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 environment while avoiding, remedying and mitigating adverse effects associated with light spill and glare.

LIGHT-O3 Lighting Infrastructure

The *subdivision* and development of land provides artificial lighting infrastructure 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 *mineral extraction* activities in identified Quarrying Resource Areas, while ensuring any adverse effects 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, 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 environment by requiring street lighting to be provided at the time of *subdivision*.

Rules

LIGHT-R1 Any Activity Not Otherwise Listed in This Chapter

Activity Status: Permitted

Where:

1. Resource consent is not required under any rule of the District Plan.
2. The activity is not prohibited under any rule of the District Plan.

LIGHT-R2 Any Artificial Lighting

Activity Status: Permitted

Where:

1. 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 Figure LIGHT 1 in LIGHT Appendix 1.

2. The light is static and is not moving or flashing.

3. 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.

4. The added illuminance onto any other *site* or a *road* reserve, measured at the *boundary*, does not exceed the following limits:

    a. All zones (excluding the Sport and Active Recreation Zone and the Open Space Zone):

        i. Artificial lighting measured at the receiving *site boundary* with a *road* reserve – 15 Lux.

        ii. Artificial lighting measured at the receiving *site boundary* other than with a *road* reserve – 10 Lux.

    b. Sport and Active Recreation Zone and Open Space Zone:

        i. Artificial lighting measured at the receiving *site boundary* with a *road* reserve – 15 Lux.

        ii. Artificial lighting measured at the receiving *site boundary* with the Residential Zone, Natural Open Space Zone, Rural Lifestyle Zone, Settlement Zone Residential and Future Urban Zones – 10 Lux.

        iii. Artificial lighting measured at the receiving *site boundary* with all other zones – 20 Lux.

5. The activity complies with LIGHT-REQ-1.

Notes:

1. *The limits identified do not apply to internal site boundaries where multiple sites are held in the same ownership.*

2. *Any artificial road lighting, health and safety or navigational artificial lighting, and artificial lighting for mineral extraction activities in Quarrying Resource Areas is not required to comply with LIGHT-R2.*

Activity Status when compliance not achieved: Restricted Discretionary

Matters of discretion:

1. The effects of artificial lighting and glare on the *amenity values* and the character of the zone or surrounding environment.

2. The effects of lighting on traffic and pedestrian safety.

LIGHT-R3 Any Artificial Road Lighting

Activity Status: Permitted

Where:

1. The artificial lighting is erected by a *road* controlling authority (or their authorised representative).

2. The artificial lighting is for the purpose of traffic control or public safety.

3. The artificial lighting is located within the *road* reserve.

4. The artificial lighting complies with the AS/NZS 1158 series of standards.

Note:

1. Road lighting includes street lighting and illuminated traffic signals.

Activity Status when compliance not achieved: Restricted Discretionary

Matters of discretion:

1. The effects of artificial lighting and glare on the *amenity values* and the character of the zone or surrounding environment.

2. The effects of lighting on traffic and pedestrian safety.

LIGHT-R4 Any Health and Safety or Navigational Artificial Lighting

Activity Status: Permitted

Where:

1. Artificial lighting is required for health and safety purposes and complies with the requirements of the relevant standards or legislation.

2. 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.

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.*

Activity Status when compliance not achieved: Discretionary

LIGHT-R5 Any Artificial Lighting for Mineral Extraction Activities in Quarrying Resource Areas

Activity Status: Permitted

Where:

1. Artificial lighting is on vehicles associated with *mineral extraction* activities and the vehicles are located within an identified QRA Quarrying Resource Area (as identified in the Planning Maps and in QRA Appendix 1).

Activity Status when compliance not achieved: Discretionary

LIGHT-R6 Any Car Parking or Loading Spaces in the City Centre Zone, Commercial Zone, Light Industrial Zone, Heavy Industrial Zone, Waterfront Zone, Marsden City Precinct, Settlement Zone Centre and Settlement Zone Industry

Activity Status: Permitted

Where:

1. Artificial lighting is provided for all parking and loading areas associated with an activity that:
    a. Is not a *residential activity*.
    b. Operates after daylight hours.
2. The artificial lighting complies with AS/NZS1158 and AS/NZS4282 standards.
3. The artificial lighting complies with all standards in LIGHT-R2 for the relevant zone.

Compliance Standard:

1. *All zones not listed in LIGHT-R6 must comply with LIGHT-R2 – R5 for all artificial lighting.*

Activity Status when compliance not achieved: Discretionary

LIGHT-R7 Any Subdivision

Activity Status: Controlled

Where:

1. Artificial lighting is provided for all streets, walkways, cycleways and *road*s created by the *subdivision*.

2. The artificial lighting complies with the AS/NZS1158 series of standards.

Matters of control:

1. Amenity and character of the surrounding environment.

2. 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.

