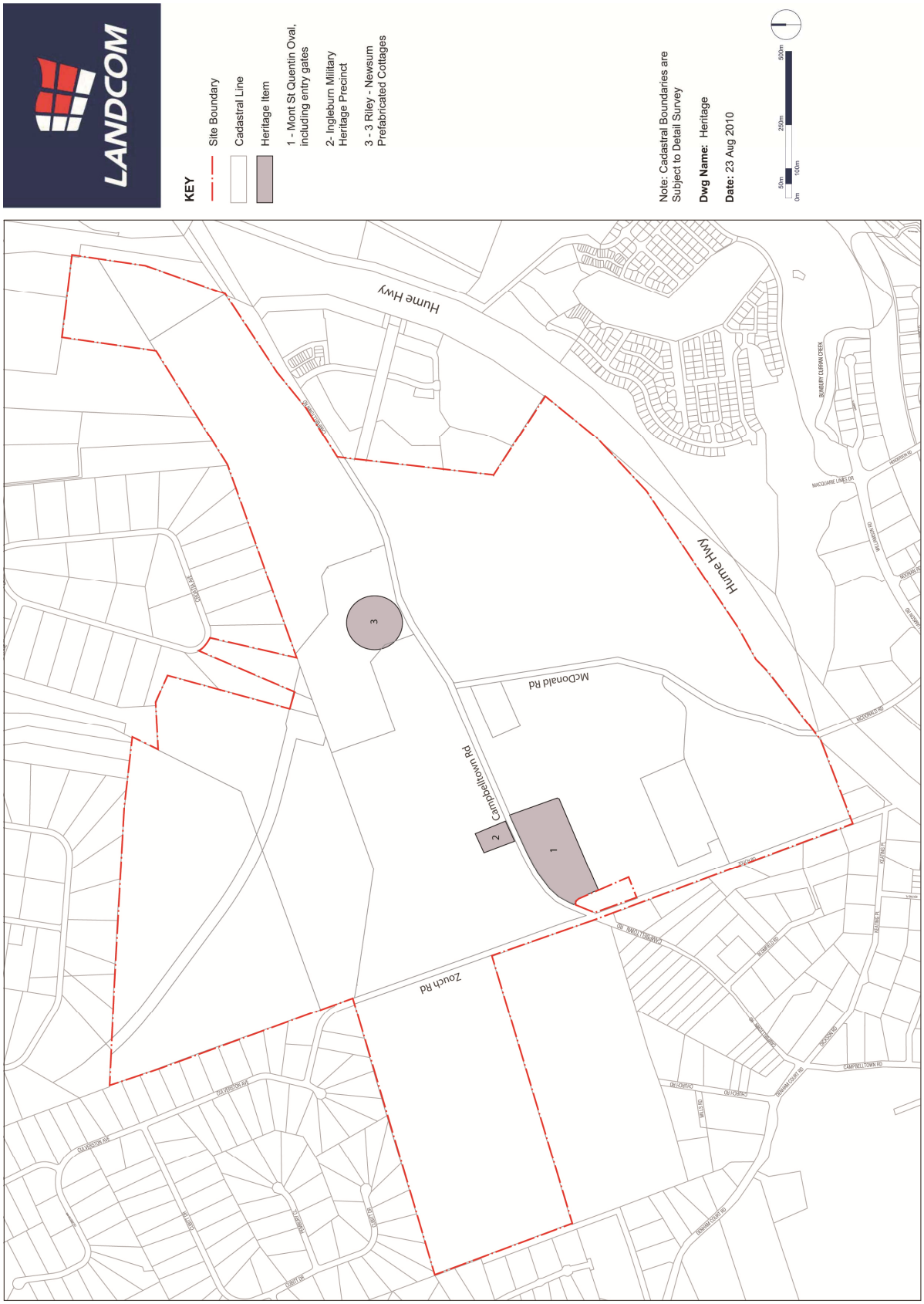

Figure 36 - Draft Heritage Map

6.11 Additional local provisions

Flood Planning

In relation to flooding, it is proposed to adopt Model LEP Clause 7.3 Flood Planning which is equivalent to Clause 7.8 of Liverpool LEP 2008. A draft Flood Planning Area Map is included at **Figure 37**.

6.12 Miscellaneous Standard Provisions

In addition to the Standard LEP Template provisions already identified above, it is proposed that the following provisions from the Standard LEP Template be included:

Standard LEP Template

- 2.6 - Subdivision consent requirements
- 2.6AA – Demolition requires consent
- 2.6BB – Temporary use of land
- 5.2 – Classification and reclassification of public land
- 5.3 - Development near zone boundaries
- 5.4 – Controls relating to miscellaneous permissible uses
- 5.6 – Architectural roof features
- 5.8 - Conversion of fire alarms
- 5.9 - Preservation of trees or vegetation
- 5.11 - Bush fire hazard reduction
- 5.12 - Infrastructure development and use of existing buildings of the Crown.

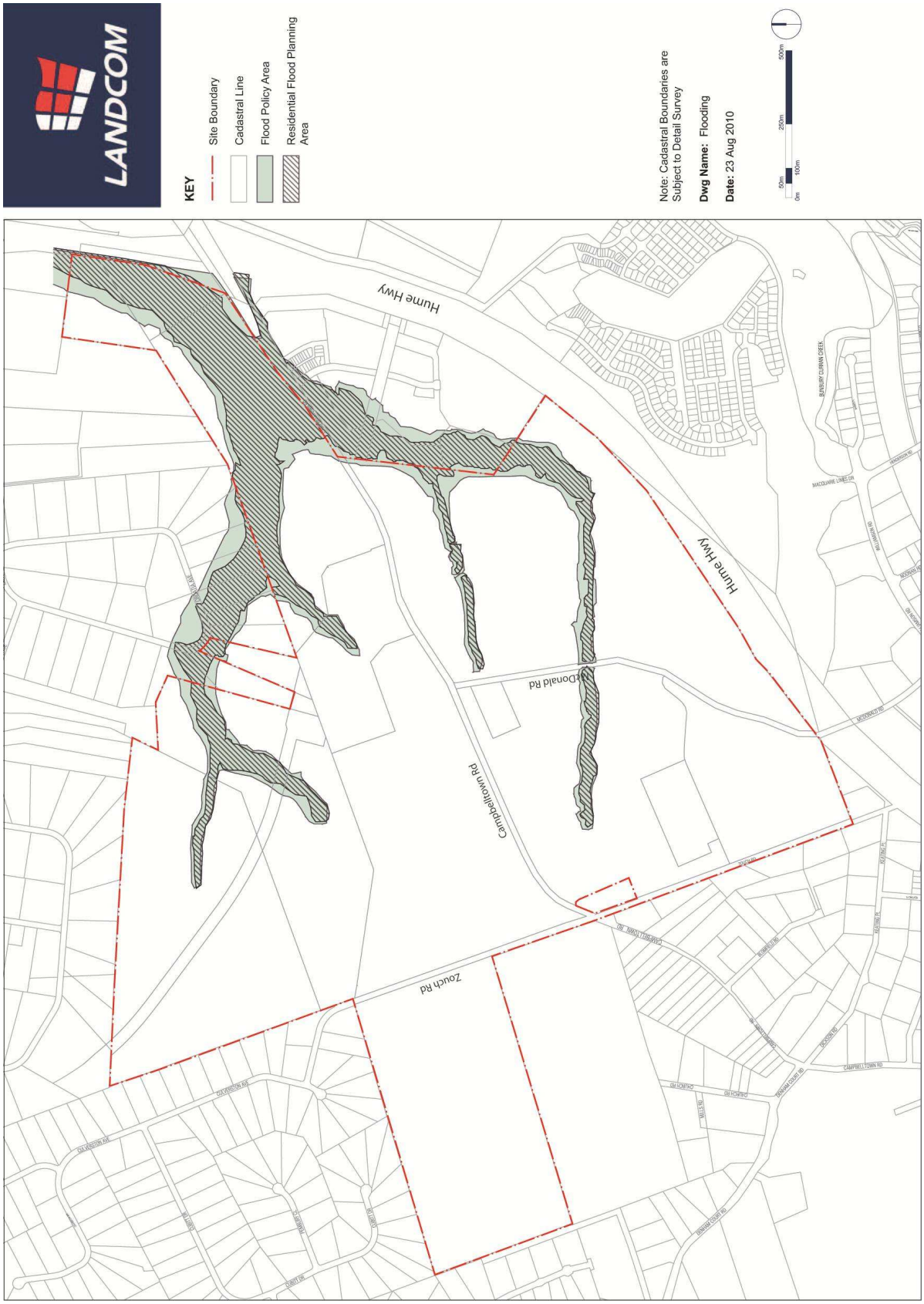

Figure 37 - Draft Flood Planning Area Map

7.0 Development Control Regime

That part of the Project site that is located within the Liverpool LGA is the subject of Liverpool Development Control Plan 2008 (DCP 2008).

The following parts of DCP 2008 apply to the Edmondson Park Precinct:

- Part 1.1 General Controls for all Development and 1.2 Additional General Controls for Development (except for controls for dwelling houses, dwelling houses on hatchet shaped lots and semi detached dwellings and attached dwellings);
- Part 2.11 Land Subdivision and Development in Edmondson Park; and
- Part 3.8 Non Residential Development in Residential Zones.

Parts 3.1 to 3.7 of DCP 2008 do not apply to Edmondson Park.

Campbelltown Council is in the process of preparing a draft DCP for the "Bardia Sub-Precinct" of Edmondson Park, which will apply to the entire Project site that is within the Campbelltown LGA.

At the time of writing, the Council has not yet resolved to publicly exhibit the draft DCP. However, it is understood that the draft DCP is likely to contain objectives, principles and provisions that are similar to those contained within Part 2.11 of Liverpool DCP 2008.

Following approval of the Concept Plan it is proposed that the detailed design of future stages of the Edmondson Park South Project will be in accordance with the majority of the detailed development controls contained within both Liverpool DCP 2008 and the future Bardia Sub-Precinct DCP.

Table 18 sets out the manner in which the existing Liverpool 2008 DCP Part 2.11 controls are proposed to be applied.

As identified at **Table 18**, subject to the:

- Urban layout, including road hierarchy and open space networks,
- Environmental and water cycle management strategies,
- Road cross sections, and
- Statement of Commitments (which includes a number of commitments relating to the future detailed design stages of the development),

approved as part of the Concept Plan, it is intended that the provisions of Liverpool DCP 2008 and the future Bardia Sub-Precinct DCP will be applied to future subdivision and built form proposals.

As the Draft Bardia Sub-Precinct DCP has not yet been adopted for public exhibition by the Council, a detailed assessment of the Concept Plan proposal in relation to adoption of its provisions cannot be made at this time.

However, the Proponent is committed to ongoing liaison with the Council during exhibition and finalisation of the DCP to ensure that an appropriate development control regime is in place to guide detailed subdivision and built form proposals.

Table 18 - Application of Liverpool DCP 2008 Part 2.11 to Edmondson Park South Project

Liverpool Development Control Plan 2008 Part 2.11			
Section	**Provision**	**Application to Project**	**Comment**
1	**Preliminary**	▪ **Adopted in part**	
1.1	Indicative Layout	▪ Not adopted	Alternative layout provided by ***Edmondson Park South Concept Plan***
1.2	Development within Sub Precincts	▪ Not adopted	Alternative layout provided by ***Edmondson Park South Concept Plan***
1.3	Hierarchy of Centres	▪ Adopted, except for Control 1 relating to preparation of Town Centre DCP	Concept Plan Statement of Commitments provides for preparation of an integrated Stage 1 Development Application relating to the establishment of the Town Centre
1.4	Character Area Statements	▪ Adopted, except for 'Village Centres' and subject to layout and built form principles shown on ***Edmondson Park South Concept Plan***	Village Centre shown on DCP Figure 6 is not proposed by the ***Edmondson Park South Concept Plan***
1.5	Public Transport	▪ Adopted, subject to layout shown on ***Concept Plan***	Alternative layout provided by ***Edmondson Park South Concept Plan***
2	**Controls for the Public Domain**	**Adopted in part**	
2.1	Street Network and Access	▪ Figure 8 Fixed Roads not adopted ▪ Controls for Regional Network Connections not adopted ▪ Objectives for Local Street Network adopted ▪ Controls for Street Types & Hierarchy not adopted ▪ Controls for Laneways and Garage Connections, Carports and Garages, Private Driveways adopted	Alternative fixed road layout and signalised regional network intersections provided by ***Edmondson Park South Concept Plan*** Alternative road cross sections and road hierarchy proposed
2.2	Pedestrian and Cycleway Network	Adopted, subject to layout shown on ***Edmondson Park South Concept Plan***	Alternative pedestrian and cycleway network provided by ***Edmondson Park South Concept Plan***

Liverpool Development Control Plan 2008 Part 2.11			
2.3	Streetscape and Street Trees	Adopted	
2.4	Open Space	Adopted, subject to layout and hierarchy shown on ***Edmondson Park Concept Plan***	Alternative open space layout / hierarchy provided by ***Edmondson Park Concept Plan***
2.5	Environmental Management	Adopted, subject to ***Edmondson Park South Concept Plan*** and Water Cycle Management Plan References to R5 Large Lot Residential to apply to E4 Environmental Living Zone	Alternative open space layout / hierarchy provided by ***Edmondson Park South Concept Plan*** Site wide Water Cycle Management Plan provided
2.6	Water Cycle Management	Adopted, subject to ***Concept Plan Water Cycle Management Plan***	Site wide Water Cycle Management Plan included in Concept Plan proposal
2.7	Contamination	Not adopted	Remediation of existing defence lands to be completed and site audit statement issued under Commonwealth approvals processes Concept Plan includes approval for completion of remediation works on non-defence lands without further environmental assessment. Concept Plan includes removal of the existing STP and remediation in accordance with the requirements of SEPP 55 following the construction of the extension to the Ash Road Carrier.
3	Controls for Residential Development in the 38 Dwellings / Hectare Area and the Edmondson Park Town Centre	Generally adopted for the B4 Mixed Use Zone, subject to layout shown by ***Edmondson Park South Concept Plan***	Proposed B4 Mixed Use zone incorporates DCP 38 Dwellings / Hectare Area and Edmondson Park Town Centre
4	Controls for residential development in the 28 Dwellings / Hectare Area	Adopted for Residential Flat Building and Multi Dwelling Housing development in R1 General Residential Zone	Dwellings per hectare control no longer proposed. Adoption of Section 4 controls for Residential Flat Building and Multi Dwelling Housing in R1 General Residential Zone provides consistency with existing DCP controls.

Liverpool Development Control Plan 2008 Part 2.11			
5	Controls for residential development in the 17 Dwellings / Hectare Area	Adopted for Dwelling Houses, Attached Dwellings and Semi detached dwellings in R1 General Residential Zone	Dwellings per hectare control no longer proposed. Adoption of Section 5 controls for Dwelling Houses, Attached Dwellings and Semi detached dwellings in R1 General Residential Zone provides consistency with existing DCP controls.
6	Controls for residential development in the 14 Dwellings/Hectare area	Not adopted	Not required, appropriately addressed by adoption of controls in DCP Sections 4 and 5
7	Controls for Residential Development in the 0.4 Dwelling/Hectare area	Adopted for the E4 Environmental Living Zone	Proposed E4 Environmental Living Zone incorporates former area of restricted lot development potential
8	Controls of Land in the R3 Zone "The Neighbourhood Centress"	Not adopted	Project site will not include any R3 Zoned land
9	Controls for Land in the B6 Zone – Enterprise Corridor	Not adopted	Project site does not include any B6 Zoned land
10	Controls for Certain Sites	Adopted	

8.0 Environmental Assessment

This section of the report assesses and responds to the following with respect to both the Concept Plan and the SSS proposal:

- State environmental legislation.
- Environmental planning instruments and development control plans.
- Section 117 Ministerial Directions.
- Transport and accessibility.
- Biodiversity and conservation.
- Water cycle management including flooding, surface water, groundwater quality and riparian corridors.
- European heritage impact.
- Aboriginal cultural heritage impact.
- Bushfire risk assessment.
- Noise and vibration assessment.
- Utilities infrastructure.
- Social and community planning needs and impact assessment.
- Geotechnical, soils and contamination assessment.
- Landscape and visual impact.

The consistency of the Concept Plan and consideration of the SSS listing proposal with regional and sub-regional planning is contained within the background to the project included at Section 1 and the Strategic Justification for the Project documented at Section 2, and has not been repeated in this Section:

The Site Analysis at Section 3 provides a comprehensive documentation of existing site conditions, based on technical investigations and assessments undertaken by a range of specialist disciplines. It also analyses linkages, synergies and potential impacts of the project with respect to existing and proposed urban development adjoining the site.

This Environmental Assessment draws upon the site analysis, which justifies the configuration of the proposed development and the land use zones proposed.

The draft Statement of Commitments at Section 9 complements the findings of this section.

Appendix E provides a detailed summary of each the individual matters listed in the DGRs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies. It demonstrates that the documentation presented in the combined SSS Study and Environmental Assessment meets the requirements that have been issued by the Director General.

8.1 State Environmental Legislation

A range of State environmental legislation governs the development of the Edmondson Park South site. This includes, of particular relevance, the following:

- Heritage Act 1977 in relation to potential European archaeological relics;
- National Parks and Wildlife Act 1971 in relation to Aboriginal archaeological resources;
- Native Vegetation Act 2003 with respect to clearing of native vegetation;
- Rural Fires Act 1998 with respect to planning for bushfire hazard;
- Water Management Act 2000 with respect to use, management and impact on water resources; and
- Roads Act 1993 with respect to future road works.

The EP&A Act sets out the manner in which this legislation will be applied to future detailed applications relating to the implementation of the Concept Plan, whether they are to be determined under Part 3A or Part 4.

Approval of the Concept Plan will provide the statutory planning framework with which the assessment of detailed proposals must comply with respect to:

- Road layout and road hierarchy;
- Use and management of riparian corridors, including CRZs;
- European and Aboriginal archaeological resource management;
- Bushfire asset protection zone establishment and management;
- Water cycle management.

8.2 Environmental Planning Instruments and DCPs

8.2.1 State Environmental Planning Policies

Table 1 at **Appendix T** identifies existing State Environmental Planning Policies (SEPPs) that are relevant to the Edmondson Park South.

Table 1 at **Appendix T** demonstrates that the Concept Plan is consistent with the requirements of all relevant SEPPs. Under the proposal for amendment to the Major Development SEPP (refer to Section 6) all relevant SEPPs are proposed to continue to apply to the site. Future development will therefore be required to comply with all relevant SEPP requirements. No issues arise.

As detailed at Section 6.4 it is a key outcome of this project that the benefits of the Biodiversity Certification Order that applies to the Growth Centres SEPP continue in relation to the land. Therefore, it is intended that the manner in which the Schedule 3 listing is made will establish the appropriate statutory relationship between SEPP Major Development and the Growth Centres SEPP, and that the Growth Centres SEPP will continue to apply to the land. This is a matter to be appropriately resolved by the DoP in conjunction with Parliamentary Counsel as part of the preparation of the statutory instrument.

8.2.2 Existing LEP & DCP provisions

The existing zoning of the land under Liverpool and Campbelltown LEPs is detailed at Section 3. The site is the subject of a SSS proposal. Listing of the site at Schedule 3 of the Major Development SEPP will repeal the existing Liverpool and Campbelltown LEPs applying to the land, subject to establishment of an appropriate statutory relationship to the Growth Centres SEPP.

