

Development Consent

Section 89E of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning under delegation dated 2 February 2015, I approve the development consent referred to in Schedule 1, subject to the conditions in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Anthea Sargeant
Executive Director
Key Sites and Industry Assessments

Sydney

2016

SCHEDULE 1

Application No.:	SSD 6617
Applicant:	Lend Lease (Millers Point) Pty Limited
Approval Authority:	Minister for Planning
Land:	Part of Hickson Road within the EPA Declaration Area no. 21122, Barangaroo, NSW
Development:	Remediation and associated works

DEFINITIONS

Advisory Notes	Advisory information relating to the approved project but do not form a part of this approval.
Applicant	Lend Lease (Millers Point) Pty Limited, or anyone else entitled to act on this consent
BCA	Building Code of Australia
Certifying Authority	Has the same meaning as in section 4 and Part 4A of the EP&A Act
Construction	Any works, including remediation, earth and building works
Council	City of Sydney Council
CPI	Consumer Price Index
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment, or its successors
Development	The development as described in the EIS, RTS and second RTS
EIS	Environmental Impact Statement entitled ' <i>Hickson Road Remediation Works SSD 6617 — Remediation of Hickson Road – Part of EPA Remediation Site 21122</i> ' and accompanying appendices, prepared by JBA Urban Planning Consultants Pty Ltd and dated August 2015.
EPA	Environment Protection Authority or its successors.
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
Evening	The period from 6pm to 10pm
Incident	A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this approval
Minister	Minister for Planning, or nominee
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OEH	Office of Environment & Heritage, or its successors
PCA	Principal Certifying Authority has the same meaning as in section 4 and Part 4A of the EP&A Act.
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
RAP	The Remedial Action Plan entitled <i>NSW EPA Declared Remediation Site 21122 and Block 4 (Stage 1b) Development Works, Barangaroo, Millers Point, NSW</i> , prepared by AECOM Australia Pty Limited and dated 24 July 2013
Remediation	The remediation and excavation works as described in the EIS, RTS and second RTS
RMS	Roads and Maritime Services
RTS	Response to Submissions report entitled ' <i>Remediation of Part of Hickson Road (Remediation Site 21122)</i> ' prepared by JBA Urban Planning Consultants Pty Ltd and dated March 2016.
Second RTS	Second Response to Submissions report – entitled ' <i>Barangaroo – Hickson Road Remediation (SSD 6617) Further Response to Submissions</i> ' prepared by JBA Urban Planning Consultants Pty Ltd and dated May 2016
Reasonable and Feasible	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements. Feasible relates to engineering considerations and what is practical to build
Statement of Commitments	The Applicant's Statement of Commitments in Schedule 3
Secretary	The Secretary of the Department (or nominee)
Site	The land referred to in Schedule 1 of this consent
Spoil	Dirt or rock excavated and removed from its original location

SCHEDULE 2

PART A - ADMINISTRATIVE CONDITIONS

Development Description

- A1 Except as amended by this consent, development consent is granted for the Remediation works within part of Hickson Road, on land within EPA Declaration Area (No. 21122) and adjacent areas to facilitate the revocation of the Declaration by the following remediation methods:
- in-situ chemical oxidation (ISCO) and product extraction includes:
 - o Installation of perimeter retention walls;
 - o Installation of temporary treatment compounds for storage, pumps, waste water storage and safety wash systems;
 - o Installation of wells for chemical injection, extraction and monitoring;
 - o localised excavation works; or
 - ex-situ remediation by excavation offsite treatment and disposal includes
 - o installation of temporary retaining walls and groundwater retention walls, excavation and associated works;
 - o erection of temporary excavation enclosure(s) and emission control systems;
 - o removal of street trees
 - treatment of waste water at the waste water treatment plant and/or disposal off site;
 - traffic management activities for the duration of works;
 - diversion and realignment of services; and
 - reinstatement of part of Hickson Road on completion.
- A2 The development will be undertaken in accordance the following documents and plans:

The Human Health and Ecological Risk Assessment entitled 'Human Health and Ecological Risk Assessment, VMP Remediation Works Area (Addressing the NSW EPA Declaration 21122, Millers Point)', prepared by AECOM Australia Pty Limited, dated 25 October 2012.			
The Remediation Extent report titled 'VMP Remediation Extent – VMP Remediation Works Area (Parts of Barangaroo and Hickson Road), Millers Point NSW prepared by AECOM Australia Pty Ltd dated 23 July 2013.			
The Remedial Action Plan entitled 'Remedial Action Plan, NSW EPA Declared Remediation Site 21122 and Block 4 (Stage 1b) Development Works, Barangaroo, Millers Point, NSW', prepared by AECOM Australia Pty Ltd and dated 24 July 2013.			
The Site Audit Report entitled 'Site Audit Report - Remedial Action Plan, Declaration Area and Block 4, Barangaroo', prepared by ENVIRON Australia Pty Ltd, dated July 2013.			
Site Audit Statement (No. GN 447A), approved by Mr. Graeme Nyland (EPA accredited Site Auditor) and dated 31 July 2013.			
Environmental Impact Statement entitled 'Hickson Road Remediation Works SSD 6617 – Remediation of Hickson Road – Part of EPA Remediation Site 21122' and accompanying appendices, prepared by JBA Urban Planning Consultants Pty Ltd and dated August 2015.			
Response to Submissions report entitled 'Remediation of Part of Hickson Road (Remediation Site 21122)' prepared by JBA Urban Planning Consultants Pty Ltd and dated March 2016.			
Second Response to Submissions report entitled 'Barangaroo – Hickson Road Remediation (SSD 6617) Further Response to Submissions' prepared by JBA Urban Planning Consultants Pty Ltd and dated May 2016.			
The Addendum to the Remedial Action Plan, entitled <i>Addendum to the Remedial Action Plan NSW EPA Declared Remediation Site 21122 and Block 4 (Stage 1b) Development Works, Barangaroo, Millers Point NSW – Off-site Treatment/Transport of Contaminated Material</i> , prepared by AECOM Australia Pty Limited and dated 15 October 2015.			
Site plans and sections prepared by Lend Lease Design, (Graham Jones, Principal Architect) Overview and staging plans prepared by ARUP.			
Drawing No.	Issue	Name of Plan	Date
Site Plans and Sections			
B00_PA1_A000	B	Title Sheet	08/05/2015
B00_PA1_A001	B	Aerial Location Plan	08/05/2015
B00_PA1_A002	B	Site Survey	08/05/2015
B00_PA1_A003	B	Locality / Context Ground Plan	08/05/2015

B00_PA1_A004	B	Demolition Plan	08/05/2015
B00_PA1_A005	B	Earthworks Drawing	08/05/2015
Overview and Staging Plans			
226463-CCT-SKT-2014	C	Overview Drawing In-situ Remediation and Works Staging	18/09/2014
226463-CCT-SKT-2015	C	Hickson Road Remediation Detailed Overview	18/09/2014
226463-CCT-SKT-2018	C	In-situ Method Staging Plans – Stage 1	18/09/2014
226463-CCT-SKT-2019	C	In-situ Method Staging Plans – Stage 2	18/09/2014
226463-CCT-SKT-2020	C	In-situ Method Staging Plans – Stage 3	18/09/2014
226463-CCT-SKT-2021	C	In-situ Method Staging Plans – Stage 4	18/09/2014
226463-CCT-SKT-2022	C	In-situ Method Staging Plans – Stage 5	18/09/2014
226463-CCT-SKT-2016	C	Overview Drawing Ex-situ Remediation Method Works Staging	18/09/2014
226463-CCT-SKT-2023	C	Ex-situ Method Staging Plans – Stage 1	18/09/2014
226463-CCT-SKT-2024	C	Ex-situ Method Staging Plans – Stage 2	18/09/2014
226463-CCT-SKT-2025	C	Ex-situ Method Staging Plans – Stage 3	18/09/2014
226463-CCT-SKT-2026	C	Ex-situ Method Staging Plans – Stage 4	18/09/2014
226463-CCT-SKT-2027	C	Ex-situ Method Staging Plans – Stage 5	18/09/2014
226463-CCT-SKT-2028	C	Ex-situ Method Staging Plans – Stage 6	18/09/2014

except for:

- (1) any modifications which are 'Exempt and Complying Development' as identified in *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* or as may be necessary for the purpose of compliance with the BCA and any Australian Standards incorporated in the BCA.
- (2) otherwise provided by the conditions of this consent.

Inconsistency between documents

A3 In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, including the Applicant's Statement of Commitments, the conditions of this consent prevail.

Prescribed Conditions

A4 The Applicant shall comply with the prescribed conditions of consent under clause 98 of the Environmental Planning and Assessment Regulation 2000 in relation to the requirements of the Building Code of Australia (BCA).

Mediation

A5 Where this approval requires further consent/approval from Council or another authority, the parties shall not act unreasonably preventing an agreement from being reached. In the event that an agreement is unable to be reached within 3 months or a timeframe otherwise agreed to by the Secretary, the matter is to be referred to the Secretary for resolution. All areas of disagreement and the position of each party are to be clearly stated to facilitate a resolution.

Lapsing of Consent

A6 The development consent shall lapse 5 years after the determination date in Part A of Schedule 1, unless the construction works authorised by this development consent have been commenced.

Limits on Consent

A7 This development consent provides approval for remediation and associated works. No consent is granted for the following:

- (a) amendment or alteration to the current land use on the site; and
- (b) development that is not associated with remediation and is not described in Condition A1.

End of Section

PART B – PRIOR TO ISSUE OF THE RELEVANT CONSTRUCTION CERTIFICATE

Compliance with Building Code of Australia

- B1. Details shall be provided to the satisfaction of the Certifying Authority, with each application for a Construction Certificate, which demonstrate that the proposal complies with the prescribed conditions of approval under clause 98 of the Environmental Planning and Assessment Regulation 2000 in relation to the requirements of the Building Code of Australia.

Structural Details

- B2. Prior to the issue of the relevant Construction Certificate, the Applicant shall submit to the satisfaction of the Certifying Authority, detailed design plans illustrating the location and type of perimeter retention walls along with structural drawings prepared and signed by a suitably qualified practising Structural Engineer that complies with:
- (a) the relevant clauses of the BCA;
 - (b) the relevant development consent;
 - (c) drawings and specifications comprising the Construction Certificate; and
 - (d) the relevant Australian Standards listed in the BCA (Specification A1.3).

Confirmation of Remediation Strategy

- B3. Prior to the issue of the relevant Construction Certificate, the Applicant shall prepare an appropriate statement to confirm and outline the justification for the preferred remediation methodology to be implemented on site. The statement is to be prepared by a suitably qualified and experienced person and submitted to the EPA for review and a copy provided to the Secretary.

Footway Design

- B4. Detailed design and construction documentation of the relevant footways must be prepared by a suitably qualified practising professional Civil Engineer; and where Council is the relevant road authority, the documentation is to be in accordance with the Council's 'Development Specification for Civil Works'. The works are to be completed in accordance with the approved plan.

