



## Contents

<b>9.</b>	<b>Noise and Vibration</b>	<b>9-1</b>
9.1	Noise Impact Assessment	9-1
9.1.1	Road Traffic	9-1
9.1.2	Aircraft Noise	9-1
9.1.3	Desalination Plant Noise	9-1
9.1.4	Impact of Fauna	9-2
9.2	Planning Scheme Noise Provisions	9-2
9.3	Vibration Assessment	9-3
9.3.1	Impact on Fauna	9-3
9.3.2	Mitigation Measures	9-3



## 9. Noise and Vibration

### 9.1 Noise Impact Assessment

#### 9.1.1 Road Traffic

One submission claimed that the EIS did not address the potential for noise disturbance associated with operational traffic from the HHI Development on Foreshores Road.

Section 12.2.2 of the EIS discussed the potential noise impacts associated from roads, specifically road traffic noise travelling to and from the residential area. The road network provides one main access route on and off Hummock Hill Island, via a bridge on the south-eastern end. The noise limit for a public road (such as Foreshores Road) is defined as  $L_{A10(18\text{ hour})}$  of 63 dB(A) in the *Environmental Protection (Noise) Policy 1997*. Given the expected level of traffic on Foreshores Road during operation of HHI Development it is unlikely the noise goal will be exceeded.

#### 9.1.2 Aircraft Noise

A submission claimed that the EIS did not address the potential for noise disturbance associated with the airstrip and that planning for the airstrip should consider aircraft noise on the proposed and existing tourism and residential areas.

Section 12.1.1 of the EIS discusses that the acceptable planning noise levels for an airport are outlined in the EPP (Noise) Policy 1997, however due to the low numbers of aircraft expected to use the airstrip on Hummock Hill Island the *Environmental Principles And Procedures For Minimising The Impact Of Aircraft Noise (AirServices Australia 2002)* are considered more appropriate to the HHI Development.

AirServices Australia (2002) provides a screening level assessment framework for determining whether detailed environmental assessment is required for proposed new airfield arrangements. It also provides information for designing standard departure and arrival procedures for aircraft to avoid over flying residential areas and minimise noise impacts in these areas.

AirServices Australia (2002) states that noise is not considered significant if exposure amounts to less than 40 dB(A)  $L_{Aeq\ 24\text{hour}}$  and there are less than 50 over flights per day. Potential flight movements associated with the airstrip are anticipated to be around six flights a day.

The expected level of aircraft patronage would be typical of a small offshore island and is expected to be around six propeller aircraft movements per day. Noise impacts associated with the operation of the facility will not be significant as planning for the airstrip and the HHI Development will prevent noise sensitive land uses beneath approach and departure flight path corridors.

#### 9.1.3 Desalination Plant Noise

A submission raised the issue that the EIS did not address the potential for noise generation from the desalination plant.

Section 12.2.2 of the EIS assessed the potential noise impacts associated from the desalination plant. Specific management and mitigation strategies have not been developed for the plant;



however, the development of detailed noise management measures will take place as part of a detailed design for the HHI Development. Management measures will include appropriate location of noise generating items to maximise shielding provided to surrounding land uses.

#### **9.1.4 Impact of Fauna**

One submission raised the issue that noise and vibration impacts on fauna had not been considered in the EIS.

As discussed in Section 14.2.1.3 of the EIS, noise and vibration from the construction activities may have a short-term effect on local fauna inhabiting the area. It is expected that mobile fauna would temporarily shift into nearby habitat during working hours. The majority of terrestrial fauna (other than birds) are nocturnal and daily activity patterns are unlikely to be compromised. There are no threatened species that are likely to be significantly impacted from the noise during construction or operation of the HHI Development.

Mitigation measures will include the following:

- all practical steps be taken to silence construction equipment;
- works be restricted to the hours of 6:30 am - 6:30 pm Monday to Saturday, and no work outside these hours if audible at the nearest sensitive place;
- tailgates of all vehicles transporting materials to and from the site would be securely fixed prior to loading and immediately after unloading;
- all mobile plant equipment used on site shall be maintained in an efficient condition and operated in a proper manner;
- all equipment used on site would have evidence of compliance with recommended noise levels outlined in AS2436-1981 *Guide to Noise Control on Construction, Maintenance and Demolition Sites*;
- review the Construction Noise Management Plan periodically to ensure it remains appropriate to the current stage of construction activities; and
- implementation of a community consultation program, informing residents of the construction schedule, progress and alerting them to times of unusually noisy activities or out of hours work.

#### **9.2 Planning Scheme Noise Provisions**

One submission identified that there are no planning scheme provisions relating to post construction noise if an activity is self-assessable and that the EIS has not addressed management and compliance of post-construction noise.

The Plan of Development will be finalised through the Preliminary Approval Material Change of Use Development Application which will be assessed by Council. Through this process Council can review and change the levels of assessment to ensure appropriate assessment is undertaken of future development. For example Council could condition the development approval to change assessment levels from self assessable to code assessable where there are sufficient grounds for the change.



It is not necessary for the Plan of Development to address all issues as future developments will need to also comply with relevant aspects of the planning scheme and other legislative requirements such as the *Environmental Protection Act 1994*. Applications for operational works, reconfiguration of a lot and building works will need to be made whereby detailed construction issues can be assessed and conditioned.

Significant noise generating activities on Hummock Hill Island will be required to go through a development application and approvals process. During this process Council will have the opportunity to request further information or impose conditions on post construction noise for each noise generating activity.

### **9.3 Vibration Assessment**

#### ***9.3.1 Impact on Fauna***

One submission raised the issue that noise and vibration impacts on fauna had not been considered in the EIS.

Refer to Section 9.1.4 of the Supplementary Report for a response to this issue. It was concluded that the majority of terrestrial fauna (other than birds) are nocturnal and daily activity patterns are unlikely to be compromised by noise and vibration impacts.

#### ***9.3.2 Mitigation Measures***

One submission claimed that the EIS did not clearly state how vibration mitigation will be achieved for the HHI Development.

The potential for vibration impacts during construction was assessed in Section 12.2.1 of the EIS. Given that there are currently no receivers on Hummock Hill Island, construction vibration impacts are not expected to be significant during the initial stages of construction. If, during the later stages of development on Hummock Hill Island, construction occurs within 50-100m of residential uses, minor annoyance (or disturbance) from vibration may be experienced by building occupants. The level of disturbance would be typical of any urban development site and managed in a similar manner, largely through the control of hours of construction works.

Vibration impacts during operation are not expected to occur.