Table of Contents

Executive Summary 2
Appendix M – Additional Economics Information 4
Grounds for Submission 4
Appendix L – Additional Aircraft Noise Information and Maps 7
Grounds for Submission 7
Appendix K – Revised Public Safety Area Map for the Airport 10
Grounds for Submission 10
Appendix J – Additional Flood Modelling Information 11
Grounds for Submission 11
Appendix G – Summary of the likelihood of the occurrence and assessment of MNES Species 13
Grounds for Submission 13
Appendix A – Engagement Activities Undertaken During the Public Notification Period for the EIS 14
Attachments – URL links are provided where possible 27

Executive Summary

Project manager - Sunshine Coast Airport Expansion project
Coordinated Project Delivery Division
Office of the Coordinator-General
PO Box 15517
City East Qld 4002 Australia

We question whether the EIS and AEIS has accurately presented the facts, appropriately assessed the potential impacts and where necessary, proposed appropriate mitigation and/or management measures.

The preparation and notification of the AEIS was required as a consequence of the Coordinator General requiring the proponent to respond to the submissions made to the EIS and to respond to additional information requested by various advisory agencies. The AEIS also contains a 'Clarification/Erratum' table where minor changes, clarifications and rectification of errors in the EIS are addressed.

It is our submission that the errors and uncertainties contained within the EIS and AEIS combined with either the misinformation provided or lack of responsiveness by the proponent in any attempt to seek clarification on the errors and/or uncertainties, has undermined confidence in the EIS.

It is our view that the preparation and notification of the AEIS whilst somewhat helpful, still does not elicit sufficient confidence in the overall EIS process for this project.

The combination of the EIS and AEIS does not support conditional approval on a number of grounds being;

- There remains a significant lack of project description to support assessment on key aspects such as dredge pump out and Public Safety Areas changes,
- The project needs/economic assessment is based on unconventional assumptions that do not clearly address the relevant TORs and do not meet a reasonable level of transparency for the public to assess a public investment,
- On several key criteria the EIS and AEIS has not covered relevant TORS appropriately. including economics, aircraft noise, flood impacts, flora and fauna impacts,
- There is inadequate mitigation of impacts provided in the EIS.
- The extent of impact of the project particularly to accommodate potentially 8 flights a week of wide body aircraft by 2040 is not ameliorated by the mitigation and potential broader benefits of the project so as to justify approval.

The following submission is provided in sections from Appendix M to A specific to each key AEIS and are provided to supply grounds for submission as requested by the Coordinator General in calling for submissions on the AEIS. For each Appendix 'Recommendations' are proposed to clarify this Associations position as to acceptable outcomes of assessment or to provide suggestions to the form of approval conditions or additional impact mitigations measures should the project be approved.

Several attachments are provided in support of the grounds or recommendations made and a full list is also provided.

SIGNED

NAME: Signature Date

Address

Appendix M – Additional Economics Information

Grounds for Submission

The Additional Economic Information Appendix provides a remodelling of the project economics not only based on the Terms of Reference (TORs) but also the same base assumptions as those used in the SCA EIS. The grounds for this submission are that Appendix M despite being an opportunity to provide additional information again relates the misuse of an assumption in modelling and the related assessment that class 4 aircraft will not be permitted to use SCA from 2021-22. This provides the basis for a misrepresentation of the economic Impacts and benefits of the project significantly and related not only to the project justification in the EIS but related to a matter in the public interest.

Appendix M provides a further economic assessment of the project using mostly conventional economic modelling methods as you would see in other major airport expansions in Queensland such as BAC New Runway EIS. Both assessments load the model with conventional assumptions about global economic growth, National economic trends, Economic trends for costs and incomes related to expansion and operational activities. The BAC and the SCA examples even share certain assumptions for changes to certain regulatory matters that may affect economic performance such as industrial relations reform. Significantly, the SCA assessment includes a scenario, the 'do nothing' scenario, for comparison and assessment that assumes that CASA or some other external party will not permit operations of class 4 aircraft from 2021-22 despite CASA providing for the conditional operation of these aircraft at SCA now with a 30 metre runway. This is an unreasonable premise not accepted as a potential by standard assessment reports in other relevant airport expansions or in evidence of CASA action on narrow runway regulation. In addition to being unconventional such an assumption, if considered a 'potential' to meet TOR 7.1.2 would logically include any number of parties ceasing to operate aircraft from the airport due to contrarian or erratic behaviour.

As in the EIS, Appendix M includes the assumption of the loss of class 4 operations despite the clear regulatory approval of operation of complying class 4 aircraft in 2014 and prior. The application of this assumption in modelling is illustrated in Table 2.1 and Figures 2.1 and 2.2 and indicate a marked decrease in passenger volumes from 2021-22 should the project not go ahead. For comparison, the BAC New Runway EIS provides for a deterioration of passenger volumes in the out years of operation based on advice that over-crowding of the existing airport runways leading to poor reliability and fare increase will lead to decreasing passenger volumes as airlines and passengers make rational choices to find affordability and reliability elsewhere. The BAC scenario provides for a moderate decrease in passenger volumes over time due to a rational choice. The SCA provides for a singular event that not only decreases passenger volumes over time but diminishes volumes by 80% in an instant. Given the lack of evidence of the likelihood of this risk included in the Appendix M or evident in any other way it would seem that this assumption for assessment is a distortion. Conventionally, a 'do nothing' scenario may be represented as a zero growth or low growth economic profile but an instantaneous reduction in a major input to a model should have evidence to support its inclusion. The magnitude of this change is well beyond any reasonable margin for error or tolerance for assumptions. The difference between the 'conservative' and 'aggressive' scenarios that do not include the loss of jet services is little more than 50%.

We also noted that with the use of the EIS assumptions in Appendix M the omission of consideration of a potential increase in passenger levy to cover the $7.3 million increase per annum in operational

costs has continued. In its 2009 Submission to Infrastructure Australia Sunshine Coast Regional Council estimated that to be cost neutral the 13/31 Runway expansion then considered would require an increase of $18.55/passenger. We understand that major carriers such as Virgin Australia could reconsider flights to SCA if passenger levies increased dramatically (*Sunshine Coast Daily 7 October 2014*). This Appendix follows the former EIS Chapter in that it is not transparent as to the sensitivity weight given to increases in passenger levy and that passenger estimates are simply provided by a Consultant.

In our consideration of Appendix M we have used the 'Background – History' and consultation reports publicly available on the CASA website or provided by CASA and included here. The note indicates that, in line with mainly international standards established through the International Civil Aviation Organisation (ICAO) CASA has sought to maintain alignment of regulation on the operation of class 4 aircraft on narrow runways with world leading Authorities on the matter such as the Federal Aviation Authority (US) and make changes with industry consultation at roughly 5 yearly interval in line with international regulatory changes. This evidence does not align with the statement at Appendix M of "CASA's history of amending these regulations with great frequency over the past two decades" somehow inferring that the airlines will be likely to cease using the airport due to operational challenges long known. While it's noted that safe operations on the narrow runway can place limitations on aircraft in certain weather conditions and operating at high weights these obstacles are managed. As little as "approximately 1 per cent of all jet traffic is unable to operate from this port due to cross-wind and other weather issues." *(p16 Business Case for the Sunshine Coast Airport Masterplan (November 2009) SCRC)*.

Appendix M has not dealt with the Economic impact to individual properties that are not in the ANEF 20 or greater areas that will be as a result of the project. There is a range of studies indicating that the imposition of the ANEF or imposition of a higher ANEF will have an impact on the value of a property. The impact on property value of aircraft noise is broadly accepted in the Chapter A2 Need for the Project but broad economic benefit and the utilitarian response related to benefit of the properties with diminished ANEF coverage is all the is offered as a mitigation measure. We provide the attached paper "A comparison of models measuring the implicit price effect of aircraft noise" *Peter Rossini, Wayne Marano, Valerie Kupke*, & Mike Burns*, Centre for Land Economics and Real Estate Research (CLEARER), University of South Australia, Australia 2002, to support a view that the project should provide financial mitigation to individual properties newly impacted by ANEF 20 or greater ANEF impact.

<u>Proposed Response</u>

Provided above are grounds to submit that the 'do nothing' scenario should not be considered nor accepted as an accurate response to the Terms of Reference for Economics 7.1 or Public Consultation. It is not a 'potential' grounded in fact or practice. We contend that the use of a selected highly unlikely assumption in the economic modelling does not meet standards for a report in an EIS assessment under your guidelines and Act as it over estimates the positive economic impact of the project by diminishing the business as usual case artificially. By using the assumption that A320 and & 737 class aircraft will be stopped from using the airport in 2021-22 the EIS and AEIS not only diminish the accurate understanding of the economic impact of the expansion but misinform the very important public interest assessment of the project which as a publicly funded.

Recommendation A

Refuse approval of the project due to a lack of accurate justification.

Recommendation B

Require or condition in any approval that the economic reports for the project be revised to use only a conventional baseline or zero basis for operation of the airport i.e. that does not assume the end of class 4 or A320 and 737 class jets operating from the SCA and published.

Require or condition that the economic reports include transparent consideration of increases to passenger levies in the assumption for modelling each scenario for assessment and published.