Pre-construction dilapidation reports

- B5. If not already undertaken, the Applicant shall engage a suitably qualified person to prepare a Pre-Construction Dilapidation Report detailing the current structural condition of all existing and adjoining buildings, infrastructure and roads. The report shall include a site survey so that any potential movement in structures can be accurately monitored and determined. The report shall be submitted to the satisfaction of the Certifying Authority prior to the issue of the first Construction Certificate. A copy of the report is to be forwarded to the Secretary and Council.

Any entry into private land is subject to the consent of the owner(s) and any inspection of buildings on privately affected land shall include details of the whole building where only part of the building may fall within the 'zone of influence'. The report shall be submitted to the satisfaction of the PCA prior to the issue of the Construction Certificate for below ground works. A copy of the report is to be forwarded to the PCA and each of the affected property owners.

In the event that access for undertaking a Pre-Construction Dilapidation Report is denied by an adjoining owner, the Applicant must demonstrate, in writing, to the satisfaction of the Secretary that all reasonable steps have been taken to obtain access and advise the affected property owner of the reason for the report and that these steps have failed.

Any damage to the public way including trees, footpaths, kerbs, gutters, road carriageway and the like must be made safe and functional by the applicant.

Engineering assessment

B6. Prior to the issue of the relevant Construction Certificate, the Applicant shall submit to the PCA the results of detailed geotechnical and engineering assessment of the proposed remediation works. The report is to address:

- (a) appropriate drilling and excavation methods and techniques;
- (b) vibration management and monitoring;
- (c) dilapidation surveys (as above);
- (d) support and retention methods for excavated faces;
- (e) hydrogeological considerations; and
- (f) site surface infrastructure settlements effects survey.

The recommendations of the report are to be implemented during the works.

Detailed Design - In-situ Remediation

B7. If in-situ remediation is the confirmed remediation strategy, prior to the issue of the relevant Construction Certificate, the Applicant shall submit final plans for the treatment compounds and associated soil vapour emission systems prepared by a suitably qualified and experienced person to the EPA for review and the Secretary for approval. The information submitted must include detailed site layout plans including information on:

- (a) final location and visual appearance of the proposed treatment/remediation compounds, trenches and well locations; and
- (b) stormwater, erosion and sediment management/control devices.

Notes:

- a) *A reference to a treatment compound is taken to be a reference to a compound used to store chemicals, injection pumps, and safety washes as described in the EIS.*
- b) *A reference to the soil vapour extraction system as described in the EIS is a reference to the emission control system including the odour control system to treat soil vapours from the in-situ remediation process.*
- c) *Excavation works may be required to be undertaken during the in-situ remediation works and are subject to the controls outlined for ex-situ remediation and excavation works as outlined below or as otherwise approved in writing by the EPA.*

Detailed Design - Ex-situ Remediation

B8. If ex-situ remediation is the confirmed remediation strategy, prior to the issue of the relevant Construction Certificate, the Applicant shall submit final plans for each enclosure, treatment compound and associated emission system prepared by a suitably qualified and experienced person to the EPA for review and the Secretary for approval. The information submitted must include detailed site layout plans including information on:

- (a) final location and visual appearance of the excavation enclosures including dimensions (bulk, height and scale), materials and finishes; and
- (b) stormwater, erosion and sediment management/control devices.

The enclosures for ex-situ remediation must operate under negative pressure at all times.

Notes:

- (a) *A reference to enclosure is taken to be the excavation enclosure(s) and or remediation enclosure as described in the EIS.*
- (b) *A reference to the emission control system includes the odour control system and odour control structures.*

Detailed Design - Air Quality Verification Report

B9. Prior to the issue of the relevant Construction Certificate, an Air Quality Verification Report prepared by a suitably qualified person shall be submitted to the EPA for review. The Air Quality Verification Report must be prepared for both the ex-situ or in-situ remediation method and must:

- (a) be prepared by a suitably qualified and experienced expert in accordance with the EPA's Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (the Approved Methods) dated August 2005;
- (b) assess all key chemicals of potential concern;
- (c) be based on the relevant final plans and site layout of the development including information such as ventilation arrangements, location details, all point source discharge parameters and emissions performance specifications for pollution control equipment for all compounds of interest;
- (d) nominate relevant emission concentration limits that reflect proper and efficient operation and are protective of the health and amenity of the surrounding environment;
- (e) be supported by data from the Hickson Road remediation pilot trial (MP10_0087);
- (f) include appropriate trigger levels, monitoring methods and actions for detection of activated carbon breakthrough;
- (g) propose monitoring program/s for the emissions control systems, including arrangements for monitoring of activated carbon breakthrough;
- (h) incorporate emission performance specifications for generators should they be proposed for use; and
- (i) make recommendations for all mitigation measures necessary to demonstrate compliance with the relevant impact assessment criteria as nominated in the Approved Methods.

A copy must be provided to the Secretary.

The soil vapour extraction systems or the emission control systems must be designed in consultation with the EPA using appropriate available control technology, comply with Environment Protection Licence number 13336 and meet any relevant requirements of the *Protection of the Environment Operations (Clean Air) Regulation 2010*.

Point source discharges associated with the remediation activities must be monitored continuously for Volatile Organic Compounds (VOCs) or as otherwise required to comply with the Environmental Protection Licence (EPL 13336). The monitoring must be conducted in accordance with the Approved Methods for Sampling and Analysis of Air Pollutants in NSW.

Construction Framework Environmental Management Plan

B10. Prior to the issue of the relevant Construction Certificate, the Applicant shall prepare a Construction Framework Environmental Management Plan (CFEMP) for the development incorporating the development to be submitted to the EPA for review and submitted to the Certifying Authority. The CFEMP must:

- (a) describe the relevant stages and phases of construction including the work program outlining relevant timeframes for each stage/phase;
- (b) describe all activities to be undertaken on the site during site establishment and construction of the development;
- (c) clearly outline the stages/phases of construction that require ongoing environmental management monitoring and reporting;
- (d) detail statutory and other obligations that the Applicant is required to fulfil during site establishment and construction, including approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
- (e) include specific consideration of measures to address any requirements of the EPA during site establishment and construction;

- (f) describe the roles and responsibilities for all relevant employees involved in the site establishment and construction of the works;
- (g) detail how the environmental performance of the site preparation and construction works will be monitored, and what actions will be taken to address identified potential environmental impacts;
- (h) document and incorporate all sub environmental management plans (Sub-Plans), studies and monitoring programs required under this consent; and
- (i) include arrangements for community consultation and complaints handling procedures during construction.

In the event of any inconsistency between the consent and the CFEMP, the consent shall prevail.

The CFEMP and any associated Sub-Plans should be revised:

- at each key stage of the works;
- in response to future development consents;
- in response to major changes in site conditions or work methods; and
- in support of licence variations as necessary.

A copy of the final CFEMP is to be provided to the Secretary.

Spoil and Waste Management Sub-Plan

B11. Prior to the issue of the relevant Construction Certificate, a Spoil and Waste Management Sub-Plan for the development shall be prepared by a suitably qualified person and shall be submitted to the EPA for review and submitted to the Certifying Authority. The Spoil and Waste Management Sub-Plan must cover all potential waste streams from either remediation process including; bulk excavation liquid waste and incidental waste from drilling and well installation and other excavation activities.

The Sub-Plan must be consistent with and adopt all recommendations of the amended Waste Management Plan prepared by AECOM dated 3 March 2016, the Remedial Action Plan prepared by AECOM dated 24 July 2013 and Addendum to the Remedial Action Plan prepared by AECOM dated 15 October 2015. The Spoil and Waste Management Sub-Plan must:

- (1) Detail waste treatment and disposal:
 - (a) provide names and details of treatment and disposal facilities for all anticipated waste streams from Barangaroo, including excavation waste from bulk excavation and liquid waste;
 - (b) outline how current industry best practise to treat and dispose of contaminated spoil materials was considered in the selection of appropriate treatment and disposal facilities;
 - (c) detail the hazardous waste treatment technologies to be utilised;
 - (d) detail procedures for the classification of hazardous and non-hazardous waste in accordance with the Waste Classification Guidelines Part 1: classifying waste EPA 2014, including sampling methodology;
 - (e) detail procedures for waste tracking in accordance with the Protection of the Environment Operations (Waste) Regulation 2014; and
 - (f) provide the details of all required EPA approvals and or licences to facilitate the appropriate handling and treatment of spoil material, such as general immobilisation or treatment permits for the transport and disposal of waste.
- (2) Detail a spoil management plan:
 - (a) detail the stockpiling of contaminated spoil and non-contaminated spoil material. Contaminated spoil must be stockpiled separately and the designated area clearly marked and labelled (on plans and on site);

- (b) detail how contaminated spoil will be kept separate from non-contaminated spoil and cross contamination avoided;
 - (c) provide detail stockpile stabilisation, covering or storage to minimise dust, odour and vapour emissions.
- (3) Provide details for the transport of spoil material around the site (on-site) and from the site, including (at a minimum):
- (a) a plan showing transport routes within the site;
 - (b) method for locating stockpiles at each stage as they migrate within the site;
 - (c) training and awareness of operators and drivers;
 - (d) procedures for moving and loading waste to minimise double handling and emissions;
 - (e) a commitment to retain waste transport details for the life of the project to demonstrate compliance with the Protection of the Environment Operations Act 1997; and
 - (f) detail the proposed transport routes for all waste streams, methods to mitigate potential emissions and appropriate response measures should transport be affected due to traffic or accidents.
- (4) Monitoring and management including record keeping of all waste management forms, audit regime and response to non-compliance;
- (5) All excavation and loading of odorous contaminated soils must be undertaken inside enclosures fitted with suitable ventilation arrangements and pollution control equipment;
- (6) Contaminated odorous material must be stored within the odour control enclosures or an equivalent level of control (such as sealed containers) at all times
- (7) A contingency plan for any event that may affect the handling of contaminated spoil at the site, including storage options should material not be able to be transported and treated off-site.

The plan must be consistent with the Environment Protection Licence number 13336. A copy must be provided to the Secretary.

Air Quality and Odour Management Sub-Plan

B12. Prior to the issue of the relevant Construction Certificate, an Air Quality and Odour Management Sub-Plan for the development prepared by a suitably qualified person shall be submitted to the EPA for review and submitted to the Certifying Authority.

The Sub-Plan must be consistent with and adopt all recommendations of the Air Quality Impact Assessment (AQIA) prepared by AECOM dated 9 March 2016 and the Air Quality Verification Report required under Condition B9 of this consent. The Sub-Plan must include:

- (1) Details of all proposed air quality emission control measures including:
 - (a) comprehensive proactive and reactive air quality and odour management strategies for all pollutant emission sources to ensure the assessment criteria are met during the works;
 - (b) key performance indicators for emission controls;
 - (c) monitoring methods including location, frequency and duration;
 - (d) response mechanisms;
 - (e) record keeping;
 - (f) compliance reporting; and
 - (g) management and monitoring strategies and associated responsibilities (for contractors and employees).