This Study and EAR provides a comprehensive assessment and justification of the proposed land use change, and the new statutory development provisions are proposed to be applied to the land (refer to Section 6.6). The proposed new land use zone boundaries have been determined on the basis of the site analysis and are identified and described in detail at Section 6.6.1.

The Development Control Strategy for future detailed subdivision and built form proposals within the site is set out at Section 7.

Following approval of the Concept Plan, it is intended that the Development Control Plans of the respective local councils will provide the primary basis for the assessment of future applications, within the terms of the Concept Plan Approval and the statutory provisions included in the SEPP.

8.2.3 Section 117 Ministerial Directions

The Minister for Planning, under section 117(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) issues directions that relevant planning authorities such as local councils must follow when preparing planning proposals for new LEPs. The directions cover the following broad categories:

- employment and resources;
- environment and heritage;
- housing, infrastructure and urban development;
- hazard and risk;
- regional planning; and
- local plan making.

Although not technically relevant to a SEPP Amendment, the DGRs require consideration of relevant s.117 Directions.

The Section 117 Ministerial Directions listed in **Table 2** at **Appendix T** are considered to be of key relevance to the proposed development. The proposal's response to each relevant s.117 Direction is also included in the Table.

As demonstrated at **Appendix T**, the proposal is consistent with, or is justified in terms of the consistency criteria specified within each of the relevant s.117 Directions.

8.3 Transport and Accessibility

A Transport Management and Accessibility Plan (TMAP) has been prepared by AECOM Australia Pty Ltd support the proposed Concept Plan and SSS Study (refer to **Appendix M**).

The TMAP has been prepared in accordance with the Ministry of Transport's Draft Guidelines for Transport Management and Accessibility Plans. The objectives of the TMAP are to generally:

- support the planned public transport improvements in the Metropolitan Transport Plan: Connecting the City of Cities (MTP);
- address the revised State Plan mode share targets relevant to the Edmondson Park South;
- deliver a sustainable transport outcome for Edmondson Park South through accessibility by public transport, walking and cycling; and
- manage the traffic impacts associated with the Edmondson Park development.

8.3.1 Road Network

The TMAP identifies that the key road network surrounding the site, including Campbelltown Road and Camden Valley Way, is currently operating at or approaching capacity. Extra road network capacity throughout the South Subregion and South-West Growth Centre, including those roads surrounding Edmondson Park, will be required to move people within and out of the region effectively.

In order to determine future traffic demand and identify road infrastructure upgrades to address future network capacity deficiencies, AECOM undertook traffic modelling of both a base model (without the proposed development) and accommodating the proposed development. To determine the growth to be used in the base model, AECOM used recent regional traffic growth rates, determined through the assessment of historical traffic growth rates in the vicinity of Edmondson Park South, and regional traffic growth rates derived from RTA Sydney wide traffic model developed for 2016 and 2026.

Base Traffic Model

The base model indicates that upgrades to intersections and the local road network are necessary to accommodate the future traffic growth, before the development of Edmondson Park. **Table 19** indicates proposed road network improvements to address future deficiencies without the Edmondson Park South development.

Table 19 - Proposed road network improvements prior to Edmondson Park South development

Year	Location	Type of Upgrade	Proposed Improvements
2016	Campbelltown Road	Road link upgrade	▪ Increase road capacity to two lanes in each direction
2026	Campbelltown Road / Macdonald Road	Intersection upgrade	▪ Additional short right turn lane on the north approach of Macdonald Road
2026	Camden Valley Way / Croatia Avenue / Bernera Road	Intersection upgrade	▪ Additional one (total of three) through lanes on Camden Valley Way ▪ Additional one (total of two) through lanes on Croatia Avenue and Bernera Road ▪ Additional short right turn lane on Croatia Avenue ▪ Additional short right turn lane on both east and west approaches of Camden Valley Way, ▪ Lengthening of left turn slip lane on Croatia Avenue

Future traffic model with the proposed development

To assess the impacts of the Concept Plan, the TMAP modelled the future traffic flows of the overall road network accommodating the Concept Plan. The following infrastructure upgrades were assumed to be completed and accommodated within the traffic model:

- Realignment of Macdonald Road approximately 200m west of its current alignment. This facilitates connection to the proposed Edmondson Park Railway Station by 2016;
- The opening of the SWRL in 2016 (with mode shift to increased rail use);
- Construction of an access from the intersection of Campbelltown Road / Macdonald Road, incorporating a northern approach which connects to the proposed Edmondson Park Station in 2016;
- Extension of Croatia Avenue to the south to provide a connection to the proposed Edmondson Park Station in 2016; and
- Construction of two bridge crossings the SWRL corridor providing connections between Campbelltown Road and Camden Valley Way as well as connecting both sides of Edmondson Park in 2016.

The TMAP recommends the following road infrastructure upgrades as a result of the proposed Concept Plan/ development of Edmondson Park South:

- Relocation of Macdonald Road (2016);
- Construction of two bridge crossings over the SWRL (2016);
- Upgrade of Campbelltown Road / Macdonald Road (Intersection 1) with an additional right turn lane (100m) on the south approach of Macdonald Road (2016);
- Construction of a new signalised intersection – realigned Macdonald Road / Stage 1 development access road / Primary School Access Road (2016);
- Construction of a new bus priority signalised intersection – Campbelltown Road / Town Centre Main Street / Croatia Avenue (2016);

- Construction of a new signalised intersection – Campbelltown Road / East Town Centre Street (2016);
- Construction of a new signalised intersection – Croatia Avenue / Macdonald Road / Town Centre Main Street (2016);
- Construction of a new priority controlled intersection – Macdonald Road / Station South Access Road (2016);
- Construction of a new priority controlled intersection – Croatia Avenue / Station South Access Road (2016);
- Construction of a new signalised controlled intersection – Macdonald Road / High School Access Road (2026);
- Signalisation (with bus priority) of Macdonald Road / Station South Access Road (2026); and
- Signalisation (with bus priority) of Croatia Avenue / Station South Access Road (2026).

In addition, the TMAP indicates the following infrastructure measures are required, but are not the responsibility of the Proponent:

- Delivery of Edmondson Park Station and its interchange;
- Extension of Croatia Avenue and Macdonald Road to provide access to Edmondson Park Station from Camden Valley Way and Campbelltown Road respectively;
- Upgrade of Campbelltown Road to two lanes in each direction; and
- Upgrade of intersection at Camden Valley Way / Bernera Road / Croatia Avenue.

8.3.2 Sustainable Travel Strategy

The TMAP includes a Sustainable Travel Strategy (STS) for Edmondson Park. The role of the STS in Edmondson Park is to encourage local trips by bus, bicycle and walking where possible, and longer trips to be undertaken by bus and rail. The STS includes the following measures to encourage sustainable transport in Edmondson Park:

- Travel behaviour measures:
  - Household Information Packs including a sustainable travel kit;
  - One week free public transport;
- Public transport measures:
  - Integration of public transport services – bus and rail connectivity and interchange;
  - Bus service coverage;
  - Timing of bus services and development staging – early 'Start up' buses;
  - Bus service frequencies to Service Planning Guidelines;
  - Good quality bus stops with coverage throughout Edmondson Park;
  - Design for bus priority;
- Bicycle measures:
  - Dedicated, high quality cycle routes throughout Edmondson Park;
  - Bicycle facilities;
  - Encourage local Bicycle Uer Group for Edmondson Park;
  - Promotion of bicycle initiatives – NSW bicycle week, cycle to work day;
- Pedestrian measures:

  - A highly permeable and safe pedestrian network throughout Edmondson Park;
  - Walking school bus program;
- Parking restraint measures:
  - Restraining parking rates for town centre high density residential development;
  - Town centre co-sharing parking provisions;
- Travel planning measures:
  - School travel plans;
  - 'Voluntary' workplace travel plans
- Travel demand management measures:
  - Car sharing scheme;
  - Encourage sustainable home deliveries of groceries (Food Connect Sydney) using local producers; and
  - Establish a community garden and farm – run by local community within Edmondson Park.

8.3.3 Public Transport Network

The TMAP found that the Concept Plan makes the provision for public transport services through the following measures:

- The road network and intersections have been designed to accommodate bus movements between the development and regional centres;
- The majority of the Edmondson Park South development area will be within 1km or 15 minutes walk from the new Edmondson Park rail station;
- Bus interchange and bus services within Edmondson Park South will facilitate and encourage public transport usage; and
- The South West Sector Bus Servicing Plan will be used to development the short, medium and long-term bus route network serving the proposed Edmondson Park development.

8.3.4 Walking and Cycling Network

The TMAP found that the Concept Plan makes the provision for pedestrian and cyclists through the following measures:

- A network of off-road shared paths and on-road cycle paths are proposed within the proposed development, linking key amenities such as open space, schools, the town centre and the rail station;
- A hierarchy of pathways will be created providing amenity for different user groups and adequately serve the need of pedestrians and cyclists;
- The four main north-south pedestrian / cyclist corridors are served by signalised crossings to ensure safe crossing points are provided at Campbelltown Road;
- The shared path along Campbelltown Road will provide a connection to the regional cycle network in Campbelltown.

In addition, the facilities provided at the new Edmondson Park rail station will include a signalised pedestrian crossing and bike parking spaces.

8.3.5 TMAP Recommendations

The TMAP recommends a number of measures for the successful delivery of the proposed Concept Plan, meeting the needs of the future residents of Edmondson Park South while achieving a mode shift towards public transport. These recommendations include:

- Sustainable travel strategies, to include measures such as provision of a sustainable travel kits to each household, marketing public transport options, bus and train information and information on sustainable community initiatives such as bicycle user groups, car sharing schemes (identified in detail within the TMAP at **Appendix M**);
- Infrastructure improvements to provide easy pedestrian and cyclist access via a safe and efficient shared path and footpath network, a Town Centre Main Street with low traffic environment, signalised crossings along Campbelltown Road and near the schools sites;
- Public transport infrastructure, including safe and convenient bus stops and bus priority treatments to reduce the travel times for public transport users;
- Transport service improvements, including the implementation of a new bus service connecting the development with Liverpool via Edmondson Park Station and Town Centre; and
- Road infrastructure upgrades to provide access to the site via existing and new intersections at Campbelltown Road, Croatia Avenue and Macdonald Road.

Campbelltown Road

The TMAP considers the RTA's proposal for Campbelltown Road to be a 6 lane Principal Arterial corridor with a speed limit of 80km/hr as a conflict with the gazetted zone and Landcom's vision for the future Edmondson Park town centre. The TMAP recommends the following characteristics for Campbelltown Road:

- A four lane road plus a kerbside parking lane on each side of the carriageway, which provides the flexibility of adding an additional through lane or an additional right turn lane in each direction should traffic flows warrant in the long-term future;
- A narrower (38.8m compared to the 45-50m proposed by the RTA) cross-section to facilitate efficient crossing of the road by pedestrian, cyclists, buses and cars;
- Reduced speed limit of 60km/hr to adapt to a highly urbanised town centre environment;
- More frequent intersection spacing near the Town Centre to ensure viability and permeability of Edmondson Park, the Town Centre and Station; and
- More frequent intersection spacing to facilitate safe, direct and efficient movements for all modes of transport (cars, buses, walking and cycling) to Edmondson Park and between different parts of Edmondson Park (north and south of Campbelltown Road).

The distance between the Regional Park and proposed public open space, to the north and south of the proposed Campbelltown Road reserve (i.e. 38.8 m road reserve) is approximately 50 m. The proposed 38.8 m road reserve will have no impact on the Regional Park. A wider road reserve as originally proposed by the RTA (i.e. 45 -50 m) could have potentially impact upon vegetation within these areas. An assessment of the likely impact of this would need to undertaken. It may also reduce the area of the site set aside for Regional Park and public open space.

Widening Campbelltown Road to accommodate a wider road reserve is also not supportable on heritage grounds (refer to Section 6.10). The proposed road reserve within the vicinity of the Mont St Quentin Oval entry gates and the Ingleburn Military Heritage Precinct is 34.5 m. The distance between the Mont St Quentin Oval entry gates (southern side) and the Ingleburn Military Heritage Precinct gates, on the northern side of Campbelltown Road is approximately 34.69 m. The distance between the proposed northern boundary (road reserve) of Campbelltown Road and the Mont St Quentin Oval entry gates is 30.8 m. Widening to accommodate a wider road reserve, on either side of Campbelltown Road would have an unacceptable impact on both the Mont St Quentin Oval and entry gates and the Ingleburn Military Heritage Precinct and would compromise the important historical and physical relationship between these two areas, which has always been relatively narrow (refer to Section 6.10).

Furthermore, the distance between the Ingleburn North Public School, located to the south of Campbelltown Road, is approximately 32 m from the southern boundary of the proposed road reserve. Widening of Campbelltown Road within this location would reduce the area between Campbelltown Road and the existing school to the extent that it would not be possible to provide a strip of housing (or and access), along this part of Campbelltown Road. The provision of housing within this area provides an affective buffer to the existing school from Campbelltown Road.

8.4 Biodiversity and Conservation

An Ecological Assessment prepared by Ecological is included at **Appendix C**. The Ecological Assessment assesses the Concept Plan and SSS proposal with respect to:

- Consistency with the Biodiversity Certification Order conferred on the Growth Centres SEPP including clearing of existing native vegetation within the non-certified areas;
- Consistency with the Edmondson Park Conservation Agreement including the requirements of the Biodiversity Conservation Plan;
- Consistency with the Statement of Interim Management Intent for the Regional Park.

The Ecological Assessment assesses the biodiversity impacts of the proposed development in accordance with *draft Guidelines for Threatened Species Assessment* (DEC July 2005) within the framework of the *Growth Centres Conservation Plan*.

Planning for Edmondson Park South has focused on the retention of higher quality remnant vegetation within a Regional Park, and supplementary areas of habitat located within an open space network across the site. The Concept Plan retains the core ecological values of the site and is generally consistent with the Biodiversity Certification Order by avoiding, where possible, impacts to non-certified lands within the site.

The Concept Proposal will result in the loss of approximately 0.42 ha of vegetation within non-certified lands as a result of a proposed Regional Park boundary adjustment; and due to the construction of the sewer main from Ash Road which crosses the Regional Park.

Regional Park Boundary Adjustment

The proposed Regional Park boundary adjustment would result in a smoother, rationalised boundary between the park and the proposed Town Centre. The adjustment involves the clearing of approximately 1,247m^2 of derived native grassland that has been mapped as 'Existing Native Vegetation' (ENV) and the loss of 403m^2 of cleared land totaling 1,650m^2. The derived native grasslands that would be classified as class 'C' according to the definition of the Cumberland Plain Woodlands Critically Endangered Ecological Community description (DEWHA, 2009). This loss will offset by the inclusion of 1,650 m^2 of high quality habitat 'A' class vegetation within the Regional Park.

The current boundary in this area has no relationship to the ecology. The area that would be 'lost' as part of the proposed boundary adjustment comprises a disturbed area of derived native grassland that is dominated by Kangaroo Grass and *Aristida vagans*, with a small number of young Grey Box with African Olive present underneath and an abundance of African Lovegrass (refer to **Figure 38**). The area that would be added to the Regional Park exhibits significantly greater structural diversity with intact canopy and mid-stratum layers and is better connected to the Regional Park (refer to **Figure 39**).

No threatened flora or fauna were found in the area subject to the boundary adjustment. It is however likely that both the area to be lost and the area to be added to the Regional Park play an intermittent role in providing foraging to a variety of mobile fauna species, particularly bats and birds.

Figure 38 - View of land that currently comprises Regional Park (Source: Landcom)

Figure 39 - View of land that is proposed to be 'added' to the Regional Park (Source: Landcom)

Sewer Main

The proposed sewer alignment will traverse the Regional Park in the eastern portion of the site. The northern part of the alignment cuts through a narrow strip of CPW and will result in the loss of approximately six (6) young trees during construction. The sewer alignment then follows an existing cleared trail before cutting through another narrow area of CPW that will result in the loss of one immature tree. From here the alignment crosses through Alluvial Woodland (not protected under the EPBC Act) affecting approximately 1,800m^2 of this community, mostly Casuarinas. This is a small scale temporary disturbance that will be fully revegetated and will not result in a material difference to the conservation outcomes.

The proposed sewer main will have a disturbance corridor of 10 m and will result in the loss of 0.3 ha of mapped ENV (non-certified land). Following construction, the sewer alignment will be revegetated with local provenance native species.

The route for the sewer main will allow drainage via Ingleburn Gardens to occur via a gravity main. This avoids the need to construct and maintain in perpetuity a pumping station and rising main, and will significantly reduce ongoing operational costs and greenhouse gas emissions. By removing the need for a pump station, the risk of discharge overflow and potential impact on waterways is significantly reduced.

Whilst the alignment will result in temporary disturbance to native vegetation, within the Regional Park the environmental benefits of having a gravity maintain are overwhelmingly positive. A range of measures are proposed to mitigate potential damage to the Regional Park during construction of the sewer main.

Remediation Action Plan Implementation

The concept plan seeks detailed approval to carry out remediation works on land within the north-western portion of the site (refer to Section 4.12). The proposed works are described in detail in the attached Remediation Action Plan (RAP) included at **Appendix G**. The RAP identifies the actions to be implemented to adequately remediate a number of known contaminants including lead particulates, asbestos and surface and buried rubbish. Some of these works will occur within the Regional Park and will impact on vegetation. Principally this includes:

- Clearing and surface scraping of soil within the 'Lead Particulate Area';
- 'Emu search' and collection of surface bonded asbestos within the 'Remediation of Asbestos Area' (may require slashing of grasses);
- Excavation of the former rifle range, deposition of contaminated material and capping; and
- Manual removal of razor-wire, metallic objects and other waste, and filling of trenches and pits across the Regional Park.

The main impact is associated with clearing and scraping the 'Lead Particulate Area' which covers approximately 1.4 hectares of 'A' class CPW and will require complete revegetation once the works have been completed. These areas generally comprise young regrowth with a mix of native and exotic species present in the understorey. Whilst larger trees will remain, elsewhere top soil to a depth of up to 200mm will be removed. These areas will be completely revegetated following completion of the remediation works.

The emu search may require slashing of grasses in areas that do no overlap with the Lead Particulate Area and which are not located within ENV.

Excavation of the former rifle range will require a small number of saplings on the batters of the former rifle range to be removed - once again, not within ENV.

The manual removal of other waste and filling of trenches and pits across the Regional Park will require grasses and shrubs in areas of dense revegetation to be slashed, primarily to provide access. While it is not possible to quantify the area of this temporary impact, they will, however, be minor, limited to narrow areas of clearing. The level of understorey disturbance will not significantly alter the structure of ENV.

In summary, the remediation works will impact on 1.4 hectares of 'A' class Cumberland Plain Woodland consisting of younger regrowth vegetation on the margins of remnants which will be fully revegetated with local provenance Cumberland Plain Woodland species following completion of the works. The loss will be ameliorated through the increased amount of Cumberland Plain Woodland being protected in the Open Space network.

Consistency with Biodiversity Certification Order

In summary, the breakdown of loss and retention on the basis of certified (i.e. land certified to be removed) and non-certified lands is as follows:

- 4.2 ha of certified land is to be retained and 27.8 ha is to be cleared;
- 102.0 ha of 'non'certified land is to be retained and 1.8 ha is to be cleared.

