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Barangaroo South Public Domain - Air Quality

This letter supports a State Significant Development Application (SSDA) (SSD 6303) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Public Domain SSDA seeks approval for all public domain works within 'Stage 1A' of the Barangaroo South Site. These works include typical public domain features such as street paving, street furniture, lighting and planting. Additional items such as shade/weather protection structures, water features and bicycle facilities are also included in the design of the public domain. Various services and infrastructure such as power and water are incorporated into the proposed works where relevant.

Barangaroo is located on the north western edge of the Sydney Central Business District, 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 bounded to the south by a range of new development dominated by large CBD commercial tenants.

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Central and Barangaroo South. The Public Domain SSDA Site area is located within Barangaroo South as shown in **Figure 1**. The SSDA Site extends over land generally known and identified in the approved Concept Plan as Blocks 1, 2, 3, and X and the area of the foreshore between Block X and Darling Harbour.

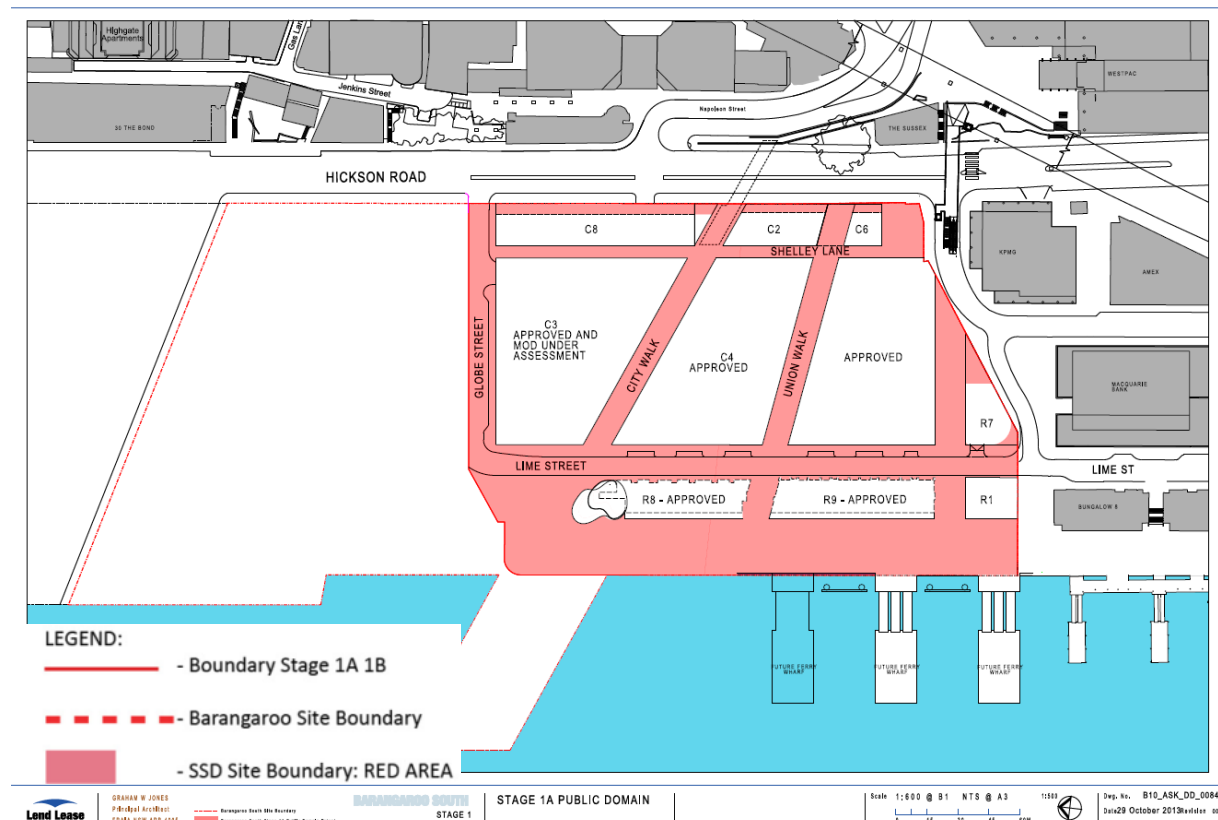


Figure 1 Public Domain Application Site Plan

The proposed Public Domain works are expected to occur concurrently with a number of other works on site, including those associated with:

- Stage 1A Basement (approved);
- T1/C3 (approved);
- T2/C4 (approved);
- T3/C5 (approved);
- R8 & R9 (approved);
- Barangaroo Central Waterfront Promenade and Interim Public Domain (approved);
- Wynyard Walk (approved);
- Headland Park and Northern Cove - Main Works (approved);
- Stage 1A Public Domain (proposed);
- Basement Risers (additional to basement) (proposed);
- Stage 1B Remediation of Block 4 and construction of Stage 1B Basement D-Wall (proposed);
- Temporary Concrete Batching Plant (proposed); and
- City Walk Bridge (proposed).

