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16 March 2015

Dear Matt

Barangaroo South - Modification 8 Concept Plan (MP06_0162), Contamination Letter, Hickson Road, Millers Point

1.0 Introduction

This letter has been prepared by AECOM Australia Pty Limited (AECOM) for Lend Lease Building Pty Limited (Lend Lease) to support a modification to Concept Plan (MP06_0162) to be submitted to the Minister for Planning and Infrastructure pursuant to Section 75W of Part 3A of the *Environmental Planning and Assessment Act 1979* (*EP&A Act*).

The proposed modification is the outcome of negotiations between Lend Lease and the NSW Government, including the Barangaroo Delivery Authority, to relocate the approved landmark hotel building from a pier over Sydney Harbour to a location on land elsewhere within the Barangaroo South Site. It incorporates both the physical relocation of the hotel, along with a number of consequent and related changes that are required to maintain an appropriate built form and public domain outcome for the Barangaroo South site.

1.1 Site Location

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

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Central and Barangaroo South. Concept Plan (Mod 8) relates to Barangaroo South only as shown in the attached **Figure 1**.

1.2 Remedial Actions Plans and Related Documents

Remedial Action Plans (RAPs) have been prepared for four areas within Barangaroo South (hereafter referred to as the Site') as follows. **Figure 4** to **7** have been taken from the relevant RAPs to confirm the RAP boundaries in relation to the broader Site:

Table 1 Remedial Action Plan Details

Barangaroo Site Area	Remedial Action Plan	Remedial Action Plan Status
Stage 1A (Other Remediation Works South [ORWS] Area) - refer to Figure 4 taken from the ORWS Amended RAP (AECOM, 2011c)	Amended RAP, Barangaroo - ORWS Area (AECOM, 7 July 2011c) – referred to as the ORWS Amended RAP (AECOM, 2011c).	The ORWS Amended RAP (AECOM, 2011c) was approved by the Minister of Planning and Infrastructure as part of Major Project MP10_0023 MOD 1 (dated 17 August 2011).
Stage 1B Residential (including Block 4 and the NSW EPA Declaration Area) - refer to Figure 5 taken from the VMP/Block 4 RAP (AECOM, 2013c)	RAP, NSW EPA Declared Remediation Site 21122 and Block 4 (Stage 1b) Development Works, Barangaroo, Millers Point, NSW (AECOM, 24 July 2013c) - referred to as the VMP/Block 4 RAP (AECOM, 2013c). In addition to the Block 4, this RAP also covers the Block 5 and Hickson Road parts of Remediation Site 21122.	The VMP/Block 4 RAP (AECOM, 2013c) has been endorsed by the NSW Environmental Protection Authority (EPA) accredited site auditor (Site Audit Report, RAP, Declaration Area and Block 4, Barangaroo [ENVIRON, 31 July 2013]). This RAP is part of a State Significant Development Development Development Application (SSD DA 5897-2013) which was under assessment by the Department of Planning and Environment (DP&E) at the time of writing.
Stage 1B south west (part of the ORWN Area) - refer to Figure 6 taken from the HHR RAP Addendum (AECOM, 2012c)	Addendum to the Amended ORWS RAP, Harbour Heat Rejection (HHR) Inlet Area, Barangaroo South (AECOM, 10 October 2012c) – referred to as the HHR RAP Addendum (AECOM, 2012c). This RAP was prepared to facilitate the excavation of a trench associated with the HHR inlet system to be constructed in a small area immediately adjacent to the Stage 1A development area (at the northwest corner of the Stage 1A basement).	The Addendum to the Amended ORWS RAP (AECOM, 2012c) was approved by the Minister of Planning and Infrastructure as part of Major Project MP10_0023 MOD 5 (dated 8 August 2013)
Stage 1B Hotel (part of the Other Remediation Works North [ORWN] Area) - refer to Figure 7 taken from the Crown Hotel Development RAP (AECOM, 2014d)	Draft RAP, Crown Hotel Development, (Part of ORWN Area), Barangaroo South (AECOM, 11 August 2014d) - referred to as the Crown Hotel Development RAP (AECOM, 2014d).	The Crown Hotel Development RAP (AECOM, 2014d) is currently in Draft form pending review by the NSW EPA accredited site auditor. This RAP will be submitted to the DP&E as part of a future SSD DA and finalised prior to the commencement of the development works within the Stage 1B Hotel area.

Each of the RAPs listed in ${\bf Table~1}$ were prepared to meet the requirements of:

- Managing Land Contamination Planning Guidelines SEPP 55 Remediation of Land; and
- relevant NSW EPA endorsed guidelines in force at the time of the RAPs, including the NSW EPA (2011) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites and the National Environment Protection Council (NEPC), National Environment Protection (Assessment of Site Contamination) Measure (NEPM, 1999 as amended).

