

Helipad at Dyke Point, Carrington

Development Application (DA-21-17874) Response to Submissions Report

February 2022

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1 Introduction

1.1 Purpose

This Response to Submissions (RTS) report relates to the Development Application (DA-21-17874) (DA) and Statement of Environmental Effects (SEE) prepared for the existing helipad at Dyke Point, Carrington, and should be read in conjunction with the SEE. Both the SEE and this RTS will be considered by the consent authority.

The DA was placed on public exhibition by the Department of Planning, Industry and Environment (DPIE) via the NSW Planning Portal website for 14 days from 3 December 2021 to 17 December 2021. This period was extended by 7 days until 24 December 2021 as upon further review of the SEE, DPIE decided that given the noise impacts to the south of the helipad, notification should be extended to those receivers.

1.2 Background

Port Authority manages the navigation, security, and operational safety needs of commercial shipping in Sydney Harbour, Port Botany, Newcastle Harbour, Port Kembla, Eden and Yamba.

Port Authority has several functions in relation to Newcastle Harbour, including as the statutory provider under Section 74 of the *Marine Safety Act 1998* (NSW) of marine pilotage services for certain declared ports within New South Wales, including for the Port of Newcastle.

In the Port of Newcastle, these services generally involve specialist marine pilots (Marine Pilot) either boarding an incoming commercial vessel approximately 3 to 8 nautical miles off the Newcastle coast and navigating that vessel to its berth in the Port, or conversely navigating a vessel from its berth to a release point approximately 1 to 2 nautical miles offshore. At this point, the Marine Pilot is either returned to the Base, or transferred to another incoming vessel.

Marine Pilot transfers by helicopter (HMPT) via an operational helipad facility at Dyke Point, Carrington (Helipad) is the primary method of transport utilised by Port Authority for the Port of Newcastle. As the commercial operations for the Port of Newcastle operate 24 hours a day for 7 days a week, HMPT operations are conducted during both day and night. HMPTs are currently utilised for approximately 95% of coal vessels and 35% of general cargo vessels, which equates to approximately 73% of all transfers of Marine Pilots between the Port and offshore vessels, and between vessels offshore. The total flight time (i.e., total 'Block Hours') associated with these HMPTs is approximately 1,100 hours per annum, being over 6,800 helicopter transfers.

Marine Pilot Services are therefore considered by Port Authority to be critical to the safe and efficient function of the Port of Newcastle and its state-significant infrastructure, which in turn is critical to both the NSW and National economies.

A development consent (DA 98/1262) was granted by Newcastle City Council on 3rd May 1999 for "helipad facilities at Dyke Point for marine pilot transfer".

The EIS for DA 98/1262 was based on a single-engine Hughes 500E helicopter and the two nominated flight paths from the helipad (located at Dyke Point) with the main flight path to the north of the helipad identified as Flight Path B and a secondary flight path being south-east of the helipad and then east along the main channel of the Newcastle Harbour being identified as Flight Path A, as shown on the Flight Path Plans provided within Appendix B of the SEE and in **Appendix B** of this RTS report.

Aviation regulations for helicopters in Australia (CASA CASR 138) have been amended and will require in the future the Helicopter Marine Pilot Service to be upgraded to use a twin engine helicopter by 1 December 2021. Port Authority has obtained a Civil Aviation Safety Authority (CASA) extension to 31 March 2022.

The changes to the regulations are designed to improve operation safety and so existing operations at the Port will be improved with the introductions of a twin-engine helicopter.

1.3 Consultation process

The consultation process involved the following activities:

- The DA and SEE were placed on public exhibition on DPIE's Planning Portal website from 3 December to 24 December 2021.
- Port Authority provided a written update to City of Newcastle (CN), including the Chief Executive Officer (CEO), about progress of the DA submission on 6 December 2021.
- Port Authority provided an update to Port of Newcastle (PON) about progress of the DA submission and key messages on 23 November and 3 December 2021.
- Port Authority provided DPIE with contact information for local community groups and outlined helicopter flight paths for local resident notifications.
- Port Authority updated its website to include details about the DA, display period and a link to DPIE's website.
- Email and phone enquiry lines were open during the consultation period.

1.4 Summary of submissions

A total of 6 submissions were received in response to the public exhibition of the DA and SEE. They were received from:

- City of Newcastle (CN)
- NSW Environment Protection Authority (EPA)
- Ms R Connor (community submission)
- Port of Newcastle – supportive submission
- Newcastle Coal Infrastructure Group – supportive submission
- Port Waratah Coal Services- supportive submission

DPIE has required that Port Authority provide a response to the issues raised in the submissions made by CN, EPA and Ms R Connor.

2 Response to submissions

The following provides a summary of the key issues raised in the submissions received by CN, EPA and Ms R Connor and responses from Port Authority to the key issues.

It also identifies where changes to the DA will be made by Port Authority as a result of the submissions, or where further action to be undertaken by Port Authority has been identified.

DPIE also engaged an independent acoustic consultant to conduct a review of the acoustic assessment contained in the DA documents (Rob Bullen Consulting, 8 December 2021). Responses to the Rob Bullen Consulting letter and acoustic matters raised by CN, the EPA and Ms R Connor have been prepared by Mr Steven Cooper of the Acoustic Group and attached at **Appendix A**. The Rob Bullen Consulting letter is addressed in the letter dated 27 January 2022 and the balance from the CN and EPA submissions addressed in letter dated 4 February 2022.

2.1 City of Newcastle Submission (23/12/21)

2.1.1 Existing conditions of development consent

Issue

The proposed modification to condition 4.10 regarding maximum allowable noise impacts would result in a possible future L_{max} noise increase of up to 8 dB (7am to 10pm) and 3dB (10pm to 7am) at residential premises. Also proposed is an increased Leq of 5dB (7am to 10pm) and 9dB (10pm to 7am) at commercial premises. These additional potential noise impacts are at the limit of what the NSW Environmental Protection Authority Helicopter Noise Guidelines indicate are acceptable and are substantially higher than the current approved noise limits imposed on the consent by Council.

The existing consent conditions (and the maximum noise levels applied) sought to achieve a reasonable compromise between the interests of the specific operational needs of the helicopter operations and protecting the amenity of the surrounding residential and commercial areas by only permitting an additional noise impact which was deemed to be reasonably justified given the specific merits of the development proposal.

It is considered more appropriate to not amend the conditions to allow for the maximum acceptable noise impacts as proposed, and instead, amend the existing conditions to only allow for the minor additional noise generated by the proposed twin engine type of helicopter.

Response

Please refer to the attached response at **Appendix A** from The Acoustic Group (letter dated 4 February 2022). Mr Cooper advises that the increases are not as suggested by Council and that only the Crown Plaza Apartments will experience above 74dB(A) for some operations but still under the 77dB(A) noise criteria referenced in the original EIS which is still 3dB(A) lower than the night-time limit under AS 2363 and 5dB(A) lower than the last L_{Amax} noise limit imposed by the EPA under EPL 10772 (for all affected residential receivers).

Port Authority considers it appropriate to maintain the criteria proposed in Table 2 of the SEE. The proposed noise criteria, being lower than or consistent with the “acceptable noise limits” previously provided by the EPA have therefore already been established as being acceptable and thus compliance with the criteria is acceptable.

2.1.2 Residential development

Issue

The SoEE is supported by an Acoustic Assessment, prepared by The Acoustic Group, which describes the acoustic testing undertaken at Maitland Airport to evaluate the noise levels of the type of twin-engine helicopter selected for the marine pilot transfer.

According to the assessment, the testing was based on the six residential reference locations '...that have historically been used for compliance testing of the existing marine pilot helicopter in Newcastle.' The test flights and the representative locations of the residential receivers were overlaid on an aerial photograph of the airfield and surrounds. Since 1999, when the last acoustic reports were prepared, there has been significant increase in high rise residential development undertaken in the City Centre, including on the former Honeysuckle Railway Yard lands which abut two of the nominated residential receivers. To assist the Department's understanding of the spatial relationship between the existing helipad and the nominated residential receivers, as well as other residential development in the locality, it is recommended that the Applicant be required to submit an aerial photograph or plan, of a suitable scale, of inner-city Newcastle which shows the locations of the residential receivers, as well as other residential development and the flight paths.

Also, it is noted that the preferred Flight Path B passes over the areas of North Stockton and Fort Wallace on its way out to the ocean. Both these areas are planned for residential development and are the subject of strategic plans and development guidelines. Refer to the ['Fern Bay and North Stockton Strategy'](#) which was developed by Newcastle and Port Stephens Councils and Section 6.15- [Fort Wallace of the Newcastle Development Control Plan 2012](#).

As such, it is recommended consideration is given to the potential noise impacts on future residential receivers from the proposed twin-engine helicopter utilising the Flight Path B. Should noise impacts be experienced by future residential receivers that exceed reasonable levels (as per the EPA's adopted noise guidelines), further flight paths should be investigated to controls these levels to an acceptable level.

