

1315 Silver Spear Road

Official Plan Amendment and Zoning By-law Amendment

Shadow Study

Prepared by Urban Strategies Inc. and Architecture Unfolded

Application No. OZ 18/005 W3

November 2023

Purpose of the Shadow Study

This Shadow Study is prepared in support of the 1315 Silver Spear Road Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) application to demonstrate the impact of the proposed infill building on the site and on the surrounding context, including building facades, private and public outdoor amenity and open spaces, public parkland, sidewalks and other components of the public realm.

The Shadow Studies illustrate the impact of development in terms of sun and daylight access to surrounding buildings, the public realm, public and private open spaces.

Mississauga's terms of reference for Shadow Studies require development proponents to meet the following five criteria for the dates of June 21, September 21 (similar to March 21, and therefore, criteria for September 21 are deemed to apply to March 21), and December 21:

- Ensure adequate sunlight on residential private outdoor amenity spaces.
- Ensure adequate sunlight on communal outdoor amenity areas including, children's play areas, school yards, tot lots, and park features such as sandboxes, wading pools etc., and outdoor amenity areas used by seniors and those associated with commercial and employment areas during spring, summer, fall and winter.
- Ensure adequate sunlight on the public realm including sidewalks, open spaces, parks and plazas to maximize their use during the shoulder seasons (spring and fall).
- Ensure adequate sunlight on turf and flower gardens in public parks.
- Ensure adequate sunlight on building faces to allow for the possibility of using solar energy.

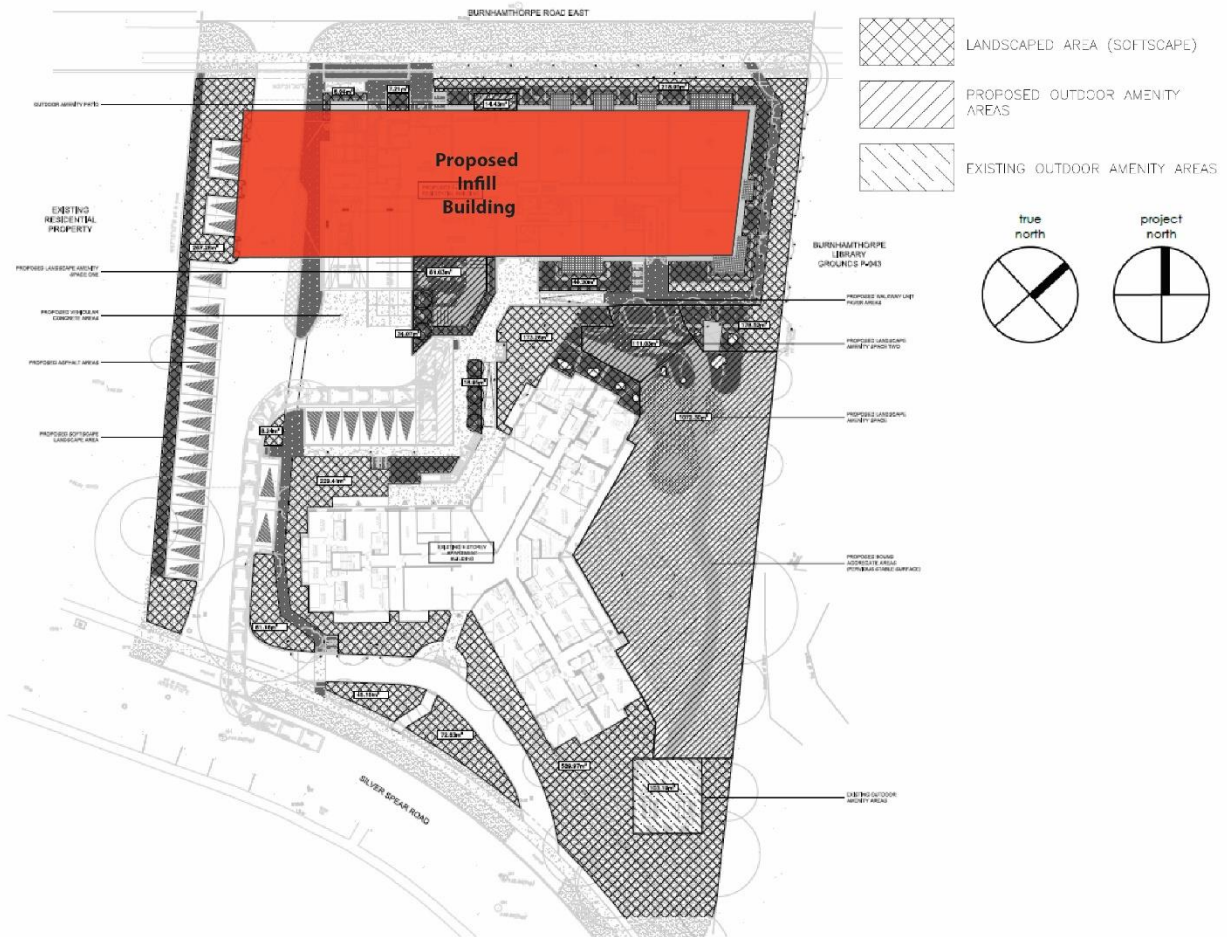
This Shadow Study is in support of the proposed development at 1315 Silver Spear Road in Mississauga, which will feature an infill rental housing building with a building height of 9-storeys (30.0 metres). The proposed development is consistent with the urban form of the surrounding developments.

The Site

The site includes the property municipally known as 1315 Silver Spear Road in Mississauga and is bounded by Burnhamthorpe Road to the north, Silver Spear Road to the south, a 5-storey apartment building to the west, and the Dixie Bloor Neighbourhood Centre, Burnhamthorpe Library and Maja Prentice Theatre to the east. The site is currently occupied by an eight-storey rental apartment building.

The geographic coordinate location of the site is latitude: 43.62092° N and longitude: 79.60360° W. The time zone is UTC -4.00. The origin/source of the base plan was the Topographic Plan of Survey prepared by Lloyd & Purcell Ltd. dated October 24, 2017 that was included in the first application submission in 2018, as well as the Mississauga context

plan available online. The context roads references Google Maps. Astronomic north (True North) was identified on the Survey and is carried forward in this Study.



Key Plan

1: Ensure adequate sunlight on residential private outdoor amenity spaces

This criterion is met if there is shadow impact for no more than two consecutive hourly test times within the space between the exterior wall of the dwelling that abuts the amenity space and the line of impact assessment on June 21 and September 21.

Outdoor Amenity Space of Adjacent 5-storey Apartment and Senior Residence across Burnhamthorpe Road

The proposed buildings will not have any significant shadow impact on the outdoor amenity space of the existing 5-storey apartment to the west.

On June 21, shadows cast by the proposed infill building largely clear off the front lawn area of the adjacent 5-storey apartment by 9:20 am. Shadows cast on the front green lawn areas of the senior residence across Burnhamthorpe Road clear off by 8:20 am on June 21.

On September 21, shadows cast by the proposed infill building clear off the front lawn area of the adjacent 5-storey apartment by 9:12 am. Shadows cast on the front green lawn areas of the senior residence across Burnhamthorpe Road clear off by 10:12 am.

Amenity Spaces South of the Proposed Infill Building

The proposed outdoor amenity spaces south of the proposed infill building with lounge and seating areas, BBQ area, earthscape play structures and walking path will have net new incremental shadows between 3:20 pm and 7:33 pm on June 21.

For September 21, the proposed outdoor amenity spaces will have net new incremental shadows between 4:12 pm to 5:48 pm on September 21.

Criterion 1 is not fully met due to the net new incremental shadows for a period of 4 hours on June 21. This is due to the limited site area and the physical and technical constraints, where the proposed infill building will need to be placed at the northern edge of the site. Generally, when considering September 21 shadows as well, there is appropriate sunlight across the whole day.

2: Ensure adequate sunlight on communal outdoor amenity areas including, children's play areas, school yards, tot lots, and park features such as sandboxes, wading pools etc., and outdoor amenity areas used by seniors and those associated with commercial and employment areas during spring, summer, fall and winter.

This criterion, which applies to public amenity areas that are part of the proposed development, is met if the sun access factor (SAF) is at least 50% or 0.5 on June 21, September 21, and December 21. This criterion applies to public amenity areas and common outdoor amenity areas that are part of a proposed or existing development.

As all the outdoor amenity areas in the site are private outdoor amenity areas, this Criteria is not applicable.

Nonetheless, in assessing the SAF for all the private outdoor amenity spaces across the site, it was found that the SAF was greater than 50% for June 21, September 21, and December 21.

June:

TIME (UTC - 4.00)	Shadow (%)	Sun Access Factor (%)
Jun 21 - 07:07 AM	0%	100%
Jun 21 - 07:20 AM	0%	100%
Jun 21 - 08:20 AM	25%	75%
Jun 21 - 09:20 AM	0%	100%
Jun 21 - 10:20 AM	0%	100%
Jun 21 - 11:20 AM	0%	100%
Jun 21 - 12:20 PM	0%	100%
Jun 21 - 01:20 PM	0%	100%
Jun 21 - 02:20 PM	0%	100%
Jun 21 - 03:20 PM	18%	82%
Jun 21 - 04:20 PM	89%	11%
Jun 21 - 05:20 PM	100%	0%
Jun 21 - 06:20 PM	100%	0%
Jun 21 - 07:20 PM	100%	0%
Jun 21 - 07:33 PM	100%	0%
AVERAGE	35%	65%

September:

TIME (UTC - 4.00)	Shadow (%)	Sun Access Factor (%)
Sep 21 - 08:35 AM	100%	0%
Sep 21 - 09:12 AM	71%	29%
Sep 21 - 10:12 AM	0%	100%
Sep 21 - 11:12 AM	0%	100%
Sep 21 - 12:12 PM	0%	100%
Sep 21 - 01:12 PM	0%	100%
Sep 21 - 02:12 PM	0%	100%
Sep 21 - 03:12 PM	33%	67%

TIME (UTC - 4.00)	Shadow (%)	Sun Access Factor (%)
Sep 21 - 04:12 PM	60%	40%
Sep 21 - 05:12 PM	85%	15%
Sep 21 - 05:48 PM	100%	0%
AVERAGE	41%	59%

December:

TIME (UTC - 5.00)	Shadow (%)	Sun Access Factor (%)
Dec 21 - 09:19 AM	0%	100%
Dec 21 - 10:17 AM	0%	100%
Dec 21 - 11:17 AM	0%	100%
Dec 21 - 12:17 PM	0%	100%
Dec 21 - 01:17 PM	0%	100%
Dec 21 - 02:17 PM	0%	100%
Dec 21 - 03:15 PM	0%	100%
AVERAGE	0%	100%

3: Ensure adequate sunlight on the public realm including sidewalks, open spaces, parks and plazas to maximize their use during the shoulder seasons (spring and fall).

a) PUBLIC REALM

Mixed use, commercial, employment, and high-density residential streets developments should be designed to allow full sunlight on the opposite boulevard including the full width of the sidewalk on September 21 as follows:

For a total of at least 5 hours that must include the 2 hour period between:

12:12 pm and 2:12 pm,
 and an additional 2 hour period from either:
 9:12 am and 11:12 am or 3:12 pm and 5:12 pm

This criterion is met if there is no incremental shade from the proposed development at:

12:12 pm 1:12 pm and 2:12 pm,
 and three consecutive times either:
 9:12 am, 10:12am and 11:12 am, or at 3:12 pm, 4:12 pm and 5:12 pm.

A total of 3.5 hours of sunlight is available on the sidewalks of Burnhamthorpe Road between 2:12 pm to 5:48 pm. The proposed infill development will cast net new incremental shadows on the sidewalks of Burnhamthorpe Road between 8:35 am to 1:12 pm.

Criteria 3a is not fully met.

b) PUBLIC OPEN SPACES, PARKS AND PLAZAS

Developments should be designed to provide a sun access factor of at least 50% on public open spaces, parks and plazas on September 21.

The proposed infill building will not cast net new incremental shadows on surrounding parks, and the existing sun access factor of the park is maintained.

Criteria 3b is met.

4: Ensure adequate sunlight on turf and flower gardens in public parks

Proposed developments should allow for adequate sunlight during the growing season from March to October by allowing for a minimum of 6 hours of direct sunlight on September 21. This criterion is met if full sun is provided on any 7 test times on September 21, from 1.5 hours after sunrise to 1.5 hours before sunset.

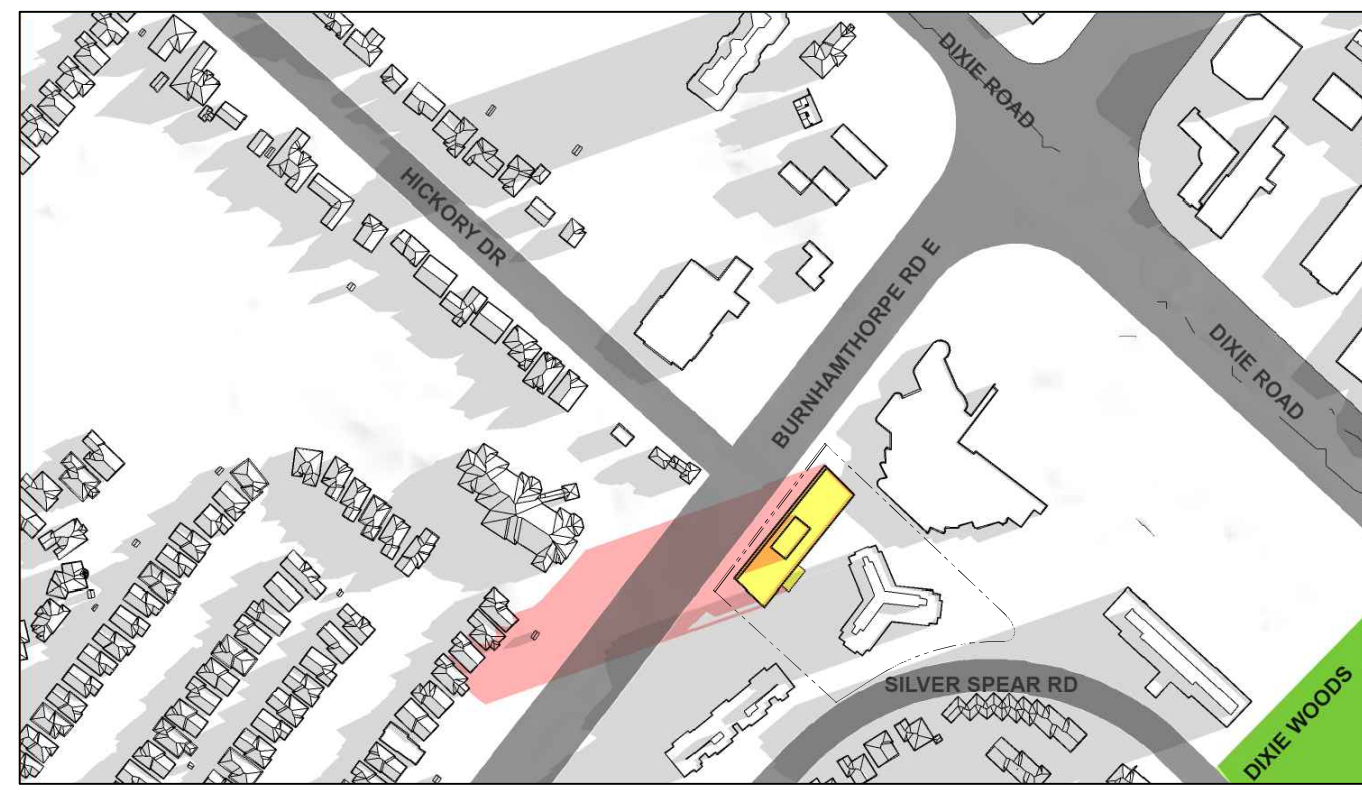
As previously stated in Criteria 3b, the proposed infill building will not cast net new incremental shadows on surrounding parks, and the existing sun access factor of the park is maintained.