The *ORWS Amended RAP* (AECOM, 2011c) has been implemented as part of the Stage 1A basement excavation and construction works which are now largely complete. The other RAPs listed in **Table 1** have been/are being prepared to facilitate future stages of the Barangaroo South development works to be undertaken

in the Stage 1B Residential and Hotel areas (which includes Block 4 and a portion of the NSW EPA Declaration Area, refer to **Figure 4** to **7**).

The remediation works within Block 4 will include part of the 'NSW EPA Declaration Area'. The NSW EPA declared this area to be a Remediation Site (Declaration Number 21122; Area Number 3221) under the then section 9 of the *Contaminated Land Management* (CLM) *Act* 1997. It is noted that the Declaration Area also includes areas in Block 5 and Hickson Road which are outside of the Site and are not discussed further in this letter.

Under the existing planning framework, RAPs for each development area are to be provided with the Development Application for development of the land. The Draft *Crown Hotel Development RAP* (AECOM, 2014d) will therefore be submitted as part of the development application for works and use of the area to which the RAP relates.

The following reports were also prepared in relation to the Stage 1A and Stage 1B RAPs:

- Stage 1A ORWS Amended RAP (AECOM, 2011c, refer to Figure 4):
 - HHERA Addendum, ORWS Area (AECOM, 4 July 2011b). This HHERA was prepared to develop human health site-specific target criteria (SSTC) and site specific ecological screening criteria (SSESC) for soil and groundwater for use in defining the remediation end-point for the ORWS Area. This report was prepared as an Addendum to the HHERA Declaration Site (Development Works) Remediation Works Area (AECOM 2011a);
 - Stage 1A Basement Design Change Amended Remedial Action Plan, Other Remediation Works South Area, Hickson Road, Millers Point, NSW (AECOM, 19 October 2011d). This letter was prepared to assess whether design changes to the proposed basement affected the validity of the ORWS Amended RAP (AECOM, 2011c) and/or HHERA Addendum, ORWS Area (AECOM, 2011b);
 - HHERA Harbour Heat Rejection (HHR) System Inlet Area, Southern Cove (AECOM, 6 June 2012a).
 This HHERA was prepared to develop SSTC and SSESC for soil and groundwater for use in defining the remediation end-point for the HHR System Inlet Area;
 - Re-Assessment of the Remediation Requirements in the Vicinity of MW08 ORWS Area Barangaroo South (AECOM, 30 January 2013a). This letter was prepared to assess impacts identified in the monitoring well MW08 area and based on basement design specifications in this area. It was concluded that the impacts in the MW08 area did not warrant remediation other than the soil excavations works required for construction of the ORWS basement;
 - Addendum to HHERA, Other Remediation Works (South) Area, Barangaroo (AECOM, 16 October 2013d) - here-in referred to as the ORWS Asbestos HHERA. This Addendum was prepared to derive SSTCs for asbestos in soil; and
 - Management of Asbestos in Soils Amended ORWS RAP, Barangaroo, Hickson Road, Millers Point, NSW (AECOM, 1 November 2013e). This letter was prepared to describe the recommended approach to implementation of the outcomes of the ORWS Asbestos HHERA (AECOM, 2013d) as part of the remediation works within the ORWS Area:
 - Barangaroo South Stage 1A Public Domain Works (SSD 6303), Hickson Road, Millers Point.
 (AECOM, 15 May 2014a). This letter was prepared to describe the modifications to the Stage 1A Public Domain and confirm that it was consistent with land uses contemplated by the ORWS Amended RAP (AECOM, 2011c) and was compliant with SEPP 55;
 - HHERA ORWS Area, Barangaroo. Assessment of Additional Exposures to Maintenance Workers in Basement Plant Rooms (AECOM, 23 May 2014b). The objective of this letter was to:
 - derive location specific SSTC for maintenance workers entering the plant rooms that are adjacent to external basement walls and that do not include sealed plenums; and
 - determine whether the extent of remediation proposed by ORWS Amended RAP (AECOM, 2011c) and the Stage 1A Basement Design Change report (AECOM, 2011d) will also be protective of maintenance workers entering plant rooms.
 - Barangaroo South Building R1 Construction Works, Contamination Assessment, Hickson Road, Millers Point. (AECOM, 15 August 2014e). This letter was prepared to describe the Building R1 development works and confirm that it was consistent with land uses contemplated by the ORWS Amended RAP (AECOM, 2011c) and was compliant with SEPP 55; and

