 0V1 T 905.639.6595 www.knymh.com

DESIGN IMPACT ANALYSIS

PROPOSED DEVELOPMENT

50 Creighton Road
Dundas, Ontario

KNYMH File # 22024

Prepared by:
KNYMH INC.

Date: August 30, 2023

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DOCUMENT REVISION HISTORY:

Version	Revision Date	Revision Summary	Tracking
1.0	2023.08.30	ISSUED: Initial report	2838.247

DISCLAIMER:

The Design Impact Analysis involves subjective analysis and exploration of design concepts and their potential impact. The interpretations, opinions, and conclusions presented within the report are subjective and based on individual perspectives. They do not represent universally accepted design principles or practices.

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SECTION 1.0 - DESIGN OBJECTIVE

The objective of this report is to analyse the impact of a proposed development upon the adjacent properties, streets, and public spaces at the above noted location. We will discuss and comment upon the impact associated with the architectural form and massing of the proposed development upon the adjacent properties.

The main goals of the design impact analysis are:

1) Assess and quantify the potential impacts on the surrounding environment and stakeholders, such as residents, businesses, and public spaces.

2) Identify potential conflicts or concerns and inform design strategies to mitigate the impact effectively.

SECTION 2.0 - DESIGN EVALUATION METHODS

The graphic analysis which we present within this report is developed using computer generated modelling software in conjunction with satellite imagery and survey information.

North Orientation: The satelite imagery is aligned with True North using a variant of the original Mercator projection that is oriented along the Earth's polar axis, and the massing model is centred upon the UTM Grid North at the latitude and longitude specified. We have provided graphics along with a Site Plan and Satellite imagery of the surrounding area.

The visual impact photography of existing conditions presented in this analysis is based on a stationary perspective that would be experienced by a person standing at various station points / viewpoints within the public realm. This report may feature photographs from varying times of year due to time constraints. It is desirable to use photographs taken in winter during 'leaf-off' conditions for the purposes of illustrating worst case scenario and this is a consideration in the analysis of the site.

SECTION 3.0 - SITE CONTEXT

Location: Dundas, Ontario, Canada
Geographic Coordinates:
Latitude: 43d 14' 30" N
Longitude: 79d 51' 00" W

SITE
The property is located in Dundas, Ontario, southwest of the intersection between Creighton Road and Mill Street. The subject land is a combination of two (2) lots, the south portion of the property is currently zoned as 'RM2-FP' Low Density Multiple Dwelling and features an existing building that will be demolished as part of the proposed development. The north portion of the site is zoned as "OS" Conservation Open Space. The report has been prepared in support of the Zoning By-law Amendment application for the subject lands. The area is 0.9503 hectares including the conservation land as part of Spencer Creek.

Neighbouring properties include:

2.1) TO THE EAST AND NORTHEAST (Study Area 1): The property abuts a Creighton Road which features a pedestrian sidewalk on both sides. Further east is a residenital area comprising primarily of two (2) storey dwellings. Northeast of the site is the continuation of Spencer Creek, further north is a Community Park and Park & Recreation area.

2.2) TO THE NORTH AND NORTHWEST (Study Area 2): The property abuts Spencer Creek which and features a hiking trail along the north side with a bridge connection at the northwest corner of the subject lands. Further north is Mill street with residential properties and pedestrian sidewalk along the north side. The residential area is comprised primarily of two (2) storey dwellings.

2.3) TO THE WEST (Study Area 3): The property abuts a residenital area comprising primarily of two (2) storey dwellings with frontage along Cloverhill Avenue.

TOPOGRAPHY
The subject lands and neighbouring parcels generally appear to be uniform in grade along the south property boundary and slopes down towards Spencer Creek to the north. The elevation drops a range of 7-9m from the south property boundary to the banks along Spencer creek.

ARCHITECTURAL FORM
The proposed development consists of one (1) building upon the subject lands. The proposed development features a condominium builidng labelled as building type 'A'. Building type 'A' is a twelve (12) storey building with one-hundred sixty-eight (168) residential units.

Refer to "FIGURE 3.1 - SITE CONTEXT MAP" on page 3.