- (2) An ambient air monitoring program including vapour monitoring and a reactive management strategy including real time meteorological monitoring, VOC monitoring, continuous particulate monitoring and the implementation of appropriate triggers to further develop the reactive management strategy for air pollution mitigation.

The Sub-Plan must comply with Environment Protection Licence number 13336. A copy must be provided to the Secretary.

Odour and Emission Control for Off-Site Transport, Treatment and Disposal

- B13. Prior to the issue of the relevant Construction Certificate, the Applicant must ensure the methodology and environmental controls provided in the Addendum to the Remedial Action Plan prepared by AECOM and dated 15 October 2015 are incorporated into the Air Quality and Odour Management Sub-Plan required under Condition B12.

Odour and Emission Control for Perimeter Retention Wall Construction

- B14. Prior to the issue of the relevant Construction Certificate, the Applicant must ensure the detailed methodology for the odour and emission control for perimeter retention wall construction provided in the Revised AQIA by AECOM dated 9 March 2016 is incorporated into the Air Quality and Odour Management Sub-Plan required under Condition B12.

Construction Noise and Vibration Management Sub-Plan

- B15. Prior to the issue of the relevant Construction Certificate, a Construction Noise and Vibration Management Sub-Plan for the development prepared by a suitably qualified person shall be submitted to the EPA for review and submitted to the Certifying Authority.

The Sub-Plan must be consistent with and adopt all recommendations and detail all reasonable and feasible mitigation measures as identified in the Construction Noise and Vibration Assessment (dated August 2015 – Version C), and the Response to Noise Issues, prepared by Wilkinson Murray, dated 2 February 2016 and include (at a minimum):

- (a) a process to ensure that wherever feasible power is supplied by the grid;
- (b) Install a 2.4m noise barrier on the eastern boundary of the site;
- (c) detail the localised treatments to be utilised to reduce noise from fixed plant such as pumps, generators and groundwater extraction plant
- (d) install attenuators on the exhaust fans, filtration and air handling plant associated with the odour structures;
- (e) provision of respite from noise producing activities in accordance with Condition D9 ;
- (f) suitable real-time noise monitoring program, early warning system(s) and reactive management procedure(s) to ensure corrective actions are implemented prior to exceedances of the relevant construction noise criteria identified in Condition D10;
- (g) suitable community consultation procedures to be implemented including a community liaison (e.g. early notification procedures), complaints and response mechanism for critical stages of the works including procedures for ensuring effective action for complaints received out of hours;
- (h) Detail the methodology for the trial vibration testing and monitoring to determine least impact work distances and low vibration equipment to meet vibration criteria identified in Condition D11.

The Sub-Plan must comply with Environment Protection Licence number 13336. A copy must be provided to the Secretary.

Construction Pedestrian and Traffic Management Sub-Plan

- B16. Prior to the issue of the relevant Construction Certificate, a Construction, Pedestrian and Traffic Management Sub-Plan (CPTMP) prepared by a suitably qualified person for the

development shall be submitted to the State Transit Authority, RMS and Transport for NSW (CBD Coordination Office) for review and submitted to the Certifying Authority.

The Sub-Plan must detail:

- (a) measures to minimise the impact of the development on the safety and capacity of the surrounding road network, bus operation, pedestrian and cyclist safety;
- (b) consideration of cumulative construction impacts of projects including the Sydney Light Rail Project. Existing CPTMPs for development within or around the development site should be referenced to ensure appropriate co-ordination of work activities to manage and minimise impacts on the CBD road network;
- (c) the duration of any impacts identified and measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts should be clearly identified and included in the CPTMP;
- (d) the location of the proposed work zone;
- (e) the location of crane(s) if required;
- (f) haulage routes;
- (g) construction vehicle access arrangements, ensuring appropriate emergency access and egress;
- (h) the estimated number of construction vehicle movements;
- (i) the construction program;
- (j) how truck movements to and from the site can be minimised as far as practicable during peak periods;
- (k) the accessibility of traffic, public transport, pedestrian and cyclist facilities at all times or identify appropriate alternatives where facilities cannot be made accessible during construction; and
- (l) compliance with Condition D16 of this consent.

The Construction and Traffic Management Sub-Plan shall include a Green Travel Plan which describes the public transport, pedestrian and cycling routes to Barangaroo and outlines how the plan will be communicated to workers.

The final CPTMP shall be reviewed by the CBD Coordination Office within TfNSW and a copy must be provided to the Secretary.

Health Management Sub-Plan

B17. Prior to the issue of the relevant Construction Certificate, a Health Management Sub-Plan prepared by a suitably qualified person for the development shall be submitted to NSW Health and SafeWork NSW for review and submitted to the Certifying Authority. The Sub-Plan must:

- (a) ensure the development complies with the relevant requirements of the Work, Health and Safety Regulation 2011;
- (b) detail all pollutant management measures, monitoring and controls to be implemented during construction to minimise potential impacts on health for nearby sensitive receivers and workers on or adjacent to the site including engineering controls, safe work practices, safe work methods statements, hygiene and decontamination procedures and personal protective equipment requirements;
- (c) include all management measures and controls to minimise potential health impacts during the loading and transport of contaminated materials for treatment and disposal and for works undertaken outside of excavation enclosures;
- (d) be consistent with and adopt all recommendations of the amended Health Impact Assessment prepared by AECOM (dated 3 March 2016), specifically noting the requirement for a vapour and dust monitoring program to be implemented on the site;
- (e) ensure an induction process is in place for site workers and visitors regarding the safe work practices and methods to be followed to minimise the potential for human exposure to pollutants; and

- (f) include a suitable occupational health monitoring program that ensures potential and identified exceedances of the adopted health impact assessment criteria are linked to appropriate corrective work actions and the implementation of additional controls.

A copy must be provided to the Secretary.

Water Quality Management Sub-Plan

- B18. Prior to the issue of the relevant Construction Certificate, a Water Quality Management Sub-Plan be developed for the preferred remediation strategy prepared by a suitably qualified person shall be submitted to the EPA and DPI Water for review and submitted to the Certifying Authority.

The Sub-Plan must ensure that any effluents/liquid waste streams associated with the development that are directed for treatment to the site Wastewater Treatment Plant (WTP) would be sufficiently treated to ensure:

- (a) compliance with the relevant concentration limits required by Environment Protection Licence No. 13336 prior to discharge to Sydney Harbour; and/or
- (b) compliance with the relevant requirements of an executed Trade Waste Agreement with Sydney Water Corporation prior to discharge to sewer.

The Sub-Plan must be consistent with and adopt all relevant recommendations of the Soil and Water Impact Assessment Report (prepared for the ex-situ remediation dated 8 April 2015 and/or the in-situ remediation dated 3 March 2016) and include (at a minimum):

- (a) a detailed groundwater monitoring plan to incorporate monitoring of the groundwater system at the eastern edge of the Barangaroo site;
- (b) details of the de-watering process, or other water extraction processes;
- (c) final water quality parameters, including water quality parameters ('triggers') to be utilised to enact response procedures;
- (d) the monitoring and testing program including the recording and auditing procedures to be implemented (for ground water and surface water);
- (e) detail specific actions associated with trigger values for potential pollutants that may be discharged off site in surface water or groundwater;
- (f) detail specific actions where non-compliance is identified; and
- (g) detail emergency response protocols.

Specific requirements for the in-situ remediation:

- (a) monitoring details of all groundwater points including injection wells, monitoring wells and wells to monitor potential mobilisation of pollutants offsite including monitoring during the injection phase, system operation phase and post injection monitoring phase;
- (b) trigger criteria for actions of exceedance at groundwater monitoring wells to assess mobilisation and movement of the in-situ treatment front including specific triggers for contingency extractions;
- (c) detail the monitoring of movement and performance of the injected chemistry including the use of surrogate indicators (pH, Temperature etc.);
- (d) trigger criteria for exceedance for in-situ methods to address relevant risk factors including movement of heavy metals, cyanide, hydrocarbons and poly aromatic hydrocarbons;
- (e) detail reuse criteria for any waste water reuse, including the reuse of in-situ treatment wastewater, where feasible;
- (f) groundwater and or marine water quality criteria /trigger values and monitoring for assessing the success of the remediation that incorporate all relevant risk factors;
- (g) collection system for contaminated water on site prior to treatment, transport of site and or discharge;

- (h) provide a map of the groundwater monitoring network in relation to hydraulic gradient and site boundaries to demonstrate how the groundwater monitoring wells can detect hydraulic gradient mobilisation.

The Sub-Plan shall include a suitable period for commissioning of any WTP to enable an intensive monitoring program to characterise key pollutants in liquid waste inflows to and discharges from the WTP associated with the development to ensure this waste is treated to an acceptable level. A copy must be provided to the Secretary.

Water Treatment Plant

B19. Prior to the operation of any new Water Treatment Plant (WTP) at the premises the applicant must prepare and supply to the EPA for review a WTP Management plan which must include but not be limited to details of treatment processes and systems as well as details of the influents likely to be treated in the WTP. The WTP Management Plan shall include:

- (a) specifications and design details of the Water treatment Plant (WTP);
- (b) detail how the WTP can achieve the water quality limits attached to Environmental Protection Licence (EPL) 13336 that have been applied previously to Barangaroo site discharges and are detailed in EPA correspondence dated 23 November 2015 as Attachment B "Water Quality Limits"; and
- (c) a WTP commissioning stage monitoring program and an operational stage discharge quality monitoring program.

Asbestos Management Sub-Plan

B20. Prior to the issue of the relevant Construction Certificate, an Asbestos Management Sub-Plan prepared by a suitably qualified person for the development shall be submitted to the EPA and SafeWork NSW for review and submitted to the Certifying Authority. The Sub-Plan must:

- (a) be consistent with Safe Work Australia's codes of practice How to Safely Remove Asbestos 2011 and How to Manage and Control Asbestos in the Workplace 2011;
- (b) identify any known or potential areas of concern on site for asbestos containing materials;
- (c) outline the procedures for identification, handling, disposal and/or re-use of asbestos containing materials;
- (d) ensure that all asbestos would be handled and disposed of by a suitably licensed asbestos removalist in accordance with the relevant guidelines and legislation;
- (e) ensure an induction process is in place for site workers and visitors regarding the identification of asbestos and the formal procedures to be followed in the event that asbestos is identified on site;
- (f) ensure that the development would comply with the requirements of Condition D24 of this consent;
- (g) include a suitable airborne asbestos fibre monitoring program for all asbestos removal works areas; and
- (h) outline the procedures for soil validation and inspection following the completion of asbestos removal works and issuing of asbestos clearance certificates.

A copy must be provided to the Secretary.

