

PROPOSED GORE DISTRICT PLAN SECTION 32 REPORT

LIGHT



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Glossary of Terms

Resource Management Act 1991	RMA or 'the Act'
Gore District Council	GDC or 'the Council'
Operative District Plan	ODP
Proposed District Plan	PDP
Southland Regional Policy Statement	RPS
National Planning Standards 2019	PS
Southland Regional Policy Statement 2017	RPS
National Policy Statements	NPS
National Policy Statement for Urban Development	NPS-UD
National Environmental Standards	NES
National Environmental Standard for Electricity Transmission Activities 2009	NES-ETA
Crime Prevention Through Environmental Design	CPTED
Permitted Activity	PA
Controlled Activity	CA
Restricted Discretionary Activity	RDA
Discretionary Activity	DA
Non-complying Activity	NCA
Southland District Plan	SDP
Clutha District Plan	CDP
Proposed Timaru District Plan	PTDP
Proposed Selwyn District Plan	PSDP
Proposed New Plymouth District Plan	PNPDP

1. Executive Summary

Section 32 of the Resource Management Act 1991 ('the Act' or 'the RMA') requires objectives in plan change proposals to be examined for their appropriateness in achieving the purpose of the Act. The objectives, policies and methods in plan change proposals must be examined for their costs, benefits, efficiency, effectiveness and risk in achieving the objectives. The analysis set out in this report is to fulfil the obligations of the Council under s32 of the Act.

This section 32 evaluation report relates to the evaluation of options for the management of light spill through the Gore District Plan. Objectives, policies, rules and standards for managing light are located within Part 2 – District Wide Matters in the Light Chapter as required by the National Planning Standards (PS).

The effects of light spill can create a nuisance which may adversely affect the health and wellbeing of people, indigenous species and ecosystems. Light spill effects can also reduce amenity values and result in a loss of views of the night sky and degradation of intrinsically dark landscapes. However, where appropriately located and designed, light forms an important part of achieving operational and functional activities, including work, recreation and entertainment as well as providing for safe environments.

This report evaluates the resource management issues relating to light against the Operative District Plan¹ (ODP) and Proposed District Plan (PDP) provisions to ascertain if they are the most efficient and effective means of achieving the purpose of the Act, and to manage the effects of light spill from artificial outdoor lighting. The preferred option has been determined as the PDP which provides greater clarity and direction for plan users and decision makers and will ensure high quality environmental, economic, social and cultural outcomes for people and the community.

The Light Chapter will assist the Council to fulfil its statutory functions and responsibilities as required by the Act through the following proposed objectives, policies and rules:

- Objectives which enable artificial outdoor lighting for work, recreation and entertainment activities, while maintaining the health, safety and amenity values of people and indigenous species, and protecting the district's natural darkness and natural features.
- Policies which:
 - manage new artificial outdoor lighting required for operational and functional purposes, whilst minimising light spill to protect the health and wellbeing of people, indigenous species and ecosystems,
 - enable artificial outdoor lighting necessary for temporary activities, sports and recreational purposes or for public health and safety.
- Rules and standards set maximum lux level limits specific to zones to reflect the character and purpose of the zone and require lighting to be directed downward and shielded from above to ensure all light shines below the horizon to minimise adverse effects on the night sky.
- Rules and standards provide for artificial outdoor lighting for public sports courts and ground subject to limitations such as lux levels, location, design and hours of use of lighting.

¹ [District Plan - Gore District Council \(goredc.govt.nz\)](https://www.goredc.govt.nz/district-plan)

Key changes from the ODP include the following:

- New objectives which replace the more generic objectives relating to the effects of activities on amenity values within the district and the zone.
- Revised light spill rule requirements to:
 - better align with the purpose and character of the PDP zones,
 - require lighting to be directed downwards and shielded from above,
 - apply at any time of the day or night, and
 - manage glare effects during the daytime.
- Specific provisions for lighting associated with public sports courts and grounds subject to limitations.
- Clear and directive matters of discretion.
- Introduction of definitions for the relevant new terminology.

The scale and significance of the change is determined as low – moderate. The level of detail and assessment provided within this evaluation is to that level of change which has been assessed against environmental, economic, social and cultural effects.

2. Overview and Purpose

2.1 Introduction to the resource management issue(s)

The Light Chapter provides a regulatory framework for the control of artificial outdoor lighting and associated light spill. The provisions seek to manage the following issues:

1. The use of artificial lighting to enable functional and operational activities, which are appropriate for the relevant zone, and allow for levels of light spill which are commensurate to the purpose, anticipated amenity values and level of sensitivity within a zone.
2. Management of adverse effects on amenity values, as a result of light spill.
3. Recognition that certain limited activities, emergency or temporary activities, have a functional need to utilise artificial outdoor light which may result in higher levels of light spill than might otherwise be acceptable.

2.2 Purpose of the report

The purpose of this report is to provide an evaluation of the proposed provisions in accordance with the requirements of Section 32 of the RMA 1991.

The PDP includes a chapter relating to light, which is consistent with the requirements of the National Planning Standards, and which contains objectives, policies, rules and standards to manage and control light spill from artificial outdoor lighting.

This report assesses the appropriateness of the proposed objectives to achieve the purpose of the Act and the effectiveness and efficiency of the policies, rules and standards which give effect to the objectives. This report also provides information on the issues the provisions seek to address, research undertaken and an evaluation of the provisions relating to light within the ODP.

An assessment of the scale and significance of the provisions will inform the level of detail included in this report.

3. Statutory and Policy Context

3.1 Resource Management Act

In carrying out a s32 analysis, an evaluation of how the proposed provisions achieve the purpose and principles contained in Part 2 of the RMA is required. The Section 32 – Overview and Urban Form and Development Report provides a broad assessment of Part 2 of the RMA in respect of the PDP.

Section 5 sets out the purpose of the RMA, which is to promote the sustainable management of natural and physical resources.