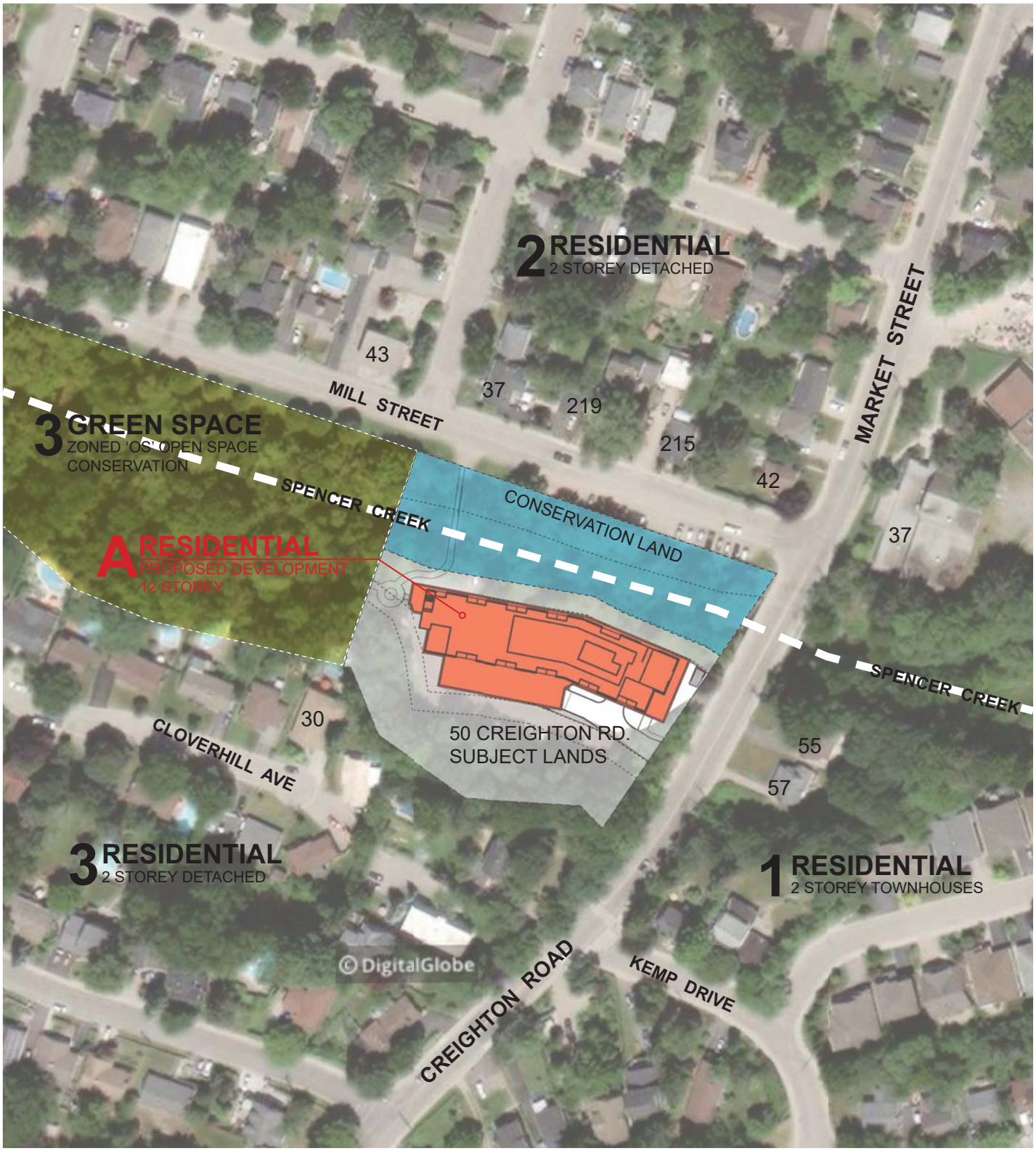


FIGURE 3.1 - SITE CONTEXT MAP

Latitude: 43d 14' 30" N, Longitude: 79d 51' 00" W

0 10 25 50m

N

SECTION 4.0 - METHOD OF ANALYSIS

Shadow Impact
Geographic Coordinates: Latitude: 43d 14' 30" N, Longitude: 79d 51' 00" W
Standard Time: UTC -5:00
Daylight Savings Time: UTC -4:00
Test Dates and Times: Refer to "APPENDIX 1.0 - SHADOW IMPACT SCHEDULE" on page A1-1

The defined zoning of this site is dependant on the Zoning By-law Amendment application for the subject lands. As a result, the comparitive shadow study against an 'as of right' example was not included in this analysis.

SECTION 4.1 - IMPACT ASSESSMENT CRITERIA

The graphic analysis and impact assessment which we present within this report is developed with the following criteria specified in the:
'Terms of Reference: Development Application Guidelines : Sun Shadow Study Appendix "B31" to report PED22112(d) developed by the City of Hamilton. [October 2022]'

Impact Criteria (Private Realm – Outdoor Amenity):
Shadows from proposed development shall allow for a minimum of 3 hours of sun coverage between 10:00 a.m. and 4:00 p.m. as measured on March 21st.

Impact Criteria (Public Realm – Public sidewalks, Outdoor Amenity):
Shadows from proposed development shall allow for a minimum of 3 hours of sun coverage between 10:00 a.m. and 4:00 p.m. as measured on March 21st.

Impact Criteria (Public Realm – plazas, parks, open spaces, school yards & playgrounds):
Shadows from the proposed development shall allow for a minimum of 50% sun coverage at all times of the day as measured on March 21st.

SECTION 5.0 - GENERAL OBERVATIONS

SECTION 5.1 - SHADOW IMPACT ANALYSIS

A summary of the shadow effect of the proposal upon the surrounding area. This commentary will discuss the impact of the proposed building's shadows upon properties at the north, east and southeast side of the subject property. The impact is studied at the specific time period and assessment criteria noted in SECTION 4.1 - IMPACT ASSESSMENT CRITERIA and APPENDIX 1.0 - SHADOW IMPACT SCHEDULE of this document of the proposed development.
The times for this period are under Eastern Daylight Time.

SUN / SHADOW STUDY: (FIGURE A1.1 - SHADOW IMPACT GRAPHICS MARCH 21)
Study Area (3) Impact : Shadow impacts residential properties along Cloverhill Avenue at beginning of test period, clear of properties by 9:26am test time. Shadow falls on the conservation land of Spencer Creek and clears by 1:26pm. The study area features many mature deciduous trees.

Study Area (2) Impact : No impact observed to study area, shadow falls upon subject land.

Study Area (1) Impact : No impact observed to study area, shadow falls upon subject land.

SECTION 6.0 - SUMMARY OBSERVATIONS

REGARDING SHADOW IMPACT OF DEVELOPMENT UPON THE SURROUNDING AREA

The shadow impact on public sidewalks, plazas, parks, school yards and non-residential outdoor amenity areas on March 21.
- The shadow analysis demonstrates during the test periods the public sidewalks will experience long periods of continuous sunlight with no impact from the proposed development meeting and exceeding the criteria of 3 hours between 10:00 a.m. and 4:00 p.m.

The shadow impact on residential amenity spaces on March 21.
- The Residential amenity spaces in the surrounding area will experience long periods of continuous sunlight with no impact from the proposed development meeting and exceeding the criteria of 3 hours between 10:00 a.m. and 4:00 p.m.

The shadow impact on of public plazas, parks and open spaces, school yards and playground areas at all times of day on March 21.
- The shadow analysis demonstrates the proposed development is under the maximum 50% area coverage criteria for public parks and school yards during the test periods.

The proposed development presents the ideal building typology for this site and mitigates sun shading impact upon the neighbouring residential properties and the public realm. This building form and orientation optimizes the coverage area to adjacent parks and school yards. Based upon the analysis we suggest that the proposed design will not have a significant negative effect on the surrounding neighbourhood.

In our opinion, this development is compatible with the area and does not have a significant effect on the existing neighbourhood in general.

Sincerely,
KNYMH Inc.

APPENDIX 1.0 - SHADOW IMPACT SCHEDULE

Test Dates : March 21
Test Times: Hourly intervals starting 1.5 hours after sunrise and ending 1.5 hours before sunset.
Test time interval is based on Solar Noon and terminates at nearest time to period end or start for each of the test dates.

