

From: [E Anderson](#)
To: [Mailroom Mailbox](#)
Subject: Chapter 6 CRPS Submission
Date: Monday, 15 February 2021 4:05:26 pm
Attachments: [Supporting Documentation - WestMeltonObtrusiveLighting.pdf](#)
[Supporting Documentation - WestMeltonTrendCharts.pdf](#)
[Elene Anderson - RMAForm5SubmissionFormProposedChange1toChapter6oftheCRPS.pdf](#)

Dear Environment Canterbury

Please find attached my submission for the Proposed Change 1 to Chapter 6 of the Canterbury Regional Policy Statement. I have also attached two supporting documents to this submission.

Regards,

Elene Anderson

West Melton resident, and member of the Canterbury Astronomical Society

RMA FORM 5

Submission on publicly notified Proposed Change 1 to Chapter 6 of the Canterbury Regional Policy Statement

CLAUSE 6 OF SCHEDULE 1, RESOURCE MANAGEMENT ACT 1991

Note to person making submission:

The submission period for Proposed Change 1 to Chapter 6 of the Canterbury Regional Policy Statement closes at 5pm Monday 15 February 2021.

To return this form you can:

- email it to mailroom@ecan.govt.nz (subject line: Chapter 6 CRPS submission)
- post it to Customer Services, Environment Canterbury, PO Box 345, Christchurch 8140

Your submission (or part of your submission) may be struck out if at least one of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious.
- It discloses no reasonable or relevant case.
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further.
- It contains offensive language.
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

To: Environment Canterbury

1. Submitter details

Please note: all fields marked with an asterisk () are required.*

Name of submitter(s)* Elene Anderson

Submitter address* 16 Shepherd Avenue

City/Town* West Melton Postcode* 7618

Contact name (if different from above) _____

Contact organisation _____

Contact email address elene.anderson@gmail.com

Contact address (if different from above) _____

City/Town _____ Postcode _____

Contact phone number _____

Please note that by making a submission your personal details, including your name and contact details, will be made publicly available in accordance with the Resource Management Act 1991. While all information in your submission will be included in papers which are available to the media and the public, your submission will be used only for the purpose of this process.

2. Trade competition declaration* (Please tick the statement that applies)

I could gain an advantage in trade competition through this submission.

☐ Yes ☒ No

If yes: I am directly affected by an effect of the subject matter of the submission that

(a) adversely effects the environment; and

(b) does not relate to trade competition or the effects of trade competition.

☐ Yes ☐ No

Note: If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

3. Submission details*

☒ I am enclosing further supporting information in addition to this submission form.

Provision to which my/our submission relates: <i>(Please specify the provision or other aspect of the proposed change your submission relates to)</i>	My/our position on this provision is: <i>(Select one option)</i>	My/our reasons for supporting/opposing the amended provisions are:	The decision I/we want is: <i>(Please specify if you want the provision to be retained, amended or deleted)</i>
<p>Throughout the Proposed Change to Chapter 6 CRPS changes document and in particular in sections:</p> <p>6.1.2 Adverse Effects Arising from Development</p> <p>6.1.4 Amenity and Urban Design</p> <p>6.1.5 Rural Residential Impacts</p> <p>6.3.1 Policies for Development within the Greater Christchurch area</p> <p>6.3.2 Development Form and Urban Design</p> <p>6.3.7 Residential location, yield and intensification</p> <p>6.3.9 Rural residential development</p> <p>6.3.11 Monitoring and Review</p> <p>6.3.12 Future Development Areas</p> <p>Map A – Greenfield Priority Areas</p>	<p><input checked="" type="checkbox"/> Oppose in part</p> <p><input type="checkbox"/> Oppose in full</p> <p><input type="checkbox"/> Support in part</p> <p><input type="checkbox"/> Support in full</p>	<p>Consideration of adverse effects arising from development; urban and rural residential design and development, and policies for development, monitoring and review currently do not consider the environmental issues relating to the night sky. There is no mention of the requirement to assess the impact of any proposed development on land designated within the West Melton Observatory Zone, where there are existing rules relating to the West Melton Observatory Lighting Area, and general lighting and glare rules in Selwyn. Map A does not show the areas under the West Melton Observatory Zone. Nor is there any recognition of Selwyn District Council's desire to reduce light pollution and create dark sky zones in the high country, along the coast and around the West Melton Observatory, located at 218 Bells Road, West Melton. The West Melton Observatory (run by the Canterbury Astronomical Society and under the umbrella of the Royal Astronomical Society of New Zealand) plays an important role in teaching children and the general public about the wonders of our night sky, in celebrating Matariki and our heritage of navigation via the stars, and it is vital that skies around the observatory are kept dark.</p> <p>Avoiding or minimising light pollution is supported by central government, and something that all Councils should be taking seriously in planning future development. The Ministry for Environment's Environmental Monitoring Series "Our Air" now includes monitoring of light pollution. The text included in this report should be of interest: See pages 57 to 60 of this report. https://www.mfe.govt.nz/publications/environmental-reporting/our-air-2018</p> <p>See also the Statistics NZ site: https://www.stats.govt.nz/indicators/artificial-night-sky-brightness</p> <p>Blue-rich LED lighting is commonly used for new</p>	<p>The provisions in the document should be amended to include specific mention of the current and proposed future requirements for protection of the night sky, and the procedures by which any proposed development would seek to mitigate the impact of night glow and light pollution, and provision for the District Councils to reject any proposed development on the basis of the further degradation of the night sky.</p> <p>Map A should be updated to show areas that are in the West Melton Observatory Zone, where additional development would impact negatively on the functioning of the observatory and the ability to have skies dark enough to enable the public to view and learn about the dark skies.</p>

