

Submissions on Plan change 22 to the Mackenzie District Plan

Submission Details

Submission Number	Submitter	Support/Oppose	Decision Requested (Amendments <u>underlined</u> and deletions struck out)	Reason/Comment	Wishes to be Heard
1.	Amy Menard	Support in Full	Retain as notified	Maintain dark skies for personal enjoyment, physical health and wellbeing, as a key selling point for visitor accommodation and to protect our precious flora and fauna from effects of light pollution	Y
2.	Preetha Sreedharan	Support in Full	Retain as notified	Protect human health, benefit astronomy, preserve ecological integrity, maintain personal enjoyment of the night sky, and contribute to energy efficiency	Y
3.	Rochelle Clark	Support in Full	Retain provisions related to outdoor lighting, security lights, sky lights, and directional lighting	To keep the sky dark so we can tell star stories and traditions	N
4.	Goran Belvan	Support in Full	Retain provisions related to outdoor lighting and security lighting	To improve and protect the dark skies for the benefit of scientific and amateur astronomy and the human right to enjoy the night sky	N
5.	Ingemar Dierickx	Support in Part	Broaden the scope of protection of the night sky by including light pollution caused by strobe lights on pivot irrigators by: <ul style="list-style-type: none"> Amending the language of LIGHT-O1 Introduce a new section LIGHT-04 that specifically bans strobe lights on pivot irrigators 	While strongly supporting the intent of PC22 the provisions are too narrow and do not include flashing lights on pivot irrigators which detract from the dark sky experience	Y
6.	Gavin Loxton	Support in Full	Retain as notified but include provisions for the monitoring of light spill data from buildings and infrastructure	Mackenzie is a leading authority in night sky protection from artificial light	N
7.	Jill Jenkins	Support in Full	Retain as notified	Supports the Aoraki Mackenzie International Dark Sky Reserve and provisions that preserve dark skies	N

8.	Graham Palmer	Support in Full	Retain as notified	The night sky is a taonga for humans and wildlife. Enhancement of lighting controls adds to the network of dark sky protections. Benefits are cultural, environmental, economic, and health related	N			
9.	Opuha Water Limited	Oppose in Part	Amend LIGHT-O1 as follows: <i>Outdoor lighting allows activities to occur beyond daylight hours and provides safety and security for activities, while:</i> 1. <i>protecting views of the night sky; and</i> 2. <i>managing light spill to maintain amenity values and the safe operation of the transport network managing light spill to maintain amenity values and the safe operation of the transport network <u>and Regionally Significant Infrastructure</u></i>	The objective needs to recognise that temporary lighting may be required in certain circumstances to ensure the safe operation of Regionally Significant Infrastructure that does not meet the lighting standards in the District Plan	Y			
		Oppose in Part	Amend LIGHT-P1 as follows: <i>Manage the location, design and operation of outdoor lighting to ensure:</i> 1. <i>it does not distract or interfere with traffic;</i> 2. <i><u>the safe and efficient operation of Regionally Significant Infrastructure during natural hazard events; and</u></i> 3. <i>it is compatible with the zone in which any light spill or glare is received</i>	Recognition is required within the policy that temporary lighting may be required during natural hazard events to ensure the safe and efficient operation of Regionally Significant Infrastructure. This temporary lighting may not meet lighting standards in the District Plan				
		Oppose in Part	Include the following new rule as LIGHT-R4: <table border="1" data-bbox="772 1061 1272 1382"> <tr> <td><u>LIGHT-R4</u></td> <td colspan="2"><u>Temporary Lighting for Regionally Significant Infrastructure</u></td> </tr> <tr> <td><u>All Zones</u></td> <td><u>Activity Status:</u> <u>PER</u> <u>Where:</u> 1. <u>Temporary lighting is required for the safe and</u></td> <td><u>Activity status where compliance not achieved:</u> <u>Not applicable</u></td> </tr> </table>	<u>LIGHT-R4</u>		<u>Temporary Lighting for Regionally Significant Infrastructure</u>		<u>All Zones</u>
<u>LIGHT-R4</u>	<u>Temporary Lighting for Regionally Significant Infrastructure</u>							
<u>All Zones</u>	<u>Activity Status:</u> <u>PER</u> <u>Where:</u> 1. <u>Temporary lighting is required for the safe and</u>	<u>Activity status where compliance not achieved:</u> <u>Not applicable</u>						

