

**Before an Independent Hearings Panel**

**The Proposed Waikato District Plan (Stage 1)**

**IN THE MATTER OF** the Resource Management Act 1991 (**RMA**)

**IN THE MATTER OF** hearing submissions and further submissions on the Proposed  
Waikato District Plan (Stage 1):

**Topic 25 – Zone Extents**

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**HIGHLIGHTS PACKAGE  
BRYAN KING ON BEHALF OF HAVELOCK VILLAGE LIMITED  
(Lighting)**

**12 May 2021**

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**BUDDLE FINDLAY**

Barristers and Solicitors  
Auckland

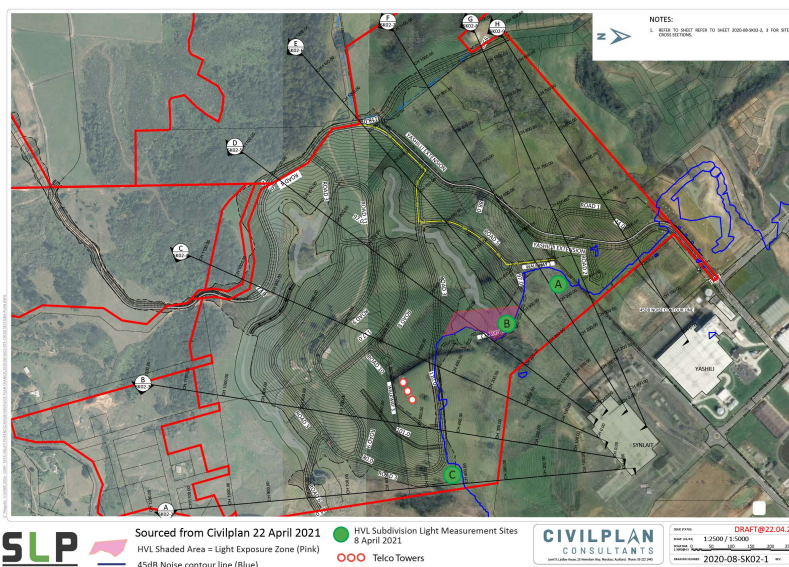
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# 1. SUMMARY OF EVIDENCE

- 1.1 My name is Bryan King. I am a qualified lighting engineer and Managing Director of Strategic Lighting Partners Ltd. I provided rebuttal evidence in relation to potential lighting effects resulting from the Gateway Business Park.
- 1.2 I understand the potential for complaints resulting from obtrusive lighting effects emitted from the Gateway Business Park has been raised in evidence in opposition to the Havelock Village Ltd (HVL) proposal to rezone land at 5 Yashili Drive and 88 Bluff Road to a predominantly Residential Zone.
- 1.3 I was commissioned to undertake an on-site evaluation at 88 Bluff Road of obtrusive light emitting from the Gateway Business Park. This was to quantify the actual effect associated with lighting from the Park onto that site to provide an informed and quantitative analysis of the potential for such issues to arise.
- 1.4 Using eight sample topographical cross-sections provided by CivilPlan (labelled A-H) of the likely post-development land contours on the site, we overlaid these contours with our line-of-sight light direction line assessments. We then determined the obtrusive light exposure zones on each cross-section (if any), the location and dimensions of which were consolidated to compile a light plan exposure zone diagram on the HVL site (shown below).
- 1.5 The line-of-sight analysis and scientific site light measurements I have undertaken on HVL's site show that the line-of-sight residential dwelling light exposure zone relative to the Gateway Business Park is actually only a very small part of the HVL site. This area is shown in pink in the HVL light analysis plan view of site below, which also shows the 45dB noise contour line, light exposure zone and measurement sites (points A, B, C).

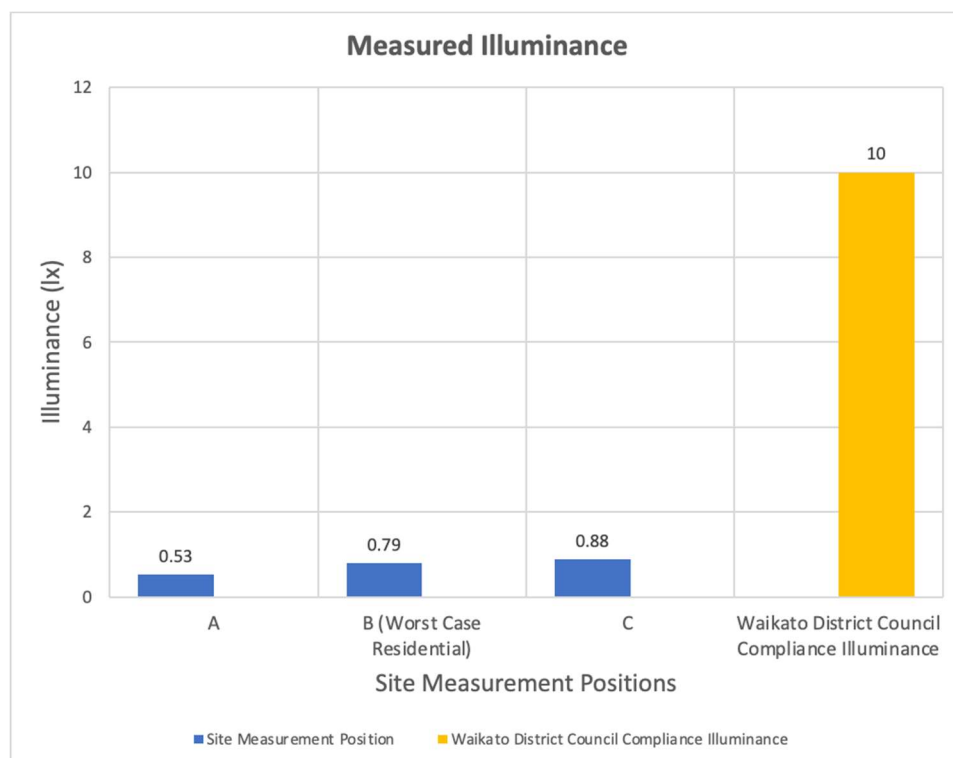


1.6 In my rebuttal evidence I included a copy SLP's technical report "Obtrusive Light Measurement Report" dated 23 April 2021. This report records my site evaluation of the light measurement undertaken on the site to evaluate the potential for lighting effects on future residential receivers on the HVL site. The conclusion of this report is:

*The HVL site light measurements have been taken at exposure locations within the HVL residential zone area beyond the 45 dB noise contour line...*

*All measured site light values (vertical plane illuminance) are well within the required limits of the Operative District Plan for residential receivers, and thus compliance with District Plan sections 29B.5.3 and 29C.6.3 is clear and unequivocal.*

1.7 Below is a graphical summary of the HVL subdivision scientific light measurements. This compares the measured vertical plane illuminance readings with the WDC compliance limit of 10 lx. It confirms compliance with these limits at the measurement positions.



1.8 My analysis and measurements demonstrate that the Gateway Business Park operators are in compliance with Waikato District Council allowable limits as they relate to HVL's proposed residential lots.

1.9 Based on current operational light sources from the Gateway Business Park, the resultant HVL exposure zone is very small and the light levels for residential receivers in that zone are less than one tenth of the allowable limit.

**Bryan King**

12 May 2021