

Noise Impact

Defence commissioned a specialist environmental consultant to assess the noise impacts of the construction activities on the local community.

Noise Catchment Areas

The assessment considered impacts to over 200 receptors identified based on a review of aerial imagery and observations made during noise measurements / monitoring conducted in the area. The receptors were grouped into seven (7) Noise Catchment Areas.

Table 1: Noise Catchment Areas (NCA)

25 off-site residential receptors situated on Cliff Street, south of the Project site, in the first row of houses facing the Sydney Harbour shoreline and/or the Project site.



17 off-site residential receptors situated on Victoria Street, south to southwest of the Project site, in the first row of houses facing the Sydney Harbour shoreline and/or the Project site. Three of the 17 receptors are classified as an Active Recreational Area, where emissions at Camp Cove Beach have been assessed.



21 off-site residential receptors situated on either Pacific Street or Cove Street, south of the Project site, in the first row of houses facing the Sydney Harbour shoreline and/or the Project site.



47 off-site residential receptors situated on either Victoria Street, Pacific Street or Cove Street, south of the Project site, in the second row of houses facing the Sydney Harbour shoreline and/or the Project site.



26 off-site residential receptors situated on Short Street and Cliff Street, south to southeast of the Project site, in the first row of houses facing the Cliff Street and/or the Project access/egress route. 4 of the 26 receptors are classified as Commercial, where emissions at Watson's Bay Hotel and Doyle's restaurant have been assessed.



31 off-site residential receptors situated on Old South Head Road, southeast of the Project site, in the first row of houses facing Old South Head Road and/or the Project site access/egress route.



Mixture of 8 off-site residential and active recreational receptors situated on or near Middle Head Road, Tabalum Road and Addison Road, north to northwest of the Project site, position varying with respect to the Sydney Harbour shoreline and/or the Project site. 5 of the 8 receptors are classified as an Active Recreational Area, where emissions at Georges Head, Tania Park, Middle Head, Quarantine Beach and North Head - Fairfax Lookout have been assessed.



Noise Logging and Modelling of Baseline

Unattended noise logging and operator attended noise measurements were completed at select locations considered representative of existing conditions experienced by the community near the project.

Ambient and background noise levels were recorded at these locations. The results are considered representative of the surrounding noise environment, representing a typical quiet environment with noise levels dominated by the urban 'hum' and road traffic.

Emissions were subsequently modelled for the following scenarios relating to key noise-generating project activities or stages, and noise levels predicted at each of the seven (7) NCAs.

Table 2: Assessment scenarios

Scenario	Work Description and Locality
1	Description Demolition of the Helo Pad and part of an existing building to enable construction of Stage 1 of the WE1 – Training Precinct. Locality: Northern end of the HMAS Watson site.
2	Description: Construction of Stage 1 of the WE1 – Training Precinct. Locality: Northern end of the HMAS Watson site.
3	Description: Demolition of existing buildings to enable construction of Stage 2 of the WE1 – Training Precinct. Locality: Northern end of the HMAS Watson site.
4	Construction of Stage 2 of the WE1 – Training Precinct. Locality: Northern end of the HMAS Watson site.
5	Description: Demolition of existing buildings to enable construction of Stage 3 of the WE1 – Training Precinct (carparking). Locality: Western end of the HMAS Watson site.
6	Description: Construction of Stage 3 of the WE1 – Training Precinct (carparking). Locality: Western end of the HMAS Watson site.

The assessment found that unmitigated noise levels are predicted to be close to and/or below the NMLs for all offsite NCAs for Scenarios 1 to 6.

The assessment found that unmitigated noise levels are predicted to be above NMLs for NCAs 1 to 4, for Scenarios 7 and 8 which are forecast to take place in 2023.

As depicted by the key indicators / colour scheme in Table 7, the exceedances are considered clearly audible or moderately Intrusive. None of the exceedances are considered Highly Intrusive.

The exceedances range between 43 and 68 dBA. Noise comparators for a range of dBA levels include:

- 40 dBA - low limit urban environment, library, bird calls
- 50 dBA - quiet suburb, conversation at home, household refrigerator
- 60 dBA - restaurant, office, background music
- 70 dBA - freeway, living room music, vacuum cleaner.

The Managing Contractor will implement noise management and treatment measures to reduce the exceedances. These measures are detailed in the proceeding section.

Note: the Predicted Noise levels also do not represent a constant noise emission that would be experienced by receptors on a daily basis throughout the project. These levels will only be experienced for limited periods of time when works are occurring rather than over the whole daytime, nor during the evening or night-time periods.

Noise treatment measures

Construction noise levels will be reduced and impacts minimised through the implementation of treatment or mitigation measures. These include:

- minimisation of truck idling
- use of electric tower cranes in lieu of diesel
- application of acoustic treatment to rock breakers
- selection and maintenance of appropriate equipment for each task to limit unnecessary noise sources on site
- scheduling optimisation and use of respite periods where practicable
- ongoing monitoring of noise levels, evaluating the effectiveness of mitigation measures and re-evaluating where necessary.

Treatment measures are designed to assist in ensuring that any residual impacts to the closest and potentially most affected receptors, and the broader community, are minimised as far as is practically achievable.

Traffic noise assessment

Predicted traffic noise levels indicate that some receptors may experience existing road traffic noise levels at or above RNP (2011) criteria; particularly those situated in close proximity to existing roads.

With the introduction of Project vehicles, noise levels are predicted to temporarily increase by 1.4dBA to 1.7dBA for Cliff Street receptors and 0.4dBA to 1.2dBA for other receptors situated on Old South Head Road, New South Head Road and Hopetoun Avenue. Differences in noise levels of less

than 2 dBA are generally difficult for most people to detect. The noise sources will also be inconsistent and of low frequency.

This magnitude of noise level increase is typical of construction projects undertaken in the vicinity of residential receptors, and other sensitive land uses and is not dissimilar to those associated with works of a similar scale and nature that occur regularly in NSW.