October 20th 2023

WM FARES ARCHITECTS

3480 Joseph Howe Dr, 5th fl.
Halifax, NS, B3L 4H7
902-457-6676
www.wmfares.com

M DISTRICT SHADOWS

Dartmouth, NS

Summary of Analysis

As part of the proposed development, a shadow impact assessment has been conducted based on the standards identified in Appendix 2 of the Regional Centre Land-Use By-Law. The section states that no proposed development shall cause fewer than 6 hours of sunlight, and no more than 4 continuous hours of shade on identified parcels between the hours of 8:00am and 6:00pm. The nearest park parcel under consideration is the Kiwanis Graham's Grove Park, approximately 0.5km Southeast of the proposed development.

The shadow assessment illustrates that the standards identified in Appendix 2 are met. Despite the development not casting any shadows on the park at any point during the year, an extended analysis demonstrating the extent of shadows throughout the rest of the year was conducted to help better inform the public during upcoming consultations.

This shadow impact assessment has been conducted using data provided in Table A2-1 of the RCLUB to verify its accuracy. The latitude (44°39'50"N) and longitude (63°35'05"W) were used to locate the project, while test times are expressed in Atlantic (Daylight Savings) Time (UTC-03:00). Shadow azimuth angles in relation to astronomical North have been demonstrated on the September 21st 14:00 diagram (18.57deg) to demonstrate conformance, and validate calibration in the modeling software. Building height data is available on the appended Master Site Plan.

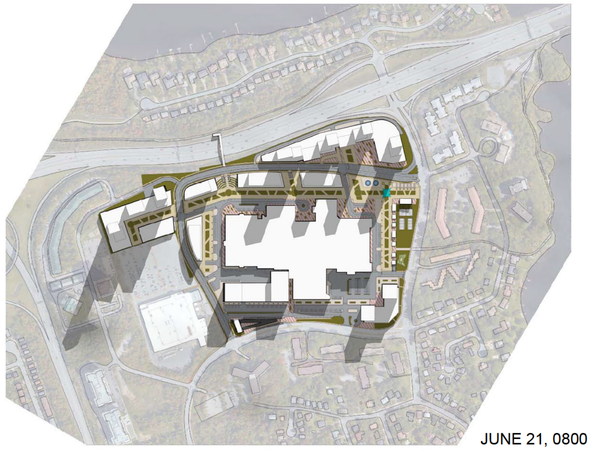
The base map used to conduct this assessment was derived by overlaying the Master Site Plan onto a topographic mesh that was sourced using GIS data and verified by cross referencing with surveyed points and the contours available through Explore HRM. The topographic data was used to ensure an accurate representation of shadow impact concerning the immediate context of the proposal. Astronomical North is not represented as the vertical axis of the page, however it is noted on the title block of the sheet.

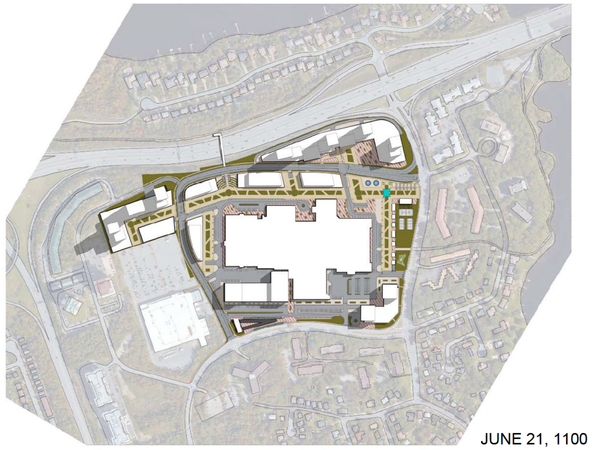
If there are any question or concerns, or the assessment is unsatisfactory in any regard please do not hesitate to reach out to me directly using the below contact information.

