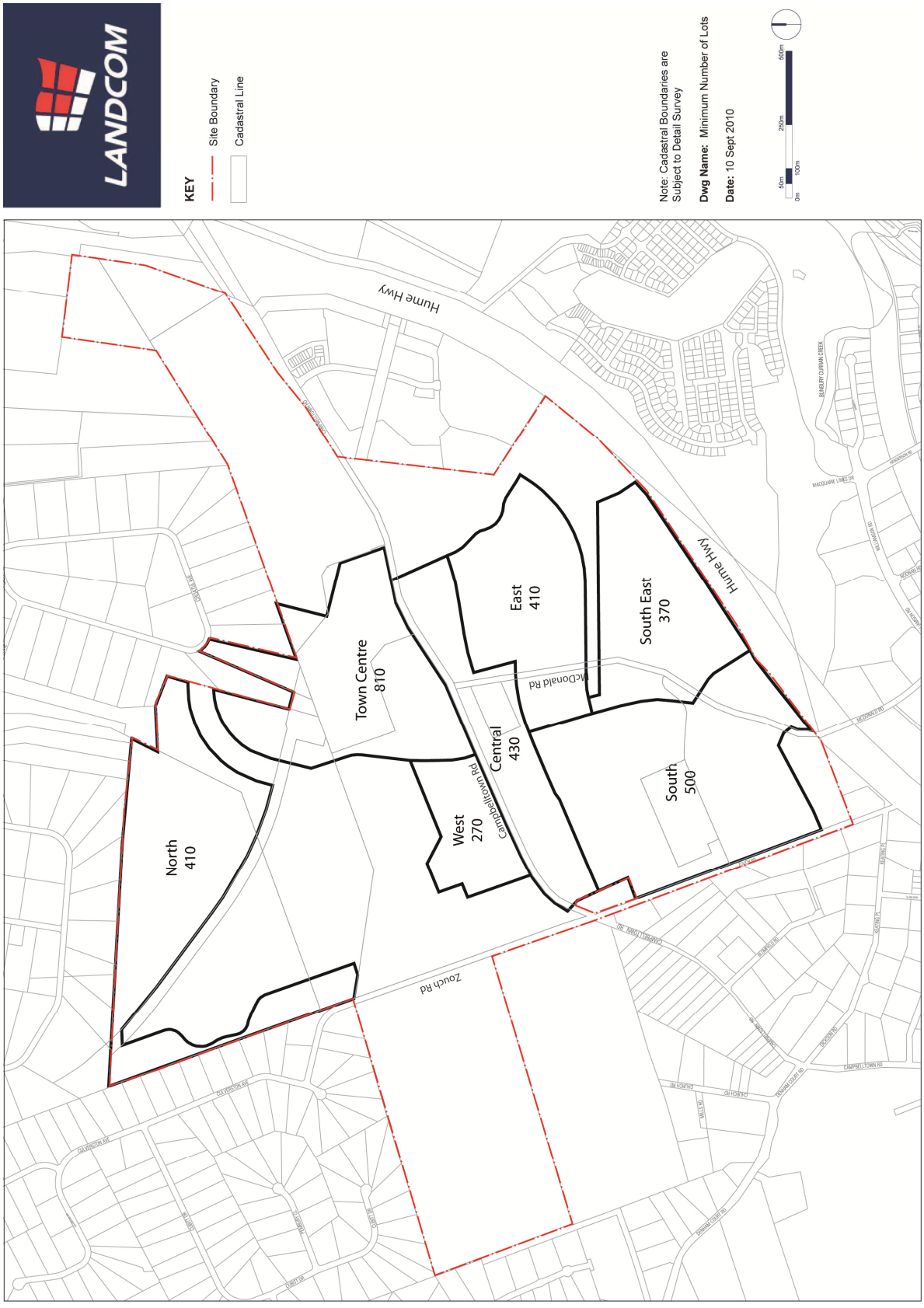

Figure 21 - Concept Plan Dwelling Yield

Dwelling Mix

The mix of housing forms to be provided within Edmondson Park South will encourage population diversity and help create a socially balanced and stable community. The development will provide housing choice to satisfy the needs of a wide spectrum of households, at differing life cycle stages, and with varying socio-economic circumstances and lifestyle preferences.

The indicative dwelling mix is:

Dwelling Type	Proportion of mix
Detached Housings	40%
Secondary Dwellings (lofts/ studios)	5%
Attached Housing, Dual Occupancies, Semi-detached housing	20%
Multi-unit Housing	15%
Residential Flat Buildings	20%

The Concept Plan does not seek approval for the above indicative mix and specifically does not pre-determine the number of dwellings or mix within each stage of the development. Dwelling mix is subject to change over the significant time period for implementation of the development as market requirements change. The actual dwelling mix and yield for each dwelling type will be determined as part of future detailed applications for each development stage. The project will target 5% of all 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.

