



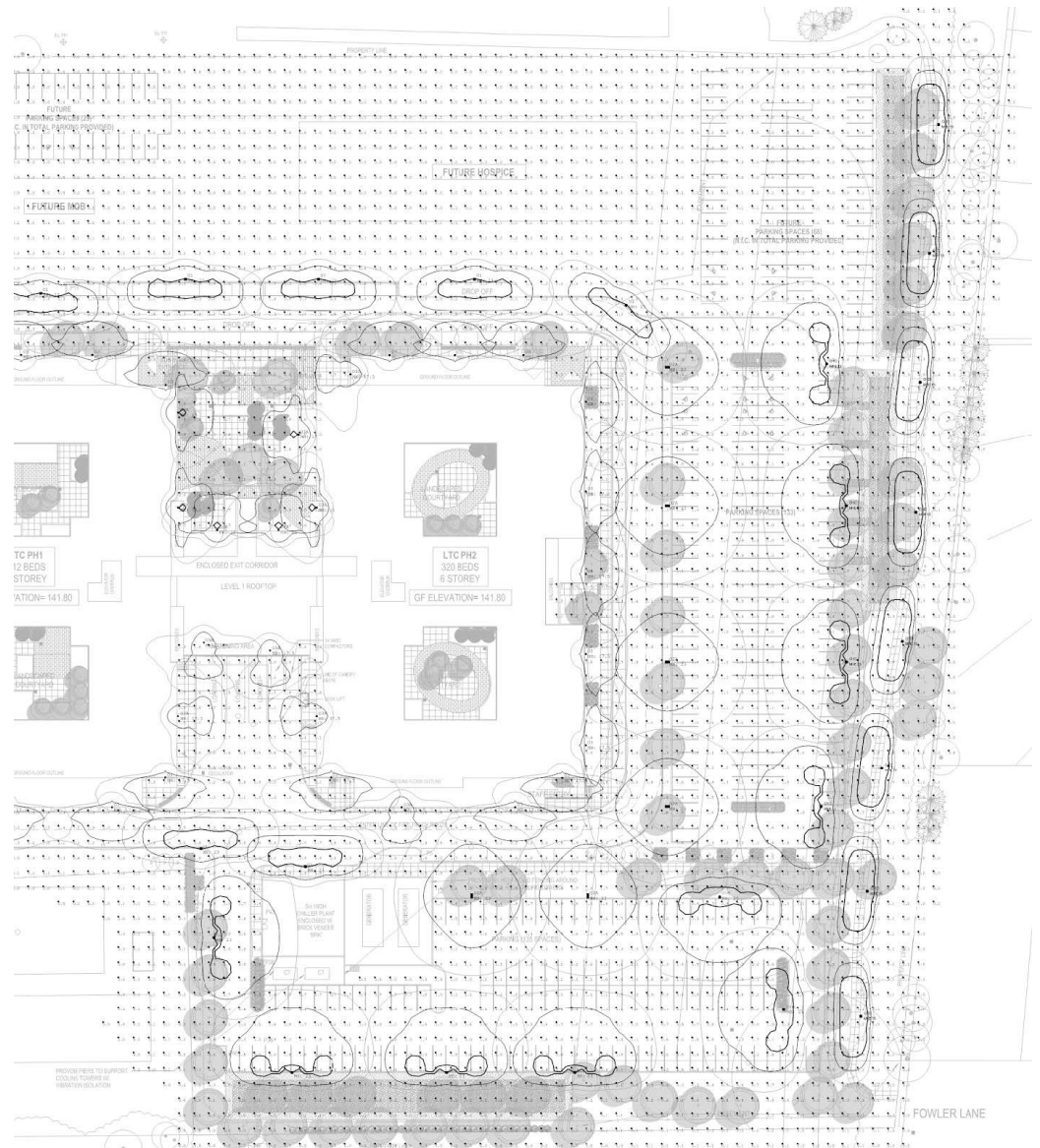
Wellbrook Place
**Light, Shadow
& Traffic Studies**

- As part of the planning and design stages of the Wellbrook Place development Trillium Health Partners completed separate light, shadow and traffic studies that were submitted to the City of Mississauga.
- Through local community engagement specific questions were raised concerning the impact of lighting, shadows and traffic due to the development.
- This presentation provides a summary of the results of these studies.