Stormwater and Drainage

B21. Prior to the issue of the relevant Construction Certificate, details of any proposed stormwater disposal and drainage for the preferred remediation method including a system of on-site stormwater detention (if required) and details of the provision and maintenance

of overland flow paths must be submitted to the Certifying Authority. All details for the disposal of stormwater and drainage are to be implemented in the development.

- B22. Any proposed connection to the Council's or Sydney Water's underground drainage system will require the owner to enter into a Deed of Agreement, if required, with the Council or Sydney Water prior to the commencement of any relevant work within the public way.
- B23. The requirements of Sydney Water with regard to the on site detention of stormwater, if required, must be ascertained and complied with. Evidence of the approval of Sydney Water to the on-site detention, if required, must be submitted prior to the relevant Construction Certificate being issued.
- B24. Where relevant, an "Application for Approval of Stormwater Drainage Connections" must be submitted to the Council with the appropriate fee at the time of lodgement of the proposal for connection of stormwater to the Council's drainage system.

Sydney Water

- B25. Prior to the issue of the relevant Construction Certificate, a Notice of Requirements under Part 6, Division 9 of the Sydney Water Act 1994 shall be obtained and a copy must be submitted to the Certifying Authority (Council or a private accredited certifier).

Outdoor lighting

- B26. All outdoor lighting shall comply with, where relevant, AS/NZ1158.3: 1999 Pedestrian Area (Category P) Lighting and AS4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting. Details demonstrating compliance with these requirements are to be submitted to the satisfaction of the Certifying Authority prior to the issue of a relevant Construction Certificate.

Erosion and Sediment Control-Plan

- B27. Soil erosion and sediment control measures shall be designed in accordance with the document Managing Urban Stormwater – Soils & Construction Volume 1 (2004) by Landcom. Details are to be submitted to the satisfaction of the Certifying Authority prior to the issue of the relevant Construction Certificate.

Acid Sulfate Soils Sub-Plan

- B28. Prior to the issue of the relevant Construction Certificate, an Acid Sulphate Soil Management Sub-Plan for the development shall be prepared by a suitably qualified person in accordance with the Acid Sulphate Soil Assessment Guidelines (Acid Sulphate Soil Management Advisory Committee, 1998) and submitted to the Certifying Authority.

Heritage Management Sub-Plan

- B29. Prior to the issue of the relevant Construction Certificate, a Heritage Management Sub-Plan prepared by a suitably qualified person shall be submitted to the Certifying Authority. The Sub-Plan must be consistent with and adopt all recommendations of the non-Indigenous Heritage Impact Statement prepared by Casey and Lowe (dated August 2015) and the Aboriginal Archaeological and Cultural Heritage Assessment and Heritage Impact Statement prepared by Comber Consultants (dated August 2015). A copy must be provided to the Secretary.

Tree Management Sub-Plan

- B30. Prior to the issue of the relevant Construction Certificate, a Tree Management Sub-Plan for the development prepared by a suitably qualified person shall be submitted to Council for review and submitted to the Certifying Authority. The Sub-Plan must be consistent with and adopt all recommendations of the Arboricultural Impact Assessment prepared by Tree Wise Men Australia (dated February 2015). A copy must be provided to the Secretary.

Emergency Response Management Sub-Plan

- B31. Prior to the issue of the relevant Construction Certificate, appropriate emergency procedures be prepared by a suitably qualified person and submitted to NSWFS and Safe Work NSW for review. The emergency procedures shall address and mitigate, as far as

reasonably practicable, the consequences of fire and hazmat incidents and the potential health risks to firefighters undertaking emergency operations in relation to foreseeable fire and hazmat scenarios.

A copy must be provided to the Secretary.

Hazardous Chemical Management Sub-Plan

- B32. Prior to the issue of the relevant Construction Certificate, a Hazardous Chemical Management Sub-Plan for the proposed in-situ remediation process (if selected) be prepared by a suitably qualified person and shall be submitted to SafeWork NSW and the Secretary for review. The Hazardous Chemical Management plan shall incorporate all the recommendations from the Preliminary Hazard Analysis prepared by AECOM and dated 19 February 2015 and clearly outline the management of all hazardous chemicals to be stored, handled and utilised on site.

Final Hazards Analysis

- B33. If the in-situ remediation is the confirmed remediation strategy, the Applicant shall prepare the studies set out under the following subsections (a) to (b) (pre-construction studies). Construction other than of preliminary works that are outside of the scope of the hazard studies, shall not commence until study recommendations have been considered and where appropriate acted upon. The Applicant shall submit the studies to the Secretary no later than one month prior to the commencement of the remediation works (other than preliminary works) or within such further period as the Secretary may agree.

(a) **Hazard and Operability Study**

A Hazard and Operability Study for the in-situ remediation process (if selected) and the water treatment plant for the proposed development, chaired by a qualified person, independent of the development. The study shall be consistent with the Department of Planning's Hazardous Planning Advisory Paper No. 8, HAZOP Guidelines, dated January 2011.

(b) **Final Hazard Analysis**

A Final Hazard Analysis (FHA) of the proposed development, consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'. The FHA shall include the assessment of hazards and risk posed by the remediation process and any process that may take place in the water treatment work. In addition to the safeguards and mitigations for handling and storage of Dangerous goods, all the preventative safeguards and safety measures involved in the remediation and water treatment processes shall also be detailed in the analysis.

Compliance Report

- B34. Prior to the issue of each Construction Certificate, the Applicant, or any party acting upon this consent, shall submit to the Certifying Authority a report addressing compliance with all relevant conditions of this Part.

End of Section.

PART C – PRIOR TO THE COMMENCEMENT OF WORKS

GENERAL

Environmental Protection Licence

- C1. Prior to the commencement of works, the Applicant must ensure that the existing Environmental Protection Licence (EPL) issued to the Barangaroo Delivery Authority is varied, where required, to reflect and permit the works conducted on site. All works undertaken on site must be done in a manner which ensures compliance with EPL conditions at all times.

Notice of Commencement of Works

- C2. The PCA and Council shall be given written notice, at least 48 hours prior to the commencement of excavation, shoring or underpinning works on the site.

Contact Telephone Number

- C3. Prior to the commencement of the works, the Applicant shall forward to Council a 24-hour telephone number to be operated for the duration of the construction works.

Compliance Report

- C4. Prior to the commencement of works, the Applicant, or any party acting upon this consent, shall submit to the PCA a report addressing compliance with all relevant conditions of this Part.

Hoarding

- C5. A separate application under section 138 of the Roads Act 1993 is to be made to the relevant road authority to erect a hoarding and/or scaffolding in a public road (if required) and such application is to include:

- (a) architectural, construction and structural details of the design as well as proposed artwork
- (b) structural certification prepared and signed by an appropriately qualified practising structural engineer.

Evidence of the issue of a Structural Works Inspection Certificate and structural certification will be required prior to the commencement of construction works on site.

Barricade Permit

- C6. Where construction/building works require the use of a public place including a road or footpath, approval under section 138 of the Roads Act 1993 for a Barricade Permit is to be obtained prior to the commencement of work. Details of the barricade construction, area of enclosure and period of work are required to be submitted to the satisfaction of the relevant road authority.

Road Occupancy Licence

- C7. A Road Occupancy Licence (ROL) is required under section 138 of the Roads Act 1993 for any activity that may impact on the operation of the road network. A ROL must be obtained from the Transport Management Centre and Traffic Control Plans are to accompany each ROL application(s).

Hazards and Risk Management

C8. If in-situ remediation is the confirmed remediation strategy, prior to the commencement of the remediation works, the Applicant shall develop and implement the plans and systems set up under subsection (a) to (c). The Applicant shall submit to the Secretary documentation describing the plans and systems no later than one month prior to the commencement of commissioning of the remediation works, or within such further period as the Secretary may agree.

(a) **Transport of Hazardous Materials**

Arrangements covering the transport of hazardous materials including details of routes to be used for the movement of vehicles carrying hazardous materials to or from the proposed development. The routes selected shall be consistent with the Department of Planning's Hazardous Industry Advisory Paper No. 11 "Route Selection" dated January 2011. Suitable routes identified in the study shall be used except where departures are required for local deliveries or emergencies.

(b) **Emergency Plan**

A comprehensive emergency plan and detailed emergency procedure for the proposed development. The plan shall include detailed procedures for the safety of all people outside of the development who may be at risk from the development. The plan shall be consistent with the requirements of Condition B31 and the Department of Planning's Hazardous Industry Planning Advisory Paper No. 1. "Emergency Planning" dated January 2011.

(c) **Safety Management System**

A document setting out a comprehensive Safety Management System, covering all on site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. The Safety Management System shall be consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 9 'Safety Management' dated January 2011. Records shall be kept on-site and be available for inspection by the Secretary upon request.

End of Section.

PART D - DURING CONSTRUCTION

GENERAL

Hours of Work

- D1. The hours of construction, including the delivery of materials to and from the site, shall be restricted as follows.
- (a) between 7am and 6pm, Mondays to Fridays inclusive;
 - (b) between 7am and 5pm, Saturdays; and
 - (c) no work on Sundays and public holidays.
- D2. Works outside these hours are not permitted except as explicitly specified below or in other conditions and include:
- (a) the delivery of equipment and materials which is required outside these hours as requested by Police or other authorities for safety reasons;
 - (b) emergency work to avoid the loss of lives, damage to property and/or to prevent environmental harm;
 - (c) operation of the emission control systems or soil vapour extraction systems to ensure emissions and odour is effectively controlled outside the approved hours of construction, including operation of the ventilation and air emissions control systems;
 - (d) operation of the Wastewater Treatment Plant (if utilised) including dewatering to prevent flooding, treatment systems and discharge;
 - (e) traffic and service adjustments where required by the relevant authority and undertaken in accordance with condition B15; and
 - (f) other works expressly approved by the Secretary.

Construction Framework Environmental Management Plan

- D3. The Applicant must undertake all works in accordance with the requirements of the Construction Framework Environmental Management Plan prepared under Condition B10. The CFEMP must document and incorporate all Sub-Plans required under this consent.

Remedial Action Plan (RAP), Addendum to the RAP and Human Health and Ecological Risk Assessments (HHERA)

- D4. All remediation works are to be undertaken in accordance with the following approved Remedial Action Plan (RAP), Addendum to the Remedial Action Plan, Human Health Ecological Risk Assessments (HHERAs) and accompanying documents.
- (a) *'Human Health and Ecological Risk Assessment, VMP Remediation Works (Addressing the NSW EPA Declaration 21122, Millers Point)'*, prepared by AECOM Australia Pty Limited and dated 25 October 2012;
 - (b) *'Remedial Action Plan, NSW EPA Declared Remediation Site 21122 and Block 4 (Stage 1b) Development Works, Barangaroo, Millers Point, NSW'*, prepared by AECOM Australia Pty Limited and dated 24 July 2013;
 - (c) *'Site Audit Report - Remedial Action Plan, Declaration Area and Block 4, Barangaroo'*, prepared by ENVIRON Australia Pty Ltd and dated July 2013;
 - (d) *Site Audit Statement No. GN 447A*, approved by Mr. Graeme Nyland (EPA accredited Site Auditor) and dated 31 July 2013;
 - (e) *Addendum to the Remedial Action Plan, NSW EPA Declared Remediation Site 21122 and Block 4 (Stage 1b) Development Works, Barangaroo, Millers Point, NSW – Off-site Treatment/Transport of Contaminated Material*, prepared by AECOM and dated 15 October 2015; and
 - (f) Site Auditor review in letter dated 20 October 2015 prepared by Accredited Site Auditor Graeme Nyland of Ramboll Environ.