Criteria 4 is met.

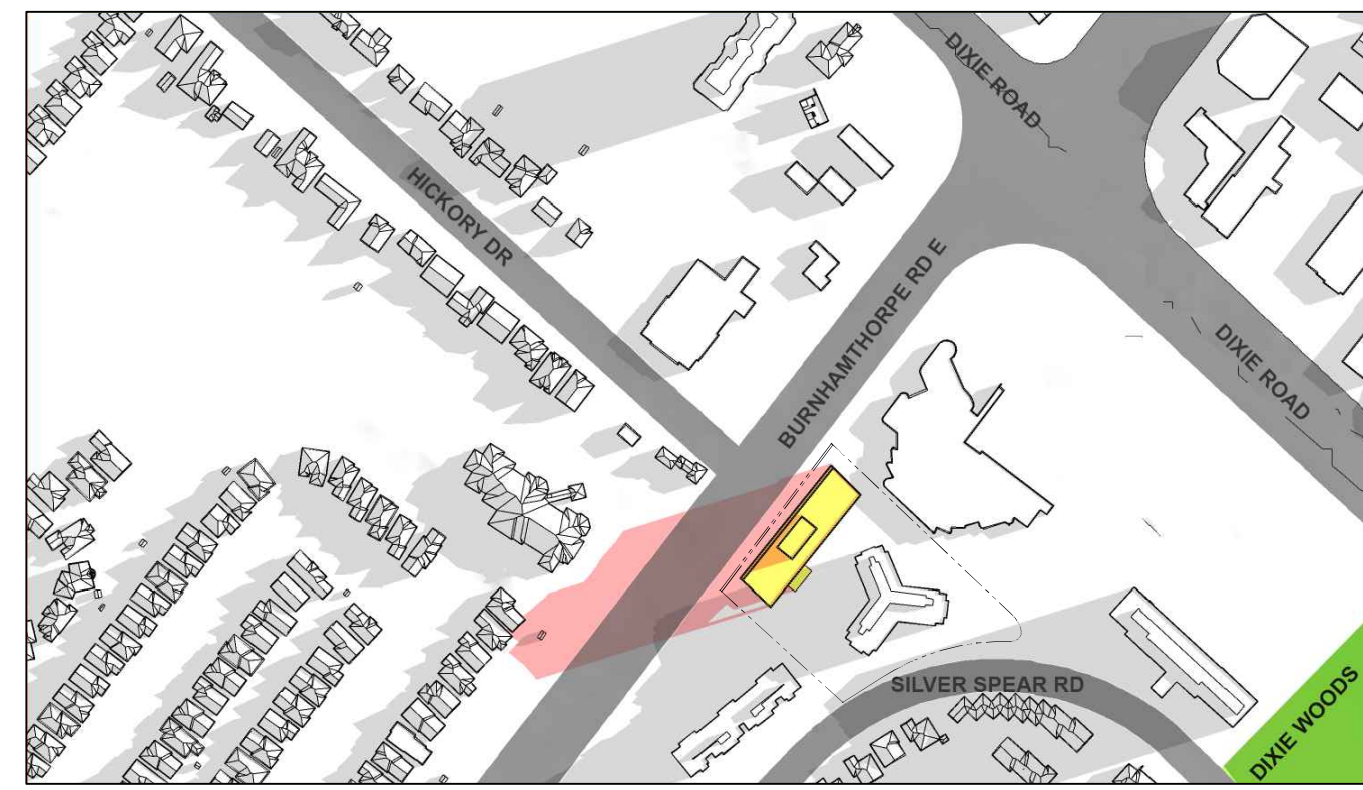
5: Ensure adequate sunlight on building faces to allow for the possibility of using solar energy.

This criterion is met if the shadow impacts on September 21 are no more than two consecutive hourly test times in the "No Impact Zone" i.e. the space between the front, rear and exterior side walls of the adjacent low-rise residential buildings and the respective lines of impact assessment.

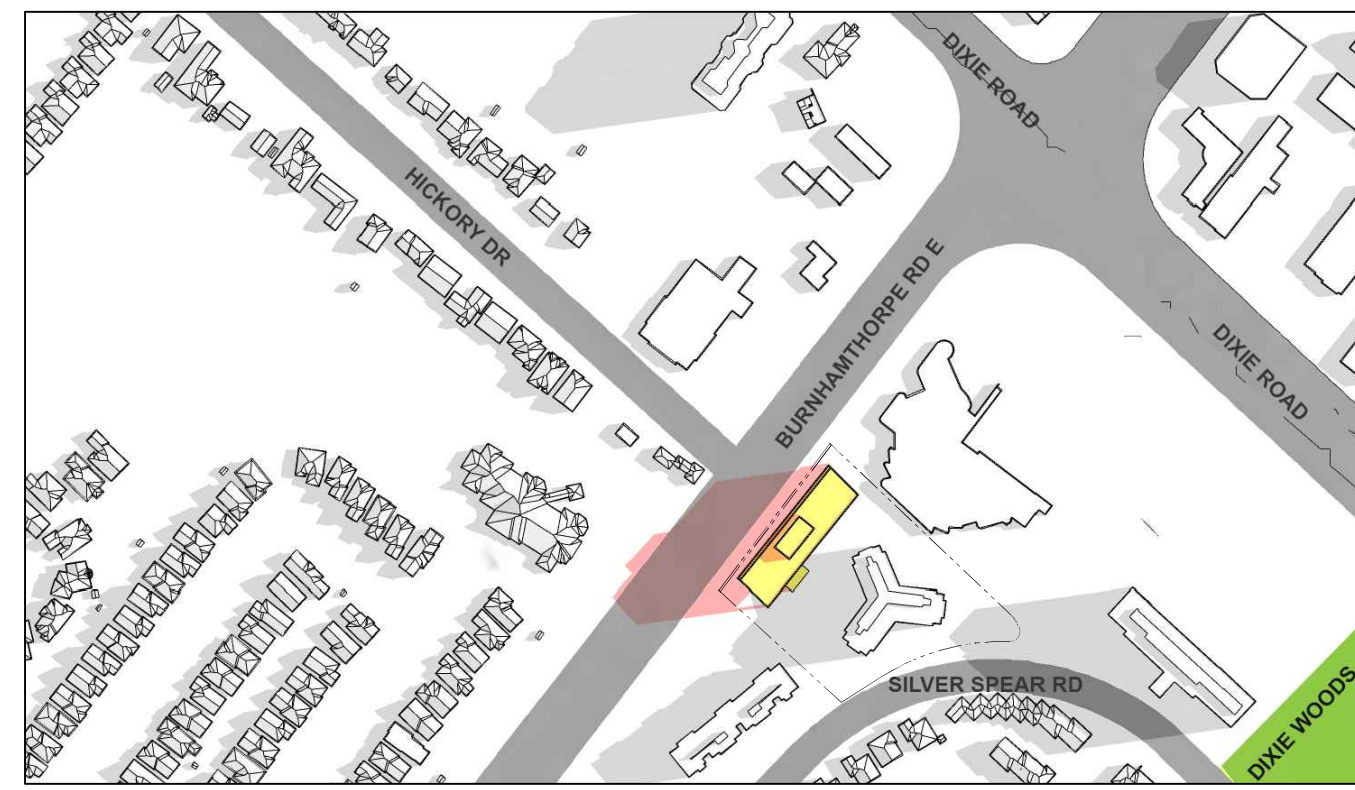
Not applicable.



