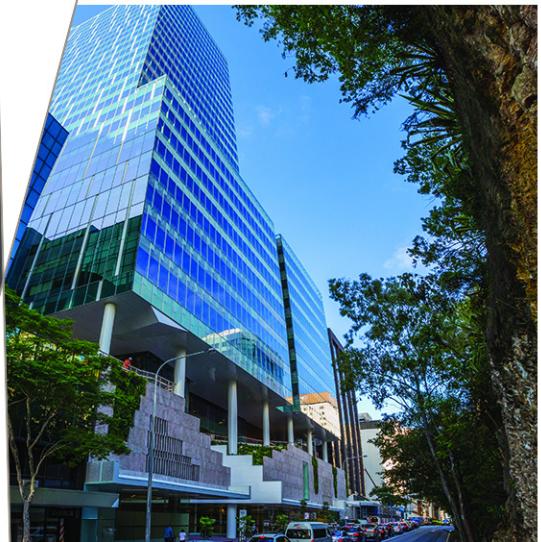


Infrastructure Concept Plan

Barangaroo South -State Significance
Development Planning Submission

NA50613044



Prepared for

NSW Department of Planning, Industry and
Environment

3 August 2021

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1 Project Appreciation

1.1 Introduction

This report supports a State Significant Development (SSD) Development Application (DA) submitted to the Department of Planning, Infrastructure and Environment (DPIE) pursuant to part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The SSD DA seeks approval for the staged subdivision of residual Lot 500 to create eight new lots relating to Residential Buildings R4A, R4B and R5, which are currently under construction at Barangaroo South. These stratum lots will be for residential and retail uses, as well as the creation of a new residual lot.

1.2 Background

Four separate SSD development consents have been granted in relation to the subdivision of Barangaroo, namely:

- SSD6381, identified as Stage 1 (approved 16 December 2014) for the:
 - consolidation of lots 3, 5 and 6 in DP 876514;
 - subdivision of the consolidated lots into Lot 100 (being Barangaroo South) and Lot 101 (being Barangaroo Central and the Headland Park); and
 - staged stratum subdivision of Lot 100 into nine allotments according with approved buildings and infrastructure within Stage 1A of Barangaroo South and a residual lot (Lot 214).
- SSD7478, identified as Stage 2 (approved 26 September 2017) for the:
 - staged stratum subdivision of the residual lot (Lot 214) into seven allotments according with approved buildings and infrastructure within Stage 1A, future Sydney Metro allotments and residue allotment (Lot 300) for the remainder of Barangaroo South.
- SSD8997, identified as Stage 3 (approved 10 October 2019) for the creation of the following strata:
 - Lot 401 – subdivision of Residue Lot 300 to create a lot for proposed Building C1, including parking and end of trip facilities.
 - Lot 402 – subdivision of Residue Lot 300 and Lot 205 in DP 1204694 (bicycle and amenities lot) to adjust boundaries in response to proposed Building C1.
 - Lot 403 – subdivision of Residue Lot 300 and Lot 213 in DP 12210736 (Tower 1 lot) to adjust boundaries to allocate 12 basement car spaces for Tower 1 and basement plant room not included in previous subdivision.
 - Lot 404 - subdivision of Residue Lot 300 and Lot 205 in DP 1204694 (bicycle and amenities lot) to adjust boundaries in response to changes in part of EOT Lobby (Area removed from Bicycle/ Amenities)
 - Lot 400 –residue allotment.
- SSD9758 – identified as Stage 4 (approved 20 December 2019) for the following:
 - Staged subdivision of residual Lot 400 to create Lot 501 (relating to Crown Hotel Resort Sydney) and Lot 500 (the current residual lot).

The stratum subdivision proposed in the SSD DA relates to Residential Buildings R4A, R4B and R5, collectively known as One Sydney Harbour.

1.3 Overview of Proposed Modification

The proposed SSD DA will seek development consent for the staged subdivision of residual Lot 500 to create eight new lots relating to Residential Buildings R4A, R4B and R5, which are currently under construction at Barangaroo South. These stratum lots will be for residential and retail uses and include a new residual lot.

No physical works are proposed as part of the SSD DA.