The project will also target 5% of all housing as Moderate Income Housing (MIH), housing that is affordable to household on moderate incomes being between 80% - 120% of the median gross household income in the Greater Sydney Region (e.g. police officers, paramedics, teachers, nurses). MIH will be dispersed throughout the development and will not be able to be differentiated from other dwellings.

Minimum Lot Sizes

Within the general residential neighbourhoods, residential lot sizes will range from 125 m^2 to 1,500m^2. Within the environmental living areas lot sizes will range between 900 m^2 to 10,000m^2.

The range of dwelling types and minimum subdivision lot sizes for which Concept Approval is sought within the general residential areas are set out below (refer to **Table 8**):

Table 8 - Proposed minimum subdivision lot sizes

Dwelling Type	Minimum allotment size
Dwelling houses	250m^2
Semi-detached dwellings	250m^2
Dual occupancy	500m^2
Secondary dwellings	250m^2
Attached dwellings	125m^2
Multi-dwelling housing	1,500m^2
Residential Flat Buildings	1,500m^2

The smallest lot size proposed within the general residential zone is 125 m^2. This is consistent with that being delivered in other recent Greenfields residential land

release areas, including the South West Growth Centre. No minimum lot size is proposed within the Town Centre.

4.5.2 Town Centre

The Concept Plan provides for the 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.

The Edmondson Park Town Centre will be the focus of activity and will comprise a mix of land uses, including local retail, residential, office, community and educational facilities (within proximity), with a high level of integration between uses and functions. The mixed use nature of the centre will allow living, learning, working and playing to exist in harmony and convenience. Importantly, it will also contain some higher density residential uses, such as shop top housing and residential flat buildings, ensuring that people will live in the Town Centre as well as work, shop and play there.

This amount of non-residential floor space 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 key features of the urban design concept for the Town Centre are:

- The Town Centre extends north from Campbelltown Road and across the South West Rail Link. The centre has a main street and is pedestrian friendly by prioritising pedestrian and cycle movement to and from the centre as well as within it.
- There are two street connections over the rail line connecting the two parts of the centre. The Town Centre is structured around the Main Street where activity will be concentrated. The Main Street town centre will be the next evolution after Rouse Hill, generating and focussing business and community activity in the town centre with a mix of retail, commercial and community uses adjacent to the main rail/ bus interchange.
- The Town Centre will provide employment opportunities for approximately 1,000 workers and will meets the business services and retail needs of the future residential and worker community.

4.5.3 Schools

The Concept Plan includes the preferred location of an expanded Ingleburn North Primary School and new combined Primary/High School site on the northern side of Campbelltown Road. The new combined Primary/High School site will result in the existing land identified for a future school to the north of the Edmondson Park South site no longer being required for education purposes. The future use of the former school land is not the subject of this Concept Plan proposal. The SEPP amendment proposal does, however, suggest an appropriate future zone for application to this land for the consideration of the Department.

4.6 Heritage

The Concept Plan proposal retains the following heritage items:

- Ingleburn Military Heritage Precinct (Part of Lot 2 in DP 831152);
- Mont St Quentin Oval including entry gates and flag pole (Part of Lot 2 in DP 831150); and
- the group of three Riley-Newsum prefabricated cottages on the southern side of Bass Road within the former Ingleburn Village (Part of Lot 1 in DP 831152).

The Mess Hall and Lecture Hall Building (Nissen Hut) are not proposed for retention as heritage items on the basis that these are to be demolished by Defence under Commonwealth approval processes prior to the transfer of the land to Landcom.

Two of the existing Amals Sagvert Aktiebolag (ASA) cottages located in the Ingleburn Village site are proposed for demolition under the Concept Plan.

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. The Mont St Quentin Oval including entry gates and flag pole will be retained and refurbished within a new district park (subject to detailed design of Campbelltown Road).

The three heritage significant Riley-Newsum prefabricated cottages are intended to be relocated into future local open space. 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.

4.7 Conservation and Open Space

The Concept Plan Open Space Network is shown at **Figure 22**.

The Concept Plan Open Space Network will deliver a combination of conservation, passive and active recreation opportunities. It encompasses the proposed site riparian corridors (refer to Section 4.8) as well as other open space corridors, a number of conservation reserves, regional, district and local parks.

The landscape and open space vision for Edmondson Park South is to:

- Create an overall landscape setting that responds to the sites natural assets including natural systems, topography and vegetation.
- Create an accessible, integrated, diverse, safe and adaptable network of open space, facilities and landscape with an identifiable character and sense of place.
- Protect fauna and flora habitats through the creation of conservation areas.
- Protect and enhance watercourses and riparian vegetation.
- Create parks and streets that celebrate the natural landscape and the needs of the surrounding community.
- Create parks and streets that are of a high quality and which promote local character and identity.
- Provide pedestrian and cycleway connections through the conservation lands and with regional beyond the site;
- Provide large shady trees as relief from the new urban environment.