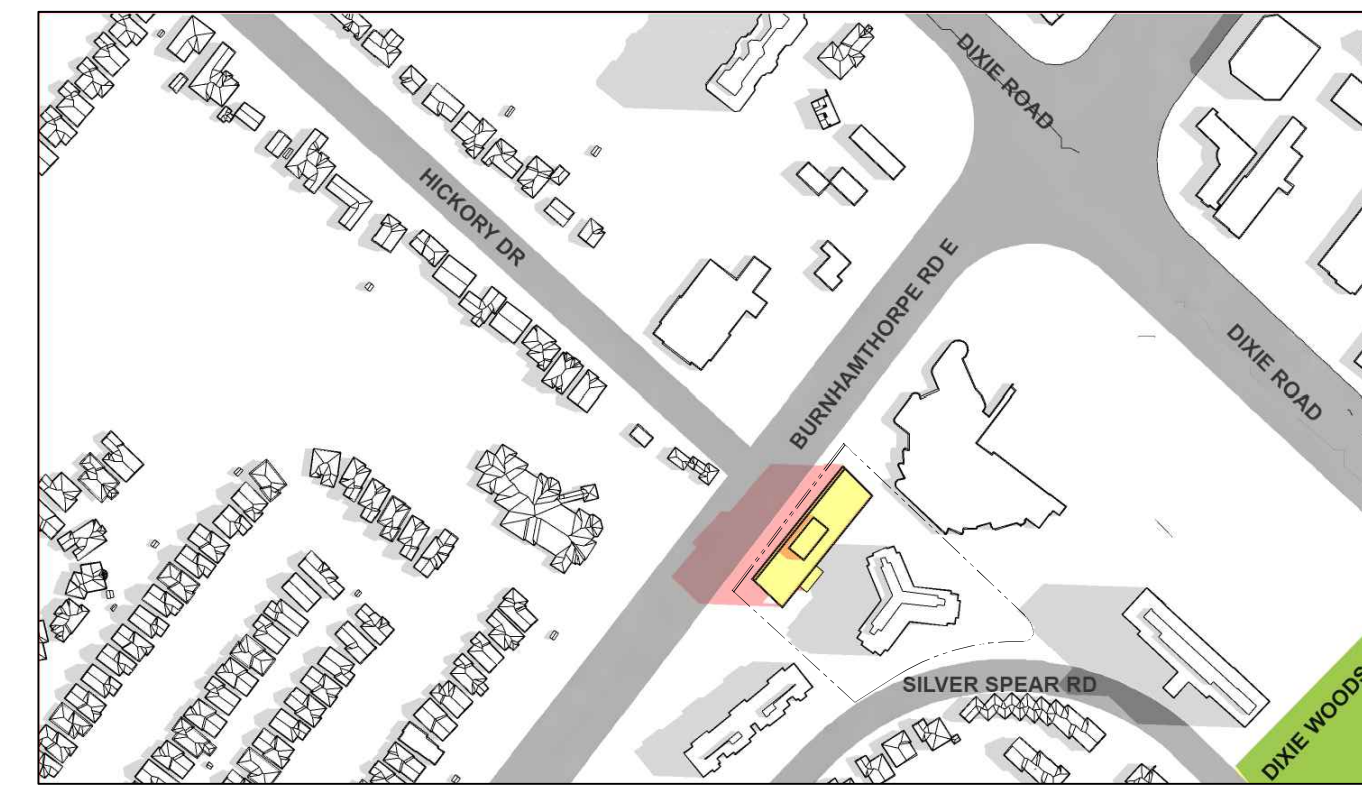
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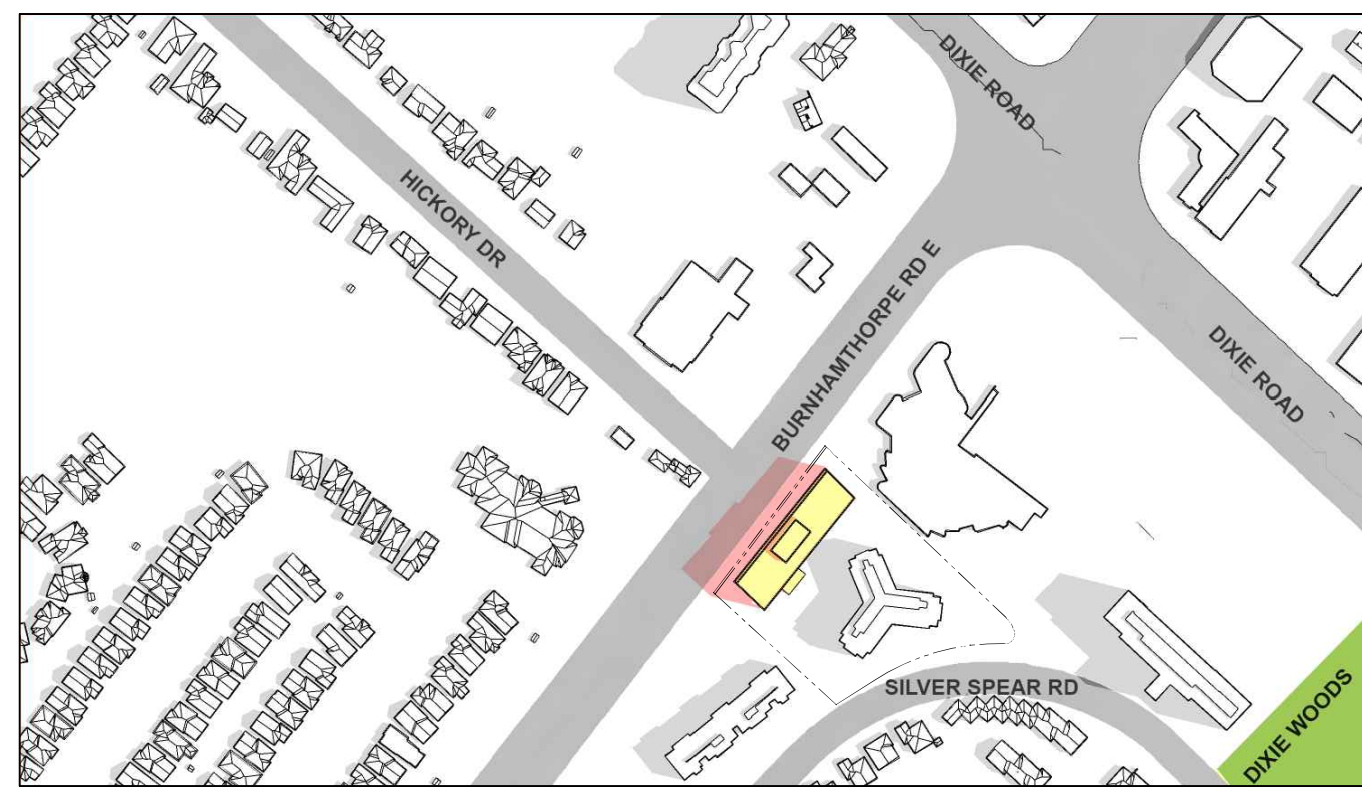
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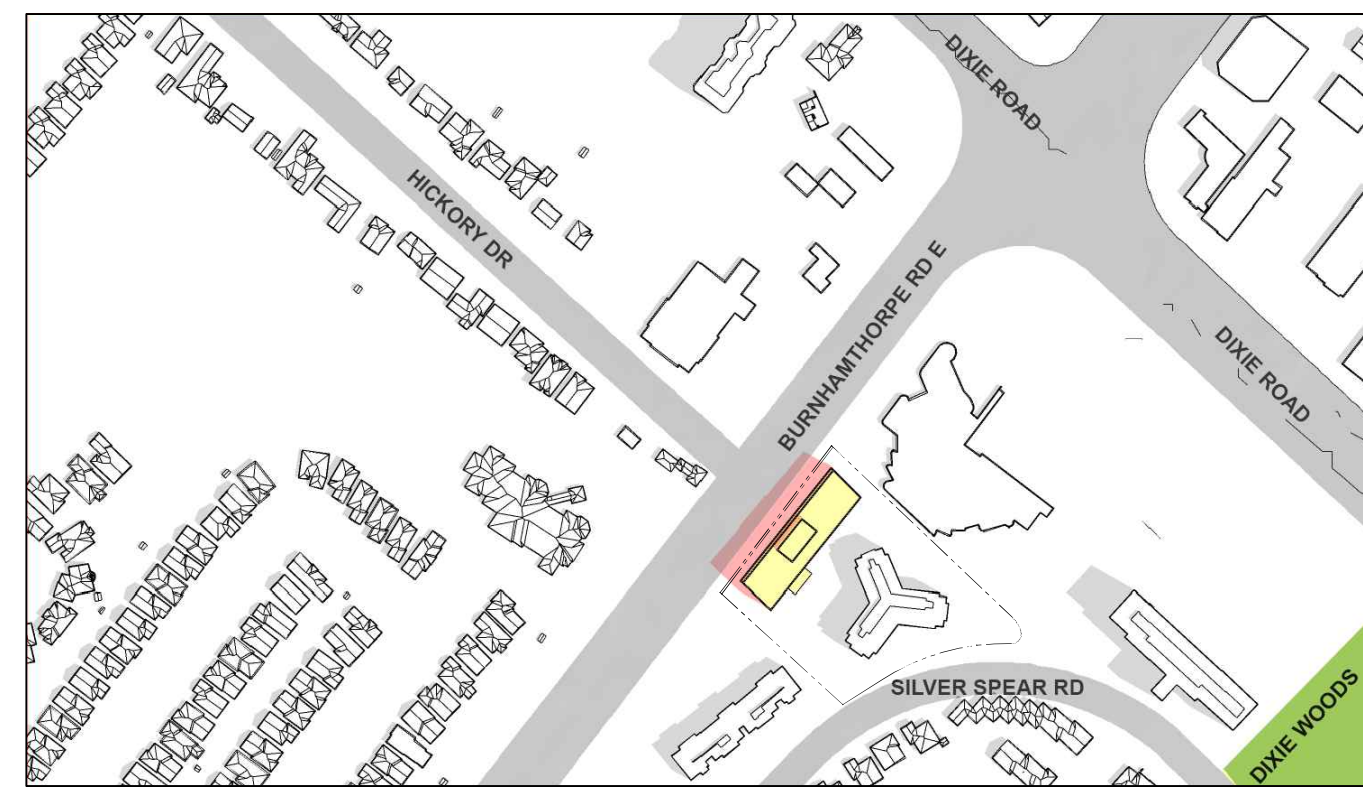
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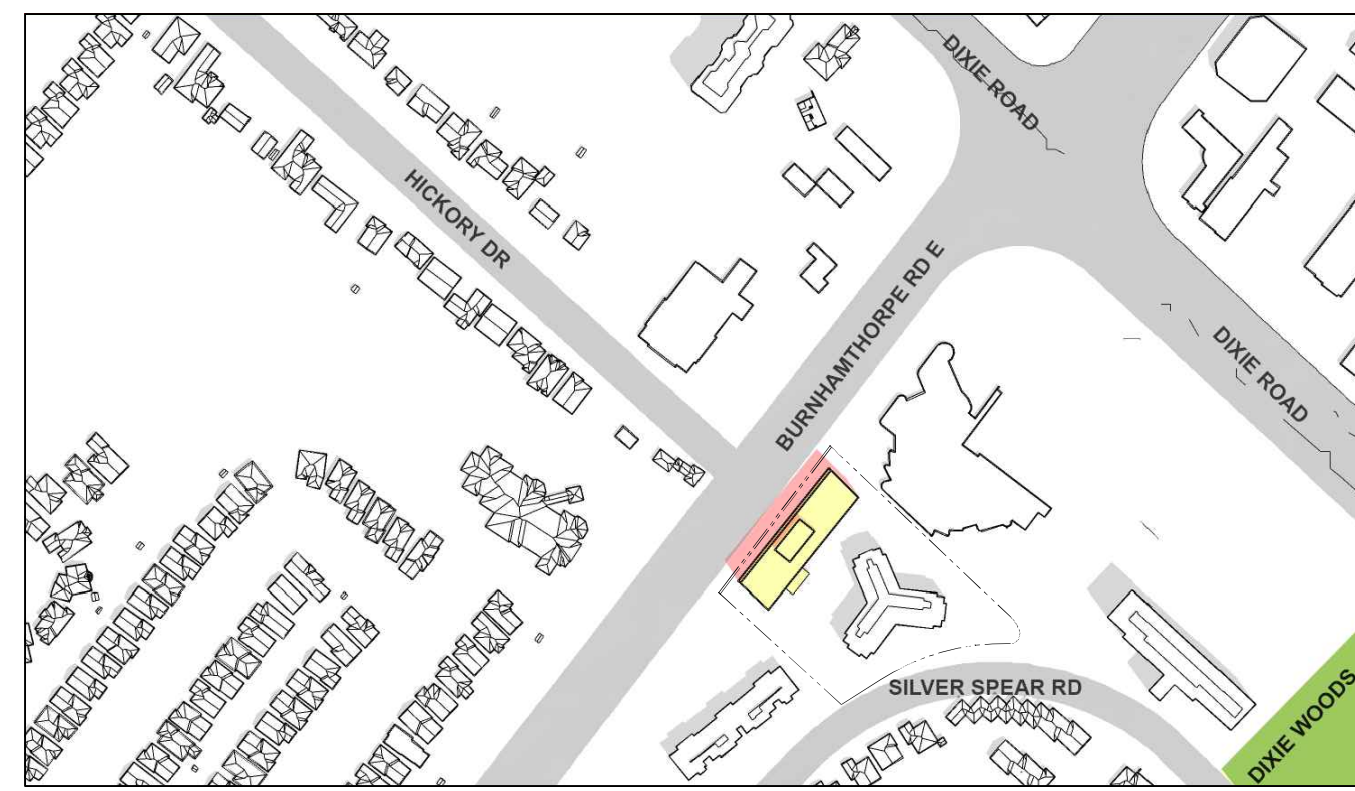
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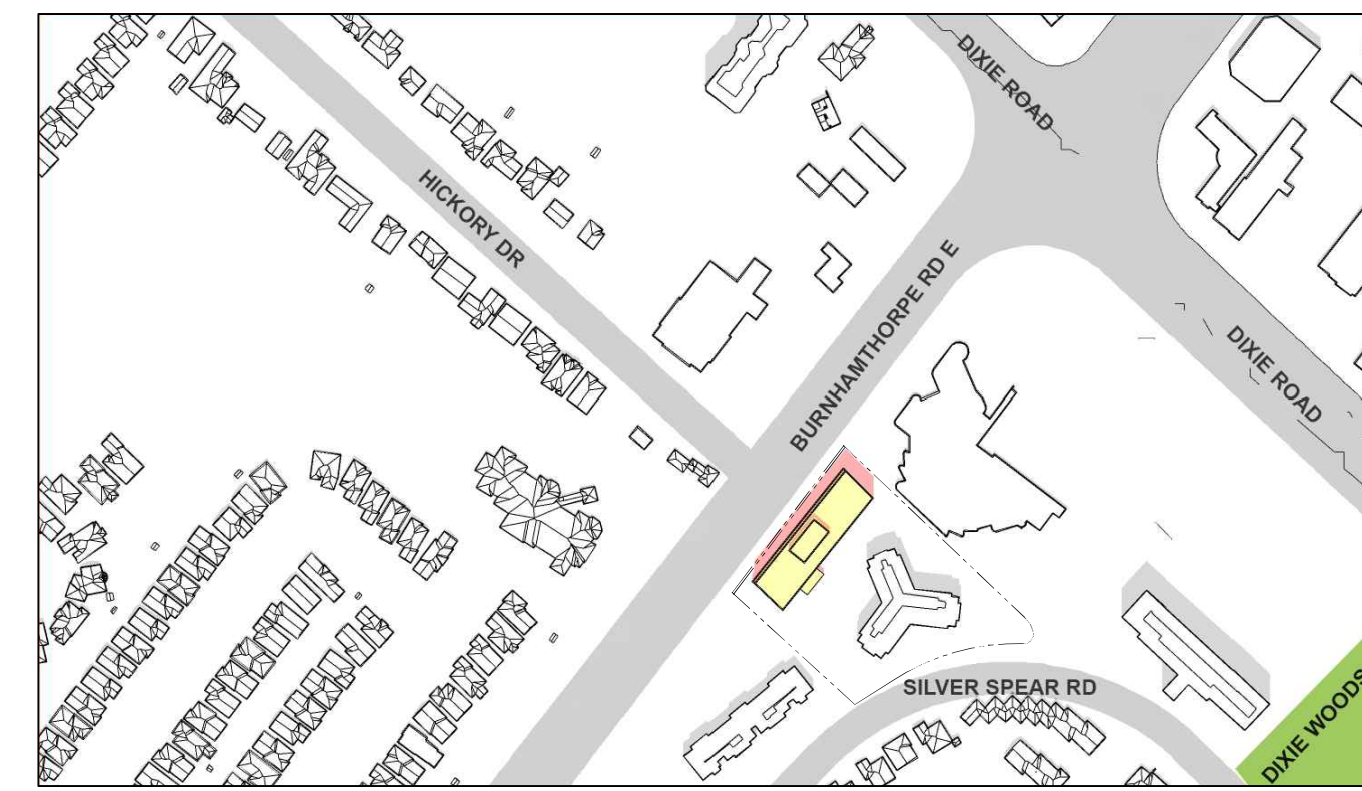
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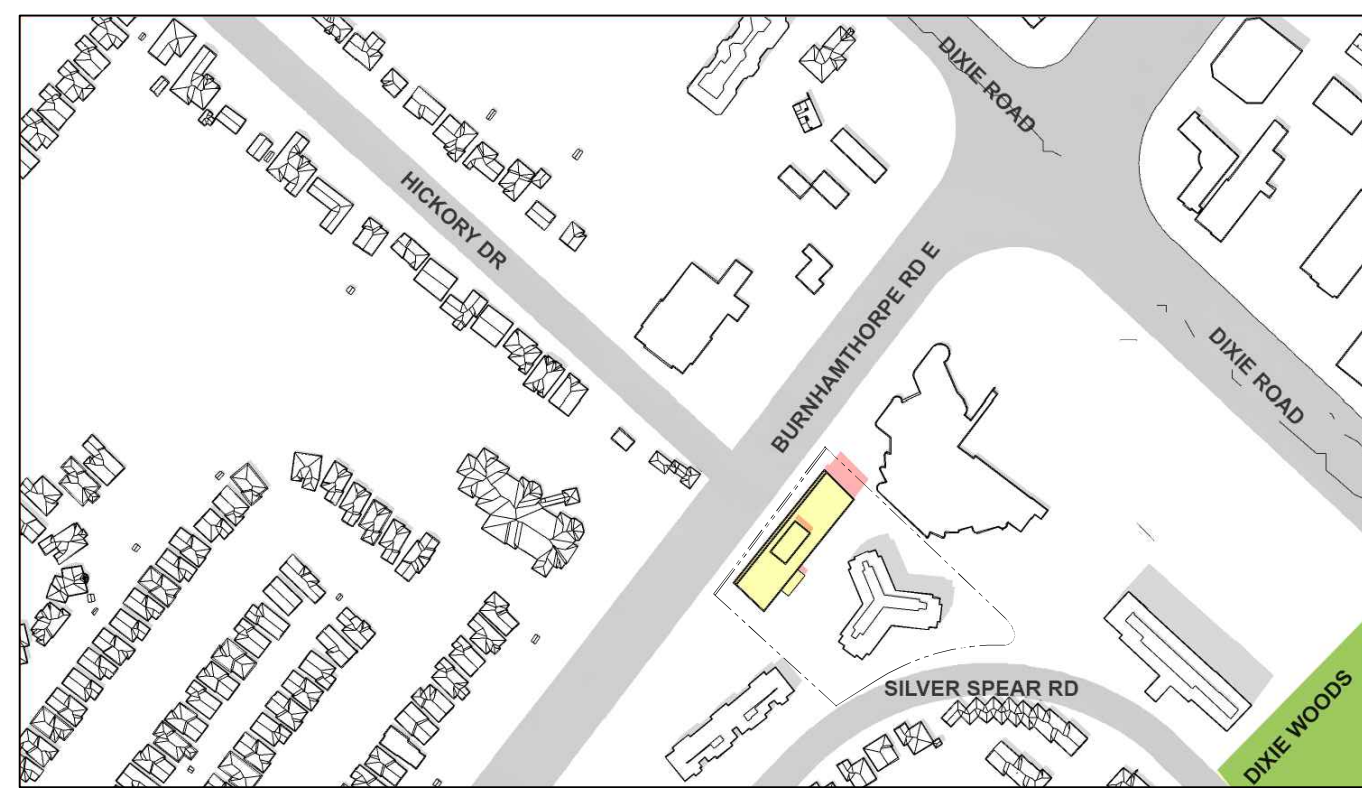
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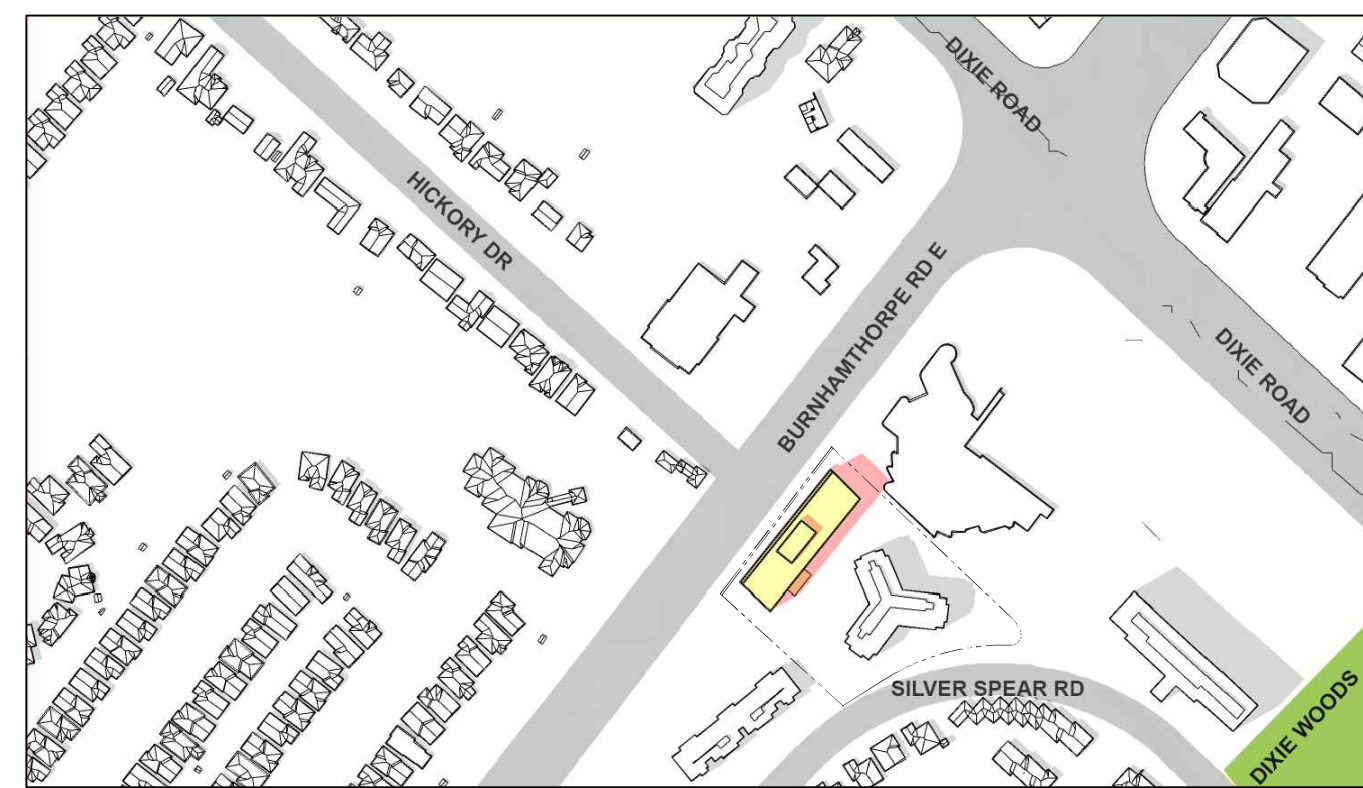
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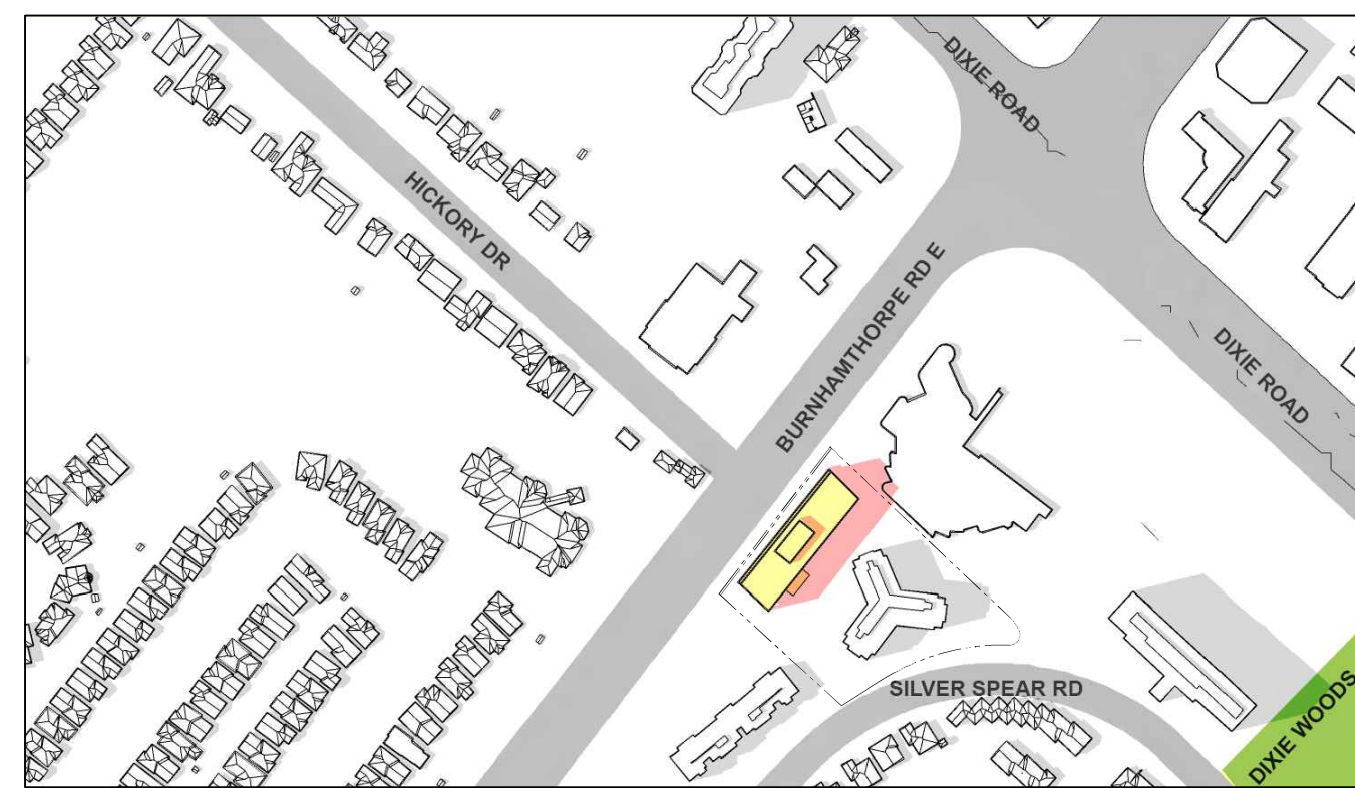
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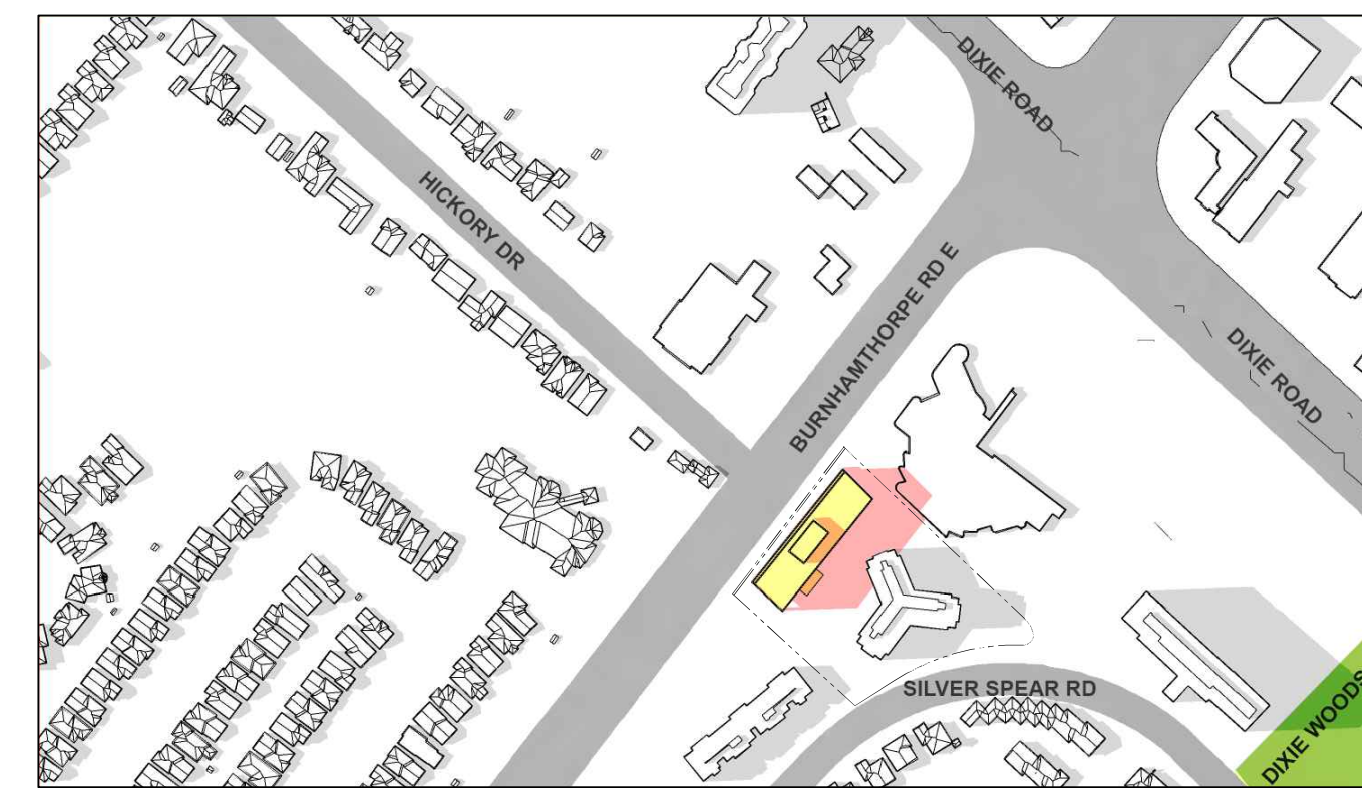
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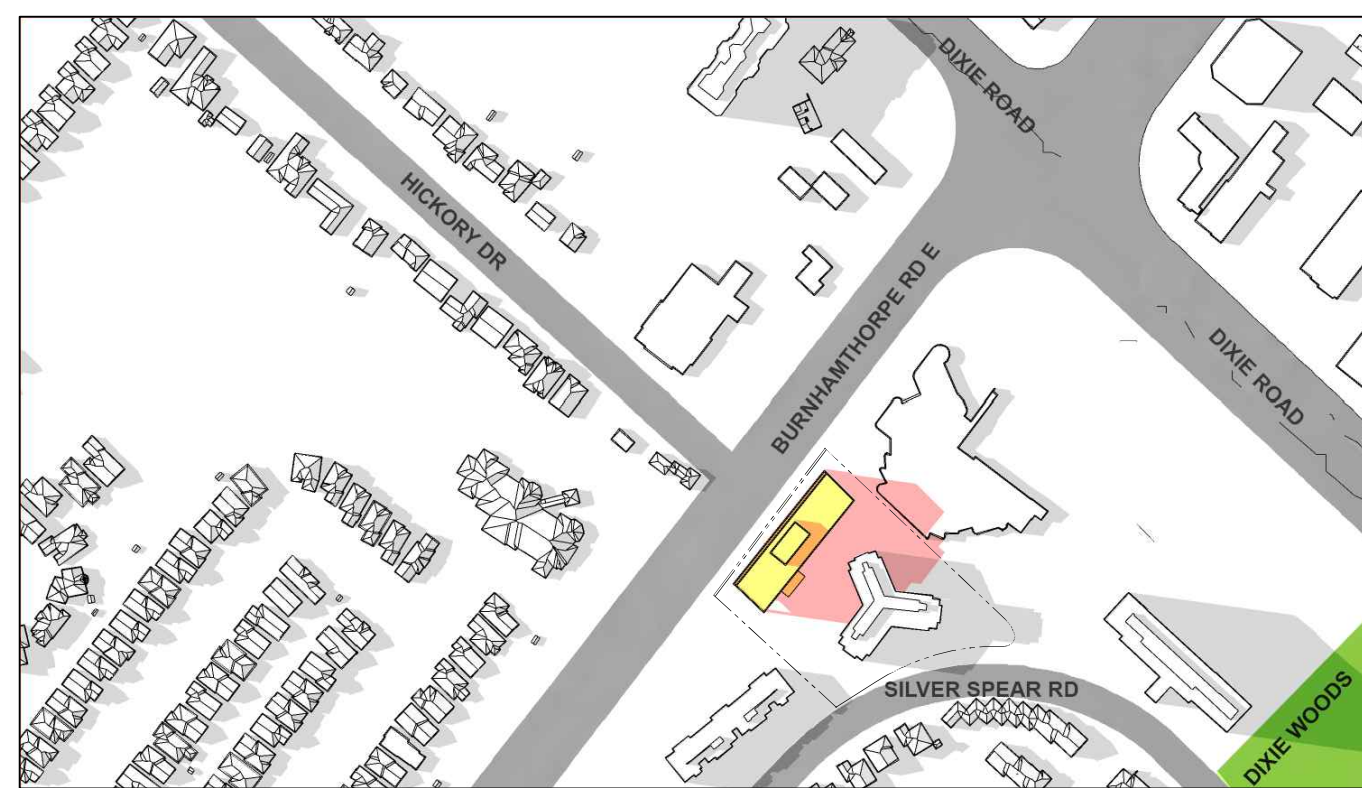
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June 21st, 04:20 p.m



