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# **Air Quality Assessment**

AECOM

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## Concept Plan Modification 10 - Air Quality Report

### Introduction

This letter report supports a Section 75W Modification to Concept Plan Approval MP06\_0162 (known as Modification 10) pursuant to clause 3C, Schedule 2 of Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017 (Savings and Transitional Regulation).

### Overview of Proposed Modification

Concept Plan (Mod 10) seeks to increase the height of the Building Envelope Plan for R4B to RL 235 and increase the GFA of Blocks 4A and 4B by a total of 8,000m<sup>2</sup>.

In order to support the above changes, the following modifications are proposed:

- increase the Concept Plan maximum GFA for Block 4A from 86,979m<sup>2</sup> to 92,629m<sup>2</sup> and the State Significant Precincts SEPP (SSP SEPP) Block 4A maximum GFA from 94,740m<sup>2</sup> to 100,390m<sup>2</sup>;
- increase the Concept Plan maximum GFA for Block 4B from 19,158m<sup>2</sup> to 21,508m<sup>2</sup> and the State Significant Precincts SEPP (SSP SEPP) Block 4B maximum GFA from 20,970m<sup>2</sup> to 23,320m<sup>2</sup>;
- increase the Concept Plan residential maximum GFA of Block 4A from 86,166m<sup>2</sup> to 91,816m<sup>2</sup>;
- increase the Concept Plan residential maximum GFA of Block 4B from 18,287m<sup>2</sup> to 20,637m<sup>2</sup>; and
- increase the Concept Plan maximum height on the Building Envelope Plan for R4B from RL 210 to RL 235, noting Block 4A currently provides for a maximum height of RL 250 under the SSP SEPP.

This Modification also seeks to amend the condition to align the time for delivery of Key Worker Housing at Barangaroo South and off site. This is to reflect that it will be completed prior to the issue of the occupation certificate for Building R5.

The changes described above necessitate modifications to the existing Instrument of Approval, Statement of Commitments and Barangaroo South Built Form Principles and Urban Design Controls for the Concept Plan as well as the relevant provisions of the State Significant Precinct SEPP.

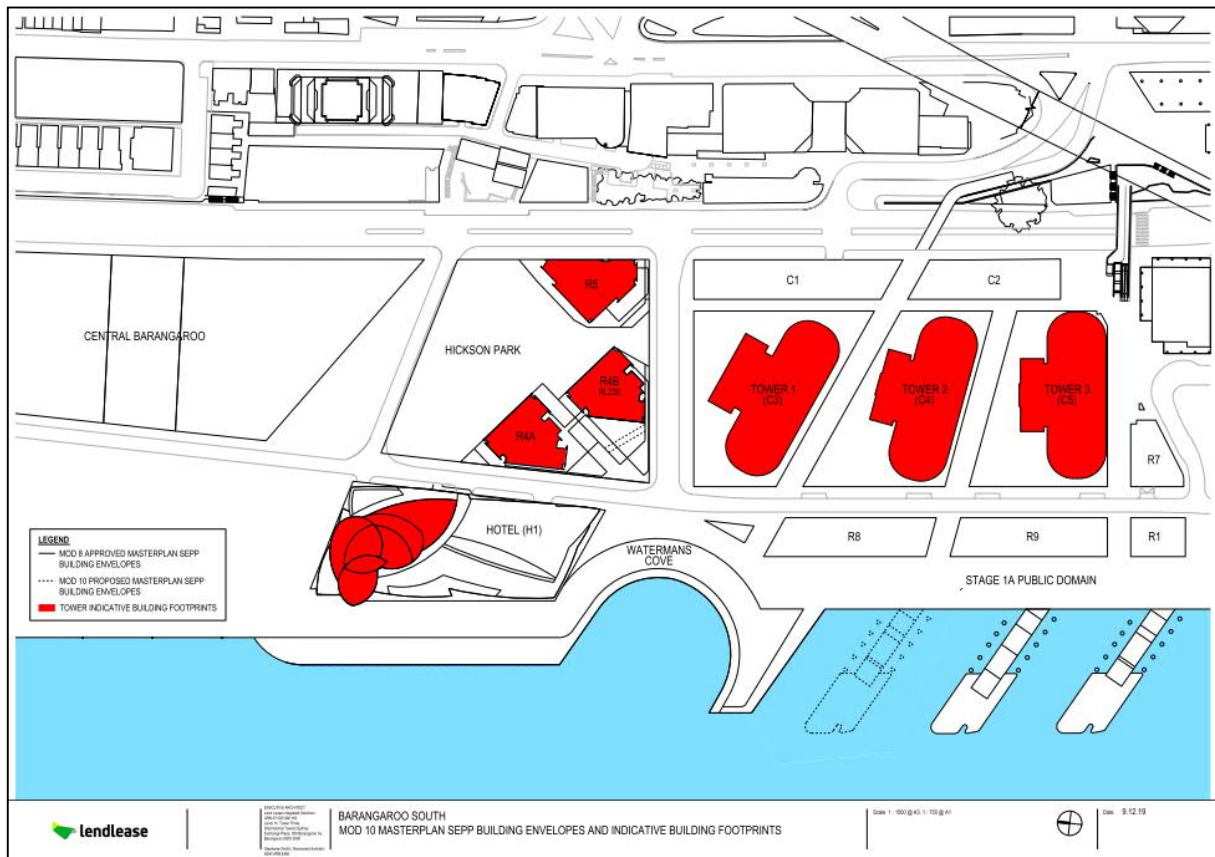
As part of this modification, the potential change to air emission from the construction activities have been considered.

