

## Sun Shadow Study

<b>Description</b>	A technical document that provides a 3-D visual model and written description of the impact of shadows cast by a proposed development on neighbouring properties, parks, and streets. These studies evaluate the impact of shadows at various times of day, throughout the year.
<b>When Required</b>	<p>A shadow study may be required when:</p> <ul style="list-style-type: none"> <li>• Applying for a height variance</li> <li>• When increasing the allowable height through rezoning</li> <li>• When undertaking variances to reduce yards that could result in additional shadowing of adjacent properties</li> <li>• A shadow study may also be required where rezoning applications are proposing increases in height near shadow sensitive areas such as parks, schoolyards, cemeteries and other open spaces that contribute to the creation of quality urban environments. Excessive shading may adversely affect landscaping and can lessen enjoyment of yards, parks, plazas, streets and other public spaces. The scope of the shadow study should be discussed with the district planner.</li> </ul>
<b>Rationale</b>	<p>The <i>Complete Communities</i> Direction Strategy is the City of Winnipeg guide to land use and planning. <i>Complete Communities</i> contains numerous policies that support context sensitive development. These policies enable the Urban Planning Division to request additional materials, including shadow studies that assist in conducting analysis of a proposed development project, to ensure it aligns with the City’s long-term vision for growth and development. Some key policies include:</p> <ul style="list-style-type: none"> <li>• In Chapter 4 <i>Areas of Stability</i>, under Direction 1, <i>Complete Communities</i> commits to “promote the form of buildings and spaces that are sensitive to the community context and address the transition between new and existing developments.”</li> <li>• Chapter 12 – Urban Design in <i>Complete Communities</i> says “the City will encourage a consistent, design led approach in order to build or reinforce unique neighbourhood character by promoting well designed buildings, high quality streetscapes and attractive parks and public spaces.”</li> </ul>

	<ul style="list-style-type: none"> <li>• Further, Urban Design policies in <i>Complete Communities</i> commit to “promote design solutions that contribute to high quality living environments” and to “recognize and appreciate Winnipeg’s unique physical attributes in order to respectfully integrate new development into the existing urban fabric.”</li> </ul>
<p><b>Required Contents</b></p>	<p>Shadow testing of alternative building massing may be required to assist in the analysis and decision-making process. When proposed massing has been agreed upon, a final Shadow Study will be prepared to the following standards and prepared by a design professional such as an architect or engineer:</p> <ul style="list-style-type: none"> <li>• Models will illustrate how adjacent properties, streets and parks are impacted by shadows cast by the proposed development</li> <li>• Diagrams should be in colour and drawn to a scale that is clearly legible</li> </ul> <p>Shadow studies will consist of the following parts:</p> <ul style="list-style-type: none"> <li>• Illustrations of the existing context</li> <li>• Illustrations depicting the proposed development’s impact within the existing context, relative to as-of-right height and massing as per a subject properties existing zoning</li> <li>• Illustrations depicting the proposed development’s impact within the existing context and massing per the subject properties proposed new zoning</li> <li>• Shadow studies should illustrate the direction, extent and duration of light</li> </ul> <p><b>Test Times</b></p> <ul style="list-style-type: none"> <li>• Sun/shadow tests should be done for March 21 and September 21 (equinox) at the following hours:</li> <li>• 9 a.m., 12 p.m., 3 p.m. and 6 p.m.</li> <li>• Additional times and dates may be requested to address site specific contexts.</li> </ul>

	<p><b>Format of the Study</b></p> <p>The final study will include:</p> <ul style="list-style-type: none"> <li>• A letter summarizing impacts of proposed development and any measures that will be taken to mitigate these impacts</li> <li>• A visual comparative analysis of the various shadow scenarios, clearly illustrating the shadow impact of proposed development on adjacent lands</li> <li>• Two (2) paper copies of the study</li> <li>• One digital copy of the shadow study</li> </ul>
<p><b>Evaluation</b></p>	<p>A shadow study should demonstrate that a proposed development (building) will allow for approximately 5 consecutive hours of full sunlight (between the hours of the test times) is cast on:</p> <ul style="list-style-type: none"> <li>• Surrounding residential properties during spring and fall</li> <li>• A minimum of 50% of community outdoor amenity areas, including but not limited to children’s play areas, school yards, tot lots, amenity areas associated with commercial and employment areas during spring and fall</li> <li>• The opposite boulevard including the full width of the sidewalk during spring and fall</li> <li>• A minimum of 50% of public open spaces, parks, plaza during spring and fall</li> </ul> <p>In addition to surrounding locations and uses, the development proposal will also be evaluated on the shadow impacts created within the development site in order to ensure comfort and use of any proposed outdoor amenity spaces.</p> <p>A shadow study will be a key input into the assessing the impact and viability of a proposed development concept. Determining what an appropriate shadow impact is will be determined on a case by case basis.</p>