Recommendation C

Require or condition that SCA provide compensation to property owners newly impacted by ANEF 20 or by increased ANEF 30 or higher for commensurate decreased property value due to the imposition of planning restrictions and increased noise on the property.

Recommendation D

Require that the economic report provide clear information for economic benefit assessment for the 'do minimum' runway upgrade scenario for comparison to the full runway expansion.

Appendix L – Additional Aircraft Noise Information and Maps

Grounds for Submission

In March 2015 a newly revised version of AS2021 was published. It is understood that this version of the standard has a number of changes the most significant being changes to Aircraft Tables and some elements of how ANEF assessment is conducted. Appendix L has provided a range of further information based on dwelling data sets from the EIS and used these to "provide an understanding of the magnitude of impact (that) should not be used as absolute numbers." The Appendix supports the contours as set in the EIS for ANEF, N70, N60 and Lamax. Importantly the Appendix provides information on the difference for noise contours to those provided in the 2014 Sunshine Coast Planning Scheme. The contribution of these factors to the understanding of impacts and proposed mitigation form the grounds for this submission on the Appendix.

Given the review and changes to AS 2021 there is a concern that ANEF and N70 contours presented in Appendix L and EIS are developed using methods current and that meet AS2021-2015. Throughout the Appendix and EIS a 737-800 noise profile has been used as a worst or maximum model for noise assessment. In light of the stated objective that the expansion is motivated by attraction of much larger aircraft a suitable sample of that aircraft class should be used as is common in such EIS and witnessed in the BAC New Parallel Runway EIS. Particularly changes to the aircraft tables in AS 2021-2015 should be considered further.

A key descriptor defining noise impact of this project is the ANEF contours as they provide the link to planning and building regulation that will change the way property owners may use their property and accordingly impact their property value by between 1.9% and 3%. The existing planning context for many residents around the airport is set by the Planning scheme that includes ANEF contours and this planning scheme instrument was reviewed from late 2012 and released in its latest form in 2014. From this planning scheme and its predecessor the Council has provided advice to residents around the airport as to how it would impact their property. An example of plans provided by Maroochy Shire Council has been provided as attachment. These statutory plans and advice made from them have informed the public on planning restrictions due to the potential for noise in the airport area. With a more than 300 metre and 4 degrees change to the runway alignment to the south east through design changes made since the 2007 Airport Masterplan used for the 2014 planning scheme it is clear now that the extent of ANEF change will introduce hundreds of residents to new planning impacts through exposure of property to higher ANEF contours.

As with the change to ANEF contours the changes in N70 contours indicate a change in the impact of frequent aircraft noise events. As is related in the EIS there are established proportions of population that will be effected by these events in health and well-being relative to the intensity and frequency in their living area. No amelioration program for affected residences is discussed or proposed despite the record of it being effective in other Australian examples and well documented. We attach a copy of a paper presenting the effectiveness of efforts around Adelaide airport, *ADELAIDE AIRPORT NOISE INSULATION PROGRAM Mr. Ivailo Dimitrov, Dr Neil C Mackenzie,VIPAC Engineers & Scientists Pty Ltd, KENT TOWN, SA*. These effective methods have also been implemented through the planning and building regulation by condition on new buildings. We enclose the approval conditions for a development at Mudjimba from 1999 whereby conditions have been made to ensure resulting buildings provided protections. The alignment of flight path and

runway has also been a design consideration for those properties currently in ANEF contours. We include an example of the design brief to illustrate.

Property owners and residents in properties newly effected by aircraft noise beyond existing designation as demonstrated by the ANEF contours and the N70 mapping provided will need support to upgrade residences to maintain a similar standard of health and amenity as prior to the expansion. Despite the further information provided the EIS and AEIS does not provide sufficient information on the number of newly effected residents and it omits to provide a fulsome description of the effect of different types of structure and design as set Down by Term of Reference Part 3 3C, particularly with regard to residential properties. Appendix L also provides no improvement in the lack of response to the term with regard to estimation of amelioration costs in this area.

Proposed Response

Given the changes to AS 2021 provided in 2015 all assessment methods and results of related models should be reviewed. Further, the lack of fulsome consideration of noise to the type of building design in the affected areas is a considerable disregard of the Terms of Reference Part C 3. Given the outdoor lifestyle enjoyed at most residences in the affected area and building design to accommodate that lifestyle bespoke and detailed consideration of residential buildings must be considered for assessment of and for mitigation. Given the housing and lifestyle of residents imposition of increased aircraft noise will have enormous impact on quality of life. If significant changes occur in relation to EIS or Appendix information the import of Noise impact to the public interest for this project should support it such results being advertised for public comment.

Recommendation A

Require SCA to return the runway alignment to the centre line orientation as in the 2014 Sunshine Coast Planning Scheme and to return noise impacts to expectations provided by Council from 2000.

Recommendation B

Require reassessments of aircraft noise to be conducted using the noise profile of aircraft of the loudest type sought by the expanded airport. Report on this assessment in the Coordinator Generals Report and if the result of these reassessments present changes to Appendix L data and the EIS readvertise these results for public comment prior to any approval.

Recommendation C

Require SCA to address TOR Part 3C 3.7 including consideration of building design and evaluation of noise amelioration and condition in any approval that SCA provide compensation for newly effected existing residences within ANEF 20 and above to maintain noise levels in affected residences in line with standards such as in SPP appendix 5 Table D and to maintain the amenity of the residence and a night operation curfew.

Recommendation D

Require the proponents to provide counts of the numbers of dwellings that change category for N80, N90 and laMax, and for the difference in each threshold for each dwelling between ‘do minimum’ and ‘new runway’ scenarios. That is, if a dwelling under the ‘do minimum’ experiences an laMax of 90dBA, and under the ‘new runway’ experiences an laMax of 70dBA, then their net change is -20dBA (i.e. a reduction in maximum noise = benefit). However, if a dwelling under the ‘do minimum’ experiences an laMax of 70dBA, and under the ‘new runway’ experiences an laMax of 90dBA, then their net change is +20dBA (i.e. an increasing maximum noise = hazard). The benefits and hazards

should be summarised in 10dBA categories, and counts made of the numbers of properties in each. Particular attention should be focussed on the numbers of people in the categories of hazard, especially those experiencing extreme hazard (i.e. greater than +20dBA net change).

Appendix K – Revised Public Safety Area Map for the Airport

Grounds for Submission

Appendix K provides a "Revised Public Safety Area (PSA) map for the Airport" that seems to only relate to 13/31 runway. The map does not designate the exact runway it relates to. The map does not resolve the statements in the EIS Chapter B2 Land Use and Tenure that some 115 dwellings are within the PSA for runway 18/36 and that the retention of this as a secondary runway and the advent of 13/31 will reduce the number of dwellings within the PSA for these runways. It is seems clear that the number of residences will increase contrary to the State Planning Policy (SPP) Appendix 5 and that the proposed mitigation of changes to the PSA to align with the new configuration will only seek to subvert the intention of the State Planning Policy.

The specific purpose of the SPP Appendix 5 Code that relates to PSA is "ensuring development: avoids increasing risk to public safety in public safety areas". The policy provides assessment criteria for development within a PSA at PO6 and AO6.1 of the policy. Assessment criteria to achieve the purpose of the policy prohibits approval of development that will significantly increase the number of people living, working or congregating in the area. The proposed mitigation of an amendment to the planning scheme to change the PSA in this area would not align with the purpose of the State Planning Policy.

The plan provided in the SCRC Planning Scheme 2014 indicates the southern PSA for 18/36 ending at the boundary with Desley Street. Only a small number of residences along the west side of Keith Royal drive are within the Southern PSA for 18/36. It is not clear why 115 residences are considered to be in the PSA for runway 18/36 in EIS Chapter B2. Whether or not this may be the case a mitigation activity to change the PSA that could increase the number of people living, working or congregating in the PSA should not be supported for consideration as a planning scheme change given the State Planning Policy purpose or this Airport.

Proposed Response

Recommendation A

Require or condition the proponent to redesign runway 13/31 to decrease the number of people to live, work or congregate in any individual PSA at the Airport and prohibit a change to the Sunshine Coast Planning Scheme 2014 that will allow the potential for any such action. This could be achieved decreasing the length of runway and revising the alignment from the proposed 4 degree change from the masterplan alignment.

Recommendation B

Require the proponent resolve the difference in extent between Chapter B2 regarding the PSA on Runway 18/32 and the proposed runway 13/31 and the Sunshine Coast Planning Scheme in compliance with the State Planning Policy. Publish a report of the resolution demonstrating the claimed reduction in the potential number of people living, working or congregating in the PSA for the proposed runway 13/31prior to any approval.

Appendix J – Additional Flood Modelling Information

Grounds for Submission

Appendix J provides further information as to the critical nature of flood flows related to the river and overland flow flooding impacting areas to the east and south of the airport and the potential for the road system to impact and be impacted by changes significant and incremental increases in flood levels. Appendix J as per TORs uses Council's Maroochy River Flood Modelling as the basis of assessment. We understand this model uses assumptions of 2-50 years ARI on current data and only the 100 year ARI 2050 assumption is based on the climate change scenario. The project continues to rely on structures such as the David Low Way to mitigate flooding effects to the east of the project and relies on the capacity of the area around the airport to be retained as storage. Further, the Appendix like the EIS provides little on reverse flow flood events that pose a clear risk to residences in Mudjimba and Marcoola.