				<i>efficient operation of Regionally Significant Infrastructure</i>		
10.	Rex Williams	Oppose in Part	Amend Plan Change 22 to prohibit high intensity light sources in the Rural Zone		Lighting used for activities, such as on pivot irrigators, leaks into the night sky and causes distraction nuisance	Y
11.	Genesis Energy Limited	Support	Retain Objective LIGHT-O1 as notified		Allows outdoor lighting to occur beyond daylight hours to provide for safety and security for activities	Y
		Support	Retain Rule LIGHT-R1 as notified		Provides for the use of exterior lighting required for emergency or project purposes	
		Support	Retain Rule LIGHT-R2 as notified		Permits the installation of security lights as a permitted activity subject to a motion sensor	
		Support in Part	Retain Rule LIGHT-R3 as notified. Introduce a new definition for “skylight”		Understand Rule LIGHT-R3 seeks to prevent light spill from skylights affixed to the roof of buildings A definition for “skylight” would remove ambiguity and ensure large windows on walls would not be captured within the rule	
		Support	Retain Standards LIGHT-S1 to LIGHT-S5 as notified		Compliance with the standards can be achieved overtime with retrofitting	
12.	Environment Canterbury	Support in Full	Retain as notified		The proposed Light Chapter provides objectives, polices and rules to protect the views of the night sky thereby giving effect to the Canterbury Regional Policy Statement	Y
13.	Grant Pearson	Support in Part	Further investigation into the effects of current outdoor lighting prior to making a plan change		Overhead street lighting, the greatest source of light pollution, is not adequately addressed in the Plan Change making a mockery of the Aoraki Mackenzie International Dark Sky Reserve. Overhead lighting should be replaced by bollard lighting if required for safety purposes. The Plan also does not outline enforcement of the plan provisions	N
14.	Marion Dierickx	Support in Part	Broaden the scope of protection of the night sky by prohibiting light pollution caused by lighting on agricultural equipment,		The Mackenzie District’s dark skies are a valuable public resource that has significant scientific and economic value, and it is important that they are protected. The	Y

			specifically strobe lights on pivot irrigators by: <ul style="list-style-type: none"> • Amending the language of LIGHT-O1; and • Amend LIGHT-R1 to include a ban on strobe lights on agricultural equipment 	Mackenzie District is also home to the Mount John Observatory	
15.	Fire and Emergency New Zealand	The submission form lodged by Fire and Emergency New Zealand expressed that their submission related to Plan Changes 21 and 22. However, there was no written submission relating to Plan Change 22. Submitter (Jessica Mangos – BECA, on behalf of FENZ) confirmed verbally (30/11/2022) that there is no submission on Plan Change 22.			
16.	Karen Morgan	Support in Full	Retain as notified	The Mackenzie Dark Sky Reserve is an asset that has been created over several years and requires protection. The provisions outlined in Plan Change 22 achieve this protection	N
17.	Victoria Campbell	Support in Full	Retain as notified	Plan Change 22 will allow for the protection of scientific values, health benefits, cultural and natural heritage, and natural integrity of the district	N
18.	Bryan King	Support in Part	The comments below relate to the Section 32 Report. Headings identified in bold are from the Section 32 Report.	The scope description is inadequate and omits the matters listed	Y
			<p>1.2 Topic: The scope description is amended to include consideration of:</p> <ul style="list-style-type: none"> • Ecological impacts and the protection of fauna and flora • Human sleep and health impacts of light at night • Outdoor hospitality and tourism precincts 		
			<p>5.4 Light Pollution: The scope needs to be widened to include the problematic aspects for ecology and human sleep and health</p> <p>In terms of skylights and display windows, light emission from interior lighting is fragmented in scale and is not practical to limit by regulation</p>	Control of light pollution and obtrusive lights is necessary for more than just dark skies and astronomical research	
				Light emissions from buildings are difficult to manage as they emanate from interior lighting from commercial buildings and private dwellings	