Response

As requested by Council a plan has been provided which includes a recent aerial image and identifies the approved flight paths and residential receiver locations. A copy of this plan is provided within **Appendix B**.

The response letter from The Acoustic Group (4 February 2022), attached at **Appendix A**, confirms that noise levels at future planned residential development at Fern Bay and Fort Wallace will be within the acceptable criteria.

2.1.3 Proposed maintenance activities

Issue

While the SEE (page 7) acknowledges that the existing development consent does not specifically refer to maintenance activities associated with the approved facility; it is stated that these activities comprise part of the existing development consent because the Environmental Impact Statement (EIS) includes the statement that '...major aircraft work will be undertaken off-site. Routine periodic aircraft maintenance/servicing work will be performed at Dyke Point helipad only'. Condition 1.1 of the development consent includes a reference to the EIS.

The SEE states that the routine maintenance works associated with the new aircraft will include '...track and balance manoeuvres, where the helicopter is grounded and does not take off, but its engine is running.' No hard evidence has been provided that these maintenance works were approved by the development consent. It being noted that these activities were not included in the original acoustic tests for the development. To satisfy the requirements of clause 35 of Schedule 3 of the Environmental Planning Regulation 2000 it recommended the Applicant be required to include an acoustic assessment

of the proposed maintenance activities to demonstrate that there will not be a significant increase in the environmental impacts of the 'total development'.

Response

To clarify the proposed maintenance activities associated with the helipad, we advise that in accordance with the existing Consent, which expressly incorporates the original EIS, only routine periodic maintenance/servicing work will occur at the Dyke Point facility. As stated on page 7 of the SEE, routine periodic maintenance/servicing work is already approved. Routine maintenance generates no noise emanating from the site that could be perceived at residential receivers and would be significantly below the maximum noise level limits.

Port Authority would like the consent to be clear that routine periodic maintenance/service work is authorised. Whilst the current Consent does authorise it by way of condition 1.1 Port Authority requests that this be made expressly clear in any new Consent granted.

This response also serves to revise the SEE and therefore the development application. Please remove the following from page 8 of the SEE from DPIE's consideration:

“typical routine maintenance operations that will be carried out on the helicopter type at the Helipad include:

- **Track and balance manoeuvres, where the helicopter is grounded and does not take off, but its engine is running;**
- **Repairing engines and gearboxes; and**
- **Testing, idling and hovering in relation to track and balance manoeuvres.”**

It is confirmed that all major aircraft maintenance will occur off site and that Port Authority will subsequently seek any amendments to EPL 10772 deemed necessary to rectify any inconsistencies with a new consent.

2.2 NSW EPA Submission (DOC21/1073083)

2.2.1 Clarification of the proposed development pathway

Issue

The SEE states “The proposed development is not considered to be integrated development” as the Licence “does not authorise or regulate noise from the operation of helicopters as part of flight activities”. While the EPA acknowledges flight activities are not regulated under the POEO Act, the EPA questions the proponent’s position that the DA is not an Integrated development, for the reasons detailed below:

- *Division 4.8, section 4.46, of the Environmental Planning and Assessment Act 1979 states “Integrated development is development (not being State significant development or complying development) that, in order for it to be carried out, requires development consent and one or more of the following approvals”, under which the Protection of the Environment Operations Act 1997 (POEO Act) is listed. The application does not state that it is either State significant development or complying development.*
- *The proposal is subject to an environment protection licence under sections 43, 48 and 55 of the POEO Act for helicopter-related activities, clause 20 of Schedule 1 of the POEO Act. Environment Protection Licence 10772 (**the Licence**) is currently held to undertake helicopter-related activities at the premises.*
- *Schedule 1 clause 20 of the POEO Act “applies to helicopter-related activities, meaning the landing, taking-off or parking of helicopters (including the use of terminals and the use of buildings for the parking, servicing or maintenance of helicopters)” for an activity with more than 30 flight movements per week, and conducted within 1 kilometre of a dwelling.*
- *Section 2.2 of the SEE states “The total number of helicopter movements (take-off and landings) being limited to 40 in any 24-hour period” and is within 500m to the nearest dwelling. This is*

greater than the 30 flight movements per week and less than the 1 kilometre stipulated in schedule 1 of the POEO Act.

- The proposed activities will require “landing, taking-off or parking of helicopters”, and the use of “terminals and the use of buildings for the parking, servicing or maintenance of helicopters” all of which are defined as helicopter activities in Schedule 1 clause 20 of the POEO Act. Therefore, the development cannot lawfully operate without an environment protection licence.

Response

The EPA seeks clarification on the status of the proposed development pathway, that is whether or not the proposed development is “integrated development”.

As set out in the SEE, the DA seeks consent to allow the use of twin-engine helicopters at the existing helipad. The current Development Consent DA98/1262 approves the operation of the helipad and envisages the use of different helicopter types at the site (under condition 4.5).

The SEE confirms that no changes are proposed to approved flight paths or the maximum number of helicopter movements. No changes are proposed to the helipad or existing associated infrastructure.

Environment Protection Licence (EPL) 10772 for “Helicopter-related activities” applies to the current use of the premises. The EPL does not authorise or regulate noise from the operation of aircraft or helicopters as part of flight activities.

The proposal, if approved, will result in an amendment to the conditions of the current Development Consent that limit the types of helicopters that can use the helipad and apply acoustic criteria to helicopter flights.

As the EPL does not contain any acoustic criteria, nor does it limit the type of helicopter that can be used at the site, no corresponding changes to the EPL will be required as a consequence of the grant of development consent to the DA. It should be noted that there is no intention for more than one helicopter to operate at the premises at any one time. Accordingly, no change to condition L3 Noise Limits in the EPL is required.

The EPA has pointed out, the SEE identifies a discrepancy between the existing Development Consent DA98/1262 and the EPL. Routine maintenance activities are currently approved under the Development Consent, but condition O2.2 of the Environment Protection Licence provides that any helicopter maintenance work requiring the engine to be operated must not be carried out at the premises. Port Authority will separately discuss with the EPA any need for a licence change (if any).

Any required variation to the EPL is not, however, required as a consequence of the proposed change to the helicopter types using the helipad and the acoustic criteria applying under Development Consent DA98/1272. Given the EPL does not regulate acoustic impacts of helicopter flights, there are no “general terms of approval” for the EPL that are sought in connection with the DA. Accordingly, the DA should not be treated as “integrated development”.

In any event, it is clear from the DA and SEE that even if the development subject to the DA is a scheduled activity under the *Protection of the Environment Operations Act 1997*, the applicant has elected to have the DA processed as if it were not an application for integrated development. In *Muscat Developments Pty Ltd trading as Muscat Developments v Wollondilly Shire Council* [2021] NSWLEC 1758 the Court confirmed that it is a matter for the applicant to decide whether its DA is assessed as integrated development. In that case, the Commissioner stated:

Even if the proposed development did involve the carrying out of a scheduled activity under the POEO Act (which is not conceded), the proposed development is not integrated development under s 4.46(1) of the EP&A Act. The Applicant did not elect integrated development on the development application form, which is a discretionary decision to be made by the Applicant alone: *Maule v Liporoni* (2002) 122 LGERA 140; [2002] NSWLEC 25 at [83]-[87]; *Motbey v Hollis and Eurobodalla Shire Council* (2003) 124 LGERA 227; [2003] NSWLEC 40 at [18]. The Applicant does not thereby evade any applicable legal obligation – if consent is granted any obligation on Muscat to obtain an environment protection licence under s 48 of the POEO Act would continue to be a statutory obligation.

In accordance with the above authorities, and if required in discussion with the EPA, an application to vary the EPL will be made to ensure that the licence is consistent with any development consent granted for the operation of the helipad. Under section 50 of the *Protection of the Environment Operations Act 1997*, such variation cannot be granted unless development consent is granted. The merits of any proposed variation can be considered by the EPA when that application is made.

2.2.2 Assessment of on ground-based activities

Issue

An acoustic assessment of maintenance works assessing the proposal against the Noise Policy for Industry (EPA, 2017) (the NPfI) is required before the EPA can comment on the potential noise impacts from maintenance works.

The SEE, Section 2.2, outlines the type of maintenance work envisaged for the new type of helicopter at the Dyke Point helipad, including: track and balance manoeuvres; repairing engines and gearboxes; and testing, idling and hovering in relation to track and balance manoeuvres. It also acknowledges a conflict with the Licence, in which condition O2.2 states “Helicopter maintenance work, which requires the engine to be operated, must not be carried out at the premises”. However, no assessment of works has been made against the requirements of the NPfI.