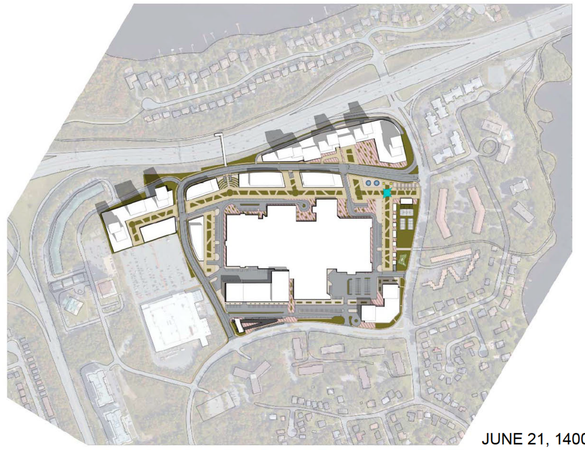
Regards,

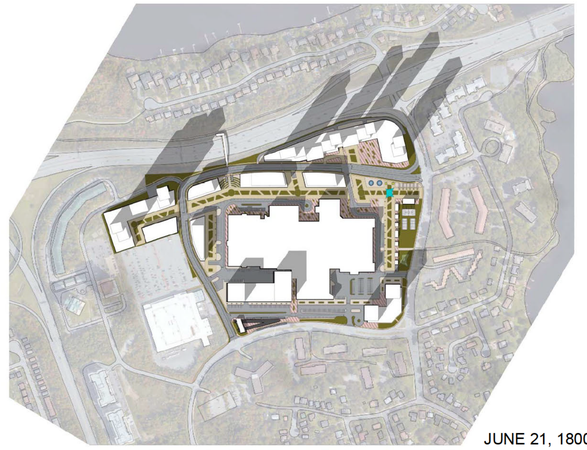
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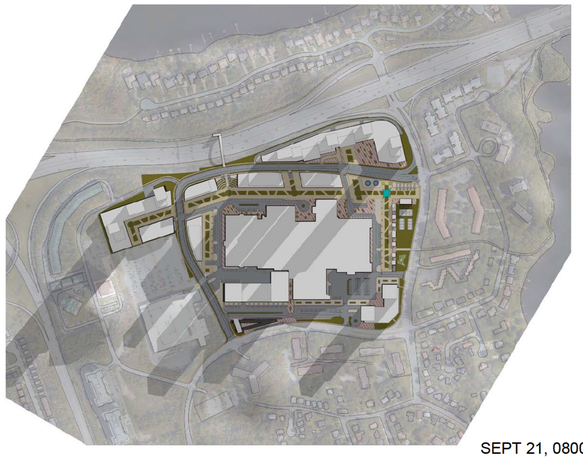
Rimon Soliman
Architect/ Project manager
rimon@wmfares.com
Tel: (902) 457-6676 - Ext.23

