Project Application
Environmental Assessment Report

3 Murray Rose Avenue, Sydney Olympic Park
(Formerly Building B, 7 Parkview Drive)

(Project Application No. MP11_0082)

Submitted to NSW Department of Planning & Infrastructure
On Behalf of GPT RE Limited

October 2012 ■ 11131

JBA Urban Planning Consultants Pty Ltd ABN 84 060 735 104 w jbaplanning.com.au
North Sydney t +61 2 9956 6962 ■ Wollongong t +61 2 4225 7680 ■ Newcastle t +61 2 4927 0980

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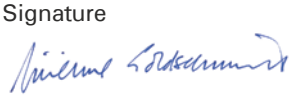
This report has been prepared by: Claire Burdett

Signature

Date 22/10/2012

This report has been reviewed by: Vivienne Goldschmidt

Signature



Date 22/10/2012

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Statement of Validity

Prepared under Part 3A of the Environmental Planning and Assessment Act, 1979 (as amended)

Environmental Assessment prepared by	
Name	Claire Burdett
Qualifications	BSc (Hons), Dip TP, MRTPI
Company	JBA Urban Planning Consultants Pty Ltd
Address	Level 7, 77 Berry Street, North Sydney
Project Summary	
Applicant name	GPT RE Limited
Applicant address	Level 52, MLC Centre, 19 Martin Place, Sydney
Land to be developed	3 Murray Rose Avenue, Sydney Olympic Park
Proposed development	Commercial Building
Environmental Assessment	An Environmental Assessment (EA) is attached
Certificate	I certify that I have prepared the content of this Environmental Assessment and to the best of my knowledge: ▪ It is in accordance with the Environmental Planning and Assessment Act and Regulation. ▪ It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.
Signature	
Name	Claire Burdett
Date	22/10/2012

Executive Summary

This Environmental Assessment Report (EAR) has been prepared to accompany the Project Application (MP11_0082) for a commercial building at 3 Murray Rose Avenue, Sydney Olympic Park. It is submitted to the Minister for Planning and Infrastructure pursuant to clause 3(1) of Schedule 6A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) that provides for the continued application of the provision of the now repealed Part 3A of the EP&A Act.

This Project Application seeks approval for the following:

- demolition of the remaining office/warehouse building;
- construction of a five storey building comprising approximately 13,675m^2 of gross floor area;
- up to four levels of parking beneath the building with approximately 249 car spaces;
- associated landscaping and tree removal; and
- digital display signage.

The capital investment value of the project is $38,000,000 in total.

Proposed Development

This Project Application, prepared on behalf of the proponent GTP RE Limited relates to the second of five buildings on the 7 Parkview Drive site (now known as 1-5 Murray Rose Avenue), at Sydney Olympic Park. The first building, known as 5 Murray Rose Avenue is completed and about to be occupied. In conjunction with this development SOPA constructed an eastern extension to Murray Rose Avenue up to the boundary of 3 and 5 Murray Rose Avenue, which links to the round-about on Parkview Drive.

The design of the 3 Murray Rose Avenue development has been the subject of on-going consultation with SOPA and the form and character is based on that adopted for 5 Murray Rose Avenue and the desire to create a strong connection with the surrounding public domain.

The proposed landscaping design includes the completion of The Cutting (a through-site link between 3 and 5 Murray Rose Avenue) and interim works to The Chase, the through-site link between 1 and 3 Murray Rose Avenue. These works ensure that both 3 and 5 Murray Rose Avenue has appropriate publicly accessible surrounds upon completion of the works.

Environmental Assessment

This EAR provides an assessment of the environmental impacts of the project and includes a draft Statement of Commitments (refer to Section 6) which set out the undertakings made by GTP RE Limited to manage the potential impacts of the development. The key conclusions of the assessment are as follows:

- The proposed development is generally consistent with the controls of the Sydney Olympic Park Master Plan 2030 (MP 2030), other than in relation to building depth and the provision of car parking, as discussed in detail in Sections 5.3 and 5.5.
- The proposed form, height and proportions of 3 Murray Rose Avenue will be of a similar scale to 5 Murray Rose Avenue and other existing buildings within the locality. The building envelope is consistent with that prescribed in MP 2030, therefore it will make a positive contribution to the desired future form of the locality.

- The proposed development will not adversely impact upon existing pedestrian views and will provide public domain areas with views of the Brickpit. There may be some impact to views from the upper levels of surrounding commercial buildings, however given the proposed development is consistent with the envelope defined in MP 2030, any potential loss of views are considered consistent with the envisaged character of the precinct.
- The extent and impact of overshadowing on the public domain areas, being The Chase, The Cutting and Paddock Park, is considered acceptable on the basis that the built form is consistent with the envelopes in MP 2030 and there will be no shadow impact on Brickpit Park.
- The wind environment around Sydney Olympic Park is considered to be relatively mild and all areas around the development are expected to be suitable as main public access ways.
- The facade glazing specification will ensure that future occupants will have acceptable levels of acoustic amenity. The design of the mechanical plant will include acoustic treatment to ensure the noise emissions from plant items do not adversely impact on the residents of future residential developments at 1,2 and 4 Murray Rose Avenue.
- Car parking will be provided at the rate of one space per 55m^2 of gross floor area. This is not consistent with the MP 2030 controls, which require one space per 80m^2. The provision of one space per 80m^2 would result in 3 Murray Rose Avenue only incorporating 170 parking spaces. Given there could be up to 1,300 employees accommodated in the building, this level of parking combined with the limited capacity of the local public transport system will result in limited options for people to travel to work. All traffic movements will operate well with minimal delay during peak periods, and access to and from the site is considered to be acceptable.
- The proposed development has an appropriate level of accessibility, and compliance with all relevant statutory requirements and standards, can be readily achieved.
- There will be no unacceptable acoustic or traffic impacts on the proposed development during major events such as the Royal Easter Show or when the ANZ Stadium or Sydney Showground are in use.
- The proposed development necessitates the removal of thirty trees and a Lilly Pilly Hedge. However, a total of 34 new trees will be planted in the public domain areas. The trees and hedge to be removed have been assessed by an arborist and none are rare or endangered species. They cannot be retained or adequately protected if the vision of MP 2030 is to be achieved, therefore the proposed removal is acceptable.
- The proposed development will not directly or indirectly impact upon threatened species or communities which are thought to inhabit areas in the vicinity of the site.
- The proposed development will not adversely impact upon the site's subsurface profile, groundwater, the existing buildings, and the infrastructure in the locality. Further, the site is considered to be suitable for the intended use in terms of contamination.
- The proposed development will incorporate measures to ensure the design achieves a minimum 5 star Green Star Office Design rating and a 5 star NABERS rating for both energy and water efficiency.
- The proposed development is capable of achieving compliance with the requirements of the Building Code of Australia 2012 and all relevant Australian Standards.

- Impacts from construction activities will be appropriately managed in accordance with a detailed Construction and Environmental Management Plan which will be prepared by the appointed contractor prior to commencement of works.

Overall, the proposal represents the outcome of exhaustive consultation with SOPA to achieve design excellence. It will result in positive economic, social and environmental benefits and is generally consistent with the provisions of MP 2030. It will make a valuable contribution to the development of the commercial component of Sydney Olympic Park and will have only negligible environmental impacts, all of which can effectively be managed. We therefore request that the Minister approves this Project Application.

1.0 Introduction

This Environmental Assessment Report (EAR) has been prepared to accompany a Project Application (MP11_0082) for a commercial building at 3 Murray Rose Avenue, Sydney Olympic Park. The EAR is submitted to the Minister for Planning and Infrastructure pursuant to clause 3(1) of Schedule 6A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) that provides for the continued application of the provisions of the now repealed Part 3A of the EP&A Act.

The report has been prepared by JBA on behalf of the proponent, GPT RE Limited, based on plans and supporting technical information provided by the proponent. It describes the site, its environs and the proposed development, and includes an assessment of the proposal in accordance with the Director-General's Environmental Assessment Requirements. It should be read in conjunction with the supporting information appended to this report (refer to Table of Contents).

1.1 Overview

This Project Application relates to the second of five proposed buildings on the 7 Parkview Drive site at Sydney Olympic Park. The first building on the 7 Parkview Drive site - 5 Murray Rose Avenue - is constructed and about to be occupied. In conjunction, an eastern extension of Murray Rose Avenue has been constructed up to the boundary of the 5 Murray Rose Avenue site which links to the roundabout on Parkview Drive.

In summary this Project Application seeks approval for the following:

- demolition of the remaining office/warehouse building;
- construction of a five storey building comprising approximately 13,675m^2 of gross floor area;
- up to four levels of parking beneath the building with approximately 249 car spaces;
- associated landscaping and tree removal; and
- digital display signage.

1.2 Background to the Project and Statutory Context

The 3 Murray Rose Avenue site, was formerly known as Building B, 7 Parkview Drive, Sydney Olympic Park. During 2007 a Master Plan was prepared by GPT RE Limited for the 7 Parkview Drive site which envisaged three commercial/retail buildings and two residential buildings with a total gross floor area in the order of 61,200m^2 arranged around extensions to Murray Rose Avenue and Dawn Fraser Avenue.

At the time that the 7 Parkview Drive project was initiated, State Environmental Planning Policy (Major Development) 2005 (Major Development SEPP) identified development to which Part 3A of the EP&A Act applied and which therefore required approval from the Minister for Planning ('the Minister'). Under Part 23 Clause 5 of Schedule 3 of the SEPP, development within Sydney Olympic Park that had a capital investment value of more than $10 million was a project to which Part 3A of the EP&A Act applied.

Further, the provisions then in force required the proponent to seek the opinion of the Minister as to whether the project was of a kind to which Part 3A of the EP&A Act applied (in accordance with Section 75A of the EP&A Act and Clause 6 of the Major Development SEPP).

On 23 October 2008, the Director-General of the Department of Planning, as delegate of the Minister for Planning, formed the opinion that the proposed commercial, residential and community/retail development of 7 Parkview Drive was of a kind described in Schedule 3 and declared it to be a project to which Part 3A of the EP&A Act applied for the purposes of Section 75B of the EP&A Act. It also authorised the submission of a Concept Plan for the whole site and Project Application for Building A. Relevant correspondence is attached at **Appendix A**.

On 30 September 2009, the Sydney Olympic Park Master Plan 2030 (MP 2030) was announced by the NSW Government, it was subsequently adopted by the Minister for Planning on 8 October 2009 and came into effect on 10 March 2010. MP 2030 incorporated the 7 Parkview Drive site into the Parkview Precinct, one of nine precincts identified within the Plan. MP 2030 includes development controls and guidelines for each precinct. The precinct controls provided in MP 2030 were taken to be a Concept Plan for the 7 Parkview Drive site, therefore the authorisation to submit a Concept Plan was subsequently revoked.

In December 2009, the proponent lodged an EAR for a Project Application (MP07_0157) for Building A (now known as 5 Murray Rose Avenue). On 14 October 2010, the Planning Assessment Commission approved the Project Application in accordance with Section 75(J) of the EP&A Act. Overall, approval was granted for the following:

- Demolition of the majority of the existing warehouse of the former Samsung site (while retaining the existing offices, one bay of the warehouse and the associated car park).
- Construction of a five storey commercial building containing 13,253m^2 of gross floor area (including 112m^2 of retail space) to a maximum height of 22.75m to the top of the building parapet (or 26.7m to the roof plant).
- Three levels of basement parking containing 231 car spaces, 105 bicycle spaces (91 for employees and 14 for visitors) and 22 motorcycle spaces.
- Landscaping and a temporary link road connecting Parkview Drive with Murray Rose Avenue.

On 6 July 2011, in accordance of Section 75(F) of the EP&A Act, the Department of Planning & Infrastructure issued the Director-General's Environmental Assessment Requirements (DGRs) for Building B, 7 Parkview Drive, Sydney Olympic Park. A copy of these requirements is included at **Appendix B**.

As noted above, Building B, 7 Parkview Drive, Sydney is now known as 3 Murray Rose Avenue, and is referred to as such throughout the remainder of this document and within the supporting documentation. However for continuity and to avoid confusion, for statutory purposes the project is referred to as Building B, 7 Parkview Drive, Sydney Olympic Park (MP11_0082).

1.2.1 Part 3A Repeal

On 1 October 2011, Part 3A of the EP&A Act was repealed. Despite this, Part 3A continues to apply to certain projects subject to the transitional provisions identified in Schedule 6A of the Act.

Clause 3 of Schedule 6A of the EP&A Act provides that the provisions of Part 3A continue to apply to "transitional Part 3A projects", including approved projects and any State environmental planning policy or other instrument under or for the purposes of Part 3A, as in force on the repeal of that Part and as amended after that repeal, continues to apply, to and in respect of, a transitional Part 3A project (as defined).

1.3 Capital Investment Value

The capital investment value (CIV) of the project (that is 3 Murray Rose Avenue) is $38,000,000 in total (refer to **Appendix C**). CIV is defined in the *Environmental Planning and Assessment Regulation 2000* as all costs necessary to establish and operate the project, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment, but excluding land amounts payable, or the cost of land dedicated or any other benefit, costs relating to any part of the development or project that is the subject of a separate development consent or project approval, land costs and GST.

1.4 Consultant Team

The following consultants contributed to this environmental assessment report:

Project/Development Manager	Lend Lease Project Management & Construction (Australia)
Architecture	Turner and Associates Architects
Urban Planning	JBA
Landscaping	Turf Design
Quantity Surveyors	Rider Levett Bucknall
Surveyors	Lawrence Group
Traffic and transport	Better Transport Futures
ESD	Lend Lease - Sustainable Design
Geotechnical and Contamination	Douglas Partners
Stormwater	J&M Group
Accessibility	Morris Goding Accessibility Consulting
Acoustics	Acoustic Logic
Wind	Cermak Peterka Petersen
Aborist	Hunter Horticultural Services
Ecology	Cumberland Ecology
BCA	Vic Lilli & Partners

2.0 The Site

2.1 Location and Context

Sydney Olympic Park (SOP) is located in central western Sydney, 14 kilometres to the west of the Sydney CBD and 8 kilometres to the east of the Parramatta CBD as shown in **Figure 1** below. It is located in the north eastern portion of the Auburn local government area (LGA).

Figure 1 – Sydney Olympic Park Location Plan (Source: Google and JBA)

As illustrated in **Figure 2**, SOP is divided into nine precincts:

- The main event areas:
  - Sports and Education Precinct;
  - Stadia Precinct;
  - Sydney Showground Precinct.
- The residential and commercial areas:
  - Central Precinct;
  - Parkview Precinct; and
  - Haslams Precinct.
- The parks and recreation areas:
  - Boundary Creek;
  - Tennis Precinct; and
  - Southern Sports Precinct.