- Barangaroo South Stage 1A Public Domain Works Excavation Works (SSD 6303), Hickson Road, Millers Point. (AECOM, 28 August 2014f). This letter was prepared to describe modifications to the ORWS Public Domain (to construct a continuous planter box) and confirm that it was consistent with land uses contemplated by the ORWS Amended RAP (AECOM, 2011c) and was compliant with SEPP 55.
- Stage 1B Residential VMP/Block 4 RAP (AECOM, 2013c, refer to Figure 5):
 - HHERA Declaration Site (Development Works) Remediation Works Area Barangaroo (AECOM, 9
 June 2011a). The objective of this HHERA was to develop SSTC for soil and groundwater for use in
 defining the remediation end-point for the Declaration Area (which includes the majority of Block 4);
 - HHERA Declaration Site, Barangaroo. Assessment of the Implications of the Revised Basement
 Design (AECOM, 3 July 2012b). This letter was prepared to assess whether the revised basement
 design and ventilation rates and inclusion of loading dock workers within the proposed lower basement
 level will result in SSTC which are equivalent to, greater (i.e. less conservative) or less (i.e. more
 conservative) than those presented within the Declaration Site HHERA (AECOM, 2011a); and
 - HHERA, VMP Remediation Works Area. (Addressing the NSW EPA Remediation Site Declaration 21122, Millers Point) (AECOM, 25 October 2012d). This HHERA was prepared to develop SSTC for soil and groundwater for use in defining the remediation end-point for the Declaration Area that would facilitate removal of the NSW EPA Declaration.

1.3 Objectives

The objectives of this letter are to confirm that the proposed Modification 8 development works:

- are consistent with those contemplated by the RAPs and related documents listed in Section 1.2 above;
 and
- will enable the relevant consent authority to comply with Clause 7(1), 7(2) and 17(1) of *State Environmental Planning Policy* 55 *Remediation of Land* (referred to as *SEPP* 55 *Remediation of Land*).

1.4 Background Information

In preparing this letter, AECOM has reviewed the following plans provided by Lend Lease:

Table 2 Reviewed Lend Lease Development Plans

AECOM Figure No.	Drawing No./Date	Revision	Drawing Title
Figure 2	BMP-DSK-M8-00-01 / 19 July 2013	R	Barangaroo Masterplan South Concept Plan
Figure 3	B10-AMP-08-0071 / 10 September 2014	07	Mod 8 Masterplan Revised Building Envelopes

2.0 Overview of Proposed Modification

The proposed modification to the Concept Plan seeks to:

- relocate the landmark building (Block Y) from the harbour onto the land within the Barangaroo South site extending into the harbour back onto the Site in front of the existing Blocks 4A, 4B and 4C;
- revise the layout of Blocks 4A, 4B and 4C;
- amend the size and location of the Southern Cove and public domain;
- redistribute the Gross Floor Area (GFA), Public Domain and land uses across development Blocks 1 to 3, 4A to 4C, X and Y;
- increase the maximum GFA on the Site to provide for additional GFA within the hotel building and redistribution of land uses;
- increase the height of the buildings within modified 'Block 4' and the relocated Block Y; and
- amend the conditions of the Concept Approval to reflect the modifications to the development.

It is also proposed to amend Part 12 of Schedule 3 of the Major Development SEPP to reconcile the SEPP with the modifications to the Concept Plan, including amending the location of the RE1 and B4 Mixed Use zone boundaries.

3.0 Land Uses

Based on the information provided by Lend Lease (refer to **Table 2**), the proposed land uses within each area of the Site is compared to the land uses contemplated by the three associated RAPs in **Table 3**.

Table 3 Proposed Land Uses – the RAPs Compared to Modification 8

Barangaroo Site Area	Land Uses Anticipated in the RAPs	Modification 8 Land Uses Compared to the Relevant RAP
Stage 1A (ORWS Area) - refer to	Section 1.3.1 of the <i>ORWS Amended RAP</i> (AECOM, 2011c) anticipated the following land uses:	
Figure 4	"High density residential and commercial multi storey towers, together with associated open space areas, overlying the basement car parking".	No significant change noted.
	"Public Domain (South) usage will incorporate open space with community, mixed commercial and retail land use, and landscaping (planter boxes, paved areas and parkland)".	No significant change noted.
	"Slab on grade multi storey commercial development (i.e. with no basement excavations, currently estimated at 7 storeys) in the southeast corner of the ORWS Area only, at the location of the former proposed Sydney Metro Station Site".	No significant change noted. The building height in the south east corner of the ORWS Area will be to Relative Level 6.0 m Australia Height Datum (AHD, approximately 2 storeys) which is less than that envisaged by the <i>ORWS Amended RAP</i> (AECOM, 2011c).
Stage 1B Residential (part of the NSW EPA Declaration Area) - refer to Figure 5	Section 1.6 of the <i>VMP/Block 4 RAP</i> (AECOM, 2013c) anticipated the following land uses: "a mixture of commercial, retail and high density residential and public open space (incorporating roads, community and related land uses) overlying the Block 4 basement".	No significant change noted.
Stage 1B south west (part of the ORWN Area)	Section 2.3.2 of the <i>Addendum to the Amended ORWS RAP</i> (AECOM, 2012c) anticipated the following land uses:	
- refer to Figure 6	"the proposed land use within the site will comprise of the HHR System inlet and a publicly accessible waterway (that will likely ultimately be part of the proposed Southern Cove)".	The proposed Southern Cove will now be known as 'Globe Harbour' (refer to Figure 2). No other significant change is noted.

