

## ATTACHMENT D2

DEPARTMENT'S TIMING LETTER OF 13/9/12 AND  
CBHK LETTER IN RESPONSE 18/9/12



Planning &  
Infrastructure

13 September 2012

Contact: Caroline Owen  
Phone: 9228 6574  
Fax: 9228 6540  
Email: [Caroline.Owen@planning.nsw.gov.au](mailto:Caroline.Owen@planning.nsw.gov.au)

Mr Lindsay Hunt  
Colston Budd Hunt & Kafes Pty Ltd  
PO Box 5186  
**WEST CHATSWOOD NSW 1515**

Our ref: MP10\_0143

Dear Mr Hunt,

**Mixed Use Development, at Columbia Precinct, 2-20 Parramatta Road & 11-13 Columbia Lane, Homebush (MP 10\_0143)**

**Response to Submissions/ Preferred Project Report**

The exhibition of the Environmental Assessment for the above proposal ended on 29 February 2012. All submissions received by the department during the exhibition of the proposal were forwarded to you on Friday 23 March 2012 with a letter requesting a response to public submissions. The submissions are also available on the department's website at <http://majorprojects.planning.nsw.gov.au/page/>

Clause 3E of Sch. 6A to the Act commenced on 24 August 2012, and prescribes time limits on the submission of a response to submissions (RTS) and/or Preferred Project Report (PPR), of 30 and 60 days respectively.

You are therefore required to provide a response to the issues raised in the submissions by **23 September 2012**. If your response includes significant changes to the project in order to minimise its environmental impact, you should instead submit a PPR by **23 October 2012**.

If your PPR is not submitted by the due 23 October 2012, the Minister may give or refuse to give approval for a concept plan (under section 75O) in the absence of the RTS/PPR.

Where relevant, the statement of commitments should be revised to reflect the amendments proposed in your RTS or PPR.

If you anticipate major difficulties in meeting these deadlines, please discuss your circumstances with the department at the earliest possible opportunity. Your contact officer, Caroline Owen, can be contacted on 02 9228 6574 or at [Caroline.Owen@planning.nsw.gov.au](mailto:Caroline.Owen@planning.nsw.gov.au).

Yours sincerely

Mark Schofield  
**A/Director, Metropolitan & Regional Projects South  
as delegate for the Director General**

# Colston Budd Hunt & Kafes Pty Ltd

as Trustee for C & B Unit Trust  
ABN 27623 918 759

Our Ref: LBH/7453.2/jj

18 September, 2012

Mr Mark Schofield  
Acting Director  
Metropolitan & Regional Projects South  
NSW Department of Planning & Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

**E-MAILED**

Transport Planning  
Town Planning  
Retail Studies

**COPY**

Dear Sir,

**RE: MPI0-0143 COLUMBIA PRECINCT MIXED USE DEVELOPMENT  
NEWLY-INTRODUCED TIME LIMITS – CLAUSE 3E OF SCHEDULE 6A TO  
THE ACT**

1. I refer to your letter to me dated 13 September 2012 referring to the above, and write to advise you of the Columbia Project's progress in that regard, in follow-up of recent communications on the matter.
2. By way of initial observation on these changes to the Regs, the 30 and 60 day time limits (Clause 3E of Schedule 6A to the Act) are in our experience unrealistically optimistic. For example, where a technical response is required to a submission by the RMS or RailCorp, it can take two weeks or more simply to arrange a meeting to clarify or correct misunderstandings that may be reflected in their submissions, and further time to research and document a response. The detailed intersection design works RMS sought for Parramatta Road/George Street is a case in point, where solutions we put forward at initial meetings where they were considered appropriate, were then not considered satisfactory when circulated to others in RMS who did not attend those meetings. (You will have seen our previous correspondence with RMS that we copied you).
3. As you will know however, we have been diligent in pursuing agreements and resolving potential issues wherever possible, and in the case of RMS, hope to have their sign-off soon. In respect of other submissions you forwarded us

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following formal exhibition of the Project EA, you will be aware of the following progress:-