			<p>Amendment is required to the following sentence:</p> <p><i>The rules also pre-date the use of LED lamps, some of which contain more blue and green light which can result in light pollution</i></p>	<p>Light pollution results from errors of application of a combination of technical parameters, not simply the use of a LED luminaire</p>	
			<p>5.5 Where Light Provisions are Applied: Selective application of regulation should be applied based professional advice and a Regional Lighting Masterplan</p>	<p>In principle this is a constructive approach. However, it is not clear if the intention is to have the same lighting restrictions both inside and outside the AMIDSR region. Application of the exact same AMIDSR lighting parameters to other areas that require public lighting for road safety, pedestrian safety, urban amenity and outdoor hospitality would not be appropriate</p>	
			<p>6.1 Technical Input: Suggest there should be input from lighting professionals and lighting organisations such as Illuminating Engineering Society of ANZ (IESANZ) or Lighting Council New Zealand (LCNZ)</p>	<p>This would provide for best practice lighting products and techniques</p>	
			<p>7.2 Scale and Significance: Selective application of regulation should be applied based on professional advice and a Regional Lighting Masterplan</p> <p>Technical input from independent professional lighting consultants and technical standards from lighting organisations should be utilised</p> <p>AS/NZS obtrusive light technical Standard should be adopted to quantify obtrusive light effects</p>	<p>In principle this is a constructive approach. However, it is not clear if the intention is to have the same lighting restrictions both inside and outside the AMIDSR region. Application of the exact same AMIDSR lighting parameters would not be appropriate</p> <p>Use of an independent professional would ensure not only light pollution mitigation, but safe, compliant and fit for-purpose general lighting outcomes</p> <p>Spill light quantification is a basic and well-established technical approach to identify and limit obtrusive light impact on adjacent sites and should be introduced as a</p>	

				practical and enforceable means of spill light minimisation
			<p>9.3 Evaluation of Proposed Policies, Rules and other Methods</p> <p>Amend to include ecological and human effects such as:</p> <ul style="list-style-type: none"> • Light pollution – Astronomical Effects – Night Sky Darkness • Light pollution – Ecological Effects – Horizontal Darkness • Light Pollution - Human sleep and health impacts • Nuisance effects 	Categorisation is inadequate. A broader approach including ecological and human effects is required
			<p>9.4 Light Pollution Provisions:</p> <p>Within LIGHT-P2, suggest the use of a Central Management System (CMS) lighting control systems for street lighting, parks, reserves, and public spaces</p>	These smart systems are very effective at off-peak dimming and trimming to cut unnecessary lighting, reduce energy and operational carbon emissions, as well as saving money via reduced energy and maintenance expenses
			<p>9.5 Key Changes from the Status Quo:</p> <ul style="list-style-type: none"> • <i>Applying the controls to the entire District, not just the current AMIDSR.</i> • <i>Replacing the existing filtration rule with a colour temperature and lamp type rule.</i> <p>Replace term “lamp” with “light source”</p> <p>Reduce maximum colour temperature from 2500K to 2200K.</p> <p>Allow for greater than 2200K outside of AMIDSR</p>	<p>The term ‘lamp’ is obsolete in this context, ‘light source’ (fixed within the luminaire) is now the accepted term</p> <p>Typical warm colour temperatures commercially available are 2000K, 2200K, 2700K, 3000K, thus the maximum for MDC use is 2200K.</p> <p>It is not appropriate to totally prohibit the use of higher colour temperature light sources, as limited use as part of professionally developed night sky conscious lighting designs is appropriate. Such use is unlikely to contribute materially to degradation of the night environment</p>