In achieving this purpose, authorities also need to recognise and provide for the matters of national importance identified in s6, have particular regard to other matters referred to in s7 and take into account the principles of the Treaty of Waitangi referred to in s8.

The only section 6 matter relevant to this policy is:

- (e) *the relationship of Māori with their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.*

The PDP provisions seek to control light spill which may adversely affect views of the night sky, the health and well-being of people and communities as well as result in adverse effect on the life cycle of indigenous species. These are matters which may adversely affect the relationship of Māori with their ancestral lands, water, sites, waahi tapu, and other taonga.

The section 7 matters that are relevant to this topic are:

- (c) *the maintenance and enhancement of amenity values*
- (f) *maintenance and enhancement of the quality of the environment*

The proposed provisions seek to control light spill which may adversely affect the quality of the environment and amenity values.

Section 8 of the RMA requires the Council to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). Tangata whenua, through the Hokonui Runanga, have partnered with the Council in the preparation of the PDP.

Section 31 is relevant insofar as it requires the Council to establish, implement and review a District Plan which contains objectives, policies and methods to achieve a range of purposes as listed above. This report considers the appropriateness of the new objectives within the proposed District Plan (PDP) to achieve the purpose of the Act. The review of the ODP and the establishment of a new District Plan allows Council to give effect to Section 31.

3.2 National Policy Statements

There are no Environmental Policy Statements which are of relevance to the topic of light. However, the National Policy Statement for Urban Development (NPS-UD) which has a focus of creating well-functioning environments has indirect relevance. The use of artificial outdoor light may be necessary (particularly in winter months) to facilitate well-functioning environments and support functional and operational activities. This is particularly true in Commercial and Industrial Zones. It should also be acknowledged that increased urban intensification, which is encouraged through the NPS-UD, would by default potentially

increase levels of artificial outdoor light within an urban environment, as a result of increased density.

3.3 National Environmental Standards

There are no National Environmental Standards of relevance to the topic of light.

3.4 National Planning Standards

The National Planning Standards (PS) 2019 requires a more standardised approach to district plans. This includes separate chapters for district wide matters such as light, noise, earthworks, hazardous substances and natural hazards. The PS also requires that matters which affect the entire district are provided for in specific chapters.

The PS require that Light be included in Part 2 District Wide Matters – General District-Wide Matters.

The PS states that:

If provisions for managing light are addressed, they must be located in the Light chapter. These provisions may include:

- a. provisions for light spill and glare (including light spill limits) for different zones, receiving environments or other spatially defined area*
- b. specific requirements for common significant light generating activities.*

The unique identifier for Light is LIGHT.

3.5 Regional Policy Statement

There are no specific requirements relating to light under the Southland Regional Policy Statement 2017 (RPS). However, the urban section of the RPS recognises that there is a need to create and maintain sustainable urban environments that function well and provide a safe, healthy and stimulating environment. The RPS also recognises that development can result in a range of negative effects, including a loss of local identity, social problems or health issues.

Objective URB.1 – Urban Development states:

“Urban (including industrial) development occurs in an integrated, sustainable and well-planned manner which provides for positive environmental, social, economic and cultural outcomes.”

Providing for artificial outdoor lighting in the PDP is part of providing for positive urban development as lighting serves a functional purpose which allows for economic and social outcomes, including health and safety. However, without adequate regulation light spill could result in adverse environmental, social and cultural effects, adverse effects on health and wellbeing, and diminish the value of dark night sky.

3.6 Iwi Environmental Management Plan(s)

‘Te Tangi a Tauria – The Cry of the People’ (IMP) the Ngai Tahu Ki Murihiku Natural Resource and Environmental Management Plan identifies a broad range of relevant matters when considering where and how Gore grows and develops. In particular, the IMP recognises visual

intrusion of light pollution as an issue and recognises that light pollution can distort celestial darkness.

The IMP seeks to encourage techniques to eliminate the effects of light pollution and techniques should be introduced during planning phases for new suburban subdivisions. The IMP also seeks to limit visual and physical light effects through promotion of lighting which utilises improved technology to reduce light spill effects.

3.7 Other Local Policies, Strategies, Guidelines and Plans

A range of other local policies, guidance and plans were reviewed to inform the PDP Light Chapter objectives, policies, rules and standards. These are summarised below:

Australian / New Zealand Standard for the control of the obtrusive effects of outdoor lighting (AS/NZ 4282:2019)

The objective of the Standard is to provide a common basis for assessment of the likely effects of developments that involve the provision of outdoor lighting. The 2019 standard replaces the 1997 Standards referred to in Rule 4.6.2(c) of the ODP.

Gore Subdivision and Land Development Bylaw 2019²

The Subdivision and Land Development Bylaw provides guidelines and requirements for development which includes reference to the layout of street lighting, and ensuring lighting is provided for cycle paths where appropriate. The bylaw also requires that all Council administered roads must have LED lighting and, in accordance with AS/NZS 1158, Austroads or any guidelines adopted by Council at that time.

Gore Parks, Recreation and Facilities Strategy 2019³

The Parks and Recreation Strategy outlines the requirements and expectations for the amenities and facilities within different categories of parks across the district.

Sports & Recreation Parks (such as Hamilton Park and Tulloch Park) may have floodlights to enable evening training and play. Floodlighting of sports fields is permitted in the Strategy. Lighting may also be provided around carpark / clubroom areas to ensure safety of users of the park and its facilities.

The public garden parks and civic parks generally provide amenity and feature lighting, in particular around pedestrian routes to provide night-time ambience and security. Neighbourhood parks are not typically provided with lighting but may have some amenity lighting.

National Guidelines for Crime Prevention through Environmental Design New Zealand – Part 1: Seven Qualities of Safer Places (CPTED)⁴

Lighting is a primary consideration in respect of surveillance and sightlines: “see and be seen” is one of the identified seven qualities that characterise well designed, safer places. This theme is also identified in the Gore District Council Streetscape Strategy which identifies making areas more socially inclusive and safe with less crime as a key feature of the strategy.