Licence condition L3.1 states “Only one helicopter is permitted to operate at the premises at any one time”, with the intent to minimise noise impacts. As the proponent requests to use acoustic criteria as the guide for regulation instead of helicopter type (SEE Section 2.2), it can be presumed this would also extend to regulation using acoustic criteria instead of the number of helicopters. However, the SEE has not addressed this matter directly.

There is insufficient information provided in the SEE or Acoustic Report for the EPA to vary Licence condition L3.1.

Response

As provided in Section 2.1.3 above, to clarify the proposed maintenance activities associated with the helipad, we advise that in accordance with the existing Consent, which expressly incorporates the original EIS, only routine periodic maintenance/servicing work will occur at the Dyke Point facility. As stated on page 7 of the SEE, routine periodic maintenance/servicing work is already approved. Routine maintenance generates no noise emanating from the site that could be perceived at residential receivers and would be significantly below the maximum noise level limits.

Port Authority would like the consent to be clear that routine periodic maintenance/service work is authorised. Whilst the current Consent does authorise it by way of condition 1.1 Port Authority requests that this be made expressly clear in any new Consent granted.

This response also serves to revise the SEE and therefore the development application. Please remove the following from page 8 of the SEE from DPIE’s consideration:

“typical routine maintenance operations that will be carried out on the helicopter type at the Helipad include:

- **Track and balance manoeuvres, where the helicopter is grounded and does not take off, but its engine is running;**
- **Repairing engines and gearboxes; and**
- **Testing, idling and hovering in relation to track and balance manoeuvres.”**

It is confirmed that all major aircraft maintenance will occur off site and that Port Authority will subsequently seek any amendments to EPL 10772 deemed necessary to rectify any inconsistencies with a new consent.

It is confirmed that only one helicopter will use the helipad at any one time.

2.2.3 Potential misapplication of SPCC guideline for in flight activities

Issue

The EPA does not have a regulatory role for air-borne operational aspects of the development. However, the Acoustic Report has cited former EPA State Pollution Control Commission (SPCC) guidelines and quoted "EPA Guidelines" several times within the document. On that basis, the EPA identifies below some key aspects of the assessment for the Department of Planning, Industry and Environment's consideration, noting this information is advisory only.

1. The Acoustic Report references former State Pollution Control Commission (SPCC) Guidelines contained in Chapter 165 of the retired Environmental Noise Control Manual. The EPA position on this document is outlined in the current Noise Guide for Local Government (NGLG, EPA, 2013), "The Environmental Noise Control Manual previously published by the EPA does not contain current information on noise management and should not be used or relied upon. It has been superseded by the above policy documents and this Guide. Current noise policies are available at www.epa.nsw.gov.au/noise/index.htm". Noting, the EPA has not produced a contemporary guideline relating to in-flight impacts from helicopters as the EPA does not have a regulatory role.
2. The EPA is aware that recent NSW Land and Environment Court rulings have used the Australian Noise Exposure Forecast (ANEF) system to assess the impact of aircraft movements associated with heliports (*Nessdee PTY Ltd v Orange City Council NSWLEC 158*).

The EPA notes the ANEF unit is an aerodrome assessment specific noise unit that is roughly equivalent to LAeq,24hr (i.e. average noise over a 24hr period) = ANEF + 35dB.

3. Table 2 of SEE sets out the proposed amendments to noise limits in condition 4.10 of the consent. They appear to be drawn from Table 1 in the Acoustic Report which appear to be a combination of the former SPCC guideline (with several interpretations by the Acoustic Report author) and achievable noise levels determined through the original EIS and applied in the current consent.

Response

Please refer to the response letter from The Acoustic Group (4 February 2022), attached at **Appendix A**, for the response to points 1- 3 of this section of the EPA's submission.

Issue

4. The EPA raises the following advisory points for the Department's consideration with respect to the proposed amended noise limits:
 - i. The Acoustic Report suggests that the current limits in condition 4.10 were derived from achievable noise levels identified in the EIS for the operation of the Hughes 500E helicopter i.e. best practice. These limits apply to residential and commercial receivers.
 - ii. Proposed residential Lmax, dB(A) limits: The proposed Lmax, dB(A) noise limits reflect the former SPCC guideline (with the Acoustic Report authors interpretation about dichotomising day / night levels), however these values are higher than the predicted values for the new helicopter type outlined in Table 2 of the Acoustic Report, especially for daytime operations.
 - iii. Proposed residential Leq, dB(A) limits: These limits are based on the existing consent condition 4.10 i.e. Leq, (7am – 10pm) 60.5 dB(A) and Leq, (10pm - 7am) 56 dB(A) which align roughly with ANEF 24. However, the predicted Leq, dB(A) levels in the Acoustic Report at Table 3 are considerably lower than the current limits suggesting that on an energy average basis the proposed helicopter is considerably quieter than the current Hughes helicopter. In fact, the noise predictions in the Acoustic Report suggest the helipad operation could indeed meet Leq, dB(A) levels below an equivalent ANEF 20.
 - iv. Proposed commercial limits: These limits are drawn from the SPCC Guideline. However, the Acoustic Report has not undertaken any assessment of noise levels at commercial receivers and therefore the achievability of the proposed limits cannot be determined.

Response

Please refer to the response letter from The Acoustic Group (4 February 2022), attached at **Appendix A**, for the response to point 4, sub-points i-iv of this section of the EPA's submission.

Issue

- v. *Best practice approach: The EPAs understanding of the current limits in condition 4.10 is that they were derived from what is achievable i.e. best practice. Based on information contained in the current Acoustic Report, the proposed amendments to condition 4.10 do not reflect what is achievable and therefore may not be consistent with a best practice approach.*

Response

Please refer to the response letter from The Acoustic Group (4 February 2022), attached at **Appendix A**, for the response to point 4, sub-points v of this section of the EPA's submission.

Port Authority considers it appropriate to maintain the criteria proposed in Table 2 of the SEE. The proposed noise criteria, being lower than or consistent with the "acceptable noise limits" previously provided by the EPA have therefore already been established as being acceptable and thus compliance with the criteria is acceptable.

2.3 Ms R Connor

Issue

I note that there is an overall increase in Lmax 24hrs from 74dB(A) to 82dB(A) for residential and 85dB(A) for commercial properties, an increase in Leq 7am to 10pm from 60.5dB(A) to 77dB(A) for residential and 85dB(A) commercial properties and Leq 10pm to 7am from 56dB(A) to 65 for commercial properties. These proposed increases should be considered significant and therefore warrant consideration of the proposal as Designated Development.*

I further note there was no modelling provided in the report for residential properties to the north/east of the facility (i.e Stockton). Residents in Stockton currently suffer noise impact from helicopter flight movements which are often exacerbated under certain weather conditions. Noise is also reflected from the large commercial precinct along Honeysuckle toward Stockton foreshore.

The Statement of Effects fails to consider the current and future impacts on television reception for surrounding residential properties. My dwelling, as are many dwellings in Stockton,) are currently impacted by disruptions to television signal reception (known as "multipath") from current helicopter movements associated with this facility. Further investigation of this impact is required and mitigation/amelioration proposed for consideration prior to making further comment on the proposal.

Response

The submission has presented errors in referencing noise limits and has confused Leq and Lmax levels and time periods.

The acoustic assessment and SEE considered noise impacts on at monitoring locations representative of the reference residential locations previously used for the original EIS acoustic assessment and compliance testing of the existing operations. The closest sensitive receivers identified as part of the acoustic testing undertaken in 1998 to support the original EIS remain the closest sensitive receives for the current assessment. The increase in maximum noise level (at only one location) is minor (2db(A)) and, in subjective loudness terms, would generally not be perceived by the human ear. In terms of noise exposure (Leq) the proposed twin engine helicopter will result in noise levels below the Leq limits on the current consent.

Port Authority has not seen evidence supporting the claim that television reception is impacted by the helicopter operations from Dyke Point. Since the beginning of operations until now Port Authority is not aware of any complaints having been made in regards to television reception interference. Given that there

are no other submissions made from the same general location with this concern, the lack of historical complaints citing TV reception interference and that any number of things could be impacting Ms Connor's television reception, it is considered highly unlikely that helicopter operations are impacting TV reception.

3 Conclusion

Thank you for the opportunity to provide our response to the submissions made. In summary the proposed development is simply seeking to replace one type of helicopter with another to be consistent with new Commonwealth regulations.

There is no change to current maintenance activities which have been approved as part of the original approval. 'Track and balance' operations, referenced in the SEE, occur as part of pre-flight checks and can involve hovering off the helipad. They are not to be considered as part of the previously approved routine periodic maintenance/servicing work and a request has been made for DPIE to remove the consideration of noted text from page 8 of the SEE.

Noise from the twin engine helicopter has been assessed and found to be within established acceptable criteria.