1.4 Purpose of this Report

The aim of this report is to support a State Significant Development (SSD) Development Application (DA) submitted to the Department of Planning, Infrastructure and Environment (DPIE) pursuant to part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This document should be used as reference during the detailed design development of utilities provision to the Barangaroo South development including buildings and public domain. Future and separate project applications will be required to address service provision to each building or development area.

The following general comments apply:

- a. A desktop services investigation (Dial Before You Dig), survey and Ground Penetrating Radar (GPR) have been used as source data for the information contained in this document, and
- b. The attached plans, refer **Appendix A**, are to be developed through consultation with the appropriate utilities providers.

1.5 Site Location

Barangaroo is located on the north western edge of the Central Sydney, bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point (for the northern half), The Rocks and the Sydney Harbour Bridge approach to the east; and bounded to the south by a range of new development containing large commercial tenants.

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Central and Barangaroo South. The Stage 1B (Fifth Stage) Subdivision relates to the residual lot area approved under the earlier Stage 4 Subdivision at Barangaroo, SSD 9758, being Lot 500 and specifically the land areas within this for future Residential Buildings R4A, R4B and R5. Lot 500 was registered on 25 June 2020.

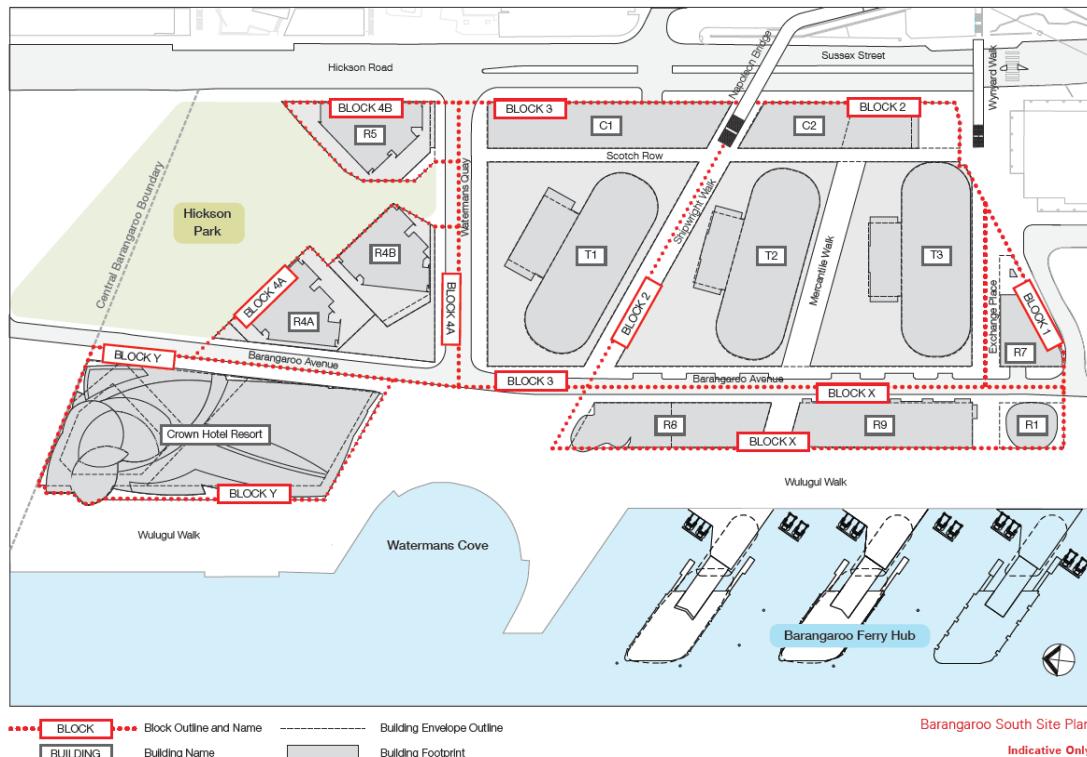


Figure 1 Block 4A and 4B in relation to Barangaroo South

Source: Lendlease

1.6 Relevant Report and Documentations

This report shall be read in conjunction with the following documents:

1. Infrastructure Concept Plan, Barangaroo South – Mod8 Planning Submission (MP06_0162 MOD8), March 2015, prepared by Cardno;
2. Stormwater Concept Report, Barangaroo South – MOD8 Planning Submission (MP06_0162 MOD8), September 2014, prepared by Cardno;
3. Mod 10 Masterplan SEPP Maps – Building Envelop Maps (Drawing B10_AMP_08_0071);
4. Mod 10 Masterplan SEPP Maps – Building Envelop Development Block 4A (Drawing B10_AMP_09_0093);
5. Mod 10 Masterplan SEPP Maps – Building Envelop Development Block 5 (Drawing B10_AMP_09_0094);
6. Barangaroo South Concept Plan Mod 10 - Indicative Staging Plan (Drawing BB2_ASK_DD_CO_0226);
7. Stormwater Management and Infrastructure Servicing prepared for Residential Building R4B State Significant Development Application (SSD 6965) by Cardno (2016); and
8. Stormwater Management and Infrastructure Servicing prepared for Residential Building R5 State Significant Development Application (SSD 6966) by Cardno (2016).

The relevant drawings are shown in Appendix A and outlined below:

- B1B CD 2000002 (14) – Stage 1B Public Domain Works General Arrangement Plan;
- Sheet 1 Case Number 154199PW – Watermain Extension Barangaroo Stage 1B;
- B1B CD 2100001 (18) – Stage 1B Public Domain Works Service Coordination Plan Sheet 1;
- B1B CD 2100001 (18) – Stage 1B Public Domain Works Service Coordination Plan Sheet 2;
- B1B CD 2100001 (18) – Stage 1B Public Domain Works Service Coordination Plan Sheet 3;

2 Stormwater Services

2.1 Existing stormwater services

The existing stormwater network is characterised by a series of in ground piped stormwater systems (typically between 300mm to 1200mm in diameter) draining Hickson Road and other external catchments through the Barangaroo site directly to the Harbour. Refer **Figure 2-1** for details.

Figure 1-1 Existing Stormwater Network Before Development Work

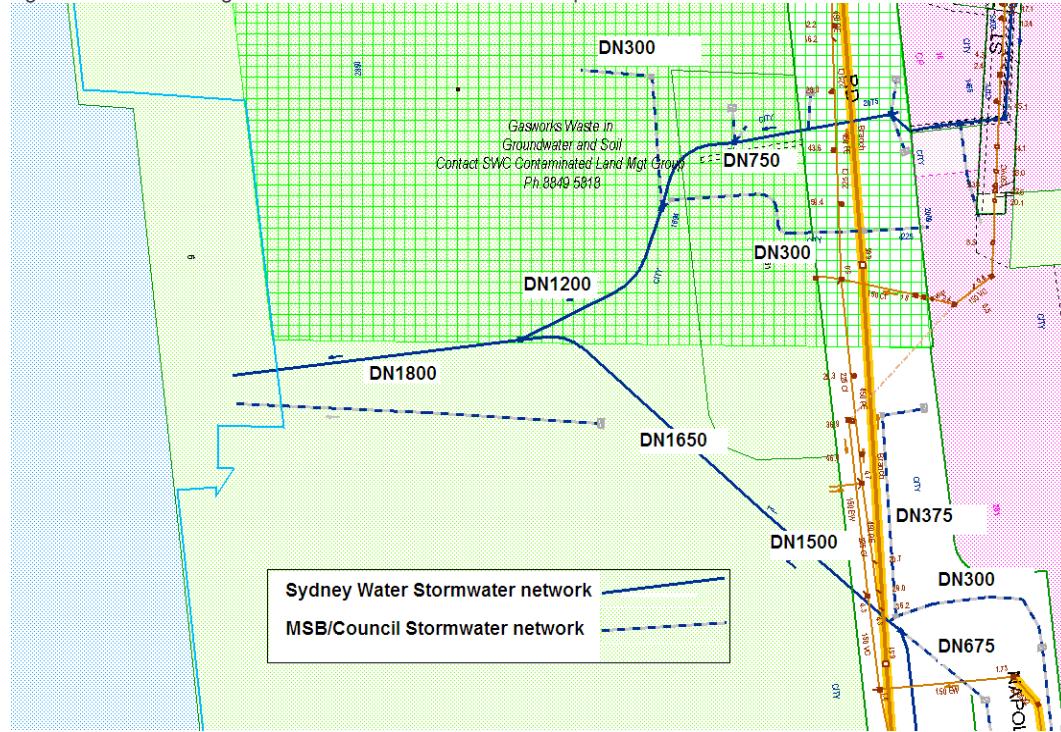


Figure 2-1 Existing stormwater network before development work

2.2 Recently constructed stormwater services

Diversion of the existing stormwater assets traversing the Barangaroo South site has been designed with input from Sydney Water Corporation and the Infrastructure NSW (acting as the Roads Authority for Hickson Road). These works include the following main components:

- Stage 1A Deviation Works: A concrete pipe and box culvert diversion to the south with 100 year ARI capacity to improve existing flooding to Hickson Road in the vicinity of the Sussex Hotel.
- Stage 1B Deviation Works: A concrete pipe and box culvert diversion to the south under Watermans Quay with 100 year ARI capacity to convey stormwater runoff in Hickson Road in the vicinity of The Bond Residential building and The Bond Commercial building.

The Stage 1A and Stage 1B stormwater deviation works have been constructed and are in operation. There are no physical changes to the land use associate with the proposed development application, there will not be any changes to the stormwater diversion strategy.

3 Potable Water Services

3.1 Existing potable water services

A Sydney Water owned 300mm watermain is located on the western side of Hickson Road and extends for the full frontage of the Barangaroo South development. Sydney Water has confirmed, through approval of the "Site Servicing Strategy – Barangaroo South" prepared by Cardno and dated March 2013, this main has adequate capacity to provide potable water to the development.

All existing supplies to the development site, serving buildings and other structures that have been demolished, are to be capped off and disused or removed.

3.2 Proposed potable water services

Supply of potable water to the development has been addressed through the Site Servicing Strategy as agreed with Sydney Water.

Connections will be made to the existing 300mm watermain described above. From these connections:

Stage 1A, a 250mm potable water main will be constructed along Shelley St, Lime Street, and Globe Street to provide potable water supply to the Stage 1A Barangaroo South development. The new potable water main has been laid above the podium level structural slab. It is intended Sydney Water will own and maintain the new assets.

Stage 1B, a 250mm potable main will be constructed along Watermans Quay, Barangaroo Ave to provide potable water supply to the Stage 1B Barangaroo development. The potable watermain has been designed and approved by Sydney Water.

There are no physical works proposed in this development application and will not change the water demand. There will be no changes to the design of the proposed potable main in Stage 1B.

A design of the Stage 1B potable watermain is shown in Appendix A – Sheet 1 Barangaroo Stage 1B – Watermain Extension

4 Recycled Water Services

4.1 Existing recycled water services

The recycled water sources for Barangaroo South are supplied from a central Recycled Water Treatment Plant (RWP) treating waste water from Barangaroo and waste water sourced through mining Sydney Water sewer in Hickson Road. The water is treated in compliance with Australian Recycled Water guidelines and reticulated through Barangaroo for non-potable use.

The system is operating with a backup water supply connected to the Sydney Water potable water supply system serving Barangaroo South. At Barangaroo South, the recycled water mains are generally to be located within the Barangaroo South Basements; reticulating to customer recycled water meters located within the basement and extending to a termination point at the northern boundary of the Stage 1B site for future extension to service the Barangaroo Central development to a maximum of 60,000m² GFA.

The recycled water system for the Barangaroo South development has been constructed as part of Barangaroo Stage 1A works.

4.2 Proposed recycled water services

There are no changes to the land use with the proposed development application, hence no changes to the recycled water services.

5 Wastewater services

5.1 Existing wastewater services

The local sewerage network is owned by Sydney Water and consists of 225mm and 450mm gravity drainage in Hickson Road. This network drains to existing Sydney Water owned Sewage Pump Station SP1129 located north of Barangaroo South.

The existing pump station serves catchments extending to Sussex Street, Kent Street and includes the catchment served by SP0014 located at Barangaroo Reserve. SP0014 will be disused as part of the approved Barangaroo Reserve works with flows diverted to SP1129.

All existing supplies to the development site, serving buildings and other structures that have been demolished, are to be capped off and disused or removed.

5.2 Proposed wastewater services

Provision of wastewater services to the development has been addressed through the Site Servicing Strategy as agreed with Sydney Water. Internal sewerage reticulation within Barangaroo South will be privately owned.