A Landscape Concept Plan prepared by Hassell is included at **Appendix P**.

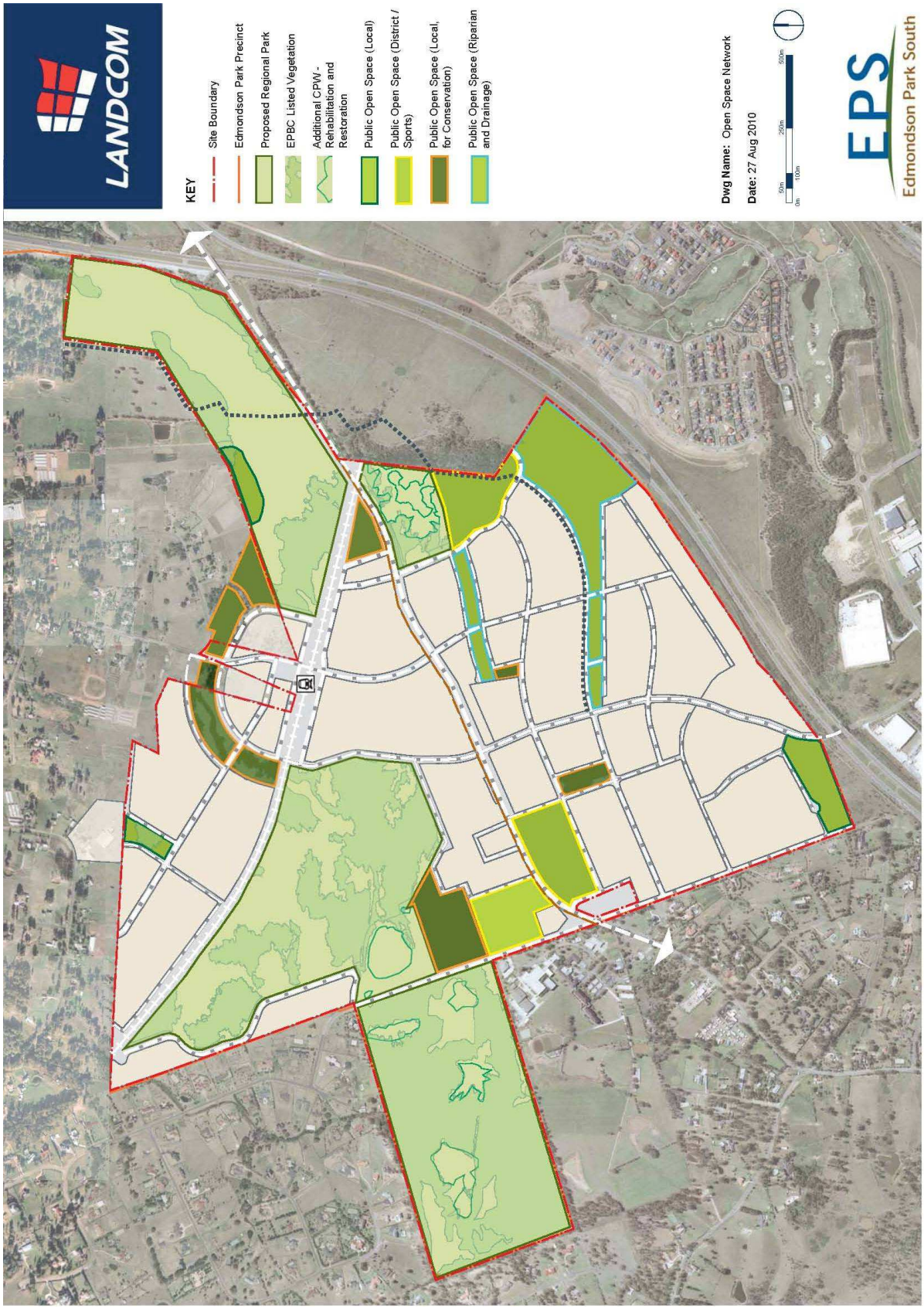

Figure 22 - Concept Plan Open Space Network

Regional Park

The establishment and ongoing management of the future Regional Park will occur in accordance with the Edmondson Park Conservation Agreement and Statement of Interim Management Intent (refer to Sections 1 and 5).

The Concept Plan proposes a boundary adjustment to the Regional Park.

The proposed Regional Park boundary adjustment involves the incorporation of an area of approximately 1,650 m^2 containing high quality vegetation that is currently within the developable and certified area of the site into the future Regional Park.

A corresponding area of land is to become part of the urban area. The proposed boundary adjustment will result in 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 that has not been mapped as ENV (a total of 1,650m^2).

The location of the proposed boundary adjustment is shown on **Figure 23**. The proposed boundary adjustment will be facilitated by a modification to the existing Edmondson Park Conservation Agreement and is reflected in the SEPP Amendment proposal.

The area that will 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. The area that will 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.