Barangaroo Site Area	Land Uses Anticipated in the RAPs	Modification 8 Land Uses Compared to the Relevant RAP
Stage 1B Hotel (part of the ORWN Area) - refer to Figure 7	Section 1.3 of the <i>Crown Hotel Development RAP</i> (AECOM, 2014c) anticipated the following: - "Intended future land uses: Mixed use including hotel (incorporating high density residential with minimal access to soil), commercial / retail (with minimal access to soil) and public open space.	No significant change noted.
	 In particular, the future intended land uses within the Site will include: A tower containing hotel rooms, suites and residential apartments. The entire footprint of the tower will be above a basement; A podium containing hotel reception, retail and gaming facilities. The podium will be largely above a basement but with some limited areas constructed as slab on grade; An underground basement intended to provide car parking and loading facilities associated with the future intended Crown hotel development; Terrace areas containing restaurant and bar facilities. The elevated Terrace areas will be largely constructed as elevated slab on grade; and Public open space, landscaping, roads, pedestrian ways and cycle paths, largely built on grade". 	No significant change noted.

It is noted that a RAP will also be prepared for the area west and south of the Crown hotel development area (associated with the Public Domain) and the Globe Harbour waterway (refer to **Figure 7**). This RAP will be prepared for Lend Lease and endorsed by the NSW EPA accredited site auditor prior to the commencement of any development works in this part of the Site. Based on the available soil and groundwater analytical results in this part of the Site and the extent of remedial works already proposed by the *VMP/Block 4 RAP* (AECOM, 2013c) and the Draft *Crown Hotel Development RAP* (AECOM, 2014d), remediation of the soils and/or groundwater in this area is not anticipated to be required.

Based on the information provided in **Table 3**, the land uses at the Site described by the Modification 8 Concept Plan are considered to be consistent with those contemplated by the relevant RAPs.

4.0 Compliance with SEPP 55

The presence, or otherwise, of contamination within the Site has been considered by the soil and groundwater analytical data obtained by the environmental site investigations listed in the relevant RAPs.

The requirement for remediation, or otherwise, within the Site has been assessed based on the available analytical data and recommendations made by the relevant RAPs (refer to **Table 1**). In summary:

- Stage 1A (also referred to as the ORWS Area) remediation of the soils or groundwater (other than to excavate soils for the Stage 1A basement construction works) was not recommended in the ORWS Amended RAP (AECOM, 2011c);
- Stage 1B Residential (Block 4) remediation of the soils in parts of the Declaration Area has been recommended in the VMP/Block 4 RAP (AECOM, 2013c) to ensure the site is remediated to a standard suitable for the proposed development (i.e. suitable for the proposed land uses including a mixture of commercial, retail and high density residential and public open space) and that will enable the NSW EPA's declaration of the Declaration Area as a Remediation Site to be revoked; and
- Stage 1B Hotel (the Crown hotel development site on part of the ORWN Area) remediation of the soils or groundwater (other than to excavate soils for the Crown hotel development basement construction works) has not been recommended by the Draft Crown Hotel Development RAP (AECOM, 2014d) (which is subject to endorsement by the NSW EPA accredited site auditor)

Appendix D of the VMP/Block 4 RAP (AECOM, 2013c) details those sections of the RAP which specifically address the specific requirements of the SEPP 55 and the Consultants Reporting on Contaminated Sites (NSW EPA, 2011). The ORWS Amended RAP (AECOM, 2011c) and Draft Crown Hotel Development RAP (AECOM, 2014d) are also considered to address the requirements of the SEPP 55 and Consultants Reporting on Contaminated Sites (NSW EPA, 2011).

Based on the information provided in **Table 3**, the land uses at the Site described by the Modification 8 Concept Plan are considered to be consistent with those contemplated by the relevant RAPs. Further, the RAP to be prepared for the area west and south of the Crown hotel development area (associated with the Public Domain) and the Globe Harbour waterway will be prepared to contemplate the land uses described by the Modification 8 Concept Plan.

5.0 Conclusions

In conclusion, it is AECOM's opinion that the development works contemplated by Modification 8 as described by the Drawings listed in **Table 2**:

- is generally consistent with what was contemplated with the RAPs prepared in relation to Stage 1A and 1B of Barangaroo South (refer to **Table 1**) and can be appropriately managed by those documents;
- will not require amendment of the RAPs which have been/are being prepared in relation to Stage 1A and 1B (Residential and Hotel) of Barangaroo South (including the RAP to be prepared for the area west and south of the Crown hotel development area [associated with the Public Domain] and the Globe Harbour waterway); and
- will enable the relevant consent authority to comply with Clause 7(1), 7(2) and 17(1) of SEPP 55 -Remediation of Land.

6.0 References

AECOM, 2011a. HHERA, Declaration Site (Development Works) Remediation Works Area - Barangaroo. 9 June.