A RWP has been installed within the Barangaroo South development. The RWP is owned and operated under the Water Industry Competition Act. The RWP provides recycled water to the Barangaroo South development and, through sewer mining, it has been designed to provide sufficient recycled product for export to external customers.

Additional storage within the local sewerage network is required to offset the peak load from the development if the RWP is offline. This has been achieved through re-use of the Stage 1A temporary stormwater diversion pipework as emergency wastewater storage.

The proposed development application will not alter the wastewater services.

6 Electrical services

6.1 Existing electrical services

Existing electrical services in Hickson Road include:

- Disused Railcorp 33KV feeder 746 and 745. Advice has been received confirming these assets "...are old gas cables and no longer required for Railcorp's rail network purposes and are to be decommissioned". Railcorp have advised that these assets are to be treated as live. This service is located in close proximity to the eastern kerb alignment of Hickson Road;
- Existing HV supply and concrete encased bank of conduits feeding "The Bond". The bank of conduits is believed to consist of 150mm conduits laid in 4 rows of 4 conduits generally between 0.8m and 1.2m depth;
- Existing HV supplies to substations serving the previous site use which are to be disused and removed;
- Existing temporary HV supplies to temporary substations providing construction supply; and
- Various LV services for street lighting, parking ticket machines and other purposes.

6.2 Proposed electrical services

The number of buildings and the GFA are to be remained consistent with the previous concept plan, hence there will not be any changes to the peak load.

The proposed development application will not alter the electrical services.

7 Telecommunications services

7.1 Existing telecommunications services

The Kent Street telephone exchange is located relatively close to the site. A number of telecommunications carriers have existing cables in the vicinity of the site.

All telecommunications infrastructure previously existing within the basement footprint has now been capped off at the boundary and removed.

7.2 Proposed telecommunications services

Future development under the Concept Plan will be provided with telecommunications services through a pit and pipe network to allow multiple carriers to access the site at two diverse entry points; from Shelley Street at the south and from Hickson Road at the north. This may be via NBN Co services or those of another telecommunications network provider. Connection point(s) will be the subject of detailed design, which will be covered by future applications and approvals under the Concept Plan.

Reticulation within the site will generally be in dedicated carrier cable trays at a high level in the basements and will provide diverse paths from site entry points to individual building node rooms to allow for a high level of network resilience. Cable tray and conduit zones are subject to detailed design.

The proposed development application will not alter the electrical services.

8 Natural gas services

8.1 Existing natural gas services

There is an existing 110mm low pressure 7kPa nylon gas main along Hickson Road and a high pressure gas main located at the corner of Sussex and Napoleon Streets. There is no existing high pressure main connection serving the Barangaroo site, however there are small low pressure connections. These connections shall be decommissioned and capped off at the site footprint boundary and removed.

8.2 Proposed natural gas services

Natural gas service is provided by Jemena, who have deemed it suitable to offer a low pressure (maximum 7kPa) service to Barangaroo South. Subject to a separate application and approval by Jemena, there is also potential to connect the site or part of the site to a high pressure service should it be required. This could be delivered throughout the site via services within existing and proposed roads.

The proposed development application will not alter the natural gas services.

9 Chilled water services

9.1 Existing chilled water services

The Harbour Heat Rejection Plant (HHR) and associated reticulation of chilled water, was approved in August 2013 as part of the MP10_0023 MOD5 planning application.

Subsequently, the District Cooling Plant (DCP) and the HHR have been constructed as part of the Barangaroo Stage 1A development. Chilled water is reticulated throughout the Barangaroo South development within a privately owned pipework.

9.2 Proposed chilled water services

The HHR and DCP in Barangaroo Stage 1A site have also been designed to service the proposed Stage 1B Barangaroo Development. Chilled water reticulation pipes will be constructed to service the proposed development site. The assessment also considered the carbon parity of the HHR that supports the DCP.

The proposed development application will not increase the thermal load, hence, there will not be any changes to the chilled water services design.

10 Conclusion

This report has been prepared to describe the infrastructure management strategy for the Barangaroo South development to support for the staged subdivision of residual Lot 500 to create eight new lots relating to Residential Buildings R4A, R4B and R5, which are currently under construction at Barangaroo South.

The proposed development application does not involve any design changes to the land use and the approved buildings, therefore, there are no amendments to the proposed services strategy.

APPENDIX

A

RELEVANT DRAWINGS