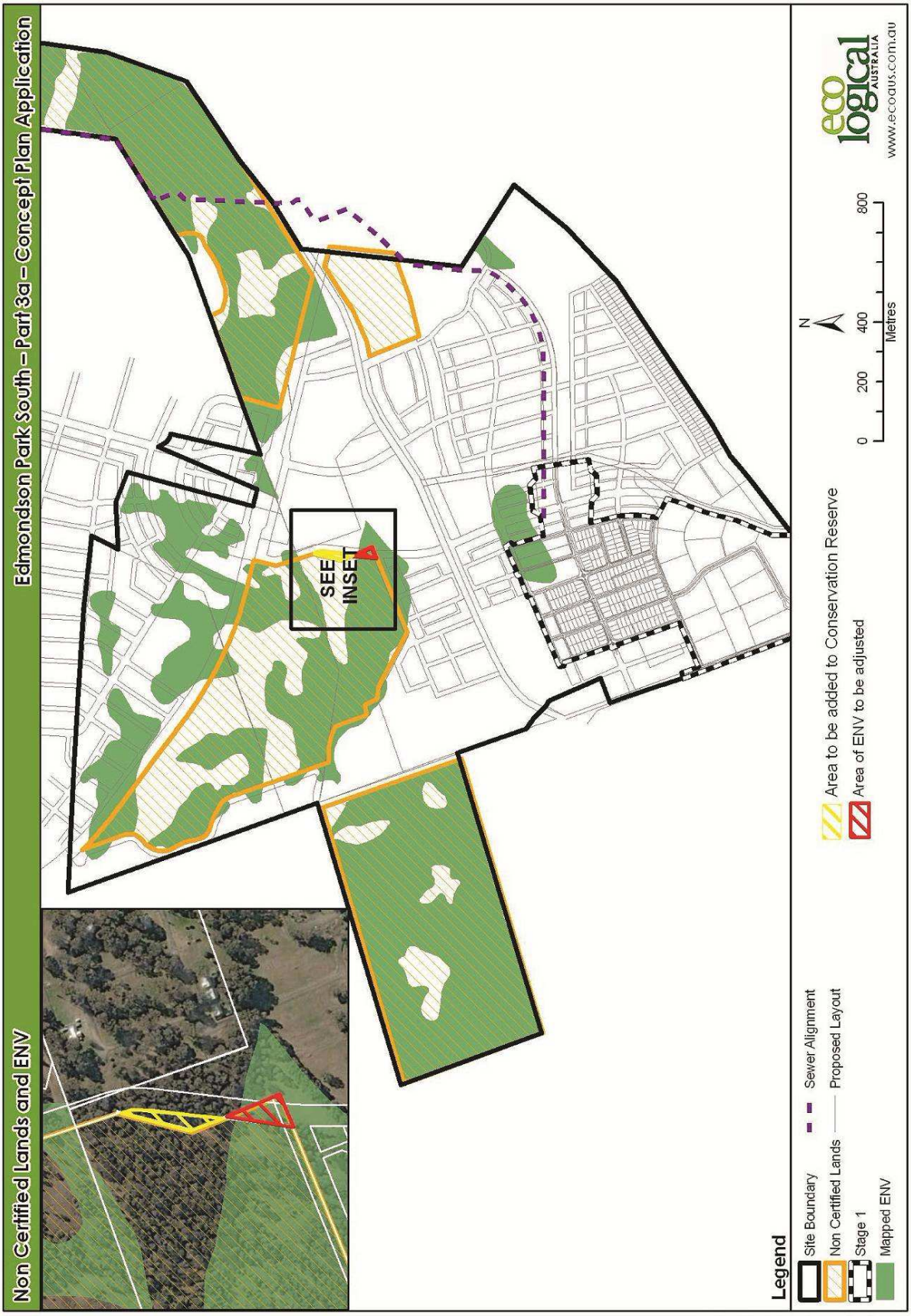

Figure 23 - Proposed Regional Park boundary adjustment

Public Open Space

The proposed indicative location locations and categories of various parks to be developed within Edmondson Park South are shown on **Figure 22**. Further detail with respect to local open space is provided on the Landscape Concept Plan at **Appendix P** and in Section 5.

For local and district parks, the key landscape principles include the following:

- Create a network of connected parks within walking distance of new houses and which readily link in with other key urban places and services.
- Provide parks which are flexible and can be used by a number of people for a range of purposes.
- Provide parks that can be adapted to new opportunities and changes in future demand.
- Ensure that the location, design and management of parks is based on the principles of sustainability.
- Provide wetlands, bio-retention gardens and detention basins to achieve storm water control and quality targets in accordance with water sensitive urban design best practice standards.

