22 March 2013 Ref: 061752-06L.doc

Lend Lease Project Management & Construction (Australia) Pty. Ltd.
Level 4, 30 The Bond
30 Hickson Road
Millers Point NSW 2000

Attention: Gerard Graham

Dear Gerard,

Re: R8 & R9 Residential Buildings, Barangaroo South
Preferred Project Report

Introduction
This letter has been prepared to support a revised Project Application made pursuant to the Environmental Planning and Assessment Act 1979 to modify the original application for residential buildings R8 and R9 within Barangaroo South.

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

The Barangaroo site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Stage 2 and Barangaroo South.

R8 and R9 fall within 'Barangaroo South'.

Assessment
As Accredited Certifiers, we have reviewed the Preferred Project Report (PPR) for the R8 and R9 Residential Buildings located within the Barangaroo South site against the relevant provisions of the Building Code of Australia. The PPR follows further design development in respect of the original Project Application submitted for Residential Buildings R8 and R9.

McKenzie Group Consulting has reviewed the design drawing series prepared in respect of the PPR. Please see Appendix A for drawing schedule.

The Building Code of Australia Report (061752-03BCA Revision A dated 21 September 2012), prepared by McKenzie Group Consulting to support the original Project Application highlighted that compliance with the Building Code of Australia can be achieved based on that scheme. Please see Appendix B of this letter for the revised schedule of alternate solutions.

The modifications to R8 and R9 as part of the PPR submission have been assessed and are generally within the scope of the original report, and compliance with the Building Code of Australia will be assessed further as part of design development and the Construction Certificate process.

On this basis, McKenzie Group Consulting is of the opinion that the proposed modification as contained in the PPR submission will not result in any impact on compliance with the Building Code of Australia.

Yours faithfully

Brigitte Thearle
Building Regulations Consultant
McKenzie Group Consulting (NSW) Pty Ltd
ACN 093 211 995

Appendix A: Drawing Schedule

DWG NO	Drawing Name	Author	Rev	Date
Residential Building R8				
BR8AD3000000	Ground Floor Plan	FJMT	10	23.03.13
BR8AD3010000	Level 1 Floor Plan	FJMT	11	23.03.13
BR8AD3020000	Level 2 Floor Plan	FJMT	06	23.03.13
BR8AD3030000	Level 3 Floor Plan	FJMT	05	23.03.13
BR8AD3040000	Level 4 Floor Plan	FJMT	05	23.03.13
BR8AD3050000	Level 5 Floor Plan	FJMT	05	23.03.13
BR8AD3060000	Level 6 Floor Plan	FJMT	06	23.03.13
BR8AD3070000	Level 7 Floor Plan	FJMT	06	23.03.13
BR8AD3080000	Level 8 Floor Plan	FJMT	05	23.03.13
BR8AD3090000	Level 9 Floor Plan	FJMT	03	23.03.13
BR8AD3100000	Level 10 Floor Plan	FJMT	03	23.03.13
BR8AD3110000	Roof Plan	FJMT	03	23.03.13
BR8AD4500001	East Elevation	FJMT	03	23.03.13
BR8AD4500002	West Elevation	FJMT	03	23.03.13
BR8AD4500003	North South Elevations	FJMT	03	23.03.13
BR8AD4500011	East Elevation No Screen	FJMT	03	23.03.13
BR8AD4500012-	West Elevation No Screen	FJMT	03	23.03.13
BR8AD4500013	North South Elevations No Screens	FJMT	01	23.03.13
BR8AD5500001	Overall Sections Sheet 1	FJMT	02	23.03.13
BR8AD5500002	Overall Sections Sheet 2	FJMT	02	23.03.13
BR8AD5500003	Overall Sections Sheet 3	FJMT	02	23.03.13
BR8AD5500004	Overall Sections Sheet 4	FJMT	02	23.03.13
Residential Building R9				
AD3000000	Ground Floor Plan	PTW Architects	12	21.03.13
AD3010000	Level 1 Floor Plan	PTW Architects	08	21.03.13
AD3020000	Level 2 Floor Plan	PTW Architects	08	21.03.13
AD3030000	Level 3 Floor Plan	PTW Architects	04	21.03.13
AD3040000	Level 4 Floor Plan	PTW Architects	04	21.03.13
AD3050000	Level 5 Floor Plan	PTW Architects	04	21.03.13
AD3060000	Level 6 Floor Plan	PTW Architects	04	21.03.13
AD3070000	Level 7 Floor Plan	PTW Architects	06	21.03.13
AD3080000	Level 8 Floor Plan	PTW Architects	06	21.03.13
AD3090000	Roof Plan	PTW Architects	06	21.03.13
AD3100000	GFA Plans	PTW Architects	04	21.03.13
AD3110000	GFA Plans	PTW Architects	04	21.03.13