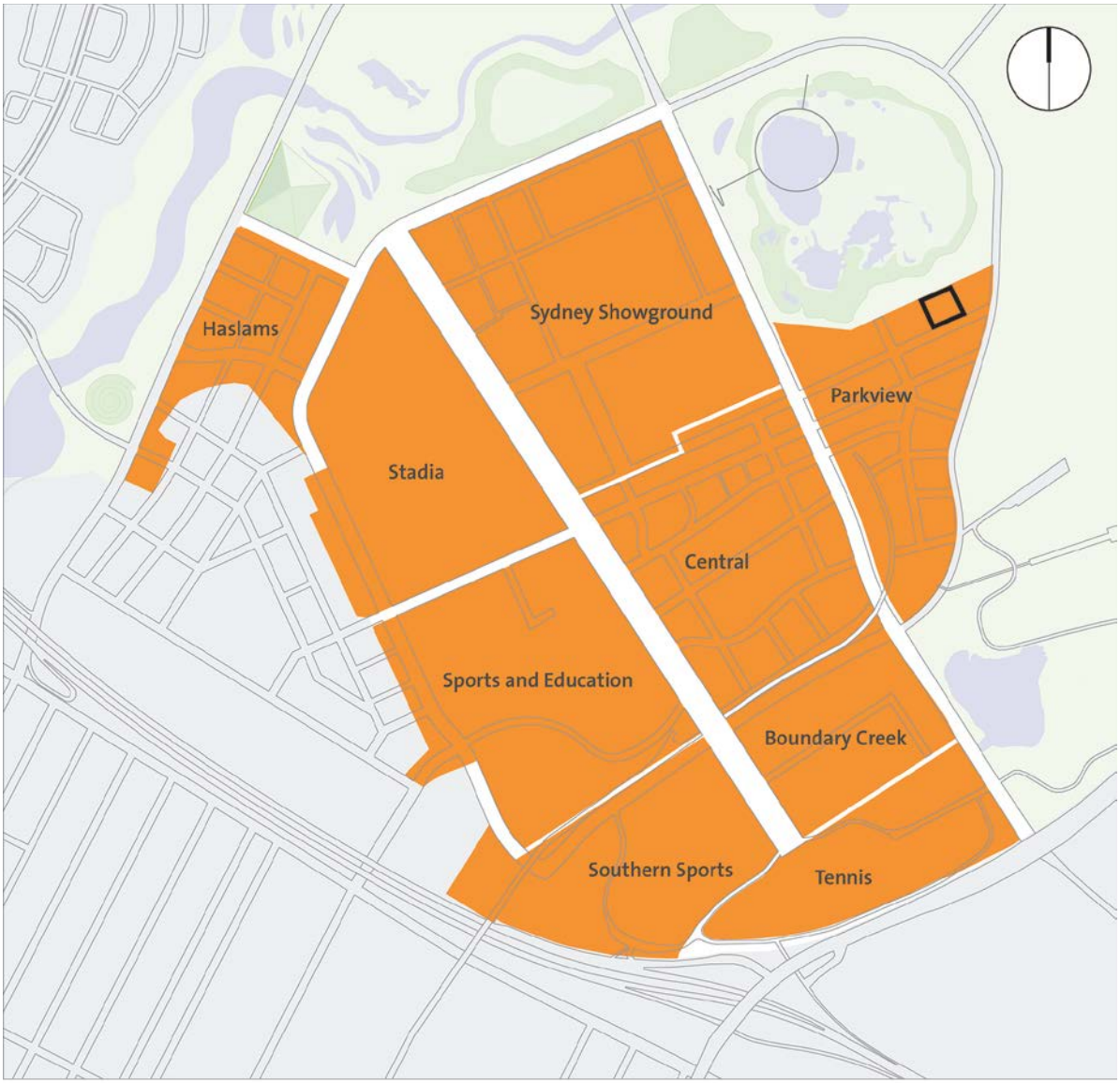

Figure 2 – MP 2030 Precincts (source: MP 2030)

As noted in Section 1.2, the 3 Murray Rose Avenue site (the site) was formerly known as Building B, 7 Parkview Drive. The 7 Parkview Drive site, is located within the northern portion of the Parkview Precinct and has an area of 24,505m^2 (as identified in **Figure 3**). It is, however, no longer referred to as the 7 Parkview Drive site, as each future development block has been given a specific address. For the purpose of this report, it is referred to as 1-5 Murray Rose Avenue (refer to Section 2.4.1). **Figure 4** provides an aerial view of the site in the wider context of Sydney Olympic Park.

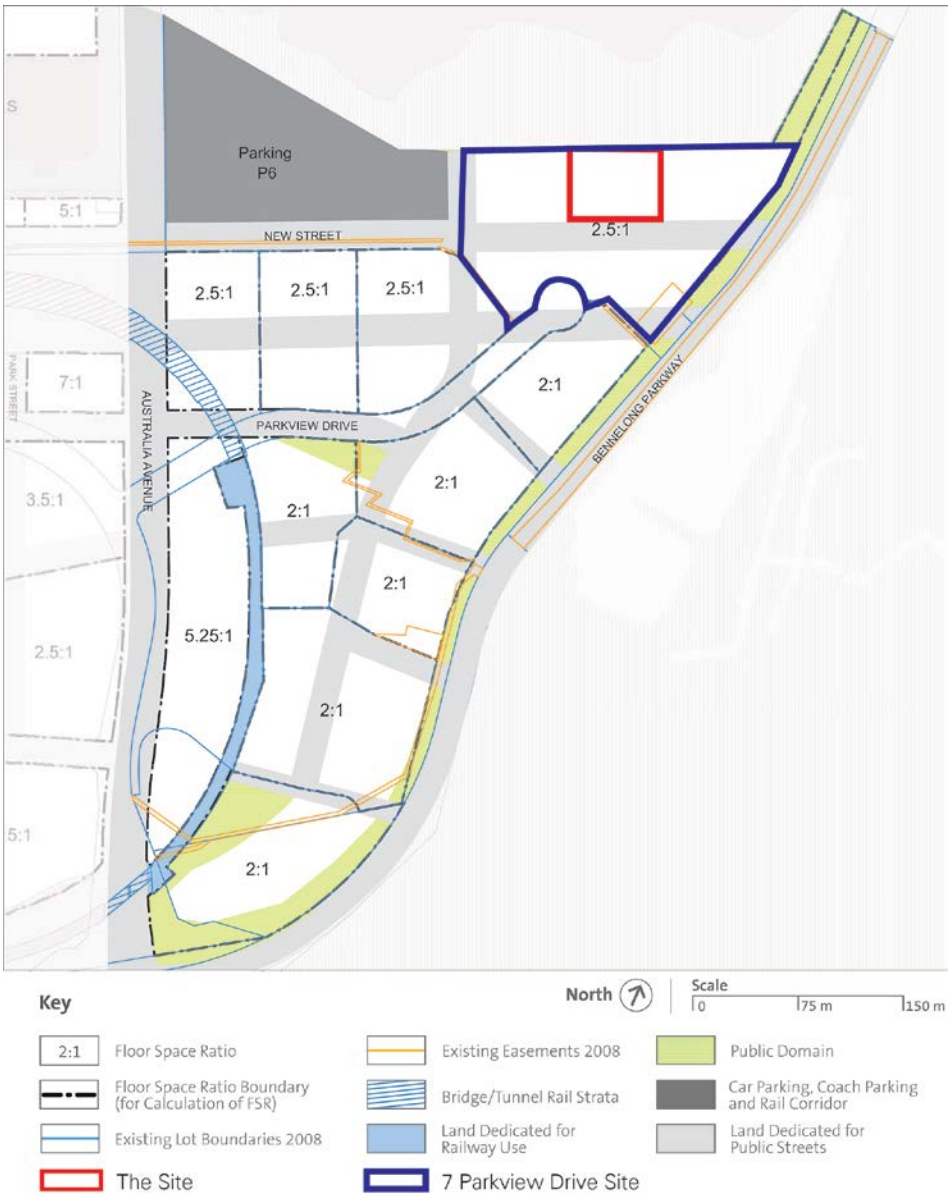

Figure 3 – 7 Parkview Drive site identification plan (Source: MP 2030 and JBA)

The Site

Figure 4 – Aerial photograph of the site and existing context (Source: NearMap and JBA)

2.2 Land Ownership and Zoning

The 3 Murray Rose Avenue site is legally described as part Lot 88 in DP870992 and is owned by GPT RE Limited. It has an area of approximately 3,893m^2 and is rectangular in shape.

The site is zoned B4 Mixed Use under the Major Development SEPP (see **Figure 5**). Commercial development and associated retail uses are permissible with consent in the B4 zone, accordingly the proposed development is permissible.

Furthermore, the site is identified as Commercial under MP 2030 (see **Figure 6**). Office and business premises are permissible land uses in the Commercial area.

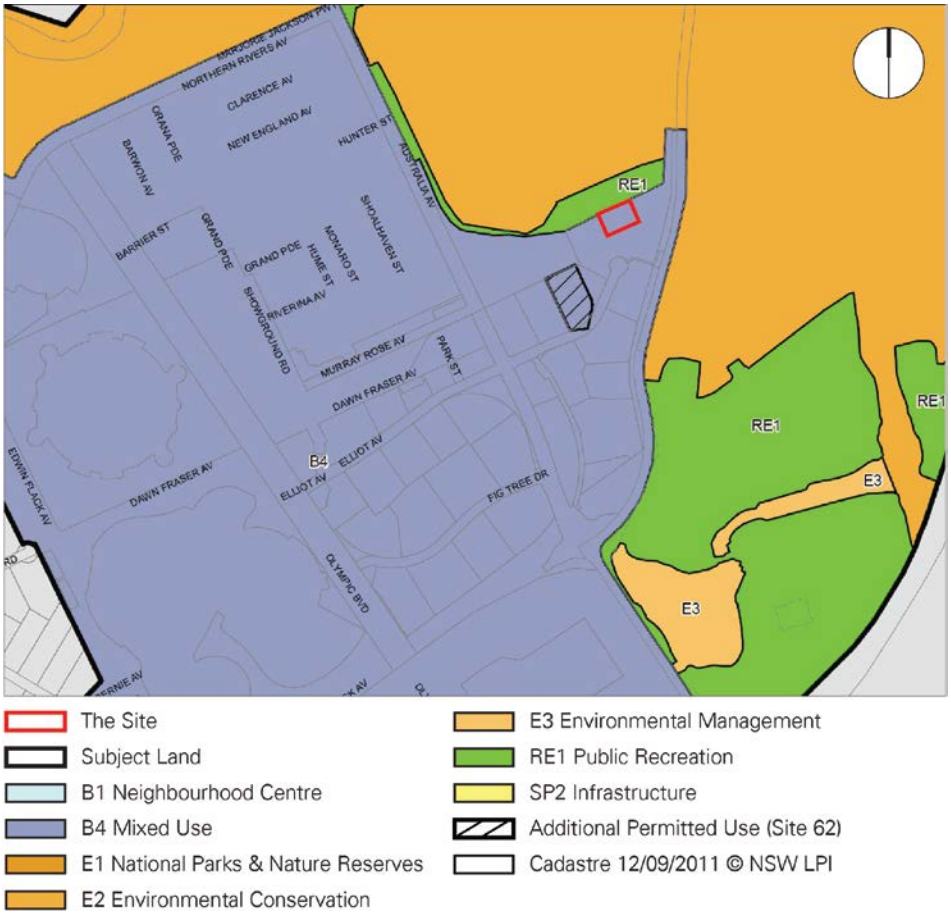

Figure 5 – SEPP Major Development Land Use Zoning Map (Source: Department of Planning & Infrastructure)

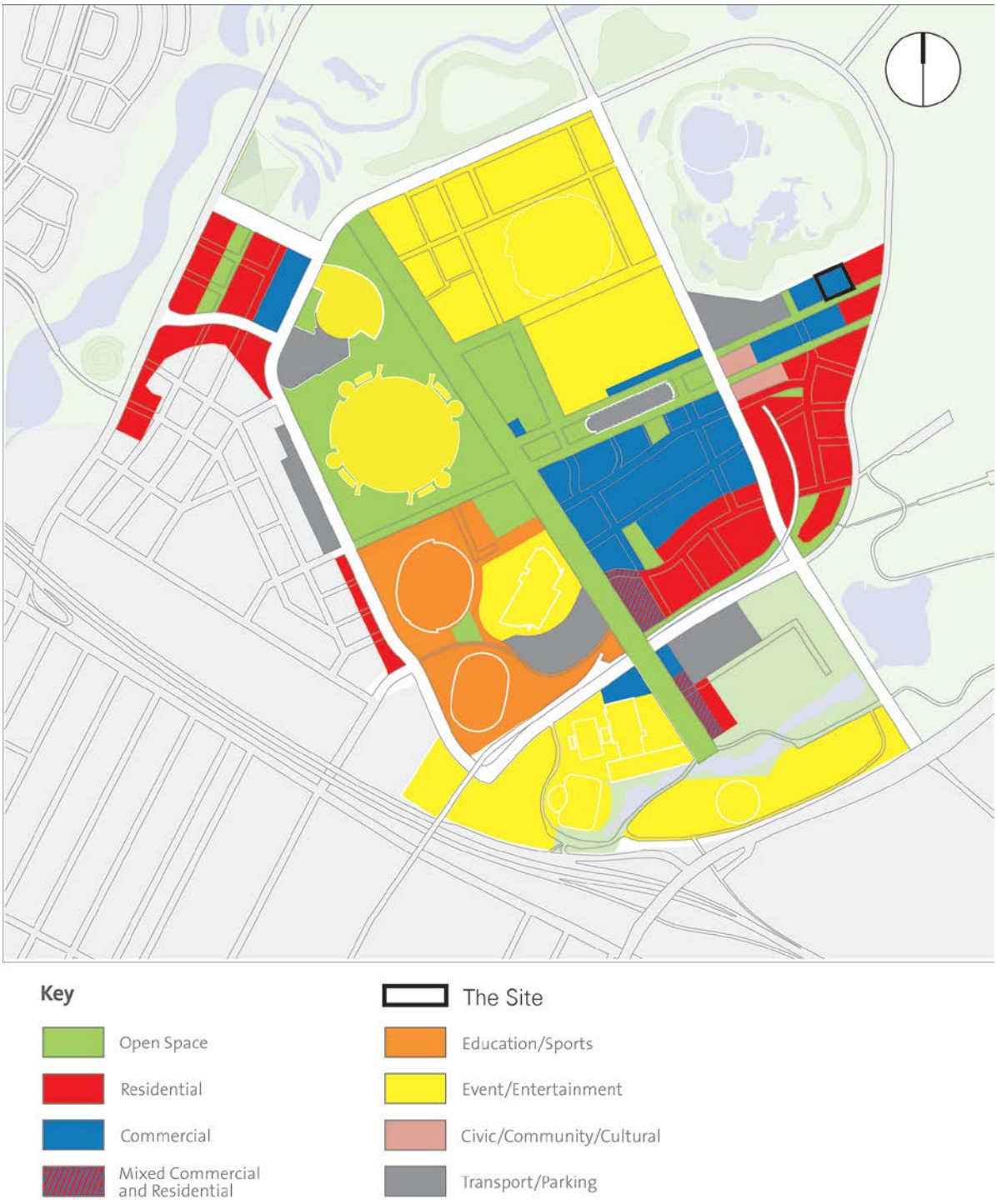

Figure 6 – MP 2030 Land Use Map (Source: MP 2030)

2.3 Existing Development

The aerial photograph at **Figure 7** together with the Site Survey plan at **Appendix D,** identify the site and illustrate its existing features. The site contains part of an existing two storey building comprising offices and warehousing. The remainder of the site contains a grass covered earth berm, partially grassed vacant land and 21 trees located along the northern site boundary.

There is currently no formal vehicular access to the site, and pedestrian access is from Murray Rose Avenue or the pathway located to the north of the site and 5 Murray Rose Avenue. Photographs of the existing features of the site are included at **Figure 8**.

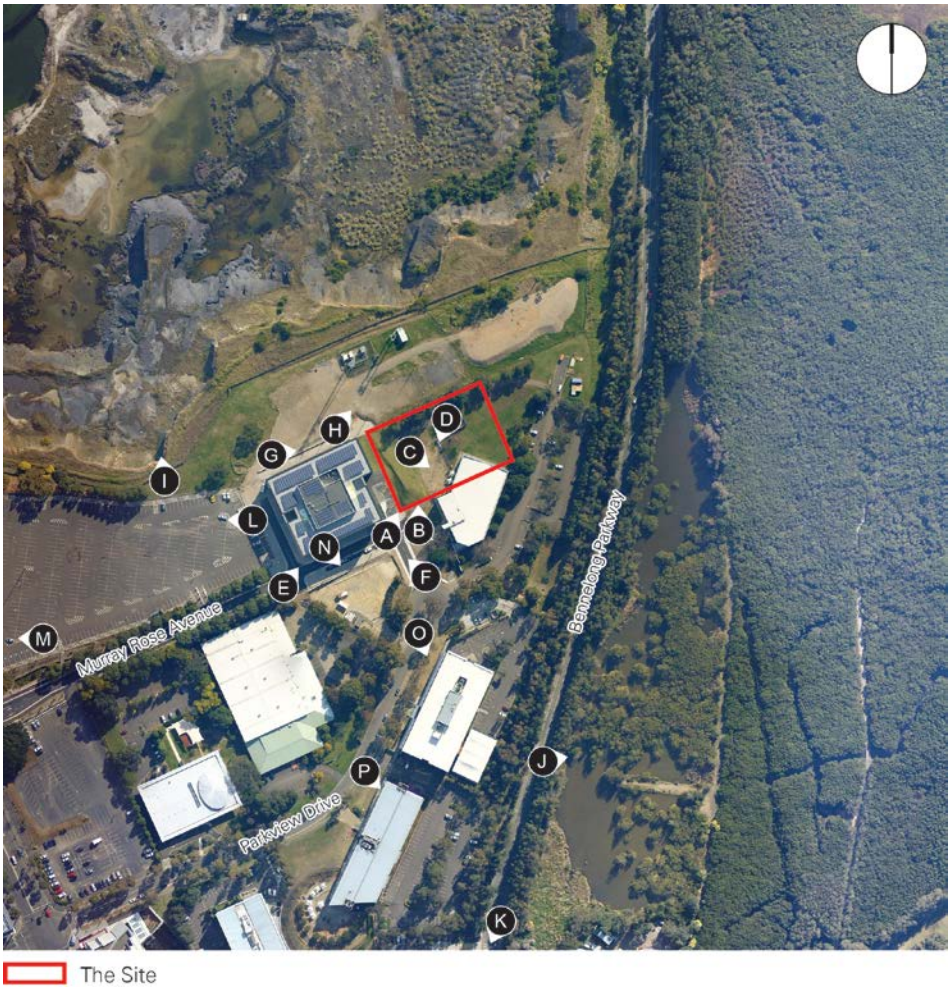

Figure 7 – Aerial photograph showing the location of the photographs in Figures 8-11

Note: *Figure K is located further to the south*

A - View of south west corner from Murray Rose Avenue

B - View of western part of the site

C - View of south eastern part of the site and existing office/warehouse building

D - View from northern boundary towards 5 Murray Rose Avenue

Figure 8 – Existing features of the site

2.4 Surrounding Development

The site is located to the east of the central spine of Olympic Boulevard, which accommodates the major elements of SOP including ANZ Stadium, the Athletic and Aquatic Centres, Sydney Showground and Olympic Park Station. Since the Olympics in 2000 a number of commercial developments have been completed along Murray Rose and Herb Elliot Avenues which link the central spine and the 3 Murray Rose Avenue site.