Public open space provision includes:

- 6 areas of passive open space including interpretative plaques, opportunities for public art, children's playground equipment;
- Upgrade and refurbishment of Mont St Quentin Oval including new field, cricket pitch, BBQ area, children's play ground facilities, landscaping, lighting, viewing platforms and amenities;
- Land and embellishment of two local parks;
- Road and traffic facilities and upgrades;
- Drainage and riparian works;
- Land and construction of footpaths and cycleways; and
- Land and construction of bus shelters.

It is proposed to dedicate all parks to the relevant Council. The final location of open space is subject to resolution at the detailed design stage. Further detail with respect to proposed embellishment and timing of provision for local open space is provided at Section 5.

Streets

Streets connect people and provide an opportunity to create a memorable landscape setting for new communities. They are a major component of the public domain and will influence the quality of life of future Edmondson Park residents.

For streets, the key landscape principles include the following:

- Create a clear landscape hierarchy and character of major and local streets.
- Provide a high quality landscape continuously along each street to reinforce the overall landscape vision.
- Create comfortable, safe, pedestrian friendly, shady avenue streets.
- Creating strong visual avenue tree planting using native evergreen species.
- Providing a sustainable ground plane of native grasses and groundcover planting where possible.

4.8 Riparian Corridors and Water Cycle Management

The Concept Plan Water Cycle Management Strategy for Edmondson Park South is illustrated at **Figure 24** and detailed in the Water Cycle Management Plan prepared by J Wyndham Prince included at **Appendix H**.

The Edmondson Park South development will incorporate best practice water cycle, groundwater, soils, water and flood management practices.

Key Water Cycle Management measures adopted include:

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

The Water Cycle Management Plan incorporates retained site riparian corridors including the Maxwells Creek Riparian Corridor, Central Riparian Corridor (Corridor A) and Southern Riparian Corridor (Corridor B) and the small segment of Cabramatta Creek that crosses the north-western tip of the site.

The Cabramatta Creek Riparian Corridor is to be retained in private ownership within the E4 Environmental Living zone. The retention and management requirements for the riparian will be detailed at the time of subdivision of this area of land.

The Maxwells Creek Riparian Corridor is to be retained as a Stream Order 1 riparian corridor (Shrahler Categorisation). The retention and management requirements for this corridor, where it sits outside the Regional Park will be detailed in the relevant application for the creation of the proposed public open space within which it is located. The remainder of the creek corridor (and its tributaries) are to be managed as part of the overall management of the Regional Park.

The Concept Plan proposes:

- to widen the corridor width of the Central Riparian Corridor (Corridor A) from 30 m to 45 m (an increase of 15 m) comprising:
  - a creek bed and bank width of 5 metres;
  - a Core Riparian Zone of 10 metres from the top of the banks on both sides; and
  - a Vegetation Buffer of 10 metres on each side of the watercourse.
- to reduce the corridor width of the Southern Riparian Corridor (Corridor B) from 80 m to 45 m (a reduction of 35 m) comprising:
  - a creek bed and bank width of 5 metres;
  - a Core Riparian Zone of 10 metres from the top of the banks on both sides; and
  - a Vegetation Buffer of 10 metres on each side of the watercourse; and
- to reduce the length of the Southern Riparian Corridor (Corridor B) from 1,300 m to 900 m (a reduction of 400 m).

The CRZs will comprise assisted regeneration areas of existing natural vegetation with supplementary planting as illustrated on the Typical Riparian Cross Section included in the Water Cycle Management Plan.

No change to the open space areas containing riparian corridors within the northern portion of the site (i.e. land to north of Campbelltown Road) is proposed. The Maxwells Creek Riparian Corridor is retained in public open space for conservation, or within the Regional Park.

Raingardens are proposed as the primary on-site water treatment system to remove fine sediments and nutrients from stormwater flows. Stormwater flows up to the 3 month ARI event will be fed into the raingardens via stormwater pipes, with first flush flows passing via a Gross Pollutant Trap first. It is proposed that the raingardens will be located on the outer edge of the VB with the surface covered with endemic grass and sedges.

A large dry detention basin with a pipe culvert outlet is proposed on Maxwells Creek to the south of Campbelltown Road. This basin serves to restrict 5 and100 year ARI flows post-development to flow levels consistent with those prior to this development of the site. The proposed basin is consistent with the original basin proposal by made by GHD in 2003, and has been configured not to impede minor flows up to the 3 month ARI. XP-RAFTS modelling has been undertaken to ensure that peak discharges from the basin are adequate to restrict flows to pre-development levels.

The basin will be planted with endemic ground cover, shrubs and trees and will allow for the up- and downstream migration of terrestrial fauna within the creek system. A CRZ will be maintained around the eastern edge of the basin to provide fully structured riparian vegetation that does not interfere with the basin embankment.