LIGHT & SHADOWS

What We Heard

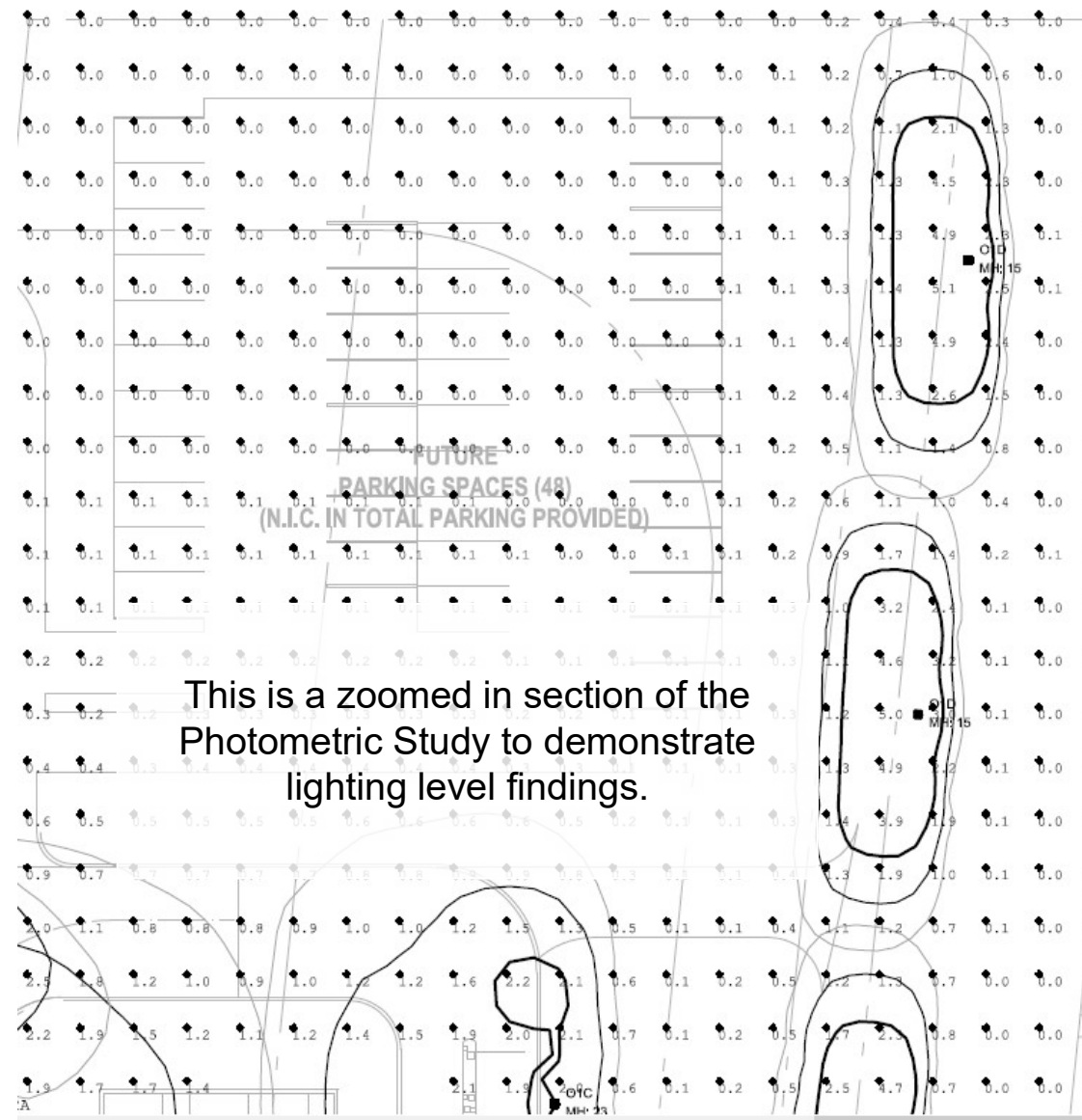
- Neighbours have raised concerns about **light pollution**.
 - exp Services Inc. conducted a Photometrics Analysis study
- Neighbours have concerns about **shadow impacts**.
 - MontgomerySisam conducted a Shadow Impact Study.



LIGHT & SHADOWS

Photometric Study

- A **Lighting Level Study** (site exterior photometrics analysis) was submitted with the Site Plan Application .
- This Study ensures that the site will have adequate lighting for safety without trespassing, or spilling, beyond the property lines.
- Lighting level intensity is measured in **Foot Candles (Fc)**. (Lighting levels in an **residential home** are around 5 Fc.)
- The analysis found that the maximum **lighting level density projected from this site to the adjacent neighbourhood is zero.**
- The site lighting design **will not cause** any light dissipation at night beyond the property boundaries.
 - This is a requirement by the City for any new developments.