To the immediate west of the site is 5 Murray Rose Avenue. The first commercial building constructed by GPT RE Limited within the precinct, it comprises five storeys and was completed in April 2012. The 5 Murray Rose Avenue development is described in more detail in Section 2.4.2.

To the north of the site is land managed by the Sydney Olympic Park Authority (SOPA), it is currently vacant but was previously used as a storage area. It is understood that this area will be converted into a public park and will be known as Brickpit Park. The Brickpit, a former quarry that is now rehabilitated as a conservation area for frogs and wading birds, is located beyond the future Brickpit Park, to the north west of the site. The Brickpit incorporates a number of walking trails and educational information displays to promote its ecological significance.

Wetlands associated with the Badu Mangroves are situated to the east of the site, across Bennelong Parkway. These wetlands are a key ecological component of Bicentennial Park. Bicentennial Park covers more than 100 hectares, and offers opportunities for recreation, environmental education and outdoor events. The park has picnic areas, playgrounds, pathways and cycleways, bird hides and access to the wetlands.

West of the site is a large car park known as P6F. Accessed from Murray Rose Avenue it is used on major event days such as the Royal Easter Show for amusement rides and the like. Beyond the car park are various buildings associated with the Sydney Showground, including the Exhibition Halls and Dome.

To the south of the site is an existing car parking area accessible from Parkview Drive. Beyond, on the south-eastern side of Parkview Drive, are a number of three and four storey commercial buildings, collectively known as the Quad Business Park.

Photographs of the surrounding development are included at **Figures 9 -11** and referenced in **Figure 7**.

E - 5 Murray Rose Avenue

F - 5 Murray Rose Avenue

G - Future Brickpit Park

H - Future Brickpit Park

Figure 9 – Photographs of 5 Murray Rose Avenue and the future site of Brickpit Park

I - The Brickpit

J - The Badu Mangrove wetlands

K - Bicentennial Park

L - Car parking area P6F

M - Exhibition Halls and the Dome

N - Car parking area to the south

Figure 10 – Photographs of surrounding development

O - Quad 4, Quad Business Park

P - Quad 1, Quad Business Park

Figure 11 – Photographs of the Quad Business Park

2.4.1 1-5 Murray Rose Avenue

MP 2030 envisages a total of three commercial buildings and two residential buildings at 1-5 Murray Rose Avenue. It also classifies 1, 3 and 5 Murray Rose Avenue as being located within Site 60A and 2 and 4 Murray Rose Avenue within Site 60B as shown in **Figure 12**. The indicative Masterplan for 1-5 Murray Rose Avenue is illustrated in **Figure 13** and in **Appendix E** and **Table 1** provides a summary of the indicative details for each building.

Table 1 – Summary of indicative concept for 1-5 Murray Rose Avenue.

Building	Use	Height	Approximate GFA (m^2)
1 Murray Rose Avenue	Residential	4-8	10,500
2 Murray Rose Avenue	Residential	4-8	8,500
3 Murray Rose Avenue	Commercial	6	13,675
4 Murray Rose Avenue	Commercial	5	15,280
5 Murray Rose Avenue	Commercial	5	13,268

Figure 12 – MP 2030 Parkview Precinct Site Boundaries plan (Source: MP 2030 and JBA)

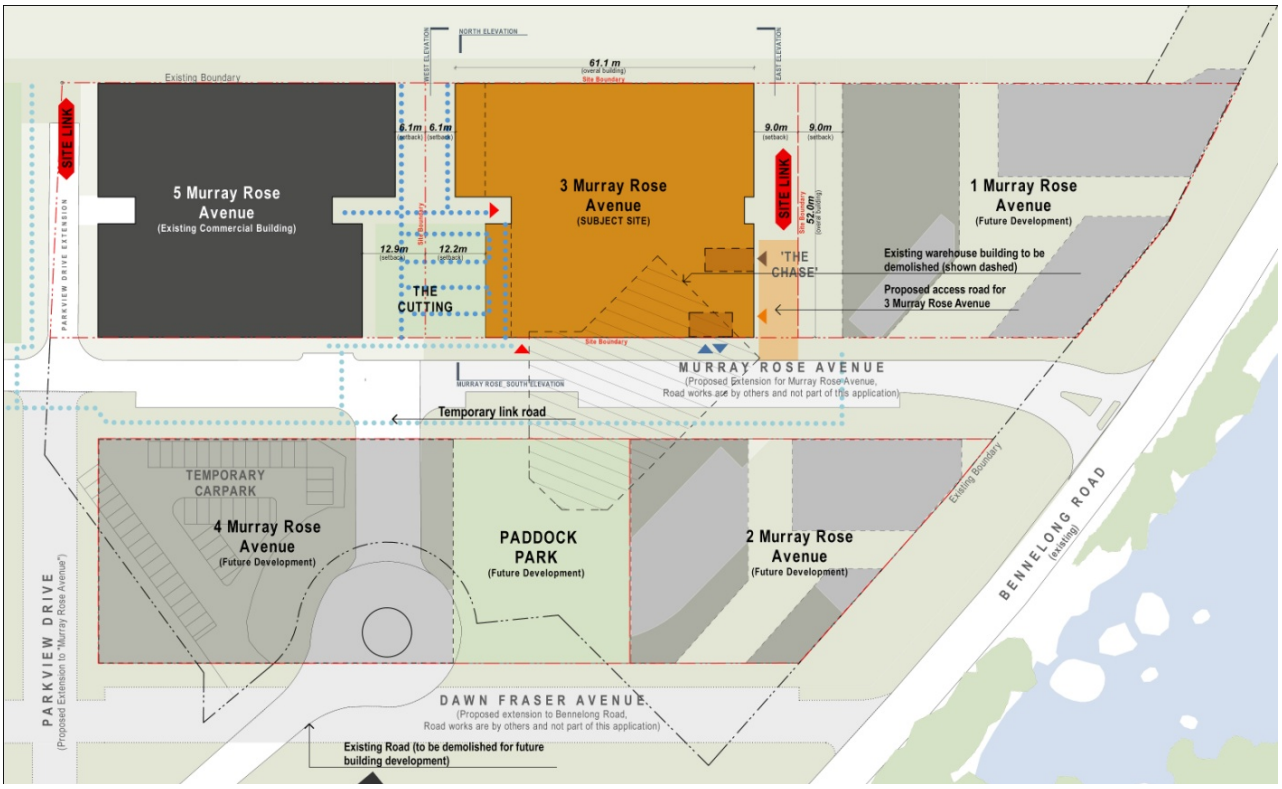

Figure 13 – 1-5 Murray Rose Avenue Master Plan

2.4.2 5 Murray Rose Avenue

The 5 Murray Rose Avenue development is designed to respond to the changing topography of the site. It comprises 3 levels of car parking, a concourse level and then four levels of commercial floorspace over. The concourse level incorporates a cafe and outdoor terrace, and is accessible from both Murray Rose Avenue and a landscaped public domain area situated to the north of the building. Above the concourse level, the four commercial levels are distinguished by a change in facade articulation. The overall GFA is 13,268m^2, its building length is approximately 62m and its building depth is 53m.

The materials and finishes on the facade reflect the colours of the various layers of soils within the stratification of the neighbouring Brickpit. The northern facade is articulated by four balconies (one on each level) to soften its appearance from Brickpit Park (refer to **Figure 14**). The western facade closest to Murray Rose Avenue deliberately incorporates vertical blades to highlight the gateway to the precinct.

Figure 14 – Northern elevation of 5 Murray Rose Avenue

2.5 Infrastructure

SOPA is responsible for the provision of infrastructure such as roads and utility services (i.e. electricity, gas, water, drainage, and telecommunications) to the 1-5 Murray Rose Avenue site. In conjunction with the construction of 5 Murray Rose Avenue, SOPA constructed a partial eastern extension to Murray Rose Avenue, a link to Parkview Drive and also the relevant utility service infrastructure.

Currently, 3 Murray Rose Avenue has no specific road access or utility service infrastructure, however, in conjunction with the construction of this development, SOPA will further extend Murray Rose Avenue eastwards to intersect Bennelong Parkway and provide all relevant service utility infrastructure connections. This road extension and proposed infrastructure is shown on the Architectural Drawings at **Appendix E** and marked 'work by others'.

3.0 Description of Proposed Development

This Project Application seeks approval for the following:

- demolition of the remaining office/warehouse building;
- construction of a five storey building comprising approximately 13,675m^2 of gross floor area;
- up to four levels of parking beneath the building with approximately 249 car spaces;
- associated landscaping and tree removal; and
- digital display signage.

3.1 Numerical Overview

Table 2 provides a numerical overview of the proposed development.

Table 2 – Numerical overview

Element	Proposal
Gross floor area[1] (m^2)	13,675
– Basement 01	28
– Lower Ground Floor	107
– Upper Ground Floor	2455
– Level 1	2767
– Level 2	2767
– Level 3	2775
– Level 4	2776
Maximum Building height	25.5m
Number of storeys	6 storeys
Building length	61.5m
Building depth	52.5m
Car parking spaces	249
– Lower Ground Floor	59
– Basement 01	75
– Basement 02	89
– Basement 03	26

[1] ***Gross Floor Area*** *means the sum of the floor area of each storey of the building measured from the internal face of external walls, or from the internal face of the walls separating the building from any other building, measured at a height of 1.4m above the floor and includes a) the area of a mezzanine within the storey;*

b) habitable rooms in a basement;

c) any shop, auditorium, cinema, and the like, in a basement or attic;

But excludes

d) any area for common vertical circulation, such as lifts and stairs;

e) any basement: storage and vehicular access, loading areas, garbage and services;

f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting;

g) car parking to meet any requirements of the Consent Authority (including access to that car parking);

h) any space used for the loading or unloading of goods (including access to it);

i) terraces and balconies with outer walls less than 1.4m high; and

j) voids above a floor at the level of a storey or storey above.

Element	Proposal
Motorcycle spaces	32
– Lower Ground Floor	14
– Basement 01	7
– Basement 02	6
– Basement 03	5

3.2 Architectural Design

The design has been the subject of exhaustive consultation with SOPA and the architectural form and character of the building is based on that adopted for 5 Murray Rose Avenue. Architectural Drawings prepared by Turner and Associates Architects are located in **Appendix E** and an Architectural Design Statement is included at **Appendix F**.

3.2.1 Design Excellence

As required by the MP 2030 'Design Excellence Controls' a design competition was undertaken by GPT RE Limited prior to the lodgement of the Project Application for 5 Murray Rose Avenue. The competition related to the 1-5 Murray Rose Avenue site, and four leading Australian architectural firms were invited to compete.

The key objectives of the competition was for the 1-5 Murray Rose Avenue site to contribute to the development of a higher density mixed use precinct with a vibrant and leafy street character, and to specifically deliver a strong architectural statement whilst harmoniously blending into the unique ecological surroundings of the Brickpit and neighbouring wetlands.

Turner and Associates Architects won the competition and then went on to develop their design in detail. The detailed design for 3 Murray Rose Avenue, is based upon the SOPA approved design for 5 Murray Rose Avenue, and was presented to a Design Review Panel convened by SOPA, as discussed in Section 4. The architects have responded in detail to the comments raised by the panel (refer to **Table 3**).

Table 3 – Response to the issues raised by DRP

Issue	Response
Designs for the loading dock area and connecting stairs to Brickpit Park have limited references to the adjoining future residential development.	Plan EA109_C presents an indicative design for the connection of the 'Chase' (i.e. the service area and through-site link) to the adjoining future residential development. The final detailed design for the eastern part of the 'Chase' will be resolved in a future application for the residential building, which will be known as 1 Murray Rose Avenue.
The shared commercial and residential character of the through-site link remains largely undefined and ambiguous.	The Landscape Plans (Appendix G) illustrate the detailed design of The Chase (the through-site link between 1 and 3 Murray Rose Avenue).
The area adjacent to the loading dock is considered the optimal at grade entry and vehicular drop-off points for the future residential developments. The remaining section of Murray Rose Avenue in the direction of Bennelong Parkway would be significantly steeper than 1:20 and will require further consideration in the areas of equitable access and site permeability.	The design of the remaining sections of Murray Rose Avenue are being designed and constructed by SOPA.

Issue	Response
The upper levels of the northern elevation, particularly at the upper levels should be refined to soften its visual impact.	The comments from SOPA in regard to the northern elevation of 5 Murray Rose Avenue were adopted in the design for that building and have been used as the basis of the design for the northern facade of 3 Murray Rose Avenue. The design team indicated at the meeting with SOPA on 1st August 2012, that the proposed design (as submitted) provides an appropriate level of articulation.
Review the covered walkway design and emphasize its role as marking and entry point to the park.	The covered walkway, is indicatively shown on the Architectural Plans. Detail however is not resolved at this point and detailed design plans will be submitted to SOPA and the DPI for approval prior to construction.

3.2.2 Design Objectives

The design objectives that have guided the architectural development of the proposal are to:

- Provide a strong connection with the surrounding landscape and demonstrate current building technology in terms of detailed design and selection of materials.
- Assist with the development of the Parkview Precinct as a mixed use, compact urban neighbourhood with a vibrant and leafy street character.
- Provide street frontage to and, contribute to the definition of, the Murray Rose Avenue corridor as an extension of the open space spine that will link the Parkview Precinct to the Town Centre.
- Promote visual and pedestrian connections to the adjacent Brickpit and landscaped areas.
- Separate the operational elements by providing the following separate entries:
  - basement car park entry from Murray Rose Avenue;
  - loading dock entry from The Chase;
  - lower ground floor building entry from Murray Rose Avenue; and
  - upper ground floor main building entry from The Cutting;
- Minimise the visual impact of the above ground component of the car park by activating the street edge with other uses.

3.2.3 Description of Design

The proposed design of the development can be described as three separate but integrated parts:

- The 3 Murray Rose Avenue building.
- The Cutting - a landscaped through-site link from Murray Rose Avenue to Brickpit Park, between 5 Murray Rose Avenue and the proposed development.
- The Chase - a landscaped through-site link from the future extension of Murray Rose Avenue to Brickpit Park, between the proposed development and the future residential development at 1 Murray Rose Avenue.

Section 3.4 provides a detailed description of the design for The Cutting and The Chase. A description of the design of the proposed building follows.

The design of the building incorporates a solid base (Basement Level 1 and Lower Ground Floor) that provides definition and responds to the topography of the site, similar to 5 Murray Rose Avenue. The solid base also integrates service elements such as the loading dock and has access to Murray Rose Avenue. Above this, is a concourse level (Upper Ground Floor) that incorporates an outdoor terrace and has access to 'The Cutting'. Above the ground floor plane and separated by a change in facade articulation, are the four upper levels of the building. Overall, the building length is 61.5m and the building depth is 52.5m.

The upper levels are split into two bar forms running east west, which are aligned with the central core (refer to **Figure 15**). The split in the floor plates allows the legible segregation of office tenancies but more importantly reduces the bulk and scale of the building.