AECOM, 2011b. HHERA Addendum, ORWS Area. 4 July.

AECOM 2011c. Amended Remedial Action Plan, Barangaroo - ORWS Area. 7 July.

AECOM, 2011d. Stage 1A Basement Design Change - Amended Remedial Action Plan, Other Remediation Works South Area, Hickson Road, Millers Point, NSW. 19 October.

AECOM, 2012a. HHERA Harbour Heat Rejection System Inlet Area, Southern Cove. 6 June.

AECOM, 2012b. HHERA - Declaration Site, Barangaroo. Assessment of the Implications of the Revised Basement Design. 3 July.

AECOM, 2012c. Addendum to the Amended ORWS RAP, Harbour Heat Rejection (HHR) Inlet Area, Barangaroo South. 10 October.

AECOM 2012d. Human Health and Ecological Risk Assessment, VMP Remediation Works Area. (Addressing the NSW EPA Remediation Site Declaration 21122, Millers Point). 25 October.

AECOM, 2013a. Re-Assessment of the Remediation Requirements in the Vicinity of MW08 ORWS Area Barangaroo South. 30 January.

AECOM 2013b. VMP Remediation Extent, VMP Remediation Works Area, (Parts of Barangaroo and Hickson Road), Millers Point, NSW. 23 July.

AECOM, 2013c. RAP, NSW EPA Declared Remediation Site 21122 and Block 4 (Stage 1b) Development Works, Barangaroo, Millers Point, NSW. 24 July.

AECOM, 2013d. Addendum to HHERA, Other Remediation Works (South) Area, Barangaroo. 16 October.

AECOM, 2013e. Management of Asbestos in Soils - Amended ORWS RAP, Barangaroo, Hickson Road, Millers Point, NSW. 1 November.

AECOM, 2014a. Barangaroo South - Stage 1A Public Domain Works (SSD 6303), Hickson Road, Millers Point. 15 May.

AECOM, 2014b. HHERA - ORWS Area, Barangaroo. Assessment of Additional Exposures to Maintenance Workers in Basement Plant Rooms. 23 May.

AECOM, 2014c. HHERA, Stage 1C Development (ORWN Area) Barangaroo South. Draft, 3 July.

AECOM, 2014d. RAP, Crown Hotel Development, (Part of ORWN Area), Barangaroo South. Draft, 11 August.

AECOM, 2014e. Barangaroo South - Building R1 Construction Works, Contamination Assessment, Hickson Road, Millers Point. 15 August.

AECOM, 2014f. Barangaroo South - Stage 1A Public Domain Works Excavation Works (SSD 6303), Hickson Road, Millers Point. 28 August.

Department of Urban Affairs and Planning (DUAP) and NSW Environment Protection Authority (EPA). *Managing Land Contamination: Planning Guidelines, State Environmental Planning Policy (SEPP) 55 - Remediation of Land.*

ENVIRON Australia Pty Ltd (31 July 2013). *Site Audit Report, RAP, Declaration Area and Block 4, Barangaroo* NSW EPA (2011). *Consultants Reporting on Contaminated Sites.*

Yours faithfully

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Attached: Figure 1 - Indicative Site Boundary for Barangaroo South

Figure 2 - Barangaroo Masterplan South Concept Plan

Figure 3 - Mod 8 Masterplan Revised Building Envelopes

Figure 4 - Proposed Land Use (Stage 1A) taken from the ORWS Amended RAP (AECOM, 2011c)

Figure 5 - Proposed Future Land Use - Block 4 (Stage 1B Residential) taken from the VMP/Block 4 RAP (AECOM, 2013c)

Figure 6 - Site Layout and Surrounding Areas taken from the HHR RAP Addendum (AECOM, 2012c)

Figure 7 - Proposed Future Land Use - Crown Hotel Development Area taken from the Crown Hotel Development RAP (AECOM, 2014d)