AECOM has undertaken a number of air quality impact assessments for various aspects of the Barangaroo South project, including:

- Air Quality Impact Assessment - Barangaroo Site Excavation and Preparation Works (AECOM, 2010);
- Air Quality Impact Assessment - Barangaroo Stage 1A Cumulative Construction Assessment (AECOM, 2012);
- Air Quality Impact Assessment - Remediation and Landforming Works, DA SSD 5897-2013, Barangaroo Block 4, Hickson Road, Millers Point, NSW (AECOM, 2013).

The works considered in these assessments include the excavation of Blocks 1 – 3 for the construction of the basement car park, the concurrent construction of five buildings on the site together with the operation of an on-site concrete batching plant, and the excavation and remediation works associated with the Declaration Area. The reports listed above describe the quantitative assessments of the impacts associated with the expected worst-case concurrent activities on the site, and addressed the Director-General's 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 (including works conducted at Headland Park, Barangaroo Central and Wynyard Walk); 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*.

As mentioned above, the works associated with the Public Domain consist of activities such as paving and landscaping, which will involve soil handling and concrete batching. These activities are expected to have minimal air emissions. The Air Quality Impact Assessment - Remediation and Landforming Works (AECOM, 2013), which estimated the impacts associated with the concurrent construction of five main Barangaroo buildings (C3, C4, C5, R8 and R9), the operation of a concrete batching plant, water treatment plant and remediation works in Block 4, addressed similar activities to those associated with the Public Domain, but on a much larger scale. The dispersion modelling undertaken for the remediation and landforming works predicted exceedences of the Environment Protection Authority's 24 hour and annual PM₁₀ and 1 hour NO₂ ambient criteria would occur, with the concrete batching plant identified as the primary source of particulate emissions are considered to be the result of overconservative assumptions made regarding the plant and equipment to be used within the building construction works. The NO₂ exceedences were limited to a single commercial residence and footpath directly south of the site, and were considered to be the result of overconservative assumptions made regarding the plant and equipment to be used within the building construction works. Emissions of other pollutants, including odour,

were not predicted to exceed the relevant criteria. This development was approved by the Department of Planning and Infrastructure.

The proposed Public Domain works would not be expected to substantially increase air emissions (including odour) or the cumulative impact of works at the Barangaroo South site. Any pollutant emissions associated with operation of the Public Domain area would be expected to be similar in scale and nature to those associated with other public areas 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 operation phases.

Lend Lease currently operates a reactive dust mitigation system at the Barangaroo South site, which includes ambient pollution monitoring, is directly linked to real-time warnings and incorporates work procedures to ensure that action is taken to reduce dust levels when they are elevated and at risk of exceeding acceptable air pollution levels. The system has been operational on the Barangaroo South site for many months, and will continue to operate throughout the duration of the Public Domain works.

As described in the Environmental Impact Statement for the Concrete Batching Plant (JBA, 2013¹), Lend Lease uses its existing air quality monitoring network and its operational procedures for the concrete batching plant to ensure the site emissions are mitigated to an appropriate level and that adverse impacts (i.e. exceedences of ambient air quality criteria) do not occur at sensitive receptor locations as a result of site operations.

Lend Lease has demonstrated that it can undertake significant materials handling activities with substantial plant and equipment numbers on site without exceeding the relevant air quality criteria through this reactive management and monitoring system. As such, provided the Public Domain works are incorporated into the site management plan and the mitigation measures properly implemented, adverse effects on local air quality are not expected to occur as a result of the proposed Public Domain works.

On the basis of the review and information provided in this letter, AECOM is of the opinion that the proposed Public Domain works do not require any additional supporting information, analysis or commentary in relation to potential air quality impacts at this stage of the design.

Yours faithfully



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¹ JBA. State Significant Development Environmental Impact Statement – Barangaroo South, Temporary Concrete Batching Plant (SSD 13_5697)