References:
'Terms of Reference: Development Application Guidelines : Sun Shadow Study Appendix "B31" to report PED22112(d) developed by the City of Hamilton. [October 2022]'

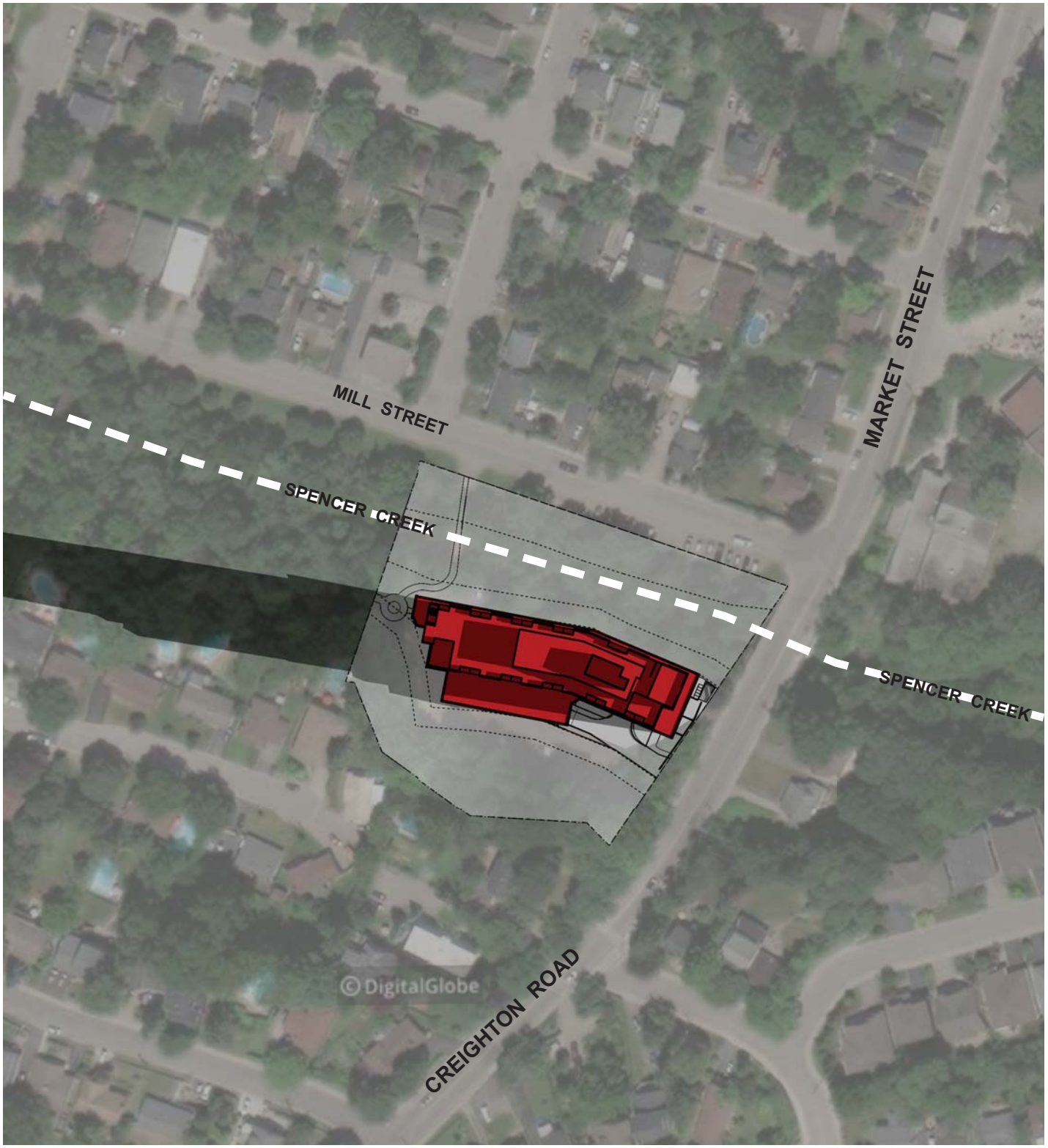
Sunrise and Sunset information: https://www.timeanddate.com/sun/

MARCH 21	
Sunrise (+1.5)	7:20 AM (8:50)
Sunset (-1.5)	7:33 PM (6:03)
Solar Noon	1:26 PM
	Test Times
	8:26 AM
	9:26 AM
	10:26 AM
	11:26 AM
	12:26 PM
	1:26 PM (SN)
	2:26 PM
	3:26 PM
	4:26 PM
	5:26 PM

FIGURE A1.1 - SHADOW IMPACT GRAPHICS MARCH 21

SUN/SHADOW STUDY: (MARCH 21 • SPRING)

A summary of the Spring shadow effect of the proposal upon the surrounding area. This commentary will discuss the impact of the proposed building's shadows upon properties at the north, east and southeast side of the subject property. The impact is studied at the specific time period and assessment criteria noted in SECTION 4.1 - IMPACT ASSESSMENT CRITERIA and APPENDIX 1.0 - SHADOW IMPACT SCHEDULE of this document of the proposed development. The times for this period are under Eastern Daylight Time. (UTC -4:00)



