Shadow Study Analysis
8 Schofield Street

City Of Cambridge
Official Plan Amendment
Zoning Bylaw Amendment

May 2025

GSP group

SHADOW STUDY ANALYSIS

A shadow analysis was conducted for the proposed 5-storey development at 8 Schofield Street to assess the potential shadow impacts on surrounding properties. To demonstrate this, shadow impact graphics are provided in Appendix for March 21st, June 21st, September 21st, and December 21st. These dates represent seasonal equinoxes and solstices and are standard benchmarks in urban shadow assessments.

Methodology

The study used digital modeling and accurate geospatial data, including Google Aerial Imagery (2022), to simulate the shadows cast by the proposed development. Shadows were modeled at key intervals -10:00 AM, 12:00 PM, 2:00 PM, 4:00 PM, and 6:00 PM, as applicable.

Summary of Results

The shadow analysis confirms that the proposed development maintains adequate sunlight access to adjacent properties and aligns with the intent of the City of Cambridge Official Plan. The shadow impacts are consistent with those expected from a mid-rise built form and are considered acceptable.

On equinox days (March 21 and September 21), Cambridge experiences approximately 12 hours of daylight, with sunrise around 7:20 AM and sunset around 7:30 PM. In summer (June 21), daylight extends from 5:30 AM to 9:00 PM (approximately 15.5 hours), while in winter (December 21), it ranges from 7:45 AM to 4:45 PM (about 9 hours).

In summary, the Proposed Development:

- North: Maintains more than 6 hours of sunlight on the adjacent autobody and repair shop over the full daylight period, with shadowing generally limited to the early morning and dissipating by early afternoon.
- East: Maintains more than 8 hours of sunlight on the residential dwellings along Schofield Street, with brief shadowing occurring only in the late afternoon or early evening during shoulder seasons.
- South: Receives consistent and uninterrupted sunlight for more than 9 hours across most seasons. Minimal shadowing is observed only during late afternoon in the winter.
- West: Maintains uninterrupted full-day sunlight exposure across all seasons, with no measurable impact from the proposed development.

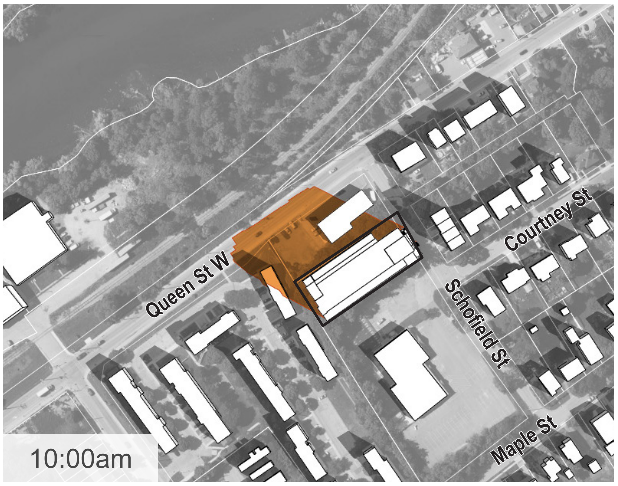
Table - Shadow Impacts on Adjacent Properties

