



ONE SYDNEY HARBOUR

WATER & STORMWATER MANAGEMENT SUB PLAN

11/01/22 | REVISION No: 18

Document Issue Status				
Date	Document Issue (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
05/01/2017	1.0	Initial draft	Brian Falls	Brian Falls
14/03/2019	2.0	Revised and updated to new Lendlease format	Tracey Wallbridge	Graeme Mauger
15/09/2021	3.0	General review and update	Tracey Wallbridge	Ross Trethewy

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Project Revision Status				
Date	Project Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
14/12/2020	14	Section1. removed Public Domain from scope of works Section 2&3. removed references to WTP. Section 4. removed Public Domain from scope of works Section 6. removed Public Domain from scope of works	Toby Pritchard	Sam Trickett David Elliot
07/03/2021	15	No Changes	Toby Pritchard	David Elliott Paul Allen
09/06/2021	16	Appendix 1 Diagrams updated to be current. Completed basement items removed.	Toby Pritchard	David Elliott Nathan Smith
28/10/2021	17	Updated to Document issue 3.0 – inclusive of DA conditions for R1(R4A SSD 6964) & R2 (SSD 6965 and SSD 8892218)	Toby Pritchard	Paul Allen
11/01/2022	18	Inclusion of DA conditions for R3 (R5 SSD 6966)	Jenny Chung	Paul Allen

1. SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan:	This Water Resource Management Sub Plan assesses water supply, use, and reuse options relevant to the project, and identifies associated environmental, community and worker protection requirements. Water scarcity, conservation, and compliance with measurement, monitoring and reporting requirements are also addressed.
Objectives of the Sub Plan:	- To minimise demand on local water resources and identify opportunities for conservation. - To assess the environmental and human health impacts associated with the use of available water sources. - To achieve compliance with legislative and statutory requirements, permits and licences. - To measure and accurately report water use data.
Scope of Works:	This Management Sub Plan has been prepared based on consideration of the following scope of works: OSH Basement (SSD 6960) - Construction works of the basement inclusive of services and waterproofing. Towers R1 (R4A SSD 6964) & R2 (R4B SSD 6965 & SSD 8892218) & R3 (R5 6966) - Construction of the building and facade. - Internal fitout Water is required specifically to service general construction activities and will be sourced from potable mains connected to the site via Sydney Water meters.
Key issues and Risks:	Background Groundwater at the site flows towards Sydney Harbour, with strong tidal influence in areas closest to the harbour. Construction Activities The One Sydney Harbour construction includes: - Basement structure and fit out - Tower structure and fit out Potential Water Quality Impacts

	Construction activities have potential to adversely impact ecosystems and water quality within Darling Harbour. There is potential for minor water quality impacts during construction including, sedimentation impacts related to earthworks such as material stockpiles, stormwater works, silt and dust on site and vehicular mud tracking. A summary of likely construction water sources, treatment options and disposal/reuse are included in Section 4, Water Management Strategy. Measures to manage potential water quality impacts are described in the Mitigation Measures table below.
Legislation, Approvals and Guidelines	Global/National World Health Organisation Guidelines for Drinking water quality and wastewater reuse Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018 Australian Drinking Water Guidelines 2011 (updated 2018) State <i>Protection of the Environment Operations Act 1997 (NSW) (POEO Act)</i> • Section 120 of the Act states that it is illegal to pollute or cause or permit pollution of waters. • Under the Act, 'Water Pollution' includes introducing litter, sediment, oil, grease, wash water and debris into waters or placing such material where it is likely to be washed or blown into waters or the stormwater system or percolate into groundwater. <i>Protection of the Environment Operations (General) Regulation 2009</i> The Regulation contains provisions relating to the issuing of penalty notices under the Act, the appropriate regulatory authority for certain type of activities, and notification of pollution incidents. Other applicable legislation are the <i>Water Act 1912</i> and <i>Water Management Act 2000</i>. Guidelines • NSW Department of Housing/Landcom (2004) Managing Urban Stormwater: Soils and Construction (the 'Blue Book'). • DECC (2007) Storing and Handling Liquids: Environmental Protection: Participants Manual. Lendlease Requirements • GMR: 4.13 Degradation or Pollution of the Environment • GMR: 4.15 Uncontrolled Release of Stored Energy (non-electrical)) • Lendlease Building Workplace Delivery Code (WDC) Water Consumption and Efficiency Approvals

	The Planning Approval conditions of approval requirements are listed in Section 6.
Summary of Site Controls:	Works must be planned and implemented in accordance with the Lendlease GMRs, the Project EHS Plan, this Sub Plan and the Lendlease Building WDC. These documents detail Lendlease's approach and commitment to pro-active and responsible site management. Site specific controls, monitoring, reporting and performance measurements have been identified in this Sub Plan to prevent or minimise the impacts of construction related water demand and use on the environment, workers and community. Site inspections, monitoring and reporting will be undertaken by Lendlease and subcontractors as detailed in the Project EHS Management Plan Part 5.0 and the following implementation table.