MARCH 21, 8:26 AM

UTC: (-04:00)
Latitude: 43d 14’ 30” N, Longitude: 79d 51’ 00” W

0 10 25 50m

N

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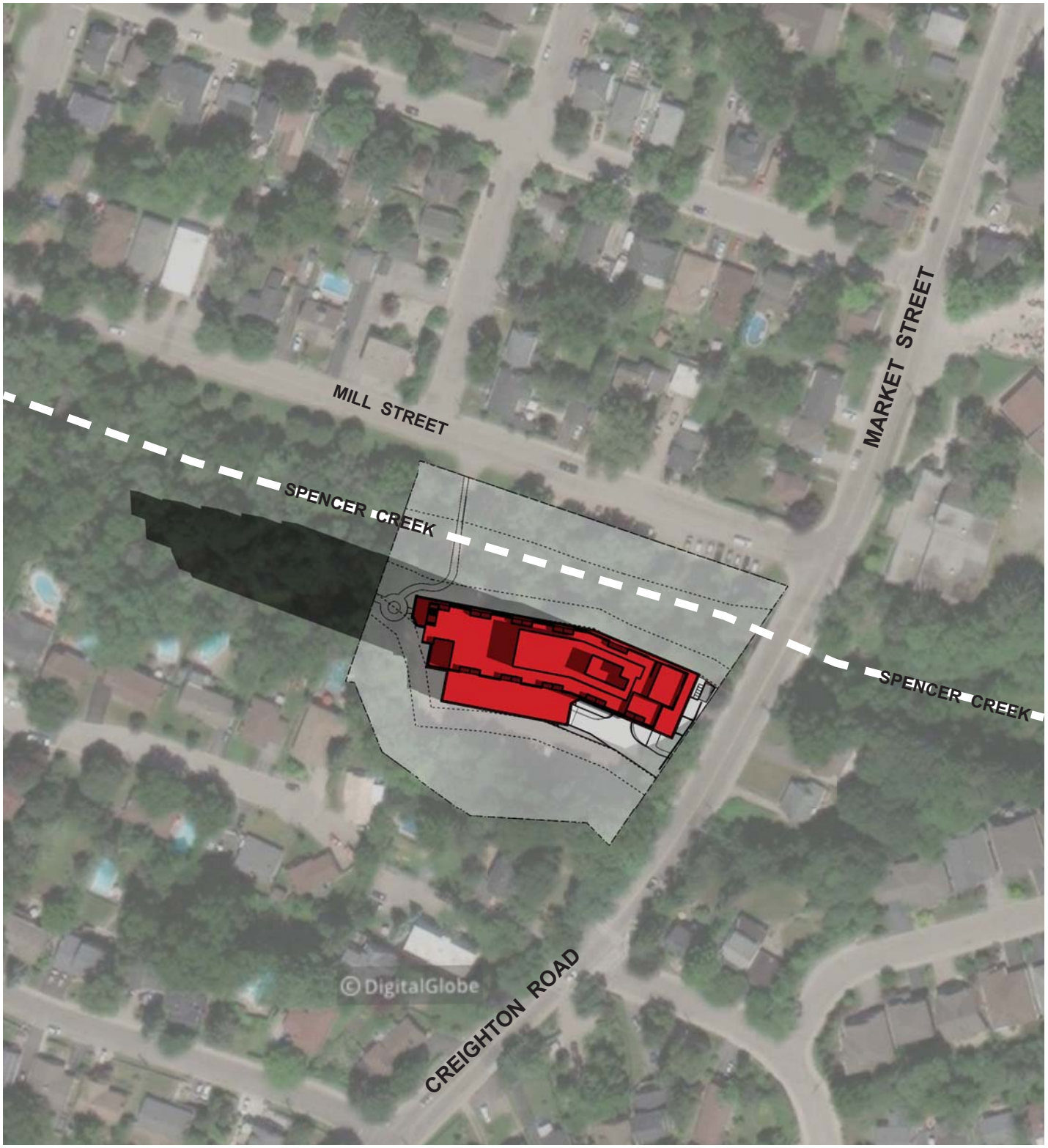
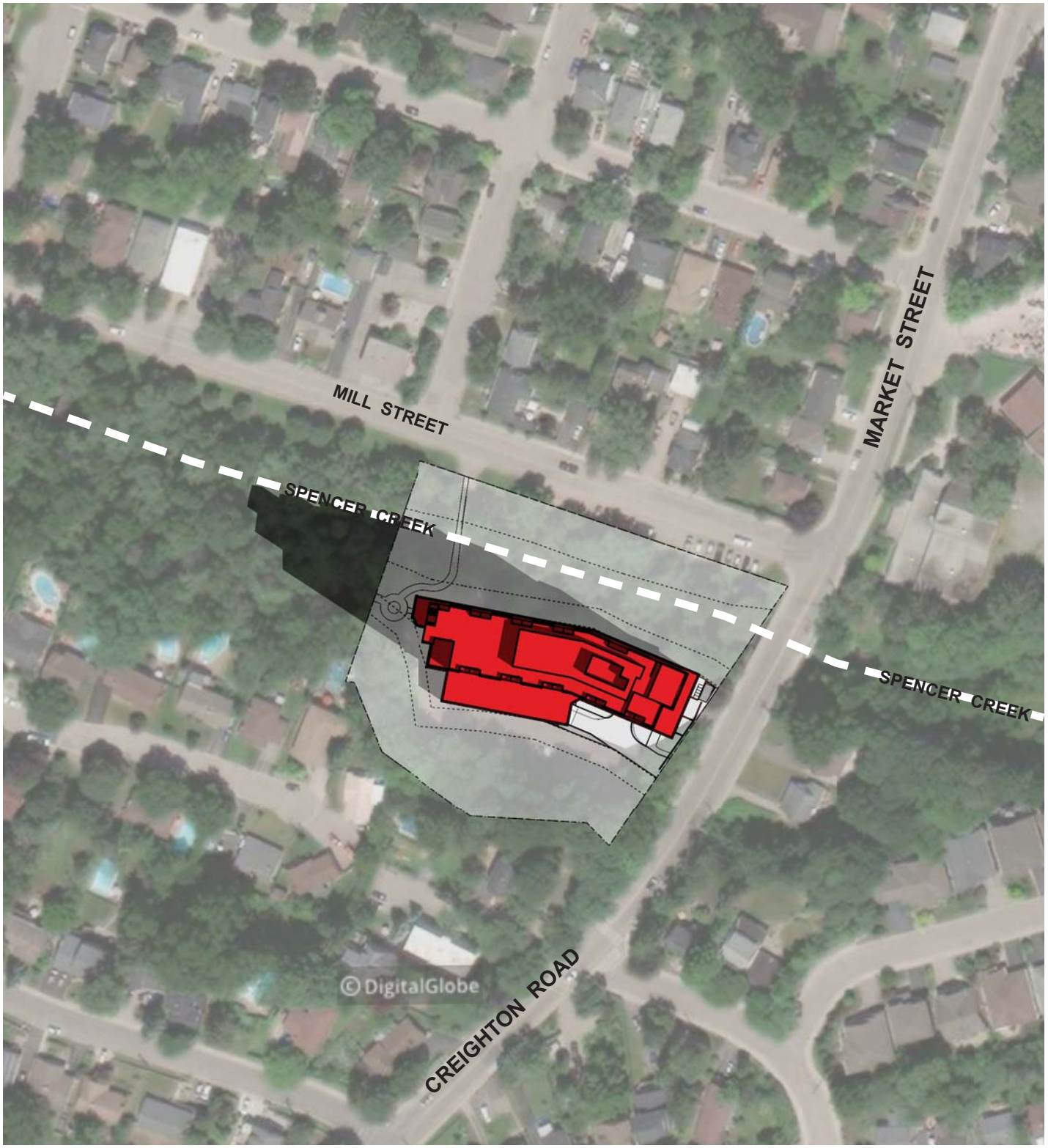