Ex-situ remediation and bulk excavation

- D5. Unless otherwise agreed in writing by the EPA, the Applicant must ensure that all ex-situ remediation works (other than works detailed in the perimeter retention wall preliminary air quality and odour control plan) are undertaken within an enclosure with suitable emission control system(s).

Spoil and Waste Management Sub-Plan

- D6. The Applicant must undertake all works in accordance with the requirements of the Spoil and Waste Management Sub-Plan prepared under Condition B11, including:
- (a) the Applicant must ensure that all waste generated by the development is classified and disposed of in accordance with the EPA's Waste Classification Guidelines 2014;
 - (b) the Applicant must ensure the facilities treating waste classified as restricted or hazardous waste are suitably licenced to receive, treat and dispose of the waste under EPA immobilisation or treatment permits;
 - (c) the Applicant must ensure that waste that requires tracking are tracked in accordance with the Protection of the Environment Operations (Waste) Regulation 2014; and
 - (d) the Applicant must ensure that all waste generated by the development is handled and transported in accordance with the methodology and environmental controls provided in the Addendum to the Remedial Action Plan prepared by AECOM and dated 15 October 2015 and is treated or disposed of at a facility that has sufficient capacity and may lawfully accept that waste.

Acid Sulphate Soils Management Sub-Plan

- D7. The Applicant must undertake all works in accordance with the requirements of the Acid Sulphate Soils Management Sub-Plan prepared under Condition B28.

Noise and Vibration Management Sub-Plan

- D8. The Applicant must undertake all works in accordance with the requirements of the Construction Noise and Vibration Management Sub-Plan prepared under Condition B15.

Restricted Hours of Work – High Noise Impact Activities

- D9. The Applicant must ensure that any work generating high noise impact (e.g. rock hammering) must only be undertaken:
- (a) between the hours of 8am and 6pm Monday to Friday;
 - (b) between the hours of 8am and 1pm Saturday; and
 - (c) in continuous blocks of no more than 3 hours, with at least a 1 hour respite between each block of work generating high noise impact, where the location of the work is likely to impact the same receivers.

For the purposes of this condition 'continuous' includes any period during which there is less than a 1 hour respite between ceasing and recommencing any of the work the subject of this condition.

Construction Noise Criteria

- D10. The Applicant must ensure that, wherever possible, noise generated by the development does not exceed 75 dB(A) at any affected sensitive receiver. Where the works will exceed the construction noise criteria all reasonable noise mitigation measures as outlined in the Construction Noise and Vibration Management Sub-Plan prepared under Condition B15 must be implemented.

Note:

- *Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*

Vibration Criteria

- D11. Vibration caused by construction at any residence or structure outside the subject site must be limited to:
- (a) for structural damage vibration to buildings (excluding heritage buildings), British Standard BS 7385 Part 2-1993 Evaluation and Measurement for Vibration in Buildings;
 - (b) for structural damage vibration to heritage buildings, German Standard DIN 4150 Part 3 Structural Vibration in Buildings Effects on Structure; and
 - (c) for human exposure to vibration, the evaluation criteria presented in British Standard BS 6472-2008 Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80 Hz) for low probability of adverse comment.

These limits apply unless otherwise agreed in the Construction Noise and Vibration Management Plan Sub-Plan.

Vibration Management

- D12. Vibratory compactors must not be used closer than 30m from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified above.
- D13. The Applicant must undertake trial testing of vibration intensive equipment that is identified as having the potential to exceed the vibration criteria identified in Condition D11 to ensure it is not exceeded at any residence or structure outside the subject site.

Air Quality and Odour Management Sub-Plan

- D14. The Applicant must undertake all works in accordance with the requirements of the Air Quality and Odour Management Sub-Plan prepared under Condition B12.

Dust Control Measures

- D15. Adequate measures shall be taken to prevent dust from affecting the amenity of the neighbourhood during construction. In particular, the following measures should be adopted:
- (a) physical barriers shall be erected at right angles to the prevailing wind direction or shall be placed around or over dust sources to prevent wind or activity from generating dust emissions;
 - (b) earthworks and scheduling activities shall be managed to coincide with the next stage of development to minimise the amount of time the site is left cut or exposed;
 - (c) all materials shall be stored or stockpiled at suitable locations;
 - (d) the surface should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs;
 - (e) all vehicles carrying spoil or rubble to or from the site shall at all times be covered to prevent the escape of dust or other material;
 - (f) all equipment wheels shall be washed before exiting the site using manual or automated sprayers and drive-through washing bays;
 - (g) gates shall be closed between vehicle movements and shall be fitted with shade cloth; and
 - (h) cleaning of footpaths and roadways shall be carried out regularly.

Construction Traffic Management Sub-Plan

- D16. The Applicant must undertake all works in accordance with the requirements of the Construction, Pedestrian and Traffic Management Sub-Plan prepared under Condition B16, except where modified below.
- (a) under the current legislation the use of lengthy vehicles in the CBD is prohibited within certain time frames. All lengthy vehicles must comply with this regulation as stipulated in

the NSW Road Rules. A map indicating the prohibited area and definitions of lengthy vehicles are included in the Road Rules;

- (b) personnel using stop/slow signage are not permitted in Hickson Road or Sussex Street on weekdays between the hours of 7am and 9am and 4pm and 7pm. However, personnel using stop/slow signage will be permitted on Hickson Road, north of the intersection of Hickson Road and Napoleon Street, when it is required to ensure safe truck access at designated site access points, provided that vehicle queue lengths generated as a result of the traffic control do not exceed more than six vehicles in either direction;
- (c) truck movements should be staged and coordinated to prevent trucks circling CBD streets whilst awaiting access to the site. There should be holding areas outside the CBD on the fringes or sufficient space within the site to store trucks and heavy vehicles;
- (d) to minimise impacts on public transport, trucks should avoid where possible the use of York Street to access the development site between 6am and 10am and 2pm and 8pm Monday to Friday;
- (e) truck movements to and from the site associated with the development must be minimised as far as practicable during the peak AM and PM periods;
- (f) where possible, trucks must avoid driving over areas of the site that have already been excavated, validated or re-instated to prevent cross contamination;
- (g) unless otherwise agreed in writing by the EPA, all loading of trucks with contaminated material must be undertaken in an enclosure approved by the Secretary in accordance with Condition B8 of this consent;
- (h) all trucks associated with the development must have their loads covered and appropriately sealed to ensure trucks do not track material onto the public road network. Where trucks are carrying restricted or hazardous waste the relevant controls outlined in the Remedial Action Plan Addendum prepared by AECOM and dated 15 October 2015 must be implemented; and
- (i) all trucks must be decontaminated in the wheel wash areas before exiting the site.

Health Management Sub-Plan

- D17. The Applicant must undertake all works in accordance with the requirements of the Health Management Sub-Plan prepared under Condition B17.

Work Health and Safety Requirements

- D18. The Applicant must ensure that all works are carried out in accordance with the relevant requirements of the Work, Health and Safety Regulation 2011.

Water and Stormwater Management

- D19. The Applicant must undertake all works in accordance with the requirements of the Water Quality Management Sub-Plan prepared under Condition B18.

Erosion and Sediment Control

- D20. All erosion and sediment control measures, as designed in accordance with Condition B27, are to be effectively implemented and maintained at or above design capacity for the duration of the construction works and until such time as all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment.

Disposal of Seepage and Rainwater

- D21. Any seepage or rainwater collected on-site during construction shall be managed in accordance with the Water Quality Management Sub-Plan prepared under Condition B18.

Water Quality

- D22. All works should be undertaken in a manner that ensures the protection of the water quality objectives and environmental values for Sydney Harbour estuarine waters in accordance with the issued Environment Protection Licence and the following guideline documents:
- (a) NSW Water Quality Objectives; and
 - (b) The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) for the environmental values under the ANZECC guidelines.

Contaminated and Treated Water

- D23. Any effluents/liquid waste streams associated with the development that are directed to a Wastewater Treatment Plant (WTP) are sufficiently treated to ensure:
- (a) compliance with the relevant concentration limits required by Environment Protection Licence No. 13336 prior to discharge to Sydney Harbour; and/or
 - (b) compliance with the relevant requirements of an executed Trade Waste Agreement with Sydney Water Corporation prior to discharge to sewer.
- D24. No contaminated or treated site waters (surface, collected groundwater or contaminated construction waters) are permitted to be discharged into Sydney Harbour unless in accordance with the conditions attached to Environment Protection Licence No. 13336, unless otherwise agreed to in writing by the EPA.
- D25. No contaminated or treated site waters (surface, collected groundwater or contaminated construction waters) are permitted to be discharged to sewer unless in accordance with the conditions of an executed Trade Waste Agreement with Sydney Water Corporation.

Water Treatment Plant

- D26. Within 60 days from the date of commissioning any water treatment plant the applicant must submit to the EPA a WTP commissioning report (the report), unless otherwise agreed in writing by the EPA. The Report must include but not be limited to details about plant performance when treating representative range of influents encountered during the initial stage of the works. The report must be updated as works progress and as other influents are encountered at the site and directed to the WTP for treatment. Any updated report must be made available to an Authorised EPA officer on request.

WTP Performance Report

- D27. Commencing one month from the first day of operations of any WTP and monthly thereafter or unless otherwise agreed in writing by the EPA, the licensee must submit to the EPA a monthly WTP performance report. The report must review and compare the performance of the WTP against the requirements of this EPL concentration limits, discharge volumes, recycled water quantities, circumstances which will trigger additional monitoring arrangements and include about incidents and responses. The report must include the results of the visual inspections of water quality controls including silt curtains and any remedial action undertaken to ensure compliance with licence conditions.

Bunding

- D28. The Applicant shall store all chemicals, fuels and oils used on-site in appropriately banded areas in accordance with the requirements of all relevant Australian Standards, EPL requirements and/or EPA's Storing and Handling Liquids: Environmental Protection – Participants Handbook.

Asbestos Waste Management

- D29. The Applicant must undertake all works in accordance with the requirements of the Asbestos Management Sub-Plan approved under Condition B20.
- D30. All excavation works involving the removal and disposal of asbestos must only be undertaken by contractors who hold a current WorkCover Asbestos or "Demolition Licence" and a current WorkCover Class 2 (Restricted) Asbestos Licence and removal must be carried out in accordance with Safe Work Australia's NOHSC: Code of Practice for the Safe Removal of Asbestos 2005.
- D31. An asbestos clearance certificate (or certificates) prepared by a suitably licenced asbestos removalist shall be provided to the Department and the Principal Certifying Authority upon

completion of all asbestos removal works. The Applicant shall ensure that the asbestos removal works comply with the relevant requirements of the Work, Health and Safety Regulation 2011.