- (i) Railcorp - Meeting, written submissions, and agreement letter attached, (including as part landowner);
- (ii) Ausgrid - Meetings, written submissions, and agreement letter attached;
- (iii) SRDAC/RMS - Meetings(3), submissions (two copies to you), and only minor matters of detail remaining - agreement anticipated shortly;
- (iv) Strathfield Council -
  - a) Several meetings;
  - b) Detailed analysis of draft LEP, submission (22/3/12) to Council (copied to you);
  - c) Detailed analysis of Council submission to exhibited Columbia EA, project team submission to the Department (CBHK letter of 25 May 2012 copied to you);
  - d) Meeting and submission to Council (CBHK 27 August, copied to you) dealing with community facilities, public park works, section 94 liability and off-sets, and Council-owned public roadways (see discussion below at para. #5)
- (v) Canada Bay Council - Raises some of the issues raised by Strathfield Council, that are dealt with in the response material described above at (iv);
- (vi) Transport NSW - This submission dated 27 March 2012, relates to the designated route of the Sydney Metro project, which although now shelved, is understood to be still technically applicable via the SEPP Infrastructure. These issues were covered previously in the October 2011 Concept Plan Environmental Assessment Report (in Attachment D at page 83) and the Metro's design requirements for vertical and horizontal clearances were taken into account in the EA design. Accordingly, the Columbia team has no difficulty with Transport NSW's proposed conditions #1 to #3 annexed to the 27 March submission. Transport NSW also references the SRDAC/RMS and RailCorp

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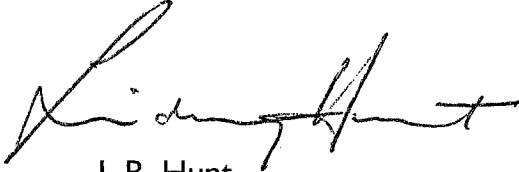
submissions, which have also been addressed by the project team and documented.

- (vii) Residents - We have received six resident submissions from you, which raise questions related to traffic, parking, pedestrians, infrastructure, height of taller buildings and rail noise. Traffic, parking, pedestrians, building height and public infrastructure have been addressed in detail in the foregoing material and in the EA documentation, while rail noise has been further addressed in supplementary documents by SLR Acoustic, which I attach for your additional information.
4. I would be grateful if you would consider this current submission and the previous documents forwarded to you and referenced again above, as adequate demonstration of our provision of suitable responses to submissions (RTS), as you raise in your 13 September letter. In that regard I note that your 19 April letter of issues asks for a Preferred Project Report, which would ordinarily obviate the need for any prior RTS. However, this information is provided to you now in order to demonstrate the commitment and effort being made to see this Project through to completion.
5. On the matter of the Preferred Project Report, that documentation is now well progressed. RMS sign-off is anticipated soon (and if it is not forthcoming within the PPR timeframe, the engineering design is now so well progressed that it could form the basis of any CP approval). We are still hopeful of also receiving Strathfield Council's response to our meeting and submission referenced above at 3(iv)(d).
6. However, if Council's response is not possible within the timeframe you have now indicated to us in your latest letter (13 September), then the proposed public works within Council-owned public roadways will be removed from the Part 3A application (as suggested in your Letter of Issues and subsequently confirmed by Pikes Verekers' legal opinion which can be provided to you now if you wish). Further, the Section 94 exposure under Division 6 of Part 4 of the Act would be calculated in accordance with Council's Section 94 Plans and staged as indicated in the tabulations made available to Council and copied yourself (CBHK 27 August 2012), with any agreed land or works-in-kind to be brought to account as S.94 off-sets, by mutually-agreed Registered Valuer.
7. I reiterate that the Columbia Team has been doing everything in its power, (and so far under no time pressure to do so prior to the Department's letter dated last Thursday) to achieve agreements from public bodies, and to progress the

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Preferred Project Report which is close to completion. I would be grateful if your Department would acknowledge the applicant's commitment to see the process through to completion, and would also be grateful if you could advise whether the above arrangements are acceptable to yourselves.

Yours faithfully

A handwritten signature in black ink, appearing to read 'L.B. Hunt', written in a cursive style.

L.B. Hunt  
Director

Encl. RailCorp letter  
Ausgrid letter  
SLR Acoustics subsequent letters

cc. Caroline Owen/Major Projects

RailCorp Property  
PO Box K349  
Haymarket NSW 1238

10 September 2012

Mr Lindsay Hunt  
Colston Budd Hunt & Kafes Pty Ltd  
Suite 1801  
Tower A, Zenith Centre  
821 Pacific Highway  
CHATSWOOD NSW 2067

Dear Mr Hunt,

**RE: OWNERS CONSENT FOR THE LODGMENT OF A PART 3A CONCEPT PLAN –  
COLUMBIA PRECINCT, HOMEBUSH.**

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I refer to your request for RailCorp's consent to lodge a Part 3A Concept Plan application with the Department of Planning and Infrastructure. The Concept Plan proposes some minor road access works at the entry to RailCorp's Strathfield Triangle depot off Columbia Lane.