		<p>developments, so there is even more urgency that lighting is minimised or avoided altogether. The issue of blue-rich lighting is well covered in the Royal Society of New Zealand's paper: Blue Light Aotearoa: https://www.royalsociety.org.nz/major-issues-and-projects/blue-light-aotearoa/</p> <p>The "Our Air" report and Statistics NZ site rely on satellite data to measure the condition of the night sky. I have attached a document "West Melton Trend Charts" showing the trend of radiance (or light emitted) from West Melton and the Canterbury Astronomical Society Observatory site from 2012 to 2020. These are generated from this site: https://lighttrends.lightpollutionmap.info/</p> <p>The data behind these trend charts is limited, though, by the instruments on this satellite being blind to light at the blue end of the spectrum. The instruments were designed prior to the use of LED lighting so you can see a reduction in the radiance from West Melton from about 2019. This is likely to be about the time LEDs were beginning to be installed. LED streetlights tend to be more directional (downward) but because of their increased blue content can contribute nearly 3 times as much to sky glow.</p> <p>While the Radiance from the area of the CAS Observatory is low it does show an almost 100% trend increase since 2012, and no drop off as per the West Melton trend. Of concern for the observatory is the rising trend of radiance since 2012 in the zone that is meant to be protected.</p>	
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3. Submission details*

Provision to which my/our submission relates: <i>(Please specify the provision or other aspect of the proposed change your submission relates to)</i>	My/our position on this provision is: <i>(Select one option)</i>	My/our reasons for supporting/opposing the amended provisions are:	The decision I/we want is: <i>(Please specify if you want the provision to be retained, amended or deleted)</i>
6.2.1a Targets 6.3.11 Monitoring and Review 6.3.12 Future Development Areas	<input checked="" type="checkbox"/> Oppose in part <input type="checkbox"/> Oppose in full <input type="checkbox"/> Support in part <input type="checkbox"/> Support in full <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>The relationship between the National Policy Statement on Urban Development 2020, the Regional Policy Statement for Canterbury and the District Plans is unclear. In some places in the document reference is made to the National Policy Statement on Urban Development Capacity 2016 which has now been superseded by the 2020 National Policy Statement. There is also the proposed reform of the Resource Management Act and how this would fit into the framework.</p> <p>It appears to me that there is a “grey area” in terms of how private plan changes are dealt with: there is currently an overwhelming number of private plan changes that have been lodged since the National Policy Statement on Urban Development 2020 was published, requesting the Selwyn District Council to rezone vast swathes of rural land for intensive urban development that are not actually identified as Future Development Areas nor Greenfield Areas in Map A but are being interpreted as such by the developers.</p> <p>There does not appear to be any provision in the Proposed Change to outline how Private Plan changes to district councils are managed to ensure that the goals expressed in all the relevant legislation that applies are actually met.</p>	<p>The document should more clearly outline how each piece of legislation (ie the National Policy Statement on Urban Development Capacity 2020; the Canterbury Regional Policy Statement and the District Councils’ District Plans mandates or guides the planning, development and monitoring of urban and rural development and how any conflicts that arise in interpretation of these documents are managed and resolved</p>

Signature of submitter (or person authorised to sign on behalf of submitter)_

Elene Anderson, West Melton resident and member of the Canterbury Astronomical Society

Date 15 February 2021

Note: A signature is not required if you make your submission by electronic means.

