4 Development Description

4.1 Concept Plan Development Summary

North Eveleigh Site Area	**107,535 sqm**
Total Gross Floor Area (GFA)	180,007 sqm
▪ Residential GFA	92,139 sqm
▪ Commercial GFA	61,072 sqm
▪ Retail GFA	4,000 sqm
▪ Cultural Purposes GFA	22,796 sqm (including CarriageWorks)
Estimated Total Dwellings	**1,258 dwellings**
Estimated New Resident Population	**2,400 people**
Estimated Permanent New Jobs	**3,270**

4.2 Concept Plan for which approval is sought

The Major Project Application seeks development consent for mixed use development for North Eveleigh Precinct. The preferred design concept for the redevelopment of the North Eveleigh site is the product of extensive site planning and heritage analysis. Aspects for which concept approval is sought include:

- **Land Use:** Use of the site for residential, office/retail and open space purposes as well as the adaptive reuse of heritage buildings for cultural/community purposes as shown on the Land Use Plans prepared by Bates Smart.
- **Density:** The achievement of the following densities for the Eastern, Western and Central Precincts:
  - Eastern Precinct: The achievement of a maximum floor space ratio of 2:1 for mixed use development (approximately 94,280m^2) and 1:1 for residential development (approximately 47,140m^2),
  - Western Precinct: The achievement of a maximum floor space ratio of 2:1 (approximately 57,960m^2),
  - Central Precinct: The achievement of a maximum floor space ratio of 1.1:1 (approximately 34,588m^2)
- **Building Location and Envelopes**: Building location and envelopes as shown in the Land Use Plans prepared by Bates Smart. Retention and adaptive reuse for the following buildings on the site:
  - Carriage Workshop
  - Blacksmiths' Shop
  - Telecommunications Equipment Centre
  - Chief Mechanical Engineer's Office Building
  - Scientific Services Building No 1
  - Clothing Store
  - Restoration (in part), rebuild and extension of the Paint Shop Building.
- **Demolition** of remaining buildings and structures.
- **Building Heights:** ranging from 4 storeys to 16 storeys as shown in the Site Plan prepared by Bates Smart.
- **Parking and Vehicular Access:** 3 levels of basement parking to accommodate approximately 1943 vehicles. Road designs, access arrangements and at grade parking as shown in the Indicative Parking Provision Plan prepared by Bates Smart and included in the Traffic and Transport Impact Assessment prepared by Parsons Brinckerhoff.
- **Roadworks:** Works along Wilson Street and intersection improvements as indicated in the Report by Parsons Brinckerhoff.
- **Open Space and Landscaping:** Provision as shown in the Open Space and Road Dedication Plan as prepared by Bates Smart and Landscape Strategy Report prepared by TDS & JAAA. Removal of trees as indicated in the Report by Landscape Matrix, and proposed dedication of land for public open space. Interpretation of the Fan of Tracks by landscaping its area of coverage in a manner that retains an understanding of its function and significance.
- **Infrastructure and Services:** Associated infrastructure works.
- **Remediation:** In accordance with the Remediation Strategy for North Eveleigh Rail Yard prepared by SMEC Pty Ltd.

The final number, layout, mix and size of apartments do not form part of this application and will ultimately be determined in subsequent Project Application(s). However, the architectural concept plans include an indicative apartment layout illustrating different apartment types that may be accommodated within the building envelopes.

A new pedestrian bridge connecting the site to Redfern Station will be lodged under a separate application.

It is noted that existing buildings in the central precinct will remain and no additional building elements are proposed.

Following approval of the Concept Plan, a Project Application detailing the development will be submitted to the Minister for Planning for approval.

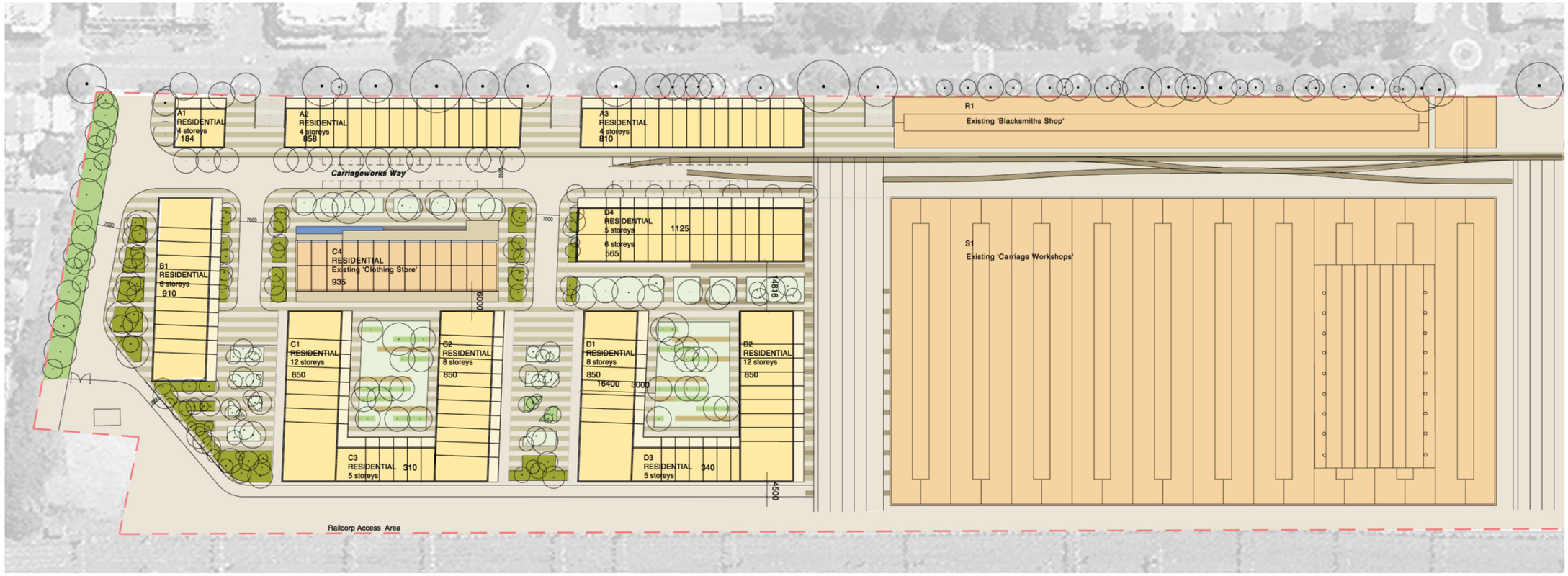
4.3 Details of the Proposal

The project will provide new residential and commercial development on the North Eveleigh site to facilitate the renewal and revitalisation of the RWA Operational Area. The redevelopment is described below.

4.3.1 Distribution of Land Uses

The proposed pattern of land uses envisaged by the redevelopment is shown in Figure 8. The uses are broadly classified into three categories:

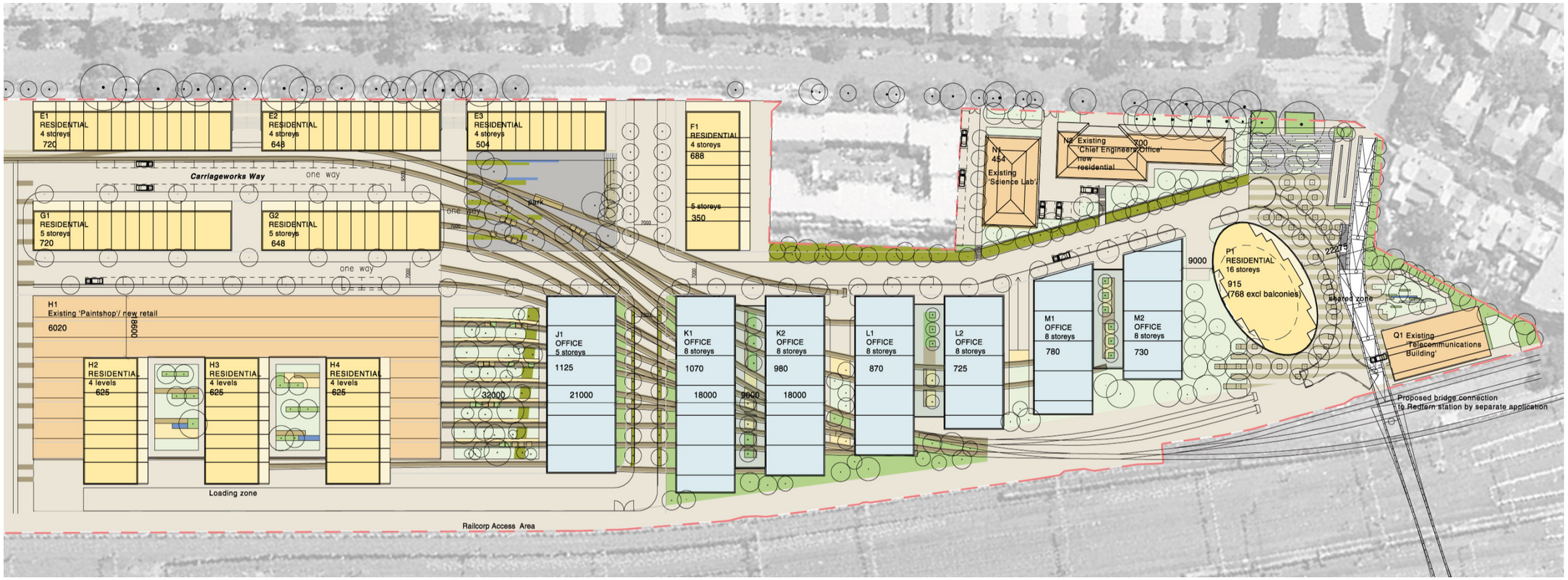
- Proposed residential areas (generally to the west of the Carriage Workshop and Traverser 2);
- A cultural/commercial precinct in the centre of the site, comprising the CarriageWorks performance arts centre, additional cultural and commercial floor space within the Carriage Workshop, and cultural and commercial uses within the Blacksmiths' Shop.
- A mixed use area including residential, commercial and retail to the east of the Carriage Workshop and Traverser 1. The eastern end of the development close to Redfern Railway Station is proposed to be mostly commercial and retail; and
- Asscociated open space and roads to service the land uses and to increase access to the site for the neighbouring community.



Legend

- Residential
- Office/ Retail
- Heritage - adaptive reuse

Figure 8 – Proposed Land Use Distribution


E1
RESIDENTIAL
4 storeys
720
E2
RESIDENTIAL
4 storeys
648
E3
RESIDENTIAL
4 storeys
504
F1
RESIDENTIAL
4 storeys
688
5 storeys
350
Carriageworks Way
one way
park
G1
RESIDENTIAL
5 storeys
720
G2
RESIDENTIAL
5 storeys
648
N1
454
Existing
'Science Lab'
N2 Existing
'Chief Engineer's Office'
new
residential
X00
9000
P1
RESIDENTIAL
16 storeys
915
(768 excl balconies)
2225
shared zone
Q1 Existing
'Telecommunications
Building'
Proposed bridge connection
to Redfern station by separate application
H1
Existing 'Paintshop'/ new retail
6020
9890
H2
RESIDENTIAL
4 levels
625
H3
RESIDENTIAL
4 levels
625
H4
RESIDENTIAL
4 levels
625
Loading zone
32000
J1
OFFICE
5 storeys
1125
21000
K1
OFFICE
8 storeys
1070
18000
9900
K2
OFFICE
8 storeys
980
18000
L1
OFFICE
8 storeys
870
L2
OFFICE
8 storeys
725
M1
OFFICE
8 storeys
780
M2
OFFICE
8 storeys
730
Railcorp Access Area

4.3.2 Urban Design

The urban design framework upon which the Concept Plan is based aims to create a coherent and legible framework for the development of the site that consists of a pattern of streets and blocks *(See Figure 9)*. The alignment and visual continuity of the surrounding neighbourhood streets through the site has been maintained with the creation of a series of north-south streets. The existing heritage buildings have been used to establish the alignment of east-west streets. The combination of the two street patterns establishes a framework of traditional streets and blocks in a configuration that responds to both the neighbourhood streets and heritage buildings on the site.

A shared pedestrian spine links the precincts on the site creating a promenade activated by cultural facilities and public spaces.

Building typologies have been developed to create flexible commercial viable types that evolve from the heritage building typology and relate to the sites unique history and situation. A landmark building will create a marker for the Redfern Station and identity for the development.

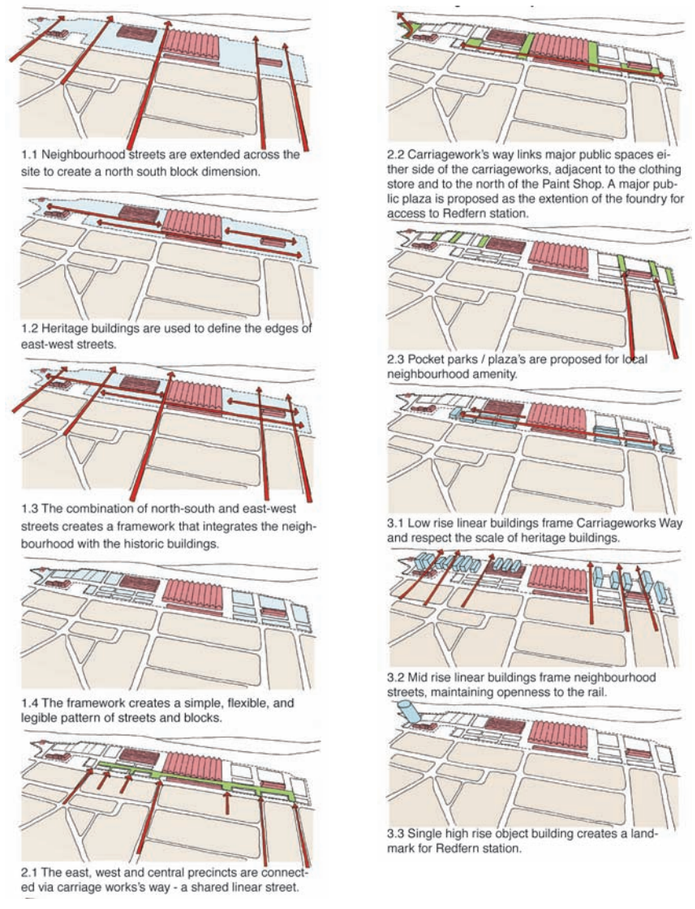


Figure 9 - Urban Design Framework

4.3.3 Gross Floor Areas

The maximum floor space area of the site is determined by its site area and the floor space ratios identified in the SEPP (Major Projects). Under those provisions, the maximum permitted floor space area is 183,350m^2. The proposed development complies with this control, proposing a total of 180,007m^2 of gross floor area (GFA) across the entire site.

This includes 92,139m^2 of floor space for residential development and 87,868m^2 of floor space for commercial, retail and community purposes. It should be noted that the total GFA includes 11,217m^2 of existing floor space area in the heritage buildings proposed to be retained (i.e. Paint Shop, Telecommunications Equipment Centre, CME Building, Scientific Services Building and the Clothing Store) and 21,588m^2 of floor space approved for the expansion of the Blacksmiths' and Carriage Works buildings.

The distribution of GFA across the site is addressed in detail at Section 5.2.

4.3.4 Floor Space Ratios

The FSR provision across the Site is outlined in Table 2 below.

Table 2 - Proposed Floor Space

	Floor Space Ratio	Area (m^2)	Permitted Floor Space	Proposed Floor Space	Proposed (FSR)
Western Precinct	2:1	28,980	57,960	55,851	1.9:1
Central Precinct	1:1	31,110	31,110	34,588	1.1:1
Eastern Precinct	2:1 (1:1maximum residential)	47,140	94,280 (47,140 residential)	89,568 (36,288 residential)	1.9:1 (0.77:1 residential)
Total Site Area		**107,230**	**183,350**	**180,007**	**1.67:1**

Based on a total GFA of 180,007m^2 and site area of 10.7ha, the proposed floor space ratio (FSR) for the entire development has been calculated at 1.67:1.

The Concept Plan is a genuine mixed use development as demonstrated by the apportionment of the FSR for residential and non-residential uses. Residential development gives rise to a floor space ratio of 0.86:1, whilst non-residential floor space ratio is 0.82:1.

It is noted that the provision has been made for an additional 12,000m^2 of additional floor space to be accommodated in the Carriage Workshop and 1,000m^2 additional floor space in the Blacksmiths' Shop.

The CarriageWorks development was recently completed. At this stage only half of the bays are occupied by Arts NSW.

Unless an increase of floor space area is provided for, the development potential and use of the building will be impeded. Additional floor space within the building will not impact upon the urban form of the site or the surrounding area and offers a sustainable development outcome through the adaptive reuse of an existing heritage building.

Importantly, it is noted that despite the increase in floor area within these two buildings, the total floor space area for the entire site is 180,007m^2, less than that permitted by the floor space controls in the *SEPP (Major Projects)*.

The distribution of FSR across the site is addressed in detail at Section 5.2.1.

4.3.5 Building Heights

In relation to permissible heights, the proposed scheme does not achieve maximum heights in some areas of the site. In other instances it has been necessary to exceed permissible heights and to redistribute heights across the site to achieve the best urban design, planning and commercial objectives. Figure 10 shows the distribution of height across the site. The distribution of heights across the site is addressed in section 5.2.1.

Figure 10 – Proposed heights

4.3.6 Heritage Adaptive Reuse

It is proposed to retain and adaptively reuse all buildings identified as Heritage Items by the *SEPP (Major Projects)*, as follows:

Carriage Workshop

As discussed above the CarriageWorks performance arts centre currently occupies approximately half of the Carriage Workshop building. It is proposed to permit an additional 12,000m^2 of floor space in the western half of the building. Car parking for the development will also be accommodated within the western half of the building. Provision of additional floor space will result in increased sustainability by optimising development through the adaptive reuse of an existing heritage building. Increase in development potential will not impact on the urban form of the site or surrounding area.

Blacksmiths' Shop

The use of the Blacksmiths' Shop for markets, arts uses and car parking has recently been approved. It is proposed to include an additional floor level, or an additional 1000m^2 of floor space, allowing for associated car parking to be accommodated within the building envelope.