RailCorp has reviewed the proposed works identified in your Concept Plan and RailCorp is prepared to consent to the lodgment of an application for these works only, subject to the conditions listed in Attachment A.

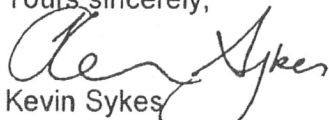
Please note that the submittal of this letter with an application to the Consent Authority will be considered as your acceptance of the conditions listed in Attachment A and your agreement to provide the required documentation at the intervals specified.

RailCorp advises that it reserves the right to review and comment on the application if and when it is placed on public exhibition and may request the attachment of certain conditions of consent on any approval.

In addition, this consent does not give you the right to commence work on RailCorp land without obtaining further approval from RailCorp.

Should you have any enquiries relating to RailCorp issues please do not hesitate to contact Jim Tsirimiagos on 8922 1987.

Yours sincerely,



Kevin Sykes  
General Manager Property



**Attachment A****General:**

1. *Land owner's consent is provided for proposed access works to RailCorp's depot off Columbia Lane as indicated in the following plan:*
  - *Indicative Design Site Plan – Drawing No. A.002 Issue B dated 18/10/11.*
2. *No amendments will be made to the proposed works without RailCorp's prior written consent which RailCorp may, in its absolute discretion, withhold or in respect of which RailCorp may impose conditions.*
3. *That a copy of this letter be included with your application to the Consent Authority.*
4. *The ability to undertake maintenance and emergency activities by RailCorp, Transport for NSW (TfNSW), or any entity authorised by RailCorp or TfNSW, shall not be hindered.*
5. *That RailCorp's land owner's consent be obtained for the lodgement of subsequent Project or Development Applications.*

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Telephone: 02 9585 5641  
E-mail: [salfred@ausgrid.com.au](mailto:salfred@ausgrid.com.au)  
Reference: 2-20 Parramatta Rd, Homebush  
18<sup>th</sup> July 2012

Colston, Budd, Hunt and Kafes  
Suite 1801-Tower A  
Zenith Centre  
821 Pacific Highway  
Chatswood, NSW 2067  
*For attention :Lindsay Hunt*

33-45 Judd Street  
Oatley NSW 2233  
All mail to GPO Box 4009  
Sydney NSW 2001  
T +61 2 13 15 25  
F +61 2 9585 5670  
[www.ausgrid.com.au](http://www.ausgrid.com.au)

Dear Sir,

**2-20 Parramatta Road, Homebush**

I refer to your proposal of road works as the first stage of a project the vicinity of the above address and wish to advise the following:

Your plans as presented to this office in respect of staging and truck access to the area are acceptable. It should be pointed out that there is numerous transmission, high voltage and low voltage underground cables present in the area of works. Extreme care should be observed at all times during any excavation. If the levels are deeper than .4m then a representative of Ausgrid should be present. Prior notice should be given to arrange an Ausgrid observer to be in attendance at all times of excavation.

As this area is a transit way to gain access to Ausgrid strategic switching station, a 24 hour unimpeded truck access is required at all times to these facilities. Please liaise with our Contestable Section as to the requirements and implementation of cable ducts that may be required for the electrical reticulation stage.

The electrical supply to this project is to be addressed as a separate issue.

Should you have any further enquiries please contact the writer on (02) 9585 5641

Kind regards,

**Stephen G Alfred**

*Ausgrid*

24 April 2012

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Colston Budd Hunt & Kafes Pty Ltd  
Suite 1801 / Tower A  
Zenith Centre  
821 Pacific Highway  
Chatswood NSW 2067

**Attention: Lindsay Hunt**

Dear Lindsay

## **Columbia Precinct - Acoustic Issues**

Thank you for the opportunity to respond to Strathfield Council's letter to the DoP dated 16 March, 2012, titled "Strathfield Council Submission March 2012 – Part 3A, Concept Plan Columbia Lane Precinct", particularly as it relates to the acoustic issues raised on pages 5 to 9.