While using the Council data assumptions provides a modelled outcome of the roads having a 0.5m freeboard in peak flood event it is clear from the EIS and the Appendix that the culverts along the road are to be relied on for flood impact management for areas to the east and south east. On this basis no upgrade is proposed in mitigation considered necessary however it is not clear that the existing culverts are designed and maintained to perform this purpose. While it's reasonable to expect that the culverts were built to meet the contemporaneous Main Roads design and construction standards at the time of installation it is not given that they will meet the current standards such as "Transport and Main Roads Specifications MRTS03 Drainage, Retaining Structures and Protective Treatments" given the passage of time and the admitted increased water flows and retention requirements even under the Council's flood modelling assumptions and the extent of fill in the flood plain holding area. The descriptions provided in the EIS and AEIS related to this matter seem insufficient to address TOR 5.10.3.

The matter of fill in the flood plain areas is not considered further in Appendix J. Given that, since at least the year 2000, the relevant planning scheme has placed extensive conditions on developments in the flood plain areas the omission of this aspect diminishes the ability to assess impact on the road and further potential impacts of the project. Within the planning scheme requirements extensive additional development in the airport area requiring fill has been approved. Continued development requiring fill across the catchment will incrementally diminish holding capacity in the flood area west of David low way. This affect will be contribute to a magnified effect due to climate change across the range of flood events modelled and pose a threat to property in the airport surrounds.

Further, the absence of regional climate change mitigation strategies for the Maroochy River catchment acknowledged in the EIS confirms that it is the intention of the proponent that construction of the proposed airport will mean that its actual impacts will have to be accommodated by all stakeholders in the catchment. Given the extent of potential fill in the flood plain posed by the project and lack of consideration of predicted climate change impacts in the flood modelling surely much greater climate change impact protection should be required of the design.

Proposed Response

Recommendation A

That no approval be provided for development of the project.

Recommendation B

That no approval be made until a full climate change mitigation strategy for the Maroochy River Catchment is developed that includes future development at the airport and prospect development in the catchment requiring fill.

Recommendation C

That should the development be approved the Council be required or conditioned to revise its planning instrument to diminish development rights on land requiring fill in the flood plain area defined by the studies and pay affected land owners requisite compensation.

Recommendation D

That should the development be approved the culverts along the main roads east and south of the project be upgraded to meet current standards and their role of retaining flood waters in peak flood events.

Appendix G – Summary of the likelihood of the occurrence and assessment of MNES Species

Grounds for Submission

Appendix G provides further information to support assessment by the Department of Environment. While the Appendix provides some degree of additional information regarding the potential impacts and assessment of the project construction on MNES, it with the EIS provide limited consideration on the impact of Loggerhead Turtle at Marcoola and on the transit of dredgers particularly from Point Arkwright north. It is noted that dredge operations will not be permitted during the main breeding season of the species. However, it is not clear that pump out facilities construction and maintenance activities will be precluded from the area in the same period. Aside from some dredge operation and classification standards the project description for works and operation of those works is sadly lacking in the Marcoola area and does not meet reasonable expectations of the description of works as Defined in TORs 4.2 and 4.3. It is not clear if flexible piping will be used in any event across the beach and dune areas where breeding is likely. It is clear that the operation will be conducted around multiple breeding seasons

Proposed Response

Recommendation A

That the definition of dredging works be provided through further detailed description of works clarify the matter by the inclusion of project description of pump out facility construction, operation and maintenance and a reassessment made with a report for publication and to be provided to the Department of Environment , and as a precautionary measure the period of exclusion for these activities be extended through to May to ensure the minimisation of the impact on the local population of this species.

Recommendation B

That the definition of dredging works be provided through further detailed description of works clarify the matter by the inclusion of project description of pump out facility construction, operation and maintenance and a reassessment made with a report for publication and to be provided to the Department of Environment.

Recommendation C

That the definition of dredging works be provided through further detailed description of works clarify the matter by the inclusion of project description of pump out facility construction, operation and maintenance and a reassessment made with a report for publication and to be provided to the Department of Environment. This description and relevant DOE survey guidelines be used to conduct full seasonal surveys for all MNES species in the area prior to any further approval being made for the project. Survey results can then inform management plan conditions and offset strategies for an approved project.

Appendix A – Engagement Activities Undertaken During the Public Notification Period for the EIS

This assessment only responds to the matters documented in *Table 3.2a of the AEIS: Responses to Public and Organisation Submissions Received on Project EIS* relevant to the Mudjimba residents and landowners.

<table>
<tr><th>Submission Issue</th><th>AEIS Response</th><th>Our further Submission</th></tr>
<tr><td>4.3 – Noise Impacts arising from the 310m shift of runway along the 13/31 alignment</td><td>The proponent's noise consultants advised that moving the runway 310 metres to the south-east along the same runway centreline "is likely to result in a negligible increase of 1 to 2 decibels in the noise levels experienced at the residential properties in the Mudjimba area. The change is so slight as to be imperceptible to most people".</td><td>Firstly, why was this not considered worthy of assessment in the EIS?

Secondly, "is likely to result" does not sound to us as if any modelling of this has been undertaken and we submit that this appears to be no more than a 'best guess' by the proponent's consultant.

Thirdly, given that the Mudjimba residents are part of the minority 'community expecting to experience new noise', (and very loud new noise at that), every decibel matters, so it is requested that this be modelled and substantiated.

Section 6 of the AEIS recommends the insertion of the same words into s3.1.3.4 of the EIS. The Mudjimba residents should be rightly offended by this recommendation due to the 'dismissiveness' and 'approximate' nature of this response to an issue so critical to the outcome for the most affected residents.</td></tr>
<tr><td>13. The EIS does not inform people about new noise impacts</td><td>Chapter 5 of the EIS determined that in 2020, with the proposed change to the main runway alignment, 3,500 fewer dwellings on the Sunshine Coast would experience 5 or more 70 dB(A) noise events. In 2040 there would be a 73% reduction (5,285 fewer dwellings) in the number of dwellings</td><td>Whilst not specifically relevant to the submission item, it is worth highlighting that, Table 2 of Appendix L of the AEIS shows the following number of N70 events for a Summer weekday:

<table>
<tr><td></td><td>Existing</td><td colspan="2">New Runway</td></tr>
<tr><td></td><td>2012</td><td>2020</td><td>2040</td></tr>
<tr><td>Day</td><td>4388</td><td>1838</td><td>1875</td></tr>
<tr><td>Evening</td><td>1541</td><td>1231</td><td>1615</td></tr>
<tr><td>Total</td><td>5929</td><td>3069</td><td>3490</td></tr>
</table>
</td></tr>
</table>

Submission Issue	AEIS Response	Our further Submission
	affected by frequent noise events (five or more 70 dB(A) noise events on a summer weekday day. This is further addressed in Appendix L of the AEIS. The EIS acknowledges that some communities will experience new noise.	It is not possible to come close to the 3,500 or 5,285 dwelling numbers stated to the left, if the same assessment is undertaken from the data above. This data results in a difference of 2860 dwellings between now and 2020 (combining the day and evening figures) compared to 3,500 and 2,513 less dwellings compared to 5,285 dwellings (utilising on the 'day' figures) stated in the response to this submission topic. This does not *"assist in the understanding of the EIS"* as stated on the cover page to this Appendix. So, how can there be any confidence in the modelling or the outputs of the EIS and AEIS with these clear differences evident in the documents without any explanation? Contrary to the repeated quantification of how many properties will be improved in terms of aircraft noise, minimal attention is paid to the properties that will be worse off. **The AEIS provides no further assessment of this issue.**
28. Reference to ANEF Guidelines in relation to noise levels.	The project results in a net reduction in dwellings within the ANEF20 contour of 584 dwellings by 2040.	In *Chapter D5 of the EIS – Social and Visual Impacts* at 5.6.8.3 it states that: "At 2020 with the new runway: **130 dwellings** in Mudjimba are <u>newly included</u> in the ANEF 20-25 contour" and that "At 2040 with the new runway: **335 dwellings** in Mudjimba are <u>newly included</u> in the ANEF 20-25 contour". At 5.9 it states that: "There are a small number of dwellings (9 dwellings at 2020 and 27 dwellings at 2040) that will experience new N70 (5-59 event) noise"

Submission Issue	AEIS Response	Our further Submission
		and "There are also locations within the suburb of Mudjimba that will experience a change in the frequency and sound level of aircraft movements". However, at *5.6.9 Impact Discussion* and at *5.8 Mitigation* there is no attempt to address how this accords with AS2021 in regard to the consequences of these worsened circumstances for those residents or what should be offered to those residents to assist with mitigation or to compensate for the loss of amenity and/or value if mitigation is not possible. Further, there is no attempt to address the same issues for those properties that will also experience a material increase in the frequency and sound level of aircraft movements. **Regrettably, the AEIS does not provide any further response to this issue so this element of the original submission is totally ignored.**
31. Inadequate quantification of dwellings worse off.	Further information regarding dwelling counts and aircraft noise are addressed in Appendix L of this AEIS.	Refer above.
37. Changes to ANEF as a result of the proposed project	The ANEF 20 - 25 contour (i.e. AS2021) does not preclude development of new dwellings. The ANEF contour is not relevant to existing dwellings or other land uses such as parks…..	It is conceded that AS 2021 does not preclude homes in the ANEF 20 – 25 contour. However this response is misleading in that it fails to recognise that under AS2021, within the ANEF 20-25 contour, homes are 'conditionally acceptable' and that 'land use authorities may consider that the incorporation of noise control features in the construction of residences is appropriate'.