We fully acknowledge that the assessment of helicopter noise is a complex science. Mr Steven Cooper of The Acoustic Group has highly developed and proven skills in the assessment of helicopter noise assisted by his understanding of helicopter flight and operational characteristics. If DPIE would find it beneficial, we would be pleased to organise a meeting between DPIE, ourselves and Mr Cooper to provide any further explanation or discussion of noise matters, the acoustic assessment undertaken and how the proposal complies with established noise criteria.

Appendix A

The Acoustic Group Technical Response to Independent Acoustic Review

The Acoustic Group Technical Response to City of Newcastle and EPA Submissions



52.3698.L15:MSC

27 January 2022

Chief Operating Officer
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PORT BOTANY NSW 2036

PROPOSED HELICOPTER UPGRADE NEWCASTLE HELICOPTER MARINE PILOT TRANSFER

In relation to a Development Application for a change to the helicopter type permitted to be used at the existing Dyke Point Helipad for Marine pilot transfers, I am instructed that the Department of Planning, Industry and Environment engaged Rob Bullen Consulting to undertake a review of the acoustic reports submitted with the application.

A 5 page document from Rob Bullen Consulting dated 8 December 2021 titled Dyke Point Helipad Upgrade Acoustic Assessment: Review, containing commentary on the acoustic assessment for the proposed Marine Pilot Transfer Helicopter Upgrade references two documents prepared by The Acoustic Group.

One document relates to test flights of a Eurocopter EC 135 P2+ helicopter at Maitland airport and the second document relates to the acoustic assessment of the twin-engine helicopter upgrade for the operations at Dyke point.

A third acoustic document is referred to, being Appendix E to the EIS for the original project where that report was prepared by Steven Cooper Acoustics.

In relation to the document provided by Rob Bullen Consulting some of the material is accurate in its presentation, however some material does not accord with the material presented in the acoustic documents that were submitted with the application. The Rob Bullen Consulting document has misrepresented the basis of the assessment and the relevance of the original testing and noise limits.

In view of the application seeking a condition to be imposed in accordance with Section 4.17(1)(b) of the EP&A Act requiring that the existing consent (DA98/1262) be modified, the acoustic assessment provided the context of the Development Application with respect to the original acoustic assessment that was undertaken at the request of the Council.

The Rob Bullen Consulting document failed to acknowledge the different noise criteria used in the original assessment and that the approval contained a mixture of the SPCC/EPA helicopter guideline and Australian Standard AS2363.

The mixture of criteria was necessary because the superseded SPCC/EPA helicopter guideline only considered helicopter operations between 7am and 10pm, whereas the pilot service operated 24 hours a day and AS2363-1990 provided acoustic criteria for 24 hour operations.

Sections 1, 2 and 3 of the acoustic assessment provided an outline of the history of the helicopter site, conditions imposed upon the development consent, and acoustic criteria that was utilised for the original EIS, all of which the response from Rob Bullen Consulting has failed to acknowledge.

The existing development approval relates specifically to the operation of a Hughes 500E (single engine) helicopter. The noise conditions and operational restrictions on the consent relate to that helicopter type – being the helicopter type proposed for the service and the helicopter that was tested.

Aviation regulations for helicopters in Australia (CASA CASR 138) have been amended and will require in the future the Helicopter Marine Pilot Service to be upgraded to use a twin-engine helicopter. Following a selection process the helicopter type proposed for the pilot transfer is to be a twin-engine Eurocopter Type 135.

In responding to the Rob Bullen Consulting review it is necessary to identify that the Development Application only relates to modifying an approved existing operation (to allow for the use of a twin engine helicopter) and does not relate to a new use or operation at the helipad. Therefore, the assessment for the upgraded helicopter was undertaken on the same basis as the original acoustic assessment upon which a development consent was granted by the Council.

The EIS for the existing operations assessed a single engine helicopter and identified that if the helicopter used by the service was to change to an alternative helicopter it would need to be subject to acoustic testing to demonstrate compliance with the criteria nominated in the EIS. As stated in the Statement of Environmental Effects (SEE) the current Development Application does not seek compliance with the criteria nominated in the EIS, it seeks a condition be imposed requiring the modification of DA98/1262 (as outlined in section 2.2 of the SEE).



Noise Criteria

An application for a new development site would not utilise noise criteria contained in the approval for the Helicopter Marine Pilot Service as the operation of helicopters from when the engine is started through to the take-off and for the reverse operation of landing and engine shutdown is controlled by AirServices Australia and would be assessed under Australian Standard AS 2021.

Under that standard where the ANEF is less than 20 (or equivalent 55 dB(A) Leq level) at residential receivers then aircraft noise is not considered an issue. For commercial receivers higher noise levels are permitted.

In the original application the Council first sought to utilise the SPCC/EPA helicopter guideline until it was identified there were technical problems with the original guideline (by reason of the Leq formula incorporating ambient Leq levels resulting in an increase in the number of helicopter movements and reducing the Leq level). However, because of the parabola concept in the SPCC formula further increasing the number of movements resulted in a progressive decrease in the Leq level (which defies laws of physics) and that the SPCC Guideline did not cover 24 hour operations for residential receivers.

Australian Standard 2363 – 1990 formalised measurement and analysis procedures and excluded ambient noise in the determination of the helicopter noise level to address technical errors in the SPCC helicopter noise guideline. The standard also defined the method of energy averaging the results of individual flight path movements which is consistent with the use of Leq concepts and provides a higher average level than if using arithmetic averaging.

It is noted that the EPA (by way of an environment protection licence for the operation of the helipad) utilised different criteria than set out in the development approval.

The EIS presented the appropriate limits by the combination of the SPCC guideline and AS 2363 to set out the noise limits for the assessment of 24 hour operations that being the results set out in Table 1 of the acoustic assessment report (reproduced below).

TABLE 1: Corrected Noise Limits

Location	Lmax 7am to 10pm	Lmax 10pm to 7am	Leq 7am to 10pm	Leq 10pm to 7am
At any residential premises	82 dB(A)	77 dB(A)	60.5 dB(A)	56 dB(A)
At any commercial premises	85 dB(A)	85 dB(A)	65 dB(A)	65 dB(A)



Condition 4.10 of the consent specified the residential Leq limits in the above table for all residential and commercial premises but set a limit of 74 dB(A) as a maximum level not in accordance with any standards or guidelines (noting that the SPCC guideline provided a maximum limit of 82 dB(A) in the day) but nominated the limit as that was the maximum level measured for the Hughes 500E helicopter (see last paragraph on page 7 of the acoustic assessment).

This is a similar approach adopted by the EPA in relation to some industrial applications where an applicant identifies noise emission from the proposed development or upgrade to a development would be significantly less than the assessment criteria obtained from EPA policies, and the EPA impose a noise limit based on the predicted levels for the proposed development.

For the Development Application the acoustic assessment utilised the assessment criteria presented in the EIS for consistency bearing in mind the criteria were noise emission criteria not an overall noise limit and utilised the assessment procedure and terminology set out in AS 2363.

Therefore, contrary to the first paragraph on page 2 of the Rob Bullen Consulting review document, the L_{Amax} values set out on both the development consent and Table 1 above were energy averaged maximums in accordance with the definition AS 2363. For clarification the acoustic assessment provided the definition of L_{Amax} (Hel) on page 6 of the acoustic assessment.

As Rob Bullen Consulting have failed to comprehend the definitions provided in the acoustic assessment the L_{Amax} level on the consent is not arithmetic average values over several flights but is specifically the logarithmic average of the individual L_{Amax} event levels for each mode of operation for each flight path (see page 6 of the acoustic assessment).

With respect to the second paragraph on page 2 of the Rob Bullen Consulting review document there is another error in the text in that the maximum noise limit nominated by the Council with respect to the Hughes 500E helicopter was not the highest noise level predicted for the subject helicopter but was the highest noise level measured at the reference locations being locations reviewed by Council (prior to the testing) and agreed to be the critical locations for the purpose of the noise assessment.

With respect to the third paragraph on page 2 of the Rob Bullen Consulting document the paragraph is in error and that the Leq levels were as per the EIS assessment, and the maximum level imposed by the Council was the maximum level for the subject helicopter as described above.

The Development Application requests an increase in the maximum noise level to that set out in the EIS and for night-time operations that gives a level of 77 dB(A).



With respect to the fourth paragraph on page 2 of the Rob Bullen Consulting document there is again another error of fact in terms of criteria. If applying AS 2021 because there is an existing service not a new situation (as suggested) then under AS 2021 the limit on a 24-hour basis is Leq 55 dB(A). Furthermore, if using AS 2021 the maximum levels would be assessed as Slow response and arithmetic averaged levels and give rise to maximum levels lower than the energy average of the Fast response maximum levels.