Figure 1 Indicative Site Boundary for Barangaroo South



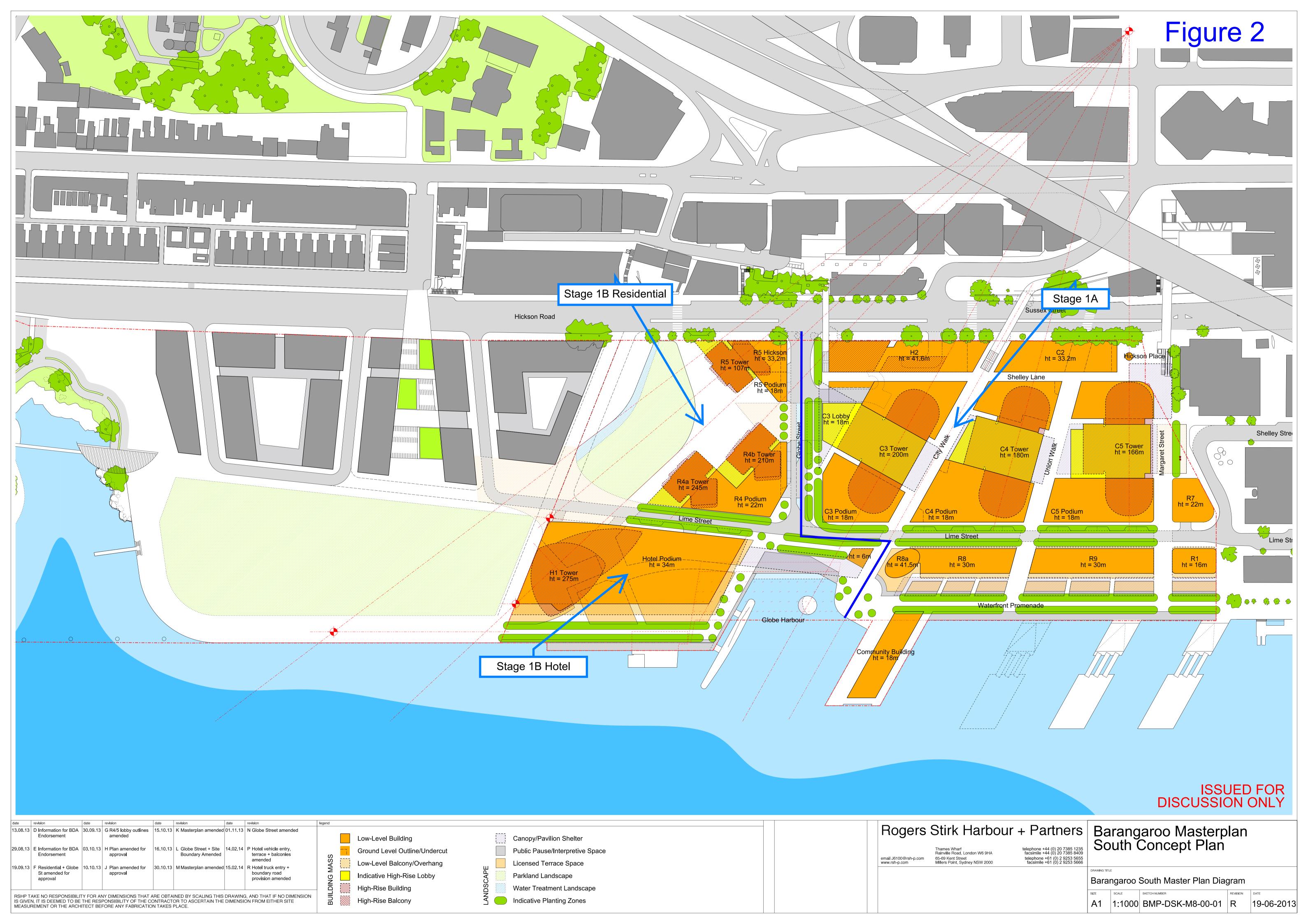


Figure 3

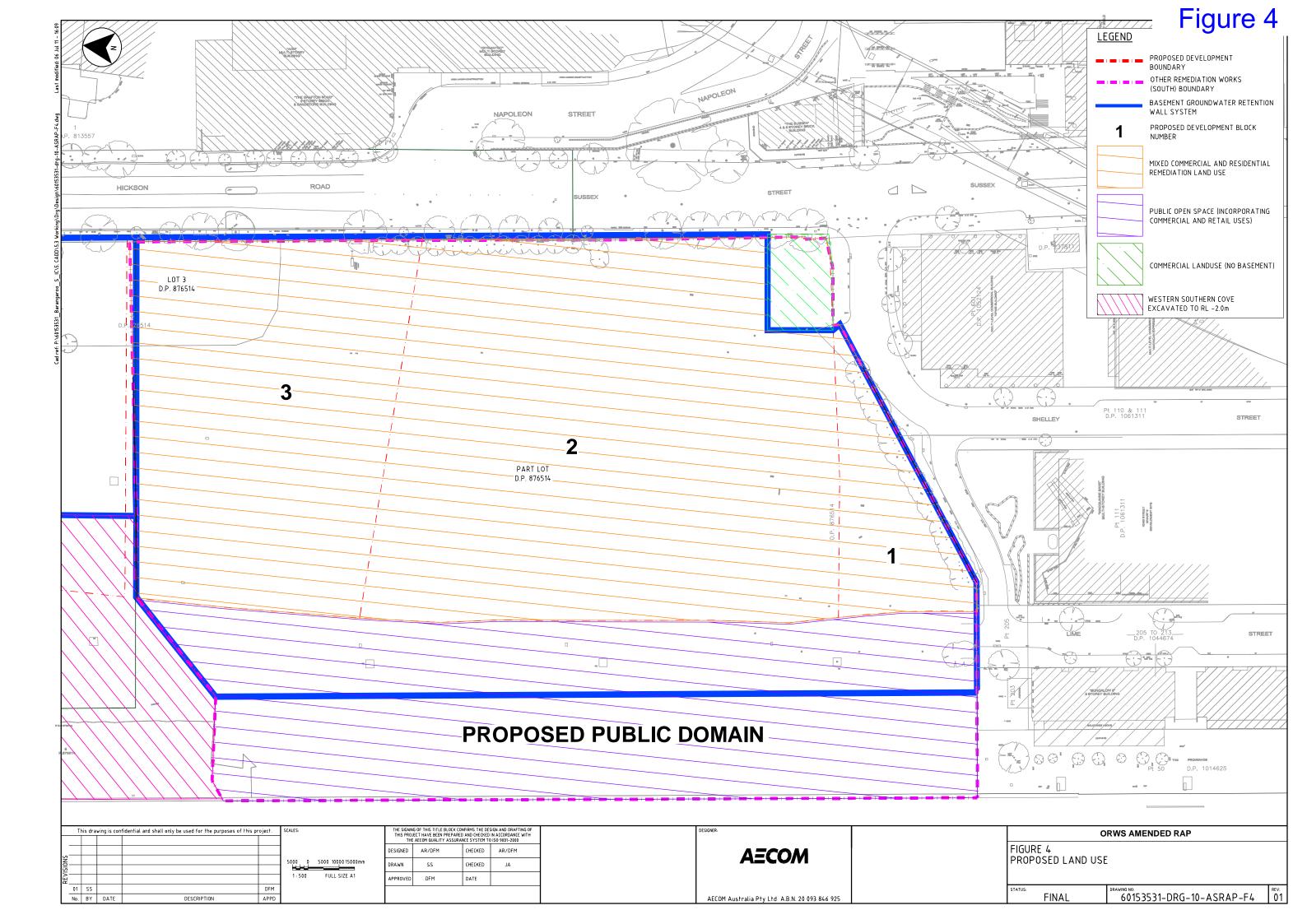