MARCH 21, 9:26 AM

UTC: (-04:00)
Latitude: 43d 14’ 30” N, Longitude: 79d 51’ 00” W

0 10 25 50m

N



MARCH 21, 10:26 AM

UTC: (-04:00)
Latitude: 43d 14’ 30” N, Longitude: 79d 51’ 00” W

0 10 25 50m

N

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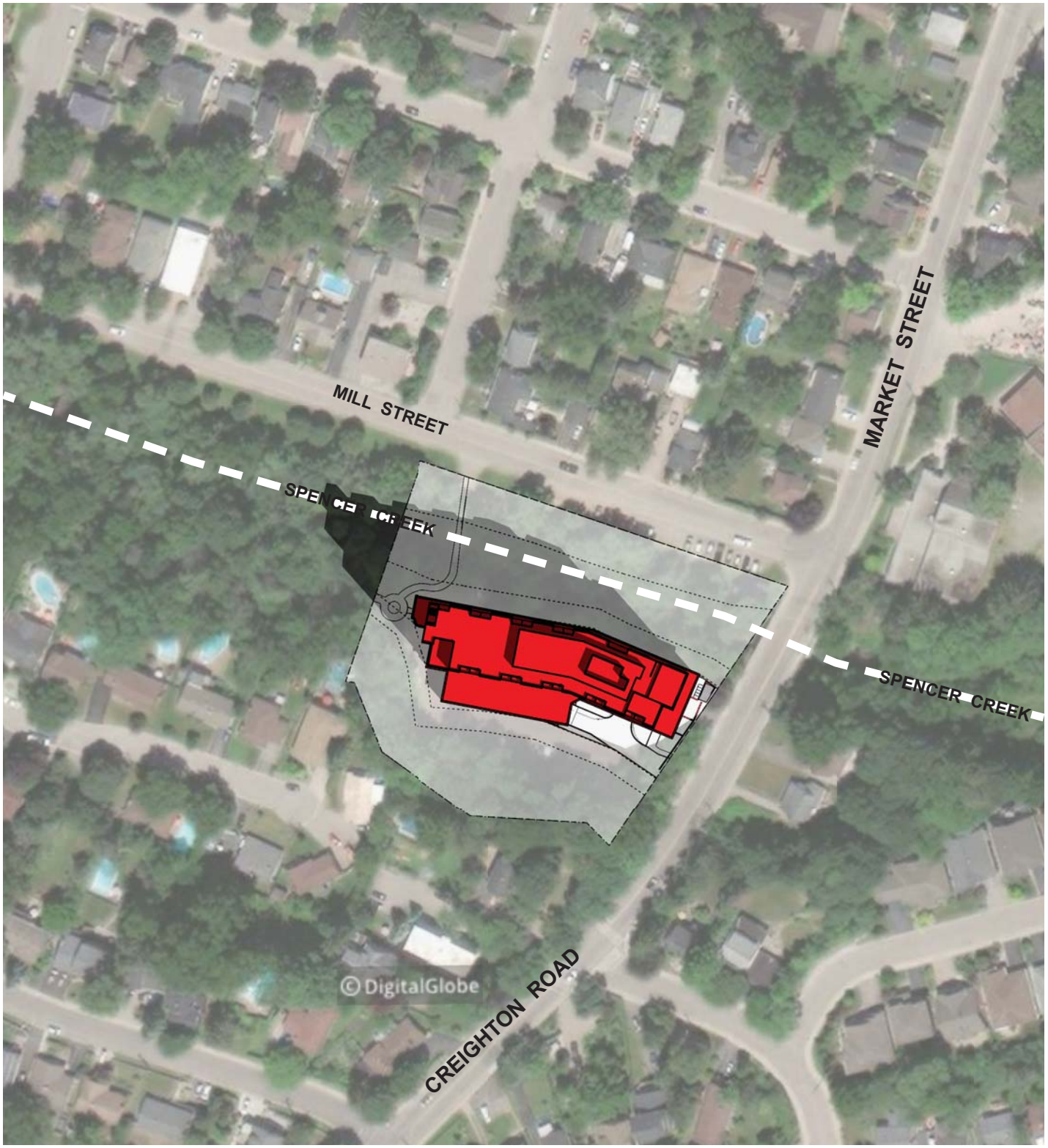
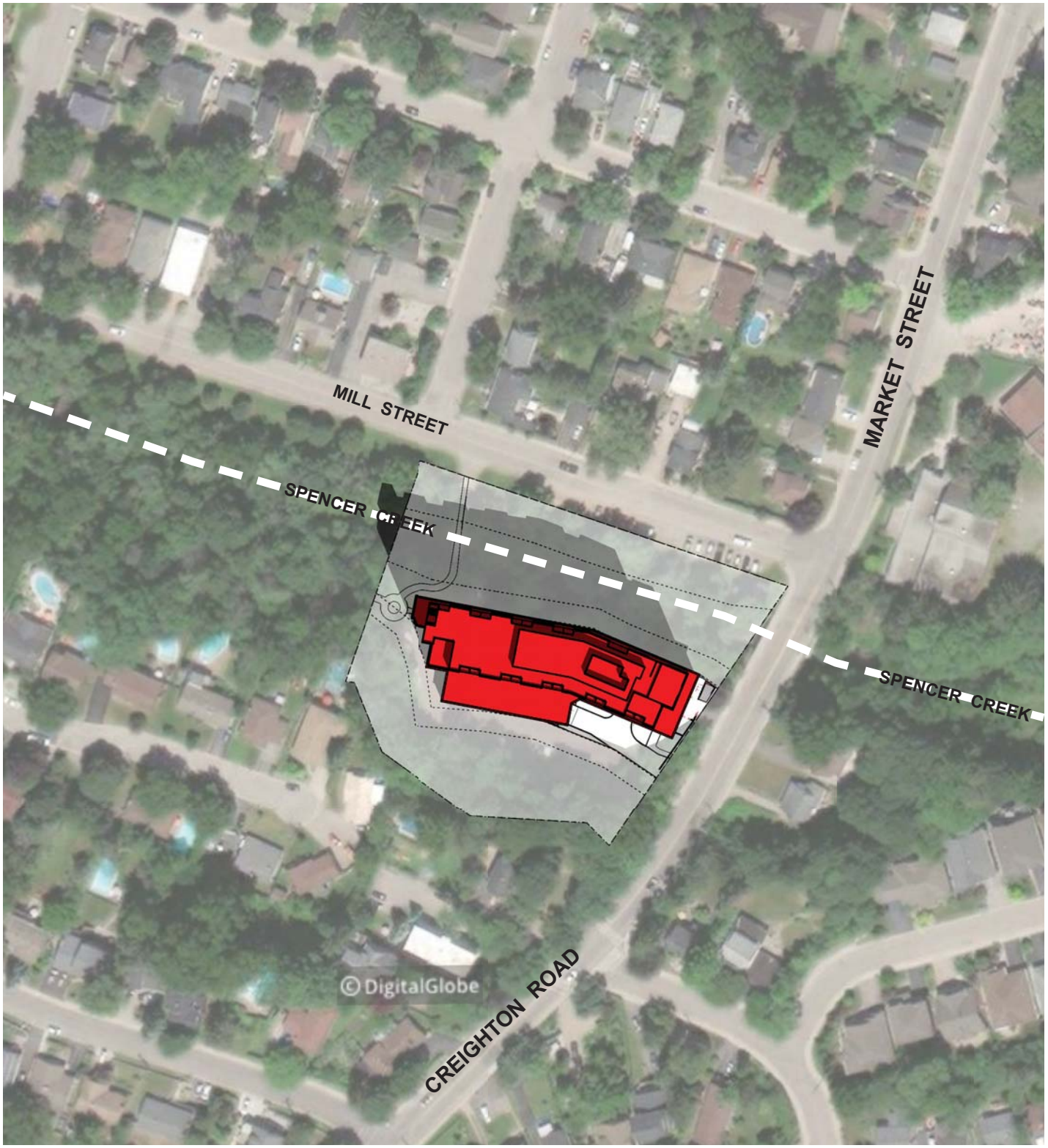