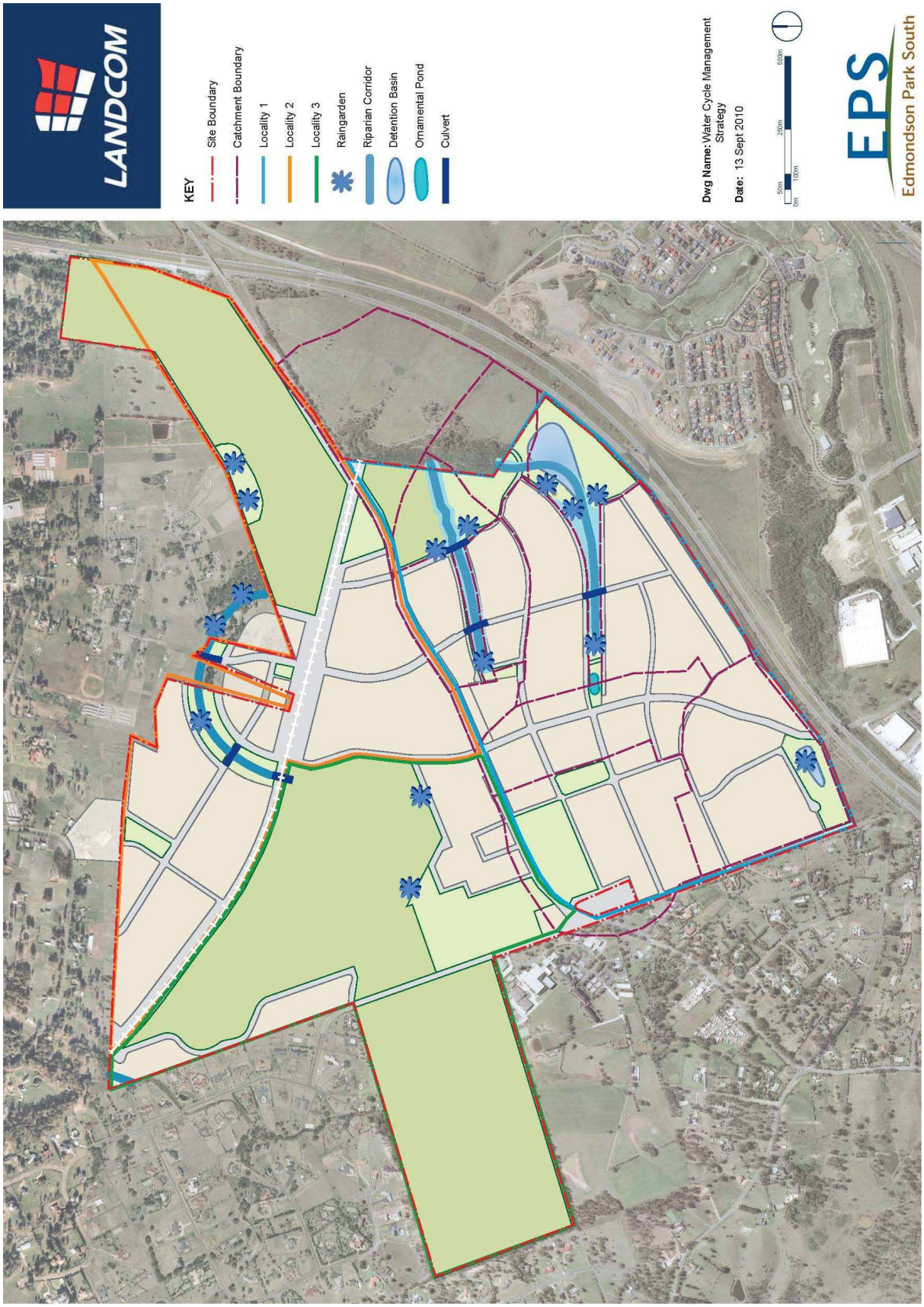

Figure 24 - Concept Plan Water Cycle Management Plan

4.9 Access and Transport

The proposed Concept Plan Road Network Hierarchy is illustrated in **Figure 25**.

The transport goals for Edmondson Park South are to:

- Reduce car dependency;
- Promote public transport;
- Provide safe and convenient movement; and
- Create a transit oriented, accessible and connected development.

The key features of the Road Network Hierarchy are:

- A street network that maximises north-south and east-west permeability.
- A hierarchy of roads and paths to provide clear and convenient access links throughout the precinct and particularly between key urban places.
- A street and path network that links the residential areas and schools to the Town Centre.
- Signalised intersections at key locations to create good connections between residential areas, the town centre and railway station. These are the fundamental connections that will allow residents to walk to the railway station and Town Centre.
- Pedestrian friendly streets, with footpaths on both sides, street trees and green verges (paved in the Town Centre); improving permeability to other business centres, employment lands and community facilities in surrounding localities by connecting:
  - Ingleburn Gardens to Campbelltown Road via a road connection south of the Maxwells Creek South Conservation Area;
  - Denham Court (south of Campbelltown Road) to Campbelltown Road via the new road network between Zouch Road and Macdonald Road; and
  - Future Edmondson Park North to Campbelltown Road via the new South West Rail Link bridge crossings at Croatia Avenue and Macdonald Road.
- Public streets with good surveillance create a safer walkable community.
- Walking and cycling networks designed to provide for both commuter and recreation users.
- Higher density housing located within walking distance of the Edmondson Park Town Centre, new railway station and bus/rail interchange.

