

# Light (LIGHT)

## Issues

Artificial lighting enables a variety of activities to occur beyond daylight hours. Lighting is provided to illuminate **work** areas (including for health and safety purposes) and to provide for recreational and entertainment activities such as sporting events. Artificial lighting is also important to maintain security and support the safe use of areas after dark. Lighting **infrastructure**, such as street lighting, is necessary for transport network safety and accessibility and the well-being of people and communities. Unless appropriately designed, managed and located, the obtrusive **effects** of lighting can adversely impact on other properties (including the transport network) due to light spill and glare. If lighting is not appropriately designed, it can result in 'light pollution' which can adversely affect the ability to view the **night** sky.

The artificial lighting provisions in this chapter both manage and require artificial lighting, in order to support the health and safety of people and to ensure that lighting levels are compatible with the existing lighting character of the surrounding **environment** and that the amenity of the **night** sky is preserved.

Measurement of artificial lighting can be undertaken both in relation to light spill and in terms of glare. Light spill is generally measured using lighting lux levels while glare can be measured in intensity (candelas) or against a surrounding background darkness (candelas per square metre).

## Objectives

LIGHT-O1 – Provision of Lighting	Artificial lighting is provided to enable activities to occur outside of daylight hours and to support the health, safety and security of people, communities, and their property.
LIGHT-O2 – Adverse Effects	Artificial lighting maintains, and where appropriate enhances, the amenity and character of the surrounding <b>environment</b> while avoiding, remedying and mitigating adverse <b>effects</b> associated with light spill and glare.
LIGHT-O3 – Lighting Infrastructure	The <b>subdivision</b> and development of <b>land</b> provides artificial lighting <b>infrastructure</b> to support the safety and security of people and property and to maintain public pedestrian and traffic safety.

## Policies

LIGHT-P1 – Amenity and Character	To maintain, and where appropriate enhance, the amenity and character of each zone by controlling the intensity, location and direction of artificial lighting.
LIGHT-P2 – Health and Safety	To enable the use of artificial lighting where it is required for health and safety reasons, traffic, cyclist and pedestrian safety or navigational purposes.
LIGHT-P3 – Mineral Extraction	To provide for the use of artificial lighting where it is required as a functional or operational component of <b>mineral extraction</b> activities in identified Quarrying <b>Resource Areas</b> , while ensuring any adverse <b>effects</b> of the artificial lighting are minimised.
LIGHT-P4 – Safety	To enable safe and efficient use of areas which will be accessed by the general public after daylight hours by requiring appropriately designed,

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	installed and maintained artificial lighting to be provided when developing or redeveloping these areas.
LIGHT-P5 – Road Network	To support the safe and efficient use of the roading, cycling and pedestrian network while maintaining the character and amenity of the surrounding <a href="#">environment</a> by requiring street lighting to be provided at the time of <a href="#">subdivision</a> .

## Rules

LIGHT-R1	Any Activity Not Otherwise Listed in This Chapter	
	<p>Activity Status: Permitted</p> <p>Where:</p> <ol style="list-style-type: none"> <li>Resource consent is not required under any rule of the District Plan.</li> <li>The activity is not prohibited under any rule of the District Plan.</li> </ol>	
LIGHT-R2	Any Artificial Lighting	
	<p>Activity Status: Permitted</p> <p>Where:</p> <ol style="list-style-type: none"> <li>The artificial lighting is shielded or a suitable luminaire optic deployed, so that light emitted by the luminaire is projected below a horizontal plane running through the lowest point on the fixture as represented in LIGHT Appendix Illustration of District Wide Lighting Standard.</li> <li>The light is static and is not moving or flashing.</li> <li>Artificial lighting located in the Sport and Active Recreation Zone or the Open Space Zone complies with the AS/NZS 1158 and AS/NZS4282 standards.</li> <li>The added illuminance onto any other <a href="#">site</a> or a <a href="#">road</a> reserve, measured at the <a href="#">boundary</a>, does not exceed the following limits: <ol style="list-style-type: none"> <li>All zones (excluding the Sport and Active Recreation Zone and the Open Space Zone): <ol style="list-style-type: none"> <li>Artificial lighting measured at the receiving <a href="#">allotment boundary</a> with a <a href="#">road</a> reserve – 15 Lux.</li> <li>Artificial lighting measured at the receiving <a href="#">allotment boundary</a> other than with a <a href="#">road</a> reserve – 10 Lux.</li> </ol> </li> <li>Sport and Active Recreation Zone and Open Space Zone: <ol style="list-style-type: none"> <li>Artificial lighting measured at the receiving <a href="#">site boundary</a> with a <a href="#">road</a> reserve – 15 Lux.</li> <li>Artificial lighting measured at the receiving <a href="#">allotment boundary</a> with the</li> </ol> </li> </ol> </li> </ol>	<p>Activity Status when compliance not achieved: Restricted Discretionary</p> <p>Matters of discretion:</p> <ol style="list-style-type: none"> <li>The <a href="#">effects</a> of artificial lighting and glare on the <a href="#">amenity values</a> and the character of the zone or surrounding <a href="#">environment</a>.</li> <li>The <a href="#">effects</a> of lighting on traffic and pedestrian safety.</li> </ol>