In this letter we note that Council is concerned about the high level of rail noise incident on the subject site. They specifically mention the high level of noise from "rail squeal" caused by the tight radius curved section of track that links the Western and Northern Rail Lines, known as the North Strathfield Goods Loop.

It is important to be aware that the relevant Environment Protection Authority's (EPA) guidelines relating to both road and rail traffic noise do not require a thorough assessment of maximum noise level events. The Environmental Criteria for Road Traffic Noise (ECRTN) guideline document does however say that maximum noise levels should be considered but it stops short of requiring measures to be put into place to address maximum noise level events. This point is addressed very clearly in Section 5.1 of our report. In this section of our report we stated the conclusion of the discussion on Sleep Arousal from maximum noise events contained in the ECRTN, that is:

- 1. Maximum internal noise levels below 50–55 dBA are unlikely to cause awakening reactions.*
- 2. One or two noise events per night, with maximum internal noise levels of 65–70 dBA, are not likely to affect health and wellbeing significantly.*

Notwithstanding the comment given above, an assessment of maximum noise level events is probably appropriate at the more detailed Development Application Stage in order to show that the maximum noise level events can be dealt with by providing an adequate facade construction (example solutions of appropriate glazing upgrades include acoustical double glazing, such as 10 mm glass / 100 mm airgap / 6 mm glass, or where appropriate 12.76 mm thick laminated glass), and allowing residents to close windows during sleep periods should they so choose.

To accurately specify the acoustic facade requirements for each of the buildings contained within this development, the individual room dimensions, intended usage and window sizes must all be known together with the incident sound pressure level on the building. During the Development Application (DA) stage of the project when more of these details of the building design are known, a more complete glazing design can be completed to ensure that maximum internal noise level of 50-55 dBA will be met in all habitable spaces. This will be done and target noise levels achieved.

As a general rule, noise control should preferably be applied at the source. RailCorp has long known of the high levels of noise that can be caused by rail squeal on tight radius bends in the rail network and have been actively trialling noise mitigation measures such as applying friction modifying compounds to the rail head via automated applicators. This noise control technique has been in use in the three bends between Wollstonecraft and Waverton stations on Sydney's lower North Shore for some years with increasing levels of effectiveness. Potentially a similar noise control technique could be investigated for the North Strathfield Goods Loop. This would then significantly reduce the incidence of high maximum noise levels on all of the surrounding buildings, including the 12 Storey residential building at 14-16 Station Street where Council mentions residents currently complain of rail squeal noise due to inferior noise attenuation in these older buildings.

Council's submission also includes a statement that they do not support the noise sampling contained in SLR's Noise and Vibration Assessment Report. Council appears to be suggesting that noise monitoring should have been carried out at a height of approximately 20m. An obvious difficulty with this suggestion is that there is currently no 20m high structure upon which to place a noise monitor or indeed any easy way of supporting a 20m mast upon which to mount a microphone. Even if we were able to do this monitoring, it would not provide the detailed facade noise levels that we have provided in our report though rigorous modelling of the development and noise sources surrounding the development site.

The methodology we adopted to determine the noise levels at the building facade includes a particularly sophisticated SoundPlan modelling exercise that enables the noise level at different heights up the buildings to be calculated accurately. The noise monitoring made at 4 locations around the development site was used to calibrate the 3D computer noise model of the site. The noise model takes into consideration the exact height of buildings and any shielding provided by adjacent buildings as well as the location and relative heights of the noise sources; being predominantly the surrounding roads and railway lines. It would not have been possible to determine the incident noise levels on the proposed facades of such a complicated source and receiver geometry in any other way. It specifically would not have been possible by monitoring alone, at any number of locations and heights.

The general internal noise level criteria given in our report references the criteria given in State Environmental Planning Policy (Infrastructure) 2007 (the 'Infrastructure SEPP'). The criteria given in the Infrastructure SEPP are referenced in the Department of Planning (DoP) document "Development Near Rail Corridors and Busy Roads – Interim Guideline". The relevant internal noise criteria are listed as follow:

*If the development is for the purpose of a building for residential use, the consent authority must be satisfied that appropriate measures will be taken to ensure that the following  $L_{Aeq}$  levels are not exceeded:*


- *in any bedroom in the building : 35dB(A) at any time 10pm–7am*
- *anywhere else in the building (other than a garage, kitchen, bathroom or hallway): 40dB(A) at any time*