Implementation of the Biodiversity Certification Order that applies to the site *'will lead to the overall improvement or maintenance of biodiversity values'* (NSW State Government, 2007). The proposed impact to 1.8 ha of non-certified land will be offset through modifying the open space network to retain 4.2 ha of high quality ENV within lands certified for clearing as part of the Concept Plan proposal, and exceeds the requirements of Clause 8 of the Biodiversity Certification Order that requires the protection of an equal or greater area of existing native vegetation.

Ecological has undertaken an assessment of the proposal in accordance with Clause 10 and 12 of the Biodiversity Certification Order and the requirements of the Conservation Agreement. The conclusions of this assessment is as follows:

- The proposed gain of 1,650 m^2 of high quality vegetation and loss of 1,247 m^2 of derived native grassland exceeds the requirements of the Biodiversity Certification Order which has been conferred on the basis that the test of 'maintain or improve' has been met.
- The area to be cleared as a result of the sewer main is minor. Upon completion this area will be revegetated with local provenance native species. Due to the small scale of the impact and proposed rehabilitation this will not affect the capacity to improve or maintain biodiversity values.
- The proposal will result in the clearing of 1.8 ha of ENV. In addition to rehabilitating the disturbed area, offsets will be provided by way of revegetation of 9 ha of currently cleared land within Edmondson Park South that will be rehabilitated and restored to CPW and 4.2 hectares of ENV in certified lands will be retained. The 9 ha of land is identified on Map 3 of the Conservation Agreement as 'Additional CPW – Rehabilitation & Restoration). This is an offset ratio of approximately 4 to1.
- The areas to be revegetated as part of the sewer line construction will contribute to the long term connectivity and are well integrated with the Regional Park system. This is a holistic approach to the site.
- A Restoration Plan will be prepared for the area of land that is to be cleared as a result of the sewer line. The Restoration Plan will document follow up maintenance and monitoring for a minimum period of 5 years.

The assessment has demonstrated that the proposal satisfies Clause 12 of the Biodiversity Certification Order in that it will result in an overall improvement of biodiversity values.

The above assessment also supports the proposed land use zone boundary for the E1 National Parks and Nature Reserves area of land under the SEPP amendment proposal (refer to Section 6).

Edmondson Park Conservation Agreement

As identified at Section 1 the 2009 Edmondson Park Conservation Agreement relates to the implementation by the NSW State Government of a "Biodiversity Conservation Plan" which includes the establishment of the Regional Park (150 hectares), sympathetic management of open space containing Cumberland Plain Woodland, and an offset package that results in an agreed net benefit to the conservation of biodiversity.

Specifically, the Conservation Agreement incorporates the agreed management actions to ensure the long term conservation of a number of biodiversity values protected under both NSW legislation and the EPBCA including:

- Cumberland Plain Woodland (CPW), a listed endangered ecological community;
- Potential habitat for the Grey-headed Flying-fox (a vulnerable species);
- Potential habitat for the Swift Parrot (an endangered species); and
- Sydney Coastal River-Flat Forest.

The Biodiversity Management Actions under the Conservation Agreement require the NSW State Government to carry out the following actions:

- Establishment and management of a Regional Park including undertaking control measures for existing areas of African Olive;
- Sympathetic management of Public Open Space that contains CPW; and
- An environmental offset outside the Edmondson Park Precinct to offset unavoidable impacts.

Under the Conservation Agreement, the Minister for the Environment, Heritage and the Arts is satisfied that development in accordance with the agreement is not likely to have a significant impact on the biodiversity of the area and accordingly is not a controlled action under the EPBCA.

The relevant areas of the Regional Park and Public Open Space that contains CPW are illustrated on Map 3 of the Conservation Agreement. A copy of the full Conservation Agreement including accompanying maps is included at **Appendix C**.

The assessment undertaken by Ecological concludes that the Concept Plan proposal (and the corresponding SEPP amendment proposal) satisfies the requirements of the Conservation Agreement.

The Conservation Agreement requires sympathetic management of CPW on lands identified as Public Open Space (for Conservation). No changes are proposed on these areas and the proposal is consistent with the Conservation Agreement. Other areas of open space are proposed to be modified. Whilst this does not impact of the requirements of the Conservation Agreement the proposed open space areas differ from Figure 3 in the Conservation Agreement (refer to **Figure 13**) in the following way:

- location of electricity substation in an area mapped as Proposed Open Space Public;
- reduction in the length and width of a riparian corridor mapped as Open Space Public;
- increase in the width of a riparian corridor mapped as Open Space Public;
- rezoning of a strip of Open Space Public (1) along the boundary with the Hume Highway to Residential with development controls; and
- addition of three (3) new areas of Open Space Public (for Conservation).

The Conservation Agreement acknowledges that approximately 36 hectares of CPW across the development area of the overall Edmondson Park Precinct cannot be retained within the Regional Park or open space areas due to the impacts such reservation would have on the functioning of the Edmonson Park Town Centre, railway line and train station, and on the overall viability of the Precinct. Consequently, the Conservation Agreement identifies a CPW offset for the loss of this CPW.

A modification to Map 3 of the Conservation Agreement is proposed under a separate process to reflect the proposed Regional Park boundary adjustment.

Statement if Interim Management Intent (SIMI)

The land that will comprise the Regional Park is to be managed by DECCW under the National Parks and Wildlife Act 1974 (NPWA) under a Plan of Management.

A Statement of Interim Management Intent (SIMI) has already been prepared for the Regional Park. The SIMI provides a basis to guide the long term management of the Regional Park by DECCW to enhance the biodiversity values of the Precinct. It incorporates the following key management principles:

- Enhance connections within the landscape;
- Enhance existing key habitat values including the CPW values of the Park;
- Provide interpretation of the significant components of the site; and
- Manage the natural/urban interface.

The actions, responsibilities and timing for State agencies to establish and manage the Regional Park are set out in the Conservation Agreement and the SIMI.

The network of open space areas identified under the existing Campbelltown LEP 2002 and Liverpool LEP 2008 are identified in the Conservation Agreement to be in the care, control and management of the relevant Council and managed in accordance with plans of management prepared under the Local Government Act.

The council lands identified as 'Public Open Space for Conservation' contain CPW values. For these lands, the plans of management are to incorporate measures to retain CPW values through:

- The retention of trees;
- Maintenance of existing native under storey; and
- Locating passive and activity facilities cognisant of existing CPW values.

The proposed Concept Plan Open Space Network and SSS proposal are consistent with the retention of public open space for conservation under the Conservation Agreement.

Regional Park Interface

During construction the potential to damage the environmental values of the Regional Park will be mitigated through:

- provision of fencing to manage contractors in and around the Regional Park;
- provision of signage that identifies the location of critically endangered ecological communities and liability for prosecution under State and Commonwealth legislation;
- inclusion of an environmental site induction;
- identification of environmental protection requirements in contracts;
- installation of sediment control devices (sediment fences, hay bales, ponds) during construction
- use of sterile cover crops in spray grass applications; and
- regular weed management along the interface.

These recommendations have been incorporated into the Statement of Commitments at Section 9.

Narrowing of Riparian Corridors

The Concept Plan provides a network of riparian corridors across the site, with corridor widths determined by the relative importance of existing creek lines. The southern riparian corridor is proposed to be decreased in both width and length (refer to Section 8.5). This area is currently cleared and there is little ecological value in this water course. The proposal is not considered to have an adverse impact on any threatened species. The proposal to increase the width of the central riparian corridor will enable the retention of an additional area of CPW. Detailed justification relating to the widths and function of the riparian corridors is provided at Sections 8.4 and 8.5.

8.5 Riparian and Water Cycle

A Water Cycle Management Plan to support the Concept Plan and SSS Study has been prepared by J Wyndham Prince Consulting Civil Infrastructure Engineers and is included at **Appendix H**. The Plan addresses surface water, groundwater quality, riparian corridors, flooding and ecologically sustainable development.

A detailed Water Cycle Management Strategy was previously developed by JWP in 2007 for Locality 2 and Locality 3 of the subject site (i.e. the area north of Campbelltown Road), and as such the Water Cycle Management Plan specifically provides further detail with respect to Locality 1. A copy of the 2007 Strategy is appended to the 2010 report at **Appendix H**.

Edmondson Park South straddles the Maxwells Creek and Bunbury Curran Creek catchment areas, which are sub-catchments of the Georges River. A small portion of the site along the Maxwells Creek drainage corridor is affected by 100-year ARI and Probable Maximum Flood events, however this area will form part of the site riparian corridors and will not be subject to site filling.

The Water Cycle Management Plan has identified the requirements of the Department of Environment, Climate Change, and Water (DECCW), the Georges River Stormwater Management Plan, Campbelltown City Council and the Edmondson Park release area Masterplan, in order to identify water cycle opportunities and constraints and inform the preparations of development guidelines for the site.

As discussed in Section 4, key Water Cycle Management measures adopted include:

- Detention basins within the Maxwells Creek and Bunbury Curran Creek catchments;
- Bio-Retention Raingardens;
- Reticulated recycled water;
- Gross pollutants traps;
- Use of water-wise landscaping practices and minimisation of impervious surfaces; and
- Use of water efficient appliance fittings.

Riparian Corridors

The classification and proposed treatment of the riparian corridors within Edmondson Park South was prepared previously for the Growth Centres Commission and Liverpool Council by JWP as *"Edmondson Park- A Strategic Overview of Stream and Riparian Management Processes"* (2007). At that time, the riparian corridors within the site were categorised (RCMS) as follows:

- Cabramatta Creek – Order 3;
- Maxwells Creek – Order 3;
- Maxwells Creek Central Riparian Corridor (Corridor A) – Order 3; and
- Maxwells Creek Southern Riparian Corridor (Corridor B) – Order 2.

The February 2008 DECCW Guidelines under the Water Management Act identify that the final CRZ widths are to be determined after merit assessment of the site and consideration of any impacts of the proposed activity. The DECCW Guidelines also identify that the width of the VBs is dependent on a merit assessment.

The CRZs and any associated additional VBs adopted in the Project therefore need to be considered based on analysis of the management objectives of the riparian corridors and should be applied flexibly depending on their locations and the objectives to be applied.

In determining requirements for VBs and CRZs the following relevant location and characteristics has been considered:

- The nature of the waterway – whether it is a continuously flowing waterway, a minor creek or a drainage line;
- The topography and geology of the area including bank and bed stability, bank height, slope, soil texture and erodability;
- Flooding patterns;
- Any stormwater management issues;
- Characteristics of ecological communities and connection to other communities;
- Any water supply access issues; and
- Public access to the waterway and/or crossings.

Riparian corridor outcomes also need to be balanced with the provision of land and housing supply in identified urban release areas.

Unless the ratio of riparian space to developable land can be kept at an appropriate balance, there will be an adverse impact on housing affordability.

It is considered that for urban release areas to achieve a balance between environmental outcomes and housing affordability, recommended CRZ and VB widths should be treated as maximums, with appropriate widths determined depending on the particular land characteristics and ability to deliver river/stream health outcomes.

All watercourses on the site have been ground-truthed following field survey. The hydro geological function of mapped water and catchment size has been considered.

As described at Section 4.8, it is proposed to retain the Maxwells Creek Central Riparian Corridor (Corridor A) and Maxwells Creek Southern Riparian Corridor (Corridor B) at a total width of 45 metres consisting of:

- a creek bed and bank width of 5 metres;
- a CRZ of 10 metres from the top of the banks on both sides; and
- a VB of 10 metres on each side of the watercourse.

The Concept Plan proposal will result in an increase in the corridor width of the Central Riparian Corridor (Corridor A) from 30 m to 45 m and a reduction in the total width of the Southern Riparian Corridor (Corridor B) from 80 m to 45 m.

The existing Maxwells Creek Riparian Corridor is retained within open space for conservation purposes, with CRZs and VBs unchanged.

The Central and Southern Riparian Corridors, as a result of the proposal, will be more consistent with the geomorphic form and ecological functions of a riparian corridor as defined by the latest NSW Office of Water Guidelines (February 2008). The form of both corridors is consistent with a 'Category 2' stream as defined by the RCMS guidelines.

The proposed changes to the Central and Southern Riparian Corridors are as a result of a detailed assessment and ground truthing as part of an extensive field survey (refer to Water Cycle Management Plan included at **Appendix H**).

The width of the Southern Riparian Corridor (Corridor B) was found to be wider than necessary, reflecting an earlier proposal to retain the existing concrete lined channel. It is now proposed to remove the concrete lined channel and restore this depression as a natural channel. The additional width is no longer required. The proposed reduction in length of the Southern Riparian Corridor (Corridor B) is based on a geomorphic assessment of the drainage depressions to the west of Macdonald Road. This corridor does not provide a continuous link between the Regional Park and any bushland areas that are to be retained under the Concept Plan. A raingarden will be located at the head of the corridor to ensure that the quality of stormwater flows deriving from the upstream development is suitable for discharge into the riparian corridor. The batters and curtilage area around the raingarden will be revegetated with riparian species. The invert of the basin will be planted with appropriate ground covers and small shrubs from endemic riparian species.

The proposed increase in width of the Central Riparian Corridor (Corridor A) will enable the retention of an additional area of CPW and integration of passive open space elements. This will result in an improved ecological outcome for Edmondson Park South, compared to that which was previously proposed in the RCMS.

The remainder of the drainage depressions within Locality 1 do not meet the NSW Office of Water classifications for watercourses requiring riparian corridors and are therefore not proposed for retention as corridors.

This approach is entirely consistent with the DECCW (DWE) 2008 Guidelines under the Water Management Act 2000.

The Concept Plan approaches riparian corridors as an holistic and interrelated planning issue that links environmental protection, open space and recreational uses, bushfire protection, water quality treatment and general amenity.

The reduction in riparian corridor widths is not considered to adversely impact upon the viability of the stream corridors having specific regard to the environmental and hydrological functions of the stream segments in question. This responds to and meets the "merit" based assessment identified in the DECCW (DWE) February 2008 Guidelines.

Uses and development within riparian lands

Concept approval is sought to allow for a limited number of vehicular crossings, culverts and pedestrian and cycle pathway crossings of riparian corridors generally in accordance with the principles shown on the Road Layout and Hierarchy Plan and the Pedestrian and Cycle Plan and the Water Cycle Management Strategy.

Utility services infrastructure will need to cross the CRZs as required and may be located within CRZs where dual location within pathways makes sense.

The final location of crossings and pedestrian and cycle pathways, and utility services infrastructure, will take into consideration vegetation that is proposed to be retained and protected.

On-line stormwater works are permitted under the planning controls developed by the DoP (in consultation with councils and DECCW) for application within the North West and South West Growth Centres of Sydney.

The planning controls applied in the Growth Centres recognise that the riparian protection areas are located within urban contexts and provide, in addition to their environmental benefits, valuable amenity, character, landscape and open space benefits to the people who live, work and play in the local area.

Specifically, the planning controls for the Growth Centres permit environmental protection works, drainage, crossings (eg roads, service utilities, paths etc) within CRZs and development including water quality features, service utilities, crossings, passive recreation use and open space uses within VBs.

In the NW and SW Growth Centres the planning controls also allow limited opportunities for vegetated basins in CRZs for Category 1 and 2 watercourses in a manner that does not reduce the function of the CRZ. They allow limited passive recreation, open space, water quality treatment and APZs to be provided in the VBs in a manner that does not reduce the function of the CRZ. As identified above, combined VBs and bushfire APZs have also been permitted.

In the NW and SW Growth Centres the DoP has identified that there are a number of specific advantages of on line basins within riparian lands – less reliance on offsetting catchments with larger detention basins in other catchments, a reduction in the total number of basins with off line basins being consolidated into larger on line basins, and locating basins in flood prone land and thus reducing the land take of trunk drainage infrastructure.

As identified at Section 4 wetlands and ponds will be located and designed to be sympathetic to complement the environment.

The basic configuration of the proposed wetland system consists of a combination of permanent and intermittently inundated ponds and wetlands, shaped and interlinked with bioswales to retain mature trees where possible.

Flood Management

Hydraulic modelling of the Maxwells Creek floodplain conducted in 2007 shows that Maxwells Creek south of MacDonald Road is affected by flooding from the 100 year ARI and PMF storm events. The majority of this flood affected land is to form part of the site riparian corridors, and as such will not require any filling which may impact upon these flood levels.

All development lots are proposed to be outside the 100 year ARI flood area, and will have a minimum freeboard of 500mm in order to comply with the requirements of Campbelltown and Liverpool City Councils and the *NSW Floodplain Development Manual* (2005).

Climate Change

An assessment of the impacts of climate change on rainfall intensities and consequently on flood hazard has been undertaken by J Wyndham Prince. It has been determined that flood hazard as a result of increased rainfall intensities due to climate change implications can be appropriately managed through the detailed design of stormwater conveyance systems at the Construction Certificate stage.

J Wyndham Prince considers that the proposed stormwater conveyance systems will effectively manage post climate change flood hazards for the development.

8.6 European Heritage

A Heritage Impact Statement to support the Concept Plan and SSS Study has been prepared by Tanner Architects and included at **Appendix J**. The Heritage Impact Statement provides an evaluation of impacts on the significance of the site and heritage items within it.

As discussed in Section 4.6, the Concept Plan proposal:

- retains the Ingleburn Military Heritage Precinct (Part of Lot 2 in DP 831152) in its entirety and current location;
- retains the Mont St Quentin Oval including entry gates and flag pole (Part of Lot 2 in DP 831150);
- proposes to relocate a group of three Riley-Newsum prefabricated cottages located on the southern side of Bass Road within the former Ingleburn Village (Part of Lot 1 in DP 831152); and
- proposes to demolish two of the existing Amals Sagvert Aktiebolag (ASA) cottages located in the Ingleburn Village site.

The Ingleburn Village, within which the three Riley-Newsum prefabricated cottages and the two ASA cottages are currently located, has limited historic significance due to the extent of demolition that has occurred on the site since the 1990s. The significance of the cottages within the Ingleburn Village is attributed partly to the particular architectural style, materials and finishes of the different types of cottages but also their location within a landscaped suburban setting.

The retention of the three Riley-Newsum cottages in their current location and retention of the two existing ASA cottages is not practicable.

The proposed demolition of the two existing ASA cottages within the former Ingleburn Village site is supported on heritage grounds because the structural system used in their construction would be compromised if they were relocated and because of the large amount of asbestos cement they contain. The requirement for asbestos removal means that these cottages cannot be retained.

The proposed relocation of the three Riley-Newsum prefabricated cottages to an open part of the site (i.e. local park) and adaptive re-use and interpretation is considered appropriate. Although only three Riley-Newsum cottages exist within the site, the public will be able to appreciate, however limited, this group of cottages within a landscaped setting.

The conclusions of the heritage impact assessment are as follows:

- The Concept Plan ensures the retention of the Ingleburn Military Heritage Precinct and the Mont St Quentin Oval and gates, which are to be integrated into the overall development of the site. The Mont St Quentin Oval (including entry gates and flag pole) will be retained and refurbished within a new district park. The process of integration will include appropriate adaptive reuse and interpretation.