Internal Road Network

Key features of the proposed internal road network are:

- A revised proposal for Campbelltown Road. Campbelltown Road is the main east-west connection through Edmondson Park South and is located to the south of the proposed Town Centre. The revised proposal for Campbelltown Road comprises:
  - a 38.8 m wide road reserve, reducing to 34.5 m adjacent to the Ingleburn Military Heritage Precinct and Mont St Quentin Oval and entry gates;
  - provision of signalised intersections at key locations; and
  - a designed speed limit of 70 km per hour and speed limit of 60 km per hour.

The revised proposal will enable efficient and safe crossing of the road by pedestrians, cyclists, buses and cars. Signalised intersections at key locations to create good connections between residential areas, the town centre and railway station;

- An alternate access to Edmondson Park South from Camden Valley Way via Croatia Avenue;
- A secondary north-south road (Town Centre Main Street) across the South-West Rail Link corridor that connects Croatia Avenue and Campbelltown Road
- The realignment of Macdonald Road approximately 200 m to the west of the existing road (south of Campbelltown Road) and the extension further north over the South West Rail Link to become the main north-south road that connects Croatia Avenue, Campbelltown Road and Williamson Road at Ingleburn.
- Provision of three signal controlled intersections control vehicular access on Campbelltown (to provide safe and efficient access to the railway station, town centre and residential areas)at the following locations:
  - the eastern town centre access road;
  - the Town Centre Main Street (with restricted right turn movements from all approaches); and
  - the intersection of Macdonald Road and Campbelltown Road.
- Construction of the southern end of Zouch Road (two lane) to the existing turning facility, reconstruction of turning facility and provision of an emergency access from the turning facility to the southern edge of the environmental living zone within the southern portion of the site.

Concept Approval is sought for the road cross sections and road design standards included at **Appendix Q**. Future detailed applications will comply with the road reserves and design criteria at **Appendix Q**.

The proposed 38.8 m Campbelltown Road reserve width provides:

- 32 m setback from the southern edge of the road reserve to Ingleburn North Public School creating the scope to "sleeve" the school from Campbelltown Road; and
- the capacity to pass the road corridor through the 50 m between the sections of Regional Park to the north and south of Campbelltown Road.

The reduced section for Campbelltown Road in the Heritage Precinct of 34.5 m is able to pass between the Mont St Quentin Oval entry gates and the Ingleburn Military Heritage Precinct (34.69 m between heritage items) without impact on either of the heritage items.