Paint Shop

The Paint Shop has a building footprint of 6,870m^2. It is proposed to make alterations and additions to this building to accommodate additional floor space. In the design of the alterations Bates Smart has developed the following principles:

> *The building typologies above the Paint Shop employ a similar language to the treatment of the proposed taller southern buildings on the site. These too run perpendicular to the rail line. These volumes have been pulled away from the northern façade and are expressed on the southern elevation interlocking with the existing heritage building. To the north of the Paint Shop it is envisaged the northern most bay remain as an open colonnade. The retail and commercial facilities provided at ground floor will activate the façades to the north, east and west with open café dining provided to the public park to the east. Parking facilities for both retail, commercial and residential will be located within the existing shell of the Paint Shop on mezzanine levels to the south. Access to these parking facilities and to retail loading will be from the south accessed through the new façades leaving the rhythmic arched bays of the heritage structure untouched. The residential buildings above are set back from the north, east and west facades to respect the activated façades. Private landscaped open courtyard gardens will be created for the residents in a similar manner to the private landscaped courtyards of the residential proposals to the west.*

The Paint Shop will include 4,000m^2 of retail floor space and 2,595m^2 of commercial floor space at ground level, and 7,200m^2 of residential development in the three residential buildings each four storeys above the existing roof of the Paint Shop.

Chief Mechanical Engineer's Office Building

The entire envelope of the Chief Mechanical Engineer's Office (CME building) will be retained and conserved, and the interior adapted for residential use. The existing building is approximately 1,344m^2 in size.

Bates Smart has developed preliminary plans (not for approval) which indicate the building can be adapted to include 12 residential one and two bedroom units with minimal intervention to the external building fabric. These dwellings would average 112m^2 in size. The indicative scheme for reuse of the CME building is shown in Figure 11.

Figure 11 – Chief Mechanical Engineer's Office Building Indicative scheme for reuse

Scientific Services Building No.1

Significant external fabric of the Scientific Service Building No.1 will be retained and conserved. The building will be adapted for community/ cultural purposes. The building has approximately 883m^2 of floor space.

Telecommunications Equipment Centre

Significant external fabric of the Telecommunications Equipment Store will be retained and conserved. The building will be adapted for community/ cultural purposes.The building has approximately 336m^2 of floor space.

Clothing Store

The General / Clothing Store (1,795m²) is not identified as a heritage item by the *SEPP (Major Projects)*, however the BEP recognises it has heritage value and accordingly RWA proposes to retain and adaptively use the Store in addition to the statutory heritage items listed above.

The Clothing Store will be adapted and conserved for residential purposes. Bates Smart has developed preliminary plans (not for approval) which indicate the building can be adapted to include 22 residential one and two bedroom units with minimal intervention to the external building fabric. These dwellings would average approximately 80m² in size. The indicative scheme for reuse of the clothing store is shown in *Figure 12*.

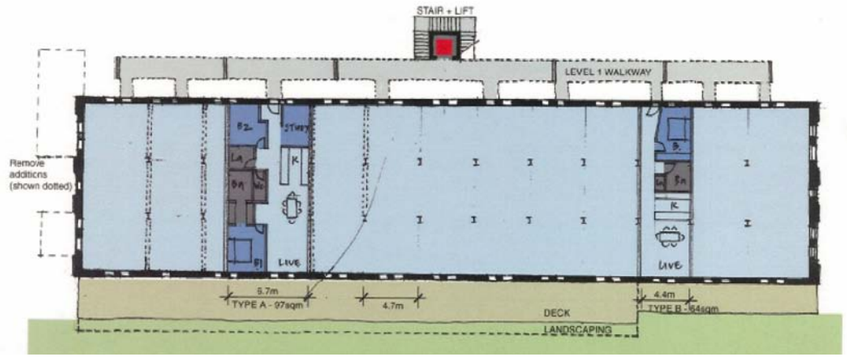


Figure 12 – Clothing Store Indicative scheme for reuse

4.3.7 Vehicular Access and Intersection Improvements

The Concept Plan recognises the proximity of existing road and public transport infrastructure, as well as the sensitivities associated with any increase in traffic volume in the surrounding streets.

The site proposes two vehicular accesses one at the western end of the site and one at the intersection of Shepherd Street with Wilson Street.

The western end access, located in the area between Forbes and Golden Grove, is an existing access into the site that will require widening to ensure a safe line of sight for motorists and to provide full movement for all vehicles expected to use the intersection. A lansacpe buffer will be provide to its west adjacent existing properties.

The eastern Shepherd Street Access will require modification to the existing roundabout at the intersection of Wilson Street and Shepherd Street to accommodate an access into the site on its south and provide for straight through, right in, left out movements from Wilson Street and Shepherd Street for all vehicles expected to use this intersection.

The intersections identified as requiring improvements to accommodate the addition traffic are:

- Abercrombie Street and Lawson Street. The proposed improvements would provide extended turning lanes for left and right turning traffic into and out of Abercrombie Street and changes to signal phases and timings
- Cleveland Street and Shepherd Street. Improvement works could include extending the existing right turning bay from 30m to 70m and extending the cycle time for those turns.
- Abercrombie and Shepherd Street. Replace the scramble phase and adjust signal timings, or create additional turning lanes.

All streets will also be designed to allow emergency vehicle access. Emergency access will also be possible to the new basement car park areas.

Section 6.5 addresses these issues in greater detail. A Transport and Traffic Impact Assessment is provided at **Appendix H**.

4.3.8 Car Parking

The proposed parking provision is outlined in Table 3 below.

Table 3 - Car Parking Provision

Number of Dwellings	Dwelling Type	Car Parking Rate	Number Provided
112	Studio	0.25	28
391	1 bed	0.50	196
571	2 bed	1.20	685
185	3 bed	2.00	370
Other			
53,280m²	Commercial, Retail and Cultural use	0.008/m²	426
31,468m²	Commercial/ Cultural (CarriageWorks)	0.006m²	187.
3,120m²	Car Park (Blacksmiths)		51
Total			**1,943**

It should be noted that this proposal does not seek approval for dwelling numbers or dwelling mix, nor does it seek approval for parking spaces. The Concept Plan demonstrates that the estimated car park spaces can be accommodated on site, as shown in the Indicative Parking Provision Plan in **Appendix A**.

These parking control rates are based on the rates for residential development proposed as maximums within the City of Sydney LEP and reflect RWA's mode share target of 60% for non car travel within its area and the wider mode share targets of the City of Sydney. For commercial development, the *South Sydney DCP 11* rates have been adopted as these provide simple rates in keeping with the LEP objectives and the objectives of the RWA to constrain demand for commuter car travel while providing a sufficient level of parking to prevent excessive on street parking. Similarly rates adopted for retail use reflect the accessibility of the site. Car parking for the Carriage Workshop has been adopted using the rates as applied by the City of Sydney in its approval of the CarriageWorks performing arts centre. The car parking associated with the Blacksmiths' Shop is 51 spaces, reflecting its approved use as a 51 space car park.

On the basis of the above, the proposal will create a total parking capacity of 1,943 spaces. A proportion of these will be set aside for visitor car parking.

The intentions for car parking are:

- All car parking will be designed to provide the minimum sizes of space and circulation aisles set out in the Australian Standard 2890.
- Parking will be predominantly in underground car parks.
- 2% of spaces are provided for people with disabilities.

The widening of the eastern access on Wilson Street will require the removal of 4 parking on street car spaces to achieve a good level of forward visibility. The Shepherd Street Access (eastern access point) is proposed to join an upgraded roundabout at Wilson Street. The existing roundabout at this location means that there is no parking loss at this location.

Loss of parking from new access points and from improvement works to the Shepherd Street and Abercrombie Street intersection will be in the order of approximately 10 spaces (subject to detailed design). Parking will also be lost as a result of the works needed to ensure performance is maintained at the 3 intersections that require improvements. More than compensating for this approximately 75 on street car spaces will be provided on the site.

4.3.9 Vehicular Circulation on Site

The site is divided into two parts by the existing Carriage Workshop and the pedestrian zone located between the Carriage Workshop ad the Blacksmiths' Shop. However, having two accesses will afford good utilisation of the internal road network. Road widths are generally 7m, with an 11m wide road running parallel with Wilson Street. Dedicated semi-trailer routes have been identified to provide access to the Carriage Workshop site from the eastern site entrance. This includes a dedicated one-way 3m wide roadway to the rear of the site to allow trucks deliver to the CarriageWorks and exit in a forward direction. A second route from the Shepherd Street access to the Paint Shop has been developed to link to the loading dock and turning area for deliveries to the retail development.

Traverser 2, located at the western end of the Carriage Workshop, will be used for car parking and access to the CarriageWorks development and for heavy vehicles exiting the site via the southern boundary access. Traverser 2 will be retained in its current form, with minor works to ensure appropriate grades at its northern and southern ends where it meets new roads.

4.3.10 Landscape and Pedestrian Access

The major landscape and pedestrian access principles are detailed below and demonstrated in Figure 13:

- Create approximately 20% of the site (23,125m^2) as publicly accessible open space, some of which is proposed to be dedicated to the City of Sydney Council. In addition, the site will provide approximately 5,210m^2 of private open space for its residents.
- Reflect heritage forms and values by interpreting existing historical remnants in the public domain. For instance, the rail tracks are fundamental to the cultural history and heritage of the site. The Concept Plan reinforces site memory through maintaining the existing rail tracks and emphasising them through a different paving material in a manner that represents their intrinsic qualities and their past context.
- Provide a safe, legible and accessible public domain, encouraging safe pedestrian and bicycle movements through the site. The Concept Plan provides a legible series of open spaces, a main access street, with pedestrian squares, courts, corridors & pocket parks
- Design of the open spaces will create a safe environment based on CPTED principles e.g. clear lines of site, maximised passive surveillance and effective night lighting.
- Integrate with environmental solutions and provide water sensitive urban design.
- Create major pedestrian streets on east-west and north-south axis' that link the community based and open spaces to the residential and commercial zones distributed across the site.
- Facilitate the provision of a pedestrian bridge crossing over the railway line that links the site with Redfern Railway Station (Subject to a seperate application).
- Establish suitably proportioned new open spaces which are integrated with new development and provide a high level of amenity.

The Landscape Strategy Report is provided at **Appendix C**.

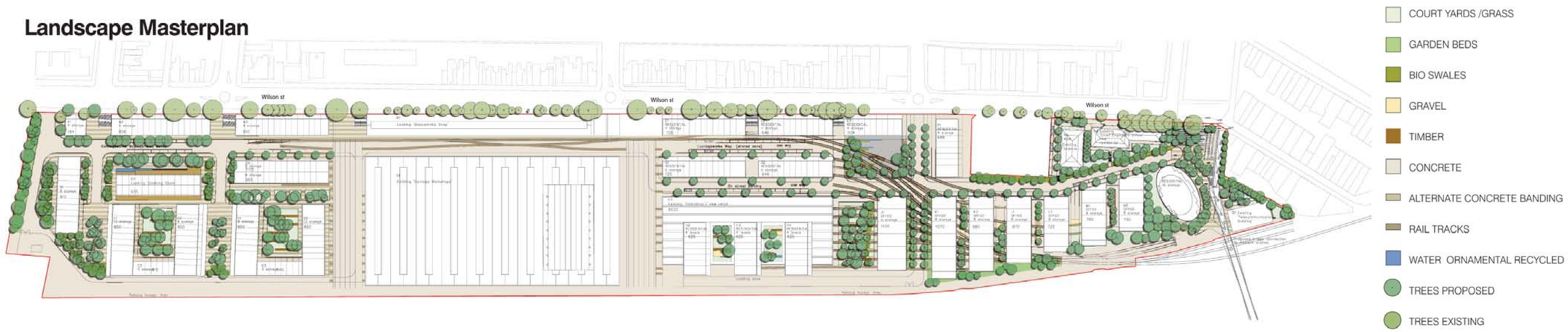


Figure 13 – Landscape Masterplan

4.3.11 Demolition

In addition to the buildings retained for adaptive reuse the existing pedestrian entry located opposite Codrington St will be retained. It is proposed to demolish the following buildings on the site:

- The Bulk Store (also known as the Spring Store)
- Reclamation Shed
- Timber Shed Extension
- Stores Buildings
- Carriage Shop extension
- Boilermakers' Shop
- Compressor House
- Paint Shop addition
- RailCorp Emergency Services and Drug and Alcohol unit
- Emergency Services Vehicle Shed
- Trackfast Depot
- Asbestos Removal Building
- Scientific Services Building No.2
- Various structures including the Telecommunication Equipment Centre outbuildings and Traverser 2 trolley.

Figure 14 shows buildings to be demolished.

It should be noted that Yaama Dhiyaan and Training School building will be retained. Should the use be relocated in the future the proposal allows for development of the site that is in keeping with the urban design principles developed for the bulk of the site.

4.4 Future Development on the Site

This Concept Plan discusses a proposed pedestrian and cycle bridge and RailCorp access road, substation and underground rail connection which affect the site. This Concept Plan does not seek consent for these works, but considers their location to ensure this Concept Plan is compatible and consistent with these proposed future developments.

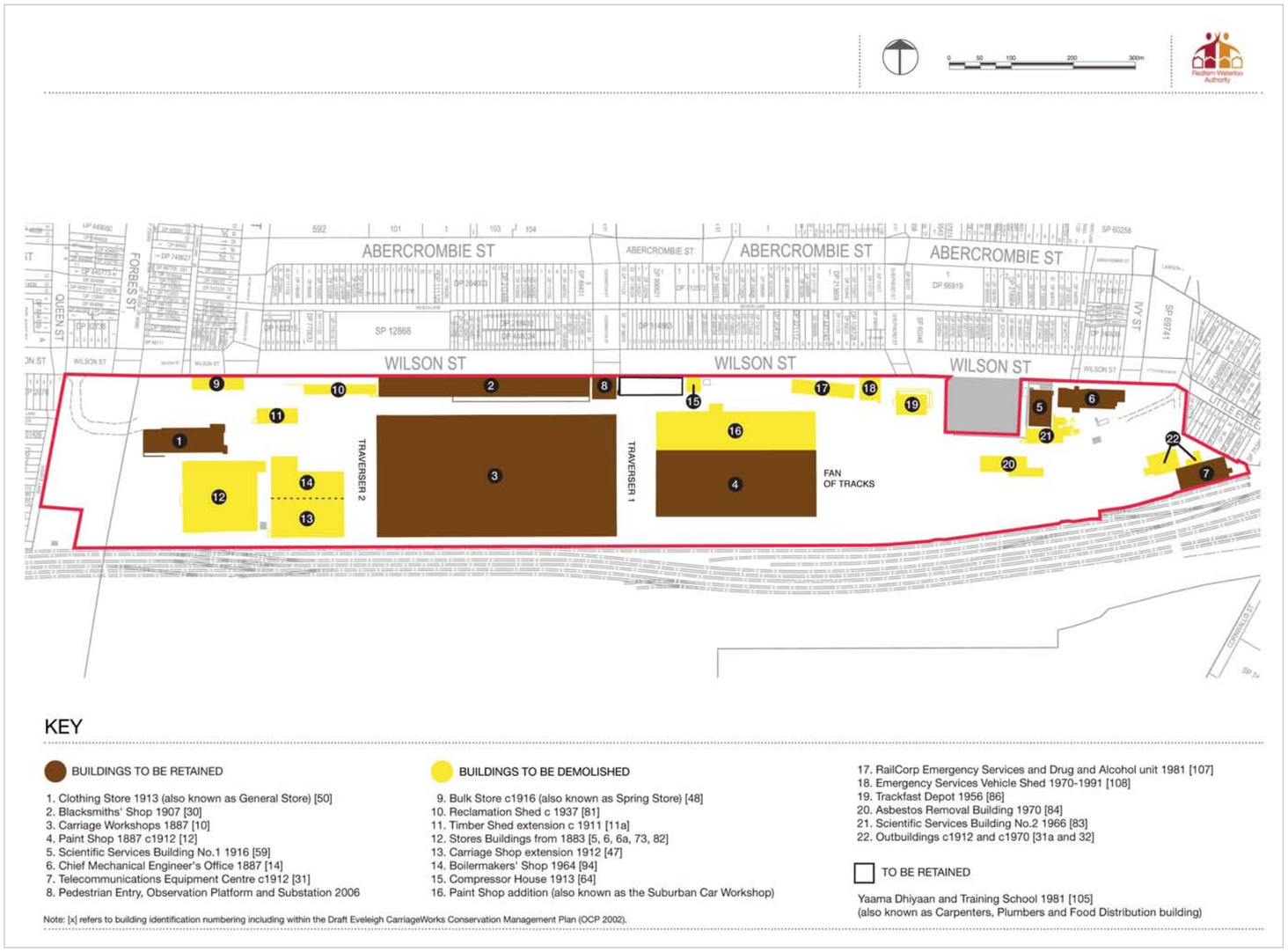


Figure 14 – Buildings to be retained or demolished

5 Environmental Planning Assessment and Guidelines

Consistent with the provisions of the Environmental Planning & Assessment Act 1979, the DGEAR's requires the proponent to consider the all relevant State Environmental Planning Policies; applicable planning instruments; and relevant legislation and policies.

5.1 Relevant Planning Provisions & Policies

The following current and draft state, regional and local planning controls and policies apply to the site:

- *State Environmental Planning Policy (Major Projects)* 2006,
- Standard Instrument (Local Environmental Plans) Order 2006
- State Environmental Planning Policy No. 55 – Remediation of Land,
- State Environmental Plan No. 65 – Design Quality of Residential Flat Development
- State Environmental Planning Policy (Infrastructure) 2006
- SEPP (Building Sustainability Index) 2004
- Draft State Environmental Planning Policy 66 – Integration of Land Use and Transport
- Sydney Metropolitan Strategy
- The Redfern Waterloo Built Environment Plan (Stage One)
- Redfern Waterloo Authority Contributions Plan
- Redfern Waterloo Authority Housing Contributions Plan

It should be noted that Schedule 3, Part 5, Clause 3 of SEPP (Major Projects) states that all other environmental planning instruments do not apply to the Redfern-Waterloo Authority Sites, except for other State environmental planning policies.

Part 3, Division 3, Clause 21 (3) allows the Minister to vary the Height and Floor Space Ratio control in an approval for a Concept Plan for RWA sites.

The *Redfern-Waterloo Built Environment Plan (Stage One)* also applies to the site and proposal.

The following sections of the report address the proposed Concept Plan relative to applicable provisions under the above planning instruments and policies.

5.2 Environmental Planning and Assessment Act 1979 (EP&A)

Part 3A of the EP&A Act came into force on 1 August 2005. It established new assessment procedures for various forms of 'major development' of state or regional significance. The North Eveleigh redevelopment proposal has been declared a Major Project by the Minister of Planning on 13 March 2008 and will therefore be assessed under Part 3A of the EP&A Act. On 13 March 2008 the Minister authorised a Concept Plan to be submitted for the Project.

5.2.1 State Environmental Planning Policies (Major Projects) 2005

State Environmental Planning Policy (Major Projects) 2005 came into affect on 25 May 2005.