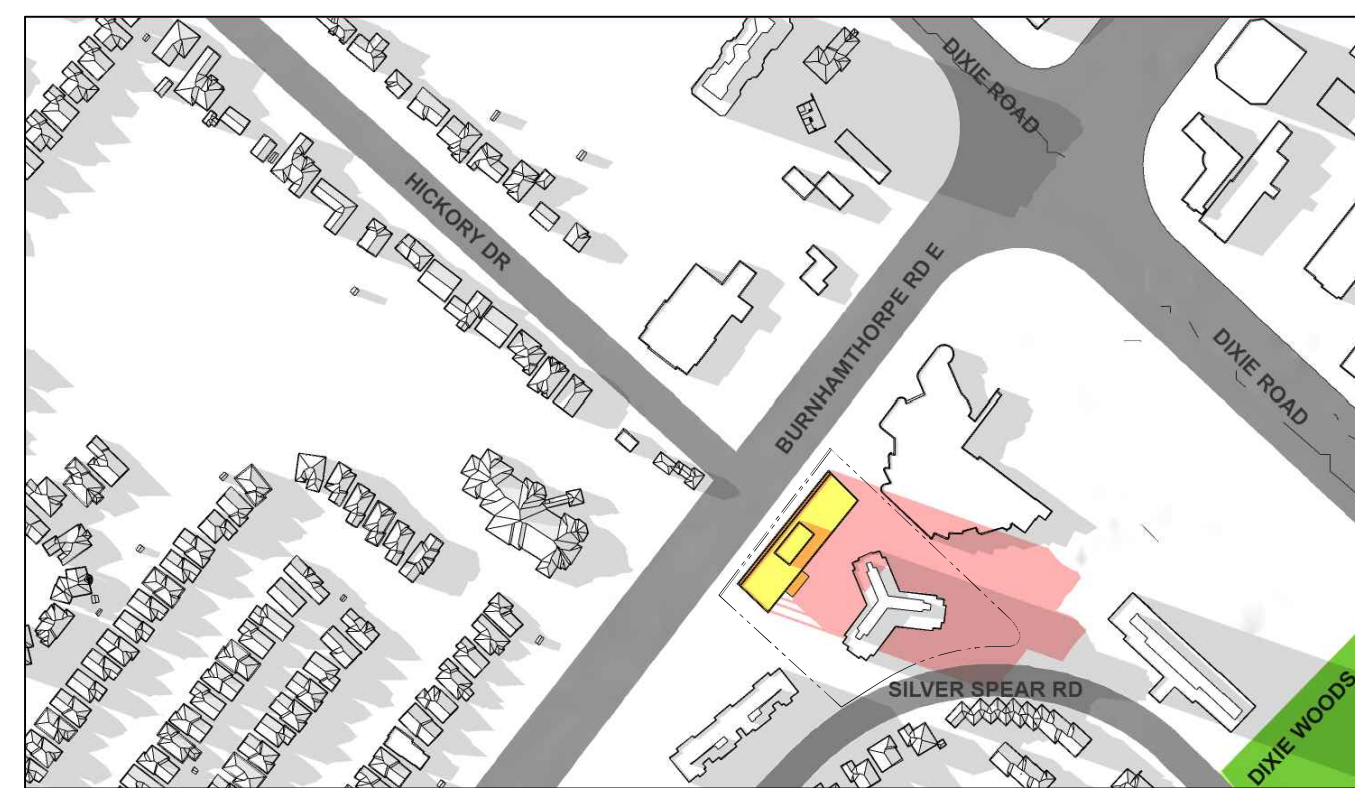
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June 21st, 06:20 p.m