- D32. The Applicant must ensure that any asbestos contained in excavated material that is proposed for re-use on the Barangaroo site meets the requirements of the EPA and the fill validation requirements outlined in the report prepared by Associate Professor Tim Driscoll entitled *The Use of Asbestos-Contaminated Soils on Barangaroo*, Final Report, Report to the Environment Protection Authority 2013.

Heritage Management

- D33. The Applicant must undertake all works in accordance with the requirements of the Heritage Management Sub-Plan prepared under Condition B29.

Impacts of below Ground (Sub Surface) Works – Non-Aboriginal Objects

- D34. If during the course of construction the Applicant becomes aware of any previously unidentified heritage object(s), all work likely to affect the object(s) shall cease immediately and the Heritage Council of New South Wales shall be notified immediately in accordance with section 146 of the Heritage Act 1977. Relevant works shall not recommence until written authorisation from the Heritage Council of NSW is received by the Applicant.

Impacts of Below Ground (Sub Surface) Works – Aboriginal Objects

- D35. If during the course of construction the Applicant becomes aware of any previously unidentified Aboriginal object(s), all work likely to affect the object(s) shall cease immediately and the Office of Environment and Heritage informed in accordance with section 89A of the National Parks and Wildlife Act 1974. Relevant works shall not recommence until written authorisation from Office of Environment and Heritage is received by the Applicant.

Tree Removal and Management

- D36. The Applicant must undertake all works in accordance with the requirements of the Tree Management Sub-Plan prepared under Condition B30.

External Lighting

- D37. External Lighting shall comply with AS4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting. Upon installation of lighting, but before it is finally commissioned, the Applicant shall submit to the approval authority evidence from an independent qualified practitioner demonstrating compliance in accordance with this condition.

Emergency Response Management

- D38. The Applicant must undertake all works in accordance with the requirements of the Emergency Response Management Sub-Plan prepared under Condition B31.

Hazardous Chemical Management

- D39. If the in-situ remediation is the confirmed remediation, the Applicant must undertake the works in accordance with the requirements of the Hazardous Chemical Management Sub-Plan prepared under Condition B32.

Irrespective of the confirmed remediation strategy, in the event of a public health emergency the South Eastern Sydney Local Health District – Public Health Unit is to be contacted on 02 9383 9333 of details of the event and rectification actions put in place to protect the health of the surrounding residents and the public.

Approved Plans to be on site

- D40. A copy of the approved and certified plans, specifications and documents incorporating conditions of consent and certification shall be kept on the site at all times and shall be readily available for perusal by any officer of the department, the relevant authority or the PCA.

Site Notice

- D41. A site notice(s) shall be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to the details of the Builder, PCA and Structural Engineer. The notice(s) is to satisfy all but not be limited to, the following requirements:
- (a) minimum dimensions of the notice are to measure 841mm x 594mm (A1) with any text on the notice to be a minimum of 30 point type size;
 - (b) the notice is to be durable and weatherproof and is to be displayed throughout the works period;
 - (c) the approved hours of work, the name of the site/project manager, the responsible managing company (if any), its address and 24 hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and
 - (d) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted.

Contact Telephone Number

- D42. The Applicant shall ensure that the 24 hour contact telephone number is continually attended by a person with authority over the works for the duration of the development.

Compliance Report

- D43. The Applicant, or any party acting upon this consent, shall, for the duration of the construction period, submit to the Department a three monthly report addressing compliance with all relevant conditions of this Part.

Public Health Notification

- D44. South Eastern Sydney Local Health District – Public Health Unit Public Health shall be included in any external communications in relation to the works.

Hazard and Risk

- D45. If the in-situ remediation is the confirmed remediation, three months after the commencement of the remediation works, and every six months thereafter until completion of the remediation, the Applicant shall carry out a comprehensive Hazard Audit generally in accordance with the Department of Planning's Hazardous Industry Advisory Paper No 5, "Hazard Audit Guidelines" and submit a report to the Secretary.

The audits shall be carried out by an appropriately qualified person, independent of the development.

Further Requirements

- D46. The Applicant shall comply with all reasonable requirements of the Secretary in respect of the implementation of any measures arising from the reports submitted in respect of Condition B34 and Condition D43, within such time as the Secretary may agree.

End of Section.

PART E - POST CONSTRUCTION

REMEDIATION

Site Validation

- E1. Within 6 months of the completion of the remediation works on site, and prior to the issue of any Occupation Certificate, the Applicant shall submit a detailed Site Audit Summary report and Site Audit Statement and Validation Report to the EPA, the Secretary, the Certifying Authority, and the Council. The validation and audit process may occur progressively to the satisfaction of the site auditor.
- E2. The site audit must be prepared in accordance with the Contaminated Land Management Act 1997 and completed by a site auditor accredited by the EPA to issue Site Audit Statements.
- E3. The site auditor must also verify that any excavated material disposed off-site, has been appropriately classified, validated, managed and the relevant approvals obtained in accordance with the relevant legislation and any relevant approved materials management plan/s.
- E4. On completion of remediation works, the Council shall be notified in accordance with the relevant requirements of Clauses 17 and 18 of SEPP 55 - Remediation of Land.

Removal of Remediation Structures

- E5. Unless otherwise approved in writing by the Secretary, the Applicant must ensure that all enclosures approved by the Secretary in accordance with Condition B8 of this consent are dismantled and removed from the site within 3 months of the completion of the remediation works.

Reinstatement of the Site

- E6. Unless otherwise approved in writing by the Secretary, the Applicant must ensure that site levels and site surfaces are reinstated to their original condition, or other design approved by the relevant authority and all above-ground temporary structures and all sheet piles associated with temporary perimeter retention and/or retaining walls are removed from the site as far as is reasonably practical, within 3 months of the completion of the remediation/backfilling works. All anchors installed as part of retention structures that remain in-situ are to be de-stressed, within 3 months of the completion of the remediation/backfilling works.

Post-Construction Dilapidation Report

- E7. The proponent must undertake dilapidation surveys and prepare dilapidation reports to assess any damage to buildings, services and utilities that may have resulted from the remediation works within 3 months of completion of the works unless otherwise approved by the Secretary. The proponent must carry out any rectification works required at its own expense and to the reasonable requirements of the property, service and utility owner(s) within three months of the completion of the post-dilapidation surveys unless otherwise agreed by the owner of the affected building, service or utility.

End of Section.

ADVISORY NOTES

Sydney Water

- AN1. An application shall be made to Sydney Water for a Certificate under Part 6, Division 9, Section 73 of the *Sydney Water Act, 1994* (Compliance Certificate). Evidence that a Compliance Certificate has been applied for (i.e. Notice of Requirements) shall be produced to the satisfaction of the PCA prior to the issue of a Construction Certificate. The Section 73 Certificate shall be submitted to the PCA prior to the occupation of the development.

Compliance Certificate

- AN2. Prior to issuing a subdivision certificate, a Compliance Certificate shall be provided to the approval authority showing that the development has met with the detailed requirements of the relevant water supply authority for the region that the subject site is located within.
- AN3. The developer shall obtain the Compliance Certificate from the relevant local water supply authority and produce this to the satisfaction of:
- (a) the certifying authority before release of the relevant Construction Certificate;
 - (b) the approval authority before the release of the relevant subdivision certificate; and
 - (c) the PCA prior to occupation.

Requirements of Public Authorities

- AN4. The Applicant shall comply with the requirements of any public authorities (e.g. Ausgrid, Sydney Water, Telstra Australia, AGL, etc) in regard to the connection to, relocation and/or adjustment of the services affected by the construction of the proposed structure. Any costs in the relocation, adjustment or support of services shall be the responsibility of the Applicant. Details of compliance with the requirements of any relevant public authorities are to be submitted to the satisfaction of the PCA prior to the issue of the relevant Construction Certificate.

Access to utilities must be maintained at all times if required by the utility provider.

Compliance with BCA

- AN5. The Applicant is advised to consult with the PCA about any modifications needed to comply with the BCA prior to submitting the application for a Construction Certificate.

Structural Capability for Structures

- AN6. The structural capabilities of an existing structure will need to meet the requirements of the BCA and may require engaging a structural engineer.

Use of Mobile Cranes

- AN7. The Applicant shall obtain all necessary permits required for the use of mobile cranes on or surrounding the site, prior to the commencement of works. In particular, the following matters shall be complied with to the satisfaction of the PCA:
- (a) For special operations including the delivery of materials, hoisting of plant and equipment and erection and dismantling of on site tower cranes which warrant the on street use of mobile cranes, permits must be obtained from Council:
 - (i) at least 48 hours prior to the works for partial road closures which, in the opinion of Council will create minimal traffic disruptions; and
 - (ii) at least 4 weeks prior to the works for full road closures and partial road closures which, in the opinion of Council, will create significant traffic disruptions.
 - (b) The use of mobile cranes must comply with the approved hours of construction and shall not be delivered to the site prior to 7 am without the prior approval of the relevant authority.

Movement of Trucks

AN8. The Applicant shall notify Roads and Maritime Services Traffic Management Centre (TMC) of the truck route(s) to be followed by trucks transporting waste material from the site, prior to the commencement of the removal of any waste material from the site.

Construction Inspection

AN9. (1) Compliance certificate/s shall be issued by the PCA and submitted to Council in accordance with the mandatory inspection requirements of the *Building Legislation Amendment—Quality of Construction Act, 2002* for each stage of construction (where relevant or required), such as the following:

- (a) foundations;
- (b) footings;
- (c) damp proof courses and waterproofing installation;
- (d) structural concrete, including placing of reinforcement and formwork prior to pouring;
- (e) structural beam and column framing;
- (f) timber wall and roof framing; and
- (g) stormwater disposal.

AN10. (2) Any Compliance Certificate issued for the above stages of construction shall certify that all relevant ancillary or dependent work has been undertaken in accordance with the Building Code of Australia and any other conditions of approval.

Roads Act 1993

AN11. (1) A separate approval under Section 138 of the *Roads Act 1993* is required to undertake any of the following:

- (a) erect a structure or carry out a work in, on or over a public road;
- (b) dig up or disturb the surface of a public road;
- (c) remove or interfere with a structure, work or tree on a public road;
- (d) pump water into a public road from any land adjoining the road; and
- (e) connect a road (whether public or private) to a classified road.

Asbestos Removal

AN12. All works involving the removal and disposal of asbestos must only be undertaken by contractors who hold a current WorkCover Asbestos or “Demolition Licence” and a current WorkCover “Class 2 (Restricted) Asbestos Licence and removal must be carried out in accordance with NOHSC: “Code of Practice for the Safe Removal of Asbestos”.