Clause 6 (1) of the *Major Projects SEPP* indicates that development that in the opinion of the Minister for Planning is development of a kind described in Schedule 3 (State significant sites) is a project to which Part 3A of the Act applies. Clause 5 of Schedule 5 of the *Major Projects SEPP* identifies development with a capital value of more than $5 million on land within the Redfern-Waterloo Authority as development to which Part 3A of the EP&A Act applies.

On 13 March 2008, the Minister for Planning formed the opinion that the North Eveleigh redevelopment proposal is a Major Project on the basis that the site is identified on Map 3 to Schedule 3 and with a capital value of $550 million clearly exceeds the $5 million threshold identified in the SEPP.

Permissibility

The site is zoned Business – Mixed Use on the "Redfern-Waterloo Authority Sites Zoning Map". Within the Business- Mixed Use zone the proposed mix of residential, commercial, retail, cultural and car parking uses are permissible with development consent.

Objectives

The objectives of the Business – Mixed Use zone are:

- to support the development of sustainable communities with a mix of employment, educational, cultural and residential opportunities;
- to encourage employment generating activities by providing a range of office, business, educational; cultural and community activities in the Zone;
- to permit residential development that is compatible with non-residential development;
- to maximise public transport patronage and encourage walking and cycling;
- to ensure the vitality and safety of the community and public domain;
- to ensure buildings achieve design excellence; and
- to promote landscaped areas with strong visual and aesthetic values to enhance the amenity of the area.

The proposed redevelopment of the site for mixed uses is entirely consistent with the Mixed Use zone objectives as demonstrated below:

- The proposal supports the development of sustainable communities by providing a mix of employment, possible educational, cultural and residential opportunities. The proposed development responds to the character of the surrounding residential, railway and high technology / business park uses.
- The Concept Plan provides appropriate commercial development potential to encourage the job growth and activity within proximity to Redfern Railway Station, therefore maximising the opportunities presented by public transport infrastructure and the Redfern Town Centre.
- Provision of residential development on the western portion of the site in close proximity to existing residential development, cultural and community uses in the middle of the site and a mix of residential and non-residential development at the eastern end.
- Provision of safe and legible access to and through the site, an interconnected street network and a high reliance on public transport;
- Provision of a high quality and vibrant residential, cultural, business precinct with a strong sense of place and distinct identity.
- The design of the project will be of high standard to ensure an appropriate response to the context and heritage significance of the site, as well of the achievement of SEPP 65 principles and design excellence. Furthermore, design excellence principles will be included in the Statement of Commitments to ensure future detailed design of the building form incorporates design excellence.
- Provision of a network of public open space that responds to the character of the site, heritage buildings and spaces.

The proposal will also provide:

- Respect for the heritage character and values of the site and retention / adaptive reuse of heritage items identified in the *SEPP (Major Projects)* as well as certain items of historical interest.
- Building typologies which reinforce a precinct with a distinct character and typology.
- A range of dwelling types and flexible commercial/educational uses;
- Attainment of sustainable development principles through building design, maximum use of public transport.
- A range of initiatives for the conservation of water and energy, provision for community facilities and affordable housing

Floor Space and Height

Part 5, Division 3, Clause 21 limits the floor space ratio and height of the site in accordance with the Redfern-Waterloo Authority Sites Height Map and Redfern-Waterloo Authority Sites Floor Space Ratio Map.

Part 5, Division 3, Clause 21 (3) allows the Minister to vary the Height and Floor Space Ratio control in an approval for a Concept Plan for the development.

Floor Space

The maximum floor space ratio for the eastern and western portions of the site respectively is 2:1. On the eastern portion the maximum residential floor space is capped at 1:1.

The maximum floor space in the central portion of the site is 1:1. The maximum residential floor space is capped at 0.5:1.

Site Area for the purposes of calculating floor space for the subject site is defined in the *Standard Instrument Local Environment Plans) Order 2006* as

"(3) **Site area**

In determining the site area of proposed development for the purpose of applying a floor space ratio, the site area is taken to be:

(a) if the proposed development is to be carried out on only one lot, the area of that lot, or

(b) if the proposed development is to be carried out on 2 or more lots, the area of any lot on which the development is proposed to be carried out that has at least one common boundary with another lot on which the development is being carried out.

In addition, subclauses (4)–(7) apply to the calculation of site area for the purposes of applying a floor space ratio to proposed development.

(4) Exclusions from site area

The following land must be excluded from the site area:

(a) land on which the proposed development is prohibited, whether under this Plan or any other law,

(b) community land or a public place (except as provided by subclause (7))

Gross Floor Area for the purposes of calculating floor space is defined in the Standard Instrument Local Environment Plans) Order 2006 as:

*"**gross floor area** means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:*

- *the area of a mezzanine, and*
- *habitable rooms in a basement or an attic, and*
- *any shop, auditorium, cinema, and the like, in a basement or attic,*

but excludes:

- *any area for common vertical circulation, such as lifts and stairs, and*
- *any basement:*
- *storage, and*
- *vehicular access, loading areas, garbage and services, and*
- *plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and*
- *car parking to meet any requirements of the consent authority (including access to that car parking), and*
- *any space used for the loading or unloading of goods (including access to it), and*
- *terraces and balconies with outer walls less than 1.4 metres high, and*
- *voids above a floor at the level of a storey or storey above".*

The *SEPP (Major Projects)* provides different floor space controls for the western, central and eastern precincts. The area of these precincts for the purposes of calculating GFA is shown in Figure 15.

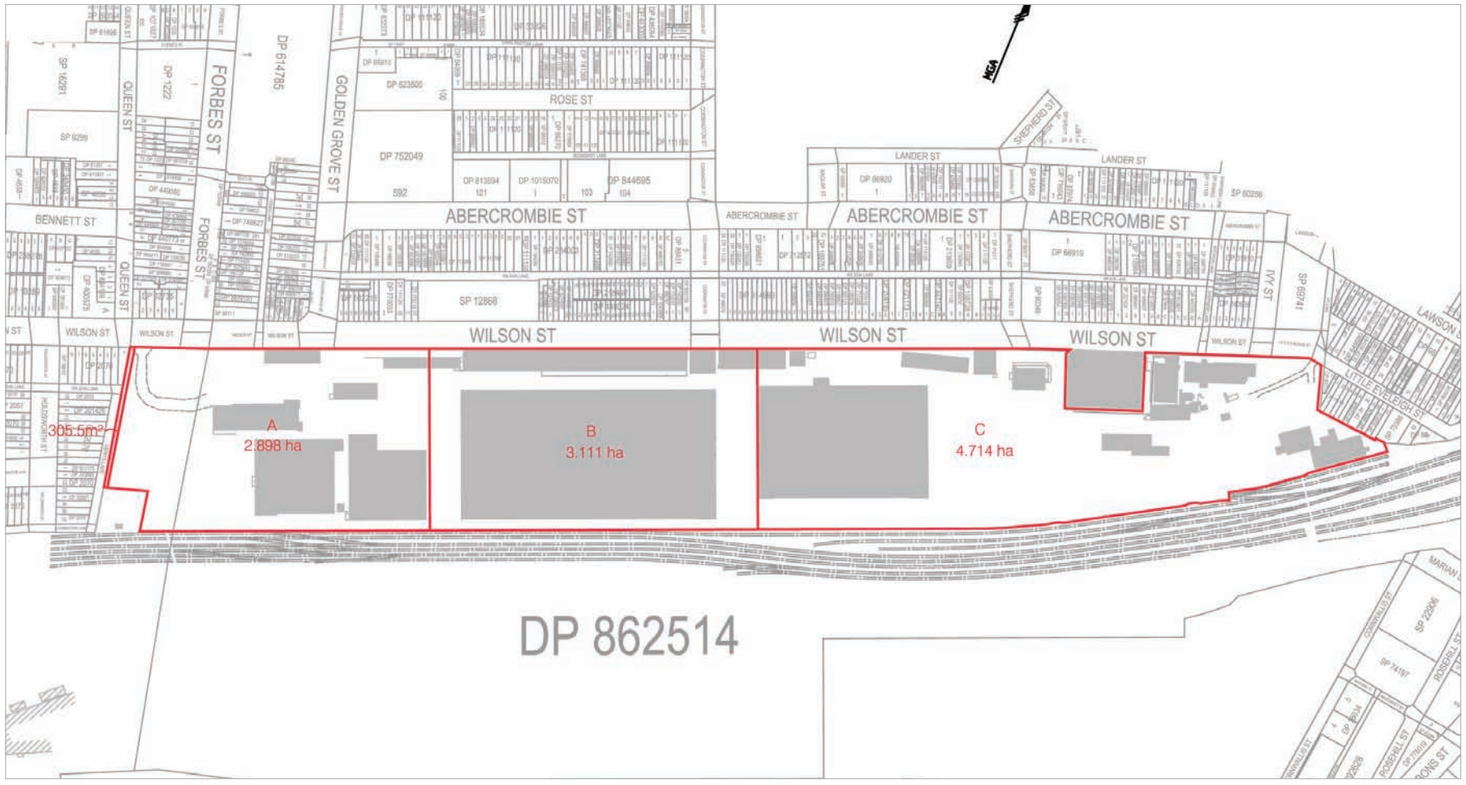


Figure 15 – Precinct Area for the purposes of calculating GFA

Table 4 below provides a summary of site area for the whole site as well as each portion, the permitted floor space areas and proposed floor space areas.

Table 4 - Permitted Floor Space

	Floor Space Ratio	Area (m²)	Permitted Floor Space	Proposed Floor Space	Proposed (FSR)
Western Precinct	2:1	28,980	57,960	55,851	1.9:1
Central Precinct	1:1	31,110	31,110	34,588	1.1:1
Eastern Precinct	2:1 (1:1maximum residential)	47,140	94,280 (47,140 residential)	89,568 (36,288 residential)	1.9:1 (0.77:1 residential)
Total Site Area		**107,230**	**183,350**	**180,007**	

As indicated in Table 4:

- The maximum permitted floor area for the whole site is 183,350m^2 .The proposed development achieves a floor space area of 180,007m^2 which is less than the maximum permitted.
- The maximum permissible residential floor space area for the whole site is 105,100m^2. The proposed development achieves a floor space area of 92,139m^2 for residential development which is less than the maximum permitted.
- The maximum permitted floor space area in the western portion of the site is 57,960m^2. The proposed development achieves a floor space area of 55,851m^2 which is less than the maximum permitted.
- The maximum permitted floor space area on the eastern portion of the site is 94,280m^2. The proposed development achieves a floor space area of 89,568m^2 which is less than the maximum permitted.
- The maximum permitted floor space area on the eastern portion for residential development is 47,140m^2. The proposed development achieves a floor space area of 36,288m^2 which is less than the maximum permitted.

Variation pursuant to Part 5, Division 3, Clause 21 (3) of SEPP (Major Projects)

The maximum permitted floor space area in the central portion of the site is 31,110m^2. The proposed development achieves a floor space area of 34,558m^2 which is 3,448m^2 greater than the maximum permitted. The maximum permitted floor space ratio on the Western Portion is 1:1 and the proposed development achieves a floor space ratio of 1.1:1.

The Carriage Workshop and the Blacksmiths' Shop are located in the Central portion of the site. It is intended to allocate an additional 12,000m^2 of floor space in the Carriage Workshop building and an additional 1,000m^2 in the Blacksmiths Workshop. The exceedence in permissible floor space area in the central portion of the site is due to this proposed allocation.

Both the Carriage Workshop and the Blacksmiths' Shop are heritage items under *SEPP (Major Projects)* and the increase in floor space is intended to facilitate the adaptive reuse of these buildings and to support their ongoing viability and use.

The adaptive reuse and improvement of the Carriage Workshop was recently undertaken by the NSW Government. The Carriage Works is a significant cultural and artistic facility and its redevelopment has heralded the renewal of Redfern-Waterloo. The total area of the Carriage Workshop is 16,732m^2 and at this stage only half of the bays are occupied by Arts NSW.

Unless an increase of floor space area is provided for the Carriage Workshop, the development potential and use of the building will be impeded and the bays will be empty. Additional floor space within the building will not impact upon the urban form of the site or the surrounding area and offers a sustainable development outcome.

Likewise, there is development potential for an additional storey within the Blacksmiths' Shop which could not be realised unless additional floor space is allocated to the building. Provision for additional floor space would result in increased sustainability by optimising development through the adaptive reuse of an existing heritage building. Increase in development potential will not impact on the urban form of the site or have any adverse or discernible impact on surrounding area.

The variation to the FSR in the Central Portion of the Site will not result in any material off-site impacts that would reduce the amenity of any nearby residential properties in terms of loss of privacy, views or solar access. The proposed variations do not adversely impact on the streetscape of Wilson Street, or the character of the surrounding Conservation Areas. The additional floor space in the Central precinct will be contained within existing buildings and will therefore have no significant visual impacts and offers a sustainable development outcome through the adaptive reuse of existing buildings.

Height

The *SEPP (Major Projects)* identifies maximum height limits defined in storeys. In relation to RWA sites the SEPP defines a "Storey" as:

Storey *means a space within a building that is situated between one floor level and the floor level next above or, if there is no one floor level above, the ceiling or roof above, but does not include:*

(a) a space that contains only a lift shaft, stairway or meter room, or

(b) a mezzanine, or

(c) an attic, or

(d) a basement, or

(e) any space within a building with a floor level that is predominantly below a basement.

The proposed scheme does not achieve maximum permissible heights in some areas of the site. In other instances it has been necessary to exceed permissible heights and to redistribute heights across the site. The variations in proposed heights have emerged as a consequence of more detailed urban design and heritage analysis of the site and its context. The variations proposed in the Concept Plan are entirely consistent with the intent, objectives and framework outlined in *BEP* and *SEPP (Major Projects)*. The Concept Plan proposal is therefore seeking departure from the height controls (as outlined below) and therefore relies on clause 21(3) of the *SEPP (Major Projects)*.

The proposed buildings range in height from 4 to 16 storeys. As discussed, whilst generally consistent with the height map the building heights proposed vary from those outlined in the *SEPP (Major Projects)*.

The Concept Plan proposes to balance the scale of new development over the entire site. Built form massing is reduced to the north of the east-west access spine, reflecting and complementing the scale of the existing and lower scale adjoining development.

Three storey buildings front Wilson Street to ensure compatibility with the scale of the existing terrace forms across the road. The bulk and scale of the five storey buildings on the southern side of the east-west access spine, is appropriately aligned with the existing Carriage Workshops and Blacksmiths' buildings. Adjacent to the railway corridor, buildings predominantly up to eight storeys high are proposed, with two 12 storey elements and a 16 storey tower in the eastern portion of the site to anchor the redevelopment of the precinct. Taller buildings have been located in the southern portion of the site adjacent to the rail line where they have minimal overshadowing and amenity impacts. Justification for the proposed variations is outlined below. Refer to *Figure 8* for building locations.

Variation pursuant to Part 5, Division 3, Clause 21 (3) of SEPP (Major Projects)

Building D4: A variation in height occurs for a portion of this building. Building D4 comprises a 5/6 storey building which is aligned along the east-west access spine and lies to the north of the spine. The east-west orientation is an intended design response to the alignment of the heritage buildings. The permitted height which is relevant to this building is split. The permitted height on the eastern section is 10 storeys and on the western section it is 4 storeys-hence the building complies with height on the eastern section and exceeds the height on the western section. Compliance with the permitted heights would not deliver a practical design resolution for this building. Compliance would deflect from the urban design logic and framework which underpins the site. The 5/6 storey resolution provides a practical response which has emerged as a result of further design analysis of the site. The 5 storey element will not be visible from Wilson Street as the RL to the top of the building at Wilson Street is at the level of the 5 storey building. The six storey element is set back and will only just be visible. Importantly the 6 storey element provides a transition in scale to the proposed 8 storey building D1 which lies to the south of the east –west access spine. The 8 storey building complies with the permissible height limits.

Buildings G1 and G2: These two buildings are located in the eastern section of the site. The proposed height of these buildings is 5 storeys. The permissible height is 4 storeys. These two buildings are aligned east west and are located to the north of the access spine. Their orientation and alignment accords with the design logic and framework for the Concept Plan. The impact of the additional storey from Wilson Street is considered to be minimal and will be equivalent to one additional storey or 3 metres. These two buildings lie between the Wilson Street and the Paint Shop which is proposed to be adaptively reused with an additional 4 storey element above the existing roof. The 5 storey buildings will provide a transition in scale to the Paint Shop building which is set back from the edge of the Paint Shop and will be approximately 6 metres above Buildings G1 and G2. It is considered that the visual impact of these two buildings will be minimal.

Building F1: This building is located in the eastern section of the site between the new Shepherd Street access and the existing residential building at No.501 Wilson Street. The Wilson Street frontage is three storeys as viewed from Wilson St, or a total of four storeys from the site. A fifth storey is setback from Wilson Street. The proposed building, at its highest point, is at RL41.00. The height of the existing adjoining building is RL41.58 at its highest point. The proposed height variation will not impact on the Wilson Street streetscape, being setback from Wilson St and set slightly lower in height than the existing residential building.

Buildings C1 and D2: These buildings are located at the western end of the site adjacent to the rail corridor. The southern building block of C1 and the northern building block of D2 do not comply with permitted heights. The permitted heights where the non compliance occurs is 10 storeys while the proposed heights are 12 storeys.

Both C1 and D2 are configured to form a U with an internal courtyard to the blocks. The building block against the rail corridor is 5 storeys, while the opposite block is 8 storeys, both well within the ten storey limit. The narrowest elevations of the highest blocks face north thus minimising their visual impact on Wilson Street and the surrounding area.

Additional overshadowing as a result of the height variation is primarily on the rail corridor, ensuring no adverse impact on the amenity of neighbours. The impact of the additional height is considered to be minimal.

Portions of Buildings K1, K2, L2,L2, M1, M2: A small portion on the northern sections of these buildings do not comply with the permitted heights. The permitted heights where the non compliance occurs is 5 storeys while the proposed heights are 8 storeys. It is important to note that these buildings comprise fingers running north –south parallel to the street network in the surrounding Darlington. These buildings imply an openness and connectivity across the rail lines, as opposed to walling off the precinct from the rail lines. The orientation of these buildings ensures that their narrowest elevations face north thus minimising their visual impact on Wilson Street and the surrounding area. It is noted that these buildings are predominantly lower than the maximum permissible height of 10 storeys. Compliance with the height controls would compromise the design and of these buildings and the design framework. The impact of the additional height is considered to be minimal.