			<p>9.10 Nuisance Effects Provisions: LIGHT-P1: <i>Manage the location, design and operation of outdoor lighting to ensure:</i></p> <ol style="list-style-type: none"> 1. <i>it does not distract or interfere with traffic; and</i> 2. <i>it is compatible with the zone in which any light spill or glare is received,</i> <p>requires more specificity, namely:</p> <ul style="list-style-type: none"> • Manage the location of outdoor lighting through Environmental Zones • Manage the design of outdoor lighting through the use of industry guidelines to mitigate nuisance effects. • Manage the operation of outdoor lighting via the application of electronic controls to mitigate nuisance effects. 	<p>LIGHT-P1 is not sufficiently detailed to be meaningful</p>	
			<p>General Comments:</p> <ul style="list-style-type: none"> • Suitable provisions for ecological and human protection should be included • Technical inputs should be expanded to include lighting professionals • Off-peak adaptive lighting techniques should be included within the Plan as a light pollution mitigation tool • Reference to Low Pressure Sodium (LPS) and High-Pressure Sodium (HPS) should be removed • Provide explanation of the organisational connections and ways which the parties align for cohesive 	<p>There is a complete void in requirements for other stakeholder interests such as ecological protection (flora and fauna) and human sleep and health protection</p> <p>Plan Change 22 includes only a narrow source of technical input, with Canterbury University being the only cited source on lighting technology and application information. Central Management Systems (CMS) can be used generate deep reductions in hours of operation and light levels</p> <p>Low Pressure Sodium (LPS) and High-Pressure Sodium (HPS) are obsolete lamps with rapidly diminishing commercial availability and should not be an included item in this District Plan</p>	

			interaction on the protection of astronomical and ecological values	There is no apparent consideration of the relationship various statutory bodies, specifically Environment Canterbury, Mackenzie District Council and Department of Conservation	
			Concluding Comments: MDC develops a lighting strategic plan based on International Lighting Commission (CIE) guidelines, and then finalises Plan Change 22	An overview document in the form of an MDC Regional Lighting Masterplan is a necessary part of sound regional lighting planning and regulation	
9.	Tekapo Landco Limited and Godwit Leisure Limited	Oppose in full	Amend LIGHT-P1 to include reference to skylights which are not 'outdoor lighting'	Will improve plan clarity	Y
			Amend LIGHT-P2 to include reference to skylights which are not 'outdoor lighting'	Will improve plan clarity	
			Amend format of all rules to remove the 'where' criteria for permitted rules and only link to standards. Where appropriate add 'where' criteria as standards	Use of the word 'where' within the rules creates a standard within the rule	
			Remove bullet point '1' from all rules where there is no bullet point '2'	It is unnecessary and makes it unclear	
			Include a link to LIGHT-MD1 in LIGHT-R1 and remove the 'where' criteria from the activity status	LIGHT-MD1 is currently not linked in the ePlan. The 'where' criteria should be included as standards	
			Amend LIGHT-S1 as follows: <i>All fixed exterior lighting shall be directed <u>downwards</u>, away <u>from</u> any adjacent roads, residential properties and lakes.</i>	Will improve plan clarity	
			Amend LIGHT-S2 as follows: <i>All outdoor lighting shall be shielded from above in such a manner that the edge of the shield shall be below the whole of the light source, so that all the light shines below the horizontal.</i>	Will improve plan clarity	

			<p>Amend LIGHT-S3 as follows:</p> <p><i>The correlated colour temperature of outdoor lighting shall not exceed 2500 <u>3000K</u>.</i></p> <p>Or alternatively <u>2700K</u></p>	<p>Outdoor lighting 2500K is difficult to source. 3000K provides for a greater range while still managing the effect</p>	
			<p>Amend LIGHT-S4 as follows:</p> <p><i>Only light-emitting diode (<u>LED</u>), low pressure sodium and high pressure sodium lamps shall be used.</i></p> <p>In addition, include LED to the acronyms table and link</p>	<p>Use of the acronym LED is a more familiar term for people</p>	
			<p>Amend LIGHT-MD1 to include an additional clause as follows:</p> <ul style="list-style-type: none"> <i>a. The individual and cumulative effects on the ability to view the night sky.</i> <i>b. The effectiveness and practicality of any measures proposed to mitigate the effects of light spill.</i> <i>c. Whether the lighting is necessary for operational or functional purposes.</i> <i>d. <u>Positive contribution of lighting</u></i> 	<p>Lighting has the ability to contribute positively which should be recognised</p>	