2. IMPLEMENTATION OF THE SUB PLAN

Ref.	Mitigation Measure	Design	Construction	Relevant Location Activity /	Relevant Approval Conditions	Responsibility	Timing
GENERAL							
WQ1.	Store all fuels, oils and chemicals in secure bunded areas and as per <i>Dangerous Goods Storage</i> requirements where applicable. Cover all permanent bunded areas. The bund capacity is to be capable of storing 110% of the capacity of the largest tank stored (DECC, 2007).	■	■	Entire Site	General	CM / SM / EM Subcontractors	Throughout construction
WQ2.	Use temporary bunds for short term periods of up to two weeks where required.		■	Entire Site	General	Subcontractors	Throughout construction
WQ3.	Provide spill kits at key construction areas, including any refuelling areas, near any permanent fuel / chemical storage areas.		■	Entire Site	General	Subcontractors	Throughout construction
WQ4.	Report any spills immediately to the Site Supervisor who in turn is to notify the EHS Manager (Environment).		■	Entire Site	General	ALL	Throughout construction
WQ5.	Report any spill likely to cause material harm to the environment immediately to EPA via the EPA Pollution Line (131 555). Report any water based spills to NSW Ports and the Harbour Master (9296 4999).		■	Entire Site	General	EM	Throughout construction
WQ6.	Implement the <i>Environmental Spill/Incident Procedure</i> in the Emergency Response Plan in the event of a land-based or water based fuel, oil or chemical spill.		■	Entire Site	Emergency Response Plan	SM / EM	Throughout construction
EROSION & SEDIMENT CONTROL MEASURES							
WQ7.	Implement and maintain erosion and sedimentation controls as per the Erosion and Sediment Control Plans. Update plans to address changing site conditions and construction activity.		■	Entire Site	Basement B32	Subcontractors	Throughout construction
WQ8.	Install Drain Wardens or sumps for stormwater collection with a small berm around the surface to remove sediment before overflowing into the sump. Remove sediment build-up around these sumps as required.		■	Handstand areas	General	EM	Throughout construction

3. MONITORING

Water quality monitoring will be undertaken in two forms, summarised below and in the following table.

Detail	Frequency	Parameters & Standards	Reporting	Responsibility
Inspection of the construction site and stormwater discharge outlets	Weekly and after significant rainfall events	-	If areas require cleaning or maintenance, the relevant Site Manager or Foreman will be requested to undertake relevant actions.	EHS Co-ordinator Site Manager

Contingency Measures

Various contingency measures are available to manage water quality if required during the works and examples are outlined in more detail in the Emergency Response Plan.

All incidents will be managed in accordance with the Lendlease 'Source' procedures. Complaints and enquiries will be managed as per the Community and Stakeholder Engagement Strategy.

- The Water Discharge Management Procedure found in Appendix 1 will be implemented.

Flooding events

Where the site experiences a rainfall event where the existing system is unable to treat the volume of water and there is a risk of flooding the following will be undertaken:

- Rainwater impacted by open excavations (i.e. dirty water) will be directed through appropriate temporary treatment (e.g. baffle tank) prior to discharge to stormwater.
- Rainwater collected on hardstand areas (i.e. clean water) will be directly discharged to stormwater via appropriate sediment controls.
- Treated rainwater discharged via baffle tanks will be sampled against the discharge criteria found in Section 5

4. WATER MANAGEMENT STRATEGY

Water generated during the remaining works will consist of stormwater and surface water, and groundwater. Diversion bunding will keep external runoff separate, and clean areas will be discharged directly to stormwater drainage.

The following table outlines the water management strategy that being used during various construction activities.

Construction Activities	Water Source	Control Measures	Treatment Process	Outputs	Status
Basement Construction - Structural elements - Fit out	Surface water runoff	- Erosion and sediment controls as per ERSER Plan - Water transfer tanks - Appropriate water treatment	Clean surface water will be directly discharged to stormwater. Ground water collected will be appropriately treated, where required, based on ongoing monitoring per Section 3 of this Plan.	- Stormwater system - Harbour discharge in accordance with discharge criteria	Ongoing

5. DISCHARGE CRITERIA

Pollutant	Units of Measure	Discharge Criteria
Oil and Grease	milligrams per litre	10
pH	pH	6.5 - 8.5
TSS	milligrams per litre	50