With respect to the fifth paragraph on page 2 of the Rob Bullen Consulting document there is another error of fact. There is an existing helicopter service operating from the subject site which is governed by noise limits for that helicopter identified at the top of page 2 of the Rob Bullen Consulting document. The testing of the subject helicopter identified compliance with the Leq noise limits and that there would be compliance with the 77 dB(A) maximum limit for night-time operations being the limit identified in terms of the relevant criteria presented in the EIS.

Accordingly, the last paragraph on page 2 of the Rob Bullen Consulting document has no basis of fact.

Noise Results

From page 3 of the Rob Bullen Consulting document comments are provided in relation to the noise testing of the subject helicopter undertaken at Maitland. There are several comments provided in relation to the noise levels used for assessment purposes that suggest the author of the document has not comprehended the contents of the test report particularly considering all the errors identified above with respect to page 2 of the Rob Bullen Consulting document.

With respect to the testing at Maitland Airport, the locations at which measurements were undertaken relate to the assessment and monitoring locations undertaken in the original EIS and subsequent compliance testing for the existing operations upon which one can compare the results between the two different helicopters.

The last paragraph on page 3 of the Rob Bullen consulting document identifies clearly that the author of the document does not have the appropriate knowledge of helicopter operations or restrictions required for assessment under the standard AS 2363 there was specifically identified as being the testing regime used in the original EIS used for the testing of an airport.

The preferred take-off and landing configurations for a helicopter when there is wind is to have the nose of the helicopter experiencing a headwind component, rather than operating with a tailwind component.



Both the acoustic assessment document and the Maitland Airport testing document identified the different operating procedure for takeoff and landing of a twin-engine helicopter versus a single-engine helicopter. The two helicopters have different flight profiles. The use of the twin-engine helicopter allows the helicopter to ascend above the helipad with a headwind component and then deviate on the appropriate flight track.

The operating manual of the helicopter prohibits the landing or take-off of a helicopter with a tailwind above a wind speed (that will vary dependent upon the helicopter type).

The first paragraph on page 9 of the Maitland Airport testing report identifies restrictions in terms of all the operations in calm air or in light conditions. The text indicates that there were several operations in which the helicopter was subject to wind gusts that exceeded the specified limits for testing.

The testing at Maitland airport identified that there was no appreciable wind at the monitoring locations at ground level but during the testing program there was the presence of a wind between 100 ft and 200 feet above ground level.

The last paragraph on page 12 of the Maitland Airport testing report identifies that during testing it was determined that at times the helicopter when hovering above the helipad was situated in a downwind configuration, which would not occur for normal operations but was undertaken to conform with the flight program that have been developed for the testing.

Appendix G of the Maitland Airport testing report provides the weather conditions at Maitland Airport and reveals in the morning wind directions from W – NW. Therefore, some of the take-off test flights on flight track A were affected by a tailwind and were subject to a wind level identified by the pilot that would not permit a take-off on Flight Path A for the flight procedures at Dyke Point.

The Maitland Airport test report provided detailed tracking information of the aircraft to identify the take off and landing profiles. Examination of the climb out profiles reveals obtaining cruise height at different ground distances from the helipad arises from the presence of a headwind.

Appendix D6 of the Maitland Airport testing report shows the landing for movement 22 (in red) was a direct track from the first turning point on take-off. This landing had a downwind component requiring the helicopter to turn above the helipad to have the descent with a headwind component. That movement would not occur. The remaining landings from the north in that figure used the second outer turning point to conduct a visual approach to the helipad and then turned before the helipad to obtain a headwind component to complete the landing.



Some of the take offs on the equivalent of flight path B had a downwind component that gave rise to noticeable peaks in the hover mode. As set out in the first paragraph on page 16 of the Maitland Airport test report two flight movements were not undertaken in accordance with the normal operations of the proposed facility and that data was removed from the logarithmic averaging. Those flights were movements 33 and 35, being 80 and 81 dB(A) respectively leaving movements 37 and 39 having maximum levels of 75 and 77 dB(A).

In any event the helicopter maximum levels for comparison with the EIS criteria are logarithmic average levels and the testing reveals on that basis all operations that would be undertaken in accordance with the operating procedures are below the 77 dB(A) limit for night time operations, being the night time maximum limit proposed in the Development application.

The last paragraph on page 3 of the Rob Bullen Consulting document referring to mitigation measures highlights the lack of detailed knowledge as to operational requirements of helicopters.

The operation of fixed wing aircraft using runways on an airport is governed by the operational procedures of the airport with the normal requirement for landings and take offs not occurring in downwind conditions and limitations as to crosswind conditions.

Helicopters do not use runways but still have operating procedures that when there is wind present to avoid downwind operations above certain wind speeds.

The operating procedures of the subject helicopter and the existing helicopter have built in mitigation measures corresponding to the wind direction. The current pilot transfer service utilises flight path B as the main flight path. The summary of measurement results in Appendix C of the Acoustic Assessment reveal all locations to have maximum levels below the EIS night time criteria.

The use of flight path A is limited when compared to the total flights per year (see Appendix E of the Acoustic Assessment).

The concept of a 47 dB(A) Leq limit (first paragraph on page 4) when the current consent specifies 56 dB(A) at night and 60.5 dB(A) in the day clearly identifies a bias in the Rob Bullen Consulting document and is irrelevant to this Development Application.

Further, the change in noise level comments is incorrect. The Development Application is for a required upgrade of the helicopter. The operation of the proposed helicopter gives rise to noise levels similar to the current operations.

It is correct that in terms of certification testing a twin engine helicopter is louder than a similar single engine helicopter – but helicopters do not fly under certification flight profiles or power settings.



The reviewer has failed to comprehend that the provision of a twin engine helicopter does not automatically give rise to an increase in noise for receiver locations removed from the landing site.

Pages 10 & 11 of the Acoustic Assessment identifies the difference between the flight profiles of the two helicopters.

The twin engine helicopter does not take off from a stationary position on the ground to follow the current flight paths. The twin engine helicopter ascends above the helipad to a position approximately 120ft above the helipad. From that point the helicopter then climbs out to the cruise altitude using the approved flight paths.

The use of maximum power on take off occurs above the helipad (removed from the residential receivers) so that on climb out from Dyke Point the twin engine helicopter will be higher on the approved flight tracks than the single engine helicopter and obtains cruise altitude in a shorter time, that results in a similar or even lower noise levels at the receiver locations than the current operations.

On landing the helicopter reduces the speed on descent to a hover above and in front of the helipad and then descends onto the helipad. The position of the helicopter on the approach flight path with respect to residential receivers is higher than that for the single engine helicopter.

Conclusion

The Rob Bullen Consulting document identifies the author of the review has failed to comprehend the application is a Development Application simply seeking the imposition of a condition requiring that the existing consent be modified as outlined in the SEE.

The facility is an existing operation that has been in existence for over 20 years and operating in accordance with the development consent issued by the Council.

The Application seeks to use a twin engine helicopter as required by the Regulatory Authority.

The helicopter transfer service will continue to operate as per the approval.

There is no request for an increase in the number of movements.

The EIS contemplated a different helicopter could occur in the future and identified that the helicopter should be tested to assess compliance with the design criteria set in the EIS.



The SPCC Guideline and Australian Standard AS2363 used in the original EIS assessment have been withdrawn and there is no specific helicopter noise guideline issued in NSW.

The EPA have no authority to control helicopters in the air.

As the Development Application simply seeks the imposition of a condition requiring the existing consent be modified, as outlined in the SEE, to allow for the use of a required twin engine helicopter, for consistency the acoustic assessment has been undertaken as per the original EIS.

The Development Application seeks to have the helicopter maximum level (determined in accordance with AS 2363 – as for the original application) increased to 77 dB(A) – being the assessment criteria set out in the EIS.

This response has identified and outlined multiple errors and a lack of detailed understanding of helicopter operations in the Rob Bullen Consulting document, and has sought to clarify these matters to assist in the Development Application process..

Yours faithfully,

THE ACOUSTIC GROUP PTY LTD



STEVEN E COOPER





52.3698.L16:MSC

4 February 2022

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PROPOSED HELICOPTER UPGRADE

NEWCASTLE HELICOPTER MARINE PILOT TRANSFER

In relation to a Development Application (DA) for a change to the helicopter type permitted to be used at the existing Dyke Point Helipad for Marine Pilot transfers, I am instructed that three submissions were received during public exhibition of the DA, which Port Authority has been requested to respond to by the Department of Planning, Industry and Environment (DPIE).

These submissions contain incorrect information and refer to the acoustic reports, included as Appendix C of the Statement of Environmental Effects (SEE) for DA-21-17874.

I have been requested to provide a technical response to the submissions from the EPA and the City of Newcastle (Council) in relation to acoustic matters.

City of Newcastle Submission (23/12/21)

The Council submission (23/12/21) contains several errors and misrepresents the application of the EPA *Helicopter Noise Guidelines*.