LIGHT & SHADOWS

Parking Lot & Trail Lighting

- Lighting fixtures are **strategically selected** to achieve these goals so that light is directed down to the ground rather than spilling into the sky.



Images: Night Views of Typical Exterior Lighting Using Similar Lighting Strategy and not the Wellbrook Place site

LIGHT & SHADOWS

Shadow Impact Study

- The shadow studies were conducted on the following dates: **June 21** (summer solstice), **March 21** (Spring), **September 21** (Fall), and **December 21** (winter solstice).
- These dates are chosen specifically because they represent **the maximum and minimum position of the sun** in relation to the LTC homes.
- **June 21 represents the smallest or least shadow effect** (because the sun is at its highest position in the horizon), and **December 21 represents the largest shadow effect** (because the sun is at its lowest position in the horizon).

LIGHT & SHADOWS

Shadow Impact Study: March 21



MARCH 21 18:00



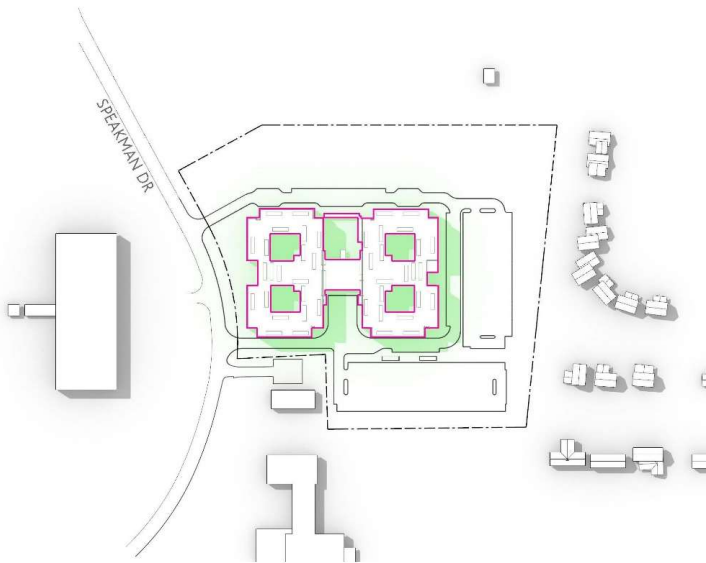
MARCH 21 19:00

Approximately 30 minutes of new shadow, ***from 7pm to sunset.***



LIGHT & SHADOWS

Shadow Impact Study: June 21



JUNE 21 16:00



JUNE 21 17:00

No new shadows.