Particularly in areas designed for use after dark, visibility depends on the installation of effective, well designed lighting. This allows for surveillance, enhances the aesthetics of the

² [Subdivision and Land Development Bylaw 2019.pdf \(goredc.govt.nz\)](#)

³ [Microsoft Word - Gore Parks, Rec & Fac Strategy 2019.docx \(goredc.govt.nz\)](#)

⁴ [National guidelines for crime prevention through environmental design in New Zealand | Ministry for the Environment](#)

night-time environment and would encourage use of the areas. The guidelines also acknowledge that lighting should not be used in areas which are not intended for night-time use, to avoid a false impression of safety.

The Guidelines provide a definition of 'effective or good lighting' which requires that, amongst other things, lighting *"provides visual guidance and orientation, good visibility, and visual amenity, especially for an ageing population"* and *"eliminates glare and other forms of light pollution, including light trespass with the ability to clearly see beyond the light source."*

Gore District Council Streetscape Strategy⁵

The purpose of the Gore District Streetscape Strategy is to identify, assess and provide for the needs of all users within Gore and Mataura, acknowledging the differences between residential, commercial and industrial areas and the different functions of streets in these areas.

The strategy notes that:

"The first street light was established in Gore in 1894 near the Flour Mill. This was powered by electricity generated from the Mataura Paper Mill and the Southland Frozen Meat Company. The street lights grew from there and were established in different areas around the town. "

The strategy identifies that effective streetscapes can add value to communities in a range of ways, including servicing benefits which include provision of public lighting. Well maintained roads and footpaths include lighting to provide for safe and efficient travel for all modes of transport (vehicles, cyclists and pedestrians).

Policies include provision of under-verandah lighting and effective lighting during hours of darkness in the commercial areas of Gore and Mataura. Provision of lighting in residential areas, including within the Waikaka, Mandeville and Pukerau townships to create a safe environment during hours of darkness whilst avoiding undue glare beyond the locality.

4. Resource Management Issue Analysis

4.1 Background

Section 2.1 of this report identifies three resource management issues which the PDP light chapter provisions address:

- 1. The use of artificial lighting to enable functional and operational activities which are appropriate for the relevant zone and allow for levels of light spill which are commensurate to the purpose, anticipated amenity values and level of sensitivity within a zone.*
- 2. Management of adverse effects on amenity values as a result of light spill.*
- 3. Recognition that certain limited activities such as, emergency or temporary activities, have a functional need to utilise artificial outdoor light which may result in higher levels of light spill than might otherwise be acceptable.*

Issue 1

⁵ [Microsoft Word - Adopted Council Streetscape Strategy 2012.docx \(goredc.govt.nz\)](#)

The use of lighting is necessary for work, recreation and entertainment and is particularly important during daylight savings when natural light is reduced during working hours. Likewise, farming activities may require lighting for milking or cropping outside, during hours of darkness. Providing for lighting is therefore important as part of a well-functioning environment, that allows people and communities to provide for their economic, social and cultural well-being. Lighting is also necessary for temporary activities such as emergency response, traffic signals and temporary activities associated with sport and recreation.

The PDP zones provide for the different purpose, function and character of areas across the district. It is therefore appropriate to manage light spill in a way which correlates to the nature of activities undertaken in particular zones. The permitted light spill levels also reflect the anticipated amenity values for the zone.

Issue 2

In order to appropriately manage the adverse effects of light spill on amenity values the PDP introduces standards which provide the maximum level of light spill for each zone. In the commercial and industrial zones, higher levels of light spill are enabled to reflect the functional working nature and lower amenity values of the zones. In the residential zone a lower level of light spill is permitted to provide a balance between a safe urban environment, consistent with CPTED principles, and the health and well-being of residents. In the rural zone the lowest light spill levels are permitted to reflect the character of the environment, which includes dark sky qualities and natural ecosystems.

Issue 3

The PDP addresses the use of lighting for sporting and recreational purposes along with activities such as emergency response and traffic signals. Lighting for the following purposes are exempt from the rules:

- emergency response,
- traffic signals and navigational aids
- lights from vehicles, trains and aircraft

A specific rule and standard are provided to allow for lighting at public sports courts and grounds. The standard includes limitations such as the design, luminous intensity, light spill and hours of operation. This will ensure the emission of light does not adversely affect amenity values, natural ecosystems or views of the dark sky.

4.2 Operative Plan Approach

Light spill is currently managed in the Land Use Activities Framework and Rules chapters in the ODP. The ODP recognises the potential for land use activities to adversely affect the quality of the environment, the landscape and amenity values. It also recognises that various environments of the district have a different ability to absorb the adverse effects of land use activities. Light spill levels are identified as a factor which contribute to the amenity values of any area, however, the ODP also acknowledges the functional purpose of light within the district.

Objectives 3.3[1] and [2] seek to ensure:

- the amenity values of the various localities within the district are maintained and enhanced while respecting the different values and characteristics that exist within each area; and
- the effects of land use activities do not adversely affect the quality of the environment and are compatible with the characteristics and amenity values of each locality.

There are no specific objectives or policies which relate to light. Policy 3.4[2] is general referring to controlling the adverse effects of land use activities on the environment.

Light spill is controlled by rule 4.6 which imposes relevant light spill standards within each zone, dependant on the sensitivity of that zone. The rules contain limits on the emission of light spill including the maximum lux level and the hours when that level must not be exceeded (between 7.00pm and 7.00am):

- Rural and Residential – maximum 5 lux
- Commercial, Industrial and Mixed use – maximum 15 lux although at the boundary with the residential and rural zone the maximum is 5 lux

Compliance with the standards is assessed as a permitted activity, while a breach of the standards is assessed as a restricted discretionary activity. Council's discretion restricted to the adverse environmental effects of the matters with which there is non-compliance.