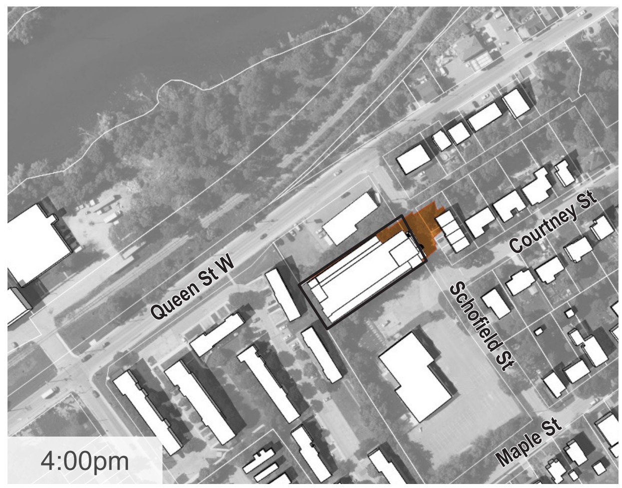
Direction	Adjacent Uses	March 21/September 21	June 21	December 21
North	Autobody and repair shop (Ott's Auto Service at 166 Queen Street W)	Shading between 10:00 AM and 12:00 PM, partial shade at 2:00 PM; no shading after 4:00 PM	Little to no shading	Long shadows between 10:00 AM and 2:00 PM; no shading after 4:00 PM
East	Residential dwellings along Schofield Street	No shading between 10:00 AM and 12:00 PM; minor shading at 2:00 PM; more noticeable shading on dwellings after 4:00 PM	Minimal shading, with some shadow after 4:00 PM	No shading between 10:00 AM and 12:00 PM; longer shadows present after 2:00 PM
South	Royal Canadian Legion Branch 272 and associated parking lot	No impact with slight shading on the parking lot observed after 6:00 PM	No impact, minor late-day shading after 6:00 PM	No impact
West	Townhouse complex	No impact	No impact	No impact

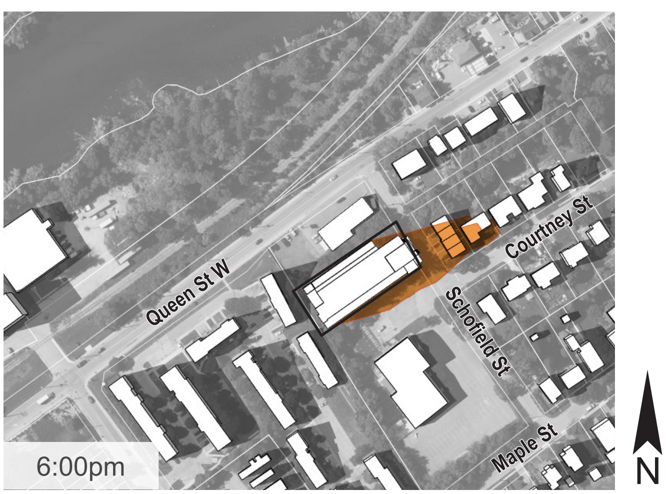
Conclusion

The proposed mid-rise development is appropriately scaled for its context and does not result in any significant adverse shadow effects on adjacent properties. The building's orientation, setbacks, and use of topography help to limit overshadowing. Sensitive land uses such as residences are well protected, while non-sensitive use such as the autobody and repair shop experience minimal and acceptable impacts. Overall, the design respects the City's urban design guidelines and contributes positively to the evolving neighbourhood context.