Draft- AS/NZS 4282:2018 Control of the obtrusive effects of outdoor lighting

2.4.4 Effects on astronomical observations

Effects on astronomical observations will generally involve the modification of night sky viewing conditions by any or all of the following:

(a)	Lightening of the dark sky caused by the scattering of light from the installation in the atmosphere, producing a luminous glow (i.e. sky glow).
(b)	The spectral characteristics of the sky glow, so that the light from the glow is not readily filtered out by optical means at the telescope.
(c)	Direct light from the installation falling on the observatory.

Where outdoor lighting installations are proposed in the vicinity of community or scientific optical observatories located in suburban environments, the limitations of spill light and luminance of luminaires in recommended directions will mitigate the adverse effects of direct light falling on the optical surfaces of the telescope.

Sky glow is an area-wide problem which is less amenable to control. Because sky glow is caused both by reflected light and direct light from the installations, restricting design illuminances to the minimum necessary for the application will provide additional mitigation. For example, AS 2560.2.1 specifies minimum illuminances for tennis, depending on the level of play involved.

The problem of sky glow may be mitigated by limiting the exterior lighting in the immediate vicinity of the observatory, including the spectral distribution and optical distribution of the local road lighting. If this measure is to be implemented, close consultation will be needed between all the parties involved, i.e. observatory, local community and electricity utility.

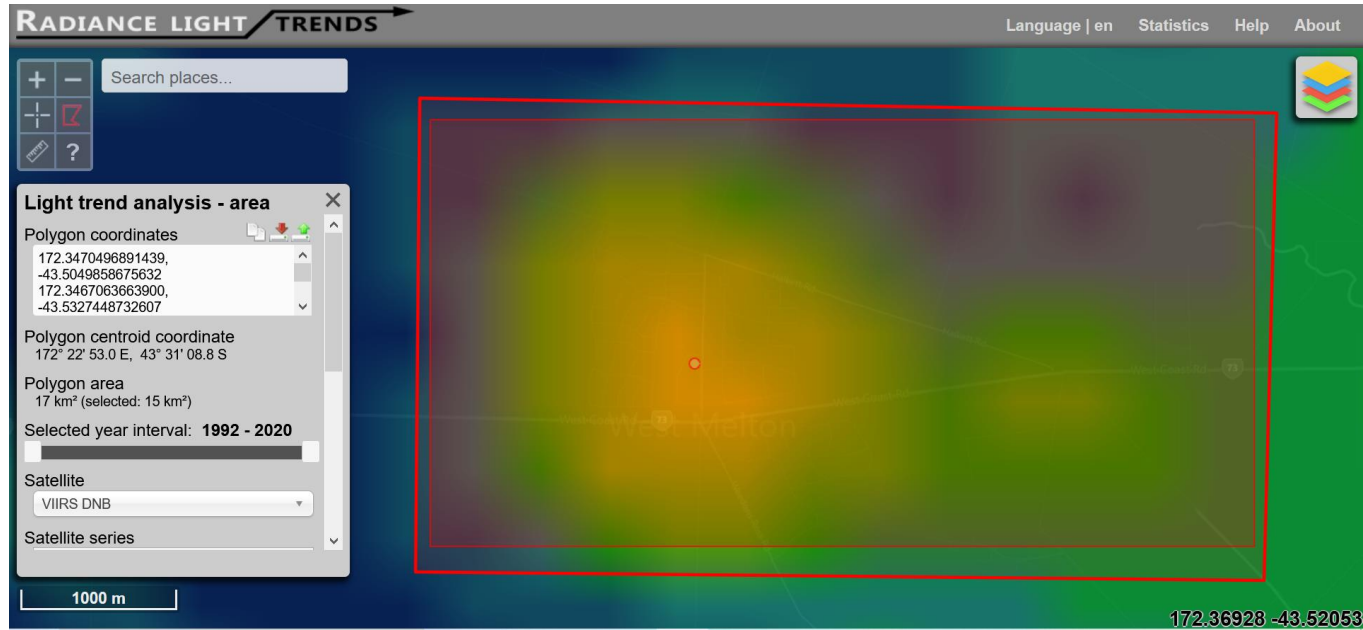
Refer to CIE 126-1997 for guidance on minimizing sky glow.