- The potential impacts of future development in Edmondson Park South on retained heritage items are restricted to mixed use functions and construction of attached dwellings and detached dwellings, thus providing control over height and bulk in the vicinity of the items. Whilst the development will have an impact on the Ingleburn Village, this is to be addressed by the relocation of three prefabricated cottages and archival recording of the village site.
- The scale and form of permissible development in the envelope surrounding the retained heritage items will ensure that an appropriate curtilage is established to protect the heritage items and their setting within the development.
- The proposal provides an appropriate curtillage around the Ingleburn Military Heritage Precinct and the Mont St Quentin Oval and entry gates.
- The principal public views of the retained heritage items - the Ingleburn Military Heritage Precinct and the Mont St Quentin Oval and gates are currently available from Campbelltown Road. These items have a significant historical and physical relationship to each other, which is demonstrated by the alignment of the entries to both items and the spatial continuity that extends between the Heritage Precinct and the Oval. These heritage items are intended to act as a focal point for the Concept Plan, providing valuable interpretation devices and community assets. Implementation of the Concept Plan will have a positive impact on views to these items, allowing them to be viewed from a variety of vantage points. It should be noted that both items are integrated into the proposed network of open space and corridors, thus maintaining a sense of their relationship with the original open setting that the former Defence site previously provided.
- The retention of the Ingleburn Military Heritage Precinct and the Mont St Quentin Oval and gates as discrete and unencumbered items within the site will ensure that the public can experience and appreciate the heritage items. Their relationship to each other will be maintained, which will ensure that the public can understand the essence of their original relationships. The proposed relocation and adaptive reuse of the three Riley-Newsum pre-fabricated cottages will provide another layer of experience for the public and users, and further add to an appreciation of the site's heritage significance.
- The proposed concept is considered to be sympathetic to the retained heritage items and their setting, providing appropriate curtilages and controls over the type of development that will be permitted in the vicinity of the heritage items.
- The proposed widening of Campbelltown Road to accommodate four lanes of traffic is acceptable and will have minimal impacts in terms of its effects on the Ingleburn Military Heritage Precinct. Widening to accommodate a wider road reserve (i.e. 45-50 m road reserve as proposed by the RTA) is not supportable because of impacts on both heritage items. Additional traffic lanes would erode the relationship between each site (which historically has always been relatively narrow). Additional lanes would compromise the important historical and physical relationships between the Ingleburn Military Heritage Precinct and the Mont St Quentin Oval and entry gates.
- The Ingleburn Army Camp site does not warrant inclusion of the site on the State Heritage Register. This is because a substantial amount of existing development across the site has already been demolished. Further, the Department of Defence plans to demolish the Kitchen/Dining Complex (the Mess Hall) and the Lecture Hall prior to sale of the Ingleburn Army Camp, thus impacting negatively on the significance of the place. The proposed subdivision and subsequent development will effectively obscure the physical open character and extent of the Camp, leaving the Ingleburn Military Heritage Precinct, the Mont St Quentin Oval and entry gates and the three relocated pre-fabricated cottages as tangible objects for interpretation. These items are already given protection by Local Government Heritage listing and inclusion in Local Environmental Plans.

The Concept Plan demonstrates compliance with the Heritage Act 1977, the heritage impact assessment guidelines published by the NSW Heritage Office and the heritage provisions contained within Campbelltown (Urban Area) Local Environmental Plan 2002 and the Liverpool Local Environmental Plan 2008.

Recommendations

To respond to the assessment of heritage impact, the Heritage Impact Statement recommends the following with respect to future detailed design and development within the site:

- Representative examples of the prefabricated cottages within the Ingleburn Village heritage site (i.e. the three Riley-Newsum pre-fabricated cottages) as identified in the Concept Plan are to be retained and relocated to an open part of the site. The relocation and potential adaptive re-use of these items in the open space system is to be subject to ongoing investigation. This will involve assessing the state of the building, determining whether they can be physically relocated, refurbishment costs, safety issues, vandalism and heritage values.
- Archival recording should be undertaken for all heritage buildings and structures that are to be demolished or relocated as part of this development (i.e. the two existing ASA cottages and the three Riley-Newsum pre-fabricated cottages).
- A history of the site (which includes oral history), should be commissioned to address the great social and historic significance of the site. The history project will include a component which addresses the use of standard buildings on site, including collection and consideration of historic plans, site plans and construction drawings for the standard building types.
- A detailed Heritage Interpretation Strategy and specific site works proposed throughout the precinct to implement interpretation of the Ingleburn Army Camp, should be prepared and submitted for comment to the Heritage Branch before commencement of construction. The Heritage Interpretation Strategy will need to address the relocation and sensitive adaptive reuse of the selected prefabricated cottages that are to be retained and relocated within the open space areas of the site in accordance with the Concept Plan. The retention of the name 'Bambi Kindergarten' will form part of the interpretation strategy for the site and its use will be encouraged for a pre-school facility within the site.
- Trees along Campbelltown Road should be retained where possible during the widening of Campbelltown Road.
- Memorials in the Ingleburn Military Heritage Precinct should be retained. The Korean War Memorial (currently located near the Bambi Kindergarten) is to be relocated to the Heritage Precinct.
- Should any European historical archaeology be discovered during any site excavation works, the required steps under the relics provisions of the NSW Heritage Act and contacts should be followed.
- The detailed design of any buildings associated with recreational use at the Mont St Quentin Oval will acknowledge the design of former military buildings in this part of the site.

These recommendations have been incorporated into the Statement of Commitments at Section 9.

8.7 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment Report (CHAR) has been prepared by Kelleher Nightingale Consulting Pty Ltd and is included at **Appendix K**.

The report assesses the aboriginal cultural heritage values of the site and the potential impacts of the proposed development on aboriginal cultural heritage.

The heritage assessment includes recommendations for the management and conservation of aboriginal cultural heritage, which are detailed below.

Much as the site has been highly disturbed due to historic military and farming activities and archaeological sites generally have low archaeological significance, however they may retain cultural value.

Thirty archaeological sites have been recorded within the Concept Plan area. The sites comprise either artefact scatters or isolated artefacts. The majority of the recorded archaeological sites have a direct relationship with Maxwells Creek and Cabramatta Creek. Most of the archaeological sites reflect a relationship to the environment and topography and are considered pockets of cultural activity, rather than a landscape wide cultural environment. In particular, the sites along Maxwells Creek illustrate a corridor of cultural activity and are collectively of greater value than the individual artefact recordings.

The scientific significance of the 30 recorded sites ranges in significance from low to high, with 11 sites assessed as having moderate to high significance, due to each sites location, relative low level of disturbance, connectivity, representativeness and rarity. These sites are identified as MC 3, 5, 6 and 7, DD 2, 3, 4 and 6, EPCS 3 and 4 and SWRL 5. Site's MC 3-7 and DD 2-4 which are less disturbed and grouped together are more representative of a cultural context.

The overall cultural significance of the site has been assessed as being of low-moderate significance.

Impact Assessment

The majority of the sites identified in the Concept Plan are located in a highly disturbed context and exhibit low archaeological significance. Due the extent of historical studies undertaken the Concept Plan designs have taken into account the identified archaeological sites and the design has aimed to avoid and minimise impacts on the archaeological sites and cultural places. Ten (10) sites will not be impacted upon, including three sites identified as being of high significance.

Of the remaining twenty (20) sites to be impacted, three (3) sites are of moderate to high significance and three (3) sites are of moderate significance. The remaining 14 (14) sites have been assessed as having low or low-moderate significance. The sites impacted upon will be within future urban areas or be impacted upon by future infrastructure works. Six (6) significant sites are conserved with the regional park.

Recommendations

The following measures are proposed to manage the cultural and archaeological heritage on the site:

- conservation of archaeological sites not impacted by the proposed development as identified in the CHAR;
- archaeological salvage excavation of four sites as identified in the CHAR;
- collection of surface artefacts from 10 sites as identified in the CHAR;
- Implementation of a Management Policy for Aboriginal heritage;
- Implementation of Procedures for handling human remains;
- Establishment of procedures for further heritage assessment if changes are proposed to approved projects; and
- Establishment of process for continued consultation with Aboriginal Stakeholders.

Recommendations have been incorporated into the Statement of Commitments at Section 9.

8.8 Bushfire Risk Assessment

Parts of the site are bushfire prone (refer to Section 3).

A Bushfire Planning Assessment to support the Concept Plan and SSS Study prepared by McKinlay Morgan is included at **Appendix I**. The Bushfire Planning Assessment provides an assessment of the Concept Plan against Planning for Bush Fire Protection 2006 (NSW Rural Fire Service). It includes:

- An assessment of the bushfire hazard (predominant vegetation and effective slopes);
- Recommended Asset Protection Zones for all bushland-development interface locations;
- Recommendations on the management of APZs;
- A guide on the minimum standards for safe access and egress which includes road layout, design and construction standards; and
- A guide on the requirements for services such as water supply for fire fighting.

The location of maximum proposed APZs for the Concept Plan is indicated at known areas of bushland/development interface. The actual placement of the APZ will depend on the nature of the specific land use at that particular interface segment.

McKinlay Morgan has determined that development does not necessarily need to be 'buffered' from the edge of the Principal Open Space 'green' area on the Concept Plan. For example, the 25 m APZ required for residential development adjacent either of the two major riparian corridors could be wholly placed within the outer zones of the corridor if they consist of areas of open space and the APZs do not compromise riparian and other objectives such as public access.

Similarly, perimeter public road reserves and minimum building setbacks within lots can contribute to achieving the APZ. This is a detail to be resolved at the detailed design stage in future subdivision applications.

Recommendations

The Bushfire Planning Assessment recommends bushfire protection measures as required by the Acceptable Solutions of Planning for Bushfire Protection 2006.

The Concept Plan proposal has been designed to accommodate Asset Protection Zones in the location and of the minimum dimensions as recommended in the Bushfire Planning Assessment.

The final location of APZs will depend on the nature of the land use at each particular development interface.

8.9 Noise and Vibration

A Noise and Vibration Impact Assessment to support the Concept Plan and SSS Study has been prepared by Wilkinson Murray (Sydney) Pty Limited is included at **Appendix U**. The assessment has been prepared in accordance with the following DECCW and DoP documents:

- Interim Construction Noise Guideline (EPA – now DECCW);
- Environmental Criteria for Road Traffic Noise (EPA 1999);
- Development Near Rail Corridors and Busy Roads – Interim Guideline, 2008 (Department of Planning); and
- Assessing Vibration: a Technical Guideline, DECC 2006.

8.9.1 Existing Noise Levels

In order to determine existing noise levels in the area, noise monitoring was conducted over an eleven day period (16 July 2010 – 26 July 2010) at three locations across the site (for locations see **Figure 40**). The typical background noise levels recorded at the site are detailed in **Table 20**. The site is affected by noise from existing road traffic on the South Western Freeway which is located on the South Eastern side of the site. To a lesser extent noise from Campbelltown Road will affect land bounding this road which crosses the site.

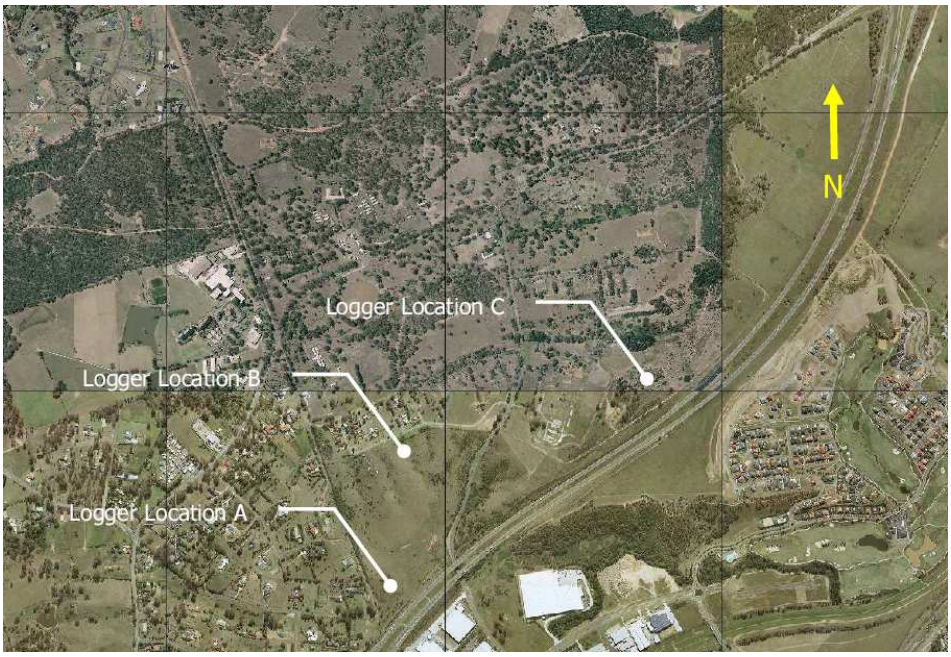

Figure 40 - Noise Monitoring Locations (Source: Wilkinson Murray)

Table 20 - Summary of Measured Noise Levels

Noise Logging Site	Address	Rating Background Level (dBA)				$L_{Aeq, period}$ (dBA)			
		Day	Evening	Night	Saturday	Day	Evening	Night	Saturday
		7am-6pm	6pm-10pm	10pm-7am	8am-1pm	7am-6pm	6pm-10pm	10pm-7am	8am-1pm
A	South West of site	49	46	41	46	56	53	51	52
B	Leichhardt Road	48	49	44	46	55	55	51	51
C	North East of Site	51	52	44	49	58	58	56	56

Source: Wilkinson Murray

8.9.2 Noise Goals

Using the above measured noise levels, Wilkinson Murray has established noise goals for the project as detailed below. In establishing the noise goals, Wilkinson Murray has also had consideration of the proposed location of the South Western Rail Link which is to cross the northern end of the site. A commitment has been made in the Statement of Commitments at Section 9 of this report which requires future project applications to demonstrate compliance with the noise goals established for the project.

Construction

For residential areas the standard construction noise goal is that noise should not exceed the background noise level by 10dBA for standard daytime construction hours. Outside daytime construction hours the noise goals are more stringent and should not exceed the background noise level by 5dBA. Based on these criteria the following construction noise management levels for Stage 1 construction activities are set out in **Table 21**. The Concept Plan goals are based on the noise logger at location B which is further away from the motorway and therefore noise levels at this location are considered representative of noise levels at existing surrounding residences to the south of the site.

Table 21 - Construction Noise Goals

Location	Construction Noise Management Level L_{Aeq} (dBA)				Maximum Construction Noise Level L_{Aeq} (dba)
	Day	Evening	Night	Saturday	
Existing residences	58	54	49	56	75
Active Recreation Areas (including parks)	65dBA				
Industrial premises	external $L_{Aeq(15\ min)}$ 75dBA				
Office, retail outlets	external $L_{Aeq(15\ min)}$ 70dBA				

Source: Wilkinson Murray

Traffic Objectives

The criteria for assessment of road traffic noise are set out in the ECRTN guideline prepared by DECCW. In accordance with the definition in the ECRTN the project is considered to be a "Land use development with potential to create additional traffic on existing freeways/arterials" Based on the ECRTN criteria the noise level goals for residential receivers are identified in **Table 22**.

Table 22 - Traffic Noise Goals

Daytime (7am-6pm)	Night (10 pm – 7 am)	Where Criteria already exceeded
$L_{Aeq,15hr}$ 60 dBA	55dBA	Existing noise level + 2 dBA

Source: Wilkinson Murray

Rail Noise

The proposed South West Rail Link will pass through the Edmondson Park South site. Consequentially, residential development on the site will be required to meet the standards set out in the Infrastructure SEPP and the Department of Planning's *Development Near Rail Corridors and Busy Roads – Interim Guideline*. Based on the criteria in the Infrastructure SEPP the internal and external noise criteria are shown in **Table 23**.

Table 23 - Internal LAeq(period) Rail Criteria and External Noise Criteria

Room Type	Internal Criteria (dBA)	External Criteria (dBA)	External Noise Levels for Ventilation (dBA)
Bedrooms (Night Only)	35	45	55
Any Habitable Room	40	50	60

Source: Wilkinson Murray

Rail Vibration

Vibration levels such as the intermittent vibration emitted by trains should comply with the criteria in Assessing Vibration: a technical guideline (DECC 2006). The standards used for assessing the risk of vibration damage to structures are German Standard DIN 4150 Part 3 1999 and British Standard BS 7385 Part 2 1993. Human comfort is normally assessed with reference to the above British Standard or Australian Standard AS 2670.2 1990.

8.9.3 Concept Plan Assessment and Mitigation Measures

Rail Noise and Vibration

In order to determine rail noise impacts, Wilkinson Murray has reviewed the noise and vibration report prepared for the South West Rail Link and the predicted night time rail noise levels along the rail corridor (night time levels represent the worst case scenario). Night time noise levels were assessed for 2026. **Figures 41** and **42** show the 60dBA (red) and 55dBA (blue) noise contours for land to the east and west of Edmondson Park Railway Station. The proposed land uses that bound the rail corridor include low density residential dwellings, education, regional parkland, mixed use commercial and retail uses and high density residential dwellings and therefore a range of noise treatment measures will be required, as indicated in **Table 24** below. Actual detailed noise mitigation measures will be detailed in future Project Applications.

In relation to rail vibration, the vibration report prepared for the South West Rail Link assessed that compliance with the relevant vibration criterion is achieved at a distance of 14m from the nearest centreline of the railway track, which falls within the nominal 30m rail corridor. Therefore no vibration mitigation measures are required.