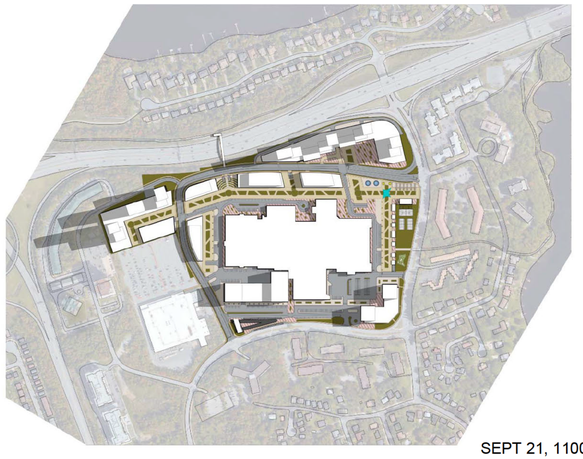


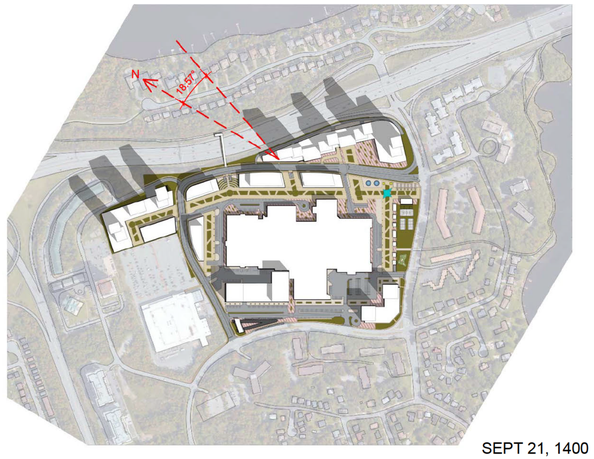






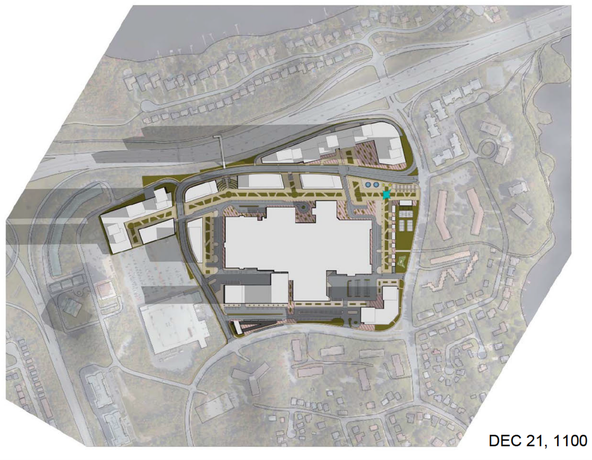


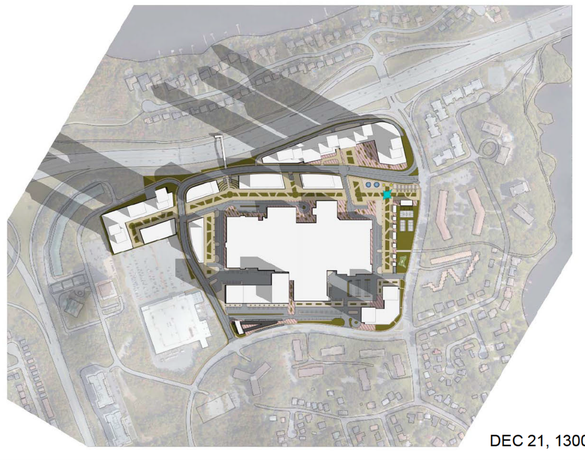


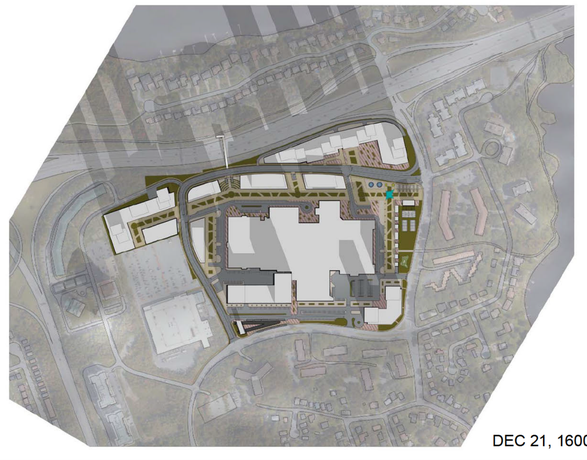












SHADOW STUDY NOTES

1. SEE APPENDEND WRITTEN ANALYSIS FOR IN DEPTH DESCRIPTION ON CALCULATION METHODS.
2. MODELLING AND DATA CALCULATIONS COMPLY WITH APPENDIX 2 - SHADOW IMPACT ASSESSMENT PROTOCOL AND PERFORMANCE STANDARDS OF THE RCLUB.
3. ALL TIMES REPRESENTED IN 24HR ALTANTIC DAYLIGHT SAVINGS. (UTC - 03:00)
4. TIMES TESTED RANGE FROM 0800 - 1800 FOR JUNE AND SEPTEMBER, AND 0900 - 1600 FOR DECEMBER GIVEN THE REDUCED HOURS OF SUNLIGHT AVAILABLE DURING THIS MONTH.
5. GEOLOCATION OF MODEL HAS BEEN DONE SO IN ACCORDANCE WITH LATITUDE AND LONGITUDE COORDINATES PROVIDED IN RCLUB. (44° 39' 50" N + 63° 35' 05" W)
6. SHADOW AZIMUTH ANGLES HAVE BEEN VERIF ED USING THE SEPTEMBER 21, 1400 DIAGRAM (18.57 DEG) TO VALIDATE MODELING SOFTWARE CALIBRATION.
7. ASTRONOMICAL NORTH IS AS SHOWN ON THE TITLE BLOCK.
8. BASE MAP IMAGERY WAS DERIVED BY COMBINING THE PROPOSED MASTER SITE PLAN WITH ADJACENT SATELLITE IMAGERY FOR THE IMMEDIATE CONTEXT.
9. BASE MAP WAS SUPERIMPOSED ONTO TOPOGRAPHIC MESH DERIVED FROM GIS DATA, CROSS REFERENCED WITH SURVEYED POINTS FROM CIVIL ENGINEERING CONSULTANT AND CONTOURS AVAILABLE THROUGH EXPLORE HRM TO VERIFY ACCURACY.

no.	Description	Date
1	Issue for review	18.05.2023
2	Design Update	25.08.2023
3	Design Update	10.09.2023
4	Design Update	5.10.2023

Consultant

Prime Consultant

WM FARES
ARCHITECTS
3480 Joseph Howe Dr. Suite 500 Halifax, NS B3L 4H7 902.457.6676

Stamp

Project name: M District

Drawing title: SHADOW STUDY

Scale

Date: 10/20/2023 10:28:34 AM

True North

Client: Joe Ramia

Project address: Micmac BLV

Drawn by: CM

Checked by: RS

Projects number: 2021-27

A009

C:\Users\JGosselin\Documents\23.05.05_Site_MicMac_Central_coleC.JTJX.rvt

Arch D 24"x36"