4.3 Effectiveness of Operative Plan

Issue	Comment	Response
The lack of relevant objectives and policies	There are no objectives and policies which specifically relate to light which results in a lack of clarity and direction.	The PDP contains specific Objectives and Policies which are given effect to by the rules and standards and provide clarity and certainty.
Appropriateness of the maximum lux level and limit on controls to specific hours	The provisions have separate levels of light spill allowance for the different zones. The Rural and Residential zones have the same level of light spill allowance, however, in the residential zone which is typically a more urban environment a higher level of light spill may be anticipated and expected than the rural environment. Limiting the hours where the maximum light spill levels apply does not account for daytime glare from light spill.	The PDP provides different standards for the rural zones compared to the residential zones. The PDP also provides appropriate light spill levels for all new zones to reflect the purpose of those zones. The PDP proposes that the maximum levels of light spills are applicable at any time of the day.

The vagueness of the matter of discretion	Matters of discretion should be more directive to provide certainty for plan users and decision makers.	The PDP retains the Restricted Discretionary Activity status for non-compliances but provides more directive matters of discretion, for example: • consideration of potential economic benefits from light spill; • extent to which the character and amenity of the zone is maintained and protected; • adverse effects on views of the night sky; • adverse effects on health and well-being of people, including sleep disturbance and within the rural environment adverse effects on indigenous biodiversity.
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The ODP approach is not efficient or effective as there is a lack of specific objective and policies which can result in inefficient consent processing and a lack of clarity and direction for both plan users and decision makers.

The limits for the residential zone are also outdated and fail to reflect provisions which provide for increased urban density and, therefore, increased likelihood of light spill in an urban residential environment.

4.4 Analysis of Best Practice - how other Councils are addressing the same issues

To understand whether the PDP provisions in relation to light are appropriate and consistent with how other Councils are addressing the same issue, the following District Plans were reviewed.

- Southland District Plan⁶ (Southland District Council borders Gore District to the north, south and east)
- Clutha District Plan⁷ (Clutha District Council borders Gore District to the west)
- Proposed New Plymouth District Plan⁸
- Proposed Selwyn District Plan⁹

⁶ [District Plan | Southland District Council \(southlanddc.govt.nz\)](https://southlanddc.govt.nz/DistrictPlan)

⁷ [District Plan - Clutha District Council \(cluthadc.govt.nz\)](https://cluthadc.govt.nz/DistrictPlan)

⁸ [IsoPlan \(selwyn.govt.nz\)](https://selwyn.govt.nz/IsoPlan)

⁹ [IsoPlan \(npdc.govt.nz\)](https://npdc.govt.nz/IsoPlan)

Southland District Plan 2018 (SDP)

The SDP contains rules relating to maximum levels of light spill within each of the zone chapters:

- In the rural zone light spill must not exceed 8 lux measured at the boundary of another site.
- In the Urban Zone (with the exception of Stewart Island / Raikura) light spill must not exceed 8 lux measured at the boundary of another site, except that within the commercial precinct light spill must not exceed 12. On Stewart Island / Raikura the maximum level of light spill is 3 lux measured at or within the boundary of any other site and other rules required that fixtures are shielded to prevent light spill above the horizontal plane and fixtures contain only 'warm white' light.
- In the Residential B Zone light spill must not exceed 3 lux measured at any point inside the boundary of any adjoining property.
- In the Industrial Zone (with the exception of Stewart Island / Raikura) light spill must not exceed 10 lux when measured at or within the boundary of any other site. Within the Stewart Island / Raikura Industrial Zone light spill must not exceed 10 lux but additional rules require that all outdoor lighting is directed away from adjoining properties, shielded to prevent light spill above the horizontal plane and the colour must only be 'warm white'.

Clutha District Plan 1998 (CDP)

The CDP contains a rule relating to light spill which is applicable district wide:

- With the exception of headlights on moving vehicles or vehicles stationary for less than 5 minutes no activity must result in light spill greater than 10 lux onto any adjoining property.
- There are exceptions where an increase in light spill is permitted where the adjoining site is not residential or people orientated.
- There is also a rule requiring that no activity is undertaken which results in direct or indirect illumination which creates a nuisance to traffic or occupants of adjoining or nearby sites.
- A further rule limits glare from buildings.

Proposed Selwyn District Plan (PSDP) - publicly notified on 5 October 2020 with a variation notified on 20 August 2022

The PSDP has been drafted in accordance with the PS and contains rules relating to artificial outdoor lighting for various purposes. These include roads, public pedestrian accessway and cycleways, public sports courts and grounds, temporary activities and emergency response, as well as a general rule to cover all other situations.

The rules relating to the maximum level of light spill permitted provide differing levels for daytime and night time hours and differing levels for particular zones. These levels range between: 1 lux in the rural zone overnight; 5 lux in the Commercial, Industrial and Port Zones overnight; 5 lux in the rural zone during the day; and 25 lux in the Commercial, Industrial and Port Zones during the day.

There are also rules relating to 'sky glow' which requires all artificial outdoor lighting to be:

- directed downward and shielded from above, to ensure light shines below the horizontal.
- All security lights in residential units are motion activated, and non-residential artificial outdoor lighting is not operated between 2200 and 0600, except for public amenity buildings which require lighting for security reasons.

Specific requirements are introduced for roads, public accessways and cycleways and public sports courts and grounds in respect of the sky glow concept to ensure artificial outdoor lighting does not brighten the night sky.

Proposed New Plymouth District Plan (PNPDP) - decisions notified on 13 May 2023

The PNPDP has been drafted in accordance with the PS and takes a simplified approach to light provisions. The Plan provides a single rule relating to emission of artificial light from all sources and a single standard which provides maximum levels of light spill at any time of day / night for differing zones as follows:

- 10 lux in the Residential Zone
- 20 lux in the Mixed Use, General Industrial and Open Space and Active Recreation Zone.
- 10 lux in the Rural, Māori Purpose and Future Urban Zones.