6. PLANNING APPROVAL REQUIREMENTS

OSH BASEMENT (SSD6960)

No.	Original Ref.	Relevant Requirement	Reference
1.	D16	DISPOSAL OF SEEPAGE AND RAINWATER Any seepage or rainwater collected on-site during construction shall be managed in accordance with the WSMSP under Condition B29.	Mitigation Measures
2.	D17	WATER QUALITY 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 following guideline documents: (a) NSW Water Quality Objectives; (b) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) for the environmental values under the ANZECC guidelines.	Monitoring table
3.	D18	WATER DISCHARGES The Applicant must ensure that all surface water discharges from the site comply with: (a) Section 120 of the Protection of the Environment Operations Act 1997; or (b) the discharge limits (both volume and quality) set for the development Environment Protection Licence No. 13336, unless otherwise agreed to in writing by the EPA.	Mitigation Measures Note EPL surrendered.
4.	D20	BUNDING Store all chemicals, fuels and oils used on-site in appropriately bunded 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.	Mitigation Measures Note EPL surrendered.

TOWERS R1 (R4A SSD 6964) AND R2 (R4B SSD 6965 AND SSD 8892218)

No.	Original Ref.	Relevant Requirement	Reference
5.	C8	WATER AND STORMWATER MANAGEMENT SUB-PLAN Prior to the commencement of works, an updated Water and Stormwater Management Sub-Plan (WSMSP) for Barangaroo South prepared by a suitably qualified person shall be submitted to the EPA and DPI for review and submitted to the satisfaction of the Certifying Authority.	This plan Mitigation measures Note EPL surrendered.

No.	Original Ref.	Relevant Requirement	Reference
		The WSMSP must ensure that any effluents/liquid waste streams associated with the development that are directed 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 WSMSP shall include a suitable short period 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 of the WSMSP must be provided to the Secretary.	
6.	D4	DISPOSAL OF SEEPAGE AND STORMWATER Any seepage or rainwater collected on-site during construction shall be managed in accordance with the Water and Stormwater Management Sub-Plan.	This Plan
7.	D13	VEHICLE CLEANSING Prior to the commencement of work, suitable measures are to be implemented to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the Site. It is an offence to allow, permit or cause materials to pollute or be placed in a position from which they may pollute waters.	Erosion and Sediment Control Plan
8.	D23	WATER QUALITY 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 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.	This Plan Mitigation measures
9.	D24	WATER DISCHARGES The Applicant must ensure that all surface water discharges from the site comply with: a) Section 120 of the Protection of the Environment Operations Act 1997; or b) the discharge limits (both volume and quality) set for the development Environment Protection Licence No. 13336, unless otherwise agreed to in writing by the EPA.	This Plan Mitigation measures Note EPL surrendered.

TOWER R3 (R5 SSD 6966)

No.	Original Ref.	Relevant Requirement	Reference
10.	C26	WATER AND STORMWATER MANAGEMENT SUB-PLAN Prior to the commencement of works, an updated Water and Stormwater Management Sub-Plan (WSMSP) for Barangaroo South prepared by a suitably qualified person shall be submitted to the EPA and DPIE for review and submitted to the satisfaction of the Certifying Authority. The WSMSP must ensure that any effluents/liquid waste streams associated with the development that are directed 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 (if active) 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 WSMSP shall include a suitable short period 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 of the WSMSP must be provided to the Planning Secretary.	This plan Mitigation measures Note EPL surrendered.
11.	D16	DISPOSAL OF SEEPAGE AND STORMWATER Any seepage or rainwater collected on-site during construction shall be managed in accordance with the Water and Stormwater Management Sub-Plan.	This Plan
12.	D18	VEHICLE Prior to the commencement of work, suitable measures are to be implemented to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site. It is an offence to allow, permit or cause materials to pollute or be placed in a position from which they may pollute waters.	Erosion and Sediment Control Plan
13.	D29	WATER QUALITY 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 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.	This Plan Mitigation measures

No.	Original Ref.	Relevant Requirement	Reference
14.	D30	WATER DISCHARGES The Applicant must ensure that all surface water discharges from the site comply with: (a) Section 120 of the Protection of the Environment Operations Act 1997; or (b) the discharge limits (both volume and quality) set for the development Environment Protection Licence No. 13336 (if active), unless otherwise agreed to in writing by the EPA.	This Plan Mitigation measures. Note EPL surrendered.
15.	D25	BUNDING The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, EPL requirements (if active) and/or EPA's Storing and Handling Liquids: Environmental Protection – Participants Handbook.	Mitigation Measures Note EPL surrendered.

APPENDIX 1: WATER DISCHARGE MANAGEMENT PROCEDURE