Submission Issue	AEIS Response	Our further Submission
		Nowhere does the EIS or AEIS consider how this might be responded to or attempt to address this in the suggested mitigation strategies. It is also conceded that the ANEF is not relevant to existing dwellings. However our contention is that the real issue behind this submission item is not changing the ANEF but rather the lack of response in the EIS to the impact of the change in ANEF to the adversely impacted residents.
48. When did SCA and SCC become aware of the change to the standard for 'narrow runway' operations	CASA advised the airport in writing on 12 August 2014 that the then arrangements with respect to the narrow runway exemption would remain in place until a review of CASA's Manual of Standards 139 had been completed.	This is a disingenuous response because at p12 of the Summary of Major findings of the EIS it states: "a key driver for the project is that regular public transport (RPT) jet services currently operate under an exemption on the existing main runway which is 30 m wide rather than the 45 m typically required by the Civil aviation Safety authority (CASA). The exemption runs until February 2015". There is no mention in the EIS that CASA was also proposing to no longer mandate that aerodrome operators be required to widen runways to allow continued operations or for the introduction of a new larger aircraft type and called for comments on this then proposed change up to 5th May 2014.
49. The CASA regulation change negates the need for the new runway.	This change makes no difference to the Airport Expansion EIS or what it contains.	This matter has been responded to in the AEIS by the insertion of additional/alternative wording into Chapter A2 and A3 of the EIS. It is noted that the previously included paragraph as follows, has been deleted. "CASA's advice when last reviewing the exemption in 2012 was that any further extension of the exemption

Submission Issue	AEIS Response	Our further Submission
		beyond 2015 would in part depend upon SCA demonstrating progress toward compliance with the CASR". Again we submit that the proponent's further response to this issue whilst technically factual is again disingenuous and makes no apology for the 'alarmist' language used in the EIS or for the (deliberate in our view) omission of any knowledge of the then very imminent probability of change to this requirement. In response to the technicality of this issue, we submit again that the new statement: "*at 30m wide, the existing main runway 18/36 remains an operational constraint to the airport and <u>potential regulatory risk</u>"* continues the alarmist language given that the potential regulatory risk is limited only to the fact that the current runway does not allow 'standard' operations.
54. Why expand the SCA when Brisbane Airport is down the road and also expanding?	Under the Terms of Reference, a requirement for assessment of competition from Brisbane Airport was not required.	Appendix A2:B of the EIS: *Long-Term Forecasts of Aviation Activity at Sunshine Coast Airport for 2013~2050 Final Report* makes brief and occasional mention of Brisbane airport. At *7.3.1 Airport Passengers*, it notes that in 2011: "Among the reasons cited for flying out of Brisbane, 67% of passengers cited Brisbane Airport's breadth of destinations, 8% cited its flight schedules/timings, and the remainder cited price or other factors". The above factors are just as relevant in 2015/16.

Submission Issue	AEIS Response	Our further Submission
		Further, commencement of flights on Brisbane Airport's parallel runway is scheduled to occur in 2020. This is the same time horizon within which SCA new runway is scheduled for completion. "The new runway will give Brisbane the best runway system in Australia"[1] Brisbane Airport (BNE), is the premier gateway to Queensland and the third largest airport in Australia by passenger numbers. Operating 24 hours a day, seven days a week, BNE has two major terminals servicing 28 airlines flying to 41 national and 27 international destinations. More than 22 million passengers travelled through the airport in 2014. BNE was named Capital City Airport of the Year in the 2014 Australian Airports Association National Awards and rated as Australia's No. 1 airport for quality of service 10 years in a row in the Australian Competition and Consumer Commissions' annual survey. Notwithstanding that the TOR does not require this to be a consideration, it is incomprehensible to contemplate a valid assessment of forecast flight and passenger numbers and destinations for an expanded SCA, without any regard to BNE expansion intentions with their forecasts indicating that annual passenger numbers will grow from 22 million in 2014 to around 50 million by 2035.
55. Compensation for Noise effected areas.	Property specific mitigation is not being considered for noise effected areas.	This is a very dismissive response to the fact that the new runway will include 130 (2020) new dwellings and 335 (2040) new dwellings in the ANEF 20-25 which AS2021 suggests should only be conditionally acceptable subject to the inclusion of noise

[1] Brisbane Airport's New Parallel Runway Fact Sheet

Submission Issue	AEIS Response	Our further Submission
		attenuation features in the building construction. Further the new runway will result in 9 dwellings (2020) and 27 dwellings (2040) that will experience new N70 (5-59 event) and there are also locations within the suburb of Mudjimba that will experience a change in the frequency and sound level of aircraft movements – none of which is intended to be mitigated or compensated for. This compares very unfavourably with the commitment made in *Part 4 of the AEIS – Revisions to Project and Approval Process 7.4.3 Flooding and Groundwater:* "For the 5 properties that are predicted to experience minor over floor flooding as a result of the project proceeding, Council will negotiate property specific building modifications to each affected dwelling with the property owners". The same level of mitigation or compensation should be afforded those property owners whose homes are adversely impacted by aircraft noise.
70. Comments around the efficacy of Forecasts.	Forecasts have been prepared by experts in the field using proven industry standard methods.	Refer above comments re Submission item 54.
86. In terms of the BCA, externalities such as aircraft noise mitigation impacts (et al) should be valued.	While the orientation of the new runway will cause residences in some suburbs to experience new or greater noise impacts from operating aircraft, overall the community will be better off as the new runway reduces	Why not? The exclusion of this from the BCA results in a gross overstatement of the net return from the investment. The unwillingness to address this, reflects the incomplete nature of the overall assessment of the impacts of the proposal and explicitly disadvantages a

Submission Issue	AEIS Response	Our further Submission
	the total number of homes affected by aircraft noise. On this basis, aircraft noise impact mitigation measures are not proposed as part of the Project and are not included as part of the BCA	few to the benefit of the overall community with no compensation or mitigation offered to 'the few'.
162. Request to extend the existing 18/36 runway instead of the proposed project	This option was discounted due to impacts on residential areas, road infrastructure and project viability.	It is acknowledged that the EIS purports to assess the preferred option as documented in the SCA Masterplan[2]. Notwithstanding that, it is submitted that this is a blinkered approach to comprehensively assessing the suitability of a significant capital investment by the proponent and ignores the possibility of evaluating other potentially more cost effective and less-impacting options, such as the widening of the current runway and its southerly extension across David Low Way.
173. Mitigation proposed to manage aircraft noise impacts	S5.8 of Chapter D5 identifies current and possible future mitigation measures including runway mode of operation, airspace management plan, updating to planning controls, expansion of the Community aviation Forum and ongoing community engagement.	In terms of mitigation, these measures and possible future measures (i.e. no certainty!) offer zero comfort to the Mudjimba residents and home owners!

[2] This is notwithstanding the uncertainty as to whether the EIS preferred runway alignment is in fact the same as the SCA Masterplan alignment and shifted 310m to the south east of the SCA Masterplan location – refer later in this submission.

Submission Issue	AEIS Response	Our further Submission
179. Additional Analysis of noise impacts.	Appendix L of the AEIS provides an alternative representation of the data presented in Chapter D3 of the EIS.	Refer above.
185. Comments about the history of the options	The proposed runway orientation in the EIS is in the north-west to South-east direction, technically termed Runway 13/31. This runway orientation was identified in the 2007 SCA Masterplan as the proposed orientation of the new runway	The proponent's response to this issue is overwhelmingly inadequate given that 3.2.7.1 of the EIS states that: *"Since preparation of the Planning Scheme the following has occurred.* *The proposed location and alignment of the new runway has changed slightly.* *The runway proposed as part of the Project is now proposed approximately 310 m south-east of the location considered by the Planning Scheme* (i.e. the Sunshine Coast Planning Scheme, 2014) *and approximately 4° clockwise".* The only recognition of this glaring anomaly in the AEIS is in *Table 6.1a: Errata and Clarifications on the EIS by Chapter* which indicates that the above text should be replaced with: *"The thresholds of the runway have been relocated in a south-easterly direction 310m along the same alignment".* There is no confirmation that there are no consequential impacts on the flight path or noise modelling arising from this significant spatial error in the EIS. It is not possible to understate the significance of the