Point 1 – Existing conditions of development consent

Clarification of EPA Helicopter Noise Guidelines and acceptable noise

In 1982 the State Pollution Control Commission (SPCC) issued a helicopter noise guideline based on a heliport operation of 50 movements a day.

Any premises used for the arrival and departure of helicopters were scheduled in April 1985.

The SPCC *Helicopter Noise Guideline* (Chapter 156 of the SPCC's *Environmental Noise Control Manual*) (ENCM) was issued in 1985.

The SPCC was abolished by the *Protection of the Environment Administration Act 1991* and the EPA was established from March 1992 to carry on an enlarged role in relation to the environment.

The SPCC *Environmental Noise Control Manual* became the EPA *Environmental Noise Control Manual* and was last updated in 1994. The EPA *Helicopter Noise Guideline* (chapter 156 of the EPA's *Environmental Noise Control Manual*), which was the relevant document at the time of the Dyke Point Helipad EIS (1998) identified acoustic criteria:

- The measured $L_{Aeq,T}$ (assessed test over the entire daily operating time of the helipad) should not exceed 55 dB(A) at a residence or 65 dB(A) at a commercial property.

Where the existing ambient L_{eq} (i.e., L_0) is greater than these criteria an increase of 2 dB(A) above the existing ambient L_{eq} is acceptable.

- The measured maximum noise level L_{Amax} should not exceed 82 dB(A) at the nearest residential premises or 85 dB(A) at the nearest commercial premises.

The *Environmental Noise Control Manual* was discontinued with the introduction of the *Industrial Noise Policy (2000)*, *Environmental Criteria for Road Traffic Noise (1999)* (see last paragraph of 'Overview' in the EPA's Noise Guide for Local Government).

Australian Standard 2363-1990 *Acoustics – Assessment of noise from helicopter landing sites* is a superior document in relation to the measurement and assessment of helicopter operations and corrected technical errors in the SPCC *Helicopter Noise Guideline*. The preface of the Standard identifies the Standard was prepared in response to a request from government environmental authorities

Appendix A of AS2363 provided recommended acceptability criteria for 12-hour periods that would accord with Australian Standard AS2021 *Acoustics – Aircraft noise intrusion – Building siting and construction*.



The recommended criteria in Appendix A of AS2363 are derived from AS2021 using just dB(A) rather than Effective Perceived Noise Levels (EPNL dB) being a complex acoustic parameter developed for aircraft noise. The recommended criteria in Appendix A of AS 2363-1990 were provided by the manager of the Environment Assessment division of the Civil Aviation Authority.

The Principal Engineer (Noise) of the SPCC was a member of the sub-committee that prepared the Standard. In 1989 the SPCC endorsed publication of AS2363-1990.

It was subsequently established (after the 1998 Dyke Point Helipad original EIS and the approval of DA1998/1262) that the EPA did not have the legal authority to control helicopters in the air and therefore there are no longer any EPA “acceptable” noise limits.

Current EPA Noise Acceptable Limits

The EPA no longer publish noise limits for helicopter operations and do not have any authority over helicopter in-flight noise. Therefore, the claim by Council of potential noise impacts being “at the limit of what the NSW Environmental Protection Authority Helicopter Noise Guidelines indicate are acceptable” noise limits is incorrect and misleading.

Following the issuing of the consent for helicopter operations at Dyke Point (DA1998/1262), the EPA issued Environmental Protection Licence (EPL) No. 10772.

EPL 10772 did not specify a helicopter type. However, the original licence presented noise criteria based upon the EIS acoustic assessment for DA1998/1262.

Condition L6.1 of the original EPL provided a range of noise limits (reflecting the EIS measurement results and Leq criteria) for the various reference locations, as shown in Table 1 below.



TABLE 1: Original EPL 10772 Noise Limits

Location	Daytime (7am - 10pm)	Night time (10pm - 7am)	
		Landings (L _{Amax})	Take-Offs (L _{Amax})
All affected residential receivers	82 dB(A) L _{Amax}		
At all affected residential receivers except those along Wharf Road	55 dB(A) L _{Aeq}		
At all affected residential receivers along Wharf Road	62 dB(A) L _{Aeq}		
At all affected commercial receivers	85 dB(A) L _{Amax}		
At all affected commercial receivers	65 dB(A) L _{Aeq}		
1. Lott Street, Carrington		70	69
2. Cnr. Punt and Hunter Streets, Stockton		71	72
3. Breen/Queen Street, Stockton		70	74
4a "The Boltons", The Hill		64	67
5. Nobbys Road, Newcastle East		67	69
7. Cnr. Fullerton and Chester Streets, Stockton (water side of intersection)		64	69
8. Southern side of Corroba Park, Stockton		66	71
9. The north western corner of Hargraves and Young Street, Carrington		67	69
10. Nautilus apartments, Wharf Road		71	74

The EPA's acceptability criteria (ENCM 1994) provided the criteria under the 7am – 10pm column. The other limits cannot be claimed as acceptability criteria because they are the noise levels attributed to the Hughes 500E.

If one looks to the January 2004 version of EPL 10772 one finds there are amended noise limits in the Licence. The amended EPL (by way of striking out the amendments) stated:



L6.1 ~~The helicopter~~ Helicopter operations at the premises must not exceed the following noise limits:-

Location	Daytime (7am – 10pm)	Night time (10pm – 7am)	
		Landings (L_{Amax})	Take-Offs (L_{Amax})
All affected residential receivers	82 dB(A) L_{Amax}		
At all affected residential receivers except those along Wharf Road	55 dB(A) L_{Aeq}		
At all affected residential receivers along Wharf Road	62 dB(A) L_{Aeq}		
At all affected commercial receivers	85 dB(A) L_{Amax}		
At all affected commercial receivers	65 dB(A) L_{Aeq}		
1. Lott Street, Carrington		70	69
2. Cnr. Punt and Hunter Streets, Stockton		71	72
3. Breen/Queen Street, Stockton		70	74
4a “The Boltens”, The Hill		64	67
5. Nobbys Road, Newcastle East		67	69
7. Cnr. Fullerton and Chester Streets, Stockton (water side of intersection)		64	69
8. Southern side of Corroba Park, Stockton		66	71
9. The north-western corner of Hargraves and Young Street, Carrington		67	69
10. Nautilus apartments, Wharf Road		71	74

Location	Noise Limits
All affected residential receivers	82 dB(A) L_{Amax}
At all affected residential receivers except those along Wharf Road	55 dB(A) L_{Aeq}
At all affected residential receivers along Wharf Road	62 dB(A) L_{Aeq}
At all affected commercial receivers	85 dB(A) L_{Amax}
At all affected commercial receivers	65 dB(A) L_{Aeq}

That is, in 2004 the EPA “acceptable noise limits” for the subject site are significantly greater than the noise limits of the existing development consent – and there was no daytime / night-time distinction.

Accordingly, the Council’s submission in relation to EPA acceptable helicopter noise limits is incorrect.



In 2012 EPL 10772 was amended again, with condition L3 “Noise limits”, stating:

L3.1 Only one helicopter is permitted to operate at the premises at any one time.

In the current (2018) EPL 10772, Condition L3 is identical to the 2012 version – i.e., there are no noise limits in the EPL.

Current Noise Conditions

As discussed above the EPA noise limits (published by the EPA) that were contained in EPL 10772 (both the original and 2004 amendment) presented maximum noise levels greater than that imposed by the Council.

The 74dB(A) level was the maximum level measured for the Hughes 500E helicopter. The Council imposed that limit for that helicopter.

The current Council consent conditions in relation to noise do not accord with the EPA *Helicopter Noise Guideline* at the time of the EIS or the EPA’s EPL 10772 (when noise conditions were imposed under the EPL) by reason of grouping residential and commercial receivers in one noise group. Furthermore, the current consent condition pertaining to noise does not reflect the maximum noise levels for both type of receivers with respect to operations between 10pm and 7am.

In view of the current development application seeking the imposition of a condition requiring that the existing consent be modified as outlined in the SEE, the acoustic assessment provided the context of the development application with respect to the original acoustic assessment that was undertaken at the request of the Council.

If the Council was to be consistent with the EPA’s “acceptable limits” then the use of 85 dB(A) max level and 65 dB(A) Leq level for commercial premises would apply.

For residential premises the Leq limits in the consent are as per the former EPA limits.

For residential premises the EPA maximum level “acceptable limit” from the EPL was 82 dB(A) for the entire operating period of the helipad which is a 24-hour period.

The original EIS adopted the 5 dB difference in the maximum level from Appendix A of AS 2363 to arrive at 77 dB(A) as the maximum limit for the night-time operations.



The current development application identified the errors in the noise condition of the existing consent, by providing the corrected noise criteria consistent with the original EIS and separates residential receivers from commercial receivers.

The current development application seeks to permit the operation of a (required) twin engine helicopter to replace the single engine helicopter, and with noise limits that would comply with the original EIS noise criteria.