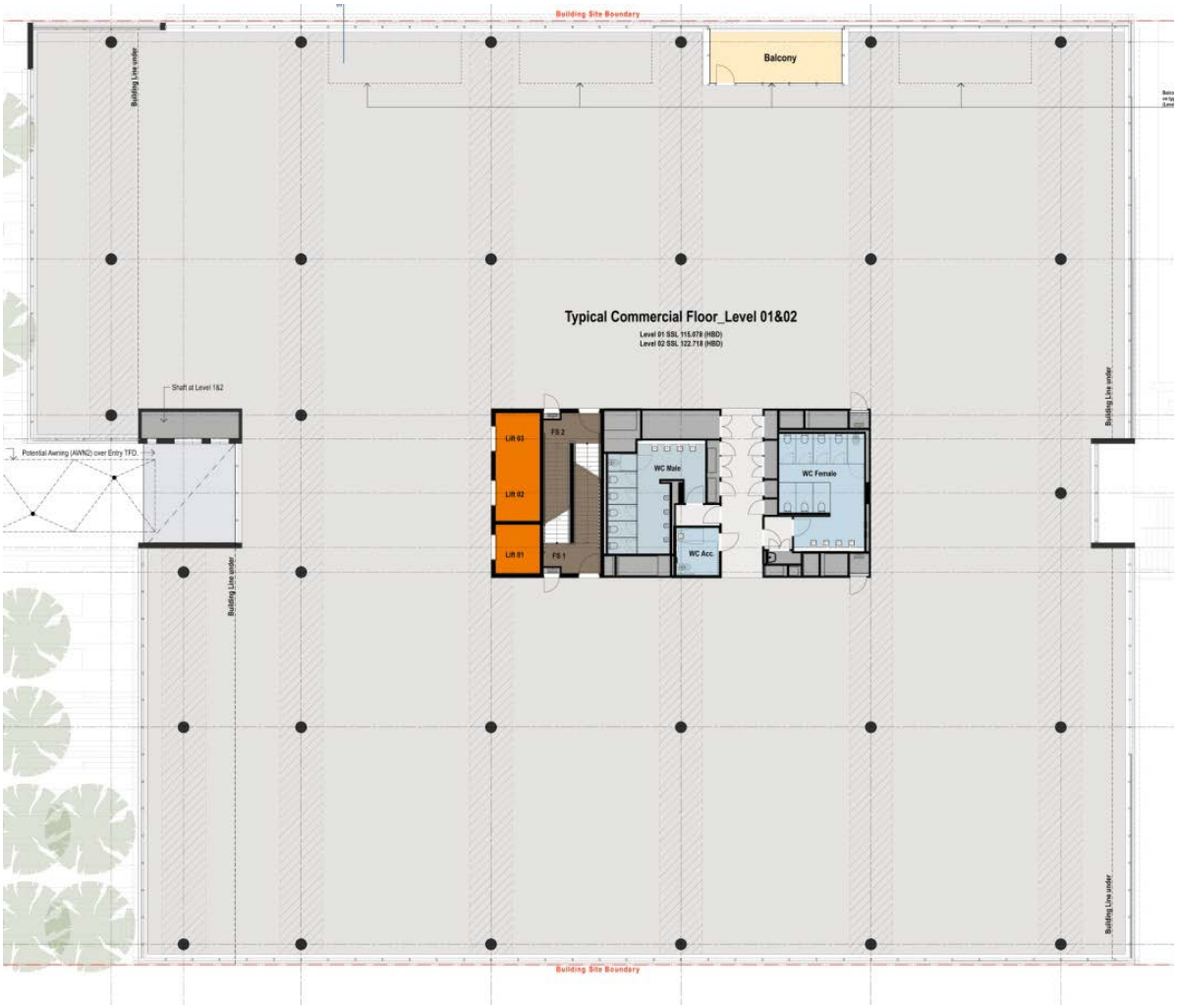

Figure 15 – Typical Floor Plan

Materials and Finishes

The proposed materials and finishes have been selected to be similar with those used at 5 Murray Rose Avenue and are inspired by the stratification of the geological profile of the site and nearby Brickpit (refer to **Figure 16**). The proposed colours and horizontal nature of the facade generally reflect the various layers of soil. However, pre-weathered corten inspired steel cladding defines the building base, and clear glazing at the defines the concourse level. Stone cladding and polished metal distinguishes and emphasises the double height foyer of the Murray Rose Avenue entry. The proposed materials and finishes are illustrated on the Architectural Drawings and on the Materials and Finishes Board at **Appendix E**.

3.3 Proposed Use

The proposed development is to accommodate commercial uses (i.e. business, office and retail premises). It is anticipated to operate during normal business hours (8.00am to 6.00pm Monday to Friday), however future tenants may have a requirement for extended operating hours. The proposed development is expected to be able to accommodate approximately 1,300 employees.

Figure 16 – Perspective view as viewed from Murray Rose Avenue.

3.4 Landscaping

Turf Design Studio has prepared Landscape Plans (refer to **Appendix G**) for The Cutting and The Chase as illustrated in **Figure 17**.

Figure 17 – Proposed landscape design

3.4.1 Landscape Principles

The proposed design of the overall scheme includes the provision of approximately 34 new trees and is based upon the following principles:

- Interpret the character and materiality of the Brickpit through pavement types, material and tones indicative of the Brickpit's geological strata.
- Draw on the 'borrowed landscape' through site vistas and connections which will stitch the site into its broader context while allowing the context to permeate into the site.
- Design 'The Cutting' to be the main arrival space for the development and provide pedestrian links to Brickpit Park.
- Design 'The Chase' to ultimately provide a shared loading dock entry into the development and the future 1 Murray Rose Avenue and pedestrian access to Brickpit Park.
- Provide a mix of indigenous and exotic drought tolerant plant species to interpret the aesthetics of the site's natural vegetation community -

'Cumberland Plain Woodland' including broadleaved foliage for optimal shade from summer afternoon heat.

- Select species according to:
  - drought tolerance;
  - adaptability to shale based site soils; and
  - SOPA's planting strategy.

3.4.2 The Cutting

The key features of the proposed landscape design for The Cutting are:

- a floor board of terraces, steps and ramps made from stone or brick to appear as though they have been cut from the hillside;
- a series of bio swales and frog ponds made from natural stone, with native grasses and eucalypt planting which appear to crack through the floor of The Cutting; and
- planting consisting of native grasses, sedges and rushes.

3.4.3 The Chase

The landscaping design for The Chase includes interim works to ensure that 3 Murray Rose Avenue has appropriate landscaping and public domain upon completion, however the completion of the works will be pursuant to the future design and completion of 1 Murray Rose Avenue (the future adjacent residential building). The interim works will comprise:

- temporary asphalt within the loading dock area;
- tri-phex pavement to mark the beginning of the public domain;
- corten blade walls to form a stepped terrace and pedestrian access to Brickpit Park;
- a temporary lawn embankment to mediate the levels before the chase steps and terraces; and
- planting consisting of native grasses, sedges and rushes.

3.5 Parking and Access

The proposed development includes three levels of parking below grade and a single level of parking on the lower ground level. A total of 249 car spaces, 106 bicycle spaces (88 inside for employees and 18 outside for visitors) and 32 motorcycle spaces are proposed. A total of 8 accessible parking spaces are dispersed across each level and a shuttle lift is provided for access from basement level 3 to the upper ground floor. The lower ground floor parking level incorporates showers and changing facilities for cyclists.

The car park is to be accessed from Murray Rose Avenue. The entrance to the car park will be controlled by boom gates operated by a card reader. Circulation through the car park is via centrally located ramps.

A loading dock is provided at basement level 1, accessed via The Chase which leads from Murray Rose Avenue. The loading dock is capable of accommodating medium rigid trucks, and a turning area is provided so that vehicles using the loading dock are able to enter and leave the site in a forward direction.

3.6 Ecologically Sustainable Development

3 Murray Rose Avenue has been designed to achieve a minimum performance of 5 Stars under the Green Building Council of Australia Green Star Office Design (v3) rating system. In addition, the design seeks also to achieve a 5 Star NABERS rating for both water and energy performance. The ESD Statement and Green Star Matrix at **Appendix H** show how the 5 Star ratings can be achieved.

In summary, the following elements have been and continues to be considered to facilitate achievement of ESD.

Management Strategies

- Engagement of a Green Star accredited professional to advise on design and construction.
- Comprehensive commissioning and quarterly building tuning.
- Implementation of a simple building user's guide.
- Engagement of an Independent Commissioning Agent (ICA) to oversee the design and commissioning process.

Indoor Environment Quality

- Orientation of the building to maximise passive solar access and views.
- Inclusion of design features to reduce discomfort from glare.
- Monitoring of carbon dioxide.
- Use of low VOC paints, adhesives, sealants and flooring to minimise the amount o contaminants within the workplace.
- Provision of a dedicated tenant exhaust riser.

Energy

- Installation of an energy efficient variable air volume air conditioning system and high efficiency mechanical equipment.
- Installation of variable speed drives on pumps and fans.
- Construction of a high performance facade to balance the heat loads into the building, whilst meeting IEQ requirements.
- Installation of energy efficient T5 lights.
- Installation of office lighting zoning which is sized less than 100m^2 per zone.

Transport

- Inclusion of cyclist facilities.
- Consideration of the close proximity of the site to major public transport hubs.

Water

- Use of SOPA's Water Reclamation and Management Scheme (WRAMS) recycled water network in conjunction with water efficient fittings and fixtures to minimise the use of potable water onsite.
- Use of an efficient landscape irrigation system connected to the WRAMS network.

Materials

- Provision of a waste recycling storage area.
- Selection of environmentally sustainable construction materials.

Land Use and Ecology

- Commitment to ensure that there is no degradation to existing site conditions.
- Removal and disposal of existing fill, which is classified as having low levels of contamination.

Emissions

- Use of zero ODP refrigerants and refrigerant leak detection.
- Provision of thermal insulation which is ODP free.

3.7 Digital Display

A digital display sign is proposed to be located on Level 4 and the parapet on the southern facade of the building facing Murray Rose Avenue. As illustrated on the drawings at **Appendix E**, the display will be 4.23m high and 3m wide and flush with the facade. It is to be internally illuminated between the hours of 7am and 10pm.

3.8 Site Preparation

3.8.1 Demolition

The existing office/warehouse building on the site is to be demolished to allow for the construction of the development. The existing at grade car park associated with the office building will be retained in the medium term but demolished as part of future stages of development on the 1-5 Murray Rose Avenue site.

A plan illustrating the extent of the proposed demolition has been prepared by Turner and Associates Architects and is included at **Appendix E**.

3.8.2 Excavation and Bulk Earthworks

Once the existing warehouse has been demolished, bulk earthworks will commence in accordance with the recommendations of the Geotechnical Investigation Report (**Appendix I**) to provide appropriate benching and levels.

3.9 Tree Removal

The proposed development necessitates the removal of thirty (30) trees (being trees 1-29 and tree 32) and the Lilly Pilly Hedge as identified in **Figure 18** and Demolition Plan at **Appendix E**.

Figure 18 – Trees to be removed

Note: *Square marked A contains trees less than 5m in height which were planted as part of temporary landscape works and are also to be removed.*

3.10 Stormwater Drainage

The proposed stormwater drainage system for the proposed development has been designed by J&M Group and is illustrated on the plans at **Appendix J**.

The roof slab will have a slight fall to ensure stormwater will be guided to rainwater outlets and down pipes which gravity drain to a siphonic drainage system at Lower Ground level which then drains to the SOPA drainage infrastructure on Murray Rose Avenue.

A separate drainage system is also provided for the four balconies on the northern elevation of the building. Stormwater is drained via down pipes to in-ground pipes in The Cutting, which then direct stormwater to the Murray Rose Avenue drainage infrastructure.

Stormwater from the basement levels will drain to basement level 3, where it will be pumped via a sub-soil pump to stormwater pits.

3.11 Utilities and Services

The proposed development will be connected to the available services to the site, in accordance with the requirements of the relevant service providers.

3.12 Staging

The building will be constructed in one stage. The delivery of infrastructure will be sequenced in accordance with the Infrastructure Plan included at **Appendix E**.

3.13 Subdivision

Subdivision of Lot 88 in DP870992 is not included as part of this Project Application. Approval for any future subdivision will be sought as part of a future separate application.

4.0 Consultation

In accordance with the Environmental Assessment Requirements for this project, issued by the Director-General an appropriate and justified level of consultation must be undertaken in accordance with the Department of Planning & Infrastructure's *'Major Project Community Consultation Guidelines October 2007'*.

GPT RE Limited undertook extensive consultation in regard to the 1-5 Murray Rose Avenue site prior to the submission of the 5 Murray Rose Avenue Project Application. This is fully documented in the Environmental Assessment Report submitted under MP 07_0157 for 5 Murray Rose Avenue.

This chapter details the specific consultation undertaken by GPT RE Limited as part of the preparation of this project application.

4.1 SOPA Project Meetings

Three project meetings were undertaken with SOPA as part of the development of the design for 3 Murray Rose Avenue. Representatives from GPT RE Limited, Lendlease and Turner & Associates Architects attended meetings with SOPA on 9 May 2012, 4 June 2012 and 1 August 2012.

Project Meeting 9 May 2012

The issues discussed at the meeting were in relation to detailed design considerations and involved an exchange of information in order to finalise the proposed design. Issues discussed at the meeting included:

- accessibility and compliance with the BCA 2011;
- sewer and stormwater infrastructure design;
- future road alignment of Murray Rose Avenue; and
- future covered walkway between 3 and 5 Murray Rose Avenue.

The outcome of the discussions has been incorporated into the final proposed design of the development.

Project Meeting 4 June 2012

Similar to the meeting held on 9 May 2012, the issues discussed at the meeting on 4 June related to detailed design considerations. Issues discussed at the meeting included:

- the glazing pattern of the external façade;
- the proposed lighting strategy for The Chase and The Cutting;
- the future covered walkway between 3 and 5 Murray Rose Avenue; and
- future meetings whereby the proposed landscape strategy and the design would be presented to SOPA.

The outcome of the discussions have been incorporated into the final proposed design of the development.

Project Meeting on 12 August 2012

On 12 August 2012, GPT RE Limited presented the proposed plan for The Chase to show how the area could be developed alongside a future residential building. The issues raised by SOPA in that meeting have been resolved through the proposed design, as presented within this Project Application, and addressed within Section 5 of this report.

In addition, SOPA and GPT RE Limited discussed the written comments made by SOPA's Design Review Panel. The response to the comments raised by the Design Review Panel are set out in Section 3.2.1 and also below in Section 4.2.

4.2 SOPA Design Review Panel

A formal Design Review Panel (DRP) presentation was held on 21st June 2012. The DRP was generally supportive of the site resolution and noted the recent positive public domain contributions made by the 5 Murray Rose Avenue development, the extension of Murray Rose Avenue and Brickpit Park. Overall the elements of the scheme that the DRP indicated were matters for further consideration are set out below along with a description of how they have been addressed.

Development of a clear and workable strategy for the shared commercial/residential through-site link (The Chase)

At the project meeting on 12 August 2012, both the interim and future plans for The Chase were presented to SOPA to show how the area may be developed alongside the future residential building. The 'future' Chase plan is included within the Landscape Plans at **Appendix G** and clearly marked 'subject to future approval' to ensure that it is clear that this Project Application only seeks approval for the interim works, but that a clear vision for the future public domain is presented.

The northern elevation of the building.

The DRP sought further articulation of the northern facade of the building. The proposed design (as submitted to the DRP and within this Project Application) incorporates four balconies to create additional depth and activation. In addition, vertical and horizontal corner bay windows are also incorporated into the design to provide additional articulation. The design team considers that the proposed design (which refers to the DRP's comments in relation to 5 Murray Rose Avenue) provides an appropriate level of articulation.

The covered walkway design

The covered walkway is only an option at this stage and final materials and finishes are not determined. Should GPT RE Limited wish to construct the covered walkway in the future, the final design will be submitted to SOPA for approval at that time.

4.3 Auburn City Council

In conjunction with the public exhibition of the EAR for this Project Application, consultation will be undertaken with Auburn City Council is regard to potential impacts of any infrastructure assets owned by Council.

5.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposal. It addresses the matters for consideration set out in the Director-General's Environmental Assessment Requirements (DGRs) located at **Appendix B**. The draft Statement of Commitments at Section 6 complements the findings of this section.

5.1 Director General's Environmental Assessment Requirements

Table 4 provides the location in this report and/or the appended technical studies where the matters listed in the DGRs are addressed.