Submission Issue	AEIS Response	Our further Submission
		dismissive and underwhelming response to this issue given the following actions which preceded the commencement of the EIS process. The EPBC process (as a component of the overall EIS process) for the airport expansion project required an Initial Advice Statement (IAS)[3] to be prepared and sent to the Federal Environment Minister, to inform the Minister's decision as to whether the project is a 'controlled action'. Page 20 of the IAS states that "as a result of the preliminary design process, which has taken into account the environmental constraints identified on the airport site, changes have been made to the layout of the runway and associated infrastructure compared with the 2007 Master Plan". Further, at 3.1.3.3 of the EIS it states that new runway 13/31 (original option) "was a refinement of the preferred option identified in the SCA Master Plan 2007" and developed as "part of the Masterplan Implementation Project) by AECOM in 2010. It is noted that the spatial extent of this 'refinement' is stated as being approximately 4 degrees clockwise (without any reference to the location of the centre point of the swing) at 3.7.2.1 of the EIS. Verbal feedback from the Airport EIS team at one of the public sessions indicated that this deflection of the east west runway centreline was to ensure the south eastern End Safety Zone (ESZ) aligned more closely with Keith Royal Park'. For the proponent to now state that the preferred

[3] 220372/00 Issue September 2011 Arup

Submission Issue	AEIS Response	Our further Submission
		alignment is the same as the SCA Masterplan alignment is incomprehensible given the chronology outlined above. For this reason, the proponent should be required as a minimum to provide geo-referenced mapping that clarifies this issue with absolute certainty which proves without any doubt what alignment is embedded in the preferred option, and what alignment the flight paths and noise mapping in the EIS and AEIS have been centred upon.
186. Comments citing the original option as the preferred option	If it is to be assumed that this is the pre-2007 Masterplan 14/32 alignment, it should be noted that the change was formally adopted by Council in the 2007 Masterplan and has been available on the airport and Council websites since that time.	The proponent has largely relied upon the Council adoption and public availability of the SCA Masterplan for some 7 years and its subsequent incorporation into the Sunshine Coast Planning Scheme, 2014 as its justification for not offering any mitigation or compensation for properties effected by new or increased aircraft noise from the new runway. However, the SCA Masterplan was and is still <u>not</u> a statutory planning document. It only achieves a statutory consequence by being incorporated into the Sunshine Coast Planning Scheme, 2014. Relevant to the history of the airport planning however, is that The EIS states that the preliminary draft SCA Masterplan included three runway development options all focussed on development of the existing north south runway, although a long term recommendation for a new East/West runway was also identified. It also states that the consultation process for that Masterplan resulted in the emergence of a clear preference in support of construction of a new east/west runway. It is submitted however, that this is only as to be

Submission Issue	AEIS Response	Our further Submission
		expected because there are a far greater number of residents whose circumstances would be greatly improved by the abandonment of the north south runway compared to the smaller number whose circumstances would be worsened by the commencement of the operation of an east west runway. So unsurprisingly, the weight of self-interest prevailed in that community consultation process. Ignoring that there is still considerable uncertainty around the alignment of the preferred runway, it is still 310m more southeast of Sunshine Coast Planning Scheme, 2014 runway, so at least the additional impacts arising from that change are 'new impacts' and as such, should be considered for mitigation and compensation and included in the BCA.
202. Public Safety Area	The design of the runway is such that no dwellings, existing or proposed, will occur within the critical 1 in 10,000 risk contour.	Appendix K – Revised Public safety Area (PSA) Map for the Airport of the AEIS shows that whilst there are no dwellings in the 1 in 10,000 risk contour, the Generic SPP Public Safety Area does impact many properties in Mudjimba. It is clear that the quantity of properties impacted by this is made much worse by the 310m lateral shift of the runway from its SAC Masterplan position. Yet no acknowledgement of this dis-benefit to those residents is identified anywhere in the EIS or AEIS.
224. Virgin Australia opposition to the project	The AEIS states that Virgin Australia has written to Sunshine Coast Council to say "the company supported the sustainable development of the airport to help continue air traffic growth and the ongoing development of the Queensland economy".	Given that this is contrary to the previous publicly stated position of Virgin Australia, it is requested that a full copy of that correspondence be published by the proponent and forwarded to the Coordinator General for verification.

Proposed Response

Recommendation A

Due to the errors and uncertainties contained within the EIS and AEIS combined with either the misinformation provided or lack of responsiveness by the proponent in any attempt to seek clarification on the errors and/or uncertainties the project should not be approved. The proponent can reapply for a 'coordinated project' assessment when it is suitably prepared to conduct an accurate and transparent public consultation process.

Attachments – URL links are provided where possible

CASA Narrow Runways Review Background Note

https://www.casa.gov.au/standard-page/project-1115-1-review-manual-standards-part-139-aerodromes-chapter-6-section-2-runway

Consultation response to Proposed amendments to CAR 235A and CAAP 235A-1(0) - Minimum runway widths for aeroplanes CASA – attached

Project AS 11/15 Project History

https://www.casa.gov.au/standard-page/project-1115-1-review-manual-standards-part-139-aerodromes-chapter-6-section-2-runway

"A comparison of models measuring the implicit price effect of aircraft noise" *Peter Rossini, Wayne Marano, Valerie Kupke*, & Mike Burns,* Centre for Land Economics and Real Estate Research (CLEARER), University of South Australia, Australia 2002

http://www.prres.net/papers/rossini_models_measuring_implicit_price_effect_of_aircraft_noise.pdf

Business Case for the Sunshine Coast Airport Masterplan *(November 2009) SCRC)*

http://infrastructureaustralia.gov.au/policy-publications/submissions/published/files/Sunshine_Coast_Regional_Council.pdf

ADELAIDE AIRPORT NOISE INSULATION PROGRAM Mr. Ivailo Dimitrov, Dr Neil C Mackenzie,VIPAC Engineers & Scientists Pty Ltd, KENT TOWN, SA.

http://www.acoustics.asn.au/conference_proceedings/AAS2002/AAS2002/PDF/AUTHOR/AC020074.PDF

Sunshine Coast Airport Existing Noise Affected Areas Special Management Area Regulatory Map 1.8 (5 of 7) Maroochy SC – Attached

Sunshine Coast Airport Possible Future Noise Affected Areas Special Management Area Regulatory Map 1.8 (6 of 7) Maroochy SC – attached

SEQ Properties PTY LTD as Trustee for Holidays and Homes Unit Trust V Maroochy Shire Council Planning and Environment Court Appeal Number 5243 of 1997 (03/08/99) - Attached

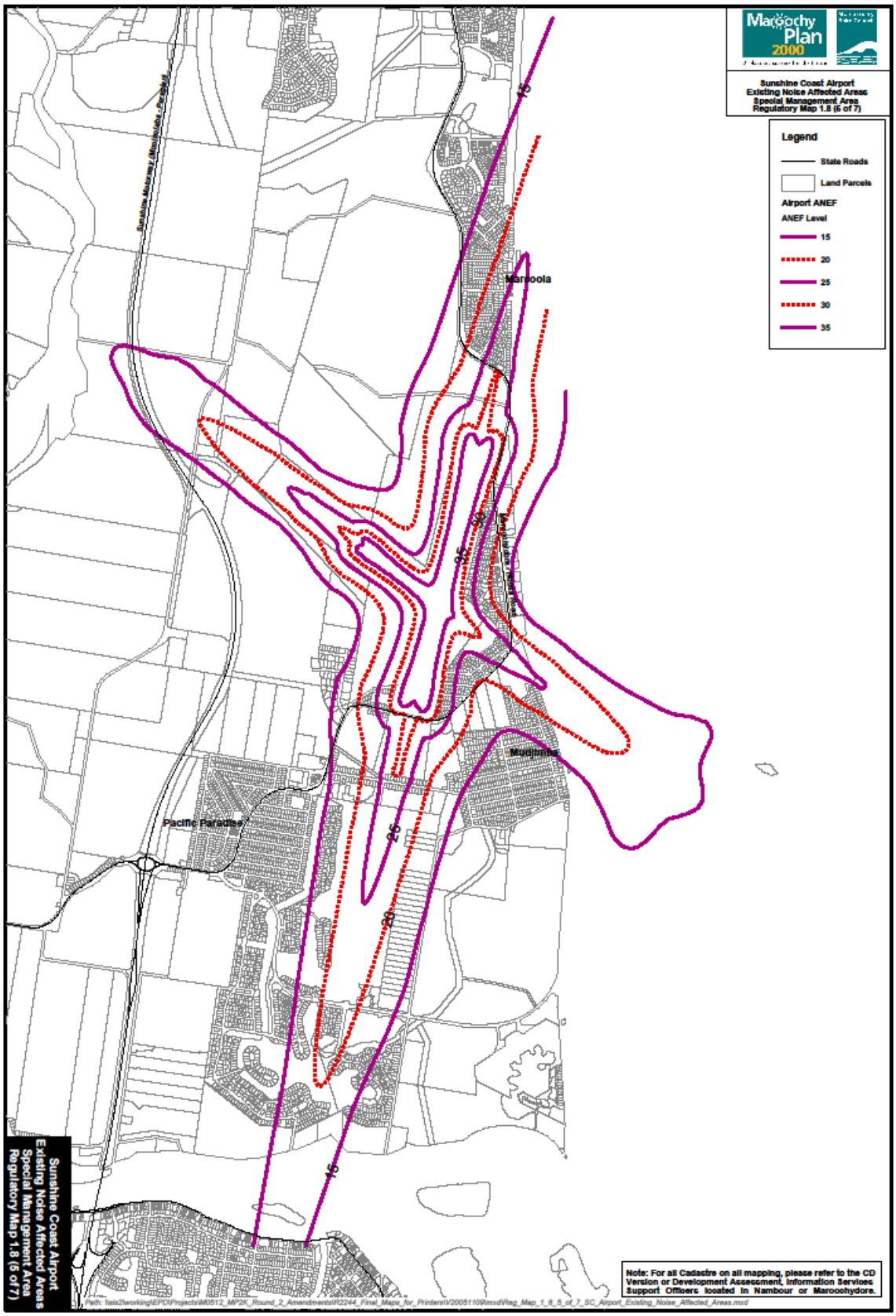
Letter to Mr David Hughes – North Beach Estate – Acoustic design Brief to Architects - Attached