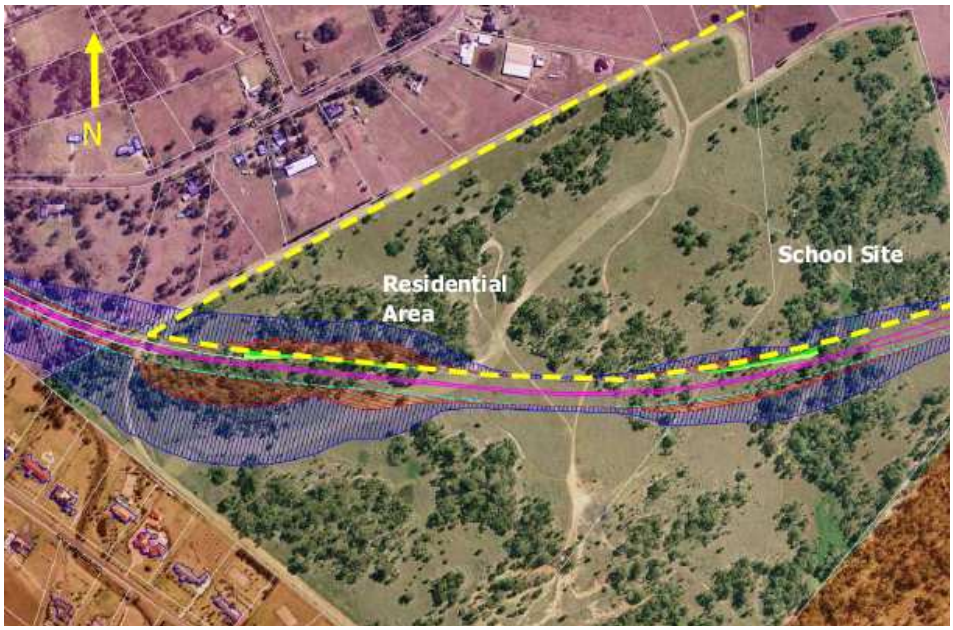

Figure 41 - Rail LAeq(9 hr) Night time Noise Contours west of Edmondson Station

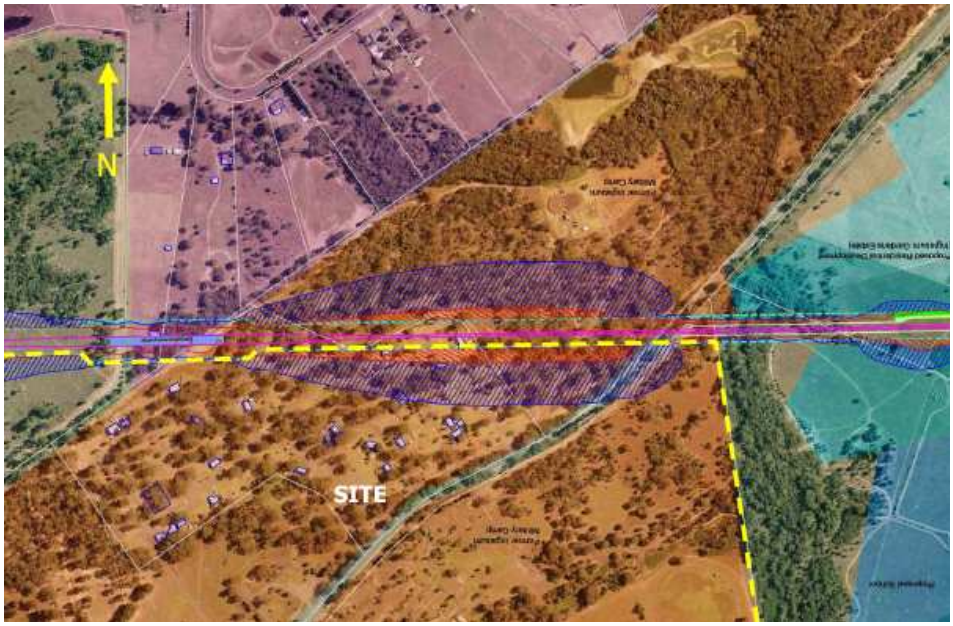

Figure 42 - Rail LAeq(9 hr) Night time Noise Contours east of Edmondson Station

Table 24 - Rail Noise Mitigation Measures

Land Use	Potential Mitigation Measures
Residential uses within the blue 55 dBA noise contour	▪ Closed windows with ventilation ▪ Improved glazing e.g. 6mm float glass in rooms affected by rail noise
School buildings	▪ Installation of mechanical ventilation, or ▪ Construction of a 3 – 4m barrier or bund between the school site and the rail line to reduce noise levels by 10dBA
Regional Park	▪ No measures proposed
Mixed use commercial/retail	▪ No measures proposed as noise goal is unlikely to exceeded
High density residential within blue 55 dBA noise contour	▪ Closed windows with ventilation
High density residential within red 60 dBA noise contour	▪ Closed windows with ventilation ▪ Improved glazing (e.g. 6mm float glass)

8.9.4 Traffic Noise

Traffic noise predictions have been modelled based on projected traffic volumes in 2026. Based on the traffic volume modelling residences in the proximity of Campbelltown Road and Macdonald Road may require acoustic treatments to achieve compliance with the internal noise criteria. The noise treatments could comprise noise barriers, ventilation or glazing of windows. Details of the actual treatments will be provided at the Project Application stage.

Residences immediately adjoining the South Western Freeway will be exposed to the highest level of traffic noise levels and will require acoustic mitigation measures in order to achieve the noise objectives set for the project.

Wilkinson Murray has provided a range of design options which can be adopted at the detailed project application stage including:

- Acoustic glazing and mechanical ventilation;
- A barrier / acoustic fence (typically 4 – 5 m high) with reduced glazing;
- The adoption of a `Quiet House' design; and / or
- A combination of roadside barriers and perimeter buildings.

In light of the above, a commitment has been made at Section 9 of this report which requires that each project application be accompanied by an acoustic assessment that details acoustic mitigation measures to be implemented and confirming that the noise goals have been met.

8.10 Utilities Infrastructure

A Concept Plan Utility Services Strategy to support the Concept Plan and SSS Study has been prepared by J Wyndham Prince and is included at **Appendix N**.

Existing physical infrastructure is not adequate to service the future development and augmentation will be required to all key utilities and services and provision. Capacity does exist in the existing potable water and electricity networks which will facilitate early stages of development.

Significant physical infrastructure (in addition to roads) needed as part of the ongoing development of the site includes:

- water infrastructure (potable and recycled);
- sewer connection to the Ash Road carrier main including construction of a gravity fed trunk sewer carrier with connection through the future Regional Park. This sewer will facilitate development of adjoining fragmented land;
- upgrades to power supply infrastructure including a new zone substation within the site; and
- provision of fibre to the premises (FTTP) Communications.

The Utility Services Strategy for the site demonstrates the manner in which it is intended to deliver this infrastructure.

Implementation, timing and funding considerations for the delivery of utility services infrastructure is identified at **Appendix N**.

8.11 Visual Impact

A Visual Assessment to support the Concept Plan and SSS Study has been prepared by Hassell and is included at **Appendix V**. The assessment describes the landscape and cultural features that contribute to the existing visual character of Edmondson Park South, and describes the degree of change anticipated in the landscape as a result of the Concept Plan. A number of landscape strategies are recommended to mitigate the visual impact of the proposed development, namely:

Town Centre

- The proposed location of the town centre will cause loss of significant trees in elevated locations. Provide new large evergreen street tree planting to screen and soften the town centre edge condition and to provide green connections through the town centre zone.
- Limit building heights to 12m (3-5 storeys - below mature tree heights) at the town centre edges.
- Carefully consider the final location and detail design of any 30m (10 storey) buildings to address their high visual and landmark context.
- Provide generous view corridors between town centre blocks (24m, 6 storey) buildings to allow views through to the conservation zones to the east and west of the town centre. Final locations for the view corridors to be determined at detailed town centre design stage.

Conservation Zones

- Promote the ongoing rehabilitation and management of the natural woodland vegetation in conversation lands as a buffer to development.

Residential (R1) Zone

- Ensure the provision of lot size and shape, and relevant built form setbacks in the more compact development areas, to allow reasonable opportunity for immediate or future establishment of canopy tree planting on private land. In time this will provide natural shade, amenity and temperature control of houses, as well as visual softening of the development.
- Retain and protect existing trees in elevated or prominent locations, and generally wherever possible, to ensure that significant landscape landmarks are preserved.
- Provide significant evergreen tree planting in medium density areas to maximise year round softening of the most compact areas of development.
- Provide landscape setbacks in private lots (low density areas) to allow canopy tree planting on private land to contribute to streetscape character.
- Suggest a palette of recessive colours to minimise the intrusion of housing and development in the landscape when viewed from distant vantage points.
- Prepare detail designs for landscaped areas for medium density development (private domain), open space areas, schools, and other community facilities to address the creation and preservation of canopy vegetation.

Environmental Living (E4) Zone

- Provide streetscape treatment to rural streets that responds to the rural character of these areas. Use informal, relaxed tree planting layouts in combination with similar front yard landscaping.
- Ensure the provision of generous and regular front setbacks to allow front yard landscaping to contribute to the streetscape.
- Ensure the provision of generous side and rear setbacks to allow a predominance of landscape area incorporating significant and connected canopy tree vegetation.

M5 Motorway

- Provide streetscape treatment to the new street in the rural residential zone to the south west of the site in a way that responds to the rural character of the area. Use informal tree planting layouts in combination with similar front yard landscaping.
- Ensure the provision of generous front, side and rear setbacks to allow a predominance of landscape area incorporating significant and connected canopy tree vegetation.

Campbelltown Road

- Retain existing tree vegetation within the new road reserve wherever possible.
- Provide new large, evergreen street tree planting along Campbelltown Road.
- Ensure building heights and front setbacks of new buildings along Campbelltown Road provide a comfortable scale.
- Provide public domain treatments that address the new town centre and highlight the quality of the new development.
- Provide a different streetscape treatment where the new Campbelltown Road passes through the conservation and open space zones.

Heritage Items

- Provide a site specific detailed landscape design response and interpretive plan for existing valued heritage items in order to properly address visual and heritage issues and their relationship to surrounding development.
- Prepare detail designs for landscaped areas for medium density development (private domain), open space areas, schools, and other community facilities to address the creation and preservation of canopy vegetation.
- Provide for the protection, augmentation and effective long term management of existing significant site vegetation.

The above recommendations have been incorporated into the Statement of Commitments included at Section 9.

8.12 Geotechnical, Soils and Contamination

A Geotechnical, Contamination and UXO Site Suitability Assessment, prepared by Golder Associates is included at **Appendix G**.

8.12.1 Geotechnical Constraints

Few potential geotechnical constraints have been identified within the north-western portion of the site (i.e. that part of the site owned by Landcom) which would impede the redevelopment of this portion of the site. The primary geotechnical constraints identified within this portion of the site are salinity and soil which will be required to be managed during the development to minimise the potential impacts.

The primary geotechnical constraints for the remainder of the site have been identified as salinity, soil erodibility and potential slope instability. As with the Landcom portion of the site, these constraints will need to be managed during the development to minimise the potential impacts (environmental and economical).

Preliminary Site Classification

The geological profile of land within the site suggests that both the residual and alluvial profiles identified will be susceptible to shrink/swell due to moisture fluctuations. Given the thickness and types of clay, encountered and the depth to bedrock, the majority of the site would likely classify as Class “M” (moderately reactive clay and silts) or Class “H” (highly reactive clay) in accordance with Australian Standard (AS) AS2870-1996.

Areas of fill and low lying saturated alluvial areas should be considered as Class “P” (problem sites) and likely to require rehabilitation works to obtain a lower classification, alternatively foundations could be carried to rock. Subject to material type, depth of fill and filling works being carried out in accordance with AS3798 -2007 filled sites are likely to be classified as Class “M” and Class “H”.

The preliminary classifications presented are applicable to our current assessment of conditions reported. These may change subject to the proposed development levels, excavation and filling works. Detailed investigations will be required including laboratory analysis and assessment in accordance with AS2870-1996 prior to development.

Salinity

A review of Salinity Maps produced by DIPNR and investigations (Geotechnique 2003) carried out to date indicate that parts of the site is impacted by saline soils and groundwater. Laboratory analysis carried out on selected soil samples indicates the following:

- samples recovered from near surface (0.0-0.3 m BESL) were generally non saline with the exception of samples collected from the north western corner of the Landcom Site;
- samples recovered from depths between 0.3 to 1. m were generally slightly saline to moderately saline with some areas of very saline soils in the vicinity of low lying areas/drainage depressions. Samples collected from higher elevations across the Site were generally non saline;
- samples recovered from depths greater than 1 m were generally moderately to highly saline and corresponded typically with alluvial and low lying profiles.

Soil salinity was observed to increase with depth in both the residual and alluvial profiles. Soils in the upper 1 m soil in the Residual profile are likely to be less saline than in the Alluvial profile.
The results of limited groundwater sampling within the site indicate that saline groundwater conditions exist within the fractured shale bedrock. Laboratory analysis of water samples from dams indicates the water is likely to be non-saline or marginally saline, whereas groundwater at depths exceeding about 2.5m, especially in areas underlain by alluvium, is likely to be saline to brackish.

Construction and design of slabs and other structures will need to consider salinity issues which may occur due to irrigation or introduction of surface water features. These may result in a rise in the groundwater level which could introduce the more saline groundwater to shallower depth. The movement of soils and vegetation removal or disturbance can greatly influence the behaviour of salinity in soil and groundwater. A site specific soil and water management plan will be required to properly manage salinity at the site.

Slope Stability

The natural ground surface within the north-eastern portion of the site is assessed to be generally a very low risk of instability with the majority of slopes between 0° to 10° gradient. A steeper slope (>15°) has been identified within the area of the existing rifle range which is proposed to be re-engineered as part of future proposed remediation works and is not proposed to be developed. Steeper slopes exist within the southern portion of the site (i.e. on land owned by the Commonwealth). Test pits (Geotechnique, 2003) indicate shallow rock (0.7 to 1.7 m depth) in this steeper area. Soil slope instability is likely to be a low risk, given the shallow cover of soil over rock and where slope angles are less than 15°.

Anticipated Excavation Conditions

The proposed excavation / earthworks should be able to be achieved using conventional earthworks equipment. Larger equipment may be required if deeper excavations (typically >2.0m depth) where shale and sandstone bedrock may be encountered. Specific investigations will be required to further assess excavation works where required.

There is a skeletal cover of topsoil across the Site. This is not considered suitable for use as structural fill, however, could be suitable for landscaping. Residual and Alluvial soils excavated as part of development works should be suitable for reuse as engineered fill subject to moisture conditioning and the absence of deleterious material and organic matter. Fill placement should be carried out in a controlled manner in accordance with AS3798-2007 and Council engineering standards. Quality assurance testing should be carried out in accordance with AS1289 test methods and by a suitably qualified geotechnical testing authority (GTA).
Seepage within excavations where encountered, is anticipated to be managed through conventional sump and pump systems. Increase seepage rates may be encountered within low lying areas and should be further assessed through specific investigations.

Deep excavations (>2.0 m) associated with the installation of utilities such as sewerage should be the subject to specific investigations to assess stability of excavations and recommendations for appropriate retention/shoring/benching and backfill requirements.

Soil Erodibility

A review of a previous assessment carried out including laboratory analysis indicated that the majority of samples collected to depths up to 1.0 m BESL are considered to be dispersive or potentially dispersive. Residual soils are generally more dispersive than alluvial soils. Portions of both residual and alluvial soils within the north-western portion of the site are dispersive or potentially dispersive and therefore susceptible to erosion. It is recommended that a detailed investigation be carried out to delineate the boundaries between dispersive and non-dispersive soils.

Soil Agressivity

A review of laboratory analysis carried out on selected soil and limited groundwater samples in accordance with AS2159-1995 indicate that the site conditions are generally non-aggressive to mildly aggressive towards concrete structures and mildly to moderately aggressive to iron and steel.

Management of Potential Geotechnical Constraints

A soil and water management plan should be prepared for the proposed development. The soil and water management plan is required to document proposed management strategies to be implemented specific to but not limited to salinity, soil erosion and surface water management during and post construction.

The key objects of the soil and water management plan should be to:

- minimise erosion and sediment loss before, during and after construction;
- minimise water pollution due to erosion, siltation and sedimentation;
- maximise re-use of onsite materials; and
- manage salinity within areas to minimise impacts on future building projects and vegetation.

Where water features are proposed consideration should be given to lining of such features to minimise water infiltration and potential impacts to identified salinity.

Urban design should utilise existing topography where possible to minimise cut to fill. All earthworks should be carried out in accordance with AS 3798, Landcom and LGA engineering standards, including uncontrolled fill areas which should be assessed and reworked as required.

During the detailed design stage, slope stability should be assessed for individual areas and proposed cut and fill, according to the '*Guideline for Landslide Susceptibility, Hazard and Risk Zoning for Land Use Planning' by the Australian Geomechanics Society* (Geomechanics, Vol 42, No.1, 2007).

The above recommendations have been incorporated into the Statement of Commitments included at Section 9.

8.12.2 Contamination and UXO

Remediation of parts of the site including remediation of the grenade and small arms ranges, underground storage tanks and asbestos containing building materials was carried out by the Commonwealth and Landcom since 1999. Other remediation works are currently underway by Defence and a Site Audit Statement will be provided prior to the transfer of the land to Landcom.

On land owned by Landcom (the Landcom land), localised contamination, potential UXO and SAA has been identified. Areas of potential UXO have been further assessed and remediated, where considered appropriate as part of a detailed investigation (Golder 2005b). UXO Clearance certificates have been issued where clearance works have been undertaken.

A draft Remediation Action Plan (RAP) has been prepared to address the remediation and/or management of identified contamination and SAA on land within the north-western portion of the site. Remediation strategies presented have been reviewed and generally approved by the NSW DECC accredited SA (Environ 2005b) engaged by Landcom. A review of the recently amended RAP (Golder 2010a) is currently being carried out by the SA.

A Site Audit Statement (SAS) in accordance with the Contaminated Land Management Act (CLM Act 1997) will be prepared by the SA on completion of the remediation and/or management works. A Site Environmental Management Plan (SEMP) has been prepared for the proposed encapsulation area within the Landcom land and future regional park.

On land owned by Defence, New South Wales (NSW) accredited contaminated land Site Auditors have been engaged to review the adequacy of investigations, remediation works carried out and the provision of a Site Audit Statement (SAS) in accordance with the Contaminated Land Management Act (CLM Act 1997) on completion of remediation works.

Remediation works carried out on this part of the site to date have generally consisted of:

- Remediation (UXO) within former grenade ranges and miniature rifle range;
- Removal of underground storage tanks (USTs) and remediation of localised impacted material;
- Demolition and removal of former structures constructed with asbestos containing fibro cement sheeting; and
- Remediation of former chemical storage areas.

Remaining remediation works will be carried out in accordance with Site Auditor approved RAPs and or managed in accordance with Site Environmental Management Plan (SEMP) prepared for the proposed encapsulation area within the Landcom Site and future regional park.

An assessment (Noel Arnold, NA 2010) of existing structures that were to be retained within the site boundaries have identified asbestos which will need to be managed and periodically inspected.

Based on a review of available information and in the context of the proposed development, it is considered that the Edmondson Park South site (including both land owned by Landcom and the Department of Defence) is suitable for proposed residential, open space and commercial land uses subject to:

Landcom Land

- The preparation of a soil and water management plan, construction environment management plan and sound engineering practices in accordance with relevant Australian Standards and LGA requirements;
- Remediation and/or management of identified Contamination/UXO in accordance with prepared RAP, EMP and provision of a SAS by a NSW DECCW accredited site auditor on completion of remedial and/or management works. The Site Audit Statement should conclude that the Site is suitable for the proposed land use and identify any conditions; and

- Ongoing management of the proposed encapsulated area and residual SAA in accordance with the SMP (Appendix E) prepared for the conservation area which will form part of the larger Regional Park.

Department of Defence Land

- Implementation of a soil and water management plan, construction environment management plan and sound engineering practices in accordance with relevant Australian Standards and LGA requirements; and
- Remediation and/or management of identified Contamination/UXO (where warranted) in accordance with the Contamination Management Plan and provision of a SAS by a NSW DECCW accredited site auditor on completion of remedial and/or management works. The Site Audit Statement should conclude that the Site is suitable for the proposed land use and identify any conditions.

8.12.3 On-going Contamination Management

There is the potential that even after the remediation of identified contamination for unidentified areas to be encountered during development. As such appropriate protocols are included within the RAP (Golder 2005c) for Landcom land and should be further developed and documented within construction environment management plans (CEMPs).

Furthermore, contamination identified during development will be managed in accordance with the protocols and procedures, management and reporting requirements set out in the Contamination Management Plan, NSW DECCW Guidelines and Site Audit Statements obtained from NSW DECCW accredited Site Auditors.

8.12.4 Sewerage Treatment Plant

The existing STP is to be decommissioned once the Ash Road carrier is operational. It is expected that contamination associated with this type of infrastructure site is generally associated with heavy metal contamination (mercury) within the areas of settling tanks, potential hydrocarbons associated with plant used on the site and biosolids.

Remediation works are likely to include the excavation and removal off site as appropriate or excavation and encapsulation including ongoing site management (if required) and/or on site remediation (e.g. land farming of hydrocarbons if appropriate). A NSW DECCW accredited Site Auditor will be engaged by Landcom to review investigation reports and the proposed remedial strategies to be implemented. On completion investigation and remediation works (where warranted) a Site Audit Statement (SAS) will be prepared prior to development.