APPENDIX

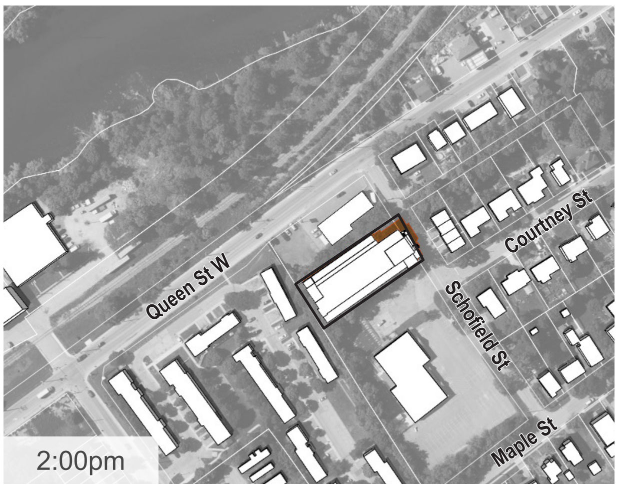


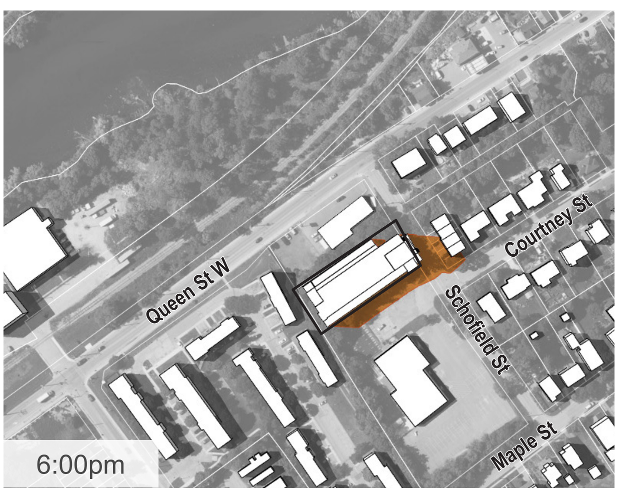




SHADOW ANALYSIS
MARCH 21st

Source: GSP Group (May 2025); Google Aerial Imagery (2022)





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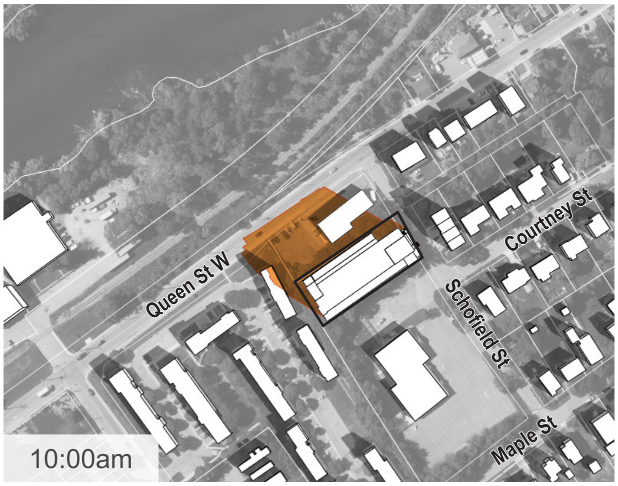
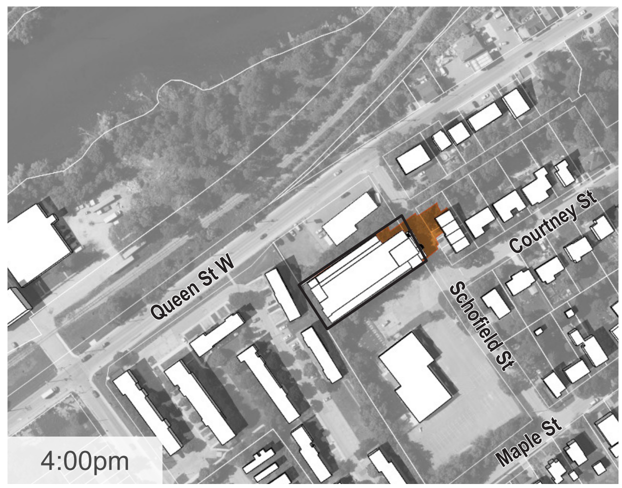
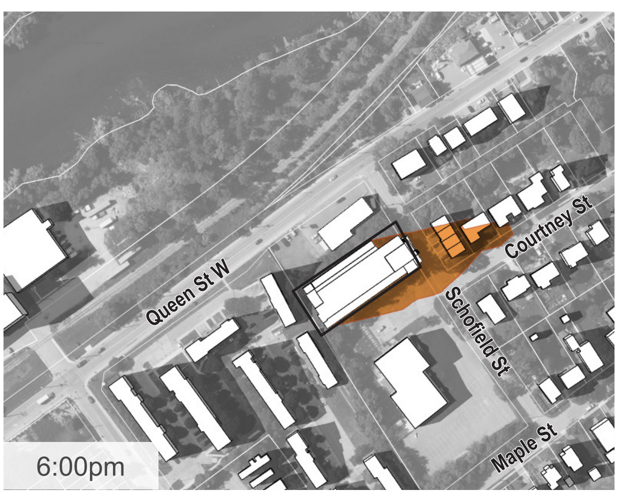
SHADOW ANALYSIS
JUNE 21st

Source: GSP Group (May 2025); Google Aerial Imagery (2022)







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SHADOW ANALYSIS
SEPTEMBER 21st