Table 4 - Director General's Environmental Assessment Requirements

Director General's requirements	Location in Report/Application
Key Issues	
Relevant EPI's policies and guidelines to be addressed	Section 5.2
Built Form and Urban Design	
– Design excellence	Section 3.2
– Height, depth, bulk and scale	Section 3.2
– Overshadowing impacts	Section 5.4.3
– Building separation	Section 5.3
– Details of overall strategy for Site 60	Section 2.4.1 and Appendix E
– Design principles	Section 3.2
– Servicing	Sections 3 and 5
– Detailed plans, elevations and sections	Appendix E
– View analysis	Section 5.4.1
– Consistency with endorsed design competition entry for Site 60	Sections 2.4.1, 3.2.1 and 4
– Construction methodology	Section 5.11 and Appendix I
Public Domain	
– Open space, public domain and pedestrian linkages	Sections 3.4, 5.2.8 and Appendix G
– Interface between proposed development and public domain	Appendix G
– Landscaping and tree removal	Appendix G, Section 5.8 and Appendix P
– Accessible Path of Travel Plan	Appendix E
Transport and Accessibility Impacts	
– Transport & Accessibility Study	Section 5.5 and Appendix O
– Management of traffic, access and parking during special events	Section 5.7 and Appendix O
– Accessible parking	Appendix E
Precinct Co-ordination	Section 5.7
Acoustics and Noise Impacts	Section 5.4.5 and Appendix M
Waste Management	Section s5.15 and 5.16
Drainage	Section 3.10 and Appendix J
Infrastructure and Utilities	Sections 2.5 and 3.11
Ecologically Sustainable Development	Sections 3.6, 5.13 and Appendix H
Construction Management	Section 5.15
Staging	Section 3.12
Subdivision	Section 3.13
Consultation	Section 4

Director General's requirements	Location in Report/Application
General Requirements	
Executive Summary	Pages ii - iv
Site Analysis	Section 2
Description of the proposed development	Section 3
Assessment of the key issues	Section 5
Table of how the key issues have been addressed	Section 5.1
Assessment of the potential impacts of the project	Section 5
Draft Statement of Commitments	Section 6
Plans and Documents	Appendices A- R
Statement of Validity	Page i
QS Certificate of Cost	Appendix C
Conclusion and justification of the project	Section 7
Plans and Documents	
Site Survey Plan	Appendix D
Site Analysis Plan	Appendix E
Locality/Context Plan	Section 2 and Appendix E
Architectural Drawings	Appendix E
Staging Plan	Appendix E
Stormwater Concept Plan	Appendix J
Erosion and Sediment Control Plan	Appendix J
Geotechnical & Structural Report	Appendix I
Cross Sectional Drawings	Appendix E
View Analysis	Appendix E
Landscape Plan	Appendix G
Public Domain Plan	Appendix G
Materials Samples Board	Appendix E
Shadow Diagrams	Appendix E

5.2 Consistency with Relevant Legislation, Strategic and Statutory Plans

5.2.1 Environmental Planning & Assessment Act 1979

The DGRs require that the consistency of the project with the objects of the EP&A Act be considered. Clause 5 of the Act sets out that the Objects of the Act are:

(a) to encourage:

(i) the proper management, development and conservation of natural and artificial resources including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,

(ii) the promotion and co-ordination of the orderly and economic use and development of land,

(iii) the protection, provision and co-ordination of communication and utility services,

(iv) the provision of land for public purposes,

(v) the provision and co-ordination of community services and facilities, and

(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and

(vii) ecologically sustainable development, and

(viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

The Objects of the Act relevant to the proposed are (a)(i),(ii), (vi) and (vii). The Project Application is consistent with the Objects of the EP&A Act, for the following reasons:

- It provides the second stage of a new mixed use development within the Parkview Precinct at Sydney Olympic Park, which is consistent with the Major Project SEPP and MP 2030. It therefore contributes to the proper development of Sydney Olympic Park.
- It provides for the orderly and co-ordinated use of the land by replacing an existing office/warehouse building with a high quality commercial development which is in keeping with surrounding developments and will provide a better quality environment.
- It provides an ecologically sustainable development with a minimum 5 Star Green Star Office Design rating and a 5 Star NABERS rating for both water and energy performance.
- There will be few or no environmental impacts arising from the construction and operation of the development, and none that cannot be managed.

5.2.2 State Environmental Planning Policy (Major Development) 2005

Sydney Olympic Park is listed as a State Significant Site in Schedule 3 of the Major Development SEPP. Part 23 refers to Sydney Olympic Park and sets out the planning provisions which apply to development within the site. The relevant planning provisions are addressed below.

As noted in Section 2, the site is zoned B4 Mixed Use. The objectives of B4 Mixed Use zone and the proposed development's consistency with the objectives are addressed in **Table 5**. The proposed development is also consistent with the development control provisions as detailed in **Table 6**.

Table 5 – Consistency with the objectives of the B4 Mixed Use zone

Objective	Response
a) to protect and promote the major events capability of the Sydney Olympic Park site and to ensure that it becomes a premium destination for major events	The proposed development has been designed to ensure it does not significantly impact upon the capability of Sydney Olympic Park to host major events. Refer to Section 5.7.
b) to integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling	The proposed commercial development is accessible to public transport and attractive to cyclists and pedestrians. Refer to Section 5.5.
c) to ensure that the Sydney Olympic Park site becomes an active and vibrant town centre within metropolitan Sydney	The proposed development will encourage the growth of Sydney Olympic Park's town centre by providing a quality commercial development set within an attractive environment.
d) to provide for a mixture of compatible land uses	The proposed development of 3 Murray Rose Avenue is the second stage in a broader development which incorporates a mix of land uses, including residential and commercial development.
e) to encourage diverse employment opportunities	The internal layout of the proposed building has been designed to ensure it is suitable for a variety of commercial businesses.
f) to promote ecologically sustainable development and minimise any adverse effect of land uses on the environment	ESD principles have guided the detailed design of the proposed development, ensuring that it will minimise its impacts on the environment. Refer to Sections 3.6 and 5.13.
g) to encourage the provision and maintenance of affordable housing	This objective is not applicable to the proposed development.

Table 6 – The proposed development's consistency with the provisions of Part 23 of Schedule 3 of the Major Development SEPP

Clause	Control	Proposal
18. Height of Buildings	33m	25.5m
19. Floor Space Ratio	2.5:1	1.1:1 (cumulative FSR of 3 and 5 Murray Rose Avenue)
20A Demolition requires consent	The demolition of a building work may be carried out only with consent.	Approval for the demolition of an existing office/warehouse building is sought as part of this Project Application.
23. Public utility infrastructure	The development must have public utility infrastructure available or adequate arrangements in place to make that infrastructure available when required.	SOPA will provide all relevant service utility infrastructure connections.
24. Major event capability	Protect and promote the major events capability for the Sydney Olympic park site and ensure it remains a premium destination for major events.	– Traffic generated by the development will not cause the local road network and connections to the regional road network to become saturated. – The development will not prevent the effective management of crowd movement and transport services. – The development will not compromise the effective functioning of major event infrastructure. – The development will not conflict with the emergency management plans of government agencies or the emergency evacuation plans of major events venues. – Refer to Section 5.5.
25. Transport	The development must include measures to promote public transport use, cycling and walking.	The measures incorporated into the development to encourage the use of public transport, cycling and walking are detailed in Section 5.5.
26. Master plan	The development must consider MP 2030.	Consistency of the proposed development with MP 2030 is addressed in Section 5.2.
30. Design excellence	Development consent must not be granted for the erection of a new building unless the consent authority has considered whether the proposed development exhibits design excellence.	To demonstrate design excellence, the proposed development was the subject of a design competition as detailed in Section 3.2.

5.2.3 State Environmental Planning Policy (Infrastructure) 2007

Under clause 104 and Schedule 3 of State Environmental Planning Policy (Infrastructure) 2007 (ISEPP), development for the following must be referred to NSW Roads and Maritime Services (RMS):

- commercial premises 10,000m^2 or more in area; or
- parking for 200 or more motor vehicles.

Given the proposed development provides a commercial building comprising 13,675m^2 GFA and 249 car spaces, this application is required to be referred to the RMS for comment.

5.2.4 State Environmental Planning Policy No.55 - Remediation of Land

State Environmental Planning Policy No.55 - Remediation of Land provides controls and guidelines for the remediation of contaminated land. In particular the policy aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. As discussed in Section 5.12 and **Appendix K**, the site can be made suitable for the development.

5.2.5 State Environmental Planning Policy 64 - Signage and Advertising

State Environmental Planning Policy 64 - Advertising and Signage applies to all signage that can be displayed with or without development consent and is visible from any public place or public reserve. The proposed digital display sign complies with the aims and objectives of SEPP 64 as it is compatible with the proposed development, provides effective communication, is suitably located and is of a high quality design and finish.

Furthermore, **Table 7** below demonstrated that the proposed digital display satisfies the assessment criteria within Schedule 1 of SEPP 64.

Table 7 – Compliance with SEPP 64 - Schedule 1 Assessment Criteria

Section	Requirement	Response
1) Character of the area	1) Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The signage is of a scale and design which is compatible with the character of the development and the area.
	2) Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed signage is consistent with the locality.
2) Special areas	3) Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	No. The sign will face Murray Rose Avenue and the future developments within the 1-5 Murray Rose Avenue site. It will not be seen from Brickpit Park or any environmentally sensitive or natural areas. It will not be illuminated after 10pm to ensure it will not detract from the amenity of any future residents.

Section	Requirement	Response
3) Views and vistas	4) Does the proposal obscure or compromise important views?	The proposed sign does not obscure or compromise any important views.
	5) Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed sign is modest in design and scale, and will not dominate the skyline or reduce the quality of vistas.
	6) Does the proposal respect the viewing rights of other advertisers?	The sign does not obstruct the views of any existing signage on or in the vicinity of the site.
4) Streetscape, setting or landscape	7) Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The scale, proportion and form of the signage is appropriate for the streetscape of the development.
	8) Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed sign is of a modest design and will provide useful information for passersby such as time, temperature etc.
	9) Does the proposal reduce clutter by rationalising and simplifying existing advertising?	No existing development or advertising exists on the site.
	10) Does the proposal screen unsightliness?	The proposed sign does not screen unsightliness, rather it fits within the design of the building.
	11) Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed sign does not protrude above the proposed parapet height.
	12) Does the proposal require ongoing vegetation management?	The proposed sign does not require ongoing vegetation management.
5) Site and building	13) Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage is compatible with the scale and proportion of the proposed development.
	14) Does the proposal respect important features of the site or building, or both?	The proposed signage is located only on the southern facade of the building. It does not compete with the important features of the building or site.
	15) Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposed sign appropriately relates to its location and is attractive and tasteful in design.
6) Associated devices and logos with advertisements and structures	16) Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	Not Applicable.
7) Illumination	17) Would illumination result in unacceptable glare?	The proposed sign will be illuminated but will not result in any unacceptable glare.
	18) Would illumination affect safety for pedestrians, vehicles or aircraft?	The illumination will not affect the safety of pedestrians or vehicles, given that the sign is on the top of the building facade, it is therefore distanced from pedestrians and vehicles.
	19) Would illumination detract from the amenity of any residence or other form of accommodation?	The illumination will not detract from the amenity of any residence or other form of accommodation.
	20) Can the intensity of the illumination be adjusted, if necessary?	The proposed intensity is not intended to need to be adjusted.
	21) Is the illumination subject to a curfew?	The illumination will be subject to a 10pm curfew.

Section	Requirement	Response
8) Safety	22) Would the proposal reduce the safety for any public road?	The proposed signage will not affect road safety, given the distance of the sign from the street.
	23) Would the proposal reduce safety for pedestrians and bicyclists?	The location and scale of the proposed sign do not pose any adverse impacts on pedestrian or cyclist safety.
	24) Would the proposal reduce safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed signage will not obscure sightlines from public areas.

5.2.6 Metropolitan Plan for Sydney 2036

The Metropolitan Plan is a broad strategic framework to establish Sydney as a global economic city by promoting and managing growth. Its focus is to concentrate growth into centres to ensure all residents have access to jobs, services and entertainment across the metropolitan area.

Within the Metropolitan Plan, Sydney Olympic Park is identified as a specialised centre. Specialised centres are considered to typically have a stronger employment or economic function than other centres, however over time Sydney Olympic Park is set to take on the role of more traditional major centres with a mix of housing, retail, office-based employment and services, complemented by good public transport and access to open space and recreational facilities.

The Metropolitan Plan seeks to address identified challenges facing Sydney through an integrated, long-term planning framework based on nine strategic directions and correlating objectives. Those targets relevant to this Project Application and how the project will contribute to achieving these targets are listed below in **Table 8**.

Table 8 – Consistency with the Metropolitan Plan for Sydney 2036

Strategic Directions	Objectives	Project Compliance
Strengthening the City of Cities	A3 – To contain the urban footprint and achieve a balance between greenfields growth and renewal in existing urban areas	The proposal utilises a site within an existing urban area and the development will assist in the on-going renewal of Sydney Olympic Park.
	A4 – To continue strengthening Sydney's capacity to attract and retain global businesses and investment	The proposal will provide a new 5 Star Green Star commercial development to attract and support new and existing global businesses and investment within Sydney.
	A7 – To ensure Sydney continues to support major events in iconic locations, and remains competitive in the global even and convention market	The proposed development will not impede major events within Sydney Olympic Park, as discussed in Section 5.7.
	A9 – To support, protect and enhance nationally and internationally significant infrastructure in the metropolitan area	The proposal will result in an increase in the local workforce, which will increase the demand for public transport infrastructure. It is noted however that to date, not all the transport facilities and services originally planned for the Sydney Olympic Park have been provided, consequently the public transport provisions, particularly rail do not meet the current needs of the daily population of the Park.

Strategic Directions	Objectives	Project Compliance
Growing and Renewing Centres	B1 – To focus activity in accessible centres	The proposed development is located within Sydney Olympic Park which is an accessible centre.
	B2 – To strengthen major and specialised centres to support sustainable growth of the city	The proposal will provide a new 5 Star Green Star commercial development which will attract companies to locate within the Park. The development therefore supports the growth of the specialised centre.
	B3 – To plan for new centres, and instigate a program for high quality urban renewal in existing centres serviced by public transport	The proposed development will support the continued urban renewal of the Sydney Olympic Park through the provision of a new commercial building and public domain areas, which link to surrounding public areas, such as Brickpit Park.
Growing Sydney's Economy	E2 – To focus Sydney's economic growth and renewal, employment and education in centres	The proposal provides new commercial floorspace within the Sydney Olympic Park specialised centre in accordance with this objective.
Balancing Land Uses on the City Fringe	F1 – To contain Sydney's urban footprint	The proposal utilises a site within an existing urban area, therefore is consistent with this objective.
Tackling Climate Change and Protecting Sydney's Natural Environment	G1 – To reduce Sydney's greenhouse gas emission G5 – To achieve a sustainable water use	The proposed design seeks to achieve a minimum 5 Star NABERS rating for both water and energy performance and achieve a minimum performance of 5 Stars under the Green Building Council of Australia Green Star Office Design (v3) rating system.
	G9 – To minimise and recycle waste	The construction and on-going operation of the proposed development will incorporate waste management practices to minimise and recycle waste as much as possible.

5.2.7 Draft West Central Subregional Strategy

The draft West Central Subregional Strategy was released in December 2007 and is intended to guide land-use planning until 2031 in the Parramatta, Bankstown, Auburn, Fairfield and Holroyd local government areas as well as the SOP.

The vision for the draft Strategy involves achieving seven key outcomes of the life of the strategy. The proposed development will facilitate an employee population of approximately 1,300, therefore it is consistent with the only relevant key direction - *"provide local employment opportunities"*.

5.2.8 Sydney Olympic Park Master Plan 2030

MP 2030 was prepared in accordance with the requirements of the *Sydney Olympic Park Authority Act 2001* and the Major Development SEPP. The purpose of MP 2030 is to:

- provide a comprehensive approach to the development of Sydney Olympic Park;
- ensure Sydney Olympic Park becomes an attractive and vibrant town within Metropolitan Sydney;
- protect the role of Sydney Olympic Park as the premier destination for cultural, entertainment, recreation and sporting events;
- protect and enhance the public domain;
- protect and enhance the Sydney Olympic Park parklands; and
- provide detailed planning and design principles and controls to encourage development that responds to its context and contributes to the quality of the built environment and the future character and cultural significance of the site.

Section 95 of the EP&A Act deems that MP 2030 is taken to be a development control plan adopted by the Director General of the Department of Planning & Infrastructure under Section 74D of the EP&A Act.

The proposed development is generally consistent with the general and precinct specific controls as set out below.

General Controls

- Sustainability (Clause 4.2):
  - an ESD consultant has been engaged as a core member of the project team;
  - the development will be connected to SOP's recycled water system;
  - materials have been selected on the basis of their sustainability; and
  - the development will meet the relevant minimum environmental ratings, being 5 star Green star and 5 star NABERS (Energy and Water).