AD4500001	North Elevation	PTW Architects	05	21.03.13
AD4500002	East Elevation	PTW Architects	05	21.03.13
AD4500003	South Elevation	PTW Architects	05	21.03.13
AD4500004	West Elevation	PTW Architects	05	21.03.13
AD5500001	Section AA	PTW Architects	05	19.03.13
AD5500002	Section BB	PTW Architects	05	19.03.13
AD5500003	Section CC	PTW Architects	05	19.03.13
AD5500004	Section DD	PTW Architects	05	21.03.13

Appendix B: Revised Schedule of Alternate Solutions

Residential Building R8

DTS Provision	Issue	Performance Requirement
	It is proposed to consider the R8 Residential Building as a separate building to the basement below and any other buildings connected to that basement. Effective height is to be measured from the ground floor slab which separates the basement from Residential Building R8.	
C1.1, Spec C1.1, C2.7, C2.9, C2.10	It is proposed to reduce the FRL's to the retail portions from 180 minutes to 90 minutes.	CP1, CP2
C2.7	It is proposed to separate the basement from the retail/residential building and consider them separate buildings for the purposes of Parts C, D & E of the BCA. This separation is to be assessed as part of the alternate solution. The aspects to be assessed as part of the alternate solution are as follows: ▪ The proposed separation is to be horizontal in lieu of a vertical fire wall that extends the full height of the building to the underside of the roof covering ▪ The proposed separation achieves as FRL of 120/120/120 in lieu of the 180/180/180 minute FRL that would be required for a fire wall to consider the buildings as separate.	CP2
D1.2	Under the deemed to satisfy provisions, the building has an effective height of 34.45m. It is proposed to consider the portions of the building where entry to apartments is below an effective height of 25m as having an effective height of less than 25m. As such, each portion of the residential building with apartment entries below the effective height of 25m is provided with access to 1 exit in lieu of the 2 required for a building with an effective height of more than 25m.	DP4
D1.7	The fire isolated stairs are currently proposed to discharge into the residential lobby areas on the ground floor in lieu of discharging to road or open space	DP5
E1.3	The fire hydrant booster assembly is not provide with compliant radiant heat protection that extends 2m either side of the booster and 3m above the booster set as required by AS2419.1-2005.	EP1.3
E1.3, E1.5	It is proposed to adopt 1.4 New Designs and innovations Section of AS 2118.1 – 1999 to permit the use of 1,200 kPa on the Sprinkler System instead of the referenced AS 2118.1 – 1999 Clause 3.2.2 which nominates a maximum pressure rating of 1,000 kPa so that the combined Sprinkler / Hydrant System can have maximum pressure alignment. With the adoption of the current Sprinkler Standard AS 2118.1 – 2006 with regards to pressures, pressure alignment between the two (2) Fire Standards are achieved.	EP1.3, EP1.4
E1.3, E1.5	It is proposed to adopt Clause 1.2 'New Designs and Innovations' Section of AS 2118.6 – 1995. Clause 1.2 states, any alternative materials, designs, methods of assembly and procedures that do not comply with specific requirements of this Standard or are not mentioned in it but give equivalent results to those specified, are not necessarily prohibited. The high pressure valves to be selected will meet the requirements of American Petroleum Industry (API) Standards as the Approval Authorities do not provide testing to the high pressure valves and pressure relief / limiting valves. The API high pressure valves are rigorously tested and suit the pressure requirements for the system. These valves have been used extensively in Australia and in the USA for serving the pressure requirements of high rise buildings for fire systems.	EP1.3, EP1.4