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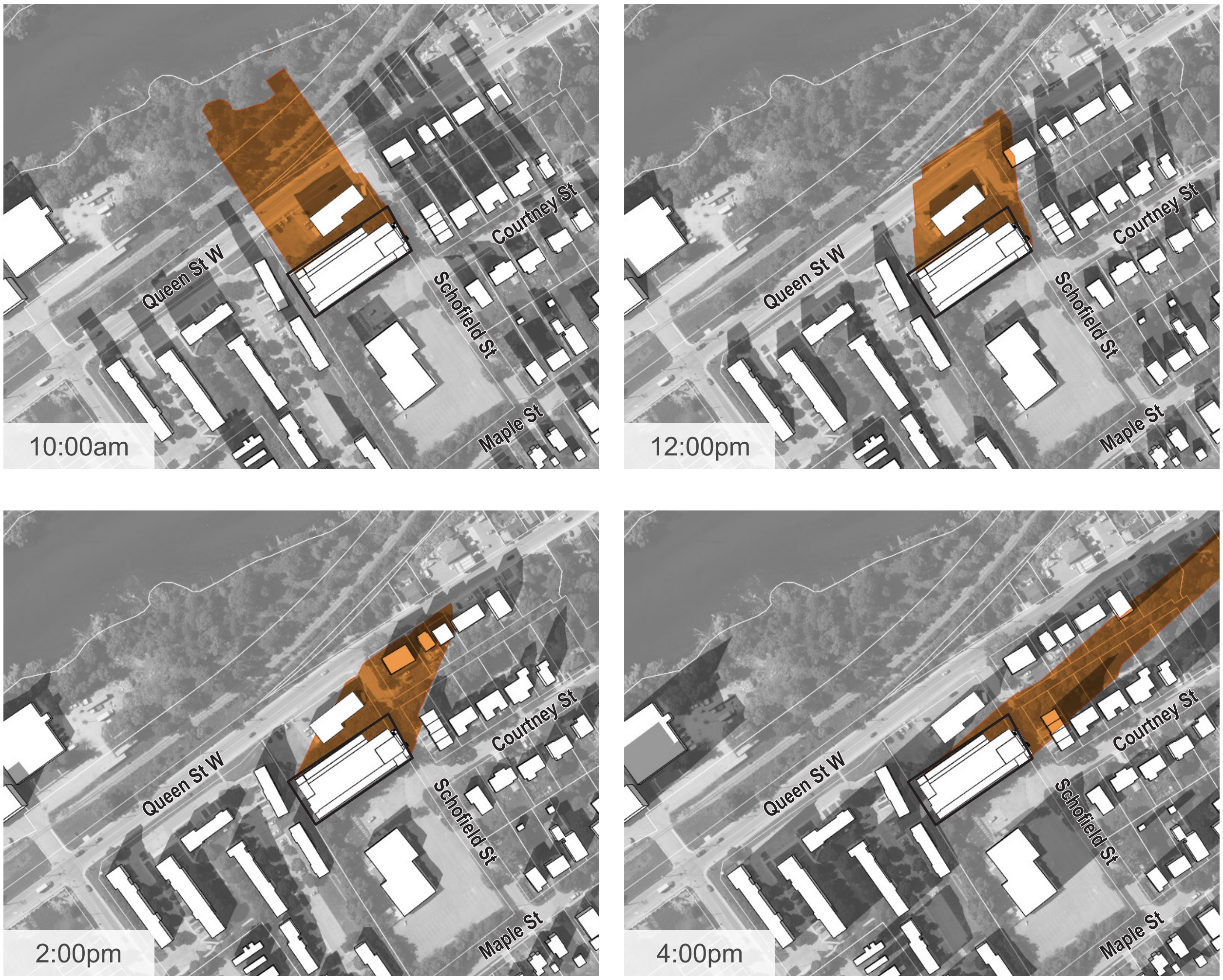
Source: GSP Group (May 2025); Google Aerial Imagery (2022)



SHADOW ANALYSIS
DECEMBER 21st

GSP group

Source: GSP Group (May 2025); Google Aerial Imagery (2022)