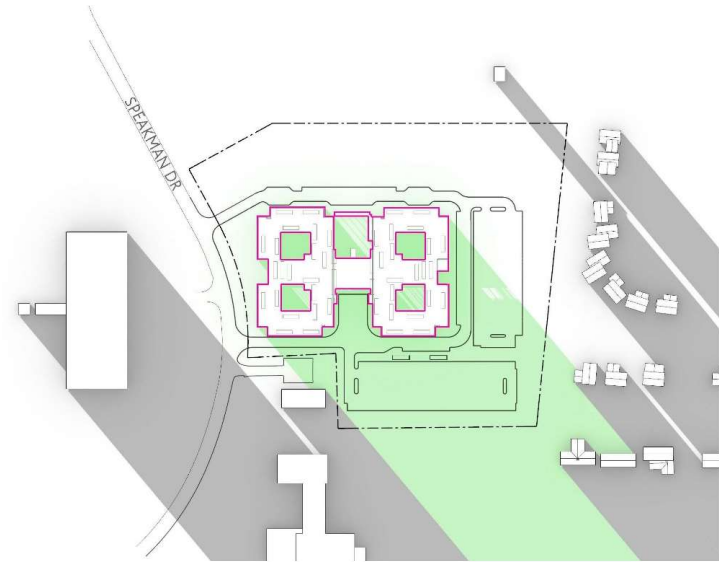


LIGHT & SHADOWS

Shadow Impact Study: September 21



SEPTEMBER 21 18:00



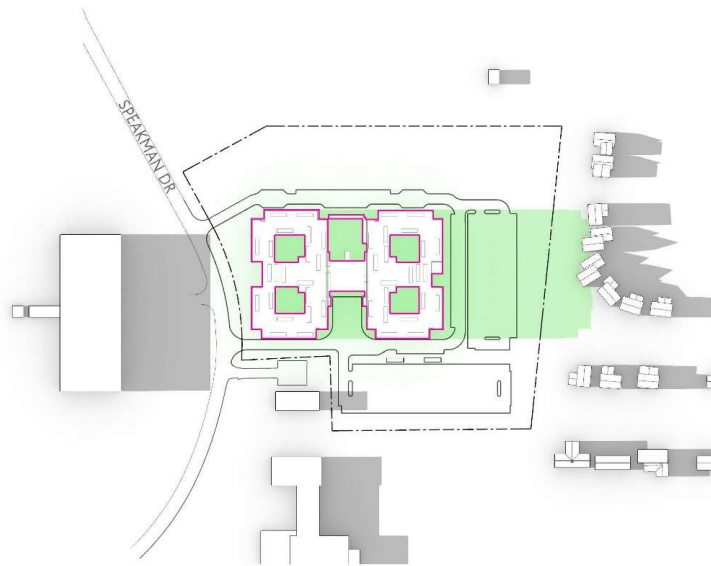
SEPTEMBER 21 19:00

Approximately 15 minutes of new shadow, ***from 7pm to sunset.***

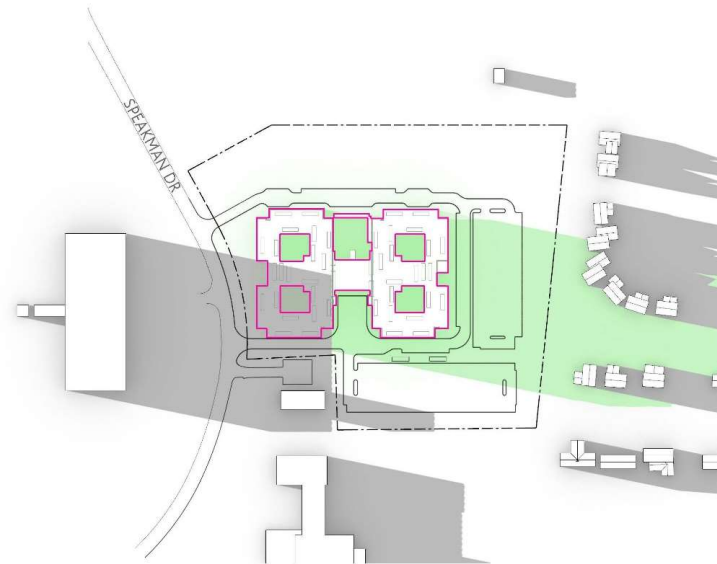


LIGHT & SHADOWS

Shadow Impact Study: December 21



DECEMBER 21 15:00



DECEMBER 21 16:00

Approximately 45 minutes of new shadow, **from 4pm to sunset**
(sunset is at approx. 4:45pm).

0 25 50 100 200 meters
SCALE 1:2000



INCREMENTAL SHADOW

EXISTING SHADOW

LIGHT & SHADOWS

Shadow Impact Study

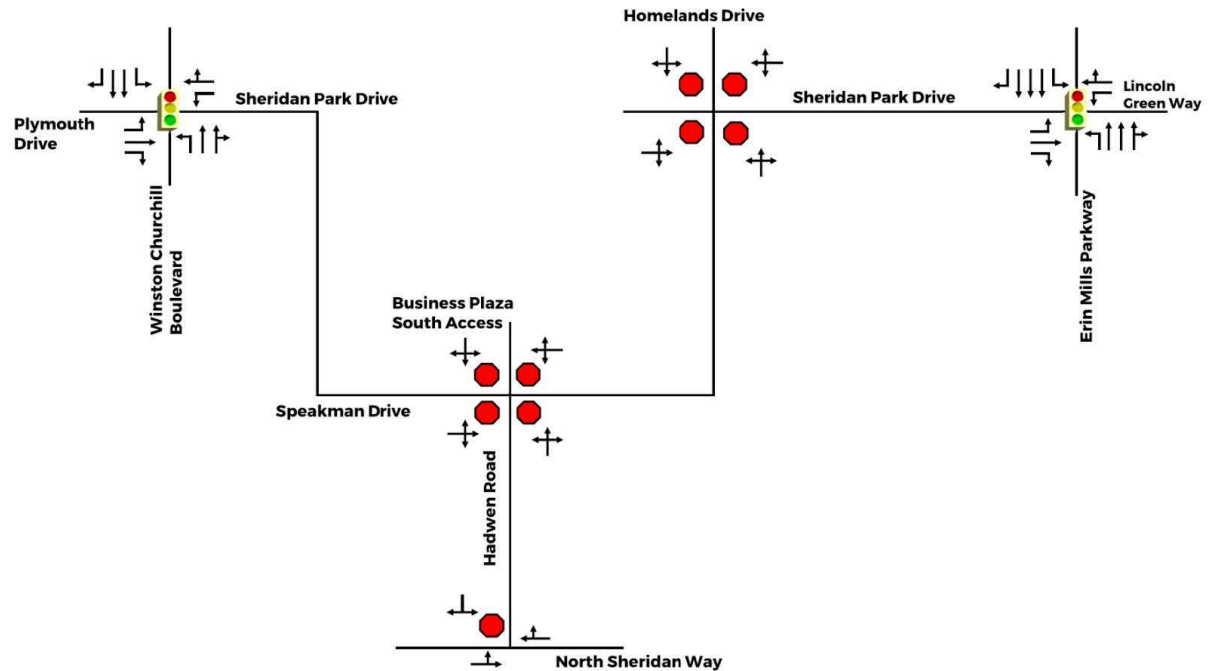
Study Date	<u>Approximate Impact – Net New Shadow</u>	<u>Approximate Extrapolated Impact</u>
March 21, 2020	Approximately 30 minutes, from 7pm to sunset.	From March 21 to June 21 – daily average of approximately 15 minutes of net new shadow.
June 21, 2020	No new shadows.	From June 21 to September 21 – daily average of approximately 7.73 minutes of net new shadow.
September 21, 2020	Approximately 15 minutes, from 7pm to sunset.	From September 21 to December 21 – daily average of approximately 30 minutes of net new shadow.
December 21, 2020	Approximately 45 minutes, from 4pm to sunset (sunset is at approx. 4:45pm).	From December 21 to March 21 – daily average of approximately 7.74 minutes of net new shadow.