DTS Provision	Issue	Performance Requirement
E1.5	It is proposed to adopt 1.4 New Designs and innovations Section of AS 2118.1 – 1999 to provide Light Hazard Protection to NFPA 13 which provides a significantly higher water density for Light Hazard Protection compared to AS 2118.1 – 1999. (ie. 4.1mm per minute water density over the nominated area under NFPA 13 as compared to 2.5mm per minute under AS 2118.1 – 1999. The key reason to provide the higher water density is so that protection that is internationally recognized as providing property protection as well as life safety is achieved.	EP1.4
E1.5	Under the deemed to satisfy provisions, the building sprinkler protection is required to be provided to the apartment balconies based on their dimensions. It is proposed to delete sprinkler protection to the balconies of sole occupancy units.	EP1.4
E1.8, Spec E1.8	As the building is considered by the deemed to satisfy provisions to be one building with the basement and the other buildings on site, the building has an effective height of over 50m. It is proposed to consider this building as a separate building to the basement and the other buildings on site and as such the effective height is less than 50m. It is proposed to provide a fire control centre in lieu of a fire control room.	EP1.6
E2.2	Each portion of the residential building with apartment entries below the effective height of 25m is not proposed to be provided with automatic air pressurisation despite these exits serving the population from the storey above.	EP2.2
E2.2	Under the deemed to satisfy provisions, the building has an effective height of 34.15. It is proposed to delete zone smoke control from the retail portions of the building.	EP2.2
E2.2	The stair pressurisation relief air shafts for fire stairs R8S01 and R8S02 are proposed to utilise motorised fire/smoke dampers in lieu of sub-ducts.	EP2.2
E4.9	The speech intelligibility requirement of 0.5 will not be achieved to the Sound System and Intercom System for Emergency Purposes.	EP4.3
E4.9	Warden intercom points and manual call points are not proposed to be provided to the Sound System and Intercom System for Emergency Purposes.	EP4.3

Residential Building R9

DTS Provision	Issue	Performance Requirement
	It is proposed to consider the R9 Residential Building as a separate building to the basement below and any other buildings connected to that basement. Effective height is to be measured from the ground floor slab which separates the basement from Residential Building R9.	
C1.1, Spec C1.1, C2.7, C2.9, C2.10	It is proposed to reduce the FRL's to the retail portions from 180 minutes to 120 minutes.	CP1, CP2
C1.1, Spec C1.1, C3.3, C3.4	The fire isolated stairs are not contained completely within a fire isolated shaft and, as a result of this, the exposure between the stairs and the retail frontages to the east are to be protected. Alternatively, this is to be assessed against BCA Performance Requirement CP2.	CP2
C2.7	It is proposed to separate the basement from the retail/residential building and consider them separate buildings for the purposes of Parts C, D & E of the BCA. This separation is to be assessed as part of the alternate solution. The aspects to be assessed as part of the alternate solution are as follows: ▪ The proposed separation is to be horizontal in lieu of a vertical fire wall that extends the full height of the building to the underside of the roof covering ▪ The proposed separation achieves as FRL of 120/120/120 in lieu of the 180/180/180 minute FRL that would be required for a fire wall to consider the buildings as separate.	CP2
D1.2	Under the deemed to satisfy provisions, the building has an effective height of 34.45m. It is proposed to consider the portions of the building where entry to apartments is below an effective height of 25m as having an effective height of less than 25m. As such, each portion of the residential building with apartment entries below the effective height of 25m is provided with access to 1 exit in lieu of the 2 required for a building with an effective height of more than 25m.	DP4
D1.7	The fire isolated stairs are currently proposed to discharge into the residential lobby areas on the ground floor in lieu of discharging to road or open space	DP5
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DTS Provision	Issue	Performance Requirement
	These valves have been used extensively in Australia and in the USA for serving the pressure requirements of high rise buildings for fire systems.	
E1.5	It is proposed to adopt 1.4 New Designs and innovations Section of AS 2118.1 – 1999 to provide Light Hazard Protection to NFPA 13 which provides a significantly higher water density for Light Hazard Protection compared to AS 2118.1 – 1999. (ie. 4.1mm per minute water density over the nominated area under NFPA 13 as compared to 2.5mm per minute under AS 2118.1 – 1999. The key reason to provide the higher water density is so that protection that is internationally recognized as providing property protection as well as life safety is achieved.	EP1.4
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