MARCH 21, 11:26 AM

UTC: (-04:00)
Latitude: 43d 14’ 30” N, Longitude: 79d 51’ 00” W

0 10 25 50m

N



MARCH 21, 12:26 PM

UTC: (-04:00)
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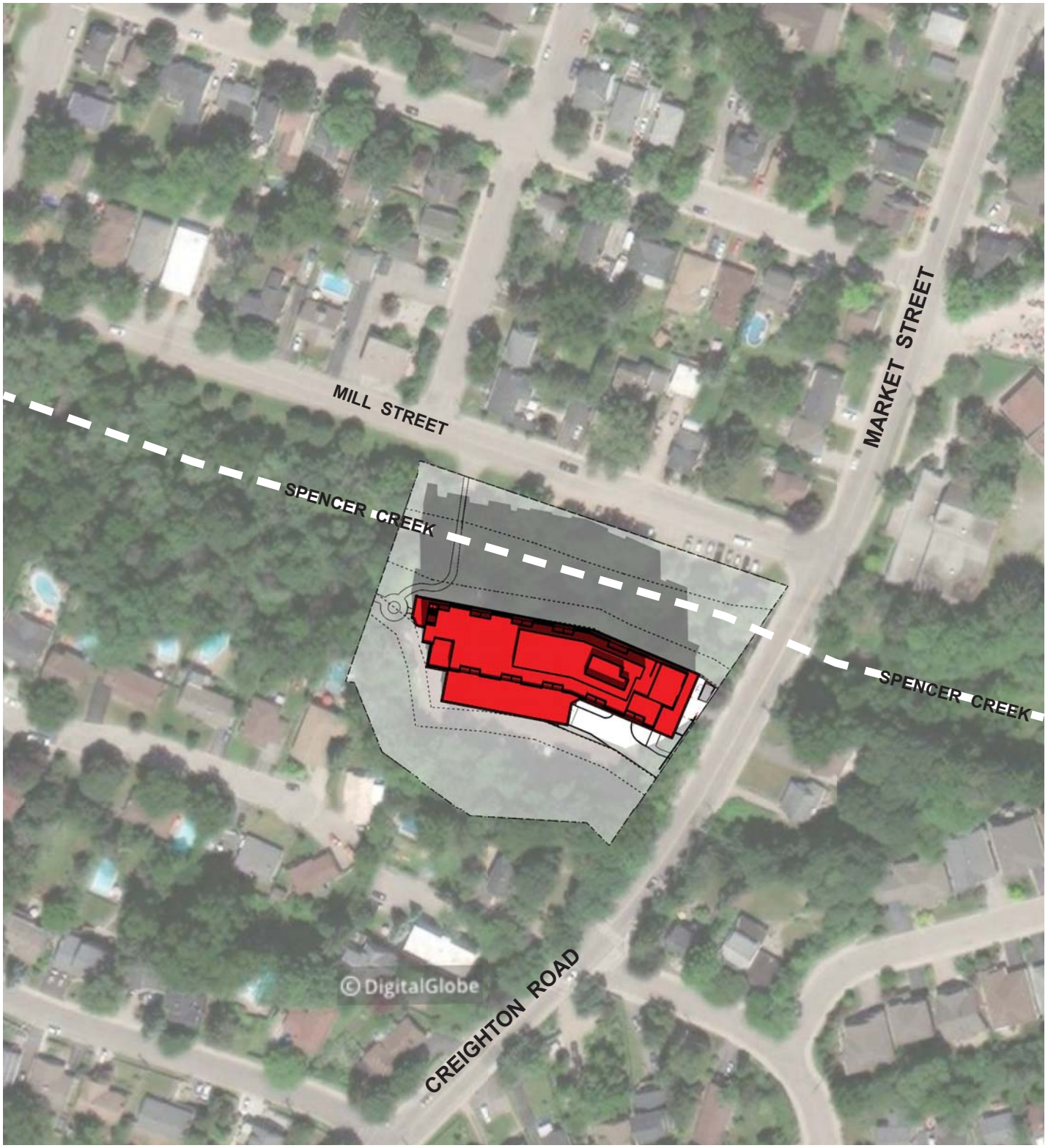
0 10 25 50m

