

25 March 2014

The Director-General  
Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

*Attn: Daniel Keary*

Dear Mr Keary,

**Re: Proposed Section 96 (1A) Modification to SSD 5307\_2012 and SSD 5729\_2012  
Bega Valley Health Services Redevelopment**

In March and September 2013, the above applications were approved for the redevelopment of Bega Valley Health Service. SSD 5307 dealt with the concept proposal and the Stage 1 construction enabling works and SSD 5729 sought approval for the Stage 2 main construction works.

Stage 1 is well underway and work will soon be commencing on the Stage 2 project subject to the finalization of the tender process. As part of preparing for the tender process, Health Infrastructure (HI) undertook a 'Value Engineering' exercise and as a result some amendments are sought to the approved design and consent to:

- Remove the Geothermal Energy Storage System from the project;
- Amend the roof design from a pitched to a flat roof;
- Slightly increase the height of the building by 200mm;
- Amend the façade materials and configuration slightly to take into consideration the most efficient internal layout for the hospital;
- Extend working hours; and
- Change the timing for the issue of the Certificate of Compliance under the *Water Act 2000*.

The purpose of this letter is to outline the amendments proposed and to assess the impacts of these changes on the environment. HI holds the view that the proposed amendments do not significantly alter the proposal and therefore meets the test for the amendments to fall under a Section 96 modification.

**Proposed Amendments**

***Geothermal Energy Storage System***

As part of the approved design, a geothermal energy system was proposed to provide energy for heating and cooling on site. Since the approval, a comprehensive cost benefit analysis has been undertaken and the cost of installing and running this type of system in a hospital context has been found to be prohibitive. Instead HI has determined that a

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mechanical heat pump system is more appropriate with the cost savings being directed into provision of health services.

While the removal of this component is regretted from an ESD perspective, it is not possible to commit the additional funds towards this technology at the expense of health service delivery.

There will be no significant environmental impacts as a result of this change to the technology. In fact, there will be less physical impacts as drilling and potential impacts on groundwater will not be relevant. As a result of removing this aspect of the project, several conditions and plans that are referred to in the approvals are requested to be amended or deleted as follows:

#### **SSD 5307**

<i>Issue</i>	<i>Action</i>
Condition A16.	Delete
Condition A17	Delete
Condition D12	Delete
Condition D13	Delete

#### **SSD 5729**

<i>Issue</i>	<i>Action</i>
Condition A2	Reference to Drawing M1010T1 "Geothermal and General Site Plan" dated 26 April 2013 to be deleted.
Condition B4	Delete
Condition B5	Delete
Condition B6(a)	Delete
Condition D12	Delete
Condition D13	Delete
Condition F1	Delete

#### ***Change in roof design and height of the building***

The proposed building has been designed to meet the specific demands for health services within the wider Bega Valley locality. The height, bulk and scale of the development have considered the site context and minimising visual impacts from public spaces, particularly Tathra Road, whilst responding to the needs for expanding services. Bega Valley Local Environmental Plan (LEP) 2013 does not set any controls for building height, FSR or setbacks for the site.

The approved design includes a pitched roof constructed of metal sheeting in specific locations. The revised design replaces the pitched roof with a flat style roof. In addition the height of the building is increased by 200mm from RL 38.80 at the ridgeline to RL39.00 to allow for greater floor to ceiling heights. The amendment will have no impact on the external environment and is considered to be a very minor change (refer to Attachment A).

The pitched roof, originally added to create interest in the roof line, has been determined to add little to the exterior look of the building from the view point of people using the building and cannot be noticed from a distant view. The flat roof provides a more functional outcome without additional cost and without any negative visual impacts on users, visitors or people viewing the building from the street and Tathra Road. The proposed amendments are still consistent with the original design statement.