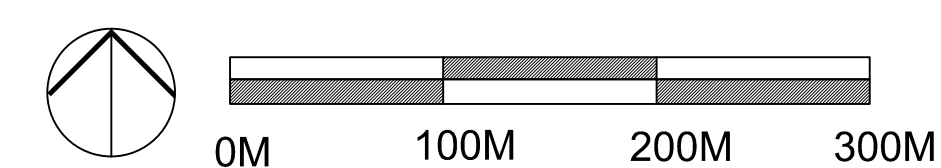
June 21st, 07:20 p.m



June 21st, 07:33 p.m

Legend

- Existing context shadow
- Proposed Building
- Proposed development
- Park



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notes:

- | | |
|-----------------------------|----------|
| 12. issued for rezoning | 11.10.23 |
| 11. issued for SPA | 11.09.18 |
| 10. issued for rezoning | 11.09.18 |
| 9. issued for client review | 09.21.18 |
| 8. issued for client review | 09.21.18 |
| 7. issued for rezoning | 11.13.17 |
| 6. issued for client review | 05.11.17 |
| 5. issued for client review | 10.27.16 |
| 4. pre-submission meeting | 10.12.16 |
| 3. issued for client review | 10.06.16 |
| 2. issued for client review | 04.04.16 |
| 1. pre-submission meeting | 06.25.15 |
- revisions:

architectural team :

mark zwicker
melina m. andretto
ernesto sosa



planning: urban strategies inc.

structural:

electrical:

mechanical:

landscape: MBTW Group

site services: urbantech consulting

project:
1315 Silver Spear Road
Mississauga, Ontario

shadow study
June 21st

nov. 10, 2023

1:3500

14-40

ap

date:

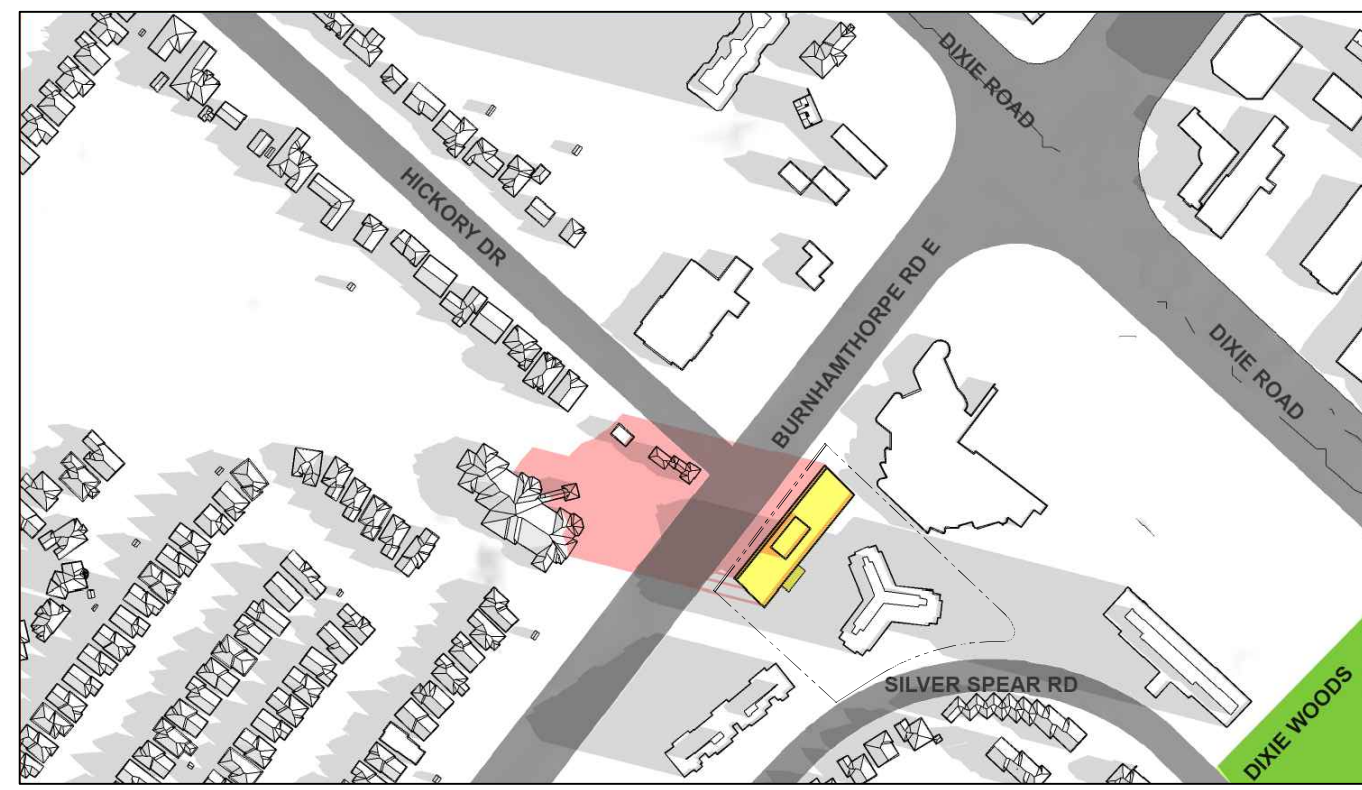
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project:

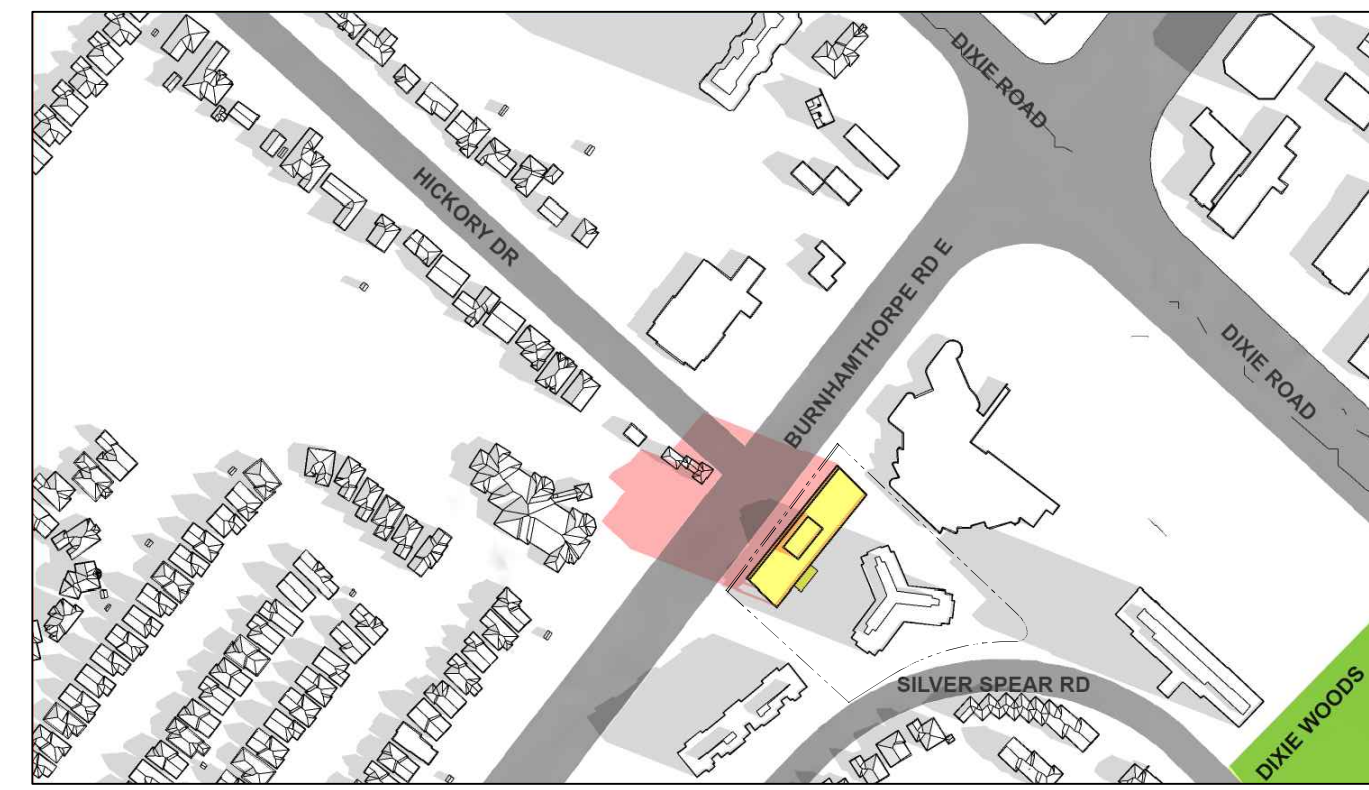
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drawing number:

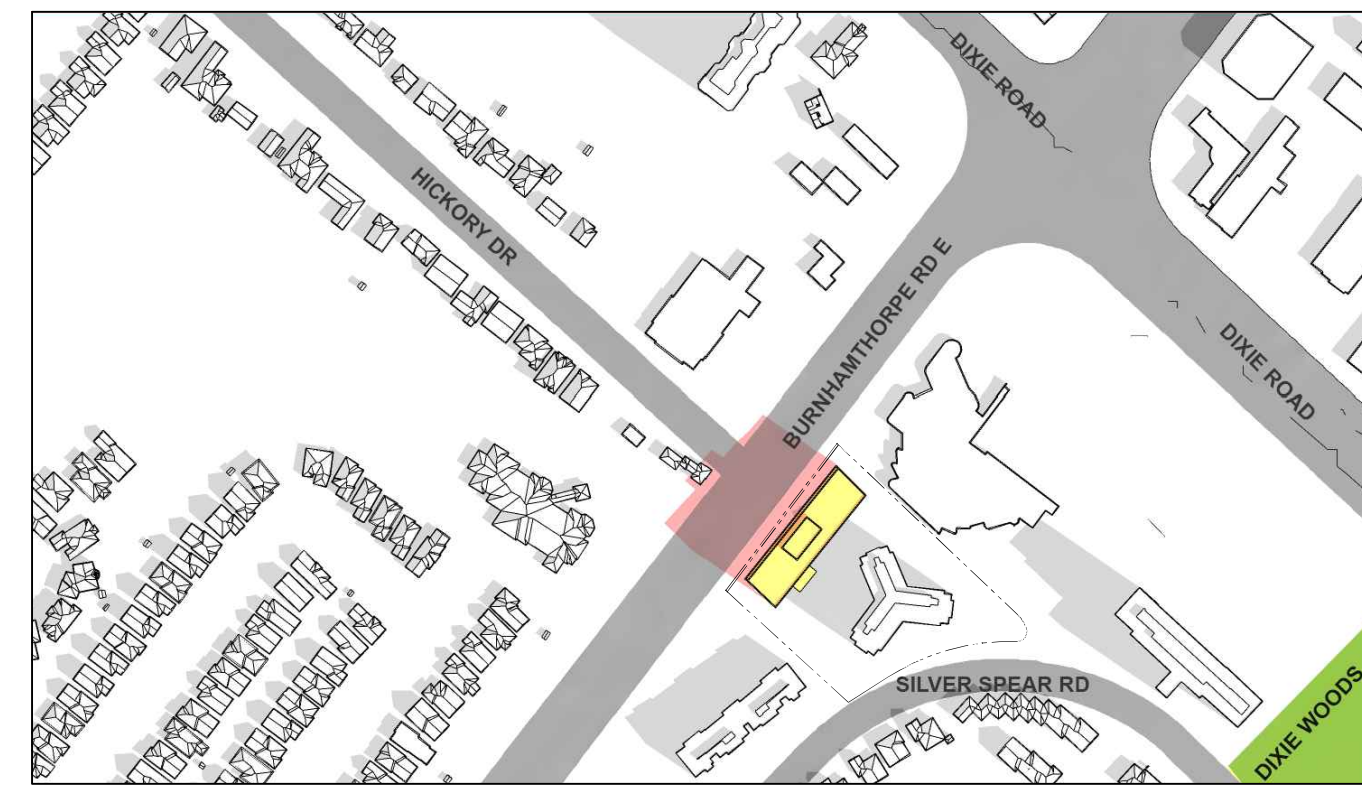
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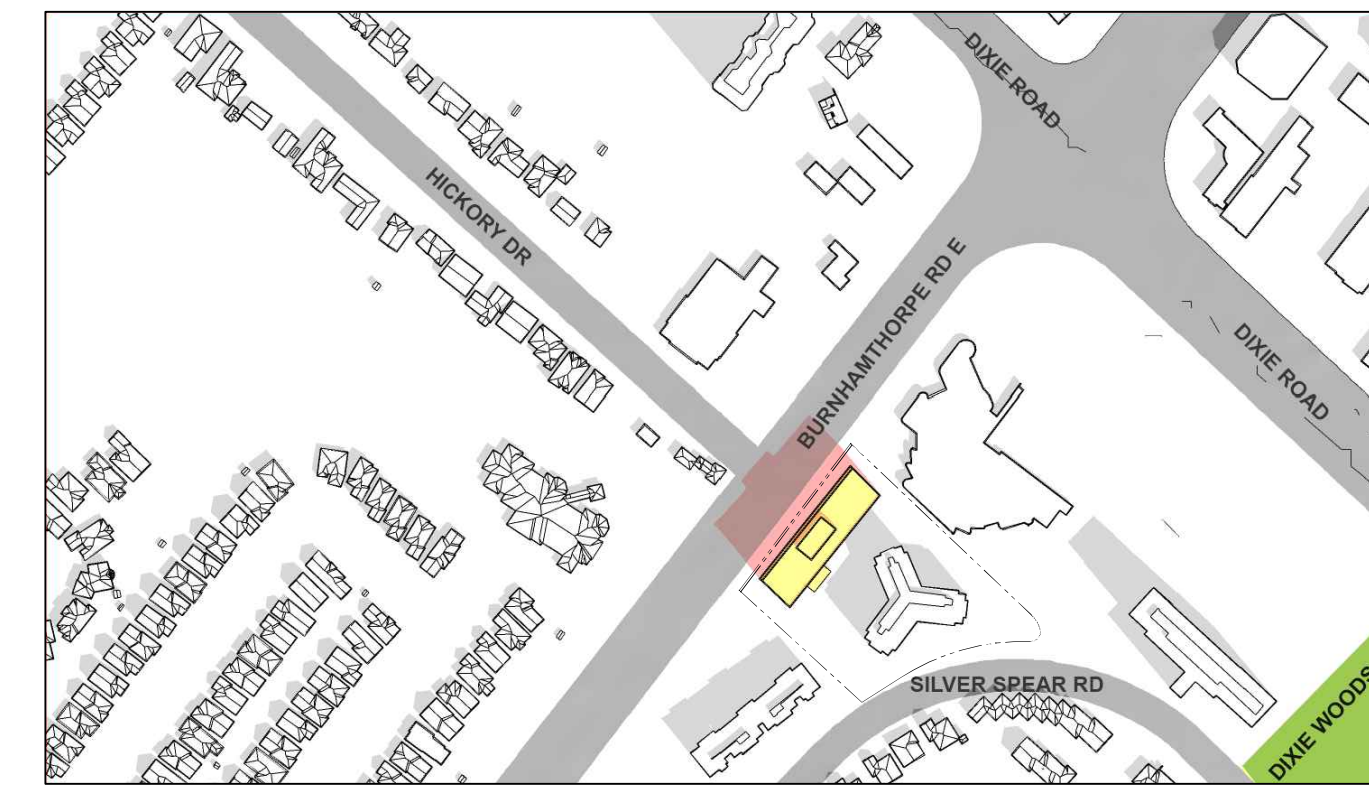
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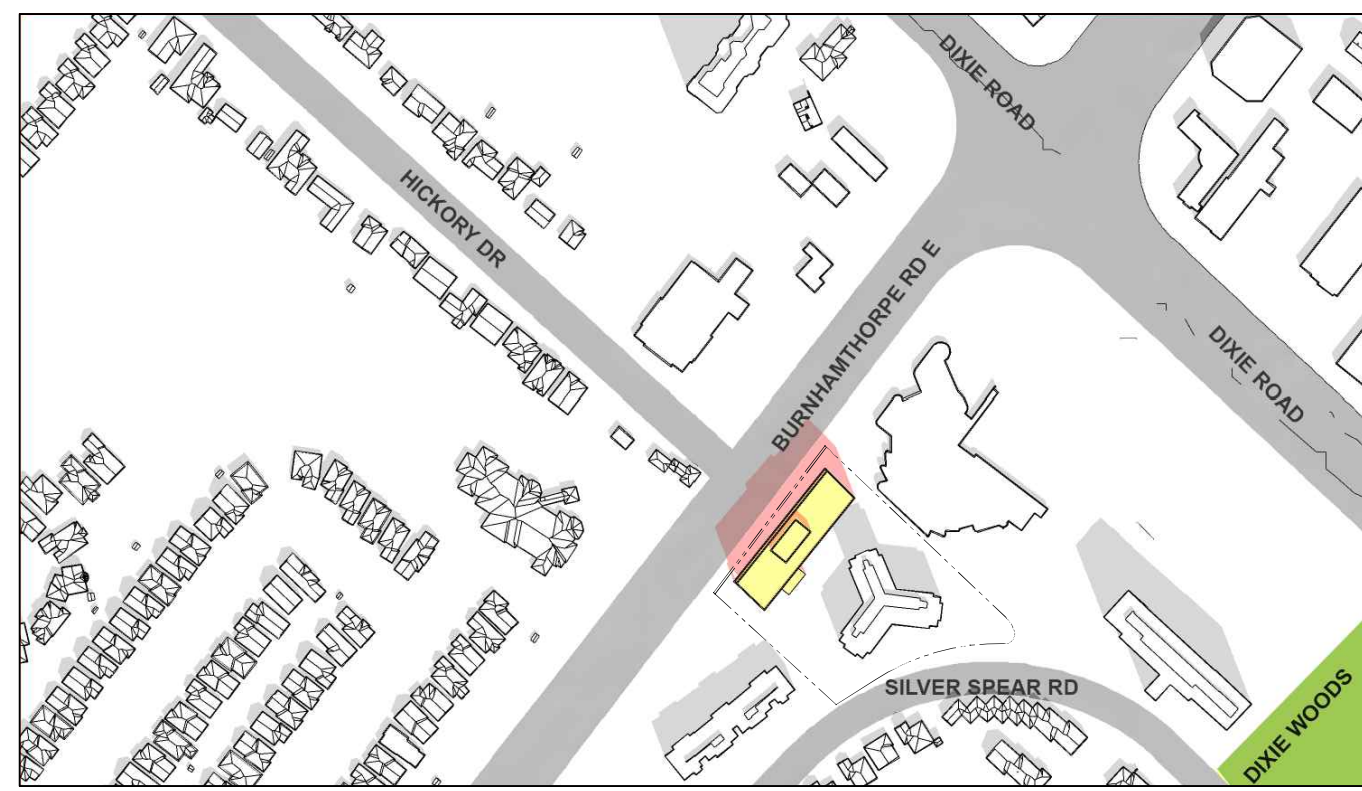
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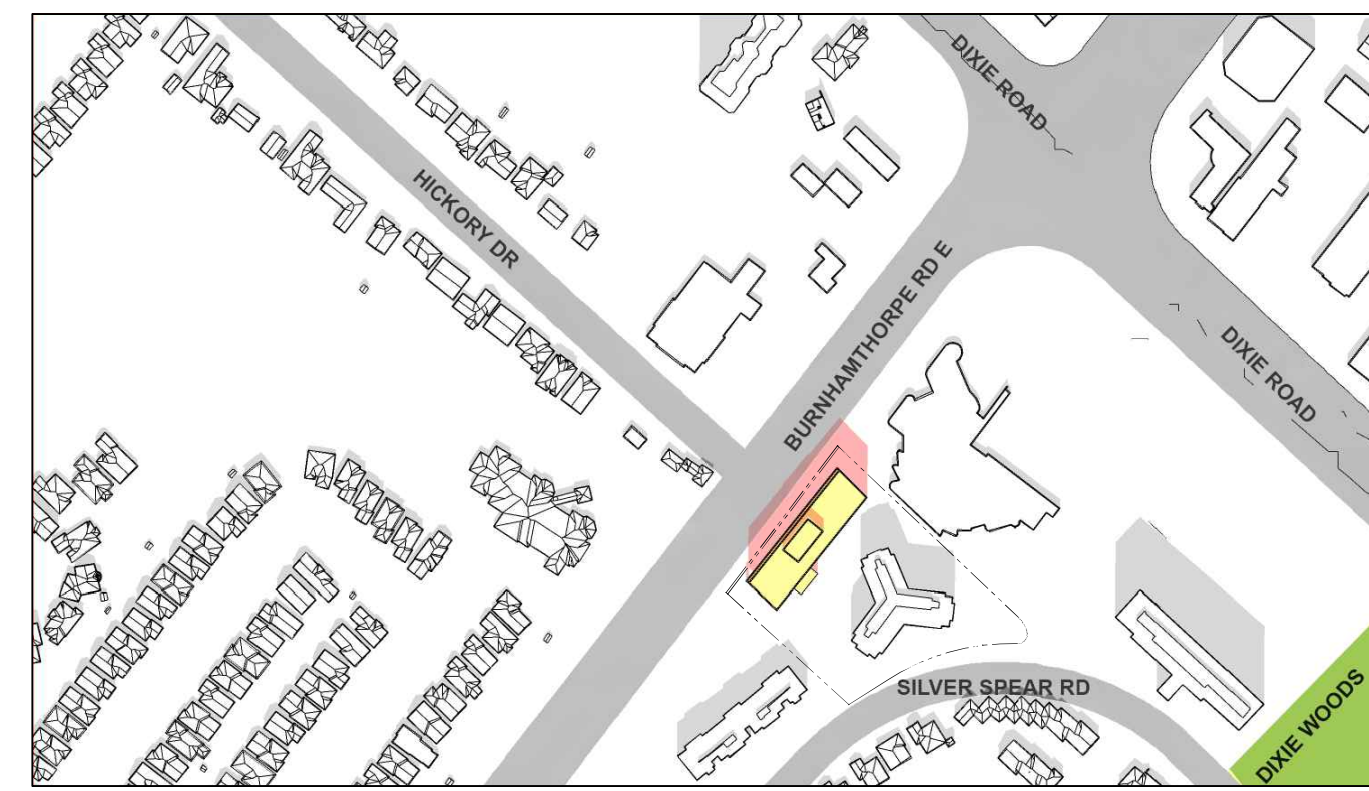
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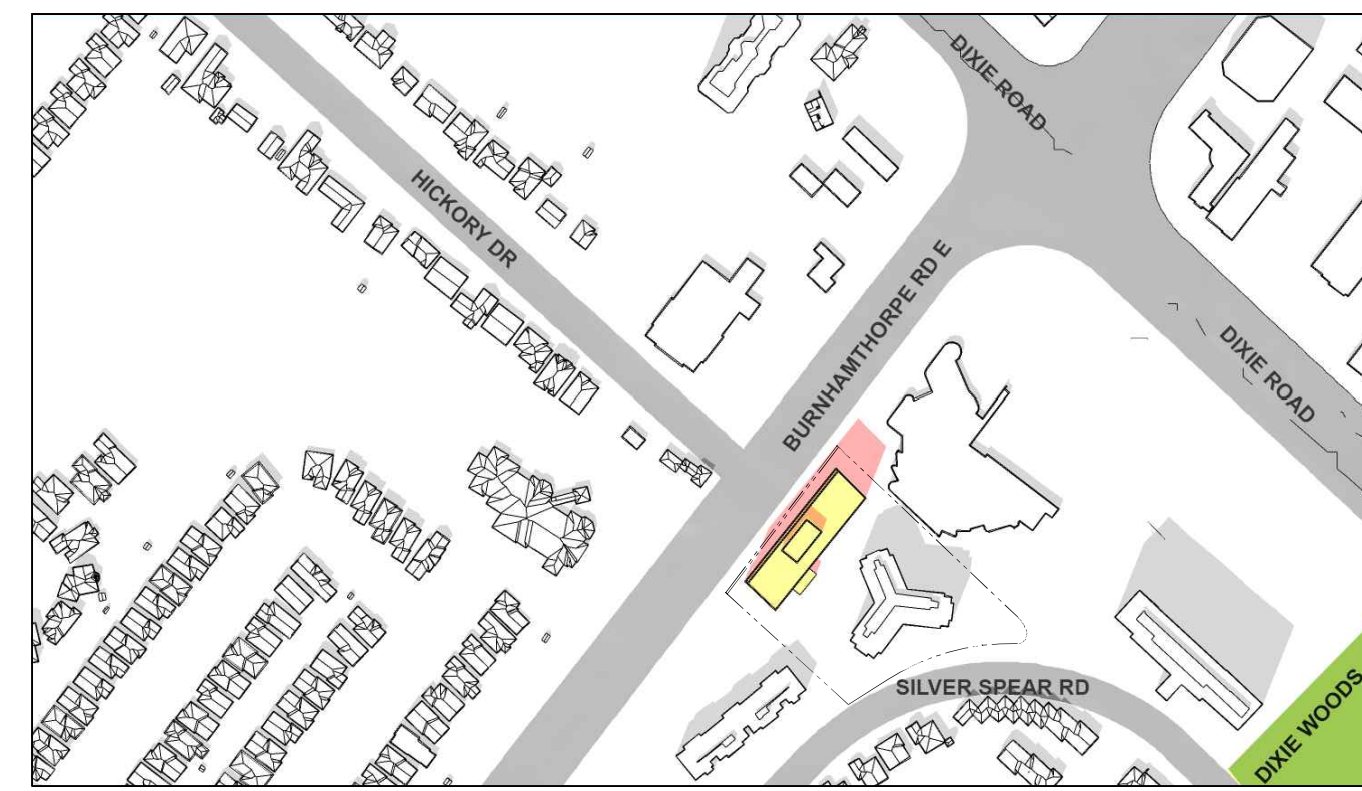
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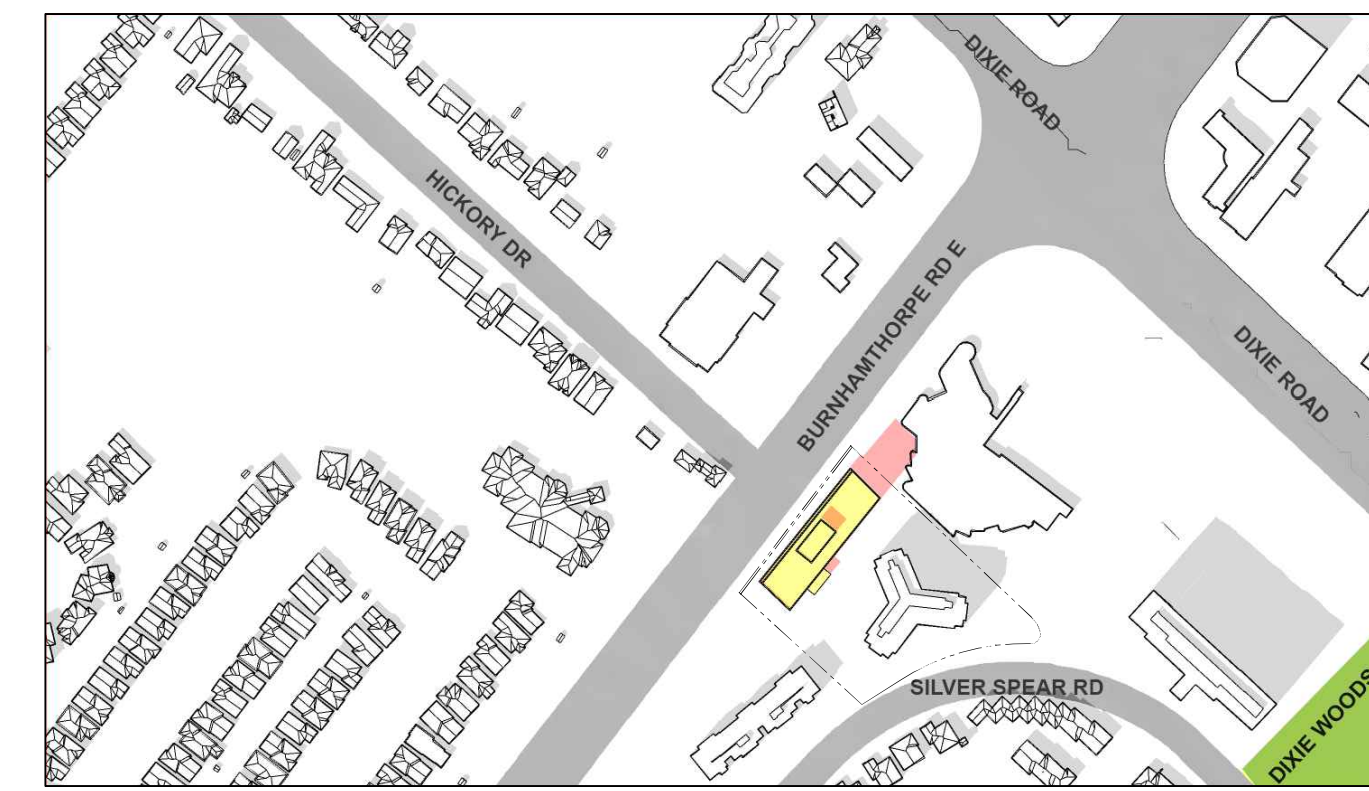
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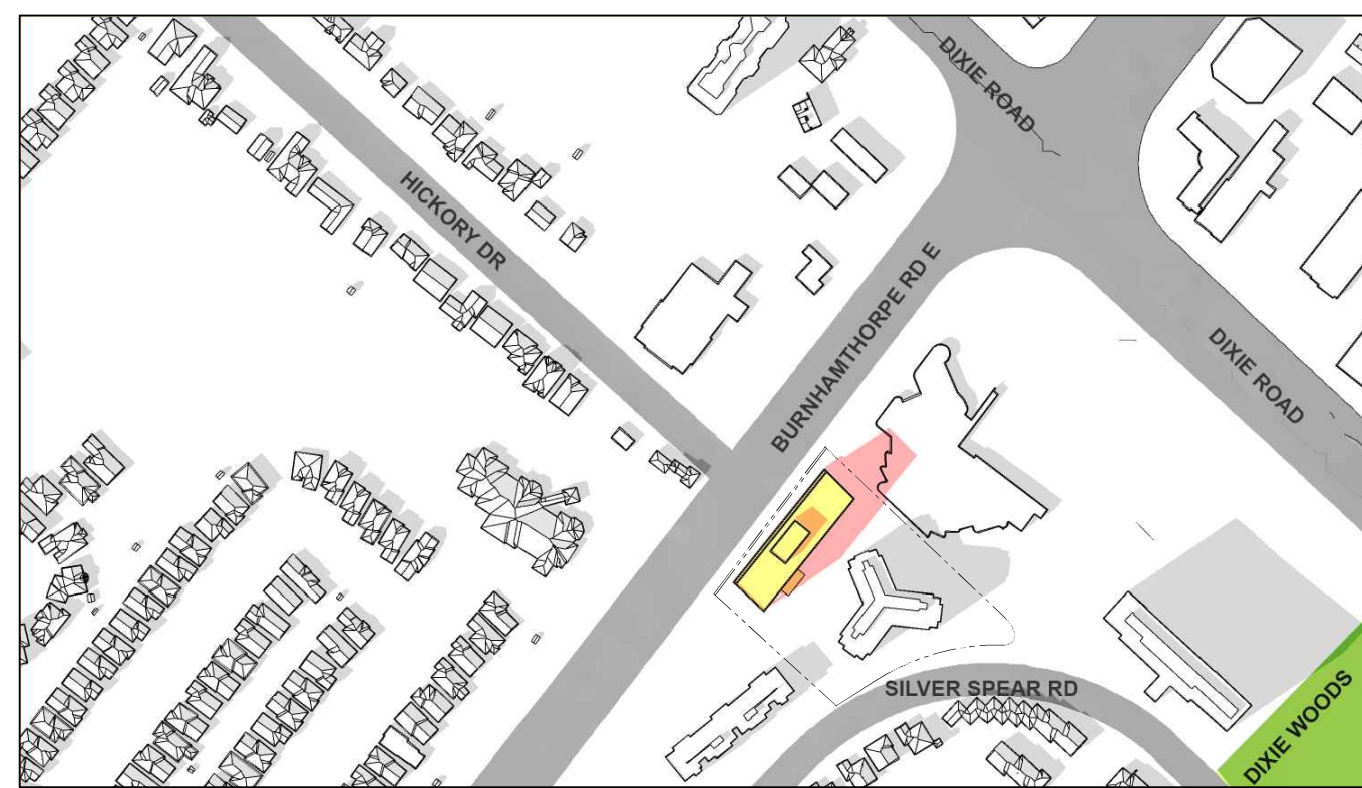
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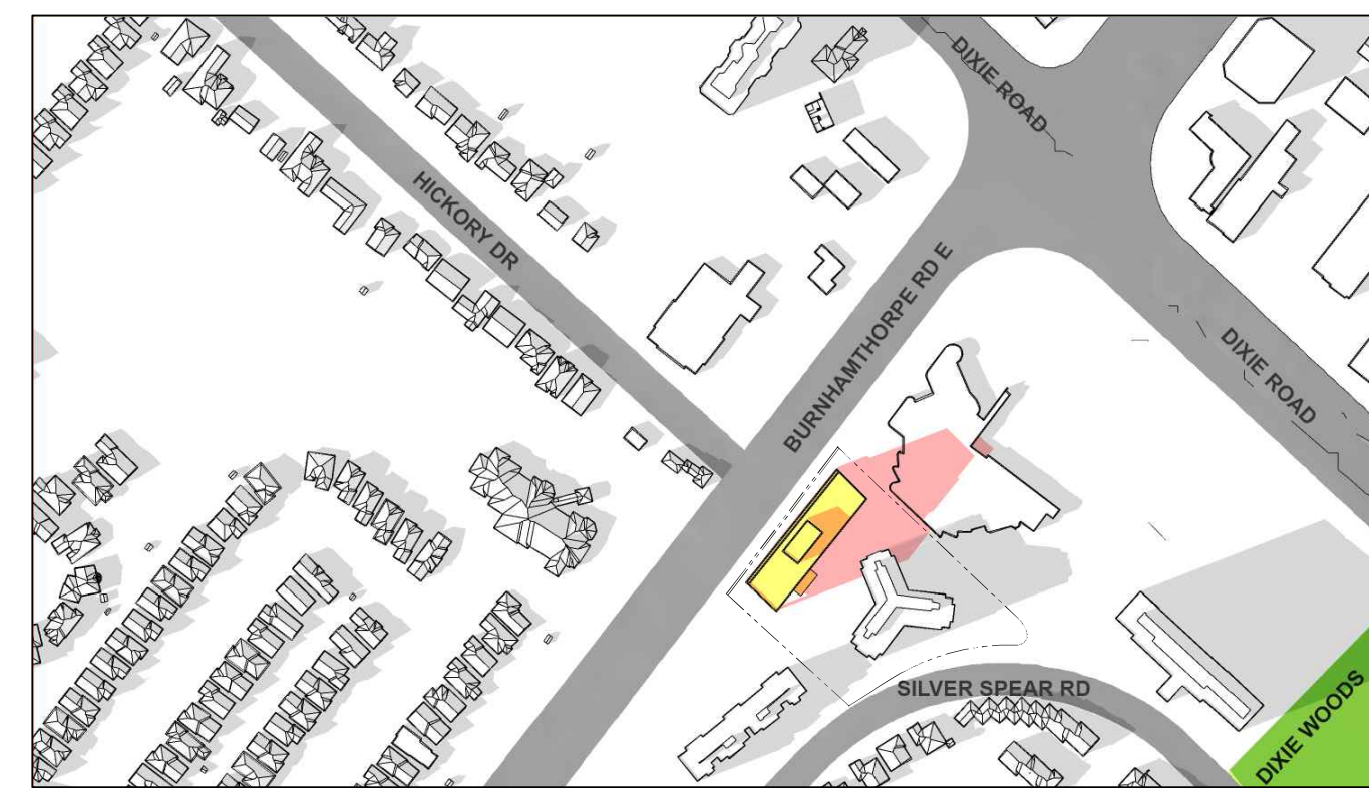
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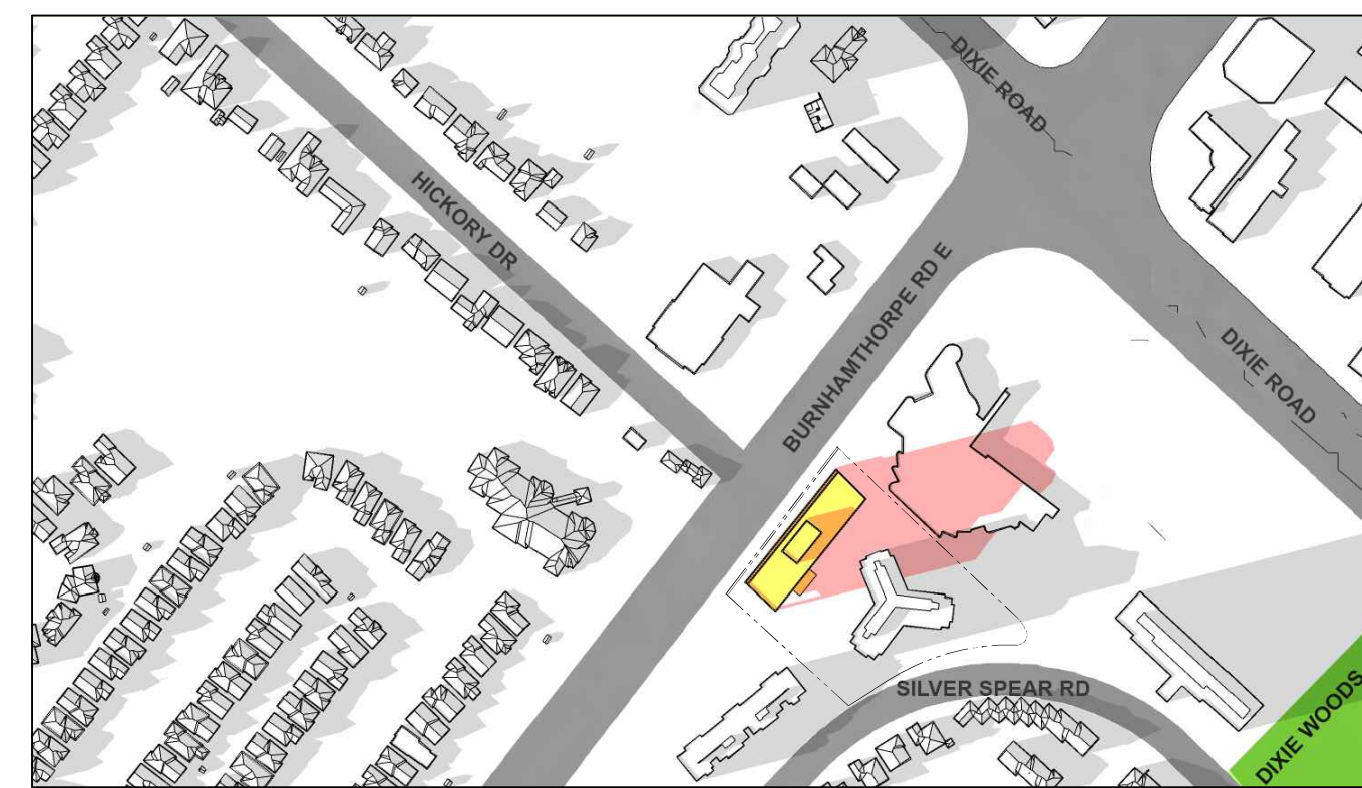
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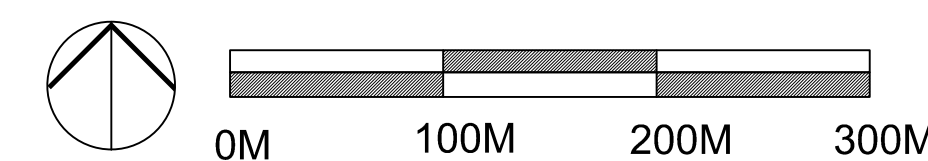
September 21st, 05:12 p.m