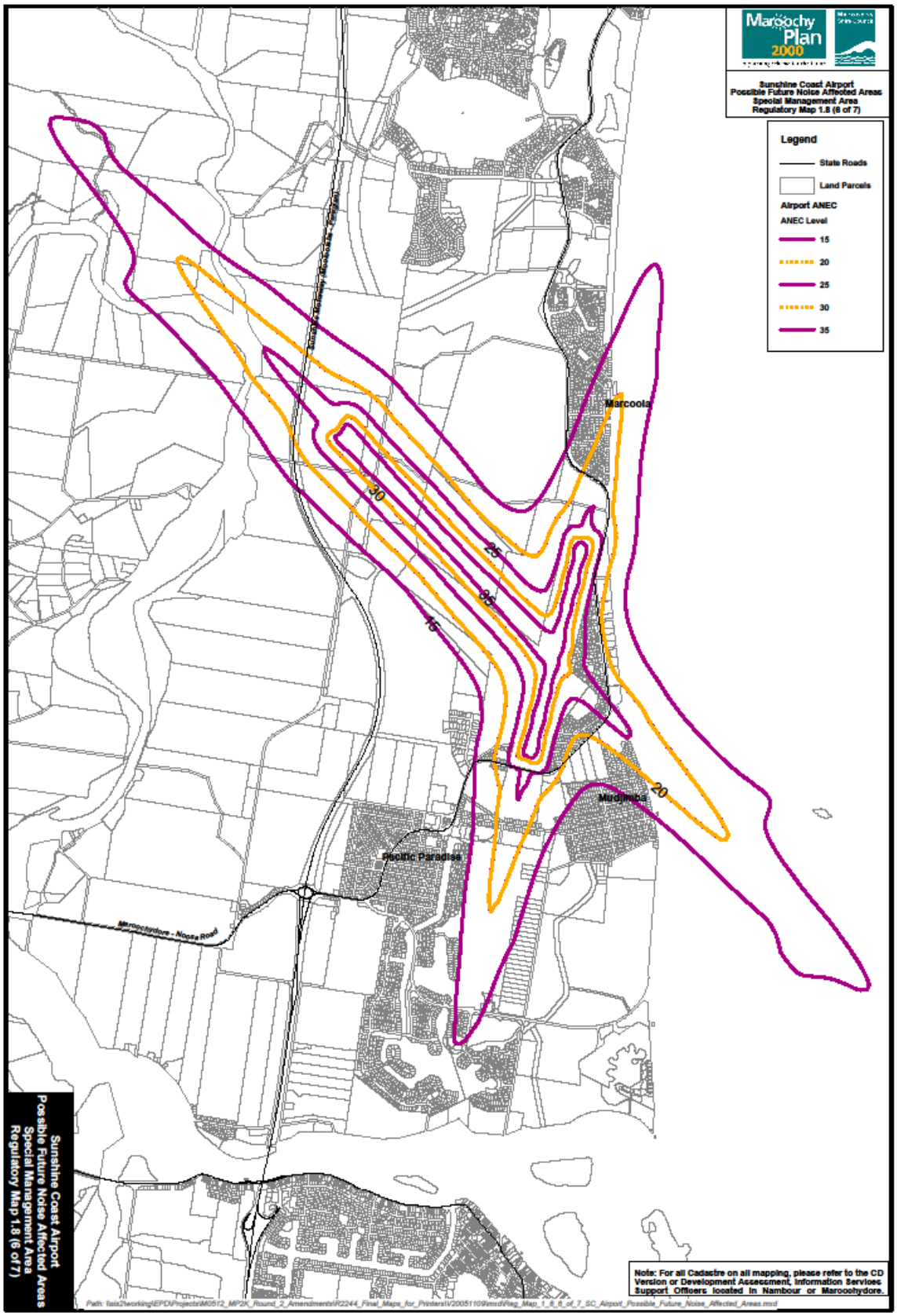
Transport and Main Roads Specifications MRTS03 Drainage, Retaining Structures and Protective Treatments
http://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Specifications/3-Roadworks-Drainage-Culverts-and-Geotechnical.aspx

Project AS 11/15 - 1. Review of Manual of Standards Part 139 - Aerodromes, Chapter 6 Section 2 - Runway Widths and 2. Review of CAR 235A Instrument - Instructions - minimum runway width for aeroplanes

Project history

Title	Details	Date
Consultation updates in 2015		
NFC 139/05 - Aerodromes	This NFC has been published.	12 Jan 2015
Consultation updates in 2014		
NFRM CAR 235A - Minimum runway widths for aeroplanes	This NFRM has been published.	12 Nov 2014
CAAP 235A-1(0) - Minimum Runway Width - for aeroplanes engaged in RPT and charter operations with a maximum take-off weight greater than 5700 kg	This CAAP has been published.	4 Nov 2014
NPC 139/05 - Runway Width Review of Part 139 MOS - Aerodromes Section 6.2 - Runways AND Post Implementation Review of Part 139 MOS - Aerodromes Chapters 1 & 2 including changes to subsequent chapters	This NPC closed for comment 5 May 2014.	4 Mar 2014
Consultation updates in 2013		
Consultation Draft for CAR 235A Amendments - Landing on and taking off narrow runways - certain aeroplanes	This Consultation Draft closed for comment 21 June 2013.	24 Jun 2013
DRAFT CAAP 235A-1(0) - Minimum Runway Width - for aeroplanes engaged in RPT and Charter operations with a maximum take-off weight greater than 5700kg	This Draft CAAP 235A-1(0) closed for comment 21 June 2013.	24 Jun 2013
Consultation Draft for CAR 235A Amendments - Landing on and taking off narrow runways - certain aeroplanes	All comments should be forwarded to the Project Leader, Miles Gore-Brown via the email distribution box car235a@casa.gov.au by close of business 21 June 2013.	24 May 2013
DRAFT CAAP 235A-1(0) - Minimum Runway Width - for aeroplanes engaged in RPT and Charter operations with a maximum take-off weight greater than 5700kg	All comments should be forwarded to the Project Leader, Miles Gore-Brown via the email distribution box car235a@casa.gov.au by close of business 21 June 2013.	24 May 2013
Consultation updates in 2011		
Project AS 11/15 - Review of Manual of Standards Part 139 - Aerodromes, Chapter 6 Section 2 - Runway Widths and Review of CAR 235A Instrument - Instructions - minimum runway width for aeroplanes	Project approved.	24 May 2011


Maroochy Plan 2000
Sunshine Coast Airport
Existing Noise Affected Areas
Special Management Area
Regulatory Map 1.8 (6 of 7)
Legend
State Roads
Land Parcels
Airport ANEF
ANEF Level
15
20
25
30
35
Maroochydore - Pacific Paradise
Maroochydore
Mudjimba
Pacific Paradise
Note: For all Cadastre on all mapping, please refer to the CD Version or Development Assessment, Information Services Support Officers located in Nambour or Maroochydore.


Maroochy Plan 2000
Sunshine Coast Airport
Possible Future Noise Affected Areas
Special Management Area
Regulatory Map 1.8 (6 of 7)
Legend
State Roads
Land Parcels
Airport ANEC
ANEC Level
15
20
25
30
35
Marcoola
Mudjimba
Pacific Paradise
Maroochydore - Noosa Road
30
25
20
15
Sunshine Coast Airport
Possible Future Noise Affected Areas
Special Management Area
Regulatory Map 1.8 (6 of 7)
Note: For all Cadastre on all mapping, please refer to the CD Version or Development Assessment, Information Services Support Officers located in Nambour or Maroochydore.

In the Planning & Environment Court
Registry: Brisbane

Appeal No. 5243 of 1997

Between:

SEQ PROPERTIES PTY LTD AS TRUSTEE FOR HOLIDAYS AND HOMES UNIT TRUST Appellant

And:

MAROOCHY SHIRE COUNCIL Respondent

JUDGMENT OF THE COURT

Before His Honour Senior Judge Shanahan
The 3rd day of August, 1999

This matter having on the 9th, 10th, 11th and 12th days of June, 1998 and the 15th day of July 1999 come on for hearing by way of appeal from the decision of the Respondent Council whereby the Respondent refused the application by the Appellant for the exclusion of part of that land described as part of Lots 1 and 2 on RP202694 situated in the Parish of Maroochy ("the Land") from the Rural A zone and inclusion of the Land in the Residential A zone ("the Application").