Building P1: The *Built Environment Plan* envisaged a 16 storey landmark building which would anchor the site at the eastern section in close proximity to the Redfern Railway Station. Accordingly a 16 storey height limit was identified and given effect to in the *SEPP (Major Projects)*. During the design of the proposal, Bates Smart and the independent Design Panel considered that the most appropriate location for the 16 storey building was to the east of the designated 16 storey zone. This location was considered to be more appropriate as it would more clearly define the building as a landmark and enable the creation of a commercial precinct to its west. The proposed location of the 16 storey 'landmark' building now provides a better link with a large publicly accessible plaza and also acts as a landmark for the Redfern Railway Station entrance. The plaza will be the connecting arrival space for the new bridge connecting to the ATP and improving access to the Redfern Railway Station. In place of the 16 storey building envisaged by the *Built Environment Plan* are the 8 storey linear commercial buildings oriented north-south.

Design Excellence

When determining an application, the consent authority is required to consider the manner in which the proposal exhibits design excellence (Part 5, Division 3, Clause 22).

In accordance with Clause 22 of the *SEPP (Major Projects)* in considering whether the proposed development exhibits design excellence, the consent authority must have regard to the following matters:

- whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved,

The architectural design, materials and detailing of the buildings will be resolved in the Project Application Phase. Bates Smart have provided examples of possible treatments which demonstrate the use of a range of materials such as transparent glazed atria connecting office blocks which would allow views through the buildings, external louvers to provide solar protection and depth to the façade and metal cladding to reflect the industrial history of the rail yards. Some of these images are shown in **Appendix A**. The proposed Concept Plan sets out a design framework and the location of proposed building envelopes which seeks to respond to the heritage elements of the site, the railway tracks and the surrounding street network. Importantly the buildings are sited to maximise solar access through their orientation. Taller buildings have been located on the southern portion of the site adjacent to the rail line where they will have minimal overshadowing impacts. The proposed envelopes vary in dimension from 12m to 16.4m enabling cross ventilation to be maximised.

- whether the form and external appearance of the building will improve the quality and amenity of the public domain,

The Concept Plan provides a series of open spaces including streets, pedestrian squares, courts, public parks. The proposed envelopes in the Concept Plan provide for buildings which will contribute to the quality and amenity of the public domain by providing for activation at ground level and the incorporation of CPTED principles such as clear lines of sight, maximised passive surveillance and effective night lighting. The landscape strategy for the site outlined in Section 4.3.10 sets out principles which will guide the development of the public domain and demonstrates how these principles have been incorporated into the design.

- whether the building meets sustainable design principles in terms of sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency,

Based on independent assessment outlined in other sections of this Report it is demonstrated that the Concept Plan meets compliance with each of these principles.

- if a competition is held as referred to in subclause (3) in relation to the development, the results of the competition.

In August 2007, RWA invited four leading architects to prepare urban design proposals for the site in a Design Competition. The purpose of the competition was to select the highest quality architectural and urban design solution to inform the preparation of a Concept Plan for the eastern and western portions of North Eveleigh.

While the Design Competition related only to the eastern and western portions of the site, entrants were requested to develop an integrated response to the entire site taking into account the CarriageWorks, the proposed markets at the Blacksmith's Workshop and the Yaama Dhiyaan café and hospitality and construction training centres. The Design Brief which informed the Competition required a concept which was consistent with the *Redfern-Waterloo Built Environment Plan (Stage One)*. The RWA appointed an independent Urban Design Panel comprising industry specialists to judge the competition and select the preferred entry. Bates Smart won the competition. Its design has been refined to be the subject of this Environmental Assessment, and which now includes the Carriage Workshop and Blacksmiths' buildings.

The Statement of Commitments includes design excellence principles which will be required to be incorporated in the future detailed design of the buildings on the site.

Heritage considerations

The Eveleigh Railway Yards is listed on the State Heritage Register. Under the *Redfern – Waterloo Authority Act* the *Heritage Act* does not apply to development under Part 4 of the EP&A Act and for which the Minister is the consent authority or development under Part 3A. Under Clause 29(2) of the *Redfern-Waterloo Authority Act* an item listed on the State Heritage Register cannot be altered or demolished unless the Minister has consulted with the Heritage Council and taken into consideration any advice received, and the Minister is satisfied that the alteration/demolition is necessary for the sustainable improvement of the operational area. .

Clause 27 of the *State Environmental Planning Policy (Major Projects) Amendment No.* 7 only applies to development under Part 4 of the *Environmental Planning and Assessment Act* and as such does not apply to the subject development.

A draft Conservation Management Plan (CMP) for the site was prepared by Otto Cserhalmi + Partners in 2002. The draft CMP was prepared to support the development of the site as a predominantly residential/ railway museum use. The draft CMP does not reflect the proposed use of the site as a Mixed Use Precinct as described in the *Redfern-Waterloo Built Environment Plan (Stage One)* and reflected in the *State Environmental Planning Policy (Major Projects)*.

Numerous studies and reports have been prepared in relation to the heritage significance of the site over the years.

The RWA engaged Weir + Phillips Architects and Heritage Consultants to review the information relating to the heritage significance of the site including the draft Conservation Management Plan with the view to preparing a Heritage Impact Statement which is relevant to the Redfern-Waterloo Built Environment Plan, the SEPP (Major Projects) and the proposed Concept Plan.

The Heritage Impact Statement (HIS) prepared by Weir + Phillips Architects and Heritage Consultants is addressed in Section 6.7 of this Report.

The HIS concludes that the impact of the Concept Plan on the heritage significance of the site is manageable. The Concept Plan delivers an integrated design for the whole site which respects its existing character and maximises its heritage significance by:

- Adaptive reuse: Preserving and adaptively reusing core heritage buildings. All items of heritage significance which are identified in *SEPP (Major Projects)* are intended to be adaptively reused.
- Layout and Design: Responding to the layout of the railway yards and using heritage buildings to form the basis of building and street alignment, protecting important views and emulating the language and design of the bays in the existing Workshop buildings.
- Design Criteria: defining design principles to guide further development and designing buildings to respect the surrounding conservation areas
- Fan of Tracks: Providing extensive interpretation of the Fan of Tracks.
- Importance of Site: Reinstating the importance of the Site.
- Interpretation Strategy: Implementing an interpretation strategy.
- Conservation Management Plan: Preparing a Conservation Management Plan which considers the Concept Plan and the proposed use of various buildings.
- Archival Recording: Recording items of local or higher significance prior to demolition in accordance with NSW Heritage Council Guidelines.

5.2.2 Standard Instrument (Local Environmental Plans) Order 2006

The Director-Generals Requirements for this Project requires that the Environmental Assessment should consider the provisions of the Standard Instrument.

Standard Instrument (Local Environmental Plans) Order 2006 is relevant only insofar as it is the standard instrument for determining the meaning of words or expressions referred to the SEPP (Major Projects). The definitions referred to in the Standard Instrument have therefore been used in this Environmental Assessment as relevant.

5.2.3 State Environmental Planning Policy 55 – Remediation of Land

SEPP 55 states that land must not be rezoned or developed unless contamination has been considered and, where relevant, land has been appropriately remediated. SEPP 55 also requires the preparation of a report specifying the findings of a preliminary investigation of the land concerned, carried out in accordance with the contaminated land planning guidelines, to be considered by the consent authority before determining an application for consent to carry out development that would involve a change of use on that land.

The site has been the subject of a number of contamination investigations since 1993. SMEC Australia Pty Limited has provided an assessment of the site's suitability for the proposed development, confirming that the site can be made suitable for the proposed mixed use development. This is provided at **Appendix I**. Further discussion relating to geotechnical and contamination issues is provided in Section 6.17 of this report.

Rod Harwood of WSP Environmental Pty Ltd has been appointed as Site Auditor to provide advice on contamination and remediation for the North Eveleigh site. In this role he has reviewed the "Remediation Strategy" document prepared by SMEC. This review is included at **Appendix J**. In summary, Rod Harwood concurs that the remediation strategy prepared by SMEC is a reasonable approach to the remediation of the site and endorses the remediation strategy.

5.2.4 State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development

SEPP 65 was introduced in 2002 to improve the design quality of residential flat development in NSW. The Project seeks to redevelop the site for mixed use development comprising residential flat buildings, accordingly the design quality principles of SEPP 65 applies.

The SEPP establishes 10 Design Quality Principles that are required to be addressed in the preparation of residential development applications. Given the Project seeks concept approval only at this stage, and the internal planning and details of the external elevations of the buildings are not yet finalised detailed design statements do not accompany this Environmental Assessment, and an assessment against the Residential Flat Design Code has not been undertaken. Notwithstanding this, an assessment of the Concept Plan against the Design Quality Principles has been undertaken. An analysis of the proposal indicates the Project will satisfactorily meet the design quality principles of SEPP 65 and provide an example of good quality design in respect to internal amenity, urban design and sustainability.

The assessment is contained in Table 4 below.

Table 5 – SEPP 65 Design Quality Assessment

SEPP 65 Principles	Design Quality Principles
Principle 1: Context	The North Eveleigh site is strategically located to the south of the Sydney Central Business District (CBD), about 3 kilometres from the Sydney Town Hall and only 1.5 kilometres from Central Station. As discussed at Sections 3.2 and 3.10, the site is well located in terms of access to employment and a range of services and facilities making it ideal for redevelopment for mixed use purposes. In addition, the site is close to public transport such as Redfern Station and significant bus routes which service the area. The key arterial roads of City Road, and Cleveland, Regent and Gibbons Streets allow for good road connections to/from the site to the wider metropolitan road network The proposed mixed use redevelopment of the site responds to the character of the surrounding residential, railway and high technology / business park uses. The proposal will provide a high quality and vibrant residential, cultural, business precinct with a strong sense of place and distinct identity. It provides for a network of public open space that responds to the character of the site, heritage buildings and spaces. In addition, the proposal sensitively respects the heritage character and values of the site and retains and proposes adaptive reuse of heritage items identified in the *SEPP (Major Projects)* as well as certain items of historical interest. **Streetscape** The site currently presents a blank and inactive frontage to Wilson Street and there is considerable grade difference of some 3-5m from Wilson Street. The proposal confines its edge along Wilson Street to effectively three storey structures (aside from existing), which are compatible in terms of bulk and scale with the buildings of the surrounding area. In addition, the surrounding street pattern will be continued throughout the site. Generous setbacks and significant tree planting, and the drop in height between Wilson Street and the main area of the site, will also help minimize any visual impacts.
Principle 2: Scale	The proposed development reflects and complements the scale of the retained heritage built form on the site. A series of predominantly 4-5 storey linear buildings frame the proposed east-west street, providing a scale that is sympathetic to the heritage buildings on site and the scale of the adjoining neighbourhood to the north. Taller buildings have been located on the southern portion of the site adjacent to the rail line, where they will have minimal overshadowing and visual impact. These buildings are principally eight storeys in height, with the exception of two twelve storey elements, and have been aligned perpendicular to the rail lines to frame the neighbourhood streets, and provide an openness and connectivity across the rail lines; as opposed to walling off the precinct from the rail lines. A 16 storey landmark building is proposed at the eastern end of the site to act as an anchor towards Redfern Railway station.
Principle 3: Built Form	The Urban Design Framework aims to maintain the alignment and visual continuity of neighbourhood streets through the site, creating a series of north-south streets. The existing heritage buildings are used to establish the alignment of east-west streets. The combination of the two street patterns establishes a framework of traditional streets and blocks in a configuration that responds to both the neighbourhood streets and heritage buildings on the site. The built form and building heights have been conceived to maintain continuity of scale with the historic buildings. A series of low rise linear buildings, generally aligned east-west, frame the east-west access spine, providing a scale that is sympathetic to the heritage buildings and respects the scale of the adjoining neighbourhood. As stated above, taller buildings have been located on the southern portion of the site, where they will have minimal amenity impact. A 16 storey building is proposed as landmark at the eastern end of the site. This building hovers above the plaza and acts as a landmark for the Redfern Railway station entrance. The built form is consistent with the design concept outlined for the site in *Redfern-Waterloo Built Environment Plan (Stage 1) 2006*.
Principle 4: Density	The density for the site is controlled by the *SEPP (Major Projects) 2005*. The FSR was derived from urban analysis that was undertaken in the development of the *Redfern-Waterloo Built Environment Plan (Stage 1) 2006*, which included examination of the development density and built form on site and of the surrounding area. Based on a total GFA of 180,007m^2 and site area of 107,230m^2, the proposed floor space ratio for the entire development in both the Eastern and Western Precincts has been calculated at 1.67:1. The proposed development will meet the overall permissible floor space ratio for the site. The proposed quantum of residential development gives rise to a floor space of 0.86:1 for the residential component would yield approximately 1,258 apartments on the site. The proposed increase in residential population and businesses will have an impact on capacity of infrastructures. As detailed at Section 6.19 of this report existing infrastructure to the site will be upgraded to accommodate the changing land use and increased populations. The proposed density maximises the significant opportunities presented by public transport infrastructure and the Redfern Town Centre. The site is only 50m from Redfern Station and a range of other services and facilities. The mix of uses and proposed density will help create a vibrant, cultural, business and residential precinct that provides jobs, quality housing, services and facilities, in accordance with the objectives of the zone as stated in the *SEPP (Major Projects)*. It is important to note that the proposed density respects the industrial character on the site while providing an appropriate interface to the residential and mixed use character of the surrounding area. The heritage and industrial character of the site is protected by retaining and adaptively re-using significant heritage items identified in the *SEPP (Major Project)*. Although the use of the site will be intensified, the proposed landscaping, private and public open space, combined with well articulated buildings, results in an appropriate density on the site. In summary, the overall proposed density is consistent with the desired future density outlined for the site in *Redfern-Waterloo Built Environment Plan (Stage 1) 2006*.

SEPP 65 Principles	Design Quality Principles
Principle 5: Resource, energy and water efficiency	As the proposal is for a Concept Plan, many of the issues regarding resource, energy and water efficiency will be resolved during the detailed design stage undertaken with a subsequent Project Application. The design of the Concept Plan is intended to enable the achievement of water and energy efficient reduction targets and satisfaction of BASIX at the Project Application stage. ESD is addressed in Section 6.6 of this Report. The general location and orientation of the buildings maximises sunlight, daylight and ventilation to reduce reliance on artificial heating and cooling. As demonstrated in the Indicative Apartment Layout the buildings are capable of accommodating crossover apartments which maximise natural ventilation and solar access. The residential buildings have been modulated to maximise solar access. The primary living rooms all face north-east allowing excellent solar access throughout the year. Solar access to the apartments and to the courtyards has been tested so that all apartments receive in excess of two hours of sunlight to primary living rooms, and the courtyard receives two hours sunlight to in excess of 50% of its area. In addition, the primary long facades of the proposed commercial buildings have a north-east orientation which will allow effective solar shading and daylighting conditions.
Principle 6: Landscape	The Concept Plan provides a network of public open spaces, which responds to the linear character of the site and relates to the historic buildings and spaces. The primary open space is a shared pedestrian and vehicle east-west street framed by the Carriage and Blacksmiths' Shop building. The east-west access spine links four open spaces along its length. Either side of the Carriage Workshop the siding yards will be maintained. These spaces will retain the rails to facilitate heritage interpretation, and be spaces to facilitate a range of outdoor cultural and community events. At the eastern end of the site a large plaza is proposed, as an extension of the existing open space adjacent to the Foundry. This plaza is the connecting arrival space for the new pedestrian bridge to the Redfern Railway Station A conceptual Open Space Plan has been prepared by Bates Smart and a Landscape Strategy has been developed by TDA + JAAA to demonstrate how landscaping could enhance the site, streetscape and neighbourhood character. Some of the key principles of the landscape design include: ▪ Creation of approximately 20% of the site as publicly accessible open space, some of which is proposed to be dedicated to the City of Sydney Council; ▪ Reflecting heritage forms and values by interpreting existing historical remnants in the public domain ▪ Provision of a safe, legible and accessible public domain based on CPTED principles, encouraging safe pedestrian and bicycle movements through the site. ▪ Facilitating the provision of a pedestrian bridge crossing over the railway line that links the site with Redfern Railway Station. ▪ Establishment of suitably proportioned new open spaces which are integrated with new development and provide a high level of amenity. ▪ Use of landscape design to delineate between the public open space and private space. ▪ Provision of landscaping for privacy and visual amenity for future residents. ▪ Provision of vegetation that requires low water use and low maintenance. ▪ Retention of existing significant matured trees along Wilson Streett.

SEPP 65 Principles	Design Quality Principles
Principle 7: Amenity	As discussed above the concept design ensures that all apartments receive in excess of two hours of sunlight to primary living rooms, and the courtyard receives two hours sunlight to in excess of 50% of its area. The Concept Plan seeks to optimise amenity in terms of daylight and sunlight access; ventilation, views and outlook; and private open space and access to public open space. The layout, mix and size of apartments does not form part of this Concept Plan application. Indicative Apartment Layouts (Figure 17) have been prepared to demonstrate that the proposed building footprints, location and envelope will maximise apartment amenity.
Principle 8: Safety and security	One of the Concept Plan objectives is to ensure the development is safe and secure for residents and visitors as well as contributing to the safety of the public domain. A detailed assessment of Crime Prevention Measures through environmental design principles is provided at Section 6.4.1.
Principle 9: Social dimensions	The proposal will provide high quality dwellings. A draft Statement of Commitment has been included requiring the future Project Application(s) to demonstrate design excellence in terms of architectural design, materials and detailing and overall building appearance. The buildings are in close proximity to a railway station, shops and bus stops. These facilities will benefit the occupants of the proposed development. In addition, the Concept Plan will increase housing opportunities within the Redfern area. A mix of apartment types, layouts and sizes can be accommodated with the buildings including: 1 bed; 1 bed + study; 2 bed; 3 bed; single and two storey. This will enable a diverse social mix within the Redfern area to be achieved in an aim to sustain a vibrant community. In addition it is proposed to provide a significant amount of affordable housing units on site. A social impact assessment of the Concept Plan is provided in Section 6.13.1.
Principle 10: Aesthetics	As the proposal is for a Concept Plan, the details of the building appearance are not yet known. As discussed, a draft Statement of Commitment has been included requiring the future Project Application(s) to demonstrate design excellence in terms of architectural design, materials and detailing and overall building appearance. The architectural expression proposed for the site is contemporary and respectful to existing adjoining heritage buildings. Furthermore, the proposed massing of buildings will achieve a high level of articulation.