			<p>Amend LIGHT-MD2 to include an additional clause as follows:</p> <ul style="list-style-type: none"> a. <i>Whether the lighting is necessary for operational or functional purposes.</i> b. <i>Adverse effects on:</i> <ul style="list-style-type: none"> i. <i>the amenity anticipated in the receiving zone;</i> ii. <i>the well-being, health and safety of people; and</i> iii. <i>traffic safety.</i> c. <i>The extent to which light spill or glare may impact on activities occurring on an adjoining property.</i> d. <u><i>Positive contribution of lighting</i></u> 	Lighting has the ability to contribute positively which should be recognised	
20.	Waka Kotahi	Neutral	Further consideration is sought for how street lighting will be provided for through the Light Chapter	There is provision for outdoor lighting to maintain the safe operation of the transport network, but there is no provision for street lighting and the associated light standards do not directly provide for this	Y
		Support	Retain LIGHT-O1 as notified	Seeks to ensure outdoor lighting allows activities to occur beyond daylight hours and provides safety and security for activities, while protecting views of the night sky and managing light spill to maintain amenity values and the safe operation of the transport network	
		Support in Part	<p>Amend LIGHT-P1 as follows:</p> <p><i>Manage the location, design and operation of lighting to ensure:</i></p> <ul style="list-style-type: none"> 1. <i>it does not distract or interfere with traffic <u>the safety of all transport network users</u>; and</i> 2. <i>it is compatible with the zone in which any light spill or glare <u>obtrusive light</u> is received</i> 	Seek the use of 'obtrusive light' rather than 'light spill or glare' in accordance with AS/NZS4282:2019 (Control of the Obtrusive Effects of Outdoor Lighting)	
		Support in Part	<p>Amend LIGHT-P2 as follows:</p> <p><i>Require outdoor lighting to minimise, as far as practicable, the potential for upward light spill</i></p>	Seek to provide clarification that upward light can be reflected off surfaces which cannot be controlled by the technical attributes of the artificial lighting	

			<i>waste light while also limiting and restricting spill light and other obtrusive light that would be adversely affect the ability to view the night sky</i>							
		Support in Part	Amend LIGHT-R1 as follows:		Amendment is sought to refer to ‘artificial outdoor lighting’ to ensure the rule refers to all forms of powering outdoor lighting such as solar and wind generation rather than only mains powered lighting					
			<table border="1"> <thead> <tr> <th>LIGHT-R1</th> <th colspan="2"><i>Artificial Outdoor Lighting</i></th> </tr> </thead> <tbody> <tr> <td>All Zones</td> <td> <i>Activity Status: PER Where:</i> 1. <i>The following artificial outdoor lighting may not be used between 10.00pm and 6.00am:</i> a. <i>Searchlights</i> b. <i>floodlighting of an area that is not in use or of an activity that is not in operation.</i> c. <i>outdoor illumination of any public recreational facility</i> d. <i>outside illumination of any building for aesthetic purposes by floodlight</i> e. <i>any outdoor illumination in which light is produced by metal halide,</i> </td> <td> <i>Activity status when compliance is not achieved: RDIS</i> <i>Matters of discretion are restricted to: LIGHT-MD1</i> <i>Activity status when compliance with standard(s) is not achieved: Refer to relevant standard(s).</i> </td> </tr> </tbody> </table>	LIGHT-R1		<i>Artificial Outdoor Lighting</i>		All Zones	<i>Activity Status: PER Where:</i> 1. <i>The following artificial outdoor lighting may not be used between 10.00pm and 6.00am:</i> a. <i>Searchlights</i> b. <i>floodlighting of an area that is not in use or of an activity that is not in operation.</i> c. <i>outdoor illumination of any public recreational facility</i> d. <i>outside illumination of any building for aesthetic purposes by floodlight</i> e. <i>any outdoor illumination in which light is produced by metal halide,</i>	<i>Activity status when compliance is not achieved: RDIS</i> <i>Matters of discretion are restricted to: LIGHT-MD1</i> <i>Activity status when compliance with standard(s) is not achieved: Refer to relevant standard(s).</i>
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All Zones	<i>Activity Status: PER Where:</i> 1. <i>The following artificial outdoor lighting may not be used between 10.00pm and 6.00am:</i> a. <i>Searchlights</i> b. <i>floodlighting of an area that is not in use or of an activity that is not in operation.</i> c. <i>outdoor illumination of any public recreational facility</i> d. <i>outside illumination of any building for aesthetic purposes by floodlight</i> e. <i>any outdoor illumination in which light is produced by metal halide,</i>	<i>Activity status when compliance is not achieved: RDIS</i> <i>Matters of discretion are restricted to: LIGHT-MD1</i> <i>Activity status when compliance with standard(s) is not achieved: Refer to relevant standard(s).</i>								