N

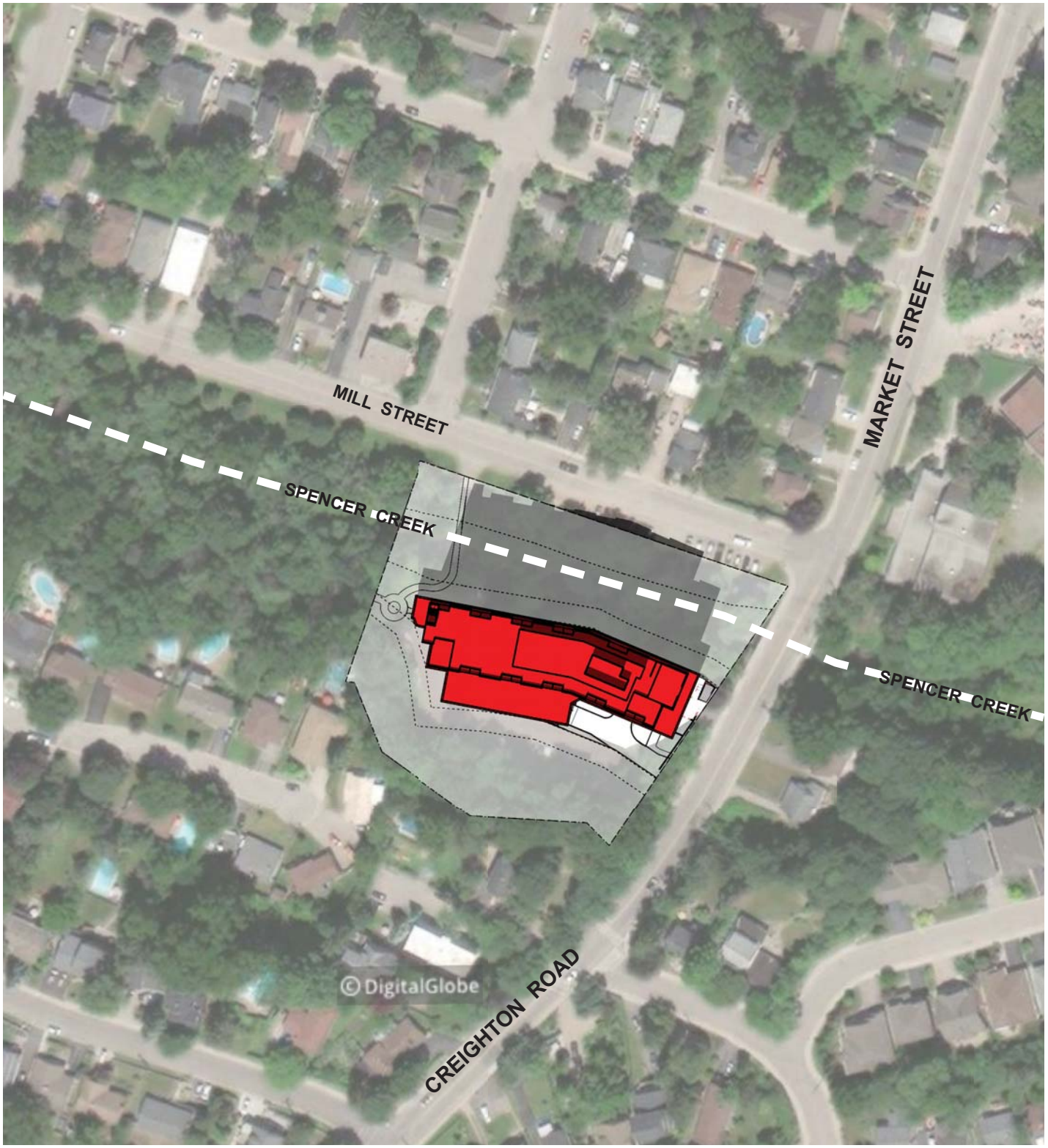


MARCH 21, 1:26 PM (Solar Noon)

UTC: (-04:00)
Latitude: 43d 14’ 30” N, Longitude: 79d 51’ 00” W

0 10 25 50m

N



MARCH 21, 2:26 PM

UTC: (-04:00)
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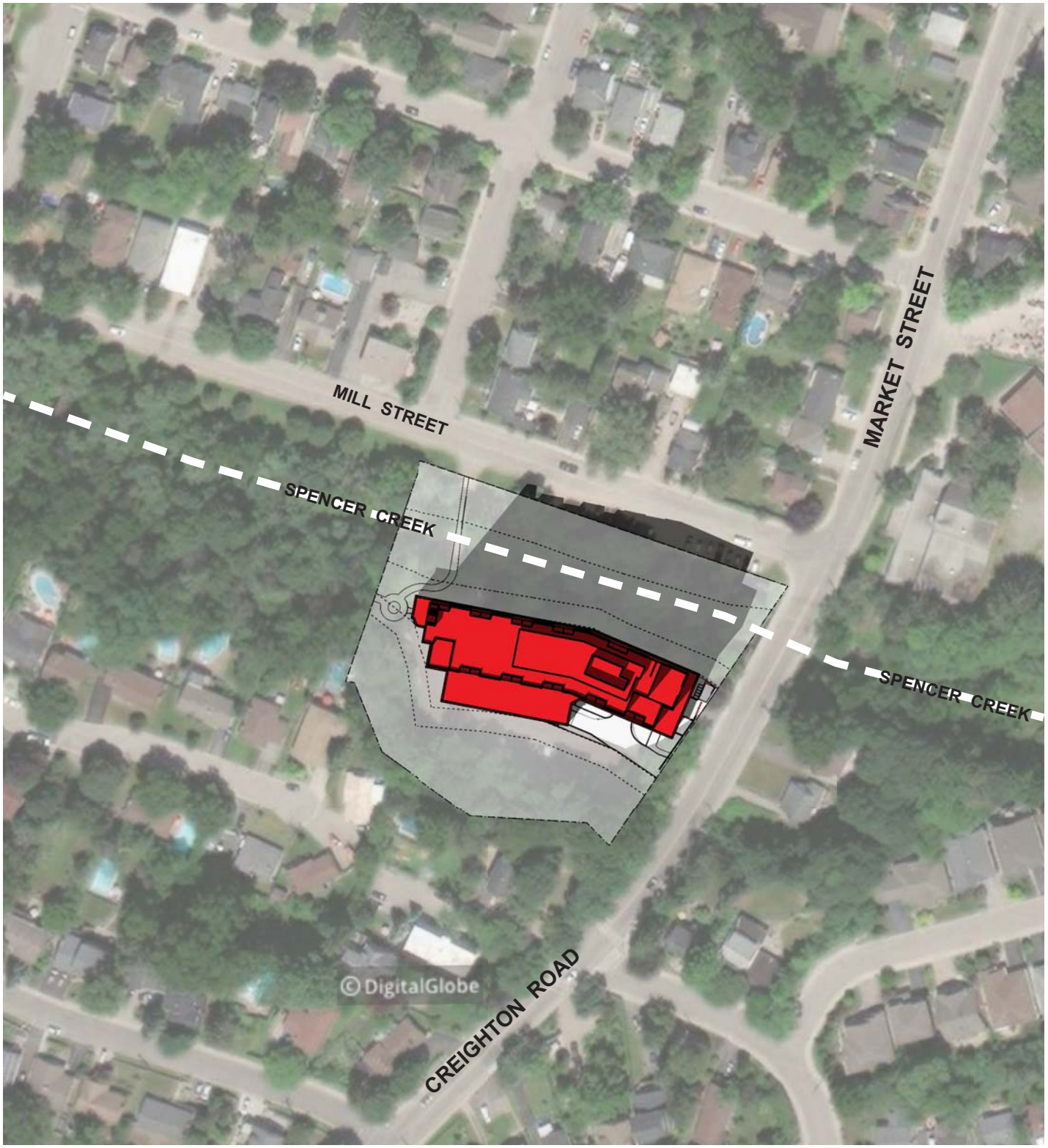
0 10 25 50m