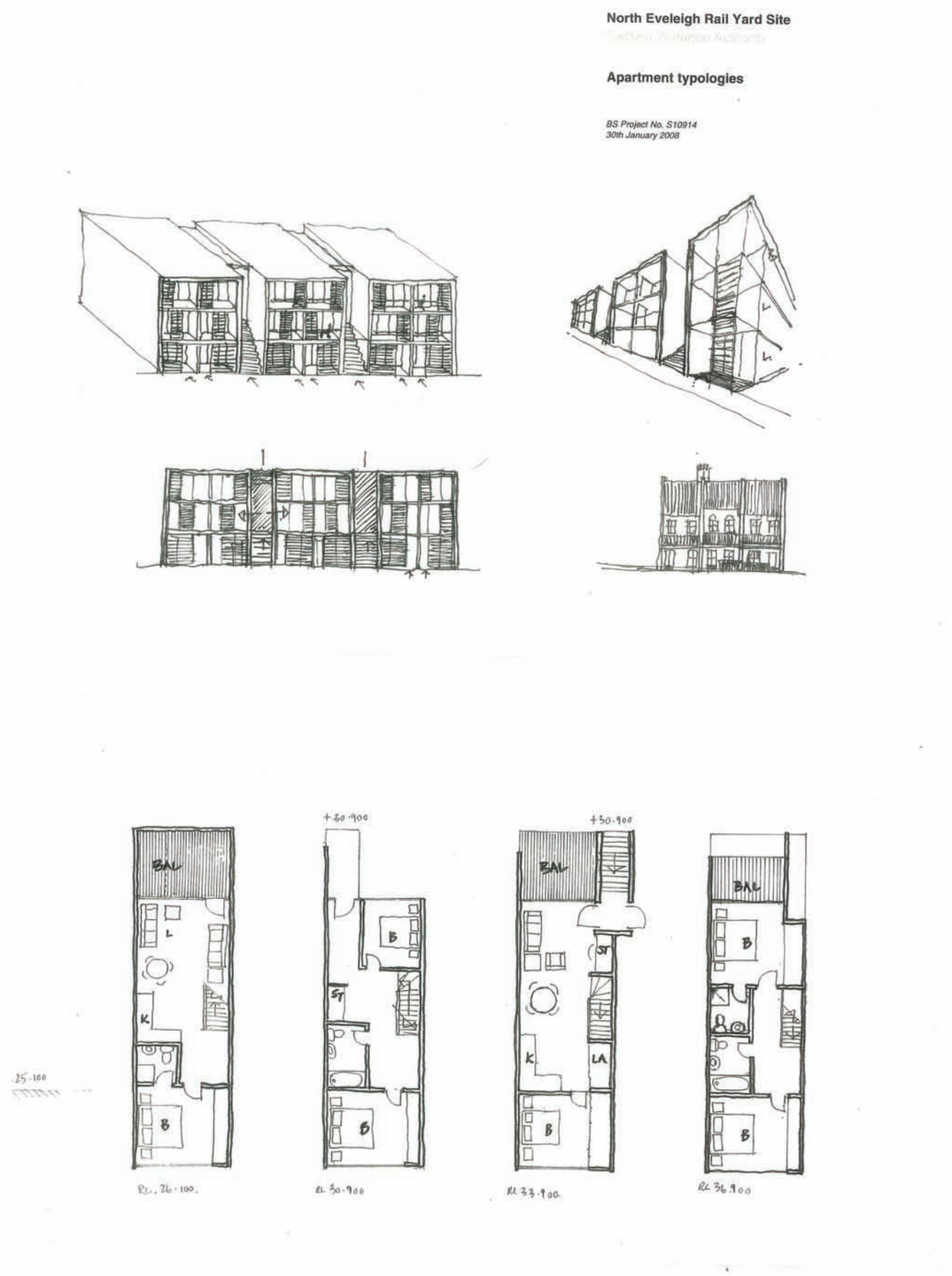


Figure 16: Apartment Typologies

5.2.5 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2005

The *BASIX SEPP* was introduced in 2004 to encourage sustainable residential development throughout NSW. This SEPP operates in conjunction with *Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004* to ensure the effective introduction of BASIX in NSW. The SEPP requires the submission of a BASIX Certificate providing commitments to reduce consumption of mains-supplied potable water, reduce emissions of greenhouse gases and to improve the thermal performance of a building.

Under the provisions of the *BASIX SEPP*, any development application for residential flat development is required to submit a BASIX report to clarify the 'sustainability' of the proposed design against set criteria.

As the proposal is for a concept approval for the site, the Environmental Assessment is not accompanied by a BASIX Certificate. However a BASIX Certificate will be submitted with the Project Application for any residential flat building. Notwithstanding, Ecological Sustainable Development principles are outlined in Section 6.6 to demonstrate that the development can and will meet the water and energy efficiency reduction targets for new multi-unit residential developments and commercial developments.

5.2.6 State Environmental Planning Policy (Infrastructure) 2007

This SEPP seeks to assist in the effective delivery of public infrastructure and outlines issues to be addressed when proposing development near and over rail corridors, including any likely damage to rail infrastructure, use of cranes over the rail corridor, and electrolysis impacts.

The proposed design has been developed after considerable consultation with the relevant rail authorities. A separate rail access corridor will be provided by RailCorp directly adjacent to the rail corridor, and access to this will be provided at the western end of the site adjacent to Iverys Lane and at the eastern end of the site opposite Shepherd Street. The design takes into consideration a potential rail alignment option along the southern boundary of the site to ensure the development can be accommodated without restricting the proposed rail alignment. Vibration issues associated with the development are addressed in Section 6.12.1.

5.2.7 Draft SEPP 66 – Integration of Land Use and Transport

The planning objectives of *Draft State Environmental Planning Policy No.66—Integration of Land Use and Transport* relate to development that generally has a gross floor space of more than 1,000m^2 and includes (but is not limited to) development for the purposes of:

- retailing, such as markets;
- leisure and entertainment;
- offices and business parks; and
- residential flat buildings containing more than 300 units.

The Draft SEPP aims to ensure that urban structure, building forms, land use locations, development designs, subdivision and street layouts help achieve a number of objectives. This draft SEPP is relevant as the proposal includes over 180,007m^2 of floor space for a combination of commercial, retail, residential and cultural uses.

The Integrated Land Use and Transport Planning Policy Package (ILUTP), which includes Draft SEPP 66, has been considered in the development of the proposal.

The ILUTP was prepared to identify actions and initiatives to achieve improved integration of land use with transport. Key objectives seek to reduce car dependency private motor vehicle use, enhance use and viability of public transport, and contribute to more ecologically sustainable development.

The ILUTP includes a policy document known as "The Right Place for Business and Services". This policy aims to encourage a network of vibrant, accessible, mixed-use centres, which are closely aligned with and accessible by public transport, walking and cycling. Key planning objectives of the policy are:

- To locate trip generating development which provides important services in places that help moderate the demand for car travel, encourage multi-purpose trips, and encourage people to travel on public transport, walk or cycle.
- To minimise dispersed trip generating development that can only be accessed by cars.
- To ensure that a network of viable, mixed-use centres closely aligned with the public transport system accommodates and creates opportunities for business growth and service delivery, encourage private and public investment in centres, and ensure that they are well designed, managed and maintained.

- To foster growth, competition, innovation and investment confidence in centres, especially in the retail and entertainment sectors, through consistent and responsive decision making.

The proposal is entirely consistent with the key policy objectives of ILUTP and Draft SEPP 66, for the following reasons:

- It reduces the reliance on the use of private vehicle trips
- The proposal will help increase patronage on public transport and existing bus services
- It represents an appropriate utilisation of an economic land resource by replacing older and defunct buildings and catering to the growth forecasts in the residential and employment sectors.

Given the above reasons, the proposal satisfies the objectives of the ILUTP and Draft SEPP 66.

5.2.8 Sydney Metropolitan Strategy

In December 2005, the NSWG released the *City of Cities – A Plan for Sydney's Future*, the 25 year Metropolitan Strategy for Sydney. The Metropolitan Strategy predicts Sydney's population to grow from the current population of 4.2 million to 5.3 million by 2031 (an additional 1.1 million people in 25 years). The NSW Government predicts that this will require 640,000 new homes, 500,000 additional jobs, 6.8 million square metres of additional commercial space and 3.7 million square metres of additional retail space. A key approach to the Metropolitan Strategy is residential and employment growth within existing key centres and economic corridors. The Metropolitan Strategy identifies Redfern-Waterloo as an area which lies within Sydney's Economic Corridors (the corridor refers to the concentration of employment and gateway infrastructure from Macquarie Park through to Chatswood, St Leonards, North Sydney and the Sydney CBD to the Airport and Port Botany).

Due to the area's strategic location and public transport provision, the site plays a major role in supporting Sydney's Economic Corridor by concentrating jobs and activity around Redfern Railway Station, to maximise the opportunities presented by public transport infrastructure and the Redfern Town Centre.

The Metropolitan Strategy sets planning targets for the City of Sydney of 55,000 new dwellings and 58,000 new jobs by 2031. The North Eveleigh site has been identified in the BEP and *SEPP (Major Projects)* one of the RWAs key strategic sites that can contribute to providing land for business and residential purposes, to assist in meeting these Sydney metropolitan planning targets. It will maximise the advantage of existing public transport; the Sydney CBD, Airport and Port; recreational and cultural facilities; and nearby significant health and educational facilities.

The redevelopment of North Eveleigh as outlined in the Concept Plan will support the Metropolitan Strategy by delivering the following:

Total Estimated New Jobs to be Created	3,270 jobs
Total Estimated Construction Jobs to be Created	3,328 jobs
Total Estimated Dwellings	1,258 dwellings
Total Estimated New Resident Population	2,400 people

5.2.9 Sub Regional Strategy

The Director-Generals Requirements for this Project requires that the Environmental Assessment should consider the provisions of any relevant draft or endorsed Subregional Strategy.

At the time of writing there was no relevant draft or endorsed Subregional Strategy that applied to the site.

5.2.10 Redfern-Waterloo Built Environment Plan (Stage One)

The RWA is responsible for revitalising Redfern, Waterloo, Eveleigh and Darlington through urban renewal, improved human services and job creation. It has developed three plans to achieve this - these are the RWA Employment and Enterprise Plan, the *RWA Human Services Plan, and the Redfern-Waterloo Built Environment Plan (Stage One).*

The *Redfern-Waterloo Built Environment Plan (Stage One)* was adopted by Cabinet in August 2006. It is primarily designed to stimulate economic and social progress through urban renewal. For North Eveleigh the proposed land use concept is:

- To create a vibrant cultural, business and residential precinct that provides jobs, quality housing, services and facilities and opportunities for artistic and cultural expression that integrates with the surrounding established area;
- To encourage employment generating uses within proximity to Redfern Railway Station, to maximise the opportunities presented by public transport infrastructure and the Redfern Town Centre; and
- To encourage residential development on the western portion of the site in proximity to existing residential development, cultural and community uses in the middle of the site and a mix of residential and non-residential development at the eastern end.

The proposed scheme outlined in this Environmental Assessment will deliver a high quality development which will contribute to the character of the site and local area. It is consistent with the intent for the site identified in the *Redfern-Waterloo Built Environment Plan (Stage One).*

Figure 3.5 of the Plan indicates publicly accessible open space. The BEP suggests approximately 15% of the total North Eveleigh site will comprise open space, including a substantial section of the Fan of Tracks and the curtilage around the Chief Mechanical Engineer's building. The Concept Plan provides approximately 20% of the site as publicly accessible open space, some of which is proposed to be dedicated to the City of Sydney Council.

Figure 3.6 of the Plan identifies 6 buildings of heritage significance and 2 of historical interest on the North Eveleigh site. These include:

- Blacksmiths' Shop
- Carriage Workshop
- Paint Shop
- Scientific Services Building No.1
- Chief Mechanical Engineer's Office Building
- Telecommunications Equipment Centre Building
- Timber Shed Extension
- Clothing Store

The plan has been regulated through an amendment to *SEPP (Major Projects),* discussed in Section 5.2.1 above. It is important to note that all the heritage items identified in the more recently gazetted *SEPP (Major Projects)* are to be retained and adaptively reused, as well as the Clothing Store which is identified as an item of historic interest in the BEP is being retained and adaptively reused. It is not proposed to retain the Timber Shed Extension. The Heritage Impact Assessment prepared by Weir & Phillips and included at **Appendix L** justifies the removal of the timber shed extension because it is representative of timber sheds built at many locations throughout New South Wales. The sheds are of relatively simple construction and while generally used as goods sheds at railway stations, they were adapted for other, mainly storage, uses. Furthermore, the proposal will incorporate the highly significant Fan of Tracks as a significant element in the overall design of the site. A portion of the fan of tracks will be retained and the remaining tracks be interpreted through landscaping.

5.2.11 RWA Contributions Plan

The RWA Contributions Plan identifies that the Minister may impose, as a condition of consent a requirement that the applicant pay a development levy of the proposed cost of carrying out the development in order to fund public facilities and amenities. The plan identifies public facilities and amenities in North Eveleigh that will be funded from contributions. It also allows a developer to offer an alternative to a monetary contribution.

A Draft Statement of Commitments is included in Section 8. This details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation.

5.2.12 RWA Affordable Housing Contributions Plan

This Plan requires a contribution equivalent to the estimated cost of the provision of affordable housing comprising $59/m^2 of the total gross floor area of development in the Operational Area reduced by the gross floor area of existing buildings. The gross floor area of existing buildings has been estimated by the RWA at 45,854m^2.

6 Environmental Assessment

The following section contains the Environmental Assessment for the North Eveleigh Precinct Redevelopment Project. It has been taken in accordance with the DGEARS issued on 17 March 2008 under Part 3A of the EP&A Act.

6.1 Land Use

North Eveleigh is zoned Business-Mixed Use under the *SEPP (Major Projects)*. The landuse controls in the SEPP seek to encourage a mix of employment, educational, cultural and residential uses. The SEPP provides an incentive for non residential uses and encourages a mix by limiting the permissible residential floor space ratios at the central and eastern sections of the site.

The Concept Plan provides for a mix of commercial, retail, cultural, residential, open space and community uses all of which are permissible under the SEPP (Major Projects).

Wider Context: North Eveleigh is exceptionally well positioned in relation to public transport, proximity to the Sydney CBD and the University of Sydney providing an ideal location for significant commercial, residential and educational development. The locational benefits of the site which support the proposed mix of uses are evidenced by the following:

- The site is situated within 3km of the Sydney CBD providing excellent access to employment and business services;
- Sydney University is 500m to the north, providing excellent access to educational facilities;
- Redfern Railway Station is located within 200m of the site, providing exceptional access to the Sydney rail network. The station can be accessed via Wilson Street and Little Eveleigh Street.
- City-bound commuters have a five to seven minute trip from Redfern Station to Town Hall Station, depending on the dwell time at Central Station.
- Throughout the day there is a city-bound train departing from Redfern on average every two minutes. During the morning peak hour city-bound trains depart on average once a minute, while the afternoon peak period averages one train every one and a half minutes.
- Macdonaldtown Railway Station is located within 200m of the site. The station is accessed via Wilson Street and Burren Street. The station is serviced by the Inner West and South lines on the CityRail network. It receives a much lower service frequency than Redfern Station.
- During most of the day there is a service to the city on average once every 14 minutes. Between 4:00pm and 7:00pm there is a service on average every 11 minutes.
- City Road trunk bus services are within the 400 m walking distance of the subject site. These services provide access to Newtown in the south and Railway Square in the north. During peak period, services run on average once every three minutes. Regent/Gibbons Street and Cleveland Street bus services provide services to/from destinations such as Circular Quay, Marrickville, Dee Why, Sydney Airport and Bondi Junction. During peak periods, average services are once every three minutes.

Surrounding Locality: The area surrounding the site is a mix of residential, high technology, educational, retail, commercial and rail uses. This mixed use character is emulated in the proposed Concept Plan.

Residential land uses are located immediately to the north of the site on Wilson Street, west along Ivery's Lane and east along Little Eveleigh Street. The existing housing consists of predominantly 2-3 storey Victorian terraces reflecting the period in which the area was developed, with greater land use mix and building heights along Abercrombie Street towards City Road. The rail line provides a barrier between the site and the suburbs of Alexandria and Waterloo which are also predominantly residential in character. The Concept Plan proposes predominantly residential uses along Wilson Street. The proposed housing on Wilson Street will comprise 3 storey buildings which respond to the character of the terraces.

The western section of the North Eveleigh site is predominantly residential in character. The backyards of the existing dwellings face the North Eveleigh site. The proposed land use is consistent with the residential uses along Ivery's Lane. The proposed built form to the east of Ivery's lane will comprise 6 storey residential development which will be set back from the boundary of Ivery's Lane by approximately 12 metres.

It is proposed to locate a 16 storey residential tower at the eastern end of North Eveleigh. The tower is intended for residential purposes. The proposed landuse is consistent with the residential landuses along Little Eveleigh Street. The tower is approximately 22 metres from the closest dwelling on Little Eveleigh Street and is located approximately 3-5 metres lower than the ground level of the street. The tower will be separated from the residential development by public open space and the proposed pedestrian/cycle bridge which will link North Eveleigh to the ATP and Redfern Railway Station. In the distance the 30 storey Department of Housing apartments and 11 storey commercial towers on Lawson Square are visible from the site.

High technology, media and commercial land uses are evident at the Australian Technology Park which is across the railway tracks to the south of the site. The Concept Plan seeks to create a synergy with the land uses at the ATP by locating commercial development on the eastern section of the site along the Railway Line. The proposed building envelopes have been designed to promote flexibility and to encourage a range of commercial, educational and high technology uses. The former TNT towers are visible from the site. These towers are being used for commercial and educational land uses.

Retail land uses and activity is evident to the north of the site along Abercrombie Street. It is proposed that the North Eveleigh site incorporate 4,000m^2 of retail uses comprising a 2,000m^2 supermarket. The need for a local supermarket in this location has been supported by retail analysis which indicates a demand for a locally based centre which will benefit the new residents at North Eveleigh as well as the existing Darlington and Redfern Catchments including students. It is noted that the lack of supermarket facilities in Redfern has led to residents travelling as far as Marrickville for supermarket products.

Cultural land uses are evidenced by the Carriage Workshop Building which was recently adaptively reused by the NSW Government. The Concept Plan proposes to support the cultural uses on the site by making provision for an additional 12,000m^2 within the existing building. This is considered to be a sustainable use of the facility. The Concept Plan promotes cultural/ community land uses by nominating areas for future cultural/community facilities.

Railway uses have been the predominant use of the Eveleigh Railway Yards. The proximity of the site to the railway tracks, the nature of the existing buildings and the layout of the site and proximity to Redfern Railway Station is a constant reminder of the sites traditional origins.