The extrapolated annualized daily average of new shadow is 15.12 minutes.

TRAFFIC

What We Heard

- Neighbours have concerns about **traffic impacts associated with the LTC homes**.
 - Tranplan Associates conducted a Traffic Impact Study.

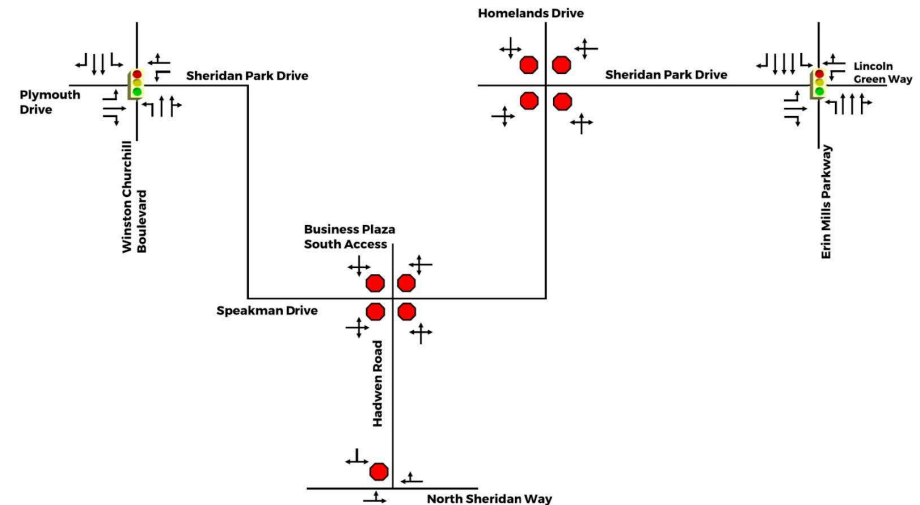


TRAFFIC

Traffic Impact Study

This study evaluated **likely travel routes**:

- Erin Mills Parkway and Sheridan Park Drive/Lincoln Green Way (signalized)
- Winston Churchill Boulevard and Sheridan Park Drive/Plymouth Drive (signalized)
- Sheridan Park Drive and Speakman Drive/Homelands Drive (unsignalized)
- Speakman Drive and Hawden Road/Business Plaza South Access (unsignalized)
- North Sheridan Way and Hawden Road (unsignalized)



TRAFFIC

Traffic Impact Study

A **Base Scenario (for LTC)** was evaluated for vehicle and traffic conditions based on **future operations in 2025 and 2030**, to account for traffic growth over this time.

New Trips	Peak Hours	Trips IN	Trips OUT
108	AM	78	30
140	PM	46	94

Overall, the traffic study indicates the proposed Base Scenario **can be accommodated** by the boundary road work under 2025 and 2030 conditions, causing approximate **net new intersection delays between 0 and 7 seconds**.

Additional planning and analysis is required to assess the future impacts related to the Hospice and Health Services Building planned for future developments.