### Barangaroo Location

Barangaroo is located on the north western edge of Central Sydney, bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point (for the northern half), The Rocks and the Sydney Harbour Bridge approach to the east; and King Street Wharf to the south.

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – Barangaroo Reserve, Central Barangaroo and Barangaroo South. Concept Plan (Mod 10) relates to Barangaroo South only. The R4B and R5 buildings are located within Blocks 4A and 4B as shown in **Figure 1**. The construction site extends over land generally known and identified in the approved Concept Plan as Block 4A and 4B.

The increase in height on Block 4A and the increase in GFA for Blocks 4A and 4B will result in Building R4B increasing to a 68-storey residential flat building comprising 322 apartments with ground floor retail space and Building R5 remaining as a 30-storey residential flat building comprising 210 apartments with ground floor retail with minor amendments to the floorplate size.



**Figure 1 Stage 1B Buildings Site Location and Staging Plan**

(source: 190911 Mod 10 Masterplan Building Envelopes Indicative Footprints (RL(235) (002).pdf)

As part of the future construction works associated with the R4B and R5 projects, it is understood the following works are also planned within Barangaroo South:

- Construction of high-rise building superstructure to a height of 68 storeys;
- Cladding and façade works;
- Building services; and
- Building finishes.

Construction would be by typical high-rise building construction methods and would not require any earthworks beyond those completed as part of the Stage 1B remediation and excavation works currently underway on the site.

The R4B Project works would occur concurrently with a small number of construction activities associated with the R4A and R5 residential towers along with the Crown Hotel construction.

At the time of writing this report, the scope and timing of construction works associated with the Barangaroo Central development are not known. Given the minor air quality emissions expected from this development (as described further below) cumulative impacts from Barangaroo central works and the R4B and R5 building construction are not expected to occur.

### Air Quality Assessment

AECOM has undertaken several air quality impact assessments for various aspects of the remediation and construction activities on the Barangaroo site since 2010 (including multiple iterations of the Master Planning documents of which Mod 8 was the most recent). Mod 8 included an assessment of the excavation of soil from Block 4 and the use of a concrete batching plant and on-site water treatment plant during the construction of buildings C3, C4, C5, R8 and R9. The works associated with

these stages of work are largely complete and the air quality conclusions related to this stage of work are no longer considered relevant as there are no air quality sources remaining.

The works considered in these various assessments include the excavation and remediation of the Declaration Area, and construction activities associated with building construction of the Barangaroo South and Central precincts. The reports prepared for the remediation and construction activities describe the quantitative assessments of impacts associated with the expected worst-case concurrent activities on the site, and addressed the various planning and environmental requirements by:

- Identifying the pollutants of concern, including individual toxic air pollutants, dust and odours;
- Identifying all relevant fugitive and point source emissions, including cumulative impacts of the works in relation to other site activities; and
- Proposing air quality management and monitoring procedures.

The assessments were undertaken in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales 2005*, the *Assessment and Management of Odour from Stationary Sources in NSW: Technical Framework 2006* (and Technical Notes), and the requirements of the *Protection of the Environment Operations (Clean Air) Regulation 2010*.

Results presented in the Air Quality Impact Assessment – *One Sydney Harbour – Building R4B – State Significant Development Application* (dated August 2016) indicated that contribution from the R4B construction works would be minor and would be manageable to levels well below NSW EPA criteria at or beyond the Barangaroo South boundary.

The future works associated with the modification described above for Building R4B with a maximum RL of 235m are expected to consist of activities such as building construction, cladding and façade works and building finishing due to the expected increase in GFA. The works associated with R5 are similar to those for R4B and are not expected to result in significant air pollutant emissions. These activities are expected to have minimal impact on air emissions.

Given that there are to be no additional earthworks associated with the proposed modification to Building R4B and R5 (as basement is fully excavated), and that the scale of the modification is relatively small, the works would not be expected to substantially increase air emissions or the cumulative impact of works at the Barangaroo South site. These conclusions follow on from the findings of the Mod 8 air quality study which assessed the potential for exceedances due to the excavation and remediation of the contamination within the Declaration area which formed the basement area of Stage 1B. The conclusions reached in the Mod 8 assessment are expected to be unchanged as part of Mod 10.

It should be noted that any pollutant emissions associated with the occupation of the future R4B and R5 Residential Tower area would be expected to be similar in scale and nature to those associated with other residential buildings throughout the Sydney CBD. As such, pollutant emissions, including odour, are not expected to be an issue for the proposed development during the construction or operational phases.

The site has proactive air quality management practices that it can undertake significant construction activities, including materials handling activities with substantial plant and equipment on site, without exceeding the relevant air quality criteria. Given the future R4B and R5 construction will involve a lower degree of materials handling, spoil excavation and equipment usage than the larger commercial towers, adverse effects on local air quality are not expected to occur.

On the basis of the review and information provided in this letter, AECOM is of the opinion that the proposed modification to the Concept Plan does not require any additional supporting information, analysis or commentary in relation to potential air quality impacts at this planning stage.

Yours faithfully



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