Section 2.3 of this Interim Guideline states:

*"With increasing residential densities and business activities near rail corridors, there is a growing need to better integrate landuse and transport. This particularly applies to major development near railway stations. Locating affordable housing and concentrating business activities near stations improves accessibility and opportunities for increased rail patronage. This is particularly the case where the housing or business is within easy walking distance from the station."*

In our report we believe we have shown in a high level of detail how these Infrastructure SEPP internal noise criteria can be met. Additionally we have discussed maximum noise levels caused by rail squeal and provided indicative constructions sufficient to show how this criterion can also be satisfied. We believe that the details of the methods of achieving acceptable internal acoustic conditions should be further developed in the DA stage of the development when additional details of the development are known, and that acceptable and complying levels will be attainable.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. Harrison', with a stylized flourish at the end.

MATTHEW HARRISON  
Technical Discipline Manager – Noise and Vibration



16 August 2012

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Colston Budd Hunt & Kafes Pty Ltd  
Suite 1801 / Tower A  
Zenith Centre  
821 Pacific Highway  
Chatswood NSW 2067

**Attention: Lindsay Hunt**

Dear Lindsay

**Columbia Precinct Acoustic Assessment  
2-20 Parramatta Road & 11-13 Columbia Lane, Homebush  
Discussion of Council's Built Form Approach**

**1 Introduction**

This letter is in response to Strathfield Council's letter to the DoP dated 16 March, 2012, titled "*Strathfield Council Submission March 2012 – Part 3A, Concept Plan Columbia Lane Precinct*". Council has suggested an alternative built form approach to development on the site to that of the project proponent. On page 9 of their letter, Council requests that the two different approaches be assessed by the 3D acoustic model of the site using the SoundPLAN software. This is a reference to the detailed acoustic assessment undertaken by SLR Consulting as described in Report Number 610.10150R1R2 2-20 Parramatta Road, 11-13 Columbia Lane Noise and Vibration Assessment.

The aim of the acoustic assessment conducted by SLR Consulting was to establish the suitability of the site for residential development and to identify in-principle measures that will be required to control rail and road traffic noise intrusion to residential areas. This is a challenging site acoustically, however subject to an appropriate design of facade and glazing elements SLR Consulting has concluded that the relevant acoustic design goals can be met with the proponents' preferred design. Council's letter indicates their agreement with this conclusion on page 5:

*"The SLR Consulting Australia Pty Ltd (SLR) Noise & Vibration Assessment report that accompanies the Concept Plan states that the proposal is only suitable for residential development if appropriate acoustic design is undertaken. Council agrees with this."*

SLR Consulting is of the opinion that while it would be possible to model Council's alternative, it is more informative (and cost-effective) to consider the aspects of each design in a comparative sense, in order to better understand the underlying principles. While there are significant differences between the two designs, the noise incident on the worst-affected facades (facing Parramatta Road and the rail line) will be very similar in both cases. Both designs would require careful acoustic consideration in the detailed design phase. SLR Consulting has demonstrated that the acoustic design goals can be met with the proponents' preferred design, and would expect a similar conclusion from a detailed investigation of Council's design.

The issue is whether Council's approach of using buildings as noise barriers would result in a net improved amenity for future residents on this site. In considering residential amenity, we note that acoustics should not be considered independently of other aspects such as solar access, out-door space and ventilation.

In the following sections, we systematically address each of the acoustic concerns raised by Council.

## **2 Response to Council Acoustic Concerns**

### **2.1 Council Issue 1**

*"Council also reviewed international best practice in high density development adjacent to noise generating infrastructure. Using the buildings themselves as noise walls, offered the best results for the residents and protecting the public and private open spaces from noise impacts."* (Council Letter, p5-6).

For this reason, Council proposes 6 storey buildings along Parramatta Road and in a curve around the railway line to act as barriers to the buildings behind.

#### **Response 1**

The 'barrier block' approach can be beneficial in some situations, as in the Lilla Essingen example provided by Council. Another more local example of the use of barrier blocks is the Liberty Grove development between the rail line and Homebush Bay Drive (north of the subject site), where 3 storey apartment blocks provide shielding to lower density housing behind.