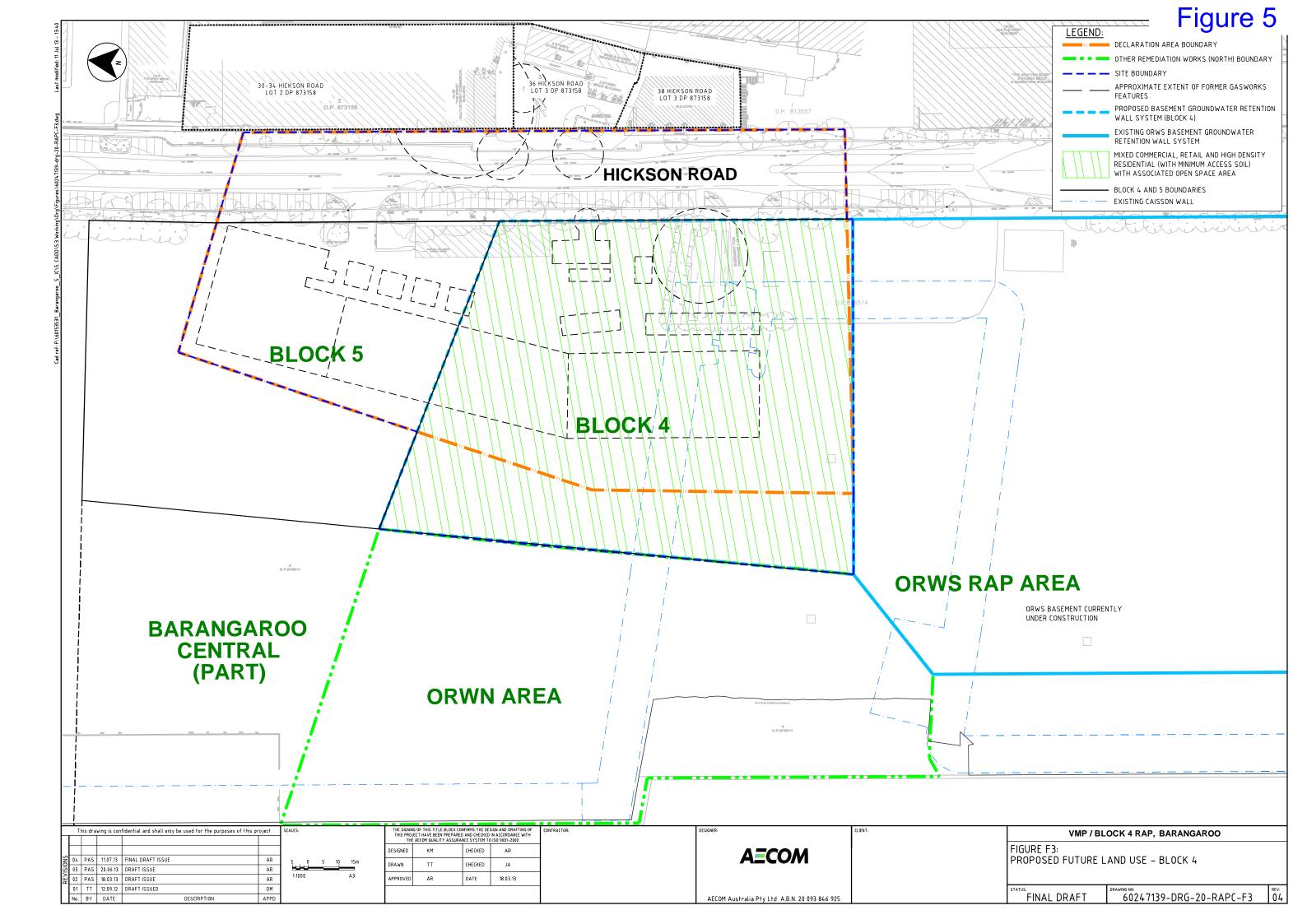


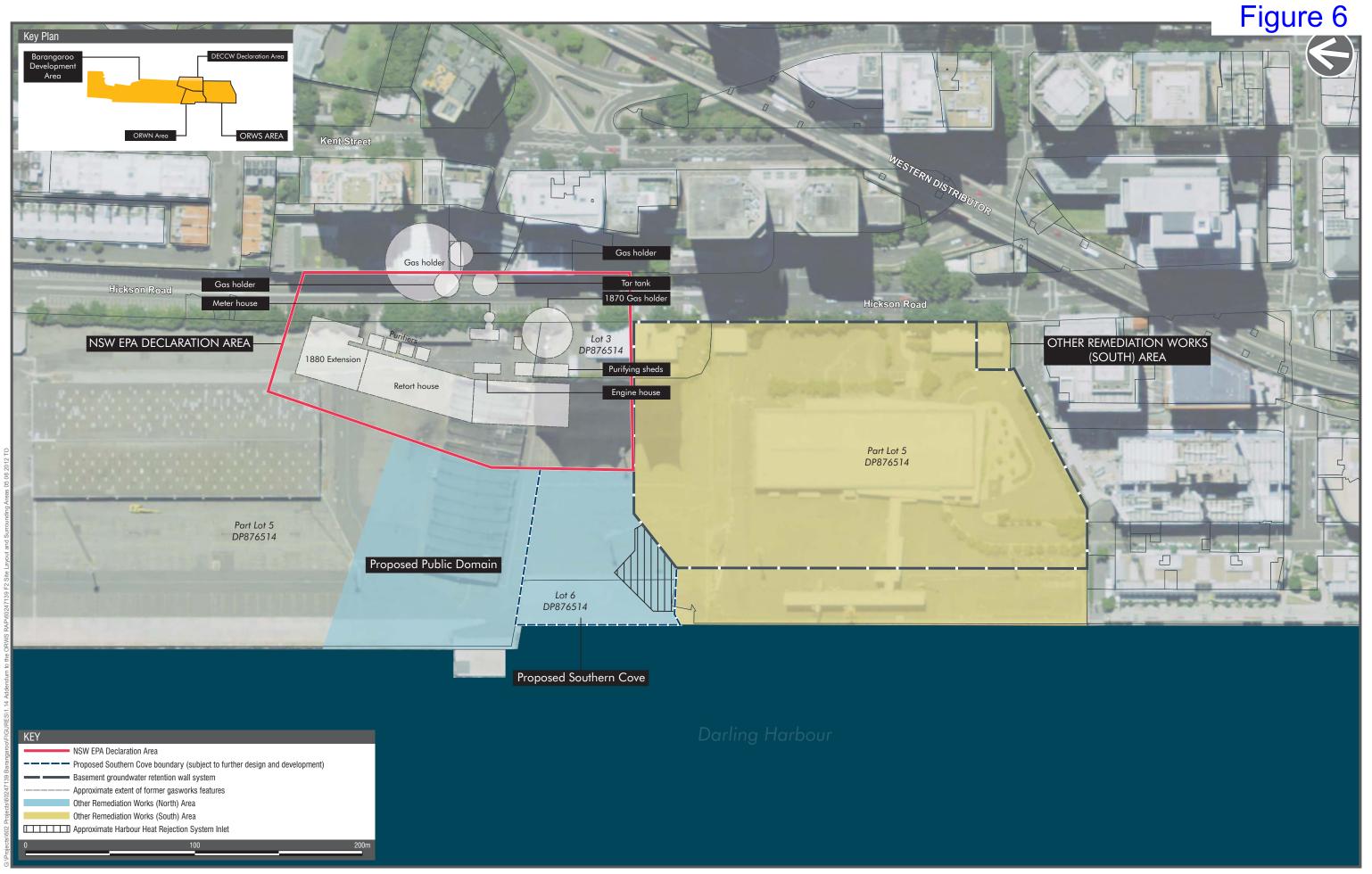
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STAGE 1







AECOM

SITE LAYOUT AND SURROUNDING AREAS

Addendum to the ORWS Amended Remedial Action Plan