Summary and conclusions

Both the CDP and SDP are somewhat outdated and do not align with the 2019 New Zealand and Australia Standard AS/NZ 4282:2019 or the Planning Standards. The CDP does not differentiate between zones for levels of light spill. The SDP is more closely aligned with the Gore ODP and the proposed provisions, although the residential light spill standards are considered too low.

The Gore PDP adopts a simple approach comparable to the PSDP but proposes lower levels of light spill in the zones to reflect the ODP, the character of the district and reduce adverse effects on the night sky and natural environment.

The PDP also includes comparable provisions to the PNPDP in respect of lighting from public sports grounds and courts but takes a simplified approach to light spill levels by including maximum levels at any time of day / night. The concept of sky glow is indirectly incorporated into the provisions through requirements to shield and direct downwards below the horizontal all artificial outdoor lighting.

4.5 Other Relevant Documents and feedback

Since the ODP became operative there have been no resource consents lodged specifically in relation to Rule 4.6 'Lightspill', although it is unclear whether other larger applications may have included a non-compliance as part of the bundled application. Council staff advise over the past five years there have been no more than 3 or 4 complaints in relation to light spill.

5. Scale and Significance

5.1 Scale and Significance Evaluation

Section 32(1)(c) of the RMA requires that this report contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.

	Assessment				
	Low	Low - Moderate	Moderate	Moderate - High	High
Degree of change from the ODP		X			
Scale of effects – geographically (local, district wide, regional, national).			X		
Effects on matters of national importance (s6 RMA)	X				
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?).			X		
Scale of effects on those with specific interests, e.g., Tangata Whenua		X			
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other standards/commonly accepted best practice?	X				
Likelihood of increased costs or restrictions on individuals, communities or businesses.	X				

5.2 Evaluation Summary

The management of lighting and glare is not substantially controlled through other planning documents such as regional plans, or through other legislation. However, the recently revised Australian/New Zealand Standard (AS/NZ 4282:2019) for managing the effects of obtrusive lighting is directly relevant. The PDP provisions largely maintain the current general approach to managing the effects of light spill, however, more specific objectives and policies are introduced, clearer matters of discretion are provided and greater distinction between zone provisions is provided to reflect the particular characteristics of areas.

Overall, the scale of significance is considered to be low- moderate and therefore, the level of detail provided within this evaluation is commensurate with the scale and significance of the environmental, economic and cultural effects that are anticipated from the implementation of the provisions.

6. Consultation

The Section 32 – Overview and Urban Form and Development Report provides an overview of the consultation undertaken to date in respect of the draft District Plan. The PDP has been prepared in partnership with Hokonui Rūnanga who have reviewed and provided feedback on the light chapter to ensure consistency with the Mana Whenua Chapter and that cultural values are appropriately integrated throughout the proposed provisions.

Engagement with the community on the draft District Plan was undertaken between 10th August 2022 and 30th September 2022. The feedback received in respect of the Light Chapter is summarised below:

Person / Organisation	Feedback summary	Response
Ministry of Education	Supportive of an enabling policy relating to outdoor lighting. Educational facilities often require outdoor lighting for wayfinding, sporting facilities and general CPTED purposes.	The Draft District Plan contained a policy which refers to CPTED principles and this has been continued into the PDP.
Alliance Group Ltd	- Questions how compliance with the requirement to <i>"...not adversely affect the natural life cycle of indigenous species"</i> will be achieved. - Disagrees with requirement to not affect views of the night sky in Industrial Zones as this would unduly restrict industrial activities which may require 24/7 lighting. The requirements should be applied only to an area identified as 'intrinsically dark landscape' which should be mapped. - The matters of discretion should be amended to include consideration of the positive effect of lighting which would include social and economic benefits from allowing industrial activities to operate with the benefit of light.	The standards provide for different levels of permitted light spill based on the character and amenity of the zone. The provisions recognise that consideration of effects on dark sky and indigenous biodiversity in rural environments are appropriate. The rural environment is defined and as such there is no need to map these areas.
Silver Fern Farms	- Questions how compliance with the requirement to <i>"...not adversely affect the natural life cycle of indigenous species"</i> will be achieved. - Disagrees with requirement to not affect views of the night sky in Industrial Zones as this would unduly restrict industrial activities which may require 24/7 lighting. The requirements should be applied only to an area identified as 'intrinsically dark landscape' which should be mapped. - The matters of discretion should be amended to include consideration of the positive effect of lighting which would include social and economic benefits from allowing industrial activities to operate with the benefit of light.	An additional matter of discretion has been added to LIGHT-S1 to allow for considerations of the potential benefits to the social, economic and cultural well-being of the community from increased light spill.
Waka Kotahi	Supportive of the intention that light spill should not adversely affect the health and safety of people and the inclusion of CPTED principles. However, Policy LIGHT-P2 is not clear if it is also intended to	Policy LIGHT-P2 has been amended to include specific reference to safe

	manage the effect of light spill being a distraction to road users and therefore an amendment is suggested to require the location, design and operation of light is not a distraction to road users.	and efficient use of the road network.
Southland Federated Farmers	Supportive of the recognition that certain activities have a functional and operational requirement to use artificial light, this is particularly true for primary production where some farm activities are seasonal and / or time sensitive and so may require use of artificial outdoor lighting. Recognition should be given to the operation requirements of primary production specifically within the Objectives.	LIGHT-O1 refers to the functional and operation requirements of artificial outdoor light which would include the need for lighting for primary production activities. The ODP provisions have been rolled over in terms of light spill levels within the Rural Zone.
Feedback summary		
General support for the recognition that artificial outdoor lighting is necessary for functional and operational needs of activities. Some amendments sought to recognise the needs of specific activities such as industry and primary production which may have a higher usage of artificial outdoor lighting and that lighting should not distract road users. Some minor amendments sought to clarify these aspects and also consider further the effects of light spill on the life cycle of indigenous species in urban areas particularly.		
Key changes in response to feedback		
1. Deletion of Policy LIGHT-P4 as being unwarranted and the purpose of the policy is covered by LIGHT-P2. 2. Amendment to the matters of discretion for LIGHT-S1 to include consideration of potential benefits on social, economic and well-being of the community from the increased light spill. 3. Amendment to Policy LIGHT-P2 include specific reference to safe and efficient use of the road network.		