It is grossly misleading of Council to suggest there will be up to 8 dB(A) increases in the maximum level for the proposed operation.

The Maitland Airport testing has found for the reference residential locations (and overflight testing) that there will be compliance with the current noise conditions except for what was originally identified as Crown Plaza Apartments.

As identified in the Acoustic Assessment to the SEE, it is only the Crown Plaza Apartments that could experience maximum levels above 74 dB(A) for some operations but under the 77 dB(A) noise limit criteria presented in the original EIS – which is 3 dB(A) lower than the limit for night-time operations from AS 2363.

I note the EPA maximum "acceptable limits" that were used in the 2004 EPL are higher (82 dB(A) L_{Amax}) for all affected residential receivers (24 hour) than the 1998 EIS criteria (77 dB(A) L_{Amax}) for the night-time operations. The current Development Application's proposed L_{max} of 77 dB(A) for residential receivers for night-time operations would represent a minor change in only the maximum noise limit that, in audibility terms, would be difficult to notice.

The current Development Application's proposed L_{max} of 82 dB(A) at any residential premises between 7:00am and 10:00pm, and the proposed L_{max} of 85 dB(A) and L_{eq} of 65 dB(A) at any commercial premises (24 hour) are consistent with the "acceptable limits" last used by the EPA (reference 2004 EPL) and consistent with AS 2363 in providing separate acoustic criteria for residential and commercial land uses.

Point 2. Residential Development

The future proposed residential developments at North Stockton and Fort Wallace would be subject to overflights (at altitude) not the landing and take-off phases.

The Maitland Airport testing included tests of overflights for the various reference locations and there was full compliance with the current maximum and L_{eq} noise level limits.



EPA Submission (DOC21/1073083)

The submission from the EPA is separated into different areas.

Response to Points 1 -3. Potential misapplication of SPCC guideline for in flight activities

The EPA's comments are largely correct but are incomplete and do not reflect the context of the use of the SPCC/EPA *Helicopter Noise Guideline* for the current DA.

As the current development application (DA-21-17874) seeks the imposition of a condition requiring that the existing consent DA1998/1262) be modified as outlined in the SEE, the acoustic assessment for DA-21-17874 provided the context of the development application with respect to the original acoustic assessment for DA1998/1262 that was undertaken at the request of the Council.

The EPA's comments in points 1-3 do not clarify that the pilot transfer helicopter service was a 24 hour operation and therefore the SPCC/EPA *Helicopter Noise Guideline* provided no guidance for operations at night that were essential for the port operations.

The noise limits imposed on the consent do not accord with the noise limits originally imposed on the EPL by the EPA (refer to my discussion on this point above, in the response to Council's submission).

Hence the original assessment (for the EIS) used the SPCC/EPA *Helicopter Noise Guideline* and AS 2363-1990 noting the technical errors in the SPCC/EPA *Helicopter Noise Guideline*.

The original consent was based on a mixture of the SPCC/EPA *Helicopter Noise Guideline*, and Australian Standard 2363 that corrected the technical errors in the SPCC helicopter Leq formulae and identified the appropriate noise limits aligned with Australian Standard AS 2021-1994

In the Report from the Commission of Inquiry (1993) into the Sydney CBD Heliport the issue of the error in the SPCC/EPA *Helicopter Noise Guideline* was identified. The report from the Commission of Inquiry adopted the general conversion of ANEF + 35 = LAeq 55 dB. During the Inquiry, the EPA (Mr G Mellor) acknowledged:

- that the EPA *Helicopter Noise Guideline* contained errors,
- the ANEF was the appropriate noise target, and
- that AirServices Australia endorsed the use of ANEF 20 (or equivalent in LAeq) for helicopters



It is correct that the Land & Environment Court accepted use of the ANEF for Orange East Heliport with all the measurements using dB(A) and the 35 dB(A) correction originally used by the Civil Aviation Safety Authority (CASA) for the assessment of the Sydney helicopter lanes (pre SPCC *Helicopter Noise Guideline*).

It is important to note that both Lake Macquarie Council and the Department of Planning accepted the acoustic assessment for the Trinity Point helipad application before the Senior Commissioner of the Land & Environment Court of NSW referencing SPCC/EPA Guidelines and AS 2363.

The recommend criteria in Appendix A of AS 2363-1990 are derived from AS 2021 using just dB(A) rather than EPNLs. The criteria were provided by the manager of the Environment Assessment division of the Civil Aviation Safety Authority who was the chairman of the sub-committee.

As noted above AS 2363 was prepared at the request of government environmental agencies with the Principal Engineer (Noise) of the SPCC being a member of the sub-committee that prepared the Standard, and the SPCC in 1989 endorsing the issue of the Standard.

Regarding Table 2 of the SEE, and as indicated previously in this letter, I note the EPA maximum "acceptable limits" that were used in the 2004 EPL are higher (82 dB(A) L_{Amax}) for all affected residential receivers (24 hour) than the 1998 EIS criteria (77 dB(A) L_{Amax}) for the night-time operations. The current Development Application's proposed L_{max} of 77 dB(A) is consistent with SPCC/EPA *Helicopter Noise Guideline* for residential receivers for night-time operations and would represent only a minor change in the maximum noise limit that, in audibility terms, would be difficult to notice.

The current Development Application's proposed L_{max} of 82 dB(A) at any residential premises between 7:00am and 10:00pm, and the proposed L_{max} of 85 dB(A) and L_{eq} of 65 dB(A) at any commercial premises (24 hour) are consistent with the "acceptable limits" last used by the EPA (reference 2004 EPL) and consistent with AS 2363 in providing separate acoustic criteria for residential and commercial land uses.

Response to Point 4. Advisory points

- i. Correct and it is noted that Council applied the achievable noise level for the Hughes 500E helicopter for a 24 hour period and for both residential and commercial receivers, which was not in accordance with the SPCC/EPA *Helicopter Noise Guideline* and AS 2363.
- ii. The EPA's point is incorrect. The Acoustic Assessment appended to the SEE for DA-21-17874 provided, in Table 1 (Corrected Noise Limits), the L_{max} levels for the commercial receivers (day and night) and the residential receivers (day) and the L_{eq} levels come from the SPCC/EPA guideline.



The maximum level for residential receivers at night is not an interpretation of the SPCC/EPA Guidelines because the Guidelines do not provide a night-time maximum level criterion. The original EIS procedure did not use the AS 2363 recommended maximum level but used the AS 2363-1990 difference between day and night applied to the SPCC/EPA daytime maximum level.

- iii. The EPA's point is incorrect. The residential Leq levels are the levels from the EIS derived from the SPCC/EPA *Helicopter Noise Guideline* for the most affected residential receivers (which agree with the consent condition). The residential Leq levels are not based upon an ANEF 25 limit.

The levels in Table 3 of the acoustic assessment are the results of the assessment for the proposed helicopter using flight Path B only and are considerably lower than the Leq assessment criteria. The EPA state the proposed helicopter is considerably quieter than the Hughes 500E helicopter. The EPA may be confused with Leq levels versus loudness. From my comparison of the measured levels for both helicopter types, my research work on psychoacoustics (primarily loudness and audibility) over the last 6 years, and my work on helicopter noise assessments over 40 years I am unable to agree with the subjective loudness claim by the EPA.

- iv. As to the commercial limits, the existing DA addressed the reference locations used in the original EIS study and the majority of the locations set out in previous versions of EPL 10772. There are commercial premises in proximity to the reference locations to the south of the helipad. The DA has demonstrated that the proposed noise limits can be met at any residential premises. Given that the nearest commercial premises are located in proximity to, and generally further away, than the nearest residential premises, the proposed commercial noise limits can be achieved. Additionally, and as noted previously, the commercial noise limits are consistent with the "acceptable limits" last used by the EPA (reference 2004 EPL) and consistent with AS 2363 in providing separate acoustic criteria for residential and commercial land uses.

The existing consent conditions apply residential limits to commercial locations (condition 4.10).

- v. The acoustic assessment identifies the acoustic criteria applicable to helicopter noise with reference to Australian Standard AS 2021.



The assessment identified with respect to the maximum noise level limit the EPA helicopter guideline provided a day-time noise limit of 82 dB(A) at residential receivers but did not provide a night-time limit. Utilising the 5 dB(A) difference between day and night set out in Appendix A of AS 2363 – 1990 the EIS identified on using the SPCC/EPA Guideline as the starting point and the difference presented in AS 2363 (between day and night operations) the maximum limit for day-time operations would be 82 dB(A) and 77 dB(A) for night-time operations.