8.13 Social and Community

The wider Edmondson Park release area has been the subject of a number of planning reports over the last decade relating to its release and rezoning for urban purposes, and this includes a number of documents addressing social planning issues as well as infrastructure funding and delivery. This section of the report reviews the existing planning documentation to identify the social issues, and gives an overview of social planning initiatives to contribute to ecologically sustainable development at Edmondson Park.

The future population at Edmondson Park South will have particular characteristics which give an indication of future housing and social needs. These social characteristics and needs inform the planning of urban development at Edmondson Park South. As the site lies within both the Liverpool and Campbelltown LGAs, population characteristics in both LGAs need to be examined.

Current population

The population of Liverpool LGA is rising rapidly, mainly due to new residential development. In 2006 there were 164,964 residents, compared to 154,287 in 2001. The estimated population in June 2008 was 176,903 (Source: Council Website). Major new residential development in Campbelltown LGA was completed during the 1980s and early 1990s, and since then the population has been relatively static. In fact, between 2001 and 2006 the resident population fell by approximately 3,000 people, to a 2006 total of 145,841. The estimated population in June 2008 was 149,071 reflecting a small amount of new development in the LGA.

Compared to the rest of Sydney, both Liverpool and Campbelltown LGAs have a higher proportion of children and lower proportion of older residents, especially in the groups 50 years old and above.

The age structure in Liverpool is changing rapidly with the greatest increases among people aged 35-49 and 50-59 year olds. The greatest proportional increase was in children of high school age (12-17 years).

Despite the overall reduction in the resident population between 2001 and 2006, not all age groups were affected equally. There was an absolute increase in all age groups from age 50 upwards, with the largest falls among the 5-11 and 35-49 age groups. This indicates a very fluid population structure reflecting trends in inward and outward migration as much as the maturing of the existing population.

Future Population

The population of the LGA is projected to continue its strong growth. Projections by the NSW Department of Planning suggest that the resident population will exceed 200,000 by 2012 and will reach 229,000 by 2021. This growth depends on continuing residential development, especially of new release land, and is therefore dependent on broader economic factors.

Projections by the NSW Department of Planning suggest that the population of the LGA will grow over the coming decades reaching about 180,000 by 2021. This growth assumes that the LGA will deliver its share of new housing (infill and greenfield) over the period.

Household Characteristics

The population of Liverpool and Campbelltown LGAs differs from the average across the Sydney SD in household type and income. For household types, the area is dominated by families. Couple families with children make up almost half of all households. In keeping with wider trends, the average household size in Liverpool are falling.

The income of households in Liverpool LGA is on average lower than the average for Sydney SD. The LGA has a higher proportion of residents in the low to middle income brackets and significantly lower proportions in the upper brackets, especially $3000 a week and above (4.0% compared to Sydney SD 8.2%).

The average household size in Campbelltown is 3.0 persons, which is higher than the average for Sydney SD (2.7 persons). The income profile of households in Campbelltown LGA shows that it is predominantly a middle income area, with a significantly higher proportion of households earning $650 to $2000 a week in 2006 than the Sydney average. The proportion of high income households with over $2000 a week is much smaller than the Sydney SD average.

Implications for the site

- The successful development of Edmondson Park South is important if the high level of ongoing housing demand in SW Sydney is to be met. Strong population growth is anticipated over the coming decades, particularly in the major cities, and current projections suggest that Liverpool and Campbelltown LGAs must accommodate a significant proportion of Sydney's growth, with housing for approximately 35,000 additional residents needed over the next ten years. This target cannot be achieved without the Edmondson Park development. As a single holding, the Ingleburn site is capable of speedy and well planned development.
- There is a need for more diverse housing. The provision of appropriate housing in SW Sydney is an essential prerequisite to achieving a range of Australian Government policy priorities in the fields of economic development, strong communities, and social sustainability.
- The mix of households in the area in future is projected to include an increasing proportion of small households as well as a more balanced age structure. Greater housing choice is needed to address these needs, and to help ensure that sustainable communities develop, in keeping with key social and economic policy objectives of the Australian Government.
- The proportion of older people in the population will need appropriate housing, and residential areas that allow older people to "age in place" are needed to addresses a key Australian Government policy priority, and help to limit the growth in demand for Australian Government funded residential aged care places.
- The large proportion of low income households need access to appropriate and affordable housing options.

Housing affordability at Edmondson Park

Housing affordability is currently a leading concern for all levels of Government, and the Australian Government currently offers several programs to promote affordable housing supply. The largest of these, the National Rental Affordability Scheme (NRAS), offers subsidies to ensure that approved dwellings can be offered for lease at rents below market levels.

An assessment of housing affordability demonstrates that:

- New housing supply in the area is imperative if demand is to be met. Without this supply, prices can be expected to escalate rapidly, with corresponding declines in affordability. Homes will be needed for a projected additional population of over 50,000 in the Liverpool and Campbelltown LGAs over the next decade, and development at Edmondson Park South will make a substantial contribution to meeting this demand.
- Most existing dwellings are detached family homes (just under 80% of all dwellings) and most have 3 or more bedrooms (85% of all dwellings). More small dwellings will be needed in future to meet the needs of a diversifying population, and particularly the needs of single person households and older people. Planning for Edmondson Park will ensure that this can occur, and will provide for a range of residential densities, and density targets higher than those adopted in past developments. This will include innovative affordable housing options such as strata titled secondary (1 bed/studio apartments) over garages dispersed throughout the development.
- The majority of existing dwellings are not affordable to first time buyers – only 19% of dwellings in Campbelltown LGA and 14% in Liverpool LGA were affordable to households with 50 - 80% of median income in mid 2009, the majority of these being older style homes concentrated in a handful of locations. At the same time, the proportion of households in housing stress is increasing. 6060 renting households and 8332 purchasing households with incomes in the lowest 40% of the income range were estimated to be in housing stress in mid 2009, in each case representing more than half of all households. This underscores the need for more affordable housing products to meet their needs. Landcom is a market leader in meeting the needs of lower income purchasers and seeks specific proposals from potential Joint Venture partners to provide a proportion of moderate income housing in each new development. Efficiencies in development and subdivision, and the promotion of efficient construction techniques and designs, will also be adopted to maximise affordability.
- The supply of rental accommodation in the area is inadequate, resulting in low vacancy rates and escalating rents. There is a need for housing products that appeal to investors. Parts of the Ingleburn site are ideal for construction of various types of integrated housing that can be expected to sell well to investors, especially in locations close to transport and facilities.
- Rental affordability in the area is poor and has declined rapidly over recent years. As noted in this chapter, the percentage of dwellings let at a rent that is affordable to a low income household fell from 82% in mid-2007 to 53% this year in Campbelltown LGA and from 59% in 2007 to 34% in 2009 in Liverpool. Many of the proposed apartments and townhouses at Edmondson Park, as well as dwellings developed through specific affordability initiatives, are expected to appeal to investors and will add to affordable rental supply. Participation in available Government-sponsored affordable housing programs (eg NRAS or its successors) will also be encouraged.
- Current policy seeks to avoid large concentrations of social housing, and it is anticipated that there will be a need for a small amount of social housing in Edmondson Park, dispersed but in accessible locations. The majority of demand

is for 1 and 2 bedroom accommodation. The Campbelltown and Liverpool LGAs are over represented in their proportion of social housing compared to the Sydney Statistical Division (SD). In the interest of creating an inclusive and diverse community, Landcom a proportion of 5% Moderate Income Housing (MIH) is proposed.

- The older population in the Region will double over the next 15 years, and this requires appropriate responses. In addition to creating an urban environment that is attractive to older people, there will also be a need for well located "mainstream" housing that appeals to the older market, in particular villas; purpose-built retirement housing including, potentially, a retirement village; and a proportion of housing that is built to adaptable standards, to permit ageing in place.
- Parts of Edmondson Park are very well located to meet the needs of older people, with good access to transport, facilities and open space. In addition to providing 5% of housing for seniors, Landcom will also examine the feasibility of providing a further 5% of housing as "Adaptable Housing" consistent with Landcom's Adaptable Housing policy.

In summary, there are several significant social needs in the area and the Edmondson Park site is very well positioned to meet some of these. Social goals and/or targets for development of the site include housing affordability and diversity, older people's housing and universal (adaptable) dwellings.

8.14 Community Infrastructure Needs

Edmondson Park has been the subject of a number of planning reports over the last decade relating to its release and rezoning for urban purposes, and this includes a number of documents that identify the community infrastructure needed to support urban development. These planning background documents include:

- Edmondson Park Community Planning Study by Elton Consulting (2003);
- Edmondson Park – Background Report prepared by Civitas Partnership (November 2004); and
- Edmondson Park – Section 94 Background prepared by J.Wyndham Prince (2007).

These studies identified the limited capacity of existing community facilities in Liverpool and Campbelltown LGAs to accommodate the demands of new additional urban development, and a need for additional community facilities.

The studies identified a need for the upgrading and augmentation of a number of city-wide facilities including the Central Library, Liverpool Museum, Casula Powerhouse Arts Centre, Liverpool Indoor Recreation and Entertainment Complex and The Whitlam Centre. The studies also identified a need for a number of district level facilities to service the broader Hoxton Park Stage 2 Release Area (comprising the Liverpool LGA component of Edmondson Park as well Cecil Hills, Hoxton Park, Carnes Hill, Prestons, and Southern Hoxton Park Aerodrome release areas) including District level community centres, Branch libraries, Community Cultural Centre, Youth centre, and a community bus. The studies also identified a need for neighbourhood level facilities at Edmondson Park including 3 primary schools, 1 secondary school, 1 multi-purpose family and children's centre, 2 multi-purpose community centres and 2 childcare centres (each approx 60 places).

These studies form the background to preparation of developer contributions plans for community infrastructure at Edmondson Park. The current contributions plans are:

- Liverpool Contributions Plan 2008 Edmondson Park dated January 2008;

- Campbelltown Section 94A Plan; and
- State Infrastructure Contribution Practice Note November 2008.

Contributions will be provided by Landcom through dedication of land, works in kind and/or monetary contributions towards community infrastructure in accordance with the Liverpool Contributions Plan 2008 Edmondson Park (January 2008) and in negotiation with Campbelltown City Council to meet the needs of future residents. Contributions are being provided for the following community infrastructure:

- community facilities;
- open space and recreation facilities;
- access network; and
- stormwater management measures.

Further details of the community infrastructure to be provided at Edmondson Park as part of the Concept Plan are included in the Statement of Commitments in this report.

The Concept Plan for Edmondson Park also allocates land for the following:

- two primary schools; and
- one secondary school.

Planning Initiatives for Social Sustainability

Landcom's commitment to social sustainability is based on a sound understanding of the social determinants of health and their application to land use. The overall aim is to ensure that new development does not have a negative social impact on existing and future communities. The policy aims to ensure that Landcom developments are socially sustainable places in which to live, work, learn and visit:

- Providing opportunity for mixed communities with diversity in housing and land use. Mixed communities ensure effective utilisation of existing housing and infrastructure; support local economic development; and provide for different lifecycle groups.
- Providing housing product that will enable ageing in place. This will enable people to remain within their existing area, maintaining established community networks and effectively using the housing and infrastructure provided.
- Providing housing product for moderate income households. Access to affordable housing is essential to overall social well-being and Landcom is committed to providing opportunities for delivering housing products for moderate income households.
- Integrating socially, culturally and physically with the existing community. Inclusive development promotes social and cultural harmony while providing improved access to existing services, infrastructure and community networks.
- Ensuring access between new and existing areas. This will ensure access to existing services and infrastructure while supporting healthy/active lifestyles and sustainable transport options.
- Contributing towards community infrastructure which addresses community needs. These needs include lifelong learning, community health, transport, food, employment, information/technology, community safety, public art and social support services.
- Benefiting existing community members as well as the new. This ensures sustainability with better use and coordination of existing and future resources.

The following sustainability opportunities have been identified:

- provision for a diverse community from different socio-economic groups;
- provision of diversity of housing to suit different social and economic need and different life stages;
- implementation of community development programs including Landcom's award winning Welcome Program;
- creating linkages to the adjacent areas to help promote access, interaction and social stimulation;
- creation of a memorable and enduring 'place', the basis for local identity and community building;
- utilising public art as a means of recording/celebrating the site's history;
- provision of appropriate community facilities;
- development of a town centre with an exceptional public domain;
- streets and public spaces designed for formal and informal social engagement;
- a safe and secure environment with very high levels of passive surveillance of the public domain;
- use of existing sports ovals and creation of the Regional Park; and
- the conservation and/or interpretation of items of heritage significance to contribute to social sustainability and in particular the creation of a sense of place and identity, social cohesion and community engagement.

Housing Supply and Diversity

Landcom delivers a wide range of housing types in new and established communities. Housing diversity provides a mix of dwellings to meet the different needs of a wide range of people in society. Landcom has developed a Housing Diversity Guide to encourage housing diversity in new residential areas. Housing diversity is important because it enables neighbourhoods to provide for changing demographics. It also helps address housing affordability and it provides for different lifestyle choices and life stages including young families, single people and retirees. Having a wide range of dwellings makes it easier to meet the diverse housing needs of home owners, renters, investors, families, one or two person households and first home buyers. Ultimately, housing diversity helps create sustainable and diverse communities.

The scheme for Edmondson Park South will implement Landcom's stated principles for successful housing diversity:

- Affordability
- Amenity
- Wide choice
- Integration
- Dispersing moderate income housing throughout the development
- Variety in tenure
- Environmental sustainability

The scheme enables each of these principles to be successfully realised within a staged development.
Recent studies for this submission have identified changing demographics in the area which will be satisfied through a variety of housing forms including apartments, medium density semi-detached dwellings and larger detached dwellings.

Moderate Income Housing (MIH)

Moderate Income Housing (MIH) is housing that is affordable to households on moderate incomes being between 80% – 120% of the median gross household income in the Greater Sydney Region.

Landcom's strategy has been to seek market-based solutions which enable moderate income households to purchase homes. 5% of housing and/or land product for Edmondson Park would be set at MIH price points.

Landcom's focus has been on developing a diversity of innovative housing types that can be priced at levels affordable to those on moderate incomes. This is becoming increasingly difficult in the Sydney market and we are now looking at other strategies to achieve equitable and diverse communities. These include new financing products, development of long-term rental housing and community housing where appropriate. In addition to community housing provision, Landcom's Board has recently approved the initiation of a much closer working relationship with the community housing sector. This could conceivably flow through to community housing provision at Edmondson Park.

Housing for seniors

As part of Landcom's goal to provide a diversity of housing, target 5% of the housing as housing for seniors. This includes all the forms of seniors housing defined under the State Environmental Planning Policy (Housing for Seniors and People with a Disability) including residential care facility, hostel and self-contained dwellings.

Economic Sustainability Initiatives and Job Opportunities

The SSS and Concept Plan provides for a new Edmondson Park Town Centre with capacity for approximately 35,000 – 45,000 m^2 of commercial floor space for retail, office and business uses. This amount of commercial floor space provides for the retail and business services to meet the needs of future residents in the Edmondson Park urban release area. It also provides the opportunity for employment generation in the form of over 1,000 full time equivalent jobs in retail and office uses in the town centre. The precinct is expected to offer employment opportunities in retail, services industries, education, home based businesses, conservation and recreation, transport-related services, and construction.

The adjacent transport corridors of Campbelltown Road, M5 Motorway and south west rail line provide a high level of accessibility to and from other employment lands and centres of business and retailing with job opportunities. This site is within 15 to 20 minutes of planned major employment lands (ie. industrial and business park zones) around Badgerys Creek in the South West Growth Centre, within 15 to 20 minutes of the main Liverpool and Campbelltown city centres and within 5 minutes of the existing Ingleburn Industrial estate. Journey times to Sydney Airport and Sydney CBD from Edmondson Park train station are expected to be 40 minutes and 50 minutes respectively.

Welcome Program for New Residents

The Landcom Welcome Program aims to contribute to the social sustainability of new communities by:

- fostering a sense of belonging for new residents
- promoting a culture of welcome and hospitality, and
- helping new residents settle in to the life of the local and broader community.

The Landcom Welcome Program seeks to achieve this by providing:

- a point of contact for residents
- relevant information about the local area and the services, facilities and programs available, and
- opportunities for residents to meet other community members and develop friendships and networks.

The Landcom Welcome Program comprises personal home visits by the community facilitators including the delivery of a community information pack and a welcome gift, and facilitation of a range of community functions and activities to help the new community members build networks and friendships. Community information packs are tailored to the requirements of each community but generally include information about local services and facilities that will assist new residents to settle in. The community activities organised by the community facilitators range from meetings of small networking groups to the support of regional events. Wherever possible, these activities and events are delivered in partnership with local organizations. This approach builds the capacity of these groups and integrates new residents into the established community. The community facilitators also distribute regular newsletters including information about local events, services, introductions, announcements, development updates and community contacts. Features of Landcom Welcome Programs include:

- Welcome Packs delivered by "Welcome Workers" with info on their new neighbourhood, key information for transport, services and facilities;
- Specific community development programs , which may include things such as a "Walking School Bus" program, bush regeneration etc;
- Community events, such as Christmas carols and family fun days;
- Newsletters;
- Environmental Living Education Kits - i.e. information about how to adopt a sustainable lifestyle in their new community;
- Community Intranet;
- Funding for community initiatives;
- Community Development Committees;
- Neighborhood Associations; and
- Playgroups.

8.15 Non-Residential Uses

8.15.1 Town Centre Floor Space Yield

The draft South-West Sub Regional Strategy (2007) identifies Edmondson Park as a 'Town Centre'. The South-West Sub Regional Strategy describes town centres as being centres that have one or two supermarkets, community facilities, medical centre, schools etc and contain between 4,500 and 9,500 dwellings.

The draft South-West Sub Regional Strategy identifies that based on retail analysis, the Town Centre will provide a minimum of 25,000m^2 of retail uses and 10,000 m2 of commercial uses. It is envisaged under the draft Strategy that the town centre will contain two supermarkets (4,000 m^2), a discount department store (7,000m^2), and a range of speciality shops in a minimum of three development blocks. Finer grained specialty shops are to line the supermarkets and discount department stores, so that an active street edge is presented to the public domain. A cinema complex is envisaged within a few minutes' walk of the rail/bus interchange.

The draft South-West Sub Regional Strategy also identifies that as the civic and community focus for the wider area, the Edmondson Park Town Centre will provide district civic and local cultural and community facilities.

A Centres and Retail Analysis to support the urban release, rezoning and development of the Edmondson Park Precinct was prepared on behalf of Liverpool and Campbelltown City Councils by Patrick Partners (May 2003). A copy of the Centres and Retail Analysis is included at **Appendix W**.

The Centres and Retail Analysis assessed the potential for retail within the Edmondson Park Precinct. It assumed a population catchment of 52,200 people, including the future population within the overall Precinct (i.e. approximately 30,500). The assessment concluded that whilst the major retail and commercial centres at Liverpool and Campbelltown were located some 5 km and 10 km respectively from the Edmondson Park Precinct, there was insufficient provision to the west of Edmondson Park in areas such as Leppington, Denham Court, Austral and Catherine Fields. In addition, access to retail centres from these areas was considered inadequate. The Analysis concluded that with the estimated population catchment, the Edmondson Park Town Centre could operate as a district centre of some 25 - 30,000m^2 retail floor space with two supermarkets (3,000m^2 to 4,000m^2 each) and one discount department store (5,000m^2 to 6,000m^2) as the core component and 10,00m^2 to 15,000m^2 of specialty retail. The estimated 25-30,000m^2 of floor space relates to retail floor space and does not include commercial floor space for office, business and community uses.

