## Sinclair Knight Merz

100 Christie Street PO Box 164 St Leonards NSW Australia 1590 Tel: +61 2 9928 2100 Fax: +61 2 9928 2500 Web: www.skmconsulting.com



Department of Planning and Infrastructure

GPO Box 39

Sydney NSW 2001

Attention: Mr Alan Bright

21 June 2012

SSD Dubbo External Lighting Assessment.doc

Dear Sir,

We have reviewed the Orana Regional Environmental Plan No 1 – Siding Spring and based on our design calculation and assessment we can confirm the design for the external lighting will comply with the Clause 8 of the above document.

Requirements for lighting emission as per above document:

Column 1	Column 2	Column 3
Distance (in kilometres) from Observatory	Emission rate (in lumens)— consultation	Emission rate (in lumens)— concurrence
3	0	1,000
8	1,000	2,000
12	2,000	4,000
18	4,000	12,000
30	12,000	1,000,000
<b>1</b> 00	1,000,000	5,000,000

The Dubbo Hospital is 117 km from Observatory and based on the design calculation the emission rate will be approximate 750.000 lumens.

The following measures have been taken to reduce the external emission and the light spill:

- External lighting for the new development will not incorporate any flood lights or roof lighting
- Low lumen output for all external lights will be limited to 150W
- Maximum mounting height for external lights will be 7m.



The proposed light fitting (ARCHETYPE 150W MH- TYPE IV- forward throw) utilises a horizontal lamp orientation with a flat glass lens to produce full cutoff with zero light above 90° horizontal.

We certify that external lighting design complies with the requirements of the Orana Regional Environmental Plan No 1 – Siding Spring

Yours faithfully,

Mihaela Serban

Senior Electrical Engineer

100 Christie Street, St. Leonards NSW 2065

Tel: (02) 9032 1035 Fax: (02) 9928 2505

Email: mserban@skm.com.au