Blue and high colour temperature light sources should be avoided as light at the blue end of the spectrum increases scatter.

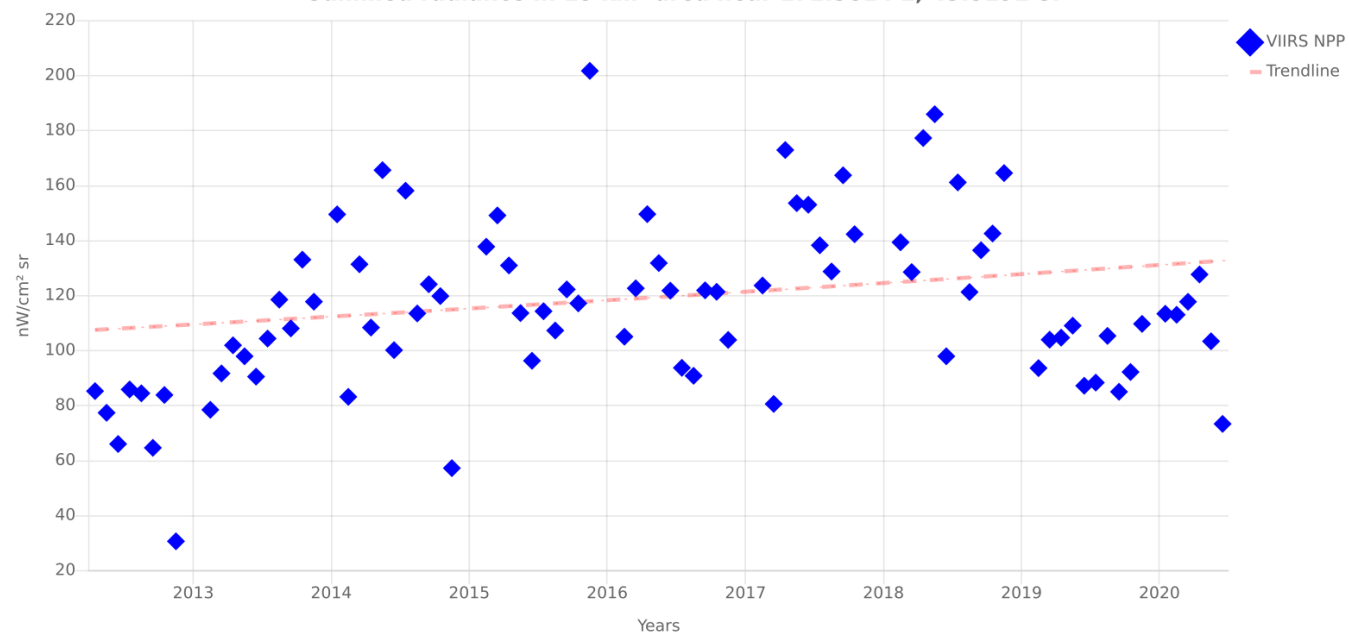
Where a major scientific optical observatory is involved, the above points are even more pertinent. Additional limitations on spill light may be imposed over a considerable area surrounding the observatory as part of a long-term plan to maintain satisfactory night sky viewing conditions. Such plans should be based on guidelines set out by the International Commission on Illumination and the International Astronomical Union in CIE/IAU Publication No. 001-1980.

NOTE: A list of community and scientific optical observatories is available from the Astronomical Society of Australia (Designated Observatories Officer), c/o School of Physics, University of Sydney, NSW 2006 and the Royal Astronomical Society of New Zealand (rasnz.org.nz).

West Melton Township



Summed radiance in 15 km² area near 172.3814 E, 43.5191 S.



RADIANCE LIGHT TRENDS

Language | en | Statistics | Help | About

Search places...

Light trend analysis - area

Polygon coordinates

172.3289394138778,
-43.4841478532751
172.3285960911240,
-43.5025786556181

Polygon centroid coordinate
172° 21' 03.9 E, 43° 29' 37.2 S

Polygon area
7.4 km² (selected: 6.9 km²)

Selected year interval: **1992 - 2020**

Satellite
VIIRS DNB

Satellite series

1000 m

Layer options

Base map
Road imagery

Lights layer opacity: **75 %**

Lights layer style
Rainbow

Lights layer
Show grid

- Raw DMSP
- Radiance calibrated DMSP
- VIIRS DNB
 - Annual
 - 2015 (npp)
 - 2016 (npp)**
 - Monthly

172.34817 -43.51065