Road Closure

AN13. A temporary road closure permit is to be obtained from the relevant road authority prior to the closure of any roads.

End of Section.

SCHEDULE 3 APPLICANT'S STATEMENT OF COMMITMENTS

The following are the commitments made by Lend Lease (Millers Point) Pty Ltd to manage and minimise potential impacts arising from the development.

Issue	Commitments
Contamination	▪ The Remediation Works will be carried out in accordance with the Remedial Action Plan provided in Appendix G. ▪ At the completion of the Project, an Interim Audit Advice will be obtained from a NSW EPA Accredited Site Auditor, to confirm successful completion of the Hickson Road works as per the RAP. ▪ At the completion of all Remediation Works to address EPA Remediation Site 21122 (i.e. Block 4, Block 5 and Hickson Rd), a Section B Site Audit Statement will be obtained from a NSW EPA Accredited Site Auditor, to confirm successful completion of works.
Health Management	Risk Source controls for the project will include measures to control emission of particulates and controls for emission of gases from exposed contaminated soils and water, including: ▪ Enclosure (where practicable) of excavation and filtration of exhaust streams to manage pollutants of potential concern that may be produced/released during the soil excavation and remediation processes. ▪ Prompt removal, covering and managing of heavily contaminated materials that have been exposed and are identified to have caused the emissions. ▪ Dust suppression, including sweeping and wetting of exposed surfaces including haul roads. ▪ Excavation of materials within temporary remediation and soil treatment enclosures, with filtration of exhaust streams. ▪ If in-situ remediation is undertaken, odours from volatilisation will be monitored and a soil vapour extraction system will be put in place. ▪ Managing groundwater removal and drawdown, where practicable, such that material excavated is retained in a moist state. ▪ Minimising haul road lengths, implementing of site speed limits and covering haul loads. ▪ Solid perimeter hoarding adjacent to sensitive receptors. ▪ Surface stabilisation to minimise dust generation, and covering surfaces where appropriate. ▪ Prompt removal, covering and managing of heavily contaminated materials that have been exposed. The following source controls will be implemented for contaminated water: ▪ Installation of ground water control and retention walls as practicable around the excavation area to minimise the infiltration of groundwater from the Remediation Area into the less contaminated excavation area. ▪ Treatment of contaminated surface water to enable safe discharge in accordance with site regulatory requirements. ▪ Use of surface bunds and drainage diversions to divert clean water away from contaminated areas. ▪ Silt fences to prevent cross-contamination between disturbed areas and undisturbed areas. In addition to source controls, risks to on-site workers will be minimised by: ▪ Engineering controls and safe work practices and effective hygiene procedures (such as hand washing). ▪ Use of appropriate personal protective equipment.
Acid Sulfate Soils	The ASSMP includes a range of management measures that will be followed to handle, treat and dispose of ASS if required, including: ▪ PASS materials will be kept separate from non-PASS materials at all times. ▪ Water collected from PASS treatment/storage areas will be directed to the wastewater treatment plant and treated to a prescribed discharge water quality.

Issue	Commitments
Water	▪ A truck wash down area will be constructed so that truck wash down water can be collected for treatment. ▪ Treated water will only be discharged in accordance with the relevant criteria in the EPL. A water quality monitoring program will be implemented. ▪ Neutralisation of the ASS will be undertaken by application of calcium carbonate (Aglime) in a designated bunded treatment area and thoroughly mixed with the soil. The treatment area is to be provided with a guard layer of neutralising agent (i.e. Aglime). ▪ During treatment soil pH will be measured regularly as a measure of the effectiveness of neutralisation. ▪ Treated materials will be monitored regularly at a rate of one sample per 500 m³. ▪ Treated material will be reused or disposed of in accordance with its classification under the Waste Classification Guidelines. The ASSMP will be updated following confirmation of the responsible contractor. ▪ Clean stormwater will be diverted away from the site. ▪ All contaminated water (including stormwater collected in disturbed contaminated areas and works areas, and groundwater from disturbed contaminated areas) will be collected for treatment on-site (or at a WTP on the Barangaroo construction site) prior to discharge or tankered directly off-site to a licensed liquid waste facility. No contaminated or treated water will be discharged into Sydney Harbour or any sewers without being compliant with EPL 13336 or any future Sydney Water Corporation Trade Waste Agreement. ▪ A Water Quality Monitoring Program will be put in place to ensure the remediation works are not having an adverse impact on water quality conditions in the Harbour. ▪ A Groundwater Monitoring Plan will be prepared and implemented to measure the effectiveness of the remedial works that have been undertaken (specifically source removal and subsequent groundwater quality improvement) with respect to groundwater quality migrating from the EPA Declaration Area boundary and the associated risk to aquatic ecosystems.
Air Quality	An Air Quality Management Plan will be prepared. The AQMP will include mitigation measures and work practices to be implemented at the site to minimise pollutant emissions including: ▪ Continue the dust, VOC and meteorological monitoring program. ▪ Use mains power where available and suitable. ▪ Turn vehicle engines off while parked on site. ▪ Confine vehicular access to designated access roads. ▪ Appropriately tune, modify or maintain equipment, plant and machinery to minimise visible smoke and emissions. ▪ Undertake all excavation and materials handling within excavation enclosures, to the extent practical. ▪ Maintain the excavation enclosures to their design specifications. ▪ Undertake regular checking and maintenance of air emission filtration systems. ▪ Implement site speed limits. ▪ Vent generator emissions inside excavation enclosures through the emission stacks. ▪ Minimise haul road lengths. ▪ Reduce exposed areas as much as practical. ▪ All loads would be appropriately sealed to prevent odour and dust emissions during transport (for example through the use of odour suppressant foam, such as Rusmar AC-645 or equivalent). ▪ Undertake good housekeeping practices to minimise dust on hardstand areas. ▪ Immediately clean up spills. ▪ Maintain the complaints management system. ▪ Adjust work practices (as required) based on wind observations and real time monitoring results. ▪ Use water sprays and/or surfactants wherever and whenever necessary. ▪ Erect windbreak barriers at the site boundary. ▪ Water exposed surfaces and roads.

Issue	Commitments
Air Quality	▪ A comprehensive air quality and odour management plan will be developed prior to construction. Implement the reactive management plan, based on a three-stage approach for PM₁₀: ▪ Investigate: Identification of the likely reasons for the elevated pollutant concentration and formulation of a contingency response for the action stage; ▪ Action: Implementation of the measures formulated in the investigative stage and review of their effectiveness; and ▪ Stop Work: All works should stop at this stage until the measured pollutant levels are below the action level to avoid an exceedance of the pollutant criterion. Trigger levels have been established for PM₁₀ and are provided in Appendix Q. ▪ The following measures relate to ensuring that the proposed works are carried out in a manner consistent with the air quality modelling assumptions as follows: ▪ A minimum of two granular activated carbon (GAC) filters will be installed in series for each emission stack in the excavation enclosures as per the modelling assumptions. The GACs chosen will be suitable for the contaminants being treated. ▪ Prior to commencement of the relevant stage of works where excavation enclosures will be used, a detailed design plan of the structures, the air discharge point and emission control system, will be submitted to the EPA for review and comment. The detailed design plan will include the following information: – Performance specifications, including particle and VOC control efficiency for the proposed technology; – Proposed monitoring to confirm the performance of the proposed VOC control technology; and – The proposed methodology to detect carbon bed breakthrough. ▪ Stacks will be located on the western sides of the excavation enclosures as assumed in the modelling. ▪ All trucks transporting the spoil will be sealed, including use of odour suppressant foam or similar, and receivers of the spoil will be appropriately licensed to receive the material. ▪ Alternate odour control measures will be used during retention wall works, such as covering exposed soil or using odour suppressants and foam.

Issue	Commitments
	During the construction of retention walls at locations where tar is anticipated the Hickson Road Perimeter Retention Wall – Preliminary Air Quality and Odour Control Plan would be implemented (to the extent practical). The following air quality/odour control measures are set out in the plan to minimise the quantity of free tar exposed during works, and to minimise odour generation / air emissions. - For pile method (or similar such as jet grouting), conduct works under a bentonite or jet grout slurry to minimise exposed excavation faces and free tar, and subsequent odour generation / air quality impacts. - Where piling method (or similar such as jet grouting) is used, limit the extent of open excavation at any one time to a discrete hole (generally up to 1200mm diameter). Each hole would be filled with a concrete slurry. This method would limit the amount of tar exposed at any one time, thereby minimising odour generation / air quality impacts. During the construction of retention walls the following air quality/odour control measures are proposed (to the extent practical), at locations where tar is anticipated to control the impact of odours that are generated from the works: - Use a dedicated labour resource to manage odours in work area. - Install vertical barriers around the work area and adequately sealed, to help minimise risk of odour off-site. - Use odour suppressants (e.g. BioSolve) or misting sprays in or around the work area. - Spray odorous spoil / drill arisings with foaming agents (e.g. Rusmar) once brought to the surface. - Cover stockpiles with tarps, non-odorous material or foaming agents, or place into sealed drums. - Dispose of stockpiles off-site as soon as practicable. - Use water spray on excavated or stockpiled material to mitigate particulate emissions. - Cover open excavations overnight. - Collect and treat run-off water, or promptly store in sealed containers. - Load material promptly and with care to reduce loading times and spillage. - Use sealed trucks to control potential for spilling material through the site or off-site. - Cover loads prior to leaving loading zones, with odour suppressant foam and automatic tarps. - Immediately clean truck and loading areas upon loading. - Use truck and wheel wash facilities prior to leaving the site. - Undertake detailed odour monitoring on and off-site to allow works/controls to be modified as required. - Undertake weather monitoring and modify works based on weather conditions, if required.
Noise and Vibration	A Construction Noise and Vibration Management Plan has been prepared by Lend Lease for the Barangaroo South Site in its entirety. This plan would be updated to take into account the project specific noise and vibration management measures as follows: - Localised treatment of fixed plant; - A 2.4 metre noise barrier (or equivalent noise controls) to be installed on the eastern boundaries of the site; - Where practicable, installing attenuators on the exhaust fans, filtration and air handling plant associated with the odour control structures; - Localised treatment such as barriers, shrouds and the like around fixed plant such as pumps, generators and groundwater extraction plant and by “stepping down” the plant settings out of construction hours where able. The detailed design of acoustic treatments will be undertaken during the detailed design phase; and - Provision of respite from noise producing activities during extended hours operations where practicable; - Selection and maintenance of low vibration equipment where practicable; - Selection and maintenance of “quiet” type equipment where practicable; and - Effective community consultation and complaints management. Trial testing of vibration levels will be conducted where equipment identified as having the potential to exceed the human comfort criteria is proposed.