7. Proposed Plan Provisions

7.1 Strategic Direction

The PDP does not contain any specific strategic direction objectives relevant to Light, however, there are several objectives in the Urban Form and Development Chapter which relate to general development and urban environments within the district and which are assessed in the Overview and Urban Form and Development Section 32 Evaluation Report. These objectives have some relevance to light as a resource management issue.

Objective UFD-O1 seeks to ensure that the district develops in a cohesive, compact and structure manner, this includes managing adverse effects between incompatible activities and zones.

Objective UFD-O7 relates to ensuring urban environments are liveable, safe and well-designed which would include provision of adequate lighting to ensure safety for residents and users.

The mana whenua chapter articulates mana whenua and Te Taiao values. The PDP provisions seek to manage adverse effects of light spill in urban and rural areas and include

considerations around the potential effects on views of the night sky and indigenous biodiversity. The Light Chapter objectives, policies and rules align with the articulated mana whenua values.

7.2 Objectives, Policies, Rules, Standards and Definitions

The proposed objectives, policies, rules, standards and definitions have been drafted to address the resource management issues relating to light as identified in section 2.1 of this report. The background assessment of other Councils' Plans and the ODP, along with the scale and significance of the issues and topic have also informed the PDP provisions.

The following provisions are proposed within the Light Chapter of the PDP:

Objectives
There are two objectives which seek to provide for the use of artificial outdoor lighting for operational and functional purposes, whilst managing adverse effects on character and amenity values anticipated within a zone, balancing health and safety requirements with views of the night sky and the natural life cycle of indigenous species.
Policies
The policies allow for artificial light for operational and functional purposes in a manner which maintains the predominant character of the zone, including management of light through location, design and operation to manage effects on visibility of the night sky or the health and wellbeing of people, ecosystems and indigenous species. The policies also enable outdoor lighting for limited durations associated with temporary activities, sports and recreational purposes or health and safety and seek to avoid lighting which may adversely affect views of the night sky.
Rules
There are two permitted activity rules which give effect to the Objectives and Policies: - Outdoor lighting must be directed downwards and shielded from above to ensure all light shines below the horizontal No external strobe, flashing or intermittent light Compliance must be achieved with Standard 1 <i>Except:</i> traffic signals and navigation aids, light from vehicles, trains and aircraft or temporary lights from emergency response purposes are excluded. - Outdoor artificial light from public sports courts and grounds where, compliance with standard 2 is achieved.
Standards
There are two standards: - Maximum levels of light spill: - Rural, Natural and Open Space and Large Lot Residential Zones – 5 lux measured at the notional boundary of any dwelling or building accommodating a sensitive activity - Residential, Neighbourhood Centre and Sport & Active Recreation Zones – 8 lux measured at or beyond the site boundary. - Town & Local Centre, Mixed Use, Industrial and Airport Zones – 15 lux measured at or beyond the site boundary - Artificial light from public sports courts and ground – there are a range of parameters relating to luminous intensity, luminaire limits, maximum light spill and hours of operation.

Definitions

The following definitions are directly relevant to the Light Chapter:

Artificial outdoor lighting

any exterior or non-residential interior lighting that emits directly into the outdoor environment and includes signs.

Light spill

artificial illumination from both direct and indirect sources which falls outside the boundaries of the site from which it originated.

8. Evaluation of Objectives

This section of the report evaluates the proposed objectives as to whether they are the most appropriate to achieve the purpose of the Act.

Existing Objectives	Appropriateness to achieve the purpose of the Act
As identified above there are no specific objectives relating to light in the ODP, however, the following objectives would broadly direct the decision maker in respect of amenity values. 3.3(1) - Maintain and enhance the amenity values of the various localities within the District whilst respecting the different values and characteristics that exist within each area. 3.3(2) - Ensure that the effects of land use activities do not adversely affect the quality of the environment and are compatible with the characteristics and amenity values of each locality	These objectives provide high level guidance to decision makers around the expectations for maintaining, enhancing and managing adverse effects on amenity values within the district and in this respect they are broadly consistent with RMA Section 5(2)(c) but are not considered to fully achieve the purpose of the Act due to the lack of specific clarity and direction. Relevance and Usefulness Due to the broad nature of these Objectives, they are of limited relevance and provide little guidance and direction therefore they are of limited usefulness to decision makers or plan users. Reasonableness Provisions in relation to light spill will not result in unjustifiably high costs on the community, although the lack of clarity and direction in the Objectives may increase costs in a situation where there is dispute over the outcome of a non-compliance. Achievability The provisions seek outcomes within the scope of Council's responsibilities and can be realistically achieved through regulations at a district level.