The amendment is therefore considered by HI to be a minor amendment to improve the value of the building. As mentioned above, the Bega Valley LEP 2013 does not include any height restrictions on the site. Amendments required to achieve this change are noted below:

#### **SSD 5307**

<i>Issue</i>	<i>Action</i>
Condition A4	Amend date of Drawing SK_107 and SK_08 dated 8.10.12 to SK_107 and SK_108 dated 18.3.14 as per the attached revised drawing.
Condition A8.	Delete
Condition A17	Delete

#### **SSD 5729**

<i>Issue</i>	<i>Action</i>
Condition A2	Amend date of Drawing PA-0X08 dated 9/7/2013 to BVN-ARC-C1-XX02 Issue 4 dated 4/2/14 as per the attached revised drawing.
Condition B1 a)	Amend "The maximum height of the building is RL39.00AHD"

#### ***Amendment to external materials and variation of window configuration***

As part of the value engineering process undertaken on the project, a determination has been made to amend the external façade materials to those on the attached Updated Materials Schedule dated 21.02.2014 prepared by BVN (Attachment B). These changes, while very similar in visual appearance will be considerably more sustainable than the original materials chosen and will provide a cost saving in the long term maintenance of the hospital building.

Similarly, following detailed internal design review, there are minor reconfigurations of the window versus solid elements of the façade to reflect the internal arrangement. These are unlikely to impact on the external view of the building and are not considered to have any environmental impact on the surrounding area.

#### ***Timing of landscape work completion***

The approval for SSD 5729 requires that the landscape works detailed on the final landscape plan are to be completed prior to occupation of the building. As part of the community engagement on the project some of the landscape works are now proposed to be undertaken by community groups on a voluntary basis. However these "projects" cannot be organised and implemented until the hospital is operating.

In order not to hold up the occupation of the hospital, HI request that Condition E9 of SSD 5729 be amended to state: *"Within two (2) years of the occupation of the hospital building, all landscape works detailed on the final landscape plan (refer Condition A2) are to be completed."* This will provide the hospital the opportunity to engage with the community and establish the relevant volunteer groups.

#### ***Change in working hours***

As you are aware there is considerable impetus to deliver this important project. The appointed contractor, Brookfield Multiplex has requested that the hours of construction be extended to allow the timely delivery of the project. HI supports this position and believes



that due to the isolated nature of the site, there would be little impact of the additional hours. This position is supported by the attached acoustic advice prepared by Acoustic Logic dated 6 March 2014 (Attachment C).

The approved hours are from 7am to 6pm Monday to Friday and 8am to 5pm on Saturday. No work is approved on Sundays. The proposed hours extend these hours as follows:

- 7am to 7pm Mondays to Fridays
- 7am to 6pm on Saturdays and
- 7am to 5pm on Sundays.

The Acoustic Logic report identifies that during the additional hours, the work proposed will not generate significant noise. Background noise levels and allowable noise emissions at sensitive receivers have been documented in the report and support that view. Accordingly, it is unlikely that the extended hours will have any significant environmental impacts. HI therefore request that condition D1 be amended to reflect the above hours.

***Timing of Certificate of Compliance – Water and Sewer***

Condition C3 of SSD 5729 requires the proponent to obtain a certificate of compliance under Division 5 of part 2 of Chapter 6 of the *Water Management Act 2000* must be obtained. The timing to obtain this certificate is “prior to construction of any works”.

HI has been working with Council on the delivery of water and sewer infrastructure as Bega Valley Shire Council is the water supply authority and will be constructing the works. Council's Manager of Water and Sewerage Services (refer Attachment D) has suggested that the above condition would be more appropriate in Part E (Prior to Occupation) on the basis that is difficult for Council to issue the certificate for unbuilt works and the Sewer Pump Station is not programmed for some time later in the year.

This amendment will have no impact on the outcomes of delivering compliant water and sewer works but will ensure that the commencement of construction is not delayed due to this technicality.

HI holds the view that the proposed amendments to SSD 5307 and SSD 5729 outlined above are minor and will not have a significant impact on the environment and on that basis requests that the amendment be approved.