Consistent with the draft South-West Sub Regional Strategy, and with the findings and conclusions of the earlier Centres and Retail Analysis, the proposed Edmondson Park Town Centre will be a sustainable, transit oriented and cohesive centre incorporating a mix of retail, commercial, business, civic, community, recreation, residential and mixed use employment with up to 45,000m^2 of retail, business and commercial floor space. It will provide employment opportunities for up 1,000 people. The Concept Plan provision of up to 45,000m^2 of non-residential floor space (commercial, business as well as retail uses) within a new town centre that has excellent access to a railway station will contribute to the use and viability of new the SWRL and Station at Edmondson Park and will satisfy the demand for additional retail floor space within areas to the west of Edmondson Park South as well as incoming residents and workers within the development site itself.

The proposed Edmondson Park Town Centre is located wholly within the Liverpool LGA. Liverpool LEP 2008, and the accompanying Liverpool DCP 2008, have been

gazetted / adopted since the draft South-West Sub Regional Strategy was publicly exhibited in 2007.

Under the existing provisions of Liverpool LEP 2008, the land comprising the future Edmondson Park Town Centre is currently zoned B2 Local Centre and is subject to a number of development standards:

- Maximum FSR of between 2.0:1 and 2.5:1;
- Minimum residential density of 38 dwellings per hectare; and
- Minimum lot size of 300 m^2.

There are no provisions contained within LEP 2008 that specifically control the maximum or minimum quantum of retail or commercial floor space within the Town Centre. The total quantum of non-residential floor space within the Town Centre would be derived on the basis of necessary take up of the available 2.0 – 2.5:1 FSR to satisfy the minimum 38 dwellings per hectare requirement, with the remainder available for non residential uses, including, but not limited to, retail and commercial uses. With a total land area of approximately 39.3 hectares, the existing FSR controls permit a total of approximately 786,000 m^2 to 982,500m^2 of gross floor area within the Town Centre.

Under the Concept Plan, 810 dwellings are proposed within the Town Centre area. Although the size and mix of dwellings is yet to be determined, assuming an average dwelling size of 100m^2 and a design efficiency rate of 80%, this equates to approximately 100,000m^2 residential gross floor area to be accommodated within the Town Centre. The proposed 45,000m^2 of retail, business and commercial floor space, combined with this quantum of residential floor space (and allowing for other non residential floor space including community and civic uses) is consistent with the maximum FSR provisions currently permitted within the Town Centre under Liverpool LEP 2008.

Section 1.3 of Part 2.11 of Edmondson Park DCP 2008 (Hierarchy of Centres) also does not contain any numerical controls relating to the quantum of floor space – either total, or by land use type – for the Edmondson Park Town Centre.

The Objectives for the hierarchy of centres within the Edmondson Park Precinct are:

a) *To ensure an appropriate supply, distribution, and mix of retail, commercial and employment floor space across the precinct.*

b) *To ensure that the retail floor space within Edmondson Park does not undermine the potential of existing and proposed centres within the region.*

c) *To create a compact, vibrant and successful town centre and village centres.*

d) *To encourage the early investment and delivery of employment generating development and retail uses to serve the population.*

With respect to retail and commercial activity, the Character Area Statement for the Edmondson Park Town Centre at Section 1.4 of the DCP states that:

"The Edmondson Park Town Centre will provide the retail and civic focus for Edmondson Park. The centre will feature a large range of intensely developed mixed uses including retail, commercial, residential, community, health, social, recreation and leisure uses....it is envisages that the town centre will contain a range of shops in a minimum of 3 development blocks. Fine grained speciality shops are to line the supermarkets, so that an active street edge is presented to the public domain....The form of buildings in the retail core and retail frame of the town centre will be very urban and compact in character with no front or

side setbacks. Ground floor premises will be characterised by shops, restaurants, cafes and commercial uses that encourage street interaction and contribute to life of the streets and public spaces. Commercial uses and apartments will be located on the upper floors..."

The proposed Town Centre, and the quantum of retail, business and commercial floor space, is considered to be consistent with the objectives and character area statement for the Town Centre contained within Liverpool DCP 2008.

8.15.2 Proposed removal of 3(a) General Business and 3(c) Neighbourhood Business Zones

The 3(a) General Business and 3(c) Neighbourhood Business zoned areas of land under Campbelltown LEP 2002 are proposed to be removed.

The 3(a) General Business zoned area of land is located immediately adjacent to the proposed Edmondson Park Town Centre on the opposite (southern) side of Campbelltown Road. Detailed planning for Edmondson Park South and the new town centre has determined that this quantum of non-residentially zoned land is not required to establish the quantum of retail, business and commercial uses needed to appropriately service the requirements of the future population of the site or its wider catchment. Furthermore, having the town centre straddle Campbelltown Road is not considered to be desirable from an urban design or functionality point of view. The core retail zone and higher density residential development within the town centre is to be located to the north of the centre near to the new railway station. Campbelltown Road forms a logical and appropriate physical definition to the southern edge of the mixed use component of the town centre and it is considered preferable to consolidate non-residential land uses to the north of its alignment.

The 3(c) Neighbourhood Business zoned area of land located to the south of Mont St Quentin Oval was originally intended to perform the function of a local or 'village' centre. At the time of the initial master planning for the Edmondson Park Precinct a series of 'local villages' were envisaged throughout the precinct to serve a number of functions, including as locations for local convenience retail facilities, post boxes, public telephones, focus areas defining neighbourhood cores, meeting and gathering places, and catalysts to increase the level of public transport usage. Specifically, it is understood that the 3(c) zoned land to the south of Mont St Quentin Oval was envisaged to form a neighbourhood based node within a walkable and cycling catchment of the majority of new and existing residents within the Campbelltown LGA incorporating local shops, cafes and other small businesses with associated medium density housing in close proximity to Mont St Quentin oval and the nearby district and local open space facilities.

The Concept Plan and SEPP Amendment proposal do not retain a separate village centre in this location. It is considered that the Mont St Quentin Oval, Heritage Precinct, adjoining local park, and adjacent district sports facilities will create a distinct and legible character within this part of this site, and will form an appropriate neighbourhood node / focus. Under the SEPP Amendment proposal, a range of land uses are proposed to be permissible within the R1 General Residential Zone (which is proposed to be applied to the former 3(c) area of land), and within the RE1 Public Recreation Zone (which applies to the Mont St Quentin Oval and adjoining open space). Permissible land uses will include child care centres, community facilities, food and drink premises, kiosks, markets, neighbourhood shops, shop top housing, information and education facilities, recreation facilities, restaurants etc. It is considered that this scope of permissible land uses within the parklands and immediately adjacent residential areas appropriately allows for the accommodation of uses and activities that will support the creation of a focus within this locality – with sufficient flexibility to respond to market - without retaining a separate business zoning.

9.0 Draft Statement of Commitments

The recommendations of the various consultants reports submitted with the EAR have been incorporated into a Statement of Commitments for the Concept Plan. This includes made in relation to:

- Transport and accessibility
- European heritage
- Design, including landscape
- Bushfire protection
- Social and community initiatives
- Sustainability initiatives
- Water cycle management
- Contamination
- Ecological and riparian

It is noted that where recommendations of specialist sub consultants studies relate to the delivery of State, regional and / or local infrastructure (including land for education, regional and local road works, open space, drainage, community facilities etc), these recommendations have been incorporated into the contributions schedules included at **Appendix O** and are not therefore separately itemised in the revised Statement of Commitments.

Table 25 - Revised Statements of Commitment

Subject	#	Commitment	Responsibility / Timing
Local infrastructure contributions	1	The Proponent will dedicate the land required for a public purpose as identified at Appendix O of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010 on a stage by stage basis to the relevant council free of cost, providing a Material Public Benefit in lieu of s94 contributions, subject to Council's agreement to take ownership of that land and subject to obtaining a satisfactory planning approval.	To be demonstrated at the time of release of the relevant subdivision certificate.
	2	The Proponent will identify the land proposed to be dedicated as identified at Appendix O of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010 at the relevant detailed design stage to the relevant Council for agreement.	To be demonstrated by the proponent at the time of any relevant detailed application.
	3	The Proponent will carry out the works in kind identified at Appendix O of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010 and dedicate those works on a stage by stage basis to the relevant council free of cost, providing works in kind subject to Council's agreement to take ownership of those works and subject to obtaining a satisfactory planning approval.	To be demonstrated at the time of release of the relevant subdivision certificate.
	4	The Proponent will identify the level of embellishment / works for each work in kind item identified at Appendix O of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010 at the relevant detailed design stage to the relevant Council for agreement.	To be demonstrated by the proponent at the time of any relevant detailed application.
	5	The Proponent will be responsible for works in kind, including design, construction, certification, authority approvals, construction and initial maintenance of each of the items identified on the Schedules at Appendix O of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010.	Proponent, ongoing.
	6	The Proponent will maintain any open space and drainage works that are to be dedicated to the relevant Council for a period of 12 months from the date of practical completion of the works, unless otherwise agreed by the Proponent and the relevant authority.	Proponent, ongoing.
	7	The Proponent will maintain any buildings that are to be dedicated to a public authority for a period of 3 months from the date of practical completion of the works, unless otherwise mutually agreed by the Proponent and the relevant Council.	Proponent, ongoing.
Urban design / controls	8	The future detailed design of subdivision and built form within the Liverpool LGA will be generally in accordance with the provisions of Part 2.11 of Liverpool Development Control Plan Edmondson Park 2008, subject to Table 15 of Section 7 of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010, and subject to consistency with the approved Concept Plan.	To be demonstrated by the proponent at the time of any relevant detailed application.
	9	The Proponent will liaise with Campbelltown City Council during the Council's preparation of its Draft Bardia Sub-Precinct Development Control Plan to establish a suitable development control framework to guide the future detailed design of subdivision and built form within the Campbelltown LGA. The future detailed design of subdivision and built form within the Campbelltown LGA will be generally in accordance with the provisions of the Bardia Sub-Precinct Development Control Plan, subject to consistency with the approved Concept Plan.	Proponent, ongoing.
	10	The Proponent will prepare a Staged Development Application that includes all of the land within the Edmondson Park South Project site that will form the future Edmondson Park Town Centre. The Staged Development Application will provide an integrated proposal for the establishment of the key elements of the road network, public domain framework, water cycle management network and distribution of residual development lots for land within the Town Centre. The Staged	To be demonstrated by the proponent at the time of the first relevant detailed application for the town centre.

Subject	#	Commitment	Responsibility / Timing
		Development Application will demonstrate how the objectives for the Town Centre will meet the relevant principles and provisions set out at Sections 1.4 and 3 of Part 2.11 of Liverpool DCP 2008.	
	11	The detailed design of each stage of residential subdivision will demonstrate implementation of the Concept Plan Minimum Number of Lots Plan included at Figure 32 of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.
	12	The detailed design of future development will address the Landscape Strategies and Landscape Strategies contained within the Visual Assessment prepared by Hassell included at Appendix V of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.
	13	Existing significant trees within the Campbelltown Road reservation and on the adjoining ridgeline will be retained where possible and new evergreen street tree planting provided along Campbelltown Road. Public domain streetscape treatment along Campbelltown Road will differentiate between the town centre zone and the conservation zone.	To be demonstrated by the proponent at the time of any relevant detailed application.
	14	The detailed design of development on the slopes within the E4 Environmental Living Zone in the south-western portion of the Edmondson Park South site will retain existing scattered trees where possible, and establish new tree canopy to assist in the screening of new housing in this location. The detailed design of future built form will provide side, front and rear setbacks and landscaped area that consider the visual prominence of this location.	To be demonstrated by the proponent at the time of any relevant detailed application.
	15	The detailed design of development in the E4 Environmental Living Zone along the South Western Freeway edge of the site will ensure that no habitable structures are established within 30 metres of the site boundary to the Freeway reservation, and will retain existing vegetation within private backyards where possible.	To be demonstrated by the proponent at the time of any relevant detailed application.
	16	The detailed design of residential development within the general residential areas will consider planning lot depths deep enough to allow private backyard tree planting to assist in establishing canopy trees that will provide natural shade, amenity and temperature control for dwellings, as well as softening the visual appearance of the development.	To be demonstrated by the proponent at the time of any relevant detailed application.
	17	The detailed design of future built form along the new Zouch Road extension will provide setbacks that contribute to the creation of a high quality streetscape edge to the conservation zone. Street tree planting on the new Zouch Road extension will be informal to respond to the low density character of the area. Side setbacks will consider views from Culverstone Avenue through to the adjoining Conservation Zone.	To be demonstrated by the proponent at the time of any relevant detailed application.
	18	The detailed design of future built form will consider views from Croatia Avenue, Camden Valley Way and Fox Valley Way by retaining existing riparian and mature vegetation wherever possible and providing selective screening in linear riparian parks to screen and buffer new housing. Street tree planting will reinforce the Concept Plan Landscape Plan and create comfortable, pedestrian friendly and shady avenue streets.	To be demonstrated by the proponent at the time of any relevant detailed application.
	19	The Proponent will prepare a Public Art Strategy for the incorporation of public art into the public domain.	To be demonstrated by the proponent at the time of any relevant detailed application.
	20	Bicycle parking will be provided in close proximity to schools and sports facilities, in the Town Centre and at the rail station and will also be encouraged as part of the development of employment and other commercial uses. Other areas of key open space will also have bicycle parking for leisure and recreational use. An additional 50 bike racks (in addition to the 10 bike parking spaces recommended by SWRL) will be provided at the station	To be demonstrated by the proponent at the time of any relevant detailed application

Subject	#	Commitment	Responsibility / Timing
		interchange or the Town Centre to encourage cycling.	
	21	Bus stops will be provided on bus routes at regular intervals, at approximately 400 metres between stops, throughout residential areas, to provide good access to public transport networks and in the town centre. Stops will be strategically placed adjacent to major trip attractors, in the town centre, at schools and leisure facilities. Bus stops will be designed with high standards of infrastructure, to provide shelter, seating, information such as timetable and network map. The facilities provided at each bus stop will be determined by surrounding land uses, account for service frequency and potential patronage.	To be demonstrated by the proponent at the time of any relevant detailed application
Sustainability	22	The provision of parking in the town centre will be co-ordinated and where possible shared across multiple land uses or shared between retail and commuter parking that do not have similar peak parking demands to demonstrate creation of a more walkable, liveable centre, which is not car dominated and ensure balanced access across all modes. Dedicated parking for individual land uses will not be provided and general parking areas should be made available to provide access to town centre employment, retail and services and the rail station, but without encouraging unnecessary vehicle travel.	To be demonstrated by the proponent at the time of any relevant detailed application
	23	Parking provision will encourage short stay trips, with some limited long stay parking for commuters around the rail station and on the fringe of the town centre. Any on-street parking will be limited to short term, disabled and taxi parking.	To be demonstrated by the proponent at the time of any relevant detailed application
	24	The Proponent will liaise with the relevant Councils to review existing and draft development control plans with respect to the rate of parking required for high density residential and non residential land uses in close proximity to the new Edmondson Park Station to reducedcar dependence and encourage uptake of other modes. The implementation of this measure will require further discussion with relevant Councils and may need to revise the DCP, if appropriate.	Proponent, ongoing
	25	Each household will be provided with a household information pack (HIP) which will include a sustainable travel kit. This will be delivered to each new residence upon completion to set out the sustainable travel options available to residents and the specific local initiatives available to encourage sustainable travel. The kit will incorporate public transport leaflets, route maps and timetables (including direction to the 131500 travel information line and website and bus, train and fare information), pedestrian and cycle network maps including leisure maps, and information on sustainable community initiatives, such as Bicycle User Groups, Car Sharing Schemes, the Community Farm/ Garden and Sydney Connect scheme, and other local community projects to reduce travel or encourage uptake of sustainable modes.	Proponent, ongoing
	26	The Proponent will investigate opportunities to develop a household based personalised journey planning (PJP) approach to encourage sustainable travel	Proponent, ongoing
	27	The local community will be encouraged to set up a dedicated Bicycle User Group (BUG) for Edmondson Park, or join an existing BUG which is active in the local vicinity and which works to encourage bicycle use and promotes bicycle rides and initiatives.	Proponent, ongoing
	28	The Proponent will liaise with the Department of Education to encourage preparation of school travel plans for schools within Edmondson Park South to encourage access by walk (such as a "Walking School Bus"), and cycle to help develop a healthy, active culture and meet travel targets.	Proponent, ongoing.

Subject	#	Commitment	Responsibility / Timing
	29	The Proponent will encourage the development of workplace travel plans for new businesses in the town centre, which may be implemented be through the provision of shared area-based initiatives and facilities wherever possible.	Proponent, ongoing.
	30	The Proponent will liaise with Liverpool and Campbelltown Councils to encourage consideration of the councils extending the provision of established car share schemes using an established provider (such as GoGet) to set up a car sharing network for the site.	Proponent, ongoing.
	31	The Proponent will work with Liverpool and Campbelltown City Councils to investigate the establishment of a local community garden and farm to help create social cohesion and a local community focal point as well as ensuring local produce is available for residents. Food Connect Sydney, part of the umbrella Food Connect organisation which originated in SE Queensland, is an organisation which operates to coordinate local food producers and buyers.	Proponent, ongoing
	32	Future detailed applications will accord with BASIX requirements.	To be demonstrated by the proponent at the time of any relevant detailed application.
	33	The Proponent will develop an Environmental Living Education Kit for distribution to future residents including information about how residents can adopt a sustainable lifestyle in their new community.	To be developed by the Proponent prior to occupation of the first dwelling.
Engineering Infrastructure & Utility Services	34	Proposals in respect of the supply of water, sewerage, stormwater, gas, electricity and telephone services within the site, including the adoption of technologies to reduce the demand or need for servicing and the supply of sustainable services, are to be generally in accordance with the Infrastructure Delivery Strategy prepared by JWP included at Appendix N of the Concept Plan Environmental Assessment Report prepared by JBA dated September 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.
Ecology and riparian	35	The detailed design of each stage of the development will provide perimeter roads at the interface of the Regional Park to avoid private residential lots backing on to the Regional Park.	To be demonstrated by the proponent at the time of any relevant detailed application.
	36	Riparian corridors that perform a requisite hydrological function will be maintained in accordance with the Landscape Concept Plan.	To be demonstrated by the proponent at the time of any relevant detailed application.
	37	During construction activities within the development areas of the site, the potential to damage the environmental values of the Regional Park will be mitigated through: 1. Provision of fencing to manage contractors in and around the Regional Park; 2. Provision of signage that identifies the location of critically endangered ecological communities and liability for prosecution under State and Commonwealth legislation; 3. Inclusion of an environmental site induction; 4. Identification of environmental protection requirements in contracts; 5. Installation of sediment control devices (sediment fences, hay bales, ponds) during construction	To be demonstrated by the proponent at the time of any relevant detailed application and during construction activities.