Activity Status when compliance not achieved: Restricted Discretionary

Matters of discretion:

1. The effects of artificial lighting and glare on the *amenity values* and the character of the zone or surrounding environment.

2. The effects of lighting on traffic and pedestrian safety.

Information Requirement Rules

LIGHT-REQ1 Lighting Measurement

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 maintenance factor set at 1.0 at any point and height of an adjacent property *boundary*.

2. The light intensity shall be measured by calculation with a proprietary lighting design programme at a height of 1.5m above *ground level* at any point on the adjacent property *boundary*.

3. *Road* 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).

Notes:

1. *Measurements relating to illuminated signage are contained in the Signs Chapter.*
2. *Measurement of the final installation may be required in order to ensure compliance.*

LIGHT Appendix 1 - Illustration of District Wide Lighting Standard

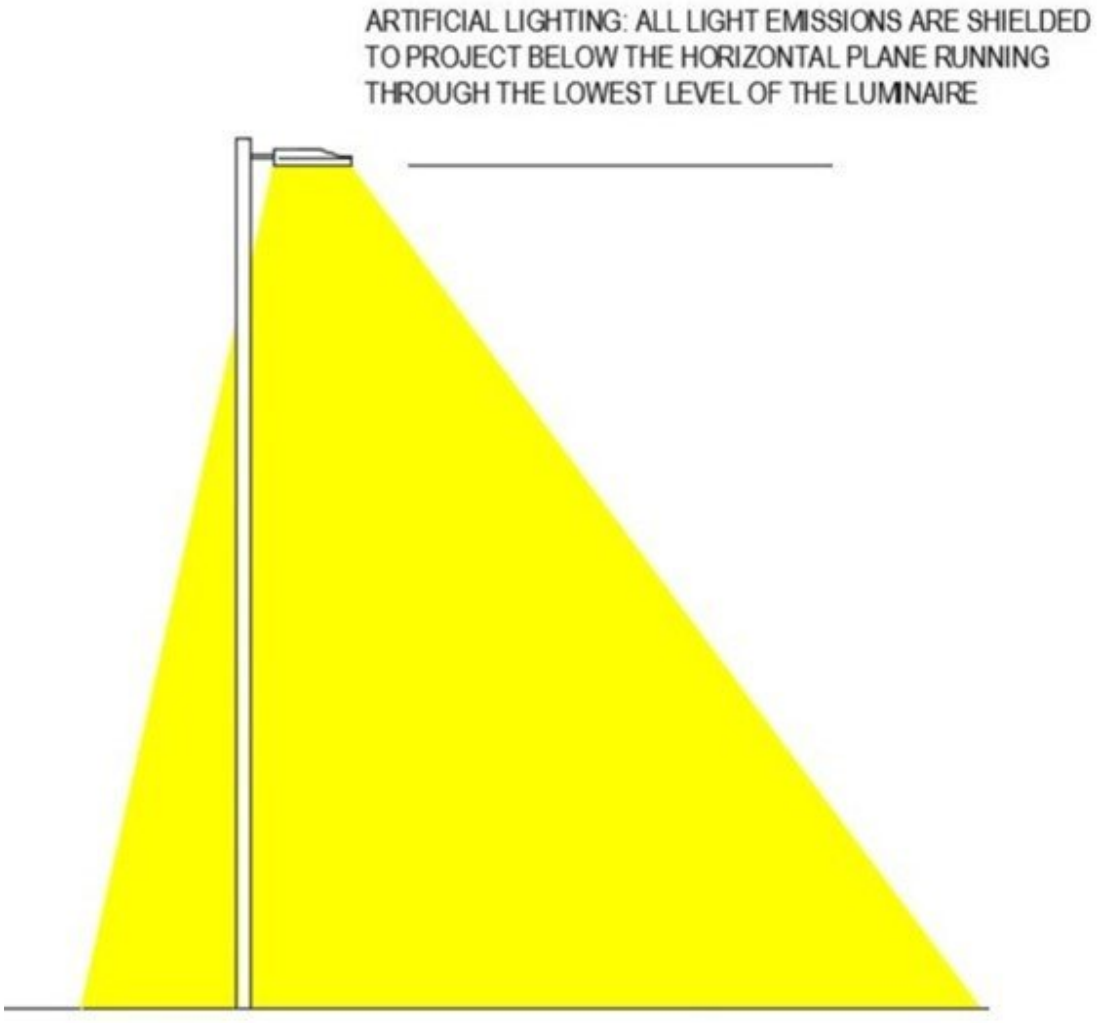

Figure LIGHT 1. Illustration of District Wide Lighting Standard