Yours sincerely,

**Sam Sangster**  
Chief Executive



**MANAGING DIRECTORS**  
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20140002.1/0603A/R1/TT

06/03/2014

Brookfield Multiplex

**ATTN: PAUL COUANI**

## **South-East Regional Hospital - Bega - Proposed After Hours Construction Work - Acoustic Advice**

### **1 INTRODUCTION**

Acoustic Logic Consultancy has been engaged to conduct an acoustic assessment of after-hours construction works which are proposed to be conducted at the South-East Regional Hospital Site (the Bega Hospital).

### **2 CURRENTLY APPROVED HOURS**

Currently approved hours of work are as follows:

- 7am to 6pm (Monday to Friday).
- 8am to 5pm on Saturday).

### **3 PROPOSED CHANGE IN WORK HOURS AND WORKS TO BE UNDERTAKEN**

The proposed increases in work hours, and the activities to be undertaken during these periods are:

- 6pm-7pm Monday to Fridays. Works to be undertaken during the additional one hour are:
  - Slab finishing works (which may be required from time to time depending to the size of the concrete slab poured and the weather conditions on the day).

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- Façade Installation.
- Interior Fit-out.
- 7am to 8am and 5pm-6pm on Saturday. Works to be undertaken during the additional work hours are:
  - In the 7am-8am period for delivery of concrete trucks and set out for concrete pour.
  - Extra hour in the afternoon for concrete finishing work, facade installation and interior fit-out.
- 7am to 5pm on Sunday. Works to be undertaken during the additional work hours are:
  - Concrete stressing of post tension cables (although there would be no concrete truck/concrete pour on that day).

Tower cranes will intermittently be in operation throughout these additional periods of work. (Extent of use is discussed in more detail in section 6).

There is no rock hammering/jackhammering or excavation proposed during any of the extended work hours periods.

## 4 NOISE SENSITIVE RECEIVERS

Noise sensitive development to the Bega Hospital site are as follows:

- Residences at Tathra Road (approximately 400m to the north of the site).
- Residences at Glen Mia Drive (approximately 400m to the west of the site).
- Residence at Boundary Road (approximately 300m to the south of the site).

See appendix 1 for aerial photo showing receiver locations.

## 5 ACOUSTIC CRITERIA

Construction noise is typically assessed with reference to the requirements of the EPA Interim Construction Noise Guidelines.

EPA guidelines typically target that construction noise not exceed ambient noise levels by more than 10dB(A)<sub>Leq(15min)</sub> at nearby residential development.

For work outside of standard construction hours, however, the EPA allows a noise emission of only 5dB(A)<sub>Leq(15min)</sub> above the background noise level.

A survey of ambient noise was conducted by SLR acoustics at project approval stage (*Bega Hospital Development – Acoustic Performance Specification* dated March 2013). A survey of ambient noise levels and the corresponding noise emission goals for after-hours works are as follows:

**Table 1 – Background Noise Level and Noise Emission Goals**

<b>Residence Location</b>	<b>Time of Day</b>	<b>Background Noise Level dB(A)<sub>L90</sub></b>	<b>Allowable Noise Emission dB(A)<sub>Leq(15min)</sub></b>
Tathra Road	7am-8am (Saturdays)	31	36
	6pm-7pm (Weekdays)	31	36
	7am-5pm (Sundays)	32	37
Glen Mia Drive	7am-8am (Saturdays)	32	37
	6pm-7pm (Weekdays)	32	37
	7am-5pm (Sundays)	35	40
Boundary Road	7am-8am (Saturdays)	32	37
	6pm-7pm (Weekdays)	32	37
	7am-5pm (Sundays)	35	40

## 6 ASSESSMENT/COMMENTARY

Primary noise sources associated with the additional works are as follows:

**Table 2 – Typical Equipment Sound Power Levels**

<b>EQUIPMENT /PROCESS</b>	<b>SOUND POWER LEVEL dB(A)<sub>Leq</sub></b>
Hand tools (grinder, rattle gun etc) for façade installation	105
Tower cranes	97-102
Helicopter floats (slab finishing)	98
Concrete truck with pump	100-105

Internal Fit-out works and cable post tensioning do not typically generate significant noise.