Proposed Objective	Appropriateness to achieve the purpose of the Act
LIGHT-O1 - Activities are able to use artificial outdoor lighting for operational and functional purposes and to provide for the security and safety of people and properties.	The objective is considered the most appropriate way to achieve the purpose of the Act because it: - Recognises the function of artificial outdoor lighting to enable people to provide for their social, economic and cultural wellbeing (Section 5(2)). - Will allow for the efficient use and development of natural and physical resources (Section 7(b)) Relevance The objective is relevant to the issues identified which seek to enable lighting to provide for functional, operational, security and safety reasons. The objective aligns with the strategic directions objectives and does not duplicate these. Usefulness: This objective guides the decision maker to allow the use of artificial outdoor lighting for purposes such as work, recreation and permitted activities within a zone, to ensure security and safety of people and properties, as well as provide for functional outcomes. Reasonableness: Provisions in relation to light spill will not result in unjustifiably high costs on the community as the framework for permitted activity levels and considering consent applications is similar to the existing approach but with improved efficiency and consistency with AS/NZ 4282:2019. Achievability: The provisions seek outcomes within the scope of Council's responsibilities and can be realistically achieved through regulations at a district level.

Proposed Objective	Appropriateness to achieve the purpose of the Act
LIGHT-O2 - Artificial outdoor lighting is located, designed and operated to maintain the character and amenity values within zones, and so that it does not adversely affect the health and safety of people, the natural life cycles of indigenous species and the safe operation of the transport network and views of the night sky.	The objective is considered the most appropriate way to achieve the purpose of the Act because it: - Section 5(2) and 5(2)(c) - manages the effects on the environment and health, safety and amenity values of people. - Section 6(e) – provides for the relationship of Māori with their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga. - Section 7(c) and (f) – has regard to the maintenance and enhancement of amenity values and the quality of the environment and 7(d) the intrinsic values of ecosystems. Relevance The Objective is relevant to the issues identified. It seeks to balance the need to provide lighting for practical purposes with the anticipated amenity values of a particular zone and the potential adverse effects from light spill on the community's health and wellbeing along with the effects on views of night sky and natural ecosystems. The objective aligns with the strategic directions Objectives and does not duplicate these.

	<i>Usefulness:</i> This objective guides the decision maker to allow the use of artificial outdoor lighting. To ensure it is well designed and managed to maintain the anticipated character and amenity value of a particular area. It reduces adverse effects on people’s health and wellbeing, safe operation of transport networks and to protect views of the night sky. <i>Reasonableness</i> Provisions in relation to light spill will not result in unjustifiably high costs on the community as the framework for permitted activity levels is comparable to the ODP. However, the matters of discretion are refined to provide greater clarity and direction for decision makers thereby result in greater efficiencies and consistency with AS/NZ 4282:2019. Provisions in relation to addressing effects on visibility of the night sky seek to provide a practical approach across the district which recognises different light sources and different environmental values in rural areas compared to urban environments. <i>Achievability:</i> The provisions seek outcomes within the scope of Council’s responsibilities and can be realistically achieved through regulations at a district level. The objective is consistent with identified cultural values and outcomes which seek to protect cultural amenity values such as celestial darkness.
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Summary Overall, the proposed Objectives provide greater clarity and certainty for plan users and decision makers whilst also achieving the purpose of the Act in a reasonable, useful, relevant and achievable manner. The Objectives will allow Council to fulfil their obligations under s31 of the Act, are consistent with identified cultural values and outcomes and align with relevant strategic direction.

9. Evaluation of Options to Achieve the Objectives

9.1 Introduction

Section 32(1)(b) requires an evaluation of whether the provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing the efficiency and effectiveness of the provisions in achieving the objectives, and summarising the reasons for deciding on the provisions.

The assessment must identify and assess the benefits and costs of environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions, including opportunities for economic growth and employment. The assessment must if practicable quantify the benefits and costs and assess the risk of acting or not acting if there is uncertain or insufficient information available about the subject matter.

For each potential approach an evaluation has been undertaken relating to the costs, benefits and the certainty and sufficiency of information (as informed by section 4 of this report) in order to determine the effectiveness and efficiency of the approach, and whether it is the most appropriate way to achieve the relevant objective(s). For the purpose of this evaluation, the Council has considered the following potential options:

- Option A - The proposed provisions
- Option B - The 'status quo' provisions.
- Option C – The draft District Plan provisions

9.2 Quantification of Costs and Benefits

Section 32(2)(b) requires that if practicable the benefits and costs of a proposal are quantified.

Based on the scale and significance of the proposed changes, specifically the degree of change from the ODP, level of policy risk and scale of effects, it is considered that quantifying costs and benefits is unnecessary. Therefore, exact quantification of the benefits and costs identified in this report was not considered necessary, beneficial or practicable. Rather, the table below generally identifies where there may be additional cost(s) and benefit(s).

9.3 Evaluation of Options

Effectiveness and Efficiency Evaluation
Objective LIGHT-O1 - Activities are able to use artificial outdoor lighting for operational and functional purposes and to provide for the security and safety of people and properties. <i>Policies and rules which give effect to LIGHT-O1:</i> LIGHT-P1 - Allow activities to generate an appropriate level of artificial lighting for operational and functional purposes while maintaining the predominant character and amenity of each zone. LIGHT-P3 - Enable artificial outdoor lighting for a limited duration where it is associated with temporary activities, sports and recreational purposes or for public health and safety. LIGHT-R1 – Emission of artificial outdoor light is permitted where: - Light spill complies with LIGHT-S1 - All artificial outdoor lighting is directed downward and shielded from above to ensure that all light shines below the horizontal - There is no external strobe, flashing or other intermittent lighting. - Except the rule does not apply to – traffic signals and navigation aids, lights of vehicles, trains and aircraft or temporary lighting for the purposes of emergency response. LIGHT-R2 – Emission of artificial outdoor lighting from public sports courts and grounds is permitted where light spill complies with LIGHT-S2. Objective LIGHT-O2 - Artificial outdoor lighting is located, designed and operated to maintain the character and amenity values within zones, and so that it does not adversely affect the health and safety of people, the natural life cycles of indigenous species and the safe operation of the transport network and views of the night sky. <i>Policies, rules and standards which give effect to LIGHT-O2:</i> LIGHT-P2 - Require artificial lighting to be located, designed and operated to: a. Control the maximum level of light spill; b. Manage adverse light spill effects to: I. Maintain people’s ability to view the night sky.