  Further details are provided in Sections 3.6 and 5.13.
- Public Domain (Clause 4.3):
  - the proposed development incorporates through-site links between Murray Rose Avenue and Brickpit Park;
  - continuous and accessible pedestrian access is provided from Murray Rose Avenue into the proposed building and through to Brickpit Park;
  - weather protection will be provided at the entrances of the building;
  - opportunities for casual surveillance over the public areas will be provided via the high level of glazing incorporated into the development's design;
  - multiple entrances into the building will be provided; and
  - the facades of the proposed building are modulated through design features, materials, and balconies to provide interest for passers-by.
- Event Access and Closures (Clause 4.4):
  - as outlined in Section 5.5 access to the site will not be compromised by road closures for minor or major events.
- Land Use and Density (Clause 4.5):
  - office and business premises are an allowable land use within the commercial land use category applicable to the site;

  - the overall concept for the 1-5 Murray Rose Avenue site will be consistent with the building envelope controls stipulated in MP 2030 and will achieve a floor space ratio less than the maximum allowable FSR of 2.5:1;
  - the proposed FSR of 3 Murray Rose Avenue in relation to the 1-5 Murray Rose Avenue site is 3.5:1. The combined FSR for 3 and 5 Murray Rose Avenue is 1.1:1 therefore it complies with the maximum allowable FSR of 2.5:1; and
  - the surrounding road networks has adequate capacity to support the development, as outlined in Section 5.5.
- Building Form and Amenity
  - the proposed building is wholly within the prescribed building zone;
  - the proposed building forms the second component of the overall development of the 1-5 Murray Rose Avenue site, which will incorporate through-site links and maintain view corridors;
  - the proposed building incorporates appropriate solar access, access to natural light and ventilation, communal outdoor areas and access to views;
  - the maximum building depth is 52.5m which exceeds the preferred maximum building depth control of 25m. Further, some workstations within the building could be located over 12m from an external window. As demonstrated in Section 5.3 below, the proposed building depth is however considered acceptable;
  - car parking is located beneath the building footprint;
  - the proposed height (6 storeys) is less than the prescribed maximum of eight storeys;
  - the proposed floor to ceiling height of 2.7m for the upper ground floor and Levels 1-4, generally comply with the minimum floor to ceiling height requirements;
  - the design of the proposed rooftop service zone has been integrated into the overall aesthetic of the building, is not more than 5m in height and is set back more than 3m from the parapet;
  - the minimum separation distance between the proposed building and 5 Murray Rose Avenue is approximately 11.5m and the minimum separation from the future 1 Murray Rose site boundary is 18.5m. The proposed building therefore does not achieve the minimum separation of 24m between commercial buildings and potential future habitable rooms in residential buildings. The proposed building separation distances are however considered acceptable as demonstrated in Section 5.3 below;
  - no specific setback controls relate to the site, however the building facade has adopted the same setback as 5 Murray Rose Avenue to reinforce the street alignment;
  - an accessibility review report has been prepared by Morris Goding Accessibility Consulting as required by the controls (refer to Section 5.6 and **Appendix L**);
  - design excellence has been achieved as demonstrated at Section 3.2;
  - The proposed built form is appropriately expressed as detailed in Sections 3.2 and 5.3;
  - appropriate consideration has been given to the safety and security of the proposed development throughout the design process as demonstrated in Section 6.4.7;
  - acoustic impacts have been considered as required by the controls, refer to Section 6.4.5 and **Appendix M**; and
  - An operational waste management plan will be prepared that demonstrates how the principles of waste avoidance, reduction, re-use and recycling will

be implemented into the operation of the proposed development (refer to Section 5.16).

- Access and Parking (Clause 4.7 and Clause 4.8)
  - the proposal's consistency with regard to the access, parking and transport controls is discussed in detail in Section 5.5.
- Landscape and Site (Clause 4.9)
  - the proposed landscaping responds to the existing contours and features of the site;
  - sufficient open space is provided to present a high quality setting for the proposed building and to complement the surrounding public domain;
  - the proposed through-site links are less than the required 20m wide minimum dimension. However, as demonstrated in Section 5.3, the proposed width of the through-site links are considered acceptable; and
  - the proposed car park is located under the building footprint to maximise the area of deep soil.

Precinct Controls

The Parkview Precinct controls relevant to the site are all embodied in the MP 2030 general controls. However it is noted that the proposed development is consistent with the land use plan for the precinct, including the vehicle access points.

5.3 Built Form

The built form of 3 Murray Rose Avenue has been primarily informed by the development controls contained in MP 2030 (refer to Section 5.2) and the design of 5 Murray Rose Avenue, and has been refined through consultation process with SOPA (refer to Sections 3.2.1 and 4).

As outlined in Section 3, the building is 6 storeys and rectilinear in design, is orientated to address the surrounding public domain, and therefore has no secondary or rear elevations. It will have a maximum GFA of 13,675m^2, FSR of 1.1:1(based on the 1-5 Murray Rose Avenue site area) and a maximum building height of 25.5m.

The primary building entrance is from The Cutting and a secondary entrance is located at street level on Murray Rose Avenue. The double height articulation of the south-western corner of the building together with the bicycle storage room (facing Murray Rose Avenue) and the outdoor terrace (adjacent to the western facade) provide activation to the street frontage and The Cutting.

Further, the northern facade is articulated by balconies, horizontal and vertical elements to soften its appearance from Brickpit Park and to mirror the treatments used for 5 Murray Rose Avenue.

Building Depth

It is noted that the depth of the building, being 52.5m, exceeds the preferred maximum building depth control of 25m, which may result in future work stations being located further than 12m from an external window. The reasoning in MP 2030 for the building depth control is *"to encourage naturally lit and well ventilated buildings with generous courtyards and setback to avoid bulky buildings that block views and impede ESD requirements"*. Despite the proposed building depth, the proposed development is consistent with the purpose of the control in that:

- the building will be able to achieve a 5 Star Green Star rating in Office Design, and energy performance (refer to Section 3.6);
- the proposed floor to ceiling heights, generally comply with the minimum height requirements, so facilitating a well ventilated and well lit internal environment;
- the selection of materials and finishes have been chosen to reduce any perception of building bulk;
- the proposed development will facilitate better views than currently exists of the Brickpit from the public domain areas; and
- the proposed building depth matches that approved and constructed at 5 Murray Rose Avenue.

Building Separation

The minimum building separation distance between 3 and 5 Murray Rose Avenue is 11.5m. The minimum separation distance between 3 Murray Rose Avenue and the indicative footprint of 1 Murray Rose Avenue is approximately 18.5m. The proposed built form therefore does not achieve the minimum separation distance of 24m between commercial buildings and facing habitable rooms in residential buildings, as required by MP 2030. Further the minimum 20m through-site link width for The Cutting and The Chase is also not achieved.

The reason for the building separation control is *"to ensure visual and acoustic privacy and amenity is maintained between buildings"*. It is considered that visual and privacy impacts will not arise between 3 and 5 Murray Rose Avenue, as they are both commercial buildings which are not particularly sensitive uses that require a high level of amenity.

The building separation distance adopted between 1 and 3 Murray Rose Avenue is based upon the separation distances set out within the Residential Flat Design Code, which requires 18m between buildings of 12-25m in height. In addition, given 1 Murray Rose Avenue will be able to capture views of the Brickpit, Homebush Bay, the Badu Mangroves and the CBD, it is likely that habitable rooms will be orientated towards the north, south and east, and not facing the west (i.e. 3 Murray Rose Avenue). Further, the proposed development will not give rise to any unacceptable visual or acoustic privacy impacts. The proposed building separation is therefore considered to be acceptable.

In regard to the minimum width of the through-site links, the primary reason for this control is *"to permit solar access to the public domain"*. As discussed in Sections 3.4 and 4, The Chase and The Cutting being will be orientated to the north and have been the subject of extensive consultation with SOPA, who consider the proposed landscape design (and therefore the intended widths) to be acceptable.

5.4 Amenity

5.4.1 Visual Impact

Existing Conditions

The site is located close to a prominent ridge that runs along the edge of the Brickpit to Olympic Boulevard. Therefore any development in the vicinity of the ridge will be visually prominent when viewed from surrounding suburbs and beyond. Notwithstanding this, due to the location and height of trees along Murray Rose Avenue and development in the vicinity of the railway station, it is expected that the site will not be seen from the railway station concourse (refer to **Figure 19**).

Figure 19 – Proposed building envelope

Assessment

Turner and Associates have prepared envelope drawings that demonstrate the proposed location of the development in a 3-dimensional view (refer to **Appendix E**). The form, height and proportions of 3 Murray Rose Avenue will be of a similar scale to 5 Murray Rose Avenue and other existing buildings in the locality, such as the Quad Business Park.

MP 2030 envisages an 'urban spine' along the ridge described above, and extensive consultation has been undertaken with SOPA in relation to the entire 1-5 Murray Rose Avenue, to ensure that the proposed building envelopes contribute to this spine and therefore provide the appropriate built form when viewed from outside SOP. In particular 3 Murray Rose Avenue will not impede the significant view corridors to ANZ Stadium from Ryde and Bicentennial Park.

The proposed envelope of 3 Murray Rose Avenue is consistent with the envelope prescribed in MP 2030, and therefore it will make an appropriate contribution to the desired future form of the locality.

The development of future stages of the 1-5 Murray Rose Avenue site are also anticipated to be consistent with the envelopes in MP 2030, and therefore the final form of the development will be appropriate in terms of its visual impact.

5.4.2 View Loss

Existing Conditions

The site currently accommodates an office/warehouse building and a large earth berm which obstruct views from Murray Rose Avenue to the wider region. The existing office/warehouse building also restricts some views from existing neighbouring commercial developments, in particular 5 Murray Rose Avenue and Quad 1 of the Quad development.

Assessment

3 Murray Rose Avenue will be generally located in place of part of the existing office/warehouse building and the earth berm where there are no views from the street. Therefore the proposed development will not impact on existing pedestrian views. However, the proposed development will provide public domain areas where there will be views of the Brickpit.

The proposed development may impact upon views from the upper levels of surrounding commercial buildings. As the envelope of 3 Murray Rose Avenue is consistent with that defined in MP 2030, any potential loss of views would be consistent with the envisaged character of the precinct.

In addition, the proposed development will not impact upon views from the future residential development at 1 Murray Rose Avenue. As indicated on the site analysis plan at **Appendix E**, residents within this building will have views to the Brickpit, Homebush Bay, the Badu Mangroves and the CBD.

5.4.3 Overshadowing

Shadow Diagrams have been prepared by Turner and Associates Architects that illustrate the impacts of overshadowing resulting from the proposed development. They are included at **Appendix E**.

The public domain areas being The Chase, The Cutting, Paddock Park and Murray Rose Avenue will generally be overshadowed by the proposed development and other surrounding developments throughout the winter solstice. However, the extent and impact of the overshadowing is considered acceptable on the basis that the built form is consistent with the envelopes set by MP 2030 and the public domain areas and Brickpit Park located to the north of the proposed building will not be impacted by shadow at any time.

5.4.4 Wind

The impact of the proposed development on the pedestrian level local wind environment has been assessed by Cermak Peterka Petersen Pty Ltd (refer to **Appendix N**).

Existing Conditions

An analysis of the existing wind environment was undertaken using meteorological data from the Bankstown Airport Bureau of Meteorology (BoM) anemometer, which is located approximately 11km north-west of the site. (The BoM anemometer at Homebush is known to be directionally influenced by surrounding buildings, topography and landscaping, therefore readings are considered to be unreliable for pedestrian level wind comfort analysis).

The key characteristics of the local wind climate are:

- South-east quadrant winds, have a cold tendency, can last several days and occur throughout the year;
- West quadrant winds tend to produce the strongest winds affecting the site throughout the year; and
- South and west quadrants winds are associated with rain.

Assessment

The wind environment around Sydney Olympic Park is considered to be relatively mild. Furthermore, all areas around the development are expected to be suitable for use as a main public access way (as previously confirmed by wind tunnel testing conducted around 5 Murray Rose Avenue).

The key findings of the assessment are:

- South-east winds are expected to stagnate on the southern building facade and accelerate around the corners creating local windier conditions.
- The change in topography to the north and the articulation of the west facade will assist to reduce the acceleration effects, particularly at the main entrance of the western facade.
- The balcony areas on the northern facade will be affected by south-east winds, but they are considered suitable for pedestrian standing.
- The pedestrian and bike entrance within the southern corner of the building is considered to potentially experience serviceability issues during strong winds, however it is expected to remain acceptable for use as a main public accessway.
- The proposed building will be shielded from westerly winds by 5 Murray Rose Avenue.

Overall, based on the above findings, Cermak Peterka Petersen consider that the wind conditions around the site are expected to be suitable for use as a public access way without any additional wind mitigation measures.

5.4.5 Acoustic and Noise Impacts

A detailed Acoustic Assessment has been undertaken in relation to the proposed development by Acoustic Logic (refer to **Appendix M**). The assessment considers the current noise conditions, the likely noise intrusion from external sources and also the potential noise emissions generated by the development.

Existing Conditions

Ambient noise levels in the vicinity of the site were determined using long term, unattended noise logging conducted on site between 1 and 16 March 2008 as part of the assessment for the 5 Murray Rose Avenue development. Acoustic Logic consider that the background noise levels measured at this time remain applicable to the proposed development.

Accordingly the background noise levels were measured to be:

- Daytime (7am - 6pm) - 49 dB (A) L_{90};
- Evening (6pm - 10pm) - 49 dB (A) L_{90}; and
- Night time (10pm - 7am) - 41 dB (A) L_{90}.

Noise Intrusion Assessment

Noise from the following sources has the potential to create an adverse acoustic impact upon the proposed development:

- the car park situated to the west of 5 Murray Rose Avenue, particularly when used for amusement rides during major events at Sydney Olympic Park i.e. Royal Easter Show;
- ANZ Stadium and the Sydney Showground, situated to the west of the site; and
- the rail line serving the Sydney Olympic Park train station.

Given that the site is situated more than 60m from the rail line, Rail Infrastructure Corporation guidelines do not require an assessment of potential noise or vibration impacts. Therefore this assessment only considers the potential noise from rides during the Sydney Easter Show and noise from ANZ Stadium and the Sydney Showground.

In addition to the background noise survey for 5 Murray Rose Avenue, noise from ANZ Stadium was measured on 4 October 2009 during the Rugby League Grand Final. Given that the size of the Sydney Showground is similar to ANZ Stadium and that they are both located a similar distance from the site, the noise level from the Showground is expected to be similar to that from ANZ Stadium. During the site visit, noise from ANZ Stadium (crowd and amplified music) was inaudible at Parkview Drive and the only audible noise associated with the event was from the media helicopters flying over the stadium.

The most significant potential noise impact on the site, is from Easter Show rides, as amusement rides will be located approximately 70m from the western facade of 3 Murray Rose Avenue. In order to determine the noise levels likely to be generated, a noise survey of the Luna Park amusement park (Milsons Point) was undertaken.

Using the results of noise surveys Acoustic Logic has set the same amenity criterion for 3 Murray Rose Avenue as it did for 5 Murray Rose Avenue. This criterion is detailed in **Table 9**, and will ensure the protection of the acoustic amenity for future occupants.

Table 9 – Acoustic amenity criterion

Space amenity criterion	Time	Criteria
Commercial	When in Use	45 dB(A) $L_{eq\ (Worst\ 1\ hour)}$

To meet the specified amenity criterion, a minimum glazing requirement of 6mm laminated/12mm air gap/6mm with acoustic seals to all facades has been prescribed. Furthermore, the minimum STC rating for the installed window is 31. This glazing requirement will be implemented in the proposed development.

This matter is addressed in the draft Statement of Commitments.

Noise Emissions Assessment

Noise from the proposed development has the potential to impact primarily on future residential development at 1, 2 and 4 Murray Rose Avenue. Potential noise sources associated with the proposed development are:

- noise from external mechanical plant; and
- construction noise.

Noise from mechanical services is required to comply with *EPA Industrial Noise Policy* and the *Noise Control Manual Sleep Disturbance Guidelines*. Accordingly, Acoustic Logic has determined the allowable noise levels at the nearest residential properties to be as follows (refer to **Table 10**):

Table 10 – EPA Intrusiveness Criteria

Time	Background Noise Level dB(A)L90	Acceptable Level dB(A)Leq(15min)
Daytime (7am-6pm)	49	54
Evening (6pm-10pm)	49	54
Night (10pm-7am)	41	46

Acoustic Logic consider that noise emissions from plant items can be adequately addressed using standard acoustic treatments. Therefore the design of the mechanical plant will ensure that:

- chillers are located within an enclosed plant room;
- cooling towers will be located on the western side of the plant room, as far as practicable from future residential properties; and
- all plant items will be installed using vibration isolation mounts to prevent structure borne noise transfer to offices below.