The Department of Planning's *Development near rail corridors and busy roads interim guideline* (the DoP Guideline) describes the main considerations when designing a 'barrier block'. These include:

- That noise sensitive rooms in the barrier block (ie bedrooms and living areas) should face away from the noise source.
- Rooms on the 'noisy' side may need heavy insulation and mechanical ventilation

The obvious implication is that dwellings in barrier blocks will be restricted in their layout to protect noise-sensitive rooms. These restrictions need to be balanced against other amenity issues such as solar access to habitable rooms, privacy, outlook and overshadowing to other dwellings.

The buildings as noise barriers approach will be most effective where there is a single noise source (from one direction), where a majority of residences will receive a noise benefit relative to the number of residences required to form the barrier, and where the shielded residences do not suffer adverse overshadowing, privacy, outlook or solar access issues (protection from noise to the detriment of other amenity factors).

On the subject site, the curve in the rail line means that over three-quarters of the site boundary are adjacent to major noise sources, including the northern and eastern sides. This fact, when combined with the proposed density of the development, means that the buildings Council proposes to use as barriers are six storeys each. It is not clear in council's design that a majority of residents would receive a net benefit, as a large proportion of dwellings would remain in close proximity to the noise sources, would have restricted floorplans, or would suffer from overshadowing.

The curved form of Council's scheme facing the railway means most of the floor area is exposed to the 'noisy' facade, with less floor area (along the inside radius of the curve) on the protected side. Approximately 75% of a typical unit floor area is "noise sensitive" including bedrooms and living areas. Accordingly Council's scheme would almost certainly have to contain many noise-sensitive rooms on the 'noisy' side of the block.

The proponents' preferred design has residential towers set back above less sensitive commercial podiums (along Parramatta Road) or car-parking podiums (adjacent to the rail line). Like barrier blocks, this is also a recognised technique to reduce noise impacts on the more sensitive residential receivers, and is described in the DoP guideline. In the proponents' preferred design, the podiums on Parramatta Road and along the railway will provide shielding to the lower levels of the residential tower. There is also provision for noise barriers or parapets on the podium edge to provide additional shielding to both the open space and the residential towers. Also, the towers are set back a greater distance from the noise source. The proponents' preferred approach does not have the same overshadowing and solar access issues of the 'barrier block' approach and is more appropriate in this situation.

## 2.2 Council Issue 2

*"Council's urban design and built form approach has taken into consideration the feedback from residents of the 12 storey building at 14-16 Station Street (on the opposite side of the subject site) in regard to rail noise. This especially relates to the wheel screech at this very location, as freight trains particularly at night travel around the long curved section that links the western and northern lines. This limits owners ability to leave windows open and benefit from natural ventilation. Elevated buildings such as 14-16 Station Street have been proven to be not particularly suited to these specific sites due to the freight rail noise. The Part 3A proposal does not address this as the proposed towers would be exposed to these same noise issues."* (Council Letter, p6)

### Response 2

14-16 Station Street was designed and constructed over 10 years ago, prior to the specific rail noise provisions of the State Environmental Planning Policy (Infrastructure) 2007 (the Infrastructure SEPP). The noise impacts on residents of this building depend on the consideration given to noise (including maximum noise events) in the design of facade treatments, and the quality of construction.

The curve squeal impacts will be no less on a six storey residential block than on a higher tower. It is illogical to suggest that the overall height of the building should determine its suitability when the noise source is at ground level.

Council's proposal to limit the height along the railway line does not remove the curve squeal issue. Furthermore, Council proposes the residential barrier block to extend along the rail curve from Parramatta Road to the stormwater channel. In comparison, the proponents' preferred design includes a single residential tower in the south-eastern section, with the remainder of the segment adjacent to the railway line proposed for less sensitive land uses including commercial space, office space and car parking on the lower levels. The total area of residential facade in close proximity to the railway line (and requiring consideration of curve squeal impacts) is similar for Council's long, six storey barrier block and the proponents' taller residential tower.

Noise reduces due to geometric spreading with distance and in the absence of other shielding the noise impacting on the top of a 50 m high tower will be the same as the noise impacting on a one or two storey building set back 50 m from the railway line. That is, the noise impacts will be less at higher levels of the tower than at the lower levels (although the lowest residential levels will benefit from shielding provided by the podium level and parapet in the proponents' preferred design).

As described in the acoustic assessment report, an assessment of maximum noise level events is required in the detailed design stage in order to confirm the required facade construction to adequately mitigate the maximum noise level events. It is expected that alternative mechanical ventilation will be required to allow residents to close windows during sleep periods, as is common in urban areas.