N



MARCH 21, 3:26 PM

UTC: (-04:00)
Latitude: 43d 14’ 30” N, Longitude: 79d 51’ 00” W

0 10 25 50m

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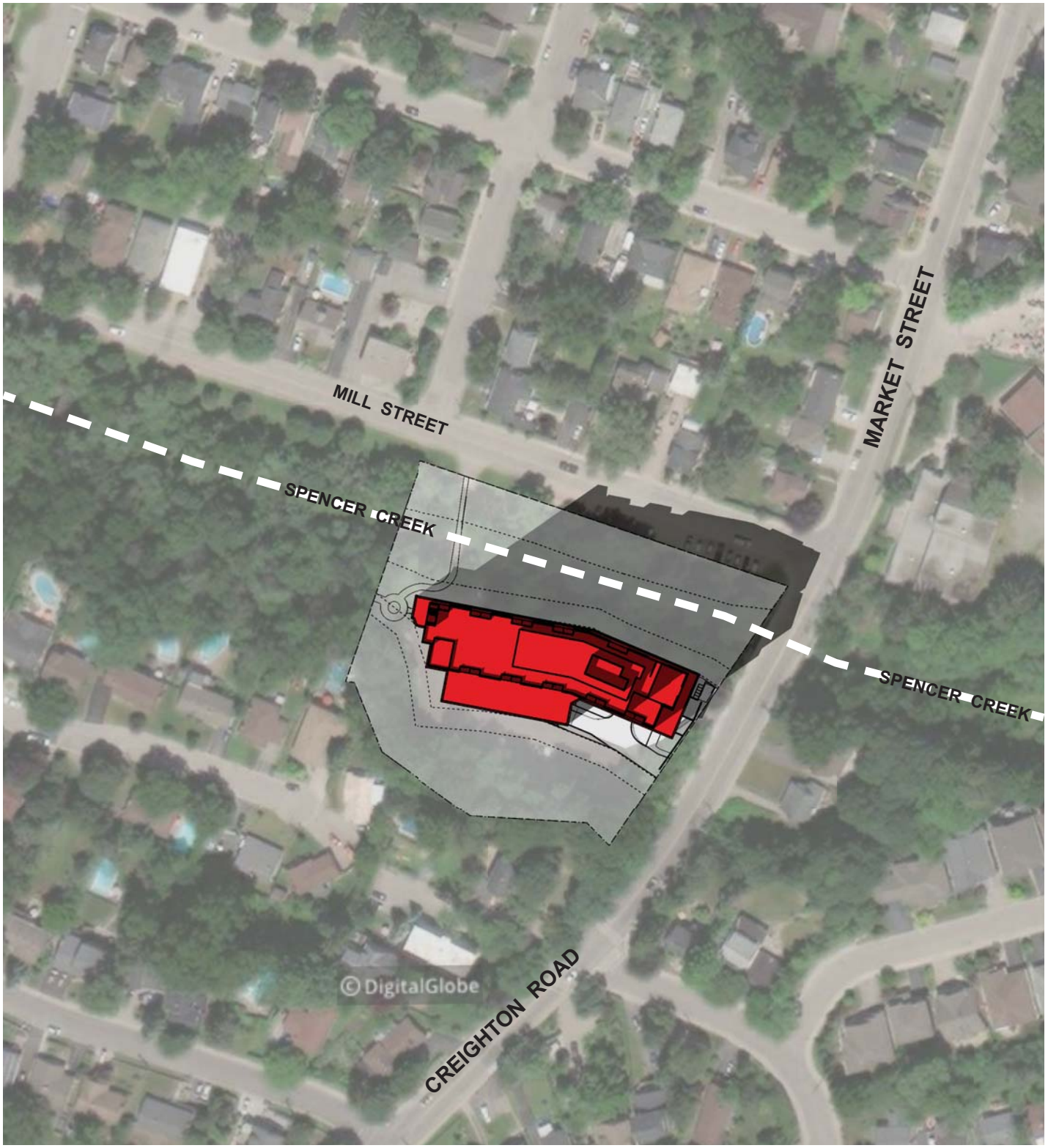

MARCH 21, 4:26 PM

UTC: (-04:00)
Latitude: 43d 14' 30" N, Longitude: 79d 51' 00" W

0 10 25 50m

N

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MARCH 21, 5:26 PM

UTC: (-04:00)
Latitude: 43d 14’ 30” N, Longitude: 79d 51’ 00” W

0 10 25 50m

N