Issue	Commitments
Traffic	The following traffic management measures will be implemented in accordance with the Construction Traffic Management Plan in Appendix S of the EIS: ▪ The site traffic control recommendations for each worksite gate entry or exit point (including all appropriate signage) will be determined by means of a Traffic Control Plan to be prepared by an RMS accredited contractor closer to construction commencement. ▪ Truck movements are to be staged and coordinated to prevent trucks circulating CBD streets whilst awaiting access to the site. ▪ Construction vehicles will approach the site from areas outside the CBD using major arterial routes such as the M4, M5 etc. ▪ The size of trucks proposed to access the site will be in accordance with Clause 300-3 of the Road Rules in terms of lengthy vehicle restrictions. ▪ The vehicular traffic movements at each of the site entry or exit gates for traffic to and from Hickson Road will potentially need to be controlled by a flagman to ensure no potential traffic safety conflicts occur between the site truck traffic and pedestrians on the adjacent footpath. ▪ Personnel will not be permitted to use stop/slow signage in Hickson Road or Sussex Street on weekdays between 7am and 9am and 4pm to 7pm. However, personnel using stop/slow signage will be permitted on Hickson Road, north of the intersection of Hickson Road and Napoleon Street, when it is required to ensure safe truck access at designated site access points, provided that vehicles queue lengths generated as a result of the traffic control do not exceed more than six vehicles in either direction. ▪ Lend Lease implements a green travel plan to maximise and encourage public transport use. This will be applied to the proposed development. It involves: ▪ Providing no parking for construction workers on site. The constrained parking environment surrounding the site, coupled with the relatively high cost of long term parking, will ensure the majority of construction workers arrive to the site via public transport; and ▪ Providing information about public transport availability and fare costs. ▪ Construction Traffic Management Plan (CTMP) will be prepared prior to the release of a Construction Certificate ▪ A Construction Pedestrian and Traffic Management Plan (CPTMP) will be prepared prior to commencement of construction.
European Heritage	▪ Where contamination is at depth and the upper layers are uncontaminated, the upper layers could potentially be archaeologically excavated, with restriction as required for OHS management of works. ▪ Where the archaeology is completely covered with contamination and therefore inaccessible for normal archaeological recording methodologies, other alternative techniques may be tested to determine if recording is possible. Then it may be possible to record some major gasworks features but only if they offer a research outcome. ▪ It is likely that opportunities may be extremely limited in what can be recorded. In the end there may be no ability to record remains prior to the remediation.
Indigenous Heritage	If, during the course of the remediation project, any unexpected Aboriginal "objects", artefacts or sites are uncovered, work must cease in the vicinity of that object, artefact or site and further advice sought from the consultant and the Metropolitan Local Aboriginal Land Council.

Issue	Commitments
Arboriculture	Carry out the remediation in accordance with the relevant Tree Management Plan for the remediation option selected. Tree protection measures include: ▪ Appointment of an arborist to oversee the works, observe/monitor all works within the Tree Protection Zones of trees to be retained, oversee the removal of trees to be removed, and to monitor the condition and protection of trees to be retained. ▪ Where possible, ensure that the TPZ is fenced for protection (and clearly signed as Tree Protection Fencing). Install trunk, branch and ground protection where fencing cannot be installed. ▪ Prevent stockpiling, storage or preparation of materials, parking of machinery and machinery trenching in the TPZ for a tree to be retained. Any trenching in the TPZ should be by hand excavation, or directional boring (trenchless) and under the specific instructions of the on-site project arborist. ▪ Selection of piling equipment that is as short as possible so as to minimise the need for overhead crown pruning. ▪ Any trenching within the Structural Root Zone should be undertaken by hand and under the specific instructions of the on-site project arborist. ▪ Retain the existing road and footpath pavements intact where possible within the TPZ to minimise impacts to the underlying roots from works. ▪ All traffic diversions to include adequate root zone protections. ▪ All crown pruning works to be approved and monitored by the on-site project arborist and are to be undertaken by a suitably qualified arborist (AQF Level 3 Certificate) in compliance with AS 4373-007 Pruning of Amenity Trees. ▪ The number of trees noted to be removed within this EIS is expected to be a maximum based on anticipated maximum extent of excavation required. If the final extent of remediation excavation required is reduced (following validation testing and/or agreement with the NSW EPA and Site Auditor), a qualified arborist will assess and confirm if the associated tree removal can also be reduced from the maximum proposed. ▪ New street trees will be planted to replace those removed, or in accordance with any other street tree design approved by the relevant authority
Infrastructure	▪ Further assessment of the potential for damage to utilities will be carried out during the detailed design phase, and dilapidations surveys will be carried out prior to commencing excavation.
Visual Amenity	▪ Night time lighting will be consistent with Australian Standard AS1680, Lighting and the Visual Environment. No other visual impact mitigation is considered necessary, over and above the hoardings already proposed.
Hazard and Risk	The following recommendations have been made to ensure the risks are managed and controlled at the site: ▪ An Emergency Response Plan (ERP) should be incident based and developed to include a range of incidents at the DG storage area: ▪ A spill in the WTP should be included into the ERP; ▪ Incidents involving the surfactant should be included in the site ERP; ▪ Incidents involving diesel should be included into the site ERP; and ▪ A fire in the DG container should be included in the ERP; ▪ Tanks containing oxidant should be manufactured from a white or opaque plastic to minimise the potential for heating from direct sunlight; ▪ Spills kits should be installed adjacent to the existing approved WTP that can be deployed in the event of a spill, preventing spread of the release; ▪ Spill kits should be located adjacent to the diesel storage; ▪ First response firefighting equipment should be stored adjacent to the DG container; ▪ A final hazard analysis (FHA) should be conducted prior to commencement of in-situ remediation; and ▪ Suitable temporary barriers/roof should be put in place to prevent potential cigarette butts from off-site entering the hazardous zone where DGs are being stored; ▪ Surfactant should be stored in dangerous goods containers with dimensions of approximately 1.5 m x 1.5 m; and ▪ Surfactant drums should be delivered to site on plastic wrapped pallets and loaded directly into the DG storage cabinets.

Issue	Commitments
ESD	In order to maximise the sustainability and ESD benefits of the project the following key initiatives will be implemented: - Provide centralised recycling areas in all construction (remediation) site buildings and waste bins for remediation worker use which provide for waste separation where appropriate. - Provide site workers with information on public transport options. - Reuse groundwater or collected stormwater (where possible) for dust suppression and wash down to reduce potable supply use where appropriate. - Remediation worker accommodation to incorporate ESD initiatives. - Fit pollution control measures on remediation equipment (including diesels oxidation catalysts and diesel particulate matter filters) where practicable. - Minimise the impacts to the local community by maximising internal haul routes within the Barangaroo site where possible.
Waste Management	The management of wastes will be in accordance with the Waste Management Plan provided in Appendix X of the EIS. The WMP includes that: - The on-site waste management system to be established at the site will aim to maximise waste avoidance through reuse on-site or at off-site locations under a waste exemption approved by the EPA and/or the Barangaroo Site, where possible - Materials separation and segregation will be promoted on the site, to facilitate reuse and recycling as a priority of the waste management system. - All wastes generated as a result of the project will be classified in accordance with the EPA Waste Classification Guidelines. - Details of waste types, volumes and destinations will be recorded on Waste Management Forms, including a Monthly Recycling and Waste Management Statistics form. This information will be collated for record keeping and appropriate communication to any relevant authorities, where required. Wastes to be disposed (or recycled) off-site will be transported to a facility (for disposal or recycling) that can lawfully receive the waste. Storage and handling of such wastes will be subject to the following measures: - Liquid wastes will be stored in appropriate containers in bunded areas until they can be appropriately disposed of. Bunded areas will have the capacity to hold 110% of the volume of the largest container. - Hazardous wastes will be transported directly off-site to a licensed treatment facility for treatment and subsequent disposal at a licensed landfill - All other recyclables and non-recyclables will be stored in appropriate receptacles in appropriate locations and covered where required.
Environmental Control Measures Off-Site Transportation	Materials would be subject to the environmental control measures set in Appendix KK of the EIS and as described below: - Preparation of materials to ensure they are spadeable and suitable for transport, including: - Mixing of saturated excavated material with fly ash, lime or cement; - Drainage and drying of saturated excavated materials; and - Screening or manual separation of material to separate oversize and/or materials suitable for recycling (e.g. steel, concrete, brick and rock fill, timber piles, construction and demolition waste). - Visual assessment of materials to confirm the material is spadeable and does not contain excess free liquids and is suitable for transport. - Once the truck trailer has been loaded, the exposed surface of the odourous untreated contaminated soil will be sprayed with a suitable foam agent, such as Rusmar AC-645 (or equivalent) to minimise the release of fugitive emissions during transportation. The intent of the foam agent is to form a barrier that provides adequate odour control for the duration of transport. The foam agent will be required to meet the following criteria: - Must be non-hazardous and bi-degradable. - Must be able to be quickly applied to truck loads shortly after the truck is loaded to rapidly mitigate the generation of fugitive emissions and odours. - Must form a seal across the surface of the soil and effectively bind surface dust particles.

Issue	Commitments
	- Upon drying, must form a cover which is flexible and capable of resisting degradation during transportation of the materials to the licensed off-site facility. ▪ A suitable work area (for example a raised platform) will be constructed within the excavation enclosure to allow a thorough application of the foam agent (or equivalent) across the surface of each truck load containing untreated odorous soil; ▪ Trucks carrying excavated materials will be covered and decontaminated in the wheel wash facility before exiting the excavation enclosure (as applicable) and exiting the Site; ▪ Trucks carrying contaminated materials will be covered prior to exiting the Site and will remain covered until authorised to unload at the destination; ▪ Trucks will be fitted with seals to ensure that the movement of potentially saturated materials is undertaken appropriately; ▪ Trucks will not wait in the streets surrounding the Site or within the CBD; ▪ Trucks will exit the Site through predetermined exit points on Hickson Road and will follow a predetermined transport route to the destination (landfill or other) via Sussex Street, Anzac Bridge and the City West Link or across the Harbour Bridge; ▪ Truck trailers will also be covered with a waterproof tarpaulin to mitigate the potential ingress of rainwater during transportation and to assist in protecting the integrity of the foaming agent; ▪ The truck will be inspected prior to leaving Site to ensure that the mitigation measures described above have been appropriately implemented; ▪ Where possible, the selected transport route(s) will avoid travel through residential areas; ▪ Contingency measures will be developed and implemented to manage potential risks associated with breakdowns, accidents or other emergency circumstances. This will include monitoring of trucks using Global Positioning System (GPS) and development of actions to respond to breakdowns and accidents and to monitor compliance with the above mitigation measures; and ▪ Photographs will be taken regularly to confirm that the above works have been conducted appropriately.
Other	▪ As per the amended HIA provided as Appendix F of the RtS Ambient Vapour Monitoring is required during the remediation (in-situ or ex-situ) to mitigate the impact of the remediation on neighbouring businesses and residences and to assist in the protection of workers and passing pedestrians. ▪ An Asbestos Management Plan will be developed prior to construction. ▪ A Surface and Groundwater Management Plan will be developed prior to construction.