In our experience, a helicopter float (used in slab finishing at the end of a pour) would not be used at the same time as a crane or concrete pump (as the crane/pump would not be used in the 6pm-7pm slab finishing period).

Prediction of construction noise is as follows:



**Table 3 – Noise Emission Assessment**

<b>Residence Location</b>	<b>Time of Day</b>	<b>Activity</b>	<b>Predicted Noise Emission dB(A)<sub>Leq(15min)</sub></b>	<b>Allowable Noise Emission dB(A)<sub>Leq(15min)</sub></b>
Tathra Road	7am-8am (Saturdays)	Concrete Truck/Crane/Façade Works	36	36
	6pm-7pm (Weekdays)	Helicopter Float	32	36
	7am-5pm (Sundays)	Post Tensioning	34	37
Glen Mia Drive	7am-8am (Saturdays)	Concrete Truck/Crane/Façade Works	36	37
	6pm-7pm (Weekdays)	Helicopter Float	32	37
	7am-5pm (Sundays)	Post Tensioning	34	40
Boundary Road	7am-8am (Saturdays)	Concrete Truck/Crane/Façade Works	39	37
	6pm-7pm (Weekdays)	Helicopter Float	35	37
	7am-5pm (Sundays)	Post Tensioning	37	40

Noise emissions are predicted to comply with acoustic requirements.

Although noise emissions are predicted to comply with acoustic criteria, in order to ensure ongoing compliance with noise emission goals we recommend:

- Cranes:
  - Primary use of the crane during the proposed extended work hours would be in the event of a material delivery to the site prior to 8am on a Saturday. We would not anticipate that the crane would be used frequently during slab finishing works, façade works and concrete post tensioning, and so use of the crane on a Sunday or during the 6pm to 7pm period is likely to be extremely infrequent. Notwithstanding this, it is crane noise which has the greatest potential to cause disturbance.
  - The predicted noise levels are based on a typical crane sound power. However we note that crane engine noise is variable from contractor to contractor.
  - Crane contractor (once selected) should provide acoustic data for the proposed tower cranes. If necessary, acoustic treatment to the crane engine will be required. In the



event of complaint (verified to be found excessive) acoustic treatment of the crane engine will be needed.

- Crane engine should not be left in idle when the crane is not in use.
- Concrete trucks
  - During the proposed periods of extended work hours, it is only during the 7am to 8am Saturday morning periods when concrete pumps/trucks are likely to be required. They would not typical by required during the extended work periods in the evening or on Sundays.
  - As much as is practicable, maximise the distance between the truck and the residential receivers on Boundary Road (which are closest to the site) to ensure noise impacts are minimised.
- Helicopter floats:
  - This is likely to be the most frequent noise source during the 6pm-7pm period.
  - Similar to crane noise, noise from helicopter floats is variable depending on equipment manufacturer.
  - We recommend that Brookfield Multiplex request acoustic data for any proposed helicopter float prior to engagement of contractor. Any helicopter float with a sound power of more than 98dB(A) (equivalent to 81dB(A) at 3m) should be rejected.

## 7 CONCLUSION

Acoustic Logic have conducted a review of likely noise generation during three proposed periods of extended working hours at the Bega Hospital site.

We note that the proposed works outside of the currently approved construction hours are not typically noise intensive (internal works, slab post tensioning).

The works with the greatest potential to create noise is from use of cranes, concrete pumps and concrete finishing works. The extension of works hours proposed for these equipment items is essentially limited to what is necessary to complete a concrete pour on the day it is started (the duration of which can be variable deepening on weather conditions during the pour, and go cannot be guaranteed to be completed within the currently approved hours).

Provided that the noise management techniques identified in section 6 of this report are adopted, construction noise should be controlled to levels compliant with EPA guidelines for after-hours construction.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



Acoustic Logic Consultancy Pty Ltd  
Thomas Taylor



## Appendix 1 - Aerial photo of site and noise receivers.