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	<p><u>Residential Zone</u>, Natural Open Space Zone, Rural Lifestyle Zone, Settlement Zone Residential and Future Urban Zones – 10 Lux.</p> <p>iii. Artificial lighting measured at the receiving <u>site boundary</u> with all other zones – 20 Lux.</p> <p>5. The activity complies with LIGHT-REQ-1.</p> <p><i>Notes:</i></p> <ol style="list-style-type: none"> <li><i>The limits identified do not apply to internal <u>allotment boundaries</u> where multiple <u>allotments</u> are held in the same ownership.</i></li> <li><i>Any artificial <u>road</u> lighting, health and safety or navigational artificial lighting, and artificial lighting for <u>mineral extraction</u> activities in Quarrying <u>Resource Areas</u> is not required to comply with LIGHT-R2.</i></li> </ol>
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LIGHT-R3	Any Artificial Road Lighting
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	<p>Activity Status: Permitted</p> <p>Where:</p> <ol style="list-style-type: none"> <li>The artificial lighting is erected by a <u>road</u> controlling authority (or their authorised representative).</li> <li>The artificial lighting is for the purpose of traffic control or public safety.</li> <li>The artificial lighting is located within the <u>road</u> reserve.</li> <li>The artificial lighting complies with the AS/NZS 1158 series of standards.</li> </ol> <p><i>Note:</i></p> <ol style="list-style-type: none"> <li><u>Road</u> lighting includes street lighting and illuminated traffic signals.</li> </ol>	<p>Activity Status when compliance not achieved: Restricted Discretionary</p> <p>Matters of discretion:</p> <ol style="list-style-type: none"> <li>The <u>effects</u> of artificial lighting and glare on the <u>amenity values</u> and the character of the zone or surrounding <u>environment</u>.</li> <li>The <u>effects</u> of lighting on traffic and pedestrian safety.</li> </ol>
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LIGHT-R4	Any Health and Safety or Navigational Artificial Lighting
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	<p>Activity Status: Permitted</p> <p>Where:</p> <ol style="list-style-type: none"> <li>Artificial lighting is required for health and safety purposes and complies with the requirements of the relevant standards or legislation.</li> <li>Artificial lighting which is a navigational aid or installation is erected or constructed by the relevant authority (or their authorised representative) and operated in accordance with the relevant legislation.</li> </ol>	<p>Activity Status when compliance not achieved: Discretionary</p>
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*Note:*

1. *Navigational aids may be provided by but are not limited to the following authorities: Maritime New Zealand, Civil Aviation Authority, a Regional Council or a District Council.*