And upon hearing Mr J Gallagher QC and Mr T Trotter of Counsel for the Appellant and Mr C Hughes of Counsel for the Respondent

It is this day ordered that the said Appeal be allowed and that the Application be approved subject to compliance by the Appellant with the following conditions:-

JUDGMENT OF THE COURT

Filed on behalf of the Appellant

MINTER ELLISON
Lawyers
Waterfront Place
1 Eagle Street
BRISBANE QLD 4000
DX 102 BRISBANE
Telephone (07) 3226 6333
Facsimile (07) 3229 1066
Reference: JRI AJH RRB 9706466

1. **Development Criteria**

Unless otherwise approved by the Respondent or its duly authorised officer, the development shall be generally in accordance with the plan by Global Surveys Pty Ltd, Drawing Reference No. 6219-03-G, dated 20 April 1999 subject to modifications as are necessary to comply with Condition 3(d).

2. **Water Supply Headworks**

Contributions towards water supply headworks shall be in accordance with the Respondent's Local Planning Policy 'Developer Contributions Towards Water Supply and Sewerage Infrastructure'. The contribution will be payable in accordance with the Respondent's Local Planning Policy, ie prior to the sealing of a plan of subdivision.

3. **Sewerage Headworks**

Contributions towards sewerage headworks shall be in accordance with the Respondent's Local Planning Policy 'Developer Contributions Towards Water Supply and Sewerage Infrastructure'. The contribution will be payable in accordance with the Respondent's Local Planning Policy, ie prior to the sealing of a plan of subdivision.

4. **Roadworks**

(a) The Appellant shall construct a turn-around at the northern end of Kawanna Street (as generally depicted on Global Surveys Pty Ltd, Drawing Reference No. 6219-03-G, dated 20 April 1999), to comply

with the Queensland Streets requirements and to suit adequate turning by the Respondent's recycle collection vehicles.

(b) The Appellant shall construct kerb and channel and AC seal widening from (the edge of existing bitumen to the lip of the channel), from the southern boundary of the site to the intersection with the proposed new access road and Mudjimba Esplanade.

(c) The Appellant shall construct a bikeway (On-Road Dedicated Cycle Lane/No Parking - Treatment "E"), from the southern boundary of the site to the intersection with the proposed new access road and Mudjimba Esplanade, in accordance with the Respondent's Local Planning Policy – Provision of Bikeways and Bicycle Facilities. The bikeway shall be located so as to minimise the removal of existing vegetation and be close to the road alignment so as to make the bikeway visible and secure. Alternatively, the Appellant may make a monetary contribution in the amount of $6,405.00 for these works in lieu of construction, prior to the sealing of a plan of subdivision.

5. **Site Management**

(a) No soil or fill shall be removed from the site in excess of 50m³ without the approval of the Chief Executive Officer;

(b) During construction and/or development of the site, any work which would prejudice the amenity of the neighbourhood or nearby residents must not be conducted between the hours of 8.00pm and 7.00am Monday to Saturday or at any time on Sunday or Public Holidays;

(c) Vegetation removed from the site for development purposes should preferably be undertaken by:

(i) The removal of millable logs for use by sawmills or other approved organisations;

(ii) The chipping and mulching of all suitable vegetation;

(iii) Burning in an on-site pit burner for vegetation not practically disposed of by (i) and (ii) above.

Should an alternate method of disposal be proposed, such as burning, then the need for the alternate method of disposal shall be justified to the Chief Executive Officer and that the officer's approval obtained before undertaking the alternate method of disposal. Fire services approval is required for the burning of any waste vegetation.

(d) Reinstatement of the subdivision site with earthworks, drainage and vegetation to provide satisfactory erosion control and scour protection and to remove visual degradation of any site works.

(e) The area of the site to be rezoned to the Residential A zone shall be cleared of all declared noxious weeds (groundsel) before this application is forwarded to the Chief Executive of the Department of Communications and Information, Local Government, Planning, Regional and Rural Communities.

6. Buffer

A minimum strip of 15 metres in width, generally along the southern boundary of the area of approximately 6 hectares immediately to the north of the site, shall be

provided as a buffer. The buffer is to be replanted with locally endemic species. Where vegetated swales form part of the buffer area vegetation used shall not be invasive. Replanting is to be undertaken in consultation with the Respondent's Parks Department.

7. **Stormwater Management Plan**

A stormwater management plan shall be provided to the Respondent before on site works commence. The stormwater management plan shall address control of potential pollutants to the area of approximately 6 hectares immediately to the north of the site. Pollution control devices should include mitigation of gross pollutants, hydrocarbons, sediment and nutrient levels (ammonium, phosphate and nitrate). The stormwater management plan shall ensure compliance with Australian and New Zealand Environment Conservation Council guidelines and Environment Protection Policy - Water.

8. **Noise**

(a) Any dwelling to be constructed within the area shown inside the 20 contour on Drawing No. "Figure 6 2005 ANEC - 2450m 14/32" prepared by Max Winders & Associates dated 29 May 1998 ("Noise Contour Plan") shall be constructed to a standard so that the following noise levels for any aircraft flyover, based upon Table 3.3 of AS 2021-1994, are not exceeded:

Bedrooms	50dB(A)
Other Rooms	60dB(A).

(d) The keeping of racing pigeons is prohibited.

10. **Cultural Heritage**

During the development including during construction and clearing if Aboriginal, archaeological, historical or religious sites, items or places are suspected, identified, located or exposed the proponent must cease operations and contact the Queensland Department of Environment's Regional Manager (Cultural Heritage) on (07) 3225 8426.

11. **Metes and Bounds Description**

Submission of a metes and bounds description and locality plan at a scale of 1:2500 indicating the proposed metes and bounds description of the area to be rezoned Residential A for submission to the Chief Executive for the Department of Communications and Information, Local Government, Planning, Regional and Rural Communities.

12. **Administration Fee**

Payment of an administration fee to cover the preparation of the Respondent's submission to the Chief Executive for the Department of Communications and Information, Local Government, Planning, Regional and Rural Communications (including the Respondent's representations on the grounds of public objection if objections) preparation of amending zone maps, etc as per the Respondent's adopted Schedule of Fees and Charges. For the 1998/99 financial year the applicable fee is $270.

13. **Submission to the Chief Executive**

An application will be made to the Chief Executive for the Department of Communications and Information, Local Government, Planning, Regional and Rural Communities seeking this proposed rezoning immediately following the expiration of the appeal period if no appeal has been instituted. The submission to the Chief Executive is subject to the payment of the administration fee and compliance with any pre-submission conditions. The further conditions above should be complied with following a gazettal of the proposed rezoning unless stated otherwise.

14. **Property Records Notation**

The following property record notation is to be recorded on all newly created allotments:-

(a) "This lot is above the 15 ANEF of the existing airport and is subject to existing and future aircraft noise.

(b) (i) Any dwelling to be constructed within the area shown between the 20 and 25 noise contours on Drawing No. "Figure 6 2005 ANEC - 2650m 14/32" prepared by Max Winders & Associates dated 25 May 1998 shall be constructed to a standard so that the following noise levels for any aircraft flyover, based upon Table 3.3 of AS 2021-1994, are not exceeded:

Bedrooms 50dB(A)

Other Rooms 50dB(A).

(ii) The maximum aircraft noise level at the allotment shall be taken to be 92 dB(A).

(iii) Certification from a qualified acoustic engineer is to be provided with the building application to construct a dwelling on the allotment to show the proposed methods of construction and materials used meet the standards set out in terms (i) and (ii) in accordance with AS 2021-1994.

(c) The development is located within 1500 metres from the end of the proposed future runway 14/32 and within 300 metres sideline distance, perpendicular to the extended centre line of the proposed runway 14/32 (2450 metre long proposal)".

15. **Public Open Space**

The balance area of Lots 1 and 2 on RP 202694 namely an area of approximately 6.5 hectares shall be dedicated to the Respondent for public open space purposes.

It is further ordered that each party shall bear its own costs of and incidental to the appeal.

By the Court

Registrar

Ref: L13302PAK

8 May, 2002

Northbeach Estate
PO Box 5029
BRENDALE BC QLD 4500

Attention: Mr David Hughes

Dear David

Re: Northbeach Estate – Acoustic Design Brief to Architects

1.0 Purpose of Brief

Max Winders and Associates were commissioned by Northbeach Estate to assist in the acoustic design of proposed residences at Northbeach Estate and to provide certification that each design is of an appropriate acoustic standard to satisfy the requirements of the Court Order which approved the development. The requirements of the Court Order include:

8. Noise

(a) *Any dwelling to be constructed within the area shown inside the 20 contour on Drawing No. "Figure 8 2005 ANEC - 2450m 14/32" prepared by Max Winders & Associates dated 28 May 1999 ("Noise Contour Plan") shall be constructed to a standard so that the following noise levels for any aircraft flyover, based upon Table 3.3 of AS 2021 1994 are not exceeded:*

Bedrooms	*50dB(A)*
Other Rooms	*60dB(A)*

Attention is drawn to Note 1 of Table 3.3 of AS2021-1994 : 'A design sound is the maximum level (dB(A)) from an aircraft fly over which, when heard inside a building by the average listener will be judged as not intrusive or annoying by that listener while carrying out the specified task. Owing to the variability of subjective responses to aircraft noise, these figures will not provide sufficiently low interior noise levels for occupants who have particular sensitivity to aircraft noise'.