Proximity to Sydney University and other Educational Institutions: Sydney University, the University of Technology and other educational institutions define the locality as an educational precinct. Sydney University's Darlington campus lies within 500 metres of the North Eveleigh site and the built form of the campus is visible from a number of vantage points.

The redevelopment of North Eveleigh will unlock the potential for a range of uses which could benefit nearby educational institutions such as Sydney University and the University of Technology. This potential would be lost if redevelopment does not occur. The redevelopment of North Eveleigh will enhance access to public transport in particular through the proposed pedestrian/cycle link which is intended to improve access and provide a safe and secure route to the Redfern Railway Station and significant bus routes.

The proposed Concept Plan seeks approval for building envelopes and floor plates intended to support a range of uses including educational, research and high technology industries. The Concept Plan provides the potential for the location and educational facilities related to the University or other educational institutions.

The proposed Concept Plan also provides for a range of residential forms which could well be tailored for student housing. The need for student housing has been raised in consultation between the University of Sydney and the RWA.

6.2 Built Form/Urban Design

6.2.1 Design Excellence

As discussed at Section 5.2.1 the design of the project will be of high standard to ensure an appropriate response to the context and heritage significance of the site, as well of the achievement of SEPP 65 principles and design excellence. Design excellence principles will also be included in the Statement of Commitments to ensure future detailed design of the building form incorporates design excellence.

The proposed height and scale of development proposed for the site is compatible with the immediate townscape context of Redfern Waterloo.

6.2.2 Built Form

Existing development on the site contrasts to the general built form of the area with large warehouse structures covering extensive footprints. The proposed height strategy reflects and complements the scale of the retained heritage built form on the site, as well as the scale of adjoining neighbouring buildings.

A key objective of the Concept Plan was to ensure development along Wilson Street and Iverys Lane responds to the predominant terrace house typology within the area. The Concept Plan provides lower to medium rise building heights along the northern and western perimeter of the site that respond to existing adjacent residential development along Wilson Street and Iverys Lane. Development along Iverys Lane has also been setback to minimise to overlooking to existing residential development to the opposite side of the Lane.

The proposal will provides 4 storey development along Wilson Street (that will appear as three storey as viewed from the street), providing a scale that is sympathetic to both the heritage buildings on site and scale of the predominate form of terrace housing along Wilson Street.

The new buildings along Wilson Street (RL 35 to RL37) will present a height similar to a number of existing buildings along Wilson Street (Fire Station at RL 35.22 and an existing 2 storey brick building on the site that has a maximum RL 33.14). The new buildings will also be lower than the existing Meriton Apartment building along Wilson Street, which has a maximum RL 41.58.

Building heights are increased to the southern boundary of the site and adjacent to the railway corridor where they will have minimal overshadowing impacts. The visual impact of the taller buildings as seen from Wilson Street is minimised, as a group of heritage buildings separates Wilson Street from larger-scale new development, which is set down into the site. As stated above along the western portion of the site, new buildings that present to Wilson Street, project two storeys in height above street level. These buildings essentially form a shield between Wilson Street and the taller development on the site.

A 16 storey tower is proposed in the eastern portion of the site to anchor the redevelopment of the precinct. This building is a landmark building which will create identity to the development and highlight the location of the pedestrian bridge (which will be lodged under a separate application) connecting the site to Redfern Station.

Overall, the scale, height and bulk of the proposal is entirely compatible with the existing characteristic building height and desired future scale and character of the immediate area. Importantly, the proposal also achieves a height and scale of development that is entirely compatible with the existing heritage buildings on site.

6.2.3 Plant Equipment

The Statement of Commitments will include a provision requiring the final design to ensure miminal visual impact from plan equipment.

Mechanical plant, dependant on their impact to noise levels, will be acoustically treated to suit. The New South Wales Industrial Noise Policy Guidelines will be applied for assessing these impacts. The Australian/ New Zealand Standard AS /NZS 2107 – 2000 titled 'Acoustics – Recommended Design Sound Levels and Reverberation Times for Buildings Interiors' will be adhered to.

6.2.4 Street Level Connections to Wilson Street

Currently, the site is separated physically from Wilson Street by a considerable grade difference of some 3-5m and limited connections. The site currently presents a blank and inactive frontage to Wilson Street and is poorly linked to the arterial road system. Vehicular access to the site is currently provided at the western extremes of the site from Wilson Street, with limited access on the eastern side of the site. Pedestrian and cycle access into the site is also limited.

The site frontage to Wilson Street will be enhanced by the redevelopment with the provision of improved public access and rationalised vehicle entry points to Wilson Street. To maximise the site's accessibility from Wilson Street a series of pedestrian connections are proposed, typically located at the ends of the neighbourhood streets. These connections will have public stairs. Disabled access to the site will be provided at three points along Wilson Street.

Furthermore, a series of north-south streets have been established within the site to maintain visual continuity of neighbourhood streets through the site.

6.3 Environmental and Residential Amenity

6.3.1 Residential Amenity

The Concept Plan seeks to optimise amenity in terms of daylight and sunlight access; ventilation, views and outlook; and private open space and access to public open space. The layout, mix and size of apartments does not form part of this Concept Plan application. Notwithstanding, Indicative Apartment Layouts have been prepared by BatesSmart to demonstrate that the proposed building footprints, location and envelope will maximise apartment amenity.

The areas proposed for potential residential development are chiefly on the western portion of the site in proximity to existing residential development, cultural and community uses in the middle of the site with a mix of residential and non-residential development proposed at the eastern end. Underlying this approach are the following strategies to maximise residential amenity:

- The proposal supports the development of sustainable communities by providing a mix of residential and employment uses in close walking distance to station, existing and proposed retail shops.
- Provision of a safe and accessible public domain by providing safe and legible pedestrian and bicycle access to and through the site, an interconnected street network and a high reliance on public transport.
- Buildings are sited and orientated so that all apartments will receive in excess of two hours of sunlight to primary living rooms, and the courtyard receives two hours sunlight to in excess of 50% of its area.
- The proposed redevelopment will achieve SEPP 65 principles and design excellence.
- Maximise access to distant views to the CBD and provide direct sight lines to public open space form apartments.

6.3.2 Overshadowing/Solar Access

As can be seen by Shadow Diagrams prepared by Bates Smart and included at **Appendix D**, the primary redevelopment zones proposed for the site do not have any major overshadowing implications for adjacent buildings or existing or proposed major open space areas as the tallest buildings have been located on the southern portion of the site adjacent to the rail corridor where they will have minimal overshadowing impacts and solar access is not crucial.

Properties on the western side of Iverys Lane

The residential development to the west of the site fronting Iverys Lane will be overshadowed by the proposed residential development in the western portion of the site at 9am in midwinter. However, this residential area will be entirely free from shadow cast by the development at 12 noon and 3pm in mid winter. Furthermore, the proposed redevelopment will not overshadow these properties at any time during the Equinox or during the summer months. The proposed redevelopment will not materially impact any other buildings or open space areas outside of the site.

Major On-Site Public Open Spaces

The Concept Plan is fundamentally configured to ensure adequate solar access to proposed major onsite public open spaces all year round, by adoption of the provision of the *Sydney Local Environmental Plan 2005* as a solar access benchmark. This benchmark is considered appropriate for the project by virtue of the location of the site within a high density urban environment. Within the site, overshadowing of the major on-site public open spaces and private courtyards is unlikely to have any detrimental environmental impacts. BatesSmart have tested the design to ensure that the Eastern Plaza and the two large central parks, as well as the private courtyards generally will receive two hours of direct sunlight to 50% of its area between 12 noon and 2pm in midwinter. It is important to note that solar access to these open space areas is increased during the Equinox and summer months.

6.3.3 Visual Privacy

The development interfaces with existing residential development at three locations. These are:

- between Ivery's Lane and Building B1 (refer to Figure 8 for building identification),
- along Wilson Street, and
- between Little Eveleigh Street and Building P1 (refer to Figure 8 for building identification).

Ivery's Lane and building B1 – Building B1 is setback at least 12 metres from the site boundary and a further 3 metres to the boundary of the rear of the residential properties on Ivery's land. Privacy impact will be minimal because there will be two landscaping buffers and two roads separating the buildings.

Along Wilson Street – The building proposed along Wilson Street in the Concept Plan have been designed to ensure compatibility with the existing terraces along Wilson Street. The buildings along Wilson street have been designed to read as 3 storeys on Wilson Street, achieving a similar scale to the existing buildings. Privacy impacts on the existing residential is further reduced by the existing and proposed landscaping along Wilson Street.

Little Eveleigh Street and Building P1 – Building P1 is setback approximately 22 metres from the boundary of the rear of the nearest terrace. Privacy impacts will be minimised because of proposed landscaping immediately adjacent to the boundary of the rear of the terraces.

Privacy issues and mitigation measure will be addressed at the detailed deign phase (Project Application stage). However, these may include the incorporation of mature vegetation, solid balcony balustrades, minimum windows sill heights and/or opaque glass, all of which would maximise privacy.

All the buildings envelopes achieve the required distance separation between buildings as stipulated under the *Residential Flat Design Code* in order to achieve visual privacy.

6.3.4 Streetscape and View Corridors

The proposed development will be viewed from various places in Redfern, Darlington, Eveleigh and further a field. The redevelopment of the site has taken into consideration views and vistas to and through the North Eveleigh site.

Perspectives/photomontages have been prepared by BatesSmart and included at **Appendix B**, which demonstrate views to the site.

The Concept Plan is premised on creating view corridors from the existing north south streets in Darlington through the site towards ATP. This has been achieved by the design of the proposed street network through the site and key vantage points at Wilson Street. These view corridors are shown in Figure 17.

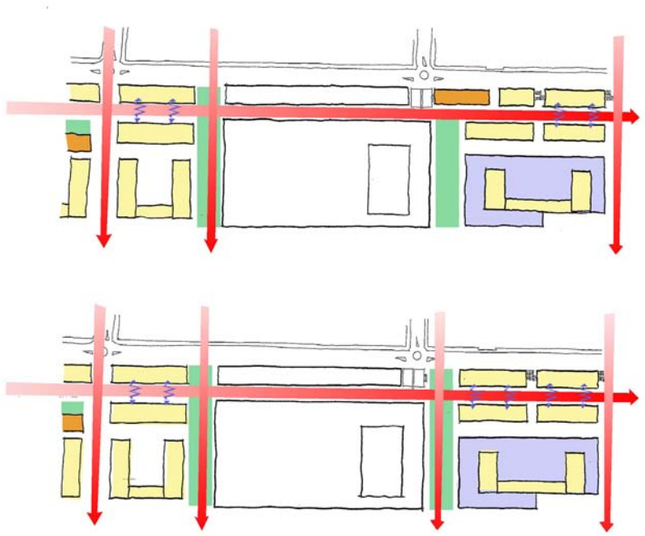


Figure 17 – Urban Design Framework and View Corridors

6.3.5 Wind Impacts

Wind impact of the proposal has been considered in a Wind Environment Assessment undertaken by Windtech, and included at **Appendix M**. No wind tunnel tests have been undertaken for the subject development. As such, this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection. Any recommendations in this report are made only in-principle and are based on Windtech's extensive experience in the study of wind environment effects.

The results of this study indicate that the site is generally exposed to southerly winds. It is recommended that 5m tall trees be planted within two southern thoroughfare corridors at the west end of the site, as well as around the base of the proposed 16-storey development. Awnings and podiums could also be considered.

It is recommended that an updated/possibly more detailed analysis be carried at the project application stage, once the detailed design and building form of the development has been finalised. This should include a wind tunnel study on the area surrounding the eastern 16-storey residential tower.

6.4 Safety, Public Domain and Landscaping

6.4.1 Safety, Security and Public Surveillance

The Safety and security of the site and its users as well as the surrounding public domain have been considered in the development of the Concept Plan. The principles of the Crime Prevention Through Environmental Design have been taken into consideration in the designing of the buildings, open space and landscaping.

Design Assessment
This assessment of the proposal is based on drawings prepared by BatesSmart.

An important consideration in the proposed Concept Plan has been the safety and security of the site and its users, as well as the surrounding public domain. An assessment of the Concept Plan against the four CPTED principles is provided below:

Territorial Reinforcement

Territorial reinforcement can be achieved through:

- Design that encourages people to gather in public space and feel some responsibility for its use and condition;
- Design with clear transitions and boundaries between public and private space;
- Clear design cues on who is to use the space and what it is to be used.

A significant strategy in the urban planning has been a high degree of permeability and visibility created by the street pattern. This ensures that pedestrians and cyclists moving to and from the site are safe and secure. The proposed Concept Plan maximises accessibility to and within the site by formalising the existing east-west access spine within the site. This street will be paved to prioritise the pedestrian, and yet remain open to vehicles, albeit with traffic calming devices, and traffic managed during events. Improving pedestrian amenity and walkability within the site encourages the use of the space, and will consequently increase informal surveillance and 'eyes on the street'.

The proposed street system also provides greater connection with Wilson Street, by providing two vehicular accesses to the site from Wilson Street and pedestrian and cycle access to the site at various points along Wilson Street. Pedestrian and cycle links are provided through the site to connect the site to Redfern Railway Station, Redfern Street, and the north of the ATP. It is envisaged that the increased connectivity with the surrounding area will significantly increase activation of the site.

The shared east west access spine will be the focus of the highest amount of pedestrian and cycle traffic and will be activated at street frontage level. The street activation will maximise actual and perceived security and safety of pedestrians and cyclists moving through the site. Buildings are proposed to be located around the public and private open spaces within the development, allowing a level of passive security via observation from windows and balconies.

Quality landscape design will be provided within public spaces, thereby creating a safe and secure space for occupants and local residents to gather and interact. Quality landscape will also be provided at the interface between public spaces and private development to provide a clear delineation between the public and private realm.

The overall enhancement of the site through refurbishment of the existing heritage buildings, new buildings and facilities, extensive landscaping and dedication of public open space, will make for an attractive and vibrant space which will encourage a sense of pride and ownership amongst the surrounding community.

Surveillance

Good surveillance can be achieved by:

- Clear sightlines between public and private places
- Effective lighting of public places
- Landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.

The Concept Plan has been designed to ensure clear sightlines are achieved between public and private spaces. Providing built form around the proposed public and private open spaces and fronting all streets promotes casual surveillance of the public/private realm.

A landscape masterplan has been prepared by Turf Design. All the open spaces have been designed to conform with CPTED standards which include low level ground cover and high canopy trees and shrubs providing good sight lines with limited opportunity for concealment.

The concept landscape plan for the site will provide a safe and secure environment for both pedestrians and cyclists. The safety and security of pedestrians and cyclists on site will be enhanced by extensive street lighting, particularly along key pedestrian routes. Potentially dark and obscure areas have been avoided in the street patterns and the proposed activated street edges contribute spill lighting from building uses.

Further details on the measures to improve surveillance will be addressed in the Project Application stage.

Access Control

Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. By making it clear where people are permitted to go or not to go, it becomes difficult for potential offenders to reach and victimise people and their property. Details of the inclusion of any barriers to or within the site will be provided at Project Application Stage. Details of the inclusion of barriers to the site will be submitted at project application stage.

Space Management

Future space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti and the removal or refurbishment of destroyed or decayed physical elements.

The project is expected to be Torrens title subdivided, and each block will then be strata subdivided and accordingly managed by way a Strata Menagement scheme with the exception of commercial office buildings.

The Concept Plan provide for a series of public spaces designed for multiple uses. The spaces will be well designed and maintained to encourage utilisation. All the public open space is proposed to be dedicated to the City of Sydney Council, and will accordingly be managed and maintained on behalf of the community by the Council. Private open space areas that will be publicly accessible through managed access arrangements made with the landowner will generally be privately owned, managed and maintained. Private open space that will be required to meet the needs of new residents will generally be in private ownership of individuals and/or body corporate schemes.

6.4.2 Linkages to public domain

Connectivity relates to how people move about and is generally divided into pedestrian, bicycle, public transport and vehicle modes of movement. The key connections in relation to the North Eveleigh Precinct are as follows:

- Pedestrian;
  - Links to the Redfern Railway Station;
  - Links to the McDonaldtown Railway Station;
  - Links to the Railway Square transport interchange;
  - Links between the East and West precincts on the site;
  - Links across the railway corridor to the Australian Technology Park;
  - Links to the University of Sydney; and
  - Links to Newtown retail area.

- Bicycle
  - Links eastward along the railway line;
  - Links westward to Newtown, Enmore and Erskineville; and
  - Links north towards Darlington and Chippendale.
- Public Transport
  - Bus, rail and transit links from the transport interchange; and
  - Rail links from Redfern and McDonaldtown Railway Stations.
- Vehicular
  - Wilson Street via Golden Grove Street, Codrington Street and Shepherd Street connections to Darlington and Chippendale (City Road and Cleveland Streets);
  - Wilson Street also connects to Erskineville Road and King Street; and
  - Lawson Street connections to Redfern, Waterloo, Surry Hills and beyond;

Currently, the site is separated physically from surrounding residential development, Wilson Street, Redfern Railway Station, the University of Sydney and employment activity at the ATP by a grade separation and limited connections. The site is poorly linked to the arterial road system. Vehicular access to the site is currently provided at the western extremes of the site from Wilson Street, with limited access on the eastern side of the site. Pedestrian and cycle access into the site is also limited. The lack of connectivity also contributes to poor surveillance of the public space in the area.

Accessibility to and within the site will be maximised by:

- formalising the existing east-west access spine within the site for a mix of vehicular, pedestrian, and cycle access through the site and to provide frontages for new buildings and new uses
- providing a street system on the site that connects with Wilson Street
- proposing two vehicular accesses to the site from Wilson Street, one using the existing entry to the site (western part of site) and the other opposite Shepherd Street
- proposing pedestrian and cycle access to the site at various points along Wilson Street
- creating a pedestrian and cycle link north-east of the site to connect the site to Redfern Railway Station, Redfern Street, and the north of the ATP
- the provision of a pedestrian and cycle connection between North Eveleigh and the ATP to improve access to the University of Sydney and link the site with the ATP, South Eveleigh and Henderson Road.

The introduction of a number of new public entries and the railway corridor crossing will open up the site to the public, improving permeability and circulation and will significantly enhance public amenity and safety. Some of these linkages incorporate level access ensuring appropriate disabled access across the site.

In summary, the proposal redevelopment of the site will facilitate significantly improved linkages between Redfern Railway Station and local employment hubs, Redfern Town Centre and the University of Sydney.

6.4.3 Accessibility

Accessibility in relation to the public domain has been well considered in terms of the proposal. An Accessibility Report has been prepared by Morris Goding Accessibility Consulting, and is included at **Appendix N**.