LIGHT-R5	Any Artificial Lighting for Mineral Extraction Activities in Quarrying Resource Areas	
	<p>Activity Status: Permitted</p> <p>Where:</p> <ol style="list-style-type: none"> <li>1. Artificial lighting is on vehicles associated with <b>mineral extraction</b> activities and the vehicles are located within an identified MIN-QRA Quarrying <b>Resource Area</b> (as identified in the Planning Maps and in Appendix 1 – MIN-QRA Quarrying <b>Resource Areas</b>).</li> </ol>	<p>Activity Status when compliance not achieved: Discretionary</p>
LIGHT-R6	Any Car Parking or Loading Spaces in the City Centre Zone, Commercial Zone , Light Industrial Zone, Heavy Industrial Zone, Waterfront Zone, Marsden Primary Centre – Town Centre South and Industry, Settlement Zone Centre and Settlement Zone Industry	
	<p>Activity Status: Permitted</p> <p>Where:</p> <ol style="list-style-type: none"> <li>1. Artificial lighting is provided for all parking and loading areas associated with an activity that:               <ol style="list-style-type: none"> <li>a. Is not a <b>residential activity</b>.</li> <li>b. Operates after daylight hours.</li> </ol> </li> <li>2. The artificial lighting complies with AS/NZS1158 and AS/NZS4282 standards.</li> <li>3. The artificial lighting complies with all standards in LIGHT-R2 for the relevant zone.</li> </ol> <p><i>Compliance Standard:</i></p> <ol style="list-style-type: none"> <li>1. <i>All zones not listed in LIGHT-R6 must comply with LIGHT-R2 – R5 for all artificial lighting.</i></li> </ol>	<p>Activity Status when compliance not achieved: Discretionary</p>
LIGHT-R7	Any Subdivision	
	<p>Activity Status: Controlled</p> <p>Where:</p> <ol style="list-style-type: none"> <li>1. Artificial lighting is provided for all streets, walkways, cycleways and <b>roads</b> created by the <b>subdivision</b>.</li> <li>2. The artificial lighting complies with the AS/NZS1158 series of standards.</li> </ol> <p>Matters of control:</p>	<p>Activity Status when compliance not achieved: Restricted Discretionary</p> <p>Matters of discretion:</p> <ol style="list-style-type: none"> <li>1. The <b>effects</b> of artificial lighting and glare on the <b>amenity values</b> and the character of the zone or surrounding <b>environment</b>.</li> </ol>

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1. Amenity and character of the surrounding **environment**.
2. Traffic and pedestrian safety.
2. The **effects** of lighting on traffic and pedestrian safety.

*Notes:*

1. *Lighting and traffic signals which are to be vested in Council may also require additional approvals to be obtained from the Council's roading department in relation to design and construction.*
2. *Acceptable means of compliance can also be found in the Whangārei District Council Engineering Standards.*

LIGHT-REQ1	Lighting Measurement
	<ol style="list-style-type: none"> <li>1. Unless specified otherwise, lighting shall be measured by calculation with a proprietary lighting design programme which details the direct, horizontal and vertical plane illuminance with a <b>maintenance</b> factor set at 1.0 at any point and <b>height</b> of an adjacent property <b>boundary</b>.</li> <li>2. The light intensity shall be measured by calculation with a proprietary lighting design programme at a <b>height</b> of 1.5m above <b>ground level</b> at any point on the adjacent property <b>boundary</b>.</li> <li>3. <b>Road</b> lighting and lighting for parks, reserves, publicly accessible/used areas and pedestrian areas shall be calculated in accordance with the methods described in the AS/NZS 1158 series of standards as listed in REF.1 Referenced Documents at REF.1.2 b. or alternative method of compliance certified in a statement by a suitably qualified and experienced professional (e.g. Chartered Professional Engineer or Independently Qualified Person).</li> </ol> <p><i>Notes:</i></p> <ol style="list-style-type: none"> <li>1. <i>Measurements relating to <b>illuminated signage</b> are contained in the Signs Chapter.</i></li> <li>2. <i>Measurement of the final installation may be required in order to ensure compliance.</i></li> </ol>

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*LIGHT Appendix Illustration of District Wide Lighting Standard*

ARTIFICIAL LIGHTING: ALL LIGHT EMISSIONS ARE SHIELDED TO PROJECT BELOW THE HORIZONTAL PLANE RUNNING THROUGH THE LOWEST LEVEL OF THE LUMNAIRE