(b) *The maximum aircraft noise level at the allotment shall be taken to be 92 dB(A).*

(c) *Certification from a qualified acoustic engineer is to be provided with the building application to construct a dwelling on the allotment to show the proposed methods of construction and materials used meet the standards set out in items (a) and (b) in accordance with AS 2021-1994.*

(d) *No residence shall be permitted in that area indicated as being above the 25 contour on the Noise Contour Plan.*

The Court Order thus defines the following criteria for the assessment of internal aircraft noise levels at proposed Northbeach Estate residential dwellings as per *AS 2021 – 1994 – Acoustics - Aircraft noise intrusion – Building siting and construction*:

Sleeping Areas: 50 dB(A)

Other Rooms: 60 dB(A)

Building siting and construction materials and techniques must be adequate to ensure that the above internal aircraft noise levels are achieved for all proposed Northbeach Estate dwellings located with the 20 ANEF Contour for the Sunshine Coast Airport. The purpose of this Acoustic Design Brief is to ensure that proposed Northbeach Estate residential dwelling designs are able to achieve the appropriate acoustic standards.

Residential dwellings in proximity to existing or proposed aircraft take-off / landing paths are typically constructed of concrete blockwork with high standard windows, often double-glazed. This type of construction is able to provide a high level of noise reduction through the external facade, providing lower internal aircraft noise levels.

Due to the beach location, the designs proposed for Northbeach Estate are generally lightweight timber framed beach-style houses, often with raked ceilings and exposed rafters. Standard construction of this type typically provides only moderate noise reduction through the external facade and roof / ceiling. It is considered that adequate noise reduction can be achieved through the range of proposed residential construction types by particular attention to external facade construction standards using the following :

- specific layer(s) of internal plasterboard with cavity insulation,
- specialised roof-ceiling construction, specifically over noise-exposed bedrooms,
- high standard single and double glazed windows and/or secondary removable glazing systems

In order to advise architects and builders of the particular requirements for achieving the required acoustic standard, several design solutions for external walls, windows, louvres and roof/ceiling structures have been devised. It is requested that architects and/or clients review the acoustic design solutions offered in this brief and revise proposed designs to the standard required to satisfy the Court Order. Then designs are to be submitted to Max Winkler & Associates for review and certification prior to submission for building approval.

Typical design solutions to achieve the required acoustic standard through the external facade and roof / ceiling structure are provided below for each facade component.

2.0 Typical Design Solutions

2.1 External Walls

All proposed external wall structures should be constructed with a minimum timber stud width of 90mm to provide an adequate cavity for the provision of high-standard cavity insulation.

Indicative minimum requirements for external wall materials (ie. external wall finish) able to provide the required noise attenuation properties are provided below:

7.5mm Fibre Cement, or thicker; or

Timber Weatherboard, or

OR 16mm Ply, or thicker; or

Lightweight Metal Cladding over 6mm Fibre Cement, or thicker material of similar specific mass

Minimum cavity insulation standard for each wall will be specified by Max Winders and Associates based upon specific requirements for each wall. Living area walls well shielded from aircraft noise may not require any cavity insulation for noise attenuation purposes. The most aircraft noise exposed walls will necessitate the use of high standard 75mm to 95mm thickness R2.0 insulation batts.

Internal finishes will be specified based upon the specific requirements for each wall. Typically walls to living areas will require only a single layer of plasterboard (from 10mm to 16mm thickness) or an alternative finish able to achieve a similar specific mass (e.g. T&G or similar). The required level of noise attenuation through bedroom walls may be generally be achieved with a single layer of 10mm to 16mm internal plasterboard. However, two layers of internal plasterboard may be required for the most aircraft noise exposed bedroom walls.

2.2 Windows

Due to the aspect of individual windows and shielding provided by awnings and/or eaves in some locations, a range of acoustic standards are required from proposed windows. In some cases (e.g. living area windows facing towards the south), standard single glazing may provide sufficient noise reduction to satisfy the requirements of the Court Order. However, some windows will need to achieve a high level of noise reduction, requiring the provision of thick laminated single glazing in good quality commercial grade frames or double-glazed window systems. Large areas of glazing (i.e. whole wall window) should be avoided at Northbeach Estate, as the larger the window area, the higher the noise standard required.

Experience dictates that the range of acoustic standards required for the proposed dwellings can be achieved using available glazing and framing and various proprietary window systems. Double glazed integral window units are readily available from GJames and other suppliers. An alternative is to use a secondary line of glazing within the window sill.

The window construction standard required will be specified for each proposed window.

Construction requirements for sliding glass doors will be similar to that for windows. The design of large sliding glass door areas, especially off bedroom areas, should be avoided at Northbeach Estate due to difficulty in achieving the required acoustic standard for large areas of glazing. The sliding door construction standard required will be specified for each proposed sliding door.

Each residence will be assessed based upon its architectural design and appropriate standards identified.

2.3 Timber and/or Glass Louvres

The use of timber louvres in the external facade to bedrooms and living areas is not advocated due to poor noise attenuation properties. As such, it is recommended that the designs not include louvres unless a secondary line of glazing is located internally. Two redesign options are suggested that are able to provide sufficient noise reduction through wall areas proposed to be louvres.

OPTION 1

Proposed louvre areas may be substituted with fixed or openable glazing. Windows of any type (e.g. sliding, casement, hopper, fixed) may be constructed, double-glazed if required, to achieve the necessary noise reduction. If this redesign option is preferred the window acoustic standards detailed in *Section 2.2* apply.

Remotely controlled hopper windows are a suitable design alternative for proposed gable louvres that maintains natural ventilation through the gable area and allows sunlight to enter the room.

OPTION 2

If the redesign of the proposed louvre areas is not the preferred design option, a secondary, removable line of glazing may be installed to provide the additional required noise attenuation. The secondary line of glazing may be in the form of minimum 6mm glass or 10mm Perspex attached to the inside of the timber louvres to form an air cavity and secondary barrier layer. The combination of timber louvres (closed for noise attenuation purposes), approximate 100mm air gap and secondary removable 6mm glass or 10mm Perspex is predicted to provide an R_w of approximately 38 to 40. Thus such a secondary line of glazing may permit the use of timber louvres in some cases, but not in the most aircraft noise exposed bedrooms.

This secondary line of removable glazing option may satisfy the requirements of the Court Order and allow the residents to independently choose between better natural ventilation and improved acoustic amenity.

2.4 Roof / Ceiling Structure

2.4.1 Raked Ceilings

Due to the upwards aspect of the roof / ceiling structure and the proximity of the site to the proposed future flight path, a high level of noise attenuation is required to satisfy the Court Order. Sleeping areas directly below the roof / ceiling require slightly higher noise attenuation through the roof / ceiling structure than living areas due to the need to provide lower internal aircraft noise levels in bedrooms. Indicative roof / ceiling structures able to achieve the required noise attenuation are provided below:

Living Area Roof / Ceiling Structure

- Colorbond Metal Roof or Roof Tile
- 100mm Insulation Blanket
- 16mm Plasterboard, or
  19mm Ply, or
  Multiple plasterboard or

  or
  Material of similar specific mass

Sleeping Area Roof / Ceiling Structure

- Colorbond Metal Roof or Roof Tile
- 4kg/m^2 Flexible Acoustic Barrier Sheet (sheet approximately 4mm thickness to be laid either below Colorbond or above ceiling layer)
- 100mm Insulation Blanket
- 2 layers of 16mm Plasterboard, or
  19mm Ply and 16mm Plasterboard, or
  Material of similar specific mass

This acoustic design solution will allow consistent roof / ceiling construction throughout the building, with the addition of a 4kg/m^2 Flexible Acoustic Barrier Sheet generally only over sleeping areas where a raked ceiling is proposed.

2.4.2 Roof/ Ceilings with Void

Roof / ceiling structures with void ceilings are able to achieve significantly greater noise reduction due to larger cavity size and the ability to include more insulation material.

Residences proposed to have void ceilings will typically require only a single layer of 16mm plasterboard, timber panelling or similar as the ceiling material because more insulation can be provided in the roof cavity. For bedrooms with void ceilings it may be possible to remove the 4mm acoustic blanket and provide two layers of plasterboard to achieve the required acoustic standard.

3.0 Certification Procedure

Following review of this Acoustic Design Brief, architects should attempt to incorporate the acoustic design solutions into proposed Northbeach Estate dwelling designs. Any difficulty in integrating the required acoustic design standard into the residential design and/or any alternative acoustic design solutions should be discussed with staff of Max Winders and Associates such that a mutually acceptable solution can be achieved.

Architects should issue revised plans to Max Winders & Associates. Revised designs will be assessed by Max Winders and Associates for final certification. If further acoustic design modifications are considered necessary for certification, Max Winders and Associates will contact individual architects to discuss options available to satisfy the requirements of the Court Order.

In summary, the requirements for building construction in the aircraft noise affected lots within the ANEF 20 contour require specific consideration and attention to detail. The use of external awnings and large eave overhangs will lessen the requirements for glazing and wall acoustic standards.

Each residence will be assessed to determine design specific construction requirements for aircraft noise reduction. The above is provided as a general guide only and does not reflect systems that will work in all instances.

Yours sincerely

Paul King
Senior Engineer