				<p><i>mercury vapour or fluorescent lighting, unless these lamps were installed prior to 1 January 1979 in any Commercial or Residential Zone in Takapō / Lake Tekapo or 1 March 1986 in all other zones.</i></p>					
		Support in part	<p>Include a new rule LIGHT-R4 as follows:</p> <table border="1"> <tr> <td><u>LIGHT-R4</u></td> <td> <p><u>Land Transport Infrastructure and Public Area artificial outdoor lighting Activity status; PER</u> <u>Where: Artificial outdoor lighting for land transport infrastructure and public pedestrian or cycle use.</u></p> </td> <td> <p><u>Matters of discretion are restricted to: LIGHT-MD1.</u></p> </td> </tr> </table>	<u>LIGHT-R4</u>	<p><u>Land Transport Infrastructure and Public Area artificial outdoor lighting Activity status; PER</u> <u>Where: Artificial outdoor lighting for land transport infrastructure and public pedestrian or cycle use.</u></p>	<p><u>Matters of discretion are restricted to: LIGHT-MD1.</u></p>	Seek inclusion of new rule as there is currently no provision for emergency responses, street lighting or other temporary uses.		
<u>LIGHT-R4</u>	<p><u>Land Transport Infrastructure and Public Area artificial outdoor lighting Activity status; PER</u> <u>Where: Artificial outdoor lighting for land transport infrastructure and public pedestrian or cycle use.</u></p>	<p><u>Matters of discretion are restricted to: LIGHT-MD1.</u></p>							
		Support in Part	Amend LIGHT-S1 as follows:	Seek amendment to enable lighting for transport infrastructure					

			<ol style="list-style-type: none"> 1. <i>All fixed exterior lighting shall be directed away <u>from</u> any adjacent roads, residential properties and lakes, <u>unless the intended use of the lighting is for the specific purpose of transport infrastructure use</u></i> 		
	Support in Part	Amend LIGHT-S2 as follows: <ol style="list-style-type: none"> 1. <i>All outdoor lighting shall be shielded from above in such a manner that the edge of the shield shall be below the whole of the light source, so that all the light shines below the horizontal.</i> 1. <i>A shield is attached to the luminaire is <u>only required if all luminous flux is not directed below the horizontal when the luminaire is mounted in its normal operation position</u></i> 	Generally supportive of the standard but seek rewording to provide clarity relating to the direction of artificial outdoor lighting		
	Oppose	Amend LIGHT-S3 as follows: <ol style="list-style-type: none"> 1. <i>The correlated colour temperature of outdoor lighting shall not exceed 2500K. <u>3000K, except for:</u></i> 2. <i><u>Within the area identified as an International Dark Sky Reserve (identified in the District Planning Maps), the correlated colour temperature of outdoor lighting shall no exceed 2200K.</u></i> 	For safety reasons 3000k is sought outside of the Dark Sky Reserve. A geospatial overlay in the ePlan is sought to define the boundaries of the Dark Sky Reserve		
	Support in Part	Amend LIGHT-S5 as follows: <ol style="list-style-type: none"> 1. <i>The maximum level of light spill from outdoor lighting shall not exceed the horizontal or vertical illuminance levels measured on any adjoining site in the receiving zone set out in LIGHT – TABLE 1, excluding roads. <u>Transport infrastructure and public access areas.</u></i> 	<p>Generally supportive of the standard but seek rewording to provide clarity</p> <p>Seek the removal of ‘measured’ as outside influences can distort measurements</p> <p>Additional wording provides for a broader context than just roads</p>		

21.	Liz Harpelton	Support in Full	Retain as notified	Supportive of changes that preserve the dark sky experience and allow greater opportunity for the enforcement of rules	N
22.	Walter and Zita Speck	The submission form lodged by Walter and Zita Speck stated that submission related to Plan Changes 21 and 22. However, there was no written submission relating to Plan Change 22. Submitter (Zita Speck) confirmed verbally (01/12/2022) that there is no submission on Plan Change 22.			