September 21st, 05:48 p.m

Legend

-  Existing context shadow
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-  Proposed development
-  Park



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site services:
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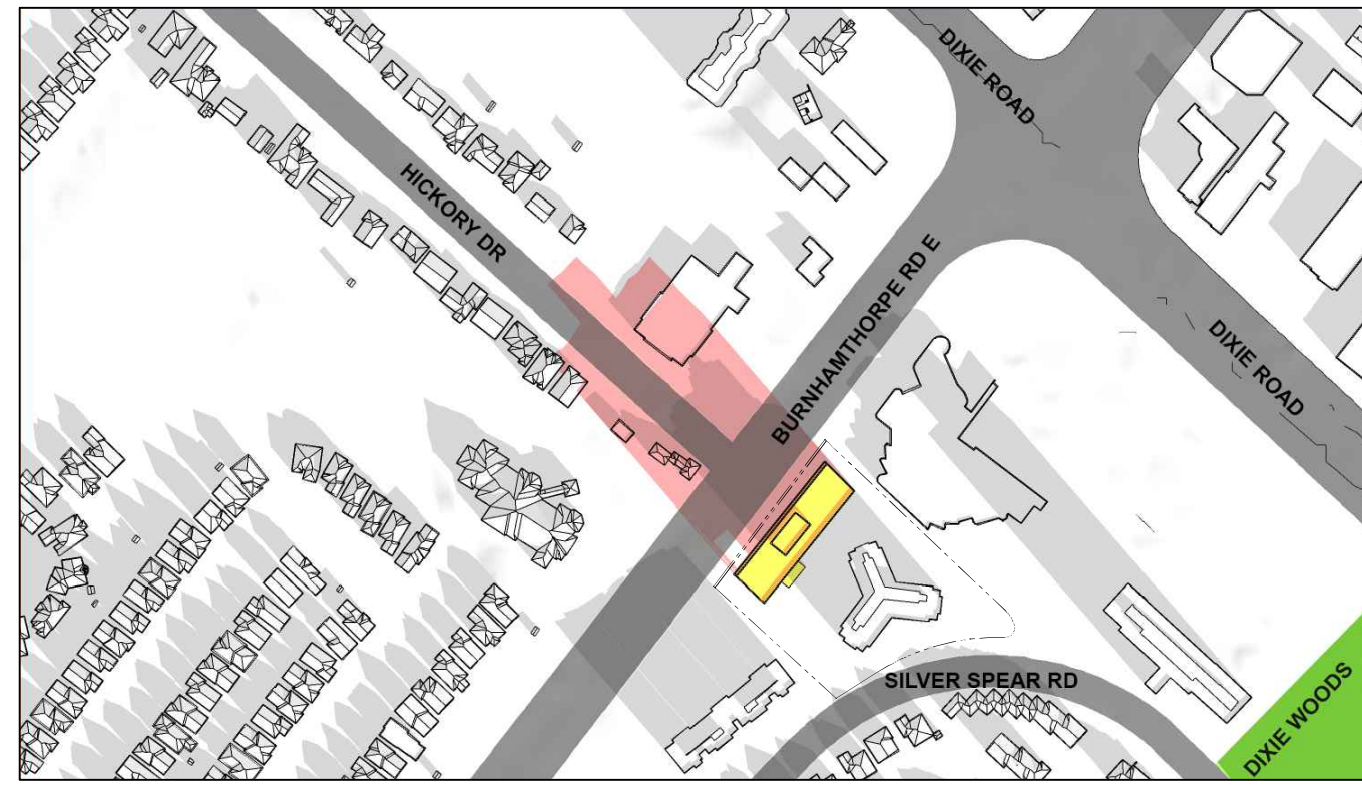
project:
1315 Silver Spear Road
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shadow study
September 21st

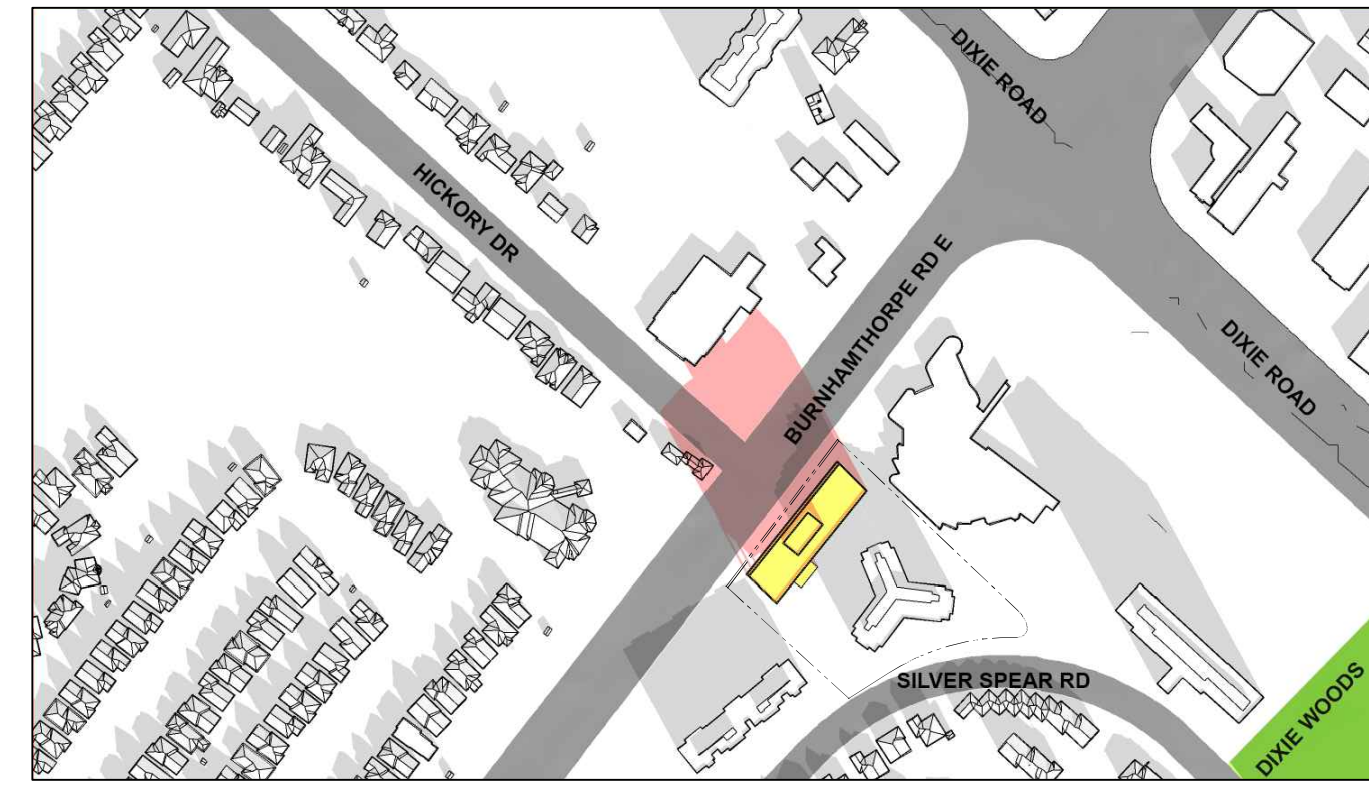
nov. 10, 2023
1:3500
14-40
ap

date:
scale:
project:
drawn by:

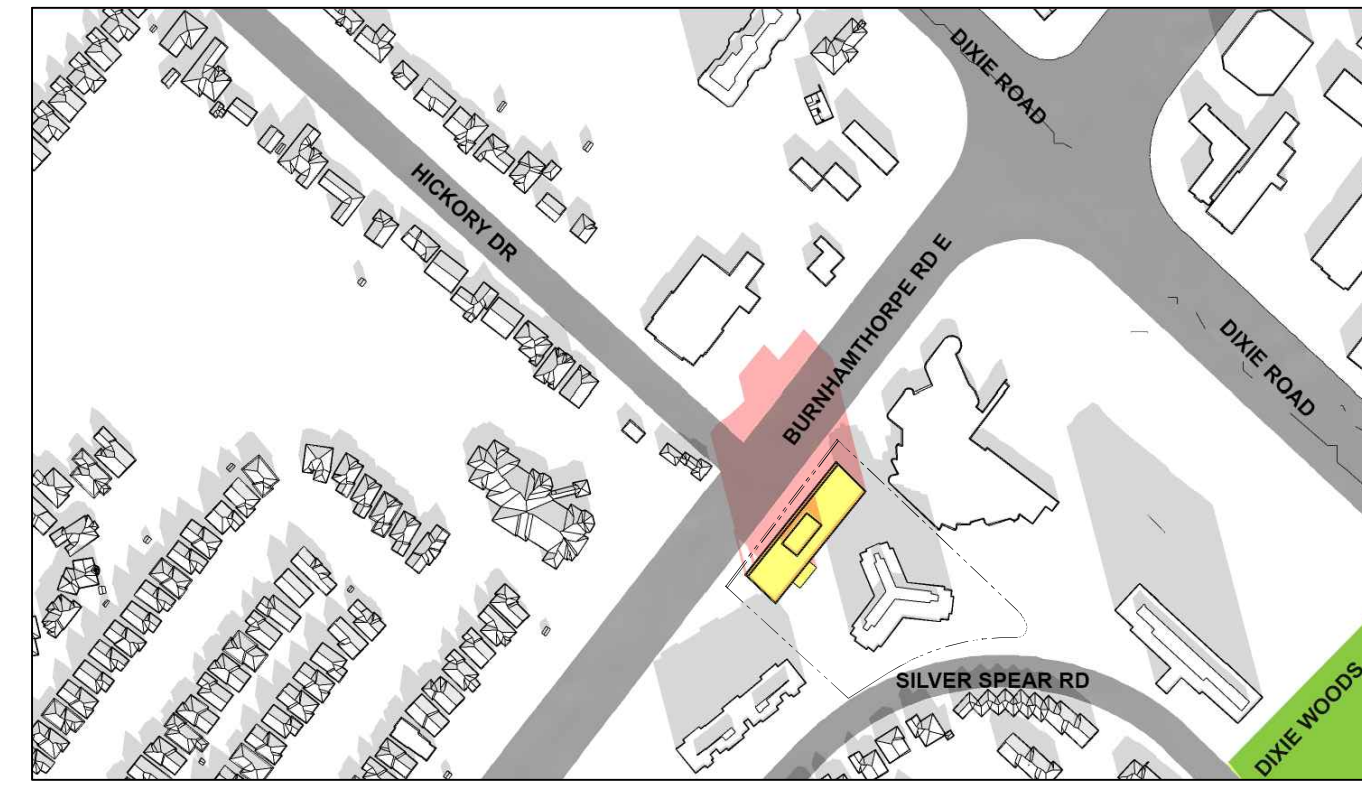
drawing number:
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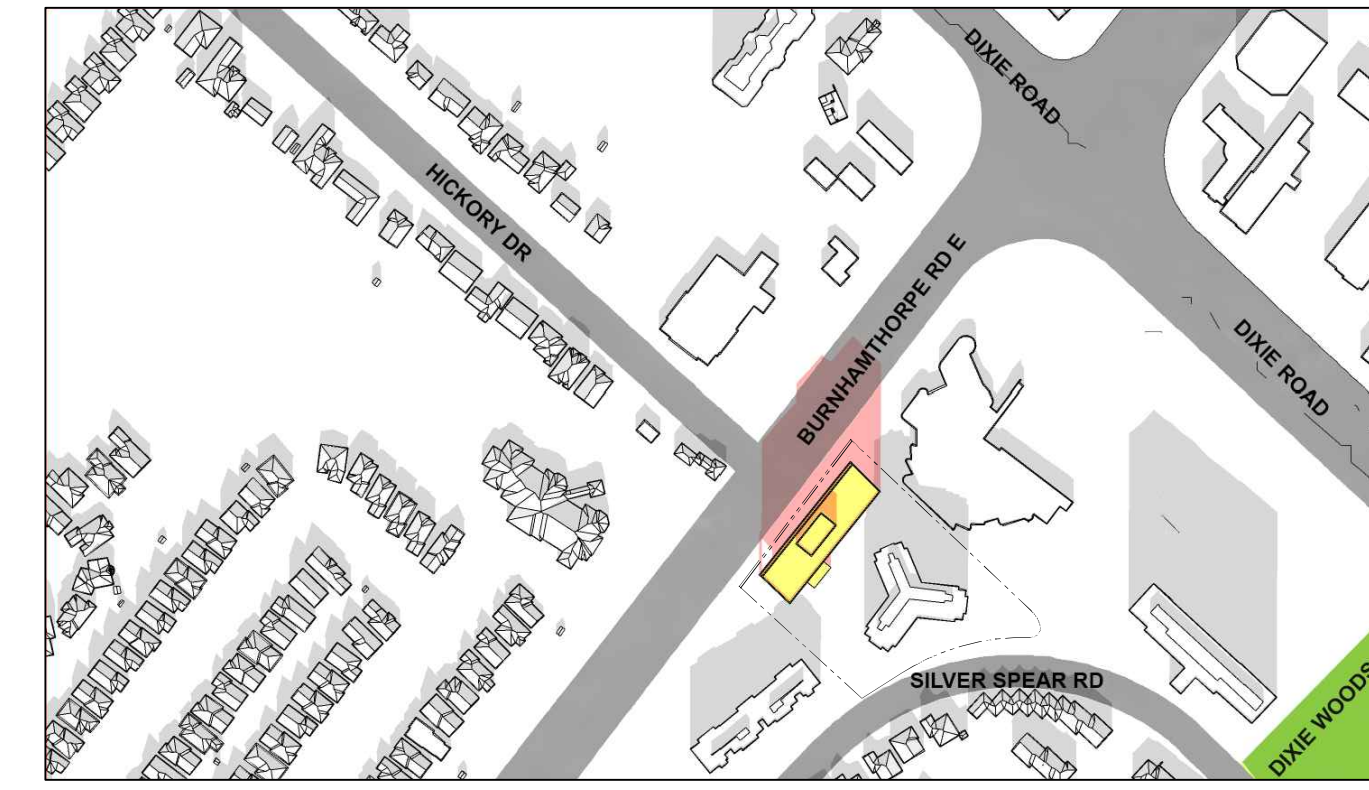
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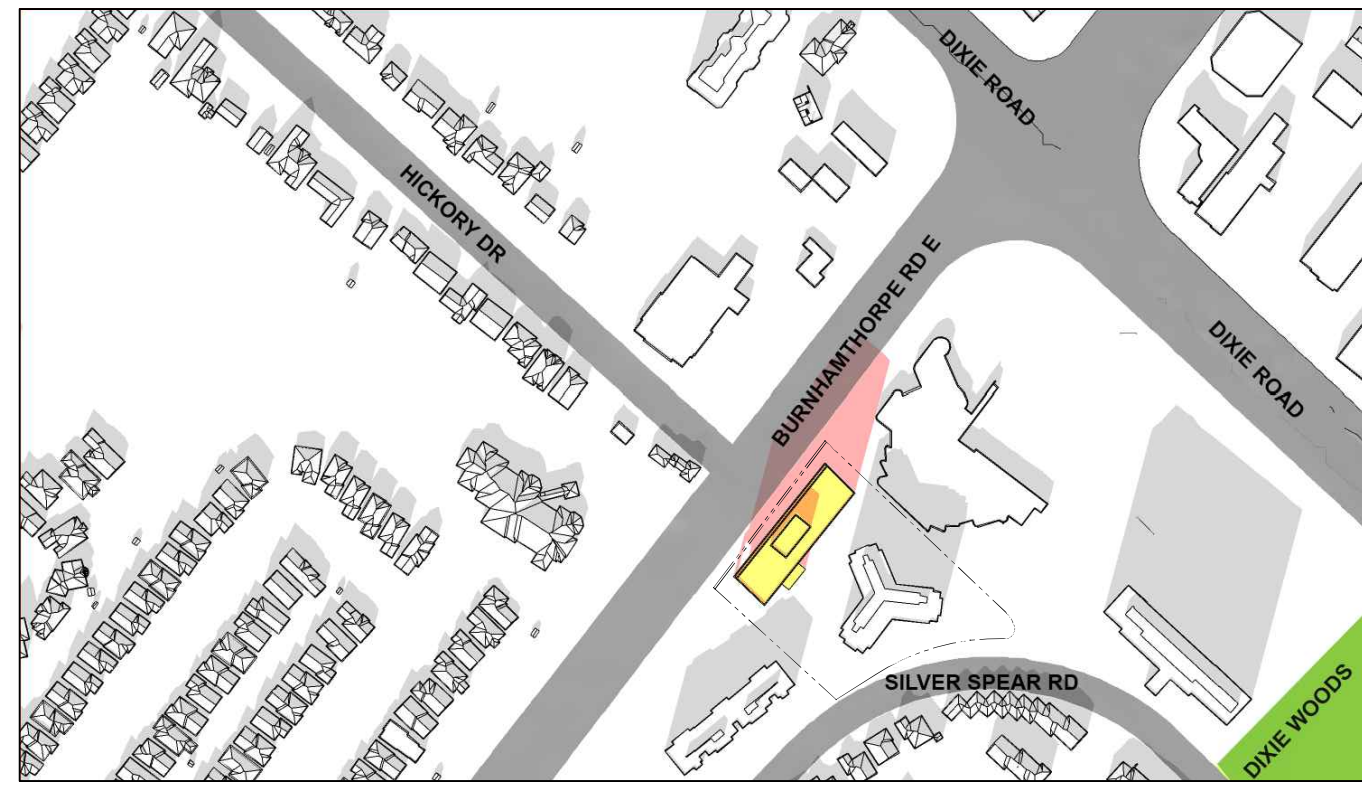
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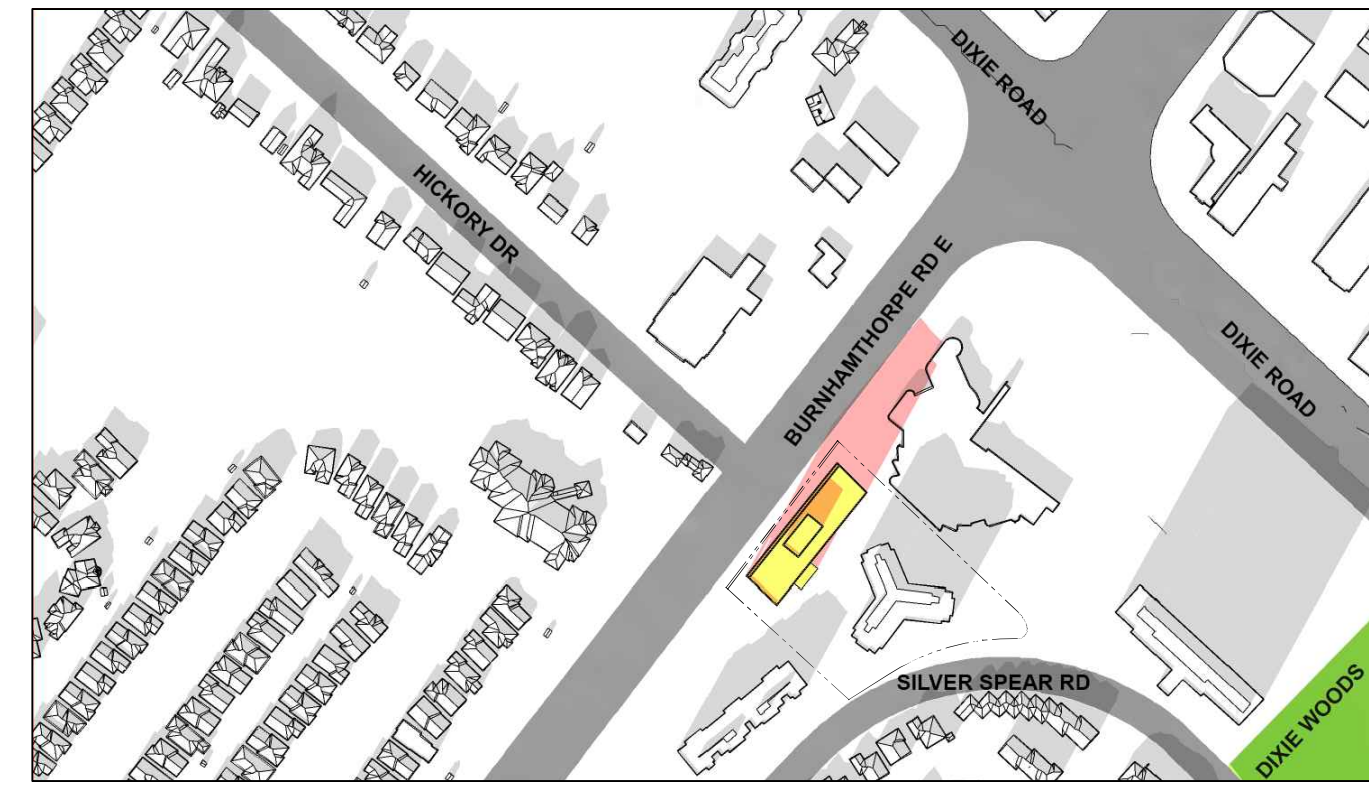
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December 21st, 12:17 p.m



December 21st, 01:17 p.m



December 21st, 02:17 p.m



December 21st, 03:15 p.m

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qp

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scale:
project:
drawn by:

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