This matter is addressed in the draft Statement of Commitments.

Construction Noise

As with any major construction sites, there will be noise associated with construction activities. Acoustic Logic considers that adequate control of construction noise can be achieved through the development of a Construction/ Demolition Noise Management Plan. This Plan will form part of the overall Construction and Environmental Management Plan for the site which will be prepared by the appointed contractor prior to commencement of works (refer to Section 5.15).

5.4.6 Privacy

The building separation distances (as discussed in Section 5.3) between 3 Murray Rose Avenue and existing and future buildings within the 1-5 Murray Rose Avenue site are considered to be acceptable to maintain appropriate levels of privacy.

5.4.7 Safety and Security

Consideration of safety and security has been integral to the design for 3 Murray Rose Avenue, as follows:

- public and communal spaces have been designed to be open, well lit and clearly visible with legible 'lines of sight' from key nodal points around the site and beyond;
- building entry points are easily identifiable;
- alcoves have been avoided;
- the facades of the building, particularly at ground level are substantially glazed to encourage natural surveillance;
- the bicycle storage area is visible from Murray Rose Avenue rather than being relegated to a basement level;
- the basement has been designed with a linear car parking configuration and legible pedestrian access points;
- a security room is provided at Basement Level 1 which has a clear line of sight to the vehicle entry point;
- spatial allowances have been made in the design of the upper ground level lobby for security gates or a reception if required; and
- landscaping around the building has been designed to minimise opportunities for concealment.

5.5 Traffic and Access

Better Transport Futures has prepared a Traffic and Transport Access Report (refer to **Appendix O**) to assess the traffic, transport access and parking implications of the proposed development. In particular it:

- outlines the Sydney Olympic Park Masterplan 2030 transport strategy and comments on how the proposed development is integral to the development scenarios adopted;
- describes the existing road network and its operating characteristics;
- describes the proposed development;
- describes the public transport, walking and cycling implications of the proposed development;
- provides an analysis of the impact of the proposed development on the surrounding road network; and
- considers the operation of the site during construction and major events

5.5.1 Existing Conditions

Local Road System

The following roads form the local system:

- Homebush Bay Drive: a major arterial road with a dual carriageway and graded separated interchanges with other major roads.
- Australia Avenue: a sub-arterial road providing the primary access to the SOP.
- Bennelong Parkway: a collector road that provides access to the Brickpit and Bicentennial Park.
- Murray Rose Avenue: a local road which connects to Australia Avenue in the west and provides access to 5 Murray Rose Avenue and the south western corner of the site.
- Herb Elliot Avenue and Dawn Fraser Avenue: local access roads.
- Parkview Drive: a local access road which connects to Murray Rose Avenue.

Existing Traffic Volumes

Traffic volume data was collected at the intersection of Australia Avenue and Murray Rose Avenue on 21 June 2012 during the morning (7.00am-9.00am) and afternoon (4.00pm-6.00pm) peaks. This data indicates that the traffic flow on Murray Rose Avenue was in the order of 380 vehicles during the morning peak hour (8.00am-9.00) and 200 during the afternoon peak hour (5.00pm-6.00pm). Further, the traffic flow on Australia Avenue was in the order of 1,245 vehicles during the morning peak hour and 1,840 vehicles during the afternoon peak hour. The level of service of Murray Rose Avenue and Australia Avenue was assessed to be operating with significant spare capacity.

In addition, Better Transport Futures consider that Parkview Drive and Herb Elliot Avenue also operate with significant spare capacity.

Car Parking

Time restricted on-street car parking is provided on Murray Rose Avenue, and other local roads such as Parkview Drive, Dawn Fraser Avenue and Herb Elliot Avenue.

In addition, four SOP operated car parks are located in the vicinity of the site, which have a total capacity of approximately 890 spaces.

Public Transport

SOP was planned to operate with excellent public transport facilities, however these facilities are being provided gradually as demand justifies their construction or provision. To date, not all planned transport facilities and services have been provided. It is widely accepted that transport provisions, in particular rail services, are inadequate to serve the current daily population of SOP.

Sydney Olympic Park railway station is within 330m walking distance of the site. The Olympic Sprint service to Lidcombe operates on a 10 minute schedule during peak periods and 20 minute schedule during non-peak periods, but commuters have to change trains at Lidcombe.

The four bus routes servicing Olympic Park are:

- 401 to Lidcombe running on a 20 minute service in the peak hour, dropping to a 30 minute service off peak;
- 533 to Chatswood running on a 15 minute service during the peak hours;

- 525 Burwood to Parramatta via Olympic Park, running on a 10 minute service during peak hours; and
- 526 to Strathfield running on a 10 minute service during peak hours.

These provide commuters with a reasonable service during peak hours but any travel outside these peak hours can result in a long wait.

Existing facilities for pedestrians and cyclists are extensive and in the general vicinity of the site, primarily for recreational purposes to access the nearby Bicentennial Park, the Brickpit and the Parramatta River foreshore. There are approximately 16 km of on-road cycle lanes and approximately 24 km of pedestrian paths and cycle ways within SOP linking various attractions, residential areas and parks. The path network also links to the regional cycleway network, and as such provides a quality alternative to car based travel.

5.5.2 Access

Access to the site will be provided via an eastward extension to Murray Rose Avenue that will intersect with, and provide direct access to Bennelong Parkway and Parkview Drive. The extension will also provide direct access to Australia Avenue. Single lane access from Murray Rose Avenue will be provided into and from the proposed building and a separate access will be provided via The Chase.

Full turning movements will be available into the driveway to the parking areas and to the loading dock. Vehicles waiting to turn right into or out of the driveway will obstruct following traffic, however this is an accepted outcome in the locality as it contributes to lower traffic speeds and discourages drivers seeking short cuts.

Adequate sight distances are available to the access points due to the existing and proposed straight alignment of Murray Rose Avenue, and all vehicles will be able to enter and leave the site in a forward direction.

The functionality of the shared access driveway to the loading dock is considered acceptable due to the provision of different coloured paving to signify pedestrian only areas, the expected low number of vehicles making deliveries (5-12 vehicles per day) and that trucks will be required to give way to pedestrians.

5.5.3 Parking

3 Murray Rose Avenue provides parking for 249 vehicles which equates to a rate of one space per 55m^2 of gross floor area. This provision is not consistent with the MP 2030 controls which require a maximum of 1 space per 80m^2.

SOPA is seeking to restrict the provision of parking as a travel demand management tool. The MP 2030 control will, in the long term, reduce reliance on private vehicles. This restricted parking rate was originally intended to be introduced when public transport services to SOP had improved to the stage where they offered a viable alternative to the private car for the majority of workers.

Notwithstanding this, SOPA introduced this restricted rate prior to public transport becoming a viable alternative for the majority of workers. Further, RMS has confirmed that an intended bus route (Route 13) is not identified as being part of current works, and the development of a metro rail link between Western Sydney and Sydney CBD (through SOP) was cancelled in February 2010 and is not currently part of the NSW Government's transport strategy.

The provision of one space per 80m^2 would result in 3 Murray Rose Avenue incorporating only 170 parking spaces. Given there could be up to 1,300 staff accommodated in the building, this level of parking combined with the limited capacity of the local public transport system would result in limited options for people to get to work.

It is fundamental to the growth of SOP that the parking provision reverts to the previous maximum rate of one space per 55m^2 of gross floor area until such time that available public transport significantly improves. This view was supported by the SOP Transport Strategy, which listed amongst its key findings that the provision of commercial private parking should be decreased from one space per 55m^2 to one space per 80m^2 over time, linked to major public transport improvements. Accordingly, one space per 55m^2 is the most appropriate level of provision at this stage.

The internal layout of the proposed car park is in accordance with requirements of AS 2890.1.2004. This standard specifies that a queuing length of five vehicles should be provided on the approach to the entry to the car park. The proposed development can only achieve 3 vehicles accommodated inside the building and on the verge, plus a further car in the kerbside land, providing a queue of four vehicles.

Management

Access into the car park is to be controlled by a boom gate operated by a card reader. AS 2890.1.2004 indicates that entry lanes controlled by a card reader should have capacity for 400 vehicles per hour per lane, which suggests that the entry has theoretical capacity to allow entry to the entire car park in any one hour. This volume is, however unlikely to occur. Whilst there will be some peak arrivals resulting in temporary queuing across the footpath, the footpath and verge are 5m wide allowing pedestrians to walk around any queuing vehicle. Further, the pedestrian entrance into the building is approximately 30m to the west of the vehicular entrance, therefore queuing vehicles are unlikely to affect pedestrian movement to and from the site.

5.5.4 Promotion of Sustainable Means of Transport

The proposal incorporates bicycle parking in excess of SOPA's minimum permanent space requirement, in that 106 are to be provided when only 91 are required. The bicycle storage area has been placed in a prominent position overlooking Murray Rose Avenue to increase the activation of the streetscape.

Furthermore, in order to promote other sustainable forms of transport Workplace Travel Plans will be prepared by each tenant of the building and this requirement will be incorporated into GPT's lease documentation.

This measure forms part of the draft Statement of Commitments.

5.5.5 Traffic Generation

Based upon the same generation rates adopted for the MP 2030 Transport Strategy for commercial development (i.e. 1.66 peak hour vehicle trips per 100m^2 GFA) which are based on the RMS rates for "Office Commercial" development, the traffic generation for the proposed development is 227 vehicle trips per peak hour. Furthermore, the combined trip generation rate for both 3 and 5 Murray Rose Avenue will be 447 vehicle trips per peak hour.

For the purposes of this assessment, Better Transport Futures have assumed that all traffic will use the Australia Avenue/ Murray Rose intersection on non Major Event days, with 80% of trips being inbound and 20% outbound during the morning peak and the reverse during the afternoon peak.

A SIDRA analysis of the Australia Avenue/ Murray Rose Avenue intersection has been undertaken to determine the vehicle waiting time and a level of service rating to indicate the relative performance of the intersection. A summary of the SIDRA results is included at **Table 11**.

Table 11 – SIDRA intersection analysis results

Road Section	AM Peak		PM Peak	
	Existing LOS	Proposed LOS	Existing LOS	Proposed LOS
Australia Avenue - South	A	A	A	A
Australia Avenue - North	A	A	A	A
Murray Rose Avenue - East	B	B	B	D
Murray Rose Avenue - West	B	B/C	B	B

Overall, the SIDRA analysis confirms that the additional traffic flows associated with the construction of 3 Murray Rose Avenue can be adequately accommodated within the surrounding road network. All traffic movements on Australia Avenue and Murray Rose Avenue will operate well within the minimal delays and congestion for traffic during both the morning and afternoon peak periods.

5.6 Accessibility

The accessible paths of travel from Murray Rose Avenue to the building and Brickpit Park are illustrated in the Interim Site Plan included at **Appendix E**. In addition, an Accessibility Review has been prepared by Morris Goding Accessibility Consulting (Morris Goding) in relation to the proposed development (refer to **Appendix L**). The review was undertaken to ensure that ingress and egress, paths of travel, circulation areas, lifts, toilets and car parking comply with relevant statutory guidelines, including SOPA's Access Guidelines.

The review demonstrates that the proposed development provides an appropriate degree of accessibility. The architectural drawings indicate compliance with statutory requirements pertaining to site access, common area access, accessible parking and accessible sanitary facilities can be readily achieved.

Morris Goding has made a number of recommendations in its report to ensure that the development meets the relevant statutory requirements and standards. The recommendations will be incorporated into the detailed design of the development and submitted with the construction certificate documentation.

This matter is addressed in the draft Statement of Commitments.

5.7 Major Events

The proposed development has been considered against the relevant provisions of SOPA's Major Event Impact Assessment Guideline, as discussed below.

5.7.1 Noise

Potential noise impacts from major events such as the use of ANZ Stadium, the Sydney Showground and the Royal Easter Show have been assessed to ensure that there will be no unacceptable impact on the proposed development. The Acoustic Assessment (refer to **Appendix M**) concludes that provided the recommended windows and glazing are provided to attenuate the noise, compliance with the required acoustic criteria will be achieved.

The noise impacts from the rail line and the V8 Supercar Street circuit were not assessed for the following reasons:

- the rail line is situated more than 60m from the site and the Rail Infrastructure Corporation guidelines do not require assessment of potential noise and vibration impacts in such circumstances;
- the closest the circuit will come to the site is approximately 300m from the site and as the circuit will only be in use for one working day per year, it is not considered necessary to assess potential impacts or upgrade the building to negate such an infrequent event.

5.7.2 Traffic

3 Murray Rose Avenue is located on the periphery of the "Major Event Operations Zone" and will be impacted by some major events and associated road closures on major event days such as the Royal Easter Show and the V8 Super Car Racing. Car park 6F, which is located on the western side of 5 Murray Rose Avenue is used for the Royal Easter Show, and it is anticipated that a section of Murray Rose Avenue in proximity to Australia Avenue will be closed for a month during this event each year.

Discussions with SOPA have indicated that Australia Avenue south of Dawn Fraser Avenue is always open during major events to retain access to the commercial areas of SOP. Parkview Drive will also always remain open and consequently vehicles will be able to access the site via Murray Rose Avenue from Bennelong Parkway and from Parkview Drive.

The biggest impact on the operation of 3 Murray Rose Avenue during a major event is likely to be the reduction in on-street public parking. This will require users to find alternative methods of transport or parking facilities. In these situations, commuters will be encouraged to use public transport, through the circulation of Travel Plans to inform workers of transport options available.

Further, the operation of the proposed development is also unlikely to impact on any of the key event operation measures (i.e. the bus or coach routes, parking access, rail station access, pedestrian links and crowd access routes). This is because the proposed development is not located on a route where daily arrivals and departures will adversely impact on a major event operation.

5.8 Tree Removal

The proposed development necessitates the removal of thirty (30) trees (being trees 1-29 and 32) and a Lilly Pilly hedge from the site (refer to **Figure 18** and Demolition Plan at **Appendix E**). The majority of the trees are located along the northern site boundary and comprise:

- 19 Swamp mahoganys;
- 7 Yellow Bloodwoods;
- 3 Chinese Elms; and
- 1 Tasmanian Blue Gum.

It is anticipated that the remainder of trees identified in **Figure 18** will be removed pursuant to future applications. Accordingly, a Arboricultural Assessment has been undertaken by Hunter Horticultural Services (refer to **Appendix P**) to assess all the trees and hedges within the site and located to the south-east of the existing office/warehouse building. The results of the assessment found that:

- trees 1-33 are generally poor specimens and are suitable for removal;
- trees 34 and 35 are in generally good health, but have some structural defects and cannot be adequately protected during and after construction as required by AS 4970 (2009), therefore based on economic grounds they are suitable for removal;
- trees 36-38 and 42-43 are generally good specimens, but their retention is not considered viable given they are all in close proximity to the office/warehouse building which is to be demolished;
- trees 39-40 and 44-49 are generally fair to poor specimens, but are common exotic species, and there protection is not considered viable based on their condition;
- tree 50 is in generally good health, but has some structural defects. It has a short useful life expectancy, therefore it is not considered worthy of retention;
- the larger hedge is in good condition, but is suitable for removal as it is a generally fast growth species, which can easily be replaced; and
- the smaller hedge is in poor condition and suitable for removal on that basis.

Overall, given that the tree removal will be off-set by the planting of 34 new trees, none of the trees on the site are rare or endangered and cannot be adequately protected if the MP 2030 vision for the 1-5 Murray Rose Avenue is to be achieved, the removal of the trees and hedges can be supported.

5.9 Flora and Fauna

A detailed Flora and Flora Impact Assessment relating to the entire 1-5 Murray Rose Avenue site was prepared by Cumberland Ecology in 2009 and submitted as part of the supporting documentation for the 5 Murray Rose Avenue development. The reasons for this were that native vegetation was to be removed and the 1-5 Murray Rose Avenue site is located within the vicinity of key ecological habitats such as the Brickpit and the Badu Mangroves.

The 2009 assessment incorporated formal assessments of significance in relation to the NSW *Threatened Species Conservation Act 1995* (TSC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). These assessments found that no significant impacts were likely to occur to any NSW or Commonwealth listed species or community. Furthermore, a referral to the Commonwealth Minister of the Environment under the provisions of the EPBC Act was not required.

Given additional vegetation is to be removed from the site, as part of this development, Cumberland Ecology has prepared an updated Flora and Fauna Assessment for the 3 Murray Rose Avenue development (refer to **Appendix Q**). It includes an updated search of threatened species, as listed under the TSC Act and/or the EPBC Act, that have been recorded in the locality.