Subject	#	Commitment	Responsibility / Timing
		6. Use of sterile cover crops in spray grass applications; 7. Regular weed management along the interface.	
Drainage and stormwater	38	Future relevant detailed applications will demonstrate consistency with the approved Concept Plan Water Cycle Management Strategy prepared by JWP and included at Appendix H of the Concept Plan Environmental Assessment prepared by JBA Urban Planning Consultants dated March 2010 including the provision of: - A regional detention basin within Maxwells Creek; - A regional detention basin within the Bunbury Curran Catchment; - Bio-retention raingardens located within public reserves and adjacent to the riparian corridors; and - Proprietary gross pollutant traps.	To be demonstrated by the proponent at the time of any relevant detailed application.
	39	At the detailed design stages of the development, a Soil and Water Management Plan will be prepared to outline the methods through which stormwater runoff is controlled throughout the construction phase. The Soil and Water Management Plan is to: - Propose arrangements for regular periodic and event based water quality monitoring and reporting throughout the construction period with particular emphasis on monitoring during larger rainfall events when sediment export is most likely; and - Propose arrangements for ensuring compliance with the Soil and Water Management Plan by constructing agents and contractors operating on site.	To be demonstrated by the proponent at the time of any relevant detailed application.
Indigenous Heritage	40	Archaeological Sites MC3, MC4, MC5, MC6, DD1, DD5, DD6, ISF2, ISF4, EPCS3 identified in the Aboriginal Cultural Heritage Assessment Report prepared by Kelleher Nightingale Consulting Pty Ltd included at Appendix K of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated September 2010 will be identified in a construction environmental management plan, construction heritage sites map and project inductions to ensure they are not inadvertently damaged as a result of construction works. Archaeological sites bordering construction will be fenced off prior to the commencement of construction works to ensure that they are not inadvertently affected as a result of construction work. Fencing will be maintained throughout the duration of works.	Proponent, prior to any relevant works commencing.
	41	Archaeological Sites MC7, DD2, DD3, DD4 identified in the Aboriginal Cultural Heritage Assessment Report prepared by Kelleher Nightingale Consulting Pty Ltd included at Appendix K of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated September 2010 as of moderate to high Aboriginal heritage significance will be the subject of archaeological salvage excavation. Archaeological salvage excavation and surface collection will be carried out in accordance with the methodology specified in Appendix C of the Aboriginal Cultural Heritage Assessment Report. Opportunity will be provided for the local Aboriginal community to be involved in archaeological salvage activities.	Proponent, prior to any relevant works commencing.
	42	Archaeological Sites ISF1, EPCS9, EPCS11, EPCS10, SW2, SW5, SW6, ED1, SWRL1, SWRL2 identified in the Aboriginal Cultural Heritage Assessment Report prepared by Kelleher Nightingale Consulting Pty Ltd included at Appendix K of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated September 2010 will be the subject of archaeological salvage excavation through collection of surface artefacts within the impact area. Surface collection will only occur after project approval is obtained. Collection will be undertaken concurrently	Proponent, prior to any relevant works commencing.

Subject	#	Commitment	Responsibility / Timing
		with the bulk earthworks program). Archaeological salvage excavation and surface collection will be carried out in accordance with the methodology specified in Appendix C of the Aboriginal Cultural Heritage Assessment Report. Opportunity will be provided for the local Aboriginal community to be involved in archaeological salvage activities.	
	43	The management and conservation of Aboriginal heritage in relation to salvage activities and construction activities (or fencing, investigative drilling, minor clearing, establishing site compounds, adjustment to services/utilities etc) will be undertaken as follows: *Responsibility for compliance with Management Policy* 1. The Proponent will ensure all of its employees, contractors and subcontractors and agents are made aware of and comply with this management policy. 2. The Proponent will appoint a suitably qualified and experienced environmental manager who is responsible for overseeing the activities related to this management policy. 3. The Proponent will appoint a suitably qualified and experienced Archaeologist who is responsible for overseeing, for and on behalf of the Proponent, the salvage activities relating to the project. *Operational constraints* 4. Where salvage activities have been nominated for impacted sites, no construction activities (or fencing, investigative drilling, minor clearing, establishing site compounds, adjustment to services/utilities etc) will occur on the lands to be salvaged until the relevant salvage activities at the nominated site have been completed. This restriction only relates to the specifically identified portion of an archaeological site to be salvaged and not the entire archaeological site (unless specified). Construction activities may proceed on the portion of a site not designated for salvage provided they do not impact or impede the salvage excavation and that the area to be salvaged is fenced in consultation with the Archaeologist prior to the commencement of those construction activities. 5. Prior to the commencement of early works activity (e.g. fencing, minor clearing, establishing site compounds etc) a construction heritage site map identifying Aboriginal sites to be excavated will be prepared. The construction heritage site map should be prepared to the satisfaction of the Proponent. 6. All employees, contractors, subcontractors and agents carrying out construction activities (e.g. fencing, minor clearing, establishing site compounds etc) will undertake a Project induction (including the distribution of a construction heritage site map) to ensure that they have an understanding and are aware of the Aboriginal heritage issues affecting the activity.	Proponent, during relevant works.
	44	If potential human remains are disturbed the Proponent must follow the procedures outlined in section 9.7 of the Aboriginal Cultural Heritage Assessment Report prepared by Kelleher Nightingale Consulting Pty Ltd included at Appendix K of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated September 2010.	Proponent, during relevant works.
	45	Any salvaged Aboriginal objects will be relocated as soon as practicable to a temporary storage location pending discussions with the Proponent and Aboriginal stakeholders in relation to a permanent storage location or reburial. In the event that Aboriginal stakeholders choose to undertake a care agreement for the salvaged Aboriginal objects the Proponent will assist in the permit application process. In the event that a suitable storage location or reburial area cannot be identified the Proponent will request in writing that DECCW identify a suitable storage location or reburial area. If reburial occurs, pursuant to s.91 of the *National Parks and Wildlife Act 1974* the location of each reburial area will be notified in writing to the DECCW as soon as practicable after reburial occurs.	Proponent, ongoing.
	46	Where the Proponent reasonably suspects that an incident has occurred that contravenes the management policy referred to in Commitment 43 the Proponent will prepare a written report within 5 days detailing that incident. The report must describe	Proponent, ongoing.

Subject	#	Commitment	Responsibility / Timing
		a. the nature of the incident b. the notification of the environmental manager, and specialist where required c. the nature and location of relevant Aboriginal sites with reference to and provision of maps and photographs where appropriate d. the impact of the incident on Aboriginal sites with the appropriate specialist input where required e. the measures which have been taken or will be taken to prevent a reoccurrence of the incident.	
	47	If, as a result of alterations to the project design, an impact on Aboriginal heritage is considered to be greater than identified by the Concept Plan approval, further consultation with the Aboriginal community will be undertaken by the Proponent. This consultation will either entail a phone call and phone log of comments received or the provision of a report for comment (10 working days).	Proponent, ongoing.
European Heritage	48	All of the heritage items contained within the Ingleburn Military Heritage Precinct will be retained and conserved. Appropriate adaptive reuse of the buildings will be investigated to ensure ongoing maintenance and Conservation.	Proponent, ongoing.
	49	Representative examples of the prefabricated cottages within the Ingleburn Village heritage site as identified in the Concept Plan will be retained and relocated to an open space part of the site. Subject to identification of an appropriate adaptive re-use(s) of these structures, consideration will be given to their placement being organised so that their original relationships to each other can be interpreted, and to their possible placement for adaptive reuse associated with the Mont St Quentin Oval. The process of relocation will be undertaken in association with specialist engineers and conservation practitioners to ensure appropriate methods are used. The future use of the buildings will not involve residential use due to the compromises that would need to be made to the buildings to bring them up to acceptable contemporary standards.	Proponent, ongoing.
	50	Archival recording will be undertaken for all heritage buildings and structures that are to be demolished or relocated.	To be demonstrated by the proponent prior to any relevant demolition or relocation works commencing.
	51	A history of the site (which includes oral history), will be commissioned to address the great social and historic significance of the site. The history project will include a component which addresses the use of standard buildings on site, including collection and consideration of historic plans, site plans and construction drawings for the standard building types.	To be demonstrated by the proponent prior to commencement of any relevant demolition or relocation works in proximity to the Ingleburn Military Heritage Precinct.
	52	A detailed Heritage Interpretation Strategy and specific site works proposed throughout the precinct to implement interpretation of the Ingleburn Army Camp, will be prepared and submitted for comment by the Heritage branch before commencement of construction in proximity to the Ingleburn Military Heritage Precinct. The Heritage Interpretation Strategy will address the relocation and sensitive adaptive reuse of the selected prefabricated cottages that are to be retained and relocated within the open space areas of the site in accordance with the Concept Plan. The retention of the name 'Bambi Kindergarten' will form part of the interpretation strategy for the site and its use will be encouraged for a pre school facility within the site.	To be demonstrated by the proponent prior to commencement of any relevant demolition or relocation works in proximity to the Ingleburn Military Heritage Precinct.
	53	Trees along Campbelltown Road identified in the Heritage Impact Assessment prepared by Tanner Architects included at Appendix J of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010 as of 'High Significance' will be retained within the future development where possible. New trees will be planted in this general location after road widening has been undertaken to assist regaining the sense of Campbelltown Road as a tree-lined drive and as a defining element for the former Defence use of the site.	To be demonstrated by the proponent at the time of any relevant detailed application.

Subject	#	Commitment	Responsibility / Timing
	54	Memorials in the Ingleburn Military heritage Precinct will be retained. The Korean War Memorial will be relocated to the Heritage Precinct.	To be demonstrated by the proponent at the time of any relevant detailed application.
	55	Should any European historical archaeology be discovered during any site excavation works, the required steps under the relics provisions of the NSW Heritage Act and contacts will be followed. Should any European relics be exposed during the Project construction process, work will halt at that location. The nominated excavation director will be called in to assess and determine the appropriate management strategy for the relics. Care will be taken in the establishment and post work rehabilitation of stockpile areas to avoid disturbing potential relics. Archaeological supervision will be established at the time that work on the site commences.	Proponent, ongoing.
	56	The detailed design of any buildings associated with recreational use at the Mont St Quentin Oval will acknowledge the design of former military buildings in this part of the site.	To be demonstrated by the proponent at the time of any relevant detailed application.
Geotechnical / Soils	57	A Soil and Water Management Plan will be prepared for each relevant stage of the development to document proposed management strategies including salinity, soil erosion and surface water management during and post construction.	To be demonstrated by the proponent at the time of any relevant detailed application.
	58	Future detailed applications will include a commitment that if, during construction activities, any Potential Acid Sulphate Soils or Acid Sulphate Soils are disturbed on site, an Acid Sulphate Soil Management Plan will be prepared and certified as appropriate by a suitably qualified person.	To be demonstrated by the proponent at the time of any relevant detailed application.
	59	Future detailed applications will include details of any proposed cut and fill and appropriate assessment of ground conditions in these areas. Future earthworks will be carried out in accordance with AS 3789 and relevant engineering standards.	To be demonstrated by the proponent at the time of any relevant detailed application.
Bushfire	60	Bushfire Asset Protection Zones at known areas of bushland / development interface are to be in accordance with the bushfire protection measures required by the Acceptable Solutions of Planning for Bushfire Protection 2006 as generally illustrated in the Bushfire Assessment prepared by McKinley Morgan included at Appendix I of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated September 2010. The final placement of Asset Protection Zones will be as required in relation to the nature of the specific land use at each interface segment.	To be demonstrated by the proponent at the time of any relevant detailed application.
	61	The detailed design of subdivision and development will provide for a perimeter road system adjacent to open space and the proposed Regional Park to provide separation to the bushfire hazard of 24 – 29 metres as identified in Figure 5 and Table 1 of the Bushfire Assessment prepared by McKinley Morgan included at Appendix I of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated September 2010.	To be demonstrated by the proponent at the time of any relevant detailed application.

Subject	#	Commitment	Responsibility / Timing
	62	Landscaping within the perimeter road APZ system will consider type and application of mulches, plant formation in the context of the separation of tree canopies and the ability to act as a conduit for fire to traverse from any adjoining bushfire hazard. The proponent will prepare management plans for landscaping within the perimeter road system prior to handover to the relevant council.	To be demonstrated by the proponent at the time of any relevant detailed application.
	63	During the detailed design stages, access to the Regional Park from the perimeter road network will be considered with respect to bushfire suppression and mitigation strategies and water hydrants will be provided adjacent to these access points.	To be demonstrated by the proponent at the time of any relevant detailed application.
	64	Access to the north western portion of the Edmondson Park South site will be provided via an extension of Zouch Road to ensure the objectives of Planning for Bushfire Protection 2006 are met.	To be demonstrated by the proponent at the time of any relevant detailed application.
Social and Community Initiatives	65	The Proponent will deliver 5% of total housing for Moderate Income Housing. Moderate Income Housing is housing that is affordable to households on moderate incomes being between 80% - 120% of the median gross household income in the Greater Sydney Region.	Proponent, ongoing.
	66	The Proponent will target delivery of 5% of total housing for Seniors Housing. This includes all forms of seniors housing defined under State Environmental Planning Policy (Housing for Seniors and People with a Disability) including residential care facility, hostel and self-contained dwellings.	Proponent, ongoing.
	67	The Proponent will develop a Welcome Program for the Edmondson Park South Project. The Welcome Program will be tailored to the incoming community and will include distribution of 'welcome packs' delivered by 'welcome workers' providing new residents with information on their new neighbourhood, and key information for services and facilities including bus and train timetables will identify specific community development programs, community events, newsletters and the like. Community development initiatives to be included in the Welcome Program may include community intranet, funding for community initiatives, community development committees, neighbourhood associations, playgroups, newsletters, community development programs, and community events.	To be developed by the Proponent prior to occupation of the first dwelling.
	68	An on-going program of information to and consultation with the surrounding community is to be implemented as planning for the site continues. This will include regular updates (for example via a project website) or press articles to keep people informed of progress, and further consultation with key stakeholders around the detailed design of the development.	Proponent, ongoing.
Demolition works	69	An Environmental Management Plan (EMP) will be prepared by a suitably qualified person. The EMP will detail surface water and ground water management; air quality management; noise and vibration management; waste management and demolition traffic management. The site traffic control recommendations for each worksite gate entry or exit point (including all appropriate signage) will be determined by means of a "Traffic Control Plan" to be prepared by an RTA accredited contractor. Each site entry and/or exit gate number and the name or other description of its proposed activity should be clearly signposted for the benefit of all approaching site traffic, in particular emergency services vehicles.	Proponent, prior to commencement of demolition works.
	70	A Demolition Work Method Statement will be prepared by a suitably qualified person who is registered with the Work Cover Authority. The Statement will comply with AS2601-1991 Demolition of Structures, the Occupational Health and Safety Act 2000 and Regulation, the Waste Management Act 1995, and all other relevant acts and regulations.	Proponent, prior to commencement of demolition works.

Subject	#	Commitment	Responsibility / Timing
	71	A Tree Management Plan will be prepared by a suitably qualified person with the relevant tree protection measures to minimise any potential impacts on the trees to be retained.	Proponent, prior to commencement of demolition works.
	72	Prior to any proposed demolition works, a Hazardous Materials assessment is to be undertaken for any building proposed to be removed. This will allow the creation of a register of hazardous materials, which will directly influence the method of demolition.	Proponent, prior to commencement of demolition works
Remediation works	73	Remediation works on land as identified in the Remediation Action Plan will be carried out in accordance with the Remediation Action Plan (RAP), Environmental Management Plan and Contamination Management Plan prepared by Golder Associates included at Appendix G of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants dated September 2010.	Proponent, subject to conditions of Concept Plan approval
	74	Prior to the commencement of any earthworks, an Unexpected Finds Protocol relating to the potential existence of isolated occurrences of contamination is to be developed in accordance with the requirements of any relevant Remediation Action Plan (RAP).	To be demonstrated by the proponent at the time of any relevant detailed application
	75	Prior to the decommissioning of the Sewer Treatment Plant (STP), detailed site investigations will be undertaken by a suitably qualified person to identify any remedial works. This investigation will inform the preparation of a Remediation Action Plan (RAP), if required. Decommissioning works will be carried out in accordance with the relevant RAP and Site Audit Statement is issued by a NSW DECCW accredited Contaminated Land Site Auditor.	To be demonstrated by the proponent prior to decommissioning works and before transfer of the land to DECCW.
Acoustic	76	The detailed design of future development will address the recommendations contained within the Noise and Vibration Impact Assessment, prepared by Wilkinson Murray included at Appendix U of the Concept Plan Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated September 2010.	To be demonstrated by the proponent at the time of any relevant detailed application

10.0 Conclusion

Landcom is proposing to deliver a mixed use development within Edmondson Park South that meets the State Government's objectives to increase housing supply, provide community benefits and create jobs. The development will assist in revitalising what is currently an under-utilised area of South-Western Sydney.

A variety of housing types is proposed to be delivered. The range of densities will enable a range of dwelling types, allow for social and demographic diversity and provide a proportion of dwellings at affordable price points. The project includes a specific component of moderate income housing and seniors housing.

The commencement of this project will provide a catalyst for development within the wider Edmondson Park Release Area, which is currently unable to proceed pending the delivery of significant new lead in services infrastructure. Landcom proposes to deliver a significant component of the lead in infrastructure required to allow development to proceed including connection to the Sydney Water sewer carrier main at Ash Road.

The project will support and promote transit oriented development in proximity to the new South West Rail Link. The proposed Edmondson Park Town Centre, which includes the Edmondson Park Railway Station is proposed to accommodate up to 45,000m^2 of retail, business and office floor space and provide job opportunities for some 1,000 workers.

The project also establishes the new 150 hectare Regional Park securing long term agreed conservation outcomes within the South West Growth Centre. In addition to the establishment of the Regional Park, the proposal also provides for the sympathetic management of open space containing Cumberland Plain Woodland on other parts of the site. A fundamental objective of the project is to maintain the Biodiversity Certification Order and the existing Conservation Agreement which provide the long term conservation outcomes for biodiversity, and particularly for Cumberland Plain Woodland.

The project is consistent with and will assist in the delivery of key outcomes set out in the NSW State Plan and the South West Sub-Regional Strategy by contributing to the supply to market of appropriately located land to sustainably accommodate the projected housing and employment needs of the region's population over the next 25 years. Edmondson Park South proposes to accommodate 3,200 residential dwellings, a significant component of the new dwelling requirements for Liverpool and Campbelltown LGAs proposed in the strategy.

The Concept Plan retains and protects a number of identified heritage items within the site including the Ingleburn Military Heritage Precinct, the Mont St Quentin Oval and entry gates as well as the adaptive re-use and relocation of a group of three prefabricated cottages.

The Concept Plan incorporates planning for identified community facilities and services for the whole of the site. It demonstrates that adequate provision for community infrastructure, including land in appropriate locations, is planned for in line with the proposed development staging.

The suitability and capacity of the site for the proposed range and intensity of uses taking into account the site's regional context and environmental, economic and social opportunities and constraints has been addressed at the strategic level through the Growth Centres SEPP and its rezoning in 2006. Likewise, the Concept Plan is supported by a range of detailed environmental studies and investigations that have addressed the urban capability of the land and provided appropriate strategic justification for development of the site.

The Draft Statement of Commitments for the project provides for the mitigation of any potential adverse impacts that may result from the development.

Edmondson Park South is worthy of the Department's approval and will result in a number of key benefits for South-West Sydney.