



LAKEVIEW VILLAGE

DEVELOPMENT MASTER PLAN 4.0

SHADOW STUDY ANALYSIS

OCTOBER 2019

SASAKI



SHADOW STUDY ANALYSIS

Prepared for:

Lakeview Community Partners Limited

October 7, 2019

To be read in conjunction with Shadow Study Plans

As part of the Lakeview Community Partners development application, a preliminary shadow study has been requested. The following summary has been provided to describe the process and results of the shadow analysis. As the building massing used for the purposes of this study has been developed at an early stage of development, the shadow analysis will be refined as the project progresses into detailed design. We have prepared the following shadow study based on the City of Mississauga 'Standards for Shadow Studies' dated June 2014.

The shadow study graphics plans, and analysis have been prepared based on a preliminary massing model prepared by Sasaki. During the design process, Sasaki received input from Glen Schnarr & Associates Inc (GSAI), NAK Design Strategies, The Municipal Infrastructure Group (TMIG), City of Mississauga Planning, City of Mississauga Urban Design, City of Mississauga Community Services, and the Lakeview Community Advisory Panel (LCAP).

The centre of the site is geographically located at 43d 34' 24"N, 79d 33' 03"W.

The plan and massing model are based on the survey file provided in UTM NAD83-17 format and geolocated in Trimble Sketchup to ensure consistent orientation. As additional detail is provided for subsequent submissions, specifics regarding conformance with astronomic north can be provided.

Daylight saving time has been accounted for in the times specified for June 21 and September 21.

CRITERIA 3.1 RESIDENTIAL PRIVATE OUTDOOR AMENITY SPACES

This criteria 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 (“No Impact Zone”) on June 21 and September 21.

Shadow from the proposed development does not impact the no impact zone of adjacent existing residential units (north of Lakeshore Road East).

CRITERIA 3.2 COMMUNAL OUTDOOR AMENITY AREAS

The criteria, which applies to public amenity areas that are part of the proposed development, is met if the sun access factor is at least 50% or 0.5 on June 21, September 21, and December 21.

Given the early stage of concept plan, it is not possible to calculate this criteria for the proposed development. DMP 4.0 conceptually shows a school yard, a system of courtyards, and a series of private / communal mini-parks in the townhome development. However these locations are not confirmed and the exact layout, design, and dimensions are still to be studied. During detailed design within the development blocks, private / communal open spaces will be reviewed to assess the sun access factor. The objective of the ultimate building form is to create comfortable environments, alleviate unfavorable conditions and take appropriate measures to minimize shadows.

CRITERIA 3.3 PUBLIC REALM

Low and Medium Density Residential Streets

This criterion is met if there is no incremental shade on the opposite boulevard from the proposed development at (Sept 21):

*9:12 a.m., 10:12 a.m. and 11:12 a.m. and at
3:12 p.m., 4:12 p.m. and 5:12 p.m.*

The shadow study plans show that there is no incremental shade on the north boulevard of Lakeshore Road East (opposite the proposed development) affecting low and medium density residential streets at the time periods between 12:12 to 2:12pm and 3:12 pm to 5:12 pm on September 21. Given the early stage of concept plan, this criterion has not been calculated for the areas within the proposed development. Through detailed design of development blocks, the sun access factor will be reviewed to assess compliance with this criterion.

CRITERIA 3.3 PUBLIC REALM

Mixed Use, Commercial, Employment and High Density Residential Streets

This criterion is met if there is no incremental shade on the opposite boulevard from the proposed development at (Sept 21):

*12:12 p.m., 1:12 p.m. and 2:12 p.m.
and three consecutive times either:
9:12 a.m., 10:12 a.m. and 11:12 a.m. or
3:12 p.m., 4:12 p.m. and 5:12 p.m.*

The shadow study plans show that there is no incremental shade on the opposite boulevard on Lakeshore Road East affecting Mixed Use, Commercial, Employment and High Density Residential Streets at the time periods between 12:12 to 2:12pm and 3:12 pm to 5:12 pm on September 21. Given the early stage of concept plan, this criterion has not been calculated for the areas within the proposed development. Through detailed design of development blocks, the sun access factor will be reviewed to assess compliance with this criterion.

CRITERIA 3.3 PUBLIC REALM

Public Open Spaces, Parks, and Plazas

This criterion is met if there is a sun access factor of at least 50% on public open spaces, parks, and plazas on September 21.

The preliminary shadow study diagrams and detailed analysis of each park space demonstrate that the proposed park areas have an overall average sun access factor of 83.25% during the test times on September 21. Below is a summary of the sun access factors for each park:

	Area(acre)	Sun Access Factor(%)
Lakeview Square	1.00	57.8
Waterway Common	3.42	52.8
Aviator Park	2.54	72.5
Ogden Park	9.05	69.7
Serson Creek Corridor	4.20	77.6
Lakefront Park	29.24	93.0
Overall	49.45	83.25

All parks meet the minimum 50% sun access factor calculation. The sun access factor is considered when developing the park programming. For example, Lakeview Square is programmed with markets and cultural gathering spaces. It has two iconic pavilions which help to define the space. Waterway Common has a number of small pavilions with overhangs to provide community amenities and is programmed with water play, outdoor cafes, and art. As the design process continues, the development team and City will evaluate the program and exact number of pavilions that is best suited for Waterway Common. If pavilions are removed, the sun access factor will increase slightly. Lakefront Park, which has the highest sun access factor, is programmed with flexible lawn, trails, overlooks, habitat zones, recreation, and maximizes the waterfront destination.

CRITERIA 3.4 TURF AND FLOWER GARDENS IN PUBLIC PARKS

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.

60.0% of the park areas studied (measured in hectares / acres), achieved a sun access factor of an average of 93.0%. Due to the early stage of development, specific turf and planting bed locations have not been identified. DMP 4.0 shows turf and flower gardens scattered among the parks. However these locations are not confirmed and the exact layout, design, and dimensions are still to be studied. Currently, most of the turf and flower gardens are located in the parks with the highest sun access factors, Lakefront Park and Aviator Park. Turf and flower gardens in Ogden Park will be carefully evaluated based on further sun/shade studies during the project design / site design phase.

As the project progresses to detailed design, the analysis will be refined and remain conscious of sun exposure and select appropriate plant material for the specific site conditions / microclimate with park spaces.

CRITERIA 3.5 BUILDING FACES TO ALLOW FOR THE POSSIBILITY OF USING SOLAR ENERGY

This criterion is met if there is shadow impact for 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.

Shadow from the proposed development does not impact the no impact zone of adjacent existing residential units (north of Lakeshore Road East).



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
7:07 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
7:20 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
8:20 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
9:20 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
10:20 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
11:20 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
12:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
1:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
2:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
3:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
4:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
5:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
6:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
7:20 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



June 21
7:33 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
8:35 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
9:12 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
10:12 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
11:12 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
12:12 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
1:12 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
2:12 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
3:12 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
4:12 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
5:12 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



SEPT 21
5:48 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



DEC 21
9:19 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



DEC 21
10:17 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



DEC 21
11:17 am



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



DEC 21
12:17 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



DEC 21
1:17 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



DEC 21
2:17 pm



LAKEVIEW VILLAGE | Mississauga, Ontario
SHADOW STUDY



DEC 21
3:17 pm