The findings of the updated search indicate that several additional threatened species have been listed as 'Vulnerable' under the TSC Act since the 2009 assessment was undertaken. The species include the Little Eagle, Little Lorikeet and the White-fronted Chat, which are considered to have some potential habitat within the locality, but not within the subject site.

Accordingly, Cumberland Ecology consider that no threatened species or communities will experience direct habitat loss as a result of the proposed development.

The proposed development is however considered to have the potential for indirect impacts on threatened species or communities within the Badu Mangroves or Brickpit due to increased flow and reduced stormwater quality. Given that stormwater from the site will drain directly into SOPA's Water Reclamation and Management Scheme (WRAMS) which is a large scale integrated urban water system, it is considered that the WRAMS system will ensure that adverse impacts from stormwater will not arise.

Further, the site is also identified as being part of a movement corridor for Green and Golden Bell Frogs, broadly linking the Brickpit and the Badu Mangroves. Whilst there is the potential for the proposed development to impact upon this movement corridor, the preferred movement corridor is via an alternative path using existing underpasses beneath Bennelong Parkway. Further, the updated Flora and Fauna assessment notes that SOPA maintain a frog fence between the proposed development and the Brickpit. It is therefore not anticipated that the proposed development will reduce the movement of the frogs between areas of adjoining habitat.

Management

A site specific Green and Golden Bell Frog plan will be prepared prior to the start of works. This plan will be prepared in conjunction with SOPA and with regard to relevant guidelines and protocols. The plan will also incorporate the following:

- a requirement to cease of work if Green and Golden Bell Frogs are detected;
- detailed instructions for the management of the frogs and their habitat;
- protocols for the cleaning of equipment to minimise the likelihood of transmitting any from pathogens.

This matter is addressed in the draft Statement of Commitments.

5.10 Integrated Water Management

The proposed development is to be connected to the Water Reclamation and Management Scheme (WRAMS) which is a large scale integrated urban water management system operated by SOPA across SOP. Its key features include:

- collection and treatment of sewage;
- collection, treatment and storage of stormwater;
- supply of recycled water for non-drinking uses to all residents, commercial premises and sporting venues; and

- a capacity to service a population up to 20,000 people.

Connection to the WRAMS system will also ensure that the site will be serviced by non-potable water for use in the cooling towers and for toilet flushing, irrigation and external hose taps.

5.11 Geotechnical Implications

A Geotechnical Investigation Report, prepared by Douglas Partners (**Appendix I**), provides information on the subsurface conditions of the site. The field work for the geotechnical investigation comprised the drilling of five (5) boreholes to a depth of approximately 15m. Four(4) of the boreholes were subsequently converted into groundwater monitoring wells at the completion of the drilling. The location of the boreholes are illustrated in **Figure 20**.

The subsurface conditions encountered in the boreholes are presented in **Table 12.**

Table 12 – Sub-surface profile of the site

Level	Profile	Depth
Fill	Crushed shale, silty sandy clay, silty clay, clay and gravelly sand with sandstone, shale, roadbase and brick	Between 0.6m and 2.7m
Residual Soil	Firm to stiff clay was encountered below the fill in boreholes G2, G3 and G5. Residual soil was not encountered in boreholes G1 and G4.	G2, G3 and G5 - depth between 2.0m and 3.5m
Bedrock	Siltstone and/or shale bedrock. The rock was found to be initially weathered and generally extremely low to very low strength, grading from fresh, medium to high strength as the depth of the boreholes increased. Numerous joints were observed and several high strength sideritic bands were also present.	Bedrock was encountered directly below boreholes G1 and G4 and below the residual soil in boreholes G2, G3 and G3. Bedrock continues to be encountered to 15m (the maximum depth of the boreholes).

The geotechnical investigations did not observe free groundwater during the augering, however, water levels were measured at the following levels in the monitoring wells

- Borehole G1 - 8.1m AHD;
- Borehole G4 - 7.1m AHD; and
- Borehole G5 - 10.2 AHD.

Having regard to the site's characteristics, recommendations have been formulated by Douglas Partners in regard to excavation, excavation support and foundations.

In order to ensure that the proposed development will not adversely impact upon the site's sub-surface profile, groundwater, the existing buildings and infrastructure in the locality, the recommendations within the Douglas Partners report will be adhered to.

This matter is addressed in the draft Statement of Commitments.

Figure 20 – Borehole locations

5.12 Contamination

A detailed Contamination Assessment Report has been prepared by Douglas Partners (Refer to **Appendix K**) to:

- assess the general levels of soil contamination resulting from past and present activities on the site;
- assess the potential for contaminant migration by examining the groundwater quality on the site;
- assess the suitability of the site for the proposed development;
- provide recommendations for remediation works, if required; and
- provide information on waste classification for the materials that are to be removed from the site during the excavation works.

The scope of work comprises a review of available historical information, the installation of groundwater monitoring wells, excavation of test pits, soil and groundwater sampling, laboratory analysis and interpretation of the results.

The results of the investigations are summarised as follows.

5.12.1 Historical Use Assessment

A review of the site history including title deeds, aerial photographs, the Public Register of Notices (issued under the *Contaminated land Management Act 1997*), WorkCover Dangerous Licences database, and groundwater bore licences have indentified the following:

- the land was owned from 1905 until 1993 by the Metropolitan Meat Industry Board, which was responsible for operating an abattoir and meat works in the Homebush Bay area (although there are no records to show that the abattoir was actually located on the development site);
- the site was owned by the Olympic Co-Ordination Authority from 1993 until 2002, and by Sydney Olympic Park Authority from 2002 to present day. GPT RE Limited currently own the leasehold on the site, under a 99 year lease arrangement;
- historical aerial photographs indicate that between1949 and at least 1982, the site was partially occupied by large commercial-type buildings, however the buildings had been demolished by 1991 and the site was vacant and grassed;
- the office/warehouse building which partially remains on the site (and was partially demolished as part of the 5 Murray Rose Avenue works) is shown on the photograph from 1998;
- the development site is not on the Public Register of Notices under the *Contaminated Land Management Act 1997*;
- no evidence of licences under the Workcover Dangerous Goods Licences database exist; and
- no licensed groundwater wells are located within the site.

5.12.2 Soil and Groundwater Assessment

The results from the twenty-eight soil samples which were selectively analysed found:

- two (2) samples of the filling exhibited Benzo(a)pyrene concentrations above the adopted Health Investigation Level (HIL) adopted for the site and all other contaminants identified in the soil samples were below the HILs;
- twelve (12) samples of the filling exhibited arsenic concentrations above the Phytotoxicity-based Investigation Level (PIL) for arsenic and one sample exhibited a zinc concentration above the PIL for zinc;
- Asbestos was not observed in the test pits/bores and was not detected in the samples analysed in the laboratory;
- tests for Polycyclic Aromatic Hydrocarbons (PAHs) found that levels were below the laboratory detection limits and are therefore considered to be non-leachable;
- groundwater samples contained elevation concentrations of several organic compounds and zinc, however a specific source of the contaminants could not be found.

Management

The two samples which contained excessive concentrations of Benzo(a)pyrene were taken from bores within the area to be excavated for the basement. Therefore the soil will be removed and disposed as part of the bulk earthworks.

The filling materials across the site have been tested and are classified as General Solid Waste (non-putrescible), therefore all fill materials will be disposed of at an appropriately licensed landfill facility. However the natural soils and bedrock

underlying the site are expected to be able to be disposed of as excavated natural material (VENM) providing there is no cross-contamination prior to, during or following excavation. Confirmation of the VENM status will be undertaken during the excavation works prior to disposal.

Further, if the source of the groundwater contaminants is found on the site, it will be removed during the excavation works, however if the source is not on the site, then Douglas Partners consider that the quality of the groundwater is likely to be indicative of regional groundwater quality.

Overall, Douglas Partners consider that despite the findings of the detailed assessment, the soils that will remain on the site following the bulk excavation works are suitable for the proposed commercial land-use. Further, the quality of the groundwater should also not hinder the proposed development provided that disposal of seepage water is undertaken in accordance with regulatory requirements.

On this basis, the site is considered suitable for the proposed development.

This matter is addressed in the draft Statement of Commitments.

5.13 Ecologically Sustainable Development

Consistent with the 5 Murray Rose Avenue development, 3 Murray Rose Avenue has also been designed to achieve outstanding sustainability performance. Section 3.6 sets out the measures which will be incorporated within the design of the development to achieve a minimum 5 star Green Star Office design rating and a 5 Star NABERS rating for both water and energy performance. Further, Lend Lease has provided a summary statement of the proposed ESD measures and a Green Star Matrix outlining how the 5 Star ratings will be achieved (refer to **Appendix H**).

As a result of the proposed initiatives the following savings are expected:

- At least a 70% saving in the consumption of potable water compared to a typical (2.5 star) building. This equates to a potable water saving of more than 6,500,000 litres per year.
- At least a 50% saving in greenhouse emissions associated with energy use compared to a typical (2.5 star) building. This equates to a saving of more than 680,000 kg CO_2 per year.

The proposed development is also consistent with the five accepted principles of ESD described below. The proponent is committed to ESD principles (as evidenced by the commitments in **Appendix H**) and has reinforced this through this Environmental Assessment.

Integration Principle

The integration principle holds that decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

The design of 3 Murray Rose Avenue has been developed in accordance with the overall strategy for the precinct as set out in MP 2030 and the approved planning documentation for 5 Murray Rose Avenue. It will complement the existing commercial developments in the local vicinity, 5 Murray Rose Avenue and the envisaged future stages of development on the 1-5 Murray Rose Avenue site.

Precautionary Principle

If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The proposed development is accompanied by multiple environmental studies and technical reports which conclude that there are no environmental constraints that preclude the development of the site in accordance with the proposal, subject to appropriate management in future planning, design, construction and operational strategies.

Inter-generational Principle

The principle of inter-generational equity holds that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The proposed development will directly benefit current and future generations in that it will contribute to the long term development of Sydney Olympic Park.

Biodiversity Principle

Under the biodiversity principle, the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

There is no significant natural vegetation on the site and it does not contain any threatened or vulnerable species, populations, communities or significant habitats. Construction and ongoing operations of the building will be managed in accordance with the draft Statement of Commitments, ensuring no significant indirect impacts on the Brickpit or Badu Mangroves.

Valuation Principle

Under this principle, improved valuation, pricing and incentive mechanisms should be promoted. The costs of infrastructure and measures to ensure an appropriate level of environmental performance on the site have been incorporated into the cost of the development.

5.14 Building Code of Australia

Vic Lilli & Partners has undertaken a preliminary assessment of the Architectural Drawings against the provisions of the Building Code of Australia 2012 (BCA 2012) (**Appendix R**).

The assessment confirms that the proposed development is capable of achieving compliance with the requirements of the BCA 2012 and relevant Australia Standards without undue modification to the design or appearance of the building.

In order to ensure compliance, Vic Lilli & Partners has provided a number of recommendations for amendments or alternate solutions within the report. The necessary amendments will be incorporated into the detailed design of the development and submitted with the construction certificate documentation.

5.15 Construction Management

A detailed Construction and Environmental Management Plan (CEMP) will be prepared by the appointed contractor prior to commencement of works. The CEMP will be prepared in accordance with the relevant applicable Australian Standards and Occupational Health and Safety requirements and will address the following matters:

- site access controls, public safety, amenity and security;
- operating hours;
- noise and vibration control;
- material management, waste and material re-use;
- construction traffic management;
- dust suppressions;
- tree protection; and
- notification of surrounding properties.

Mitigation measures and management plans where necessary, will also be included in the CEMP to ensure that the construction works do not cause any adverse environmental impacts upon the surrounding area and measures follow best practice principles.

Site Waste Minimisation

As part of the CEMP waste management provisions, best practice will be adopted wherever possible to achieve wast minimisation and reduction. Key areas that will be targeted will be:

- avoidance, wherever possible, of the generation of waste;
- management of demolition materials, including hazardous materials;
- management of construction materials;
- management of excavated fill materials;
- management of waste water; and
- management of litter generation due to construction activities.

In addition, the waste management provisions will include details at demolition and construction phase which relate to the following:

- practical measures associated with the contractor works to prevent waste entering the site;
- waste streams resulting from the materials which can be recycled and will be actively managed as part of the on-site waste reduction activities; and
- alternative products containing recycled material that could be utilised in the development, in place of traditional materials, which conform and meet the design specification.

In addition, all suppliers of building materials will also be encouraged to nominate packaging minimisation and reuse initiatives as part of the product supply to the project.

Construction Traffic

In order to effectively manage construction traffic, a Construction Traffic Management Plan will be prepared and included in the CEMP. This plan will require:

- Construction vehicles to access the site via Australia Avenue and Murray Rose Avenue.
- The RMS to be consulted regarding proposed truck routes.
- Construction of the extension to Murray Rose Avenue to be concurrent with the construction of 3 Murray Rose Avenue and the responsibility of SOPA.

This matter is addressed in the draft Statement of Commitments.

5.16 Operational Waste Management

The proposed development includes separate garbage and recycling rooms. The end users of the building are unknown at present, therefore an operational waste management plan will be prepared by the building manager/future tenant(s) of the building prior to the issue of the occupation certificate.

This matter is addressed in the draft Statement of Commitments.

6.0 Draft Statement of Commitments

In accordance with the Director-General's Environmental Assessment Requirements, the proponent is required to include a Draft Statement of Commitments in respect of environmental management and mitigation measures on the site. The following are the commitments made by GPT RE Limited to manage and minimise potential impacts arising from the project.

6.1 Acoustic and Noise

GPT RE Limited will install the glazing as specified on all facades of the building in accordance with the recommendations included in the Acoustic Report, prepared by Acoustic Logic dated 29 August 2012.

In relation to mechanical plant, GPT RE Limited will:

- enclose all chillers within plant rooms;
- locate cooling towers on the western side of the plan room, as far as practicable from future residential properties;
- install all plant items using vibration isolation mounts to prevent structure borne noise transferring to offices below.

6.2 Promotion of Sustainable Means of Transport

GPT RE Limited will incorporate the requirement for the preparation of Workplace Travel Plans into lease documentation for future tenants.

6.3 Accessibility

GPT RE Limited will incorporate the recommendations in the Accessibility Review report, prepared by Morris Goding Accessibility Consultants dated 27 July 2012 into the detailed design of the development to be submitted with construction certificate documentation.

6.4 Flora and Fauna

GPT RE Limited will commission the preparation of a site specific Green and Golden Bell Frog plan prior to the commencement of works in conjunction with SOPA and in accordance with relevant guidelines and protocols.

6.5 Geotechnical

GPT RE Limited will implement the recommendations set out within the Douglas Partners Geotechnical Investigation Report dated 22 August 2012 prior to and during construction works.

6.6 Contamination

GPT RE Limited will implement the recommendations set out within the Douglas Partners Detailed Contamination Assessment dated 23 September 2012.

6.7 Construction Management

A detailed Construction and Environmental Management Plan will be prepared by the appointed contractor prior to the commencement of works. The Plan will be prepared in accordance with the relevant applicable Australian Standards and Occupational Health and Safety requirements and will address the following matters:

- site access controls, public safety, amenity and security;
- operating hours;
- noise and vibration control;
- material management, waste and material re-use;
- construction traffic management;
- dust suppressions;
- tree protection; and
- notification of surrounding properties.

6.8 Operational Waste Management

An operation waste management plan will be prepared by the building manager/future tenant(s) of the building prior to the issue of the occupation certificate.

7.0 Conclusion

This proposal represents the second of five buildings that will be constructed within the 1-5 Murray Rose Avenue site and is the product of extensive consultation with SOPA to achieve design excellence on the site. The assessment of the proposal demonstrates that it will result in positive economic, social and environmental benefits and is consistent with the vision for the site as set out in MP 2030.

ESD principles have guided the design of the development and there are no environmental impacts, that cannot be effectively managed resulting from the proposal. Furthermore, the proposed development will not impact on, or be impacted by, major events at SOP.

The built form of the building is appropriate for its commercial context and the proposed materials and finishes match that of 5 Murray Rose Avenue and respond to the surrounding environment. The proposed landscaping provides high quality public domain areas and the overall amenity of the area will be enhanced.

The project is considered to have planning merit in the following respects:

- it is consistent with the relevant planning legislation, and environmental planning instruments;
- it achieves design excellence and forms a key part in the on-going development of the Parkview Precinct at SOP;
- it will enable the provision of high quality commercial floor space and thereby support the growth of SOP; and
- it will provide an ecologically sustainable development with a minimum 5 star Green Star Office design rating and a 5 star NABERS rating for both water and energy performance.

Given the above, the Project Application for 3 Murray Rose Avenue is justified and submitted for approval by the Minister for Planning and Infrastructure.