It is also appropriate to note that the EPA failed to acknowledge that when noise conditions were last imposed on EPL 10772 (issued by the EPA) that the Leq and maximum limits (24 hour) were significantly higher than the conservative 24 hour residential criteria nominated in the EIS to DA 98/1262. The noise limits from the January 2004 EPL 10772 are provided below

L6.1 Helicopter operations at the premises must not exceed the following noise limits:

Location	Noise Limits
All affected residential receivers	82 dB(A) L _{Amax}
At all affected residential receivers except those along Wharf Road	55 dB(A) L _{Aeq}
At all affected residential receivers along Wharf Road	62 dB(A) L _{Aeq}
At all affected commercial receivers	85 dB(A) L _{Amax}
At all affected commercial receivers	65 dB(A) L _{Aeq}

The above EPA noise limits specified for the single engine helicopter relate to assessment criteria, not a best practice approach.

The Council (not the EPA) adopted the best practice approach in relation to the maximum level as set out in Condition 4.10 on the current consent

As a result of the necessity to utilise a twin engine helicopter there is expected to have higher maximum levels. By use of the different take-off and landing procedure for the twin-engine operations there is automatically a best practice approach in relation to the operation of the helicopter that gives rise to generally similar or lower levels for the majority of the residential reference locations and satisfy the current consent condition.



The Crown Plaza location using the best practice operating procedure gives rise to a slight increase in the maximum level that would for that location exceed the current maximum level nominated for the Hughes 500 helicopter based on the actual testing.

Therefore, the application identifies the night-time maximum noise level in the current consent (condition 4.10) should be increased to 77 dB(A). This would accord with the night time noise limit identified by way of the EIS assessment procedure and is 3 dB lower than the AS2363-1990 night time limit.

A night time L_{Amax} limit of 77 dB(A) reflects the best practice approach for the proposed twin engine helicopter.

Summary

Aviation regulations for helicopters in Australia (CASA CASR 138) have been amended and will require in the future the Helicopter Marine Pilot Service to be upgraded to use a twin-engine helicopter.

The EIS for the existing operations assessed a single engine helicopter and identified that if the helicopter used by the service was to change that before the introduction of an alternative helicopter it would need to be subject to acoustic testing to demonstrate compliance with the criteria nominated in the EIS.

There is no request for an increase in the number of movements.

The SPCC Guideline and Australian Standard AS2363 used in the original EIS assessment have been withdrawn and there is no specific helicopter noise guideline issued in NSW.

The EPA previously issued an EPL (and amendments to the original EPL) that contained noise limits greater than that set out in the existing development consent. The EPL no longer has noise limits as the EPA have no authority to regulate noise from the operation of helicopters as part of flight activities.

As the current development application (DA-21-17874) seeks the imposition of a condition requiring that the existing consent (DA1998/1262) be modified as outlined in the SEE, the acoustic assessment for DA-21-17874 provided the context of the development application with respect to the original acoustic assessment for DA1998/1262 that was undertaken at the request of the Council.

The Acoustic Assessment identified the errors in the current consent in relation to noise criteria and provided a correction to the consent condition in terms of a typo re the night-time period and the separation of residential and commercial receivers.



Pages 10 & 11 of the Acoustic Assessment identifies the difference between the flight profiles of the two helicopters.

The twin engine helicopter does not take off from a stationary position on the ground to follow the current flight paths. The twin engine helicopter ascends above the helipad to a position approximately 120ft above the helipad. From that point the helicopter then climbs out to the cruise altitude using the approved flight paths.

The use of maximum power on take-off occurs above the helipad (removed from the residential receivers) so that on climb out from Dyke Point the twin engine helicopter will be higher on the approved flight tracks than the single engine helicopter and obtains cruise altitude in a shorter time, which results in a similar or even lower noise levels at the receiver locations than the current operations.

On landing, the helicopter reduces the speed on descent to a hover above and in front of the helipad and then descends onto the helipad. The position of the helicopter on the approach flight path with respect to residential receivers is higher than that for the single engine helicopter.

The consequence of the different landing and take-off profiles results in lower Leq levels and generally lower or similar maximum levels for all reference locations other than what has been historically identified as the Crown Plaza Apartments.

Yours faithfully,

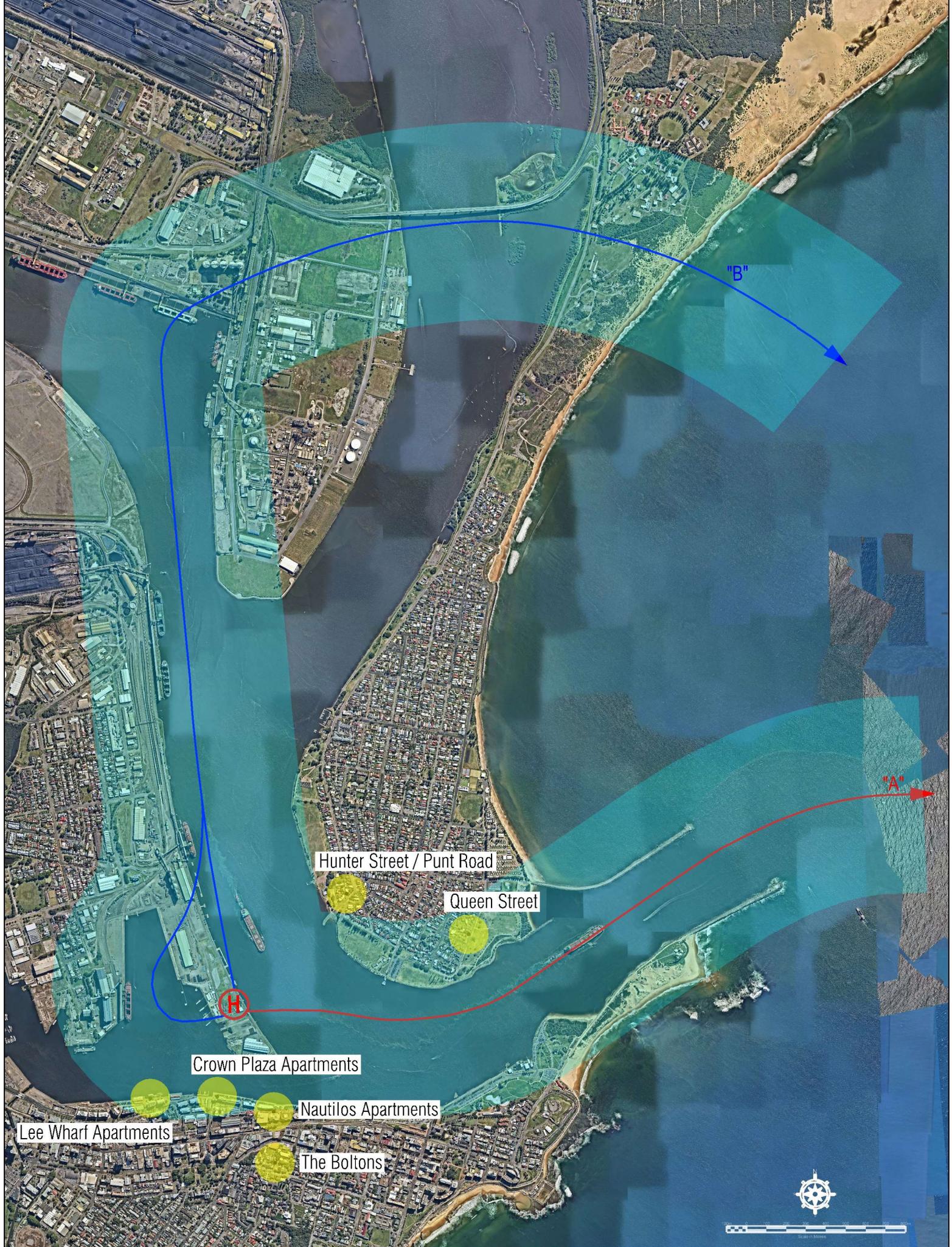
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Appendix B – Flight Paths and Residential Receiver Locations



PLAN LIMITATION STATEMENT
 This plan has been prepared in accordance with accepted practice for the use only of Port Authority of New South Wales for a specific purpose. No Warranty or representation, expressed or implied is made to any other party regarding this survey and plan. This plan should not be relied upon for any other purpose or use by any party including Port Authority of New South Wales as the plan may not contain sufficient information for that purpose or use.

THIS NOTE IS AN INTEGRAL PART OF THIS PLAN
 NOTE: STATED MEASUREMENTS ARE INDICATIVE ONLY AND SUBJECT TO SURVEY

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- A Alternate Flight Path
- B Preferred Flight Path
- Flight Path 500m radius Buffer Zone
- Monitoring and Residential Receiver Locations (100m radius)

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 nearmap.com

PORT AUTHORITY
OF NEW SOUTH WALES

PLAN PRODUCED ON MGA GRID

Newcastle Port
Dyke Point Helipad
Flight Paths and Residential Receiver Locations

DRAFTED BY: GH	DATE: 24/01/2022
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