### 2.3 Council Issue 3

*"Given the approach of this part 3A Concept Plan, with increasing height, from low (2 storey) at Parramatta road to high (21 storey) near the railway, it is considered that there will need to be greater levels of noise protection for the majority of apartments, as there is no significant noise barrier, and noise can echo between the buildings. Noise from Parramatta Road and the M4 Motorway will also not be blocked by this approach in the Concept Plan. Instead the Plan increases the number of apartments that are exposed to a negative noise environment."* (Council Letter, p9)

#### Response 3

The proponents' preferred design recognises the acoustic challenges of the site. Noise protection will be required across the site. This is identified in the acoustic assessment and will need careful attention in the detailed design phase. However, Council's design will require equivalent or greater levels of protection for all six storeys of the dwellings proposed in the barrier blocks on the boundary of the site.

The acoustic requirements can be met with appropriate design. The overall layout of the site needs to balance all amenity factors such as solar access, privacy, outlook and overshadowing.

### 2.4 Council Issue 4

*"Even with excellent acoustic design, future residents will want to open their windows for fresh air and want to access their balconies and open the doors onto the balconies and thus defeating the acoustic design solutions."* (Council Letter, p9)

#### Response 4

This comment is equally applicable Council's barrier blocks as to the proponents' preferred design. It is expected that alternative mechanical ventilation will need to be provided.

### 2.5 Council Issue 5

*"Council does not support the noise sampling in the SLR Noise and Vibration Assessment Report. The results in table 2 of the report appear too low because they have not considered the full noise environment e.g a 20m high monitoring location that is not blocked by any buildings. In this regard, with 21 storey buildings proposed (60+ m), only a high level noise monitoring location would pick up the true noise impact on these buildings. The tallest location sampled has only 5m and surrounding buildings should block noise from other locations."* (Council Letter, p9)

#### Response 5

The purpose of the noise monitoring was to calibrate the 3D computer noise model of the site, not to directly determine noise levels at the future residences. The noise model takes into consideration the exact height of buildings and any shielding provided by adjacent buildings as well as the location and relative heights of the noise sources; being predominantly the surrounding roads and railway lines. It would not have been possible to determine the incident noise levels on the proposed facades of such a complicated source and receiver geometry in any other way. It specifically would not have been possible by monitoring alone, at any number of locations and heights.

### 2.6 Council Issue 6

Council is concerned that *"future residents (like existing nearby high rise development) will be disadvantaged and impacted by ongoing noise issues particularly from rail."* (Council Letter, p9)

## Response 6

Noise from the rail line would similarly affect future residents of the 6-storey curved "barrier block" under Council's built form proposal. Curve squeal is a known characteristic of the site and would need to be considered in the detailed design of the facades and building elements, for either council's design or the proponents' preferred project.

An assessment of maximum noise level events is required in the detailed design stage in order to show that the maximum noise level events can be dealt with by providing an adequate facade construction, and allowing residents to close windows during sleep periods should they so choose.

To accurately specify the acoustic facade requirements for each of the buildings contained within this development, the individual room dimensions, intended usage and window sizes must all be known together with the incident sound pressure level on the building. During the Development Application (DA) stage of the project when these details of the building design are known, a more complete glazing design can be completed to ensure that maximum internal noise level of 50-55 dBA will be met in all habitable spaces. This will be done and target noise levels achieved.

## 3 Conclusion

While the 'barrier block' approach suggested by Council can be beneficial in some situations, acoustic amenity is only one factor that needs to be considered in the design of high-density residential developments. In this situation where the affected areas are the northern and eastern sides of the development (critical for solar access), the proponents' preferred design of setting back residential towers above less sensitive podiums with parapets above is considered to be a more appropriate and balanced solution.

In our acoustic assessment report we believe we have shown in a high level of detail how the Infrastructure SEPP internal noise criteria can be met for the proponents' preferred design. Additionally we have discussed maximum noise levels caused by rail squeal and provided indicative constructions sufficient to show how this criterion can also be satisfied, even though this is not specifically required by the Infrastructure SEPP. We believe that the details of the methods of achieving acceptable internal acoustic conditions should be further developed in the DA stage of the development when additional details of the development are known, and that acceptable and complying levels will be attainable with the proponents' preferred design.

Yours sincerely



BRIONY CROFT  
Senior Project Consultant – Transportation Noise and Vibration