Bates Smart and Morris Goding Accessibility Consulting have examined key physical elements, to identify physical barriers, such as the access constraints between Wilson Street and the site, and incorporate solutions as a suitable response to disability statutory regulations.

Within the site, there will be accessible continuous path of travel to the main entrances and within all floors of the new residential and commercial buildings, to the main entrances of the heritage buildings, and will seek access within all floors of the heritage buildings.

At a minimum, three points of access from Wilson Street to the site located at the eastern end, central and western end of the site will be required for the site. The central access is already constructed and the eastern access is shown on the plan. The western access will be subject to future design when its exact location will be established.

The new access points will be developed further during project application stage to ensure the principles of the DDA are upheld. Under the Disability Discrimination Act (DDA), it is unlawful to discriminate against people with disabilities in the provision of appropriate access, where the approach or access to and within a premises, makes it impossible or unreasonably difficult for people with disabilities to make use of a particular service.

The new buildings will comply with the requirements of relevant legislation and include requirements for accessible buildings, public areas and seamless integration within the development under the draft DDA Premises Standards. The developed design will consider user groups, who include members of the public, residents, office staff, visitors and guests.

The design will provide a consistent accessible environment through detailed design and planning of integrated network of paths of travel. This will include the provision of appropriate continuous accessible paths of travel, circulation areas, signage, lighting, seating, handrails, tactile ground indicators, stairs, ramps, lifts, accessible toilet facilities, accessible services and amenities, accessible car parking, accessible pedestrian and transport linkages.

The accessible design will also take into account heritage buildings. The Government recognises that there will be circumstances in which it will be difficult to provide access to an historic property without excessive expense or radical alterations. Therefore the heritage building design will reflect innovative alternative accessible solutions to ensure both heritage requirements and the needs of accessibility, are achieved.

In summary, ongoing review and assessment of the proposal to ensure compliance with relevant legislation will be undertaken prior to the lodgement of any subsequent project application(s), to ensure adequate access is provided for people with disabilities

6.4.4 Trees

Landscape Matrix Pty Ltd have prepared an Arboricultural report in respect to trees on or adjacent to the site (see **Appendix O**). The report is prepared to satisfy the DGEARs for the Concept Plan for the site. The report identifies those trees that will require removal in the Concept Plan for the redevelopment of the site. The report also identifies trees that may be potentially affected by the proposed development, and makes recommendations with regard to other trees based on their species and condition.

A total 141 trees are located on the site, with an additional 82 trees located on Wilson Street, adjacent to the site.

The site has been developed and used for railway workshops for many decades in the past and the site has been cleared of its original vegetation for a long period of time. Some replanting of exotic and Australian plants has occurred over time in parts of the site. Many of the plantings are in declining health and very few of the trees within the site are of high landscape significance. A total of 48 trees are regarded as weed species and are recommended to be removed regardless of the development proposal. The removal of these weeds from the site will minimise future spread of weeds both within and beyond the site.

A total of 80 trees are proposed to be removed for the purpose of the development. It is important to note that Turf Design has prepared a Landscape Concept Plan for the site which provides for significant planting on the site, more than replacing the trees to be removed and ensuring the retention of all significant green spaces and the creation of new green spaces on the site.

Of those trees to be removed only 4 have been identified as significant trees. This compares to 34 significant trees being retained. Additionally 33 of the trees proposed to be removed are located on the southern boundary of the site and are likely to need to be removed due to Rail Corp access requirements. Three Canary Island Palms located at the rear of the Chief Mechanical Engineer's Office building are intended to be transplanted elsewhere on site.

The most significant vegetation on the site occurs at the eastern end in the vicinity of the Chief Mechanical Engineer's Office building. These significant trees will be retained. Other notable vegetation is located at the western end of the site on the embankment bordering the Wilson Street boundary. Development in this location will require the removal of the vegetation. As a result additional trees are proposed to be planted on the Wilson St verge to maintain the green edge to the site.

Street tree plantings on Wilson St adjacent to the site form an important green edge to the site. Of the 82 street trees on Wilson Street adjacent to the site 41 have the potential to be impacted upon by redevelopment works at the site (e.g. excavation). The potential impact may be disturbance to root zones from excavation works on the site, although impact is unlikely to be significant in the majority of these trees and will be further reduced as a result of recent root disturbance due to the construction of a new pedestrian path.

The remaining 41 trees on the Wilson Street frontage are unlikely to be affected to any material degree due to the retention and/or restoration of existing buildings on the site in the vicinity of these trees.

A detailed assessment of potential impacts on specific trees will need to be undertaken when detailed development proposals are available. Specific trees protection measures will need to be considered at this time.

General tree protection measures are identified in section 10 of the Arboricultural Report to provide sample measures that could be used to minimise potential impacts to the trees to be retained.

6.4.5 Landscaping/Public Domain

In accordance with the DGEARs, a Landscape Strategy Report has been prepared by Turf Design Studio + Jeppe Aagaard Anderson (TDS + JAAA) and is included at **Appendix C**. Approximately 20% (23,125m²) of the site is proposed as publicly accessible open space, some of which will be dedicated to Council. This is more than required by the Redfern-Waterloo Built Environment Plan (Stage One) which suggests 15% of the site. in addition, an estimated 5,210m² of private open space will be provided.

Figure 18: Site entry adjacent Little Eveleigh Street

A network of public open space is provided that respond to the linear character of the site and relates to the historic building and spaces. The primary open space is a shared pedestrian and vehicle east-west street framed by the Carriage Workshop and Blacksmith's Shop building. This street links four public open spaces along its length. Either side of the Carriage Workshop the siding yards will be maintained. These spaces will retain the Fan of Tracks to facilitate heritage interpretation, and be spaces to facilitate a range of outdoor cultural and community events. The highly significant Fan of Tracks will be emphasised in the public domain through the use of a contrasting paving material. Bench seating and raised planters will be provided along the geometry Fan of the Tracks.

At the eastern end of the site a large plaza is proposed as an extension of the existing open space adjacent to the Foundry. Figure 18 indicates the site entry adjacent Little Eveleigh Street as intended by TDS + JAAA. This plaza is the connecting arrival space for the new bridge to the Redfern Railway Station. The plaza is the main public area of the development. It is surrounded by heritage and new high-rise landmark buildings.

The development also provides private open space for all dwellings in the form of communal areas, courtyards and future balconies. Adequate private and communal open space has been provided within and around residential development to provide a high level of residential amenity, privacy and separation between dwellings.

The landscape masterplan is based on six key initiatives as follows;

Cultural Values: The relationship ot historical elements are fundamental to the cultural history and heritage of the site. The design of open spaces will seek to interpret the site as follows:

- Delineate Rail track in the ground place of open spaces using a contrasting paving material to highlight the railway memory
- Reuse or reinterpret existing remnants within the public domain. For example, develop a suite of urban furnishings (lights, bollards, signage, seating) made from salvaged material in a manner that respects their intrinsic qualities and their past context
- Integrate and interpret the fan of tracks as a key element.

Integrate environmental infrastructure: Enhance environmental quality within the public domain with: a water management approach founded on water sensitive urban design principles.

Provide a safe, legible public domain: The Concept Plan provides a legible series of open spaces-a main access street with pedestrian squares, courts, corridors and pocket parks

Design of the open spaces will create a safe environment based on CPTED principles e.g. clear lines of site, maximised passive surveillance and effective night lighting.

Provide an accessible public domain: Pedestrian access will be provided across the site.

Bicycle access will be provided through the site (to be a shared pedestrian-bicycle space) linking to a pedestrian bridge at the east that connects both pedestrians and bicycles to Regent Street and Redfern Station.

Provide an amenable public domain: Provide winter sun, summer shade, seating and logical pedestrian connections within and between precincts to create an efficient and comfortable outdoor environment.

Provide a meaningful public domain: Reinforce site memory through interpretation of the existing rail tracks within the open spaces of the redevelopment.

Enhance the feeling of connection to the Environment and nature.

6.5 Car Parking/Traffic Impacts (Construction and Operational)

A Traffic and Transport Assessment has been undertaken and a report prepared by Parson Brinkerhoff in relation to the proposed development. This report is included at **Appendix H**.

6.5.1 Cumulative traffic model

Taking into considering 0.9% natural growth and the cumulative impacts from the RWA and University developments, the traffic model suggest local traffic demand would increase by approximately 3,000 vehicles on the road network by 2016, about three fifths of which would be due to the RWA and University proposals.

The report concludes that the surrounding road network can accommodate the increase in traffic volumes in the short term and in 2016, provided the following intersection improvements are undertaken:

- Abercrombie Street and Lawson Street: providing turning lanes for left and right turning traffic into and out of Abercrombie Street and changes to signal phasing and timings
- Cleveland Street and Shepherd Street: extending the existing right turning bay from 30 to 70m and extending the cycle time for those turns
- Abercrombie and Shepherd Street: replacing the scramble phase and adjusting signal timings. Alternatively, additional turning lanes could be introduced at the expense of on-street parking.

With these improvements undertaken the road network and intersections within the study area will function at a good level of service with most intersections having a Level of Service greater than level C.

These upgrading measures are considered satisfactory to accommodate the cumulative impacts of the proposed developments.

Parsons Brinckerhoff has calculated that on a basis of contribution to the traffic volume increases, that 10% of the demand is attributable to the Abercrombie Precinct and 90% to the North Eveleigh site.

6.5.2 Car parking provision and on-street car parking impacts

Parking impacts from the development will be minimal. The development has considered the City of Sydney parking standards set out in its LEP and South Sydney DCP 11. The breakdown of car parking to be provided is as follows:

Residential Parking Requirements

1,279 parking places for 1,258 dwellings. This is based on an estimated mix of studio and 1-3 bedroom units. A proportion of these will be set aside for visitor car parking.

Residential car parking will be designed to provide the minimum sizes of space and circulation aisles set out in the Australian Standard 2890. Parking will be in underground car parks.

Retail, Commercial and Cultural Parking Requirements

426 spaces to serve 53,280 square metres of commercial, retail and cultural gross floor space, not including the Carriage Workshop and Blacksmiths' Shop.

The CarriageWorks and Blacksmiths' Shop, Blocks R and S, were the subject of separate DAs and currently provide for 167 car parking spaces. For consistency the car parking rate applied by the City of Sydney for CarriageWorks has been applied for the remainder of the Carriage Workshop building. A total of 238 spaces will be located within these two buildings.

Disabled Parking Requirements

2% of spaces will be provided for people with disabilities.

The proposed car parking provision will ensure that adequate parking within the site is proposed for the anticipated number of residents and employment as a result of the development. Internal roads within the development should, therefore, be largely free of parked cars, providing a significant amount of spare parking capacity in the area.

On street parking will be lost as a result of:

- New access points and from improvement works to the Shepherd Street and Abercrombie Street intersection (approximately 10 spaces, subject to detailed design)
- Works needed to ensure performance is maintained at the three intersections discussed above
- The new access arrangements in Wilson Street

The loss of the existing on-street spaces will be more than mitigated by the increase in available kerb-space (approximately 75 spaces) within the development site. Given the loss of parking at Abercrombie Street and Shepherd Street it is recommended that consideration be given to providing additional ¼ hour parking spaces close to the existing shops on the corner to ensure turnover of parking and prevent loss of trade.

6.5.3 Access impacts and mitigation

The proposal provides two points of access to the site, at the eastern end of the site and at the intersection of Shepherd Street with Wilson Street.

This Concept Plan application seeks approval of the roadwork associated with the access points as shown in the Transport and Traffic Impact Assessment at **Appendix H**.

The eastern end access is an existing access into the site that will require widening to ensure a safe line of sight for motorists. This can be accommodated without loss of trees but will require the removal of 4 parking spaces to achieve a good level of forward visibility.

The Shepherd Street Access is proposed to join an upgraded roundabout at Wilson Street. The existing roundabout at this location means that there is no parking loss at this location. It is recommended that to ensure construction impacts are minimised, that the improvements to these access points be undertaken at an early stage of the development so truck and site workers access is unimpeded.

The access points and internals road system will become Council roads once construction is complete. The design of the Wilson Street accesses will be in accordance with RTA and AustRoads standards and will be to a suitable construction standard for adoption by Council. Two access points allow for a good level of utilisation of internal roads. Improvement works will be needed at both accesses to accommodate the movement of semi trailers in to the site.

6.5.4 Provision for emergency services

The proposed street system provides adequate facilities for the manoeuvring of all emergency service vehicles that could be expected to use the site. The site has two access points which should afford any emergency service rapid access to the site. The roads within the site do not have impedances in the form of Local Area Management Scheme.

6.5.5 Provisions for waste disposal vehicles

The City of Sydney has advised that a waste disposal vehicles of the size of a medium rigid vehicle (MRV) having a length of 8.5m, width 2.5m and a height of 3.5m was a suitable design vehicle for this site. All proposed roads and turning heads within the site have been tested using Autotracks software to accommodate a vehicle of this size.

6.5.6 Public transport strategy

A mode share target of 60% non car is being targeted for the site. This is similar to the levels of mode share being achieved in other CBD areas within the city. The strategy seeks to constrain car use by adopting the City of Sydney minimum parking standards and providing effective connections to public transport. This is achieved by providing good pedestrian and cycle permeability though the site, way finding and a new pedestrian/cycle bridge link from Little Eveleigh to Cornwallis Street.

To further promote public transport usage, it is recommended that future employers within the commercial developments be encouraged to develop green commuter plans and provide information to new starters about access to public transport.

6.5.7 Cycling and walking

The site provides good connection for pedestrians and cyclists to Wilson Street. The proposed cycle and footbridge (by separate application) linking Little Eveleigh Street to Cornwallis Street would provide a better pedestrian and cycle access to Redfern Station and Redfern Street. Provided adequate wayfinding is installed, the new bridge should attract many users and reduce the number of pedestrians travelling to the University currently using the narrow footways on Lawson and Abercrombie Streets.

To encourage cycling the provisions of the Green Star building scheme will be considered for all commercial buildings.

6.5.8 Construction phase impact and mitigation

The construction phase will create impacts on the road network, however, with careful planning these can be minimised. Early construction of the access improvements and the internal road network will greatly reduce likely impacts. Impacts on the road network could include parking by site workers on Wilson Street, increased heavy vehicle traffic, increased traffic from site workers along with dust and noise from site traffic. It is recommended that the principal contractor prepare a Traffic Management Plan in accord with RTA and relevant Australian Standards prior to any construction on site.

6.6 Ecologically Sustainable Development (ESD)

Ecologically Sustainable Development (ESD) means to use, conserve and enhance the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.

The proposed development shall incorporate ESD principles to deliver sustainable, cost effective, and holistic approach to the design, construction and ongoing phases of the development. The redevelopment of North Eveleigh offers a unique opportunity to a sustainable Redfern–Waterloo Community due to the sites intrinsic characteristics:

- It comprises a 10.7 hectare brownfields site which is surplus to the requirements of Railcorp and has been largely underutilised for the past 20 years. Redevelopment offers the opportunity for the site to be reintegrated into the existing community by offering jobs, housing, cultural, and retail uses.
- It is adjacent to Redfern Railway Station - the 10th most patronised station in the Sydney network, 3kms from the Sydney CBD. It is well served by the bus network. It provides the opportunity for a transit oriented community with a strong dependence on public transport/ cycling and walking.
- It is in close proximity to educational and health institutions as well as the services and opportunities offered in and around the Sydney CBD. Job creation in North Eveleigh will mean less travelling time and more time for family life for people who live on site and din the region.
- Its size, ownership, physical and heritage attributes has enabled the development of an integrated well designed redevelopment proposal which is environmentally responsive and seeks to achieve sustainable development principles.
- Its redevelopment will create a safe and high quality environment where people can live, work and recreate.
- The adaptive reuse of significant heritage items will contribute toward the reuse of building materials thus reducing embodied energy use.

Approach

The ESD initiatives proposed for the site in relation to water and energy have been benchmarked against objective rating schemes.

Commercial buildings have been benchmarked against the Australian Greenhouse Rating Tool.

Residential buildings have been benchmarked against the Building Sustainability Index BASIX.

The National Australian Built Environment Rating System has been used to benchmark commercial buildings.

The key ESD aspects that are addressed are:

- Water
- Energy
- Micro-Climate
- Landscape
- Transport
- Waste
- Materials
- Education

6.6.1 Water

The RWA engaged the Institute for Sustainable Futures (ISF) to prepare a Water Management Plan to guide sustainable water management at North Eveleigh. The modelling and testing for water management was based on development yields for the proposed Concept Plan. This section provides a summary of the key findings of the work undertaken by the Institute.

Specific targets and actions were identified for the base case, sustainable and restorative scenarios. These are outlined in Table 5. 6 and 7. The base case represents current best practice and meets current regulations including BASIX. The sustainable case is aimed at minimising the net negative impact of the development and the restorative option aims to create a net positive impact.

At a minimum achievement of base case targets and actions must be implemented for the development of North Eveleigh. It is recommended that further modelling and testing is undertaken during the design phase to assess cost effective and appropriate options for the achievement of sustainable and restorative targets and actions which may be implemented for the development.

The concept plan promotes best practice in urban design principles which are conducive to the achievement of sustainable targets.

The RWA recommends that during the design phase of the Project, assessment be made of the viability of drawing water from the supply of recycled water from outside the site, if and when available.

Guiding Principles

Six Sustainability principles have been developed to guide outcomes that are ecologically, economically and socially preferable. The first principle is overarching while the remaining principles guide the process. The principles govern objectives which in turn are translated into targets and actions.

- Overarching Principle 1: Integrate all streams of water as one water cycle to optimise resource use and minimise environmental impact.
- Principle 2: Focus on quality of water service provision rather than quantity of supply.
- Principle 3: Adopt a 'systems' approach.
- Principle 4: Build in flexibility, adaptability and resilience
- Principle 5: Maximise cost effectiveness
- Principle 6: Facilitate community awareness of and engagement with sustainability.

Table 6 - Targets and Actions for water demand and supply.