II. Protect the health and well-being of people, ecosystems and indigenous species. c. Ensure safe and efficient operation of roads and public pedestrian areas by incorporating Crime Prevention Through Environmental Design (CPTED) principles. LIGHT-R1 – Emission of artificial outdoor light is permitted where it complies with LIGHT-S1, is directed downwards and shielded from above and does not include strobe or flashing lights but the rule doesn't apply to traffic signals, navigation aids, vehicle, train or aircraft lights or emergency service lighting. LIGHT-R2 – Emission of artificial outdoor lighting from public sports courts and grounds is permitted where light spill complies with LIGHT-S2. LIGHT-S1 – Maximum levels of light spill GRUZ, RLZ, NOSZ, MPZ, LLRZ, SETZ, Camp Columba and Field Day Zones – light spill is permitted where: The maximum level of light spill from any site measured at the notional boundary of any dwelling or building accommodating a sensitive activity must not exceed 5 lux (in both the horizontal and vertical planes). GRZ, MRZ, NCZ & SARZ – light spill is permitted where: The maximum level of light spill from any site measured at or beyond the site boundary must not exceed 8 lux (in both the horizontal and vertical planes). LCZ, MUZ, TCZ, LIZ, GIZ & Airport Zone – light spill is permitted where: The maximum level of light spill from any site measured at or beyond the site boundary must not exceed 15 lux (in both the horizontal and vertical planes). LIGHT-S2 – Artificial outdoor lighting from public sports courts and grounds is permitted subject to controls on timing, glare, position and angle of lighting	
Benefits	Costs
Option A - Proposed Provisions	Option A - Proposed Provisions
Environmental - Improved clarity for plan users and decision makers and consistency with AS/NZS 4282:2019 to better manage the adverse effects of light spill on people and the environment. - Increased recognition of cultural values and views of the night sky.	Environmental There are not considered to be any environmental costs associated with the PDP as the provisions seek to be manage adverse effects to safeguard the environment.
Economic - If a resource consent is required there would be a cost, however, the clearer direction provided by the rule framework will result in greater processing efficiencies than at present which will keep costs reasonable. - The provisions are comparable to the ODP and therefore there will be a low level of economic effect as a result of the PDP provisions. - The provisions recognise the benefits of economic and employment gain associated with industrial and commercial zones and enable appropriate activities within those zones to emit an appropriate level of light spill.	Economic Anyone installing new lighting or undertaking a new activity may experience an increased cost associated with the new requirements such as shielding, timers or dimmers. However, as a portion of the cost of an overall development these features would be a minimal expense.
Social - The provisions will simplify regulation of light spill and glare and be more user friendly for decision makers and plan users. - Improved management of lighting effects will potentially improve the well-being and health and safety of people.	Social There are not anticipated to be any social costs associated with the provisions.
Cultural The provisions integrate cultural values associated with the celestial world (moon and stars) and celestial darkness which can be distorted by light spill. The provisions also protect indigenous species whose life cycle could be adversely affected by excessive light spill into natural environments.	Cultural There are no anticipated cultural costs associated with the proposed provisions.
Efficiency	
There are a number of improved efficiency outcomes associated with the PDP provisions. These include improved clarity through more directive objectives and policies which provides greater certainty for plan users and decision makers and will improve efficiency compared to the status quo option.	
Effectiveness	
The proposed provisions are considered to be the most effective means of achieving the objective(s) as together they will: Enable the Council to fulfil its statutory obligations, including duties imposed on the Council by s31 of the RMA.	

- Address the identified resource management issues by ensuring that adverse effects from lighting are managed appropriately by rules which control new artificial outdoor lighting and therefore reduce the possibility that it will cause nuisance and/or a reduction in amenity values. They will enable work, recreation and entertainment activities to occur beyond daylight hours acknowledging the functional and safety requirements for lit sites.
- Enable the Council to effectively administer its District Plan in a clear and consistent manner.

Alternative options which are more or less appropriate to achieve the objective

Option B – Status Quo

The current provisions are not considered appropriate as they do not contain appropriate policies relating specifically to the effects of light spill. The provisions also restrict the management of light spill to particular hours and do not reflect the purpose and character of zones in the PDP. The existing provisions lack clarity and direction and do not clearly address the issues which have been identified and which the proposed objectives address, therefore maintaining the status quo is not an appropriate way to achieve the objectives.

Option C - Draft District Plan

Following public engagement and feedback, amendments were made to the draft district plan to ensure that the provisions are the most appropriate manner of achieving the objective. The key changes are detailed in Section 6, the amendments ensured that the provisions are effective, efficient and provide cultural, social and environmental benefits in achieving the objective.

Risk of acting or not acting

Where business or other activities which require lighting to operate, including night-time working, sports courts and grounds are located near sensitive activities such as residences, there is the potential for adverse light spill effects creating nuisance or reduction in amenity values if artificial outdoor lighting is not appropriately managed. Although the proposed light spill provisions are largely a continuation of the ODP provisions, there is risk of inefficiencies and a failure to achieve effective outcomes if the Council does not act by introducing clearer, more directive provisions and maintains the status quo. The Council has a good understanding of the nature of activities, their operational requirements, and their associated effects on the environment and therefore has sufficient information to act.

9.4 Summary of Preferred Options

Summary

The preferred option is the PDP provisions which will achieve the purpose of the Act and provide greater clarity and direction to plan users and decision makers thereby being consistent with section 5 of the RMA 1991. The provisions provide an appropriate balance between allowing for activities to operate and function, using artificial outdoor lighting whilst managing the potential adverse effects of light spill on sensitive activities. The proposed hierarchy of allowable maximum light spill recognises the PDP zone purpose, function and character and also ensures that views of the night sky, natural ecosystems and cultural values are appropriately protected from adverse effects of light spill.