Targets and Actions for	Base case	Sustainable Case	Restorative Case
Water demand and supply	▪ Mandatory 40% reduction in potable water use for residential buildings with BASIX ▪ 1.5 star NABERS rating for office buildings	▪ 40% reduction in overall water use * ▪ 60% reduction in potable water use for residential buildings ▪ Optimise match between quality of demand and supply ▪ 5 star (strong performance) NABERS rating for office buildings ▪ 30% reduction in flow to sewer ▪ 100% beneficial reuse of bio solids	▪ 60% reduction in overall* water use ▪ Supply all efficient non-potable end-uses with non-potable water - 80% reduction in potable water use for residential ▪ Beyond 5 star (best building performance) NABERS rating for office buildings ▪ Complete recycling of organics e.g. using for energy production ▪ Beneficial reuse of 50% of phosphorus generated on site ▪ 50% reduction in flow to sewer

Five water cycle options were investigated in detail. The base case which represents current best practice and meets current regulations including BASIX; three options which are aimed at minimising the net negative impact of the development, and one restorative options which aims to create a net positive impact. The options were modelled in detail covering water demand, alternative water supplies, costs, and energy demands. The options are:

- Base Case Option - use base case efficiency measures and rainwater for irrigation
- Sustainable Option S1- use sustainable case efficiency measures, rainwater for cooling towers, stormwater for toilet flushing and irrigation
- Sustainable Option S2 - use sustainable case efficiency measures, rainwater for cooling towers and on-site recycled wastewater for washing machines, toilets, balconies, cleaning and irrigation
- Sustainable Option S3 - use sustainable case efficiency measures, rainwater for cooling towers and externally sourced recycled wastewater for washing machines, toilets, balconies. Cleaning and irrigation.
- Restorative Option - use restorative case efficiency measures (no cooling towers), rainwater for showers and on-site recycle grey water for washing machines, toilets, balconies, cleaning and irrigation.

Table 7 – Water efficiency actions to be considered

End uses	Base case	Sustainable	Restorative
Residential			
toilet	Dual flush 6/3 L, 3-star	Dual flush 4.5/3 L, 4-star	Urine & biosolid diversion
shower	3-star	3-star	3-star
basin	4-star	5-star	5-star
dishwasher	3-star	4-star	4-star
sink	4-star	5-star	5-star
clothes washer	3-star	5-star	5-star
balcony	2 L/hh/day	1.5 L/hh/day	1.5 L/hh/day
Retail & Commercial			
toilet	Dual flush 6/3 L, 3-star	Dual flush 4.5/3 L, 4-star	Urine & biosolid diversion
urinal	3-star	Waterless	Waterless
shower	3-star (7.7 L/min)	3-star (6.7 L/min)	3-star (5.7 L/min)
basin	4-star	5-star	5-star
dishwasher	3-star	4-star	4-star
sink	4-star	5-star	5-star
cooling towers	1 kL/m^2/a	Super efficient cooling towers 0.3 kL/m^2/a	No cooling towers
cleaning	12 L/min	10 L/min	10 L/min
Irrigation			
irrigation	8 L/m^2/day	4 L/m^2/day*	1.3 L/m^2/day**

** 4 L/m2/day is the irrigation rate used in modelling for Kogarah Town Square*

*** 1.3 L/m^2/day is based on the irrigation rate required by the kisss capillary irrigation system used by the Sydney Harbour Foreshore Authority*

Table 8 – Alternative water supplies proposed for each option.

End Uses	Base Case	Sustainable			Restorative
		Option S1	Option S2	Option S3	
kitchen sink	mains	mains	mains	mains	mains
bathroom basin	mains	mains	mains	mains	mains
showers	mains	mains	mains	mains	rainwater
dishwashers	mains	mains	mains	mains	mains
washing machine	mains	mains	on-site wastewater recycled	Externally sourced recycled wastewater	greywater
toilets	mains	harvested stormwater	on-site wastewater recycled	Externally sourced recycled wastewater	greywater (vacuum collection or urine diverting toilets)
balcony	mains	mains	on-site wastewater recycled	Externally sourced recycled wastewater	greywater
cleaning	mains	mains	on-site wastewater recycled	Externally sourced recycled wastewater	greywater
irrigation	rainwater	harvested stormwater	on-site wastewater recycled	Externally sourced recycled wastewater	greywater
cooling towers	mains	rainwater	rainwater	rainwater	no cooling towers

Following the Concept Plan phase this project intends that the Project Developer investigates the financial viability and delivery of the sustainable and restorative options for this project. This work should focus on the funding, ownership and management options for water recycling plants at North Eveleigh as well as the provision of infrastructure for use of externally sourced recycled wastewater.

6.6.2 Energy

The RWA engaged ISF to examine the energy management opportunities and targets facing the redevelopment of North Eveleigh. Four options to energy management were identified. This section provides a summary of these options derived from the work undertaken by the Institute.

The development must achieve all regulatory requirements as outlined in Option 1 below with strong consideration given to additional reductions in green house gas emissions (GHGE) through energy efficiency initiatives as suggested in Option 2. These options are outlined below.

Achievement of targets which will lead to no net impact on GHGE will require approaches that are quite different to most leading edge actions now. The RWA recognises that this is an ideal to strive for and encourages further consideration of possible options in the design phase of the redevelopment.

It is recommended that further modelling and testing is undertaken by the Project Developer during the design phase to assess cost effective and appropriate options for the achievement of sustainable and restorative targets and actions which may be implemented for the development.

Guiding Principles

Sustainable energy principles for the North Eveleigh Energy Management Plan:

- Overarching Principle 1: Create a development that is at least compliant with the regulatory framework and ideally sustainable.
- Principle 2: Focus on energy service provision rather than quantity of supply.
- Principle 3: Adopt a ‘systems’ approach.
- Principle 4: Build in flexibility, adaptability and resilience.
- Principle 5: Maximise cost effectiveness.
- Principle 6: Facilitate community engagement with sustainability

Option 1

Option 1 targets are established primarily by regulatory authorities and summarised in Table 8 below.

Table 9 – Greenhouse gas emission reduction targets

Rating Tool	Option 1
BASIX (for residential buildings)	25% average BASIX score
ABGR (for commercial buildings)	4.5 star

For residential buildings the site must meet the requirements of BASIX. These requirements vary according to the number of storeys in a residential building. Current requirements are summarised in Table 9 below.

Table 10 – Summary of Relevant Legislation

Source	Relevant Requirements
BASIX	Residential buildings in Sydney must achieve at least the following reductions in GHGE: ▪ 40% below average (detached and semi detached dwellings) ▪ 35% below average (3 storey units) ▪ 30% below average (4-5 storey units) ▪ 20% below average (6 storey units and higher)
ABGR	New office developments in Sydney LGA to meet 4.5 star AGBR. (City of Sydney).
BCA Section J for Class 6 buildings (retail)	an energy consumption target of no more than 990-1220 MJ/m^2 .

The Concept Plan contains a mix of residential building heights so different buildings will be subject to different BASIX targets. The majority of the residential buildings are 4-5 storeys however the majority of the residential buildings are 4-5 storeys. The average BASIX target for the residential buildings planned for the site is 25% reduction in GHGE.

For Option 1 the target for commercial buildings is assumed to be 4.5 star ABGR rating (for whole buildings). This means that commercial buildings will be required to achieve GHGE of 164 kg CO2-eg/m^2. The market average for existing commercial stock is 2.5 star ABGR. At 4.5 star commercial buildings will achieve a 42% reduction from the market average of 2.5 star.

Energy efficiency modelling was undertaken to determine if the regulatory reduction targets could be achieved. The approach to energy efficiency modelling was to develop a baseline energy efficiency scenario using peak demand assumptions for each end use that were consistent with current market practice. Using the end-use profiles, average workday, weekend and annual demands were calculated for each building type while ensuring that all residential and commercial targets could be achieved. The results were then combined to determine site wide demand. The assumptions were designed to ensure that likely regulatory requirements relating to thermal comfort could be met. It was assumed that all electricity came from the grid and that hot water for residential use was heated using a gas heater.

The modelling indicated that the regulatory GHG reduction targets can come close to being achieved through building design improvements and the use of energy efficient lighting, appliances and other equipment. The energy efficiency initiatives modelled are consistent with good market practice in Australia and have all been tested in existing buildings.

Option 2

Under Option 2 regulatory targets would be achieved but in addition further reductions in GHGE beyond the regulatory targets may be achieved by adopting stronger energy efficiency initiatives. Some examples of initiatives which would take North Eveleigh beyond the regulatory requirements include:

- 5 Star ABGR
- More efficient lighting and greater use of natural lighting.
- Passive design initiatives to reduce thermal loads on the commercial and residential buildings reduce uptake of air conditioning and increase natural ventilation.
- Incorporation of natural ventilation and lighting into basement carparks.
- Use of innovative heating and cooling technologies such as solar hot water or geothermal heat exchange via heat pumps.
- Installing the most efficient appliances and equipment available.

These initiatives should be investigated by the Project Developer during detailed design of the buildings and adopted where they provide effective and viable options for moving beyond regulatory targets.

Option 3: No net impact

Option 3 proposes a 64% average upfront reduction on current levels of GHGE with greater reductions over time through flexible approaches. This is aimed at achieving no net greenhouse impact from energy management over time with large reductions built in upfront. This would mean the following targets:

- An average BASIX score across all residential buildings of 60%.
- ABGR rating across all commercial buildings of 5star ABGR + 40% GHG reduction.

This approach would require the achievement of upfront reductions in emissions as well as future proofing of the development during design and construction to build in the flexibility to achieve even greater emission reductions over time.

These targets may be achieved by adopting the following options:

- Best practice energy efficiency with some leading edge efficiency initiatives
- Trigeneration
- Life-cycle embodied energy reductions.
- Large scale solar hot water systems
- Geothermal heat exchange for space heating and cooling
- Some on-site renewal energy.

Option 4: Restorative

A ‘restorative’ approach goes beyond the sustainable approach and seeks to create a new positive impact.

Following the Concept Plan Phase, it is intended that the Project Developer will investigate the financial viability and delivery of the sustainable and restorative options for energy management for the project.

Community Engagement and Behaviour Change

Community behaviour change towards urban energy sustainability could significantly reduce energy demand and reduce potable water demand. It can also promote alternative water and energy use. It is possible to generate awareness among residents, visitors, employees and neighbours on different energy saving initiatives and innovative energy efficient technologies through community events and workshops, education seminars and training programmes and feedback on performance of energy systems. Community engagement in the decision making process, design, maintenance and operation will greatly advance the implementation of sustainable energy and water cycle.

6.6.3 Additional ESD Design Considerations

The proposal has considered ESD design principles by:

- Positioning taller buildings to the south of the site to minimise their overshadowing effects
- Providing effective solar shading to facades which are predominantly oriented in the north-south direction
- Maximising cross ventilation through cross over apartments or multiple cores. Provision has been made in the concept design to allow single sided apartments to be vented through the communal corridor.
- The consideration of ameliorating wind impacts through strategic planting. Other measure such as awnings and podiums will be further examined during the design phase.

In addition, the proponent commits to further investigate the opportunity for including the following Ecologically Sustainable Development principles:

- Orientate apartments layouts to ensure solar access is received within living rooms;
- Promote natural light and ventilation to kitchen areas of apartments;
- Utilise roof forms to capture natural light and ventilation;
- Use of high thermal mass materials within apartments;
- Ensure natural light and ventilation is provided to common areas to minimise energy consumption;
- Use of solar shading devices;
- Divide the layout of the apartments into zones to reduce heat and cooling energy consumption.

6.6.4 Transport

A key objective for the redevelopment of North Eveleigh is to promote public transport usage and reduce dependence on motor vehicles particularly for journey to work trips.

The site is within 50 metres from the Redfern Railway Station and major bus routes servicing the metropolitan network. The following initiatives have been adopted to promote sustainable movement patterns for residents and workers:

- Target of a 60% modal split in favour of public transport across the site for journey to work trips.
- Adoption of the City of Sydney car parking codes for residential development and the South Sydney Code for non residential development.
- Improved access arrangements to and through the site by the proposed construction of a new pedestrian/cycle bridge which will link North Eveleigh to the employment hub at the ATP and improve access to Redfern Railway Station, major bus routes and Redfern Town Centre.
- Increased densities around public transport nodes and in particular in proximity to the proposed pedestrian/cycle bridge.
- Provision of safe and attractive environments to promote walking and cycling to transport and work destinations.

For a detailed understanding of the transport initiatives refer to the Transport section of the Concept Plan.

6.6.5 Waste

The North Eveleigh development is committed to sustainable building practices, which includes the minimisation of construction and demolition waste going to landfill. The following objectives shall be considered in achieving this commitment:

- The creation and implementation of waste management plans for the collection, separation, storage and recycling/re-use of construction waste .
- Use of modular design and prefabrication to be taken into consideration to minimise off cuts and material wastage.
- Implement ordering practices which reduce the amount of packaging waste from entering the site. Consider bulk purchases.

The North Eveleigh development is also committed to reducing operational waste going to landfill. The development shall consider the creation and implementation of a waste recycling strategy for residential, public domain, commercial, and retail uses, for the separation, storage, and collection of recyclable waste.

6.6.6 Materials

The development shall consider the use of materials of low environmental impact, which include the selection of materials that;

- have low embodied energy
- are from sustainable sources and are locally/regionally sourced
- are reclaimed or recycled, and that are recyclable at the end of their lives
- reduce the emission of Volatile Organic Chemicals into indoor spaces, and toxins released when they are broken down after disposal.

Approximately 29% of the site's floor space will comprise the adaptive reuse of existing heritage buildings. This will significantly reduce waste generation, the requirement for raw materials and greenhouse gas emissions as a consequence of conserving embodied energy.

6.7 Heritage

In accordance with the DGEARs, a Heritage Impact Statement (HIS) has been undertaken by Weir + Phillips and is attached at **Appendix L.** Weir + Phillips identified the following opportunities and constraints for development on the site: In respect of heritage, Weir + Phillips identified the following opportunities and constraints for development on the site:

6.7.1 Opportunities

- The site is large, under-utilised and under one ownership. Its size offers the opportunity to achieve a cohesive design solution that integrates heritage items and builds on the site's heritage values.
- The site contains large buildings of heritage significance, the form and scale of which provide a range of opportunities for adaptive reuse.
- A range of new uses of varying scale could fit within the envelope of existing industrial buildings.
- Conserving a core of buildings through adaptive reuse and sensitively responding to the site's historic layout and subdivision pattern will assist in the interpretation and understanding of the site's historic functions. Conservation of core buildings will also enable an appreciation of the site's historic and heritage importance in the future and mitigate the decline of a number of significant items.
- The Eveleigh Railway Yards provided a vital source of employment and was integral to the sustainability of the Redfern-Waterloo community. Redevelopment offers the opportunity to enliven the site after years of decline and reintegrate it into the community

6.7.2 Constraints

Conserving, adapting and developing the North Eveleigh Carriage Workshops presents certain particular challenges, such as:

- achieving a coherent design that provides a high level of user amenity while preserving heritage significance of the site in general and core buildings in particular;
- conserving the heritage significance of certain industrial buildings while converting them to retail, commercial, residential or cultural/community use;
- interpreting the 'Fan of Tracks';
- maintaining acceptable curtilages around buildings and places of heritage significance; and
- achieving an effective interpretation strategy to preserve and understand the industrial functions of the site.

These heritage opportunities and constraints formed the initial basis for the development of the proposal. Retention of the most significant buildings and ensuring an understanding of their relationship in the design has been a significant consideration.

The North Eveleigh Carriage Workshops is adjacent to a number of heritage items and conservation areas. The HIA provides an assessment of any impacts on the character of the surrounding conservation areas and nearby heritage items. In summary, the HIA concludes:

- The impact of the Concept Plan on the state heritage listed Redfern Railway Station Group will be neutral. The proposal will enhance the significance of the state heritage listed Australian Technology Park through visual links and interpretation strategies.
- The proposal will have a neutral impact on their heritage significance of the following nearby local heritage items listed in Schedule 2 (Heritage Items) of the *South Sydney Local Environmental Plan 1998 (as amended)*:
  - 254-266 Abercrombie Street, Darlington
  - 306 Abercrombie Street, Darlington
  - 19-23 Golden Grove Street, Darlington
  - 40 Forbes Street, Newtown
  - 46-50 Forbes Street, Newtown
  - 204-206 Wilson Street, Newtown
- All of the local heritage properties listed above are of sufficient distance from the site that none of the properties faces directly to the site, and views of the site, where possible, are oblique.
- The proposal will have minimal impacts on the following surrounding conservation areas:
  - CA17 Darlington Conservation Area, Darlington and Redfern
  - CA25 Golden Grove Conservation Area, Darlington and Newtown
  - CA40 Pines Estate Conservation Area, Newtown
  - CA41 Queen Street Conservation Area, Newtown

Regarding conservation work, all six buildings identified in the *SEPP (Major Projects)* as heritage items will be retained and adaptively reused. In respect of these significant items it is proposed to:

- Restore and adapt the Telecommunications Equipment Centre for community use.
- Restore and adapt the Chief Mechanical Engineer's Office Building for residential use.
- Restore and adapt the Scientific Services Building No.1 as a community/ cultural building.
- Restore and adapt the Clothing Store as a residential building.
- Restore (in part) and extensively rebuild the Paint Shop as commercial, retail and residential space.
- Interpret the fan of tracks by landscaping its area of coverage in a manner that retains an understanding of its function and significance.

It is proposed to carry out major extensions to the Paint Shop. The extensions are being carefully located to the southern side of the Paint Shop building to minimise their visual impact on the original structure when seen from the larger open spaces, particularly to the northeast and the area adjacent to the Fan of Tracks. The buildings utilise a space between the south side of the Paint Shop and the railway lines to gain access to ground level while minimising intrusion into the main building. The impact of the extensions against the southern elevation of the Paint Shop is manageable given the new structures will be glazed allowing an understanding of the rhythm of the elevation to be maintained.

An interpretation strategy has already been implemented for the Carriage Workshop and the Blacksmiths' Shop. An interpretation strategy for the remainder of the site should form part of the later Project Application process. A Conservation Management Plan which considers the Concept Plan and the proposed use of various buildings will also be required at project application stage.

It is proposed to demolish a number of buildings which were identified as having heritage significance according to the draft *CMP 2002*. Weir + Phillips Architects and Heritage Consultants have since reviewed these levels of significance. The review of the draft CMP 2002 concludes that this level of significance attributed to the items to be demolished is not warranted and any adverse heritage impact arising form the demolition is manageable. Prior to demolition of items of local or higher significance the existing buildings will be recorded in accordance with the *NSW Heritage Council Guidelines*.

Robert Bird Group (Structural Engineers) has also confirmed that the Timber Store Buildings 1, 2, 3 and 4 and the steel Carriage Shop Extension are not structurally stable. This is based on inspections carried out at North Eveleigh and advice received from Forests NSW on the Timber Store buildings. Robert Bird Group have advised RWA that access to all Stores is restricted in order to prevent anyone [general public or otherwise] entering the buildings. Access should also be prevented to the steel Store 4 structure as this may be structurally connected to the adjoining timber Stores.

It is also recommended that access to the Carriage Shop extension and adjoining Boilermakers' Shop is prevented due to similar stability concerns. Corrosion in one primary truss has advanced to a stage where the structural integrity of the truss has potentially been compromised.