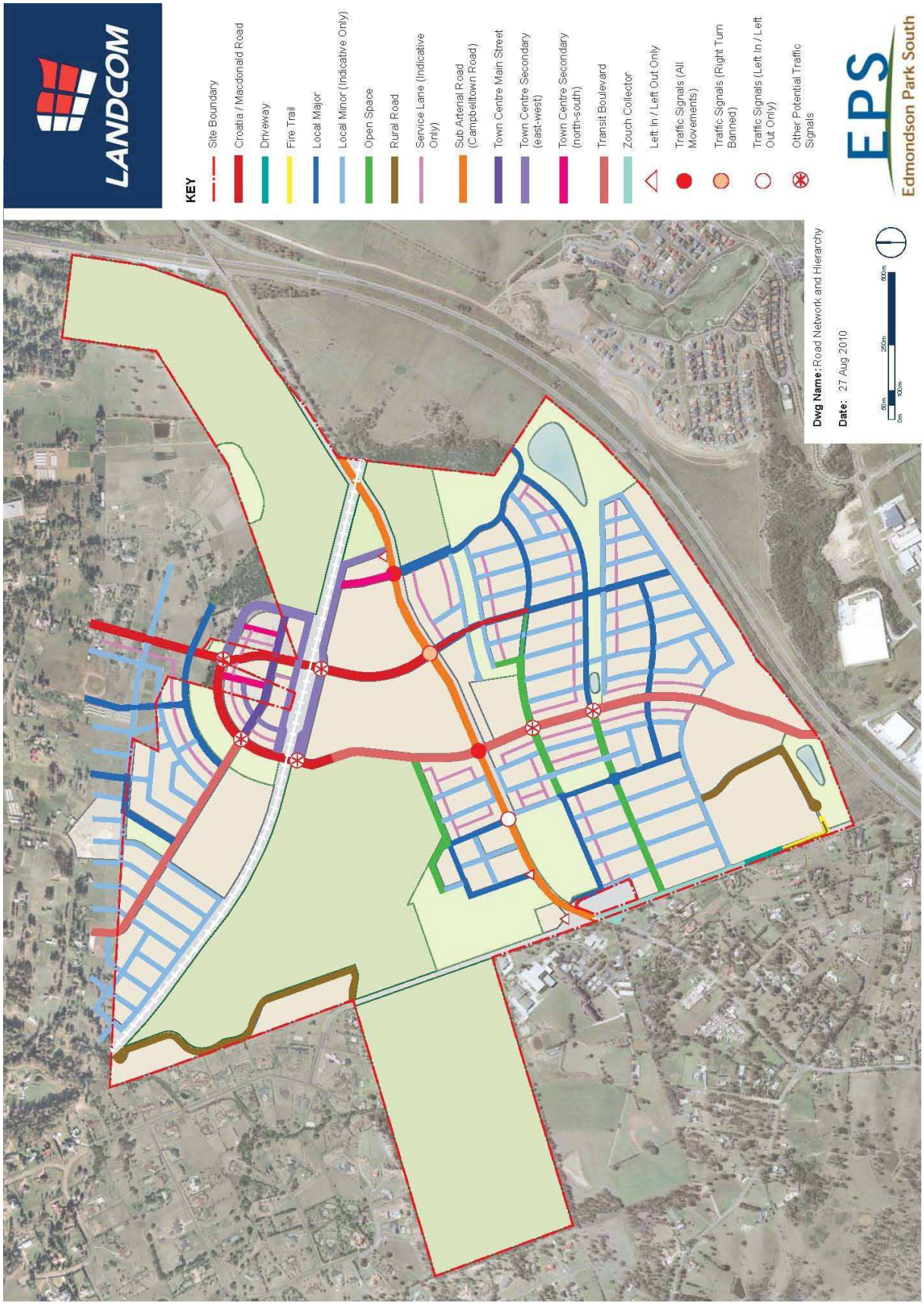

Figure 25 - Road network hierarchy

4.9.1 Pedestrian, Cycle and Public Transport

The Concept Plan Pedestrian, Cycle and Public Transport Network is shown at **Figure 26**.

Walking and Cycling Network

Edmondson Park South has been designed to be highly permeable for pedestrians and bicycles. The key features of the proposed walking and cycling network are:

Crossings over South-West Rail Link

Three pedestrian / cyclist crossing opportunities are provided over the SWRL in the Concept Plan at the following location:

- Macdonald Road bridge crossing (to the west of the station);
- Croatia Avenue / Town Centre Main Street bridge crossing (to the east of the station); and
- Bridge crossing connecting Ingleburn Conservation Area and the co-located primary and high school situated to the northwest of the station.

These crossings will facilitate pedestrian / cyclist movements between the station, Town Centre, schools and the Regional Park.

North-South Networks

- Provision of four main north-south walking / cycling corridors across Edmondson Park South. These links are served by signalised crossings to ensure safe crossings points are provided for both pedestrians and cyclists.
- A 2.5 m wide off-road shared pedestrian / cycleway path is provided along Croatia Avenue and the realigned Macdonald Road. This link will convert to an on-road cycle path along the Town Centre Main Street. A recreational cycle path is also proposed to the east of the Town Centre connecting the riparian parks to the south of Campbelltown Road with Maxwells Creek Conservation Areas.

East-west Networks

- A 2.5 m wide off-road shared pedestrian / cycleway path along the southern side of Campbelltown Road for approximately 1.5km. Opportunities exist at each of the three proposed signalised crossings along Campbelltown Road to access the Town Centre and the Station on the northern side of Campbelltown Road. This shared path will connect with the regional cycle network in Campbelltown.
- Two (2) x 3 m wide recreational cycle paths are proposed – one to the north of the site connecting Ingleburn Conservation Area through the northern edge of the Town Centre into the Maxwells Creek Conservation Area. The southern one extends along the riparian park and connects into the Maxwells Creek South Conservation Area.

Public Transport

The proposed public transport network and facilities are as follows:

- Provision of short-term / medium-term bus routes. It is expected that the new bus route will be implemented along Macdonald Road upon occupation of the first stage of development. It is envisaged that the bus route will connect Ingleburn Station with Liverpool Station via Edmondson Park South. With the opening of the South-West Rail Link, it is expected the short-term bus route will be re-routed to travel through the Edmondson Park Town Centre and Station and continue to Liverpool via Croatia Avenue and Camden Valley Way. This bus service will become an important feeder service to the South West Rail Link for future residents in Edmondson Park South.
- Provision of a long-term bus route between Liverpool and Campbelltown via Edmondson Park Town Centre and Station, Leppington, Narellan, and Macarthur, as identified by the South West Bus Servicing Plan. It is envisaged that the 'long-term' bus service will be in operation from 2036.

4.10 Bushfire Asset Protection Zones

The Concept Plan proposes the establishment of maximum Bushfire Asset Protection Zones (APZs) at known areas of bushland / development interfaces as illustrated on **Figure 27**. Subject to final land uses and detailed design, the APZs may be reduced in accordance with Planning for Bushfire Protection2006.

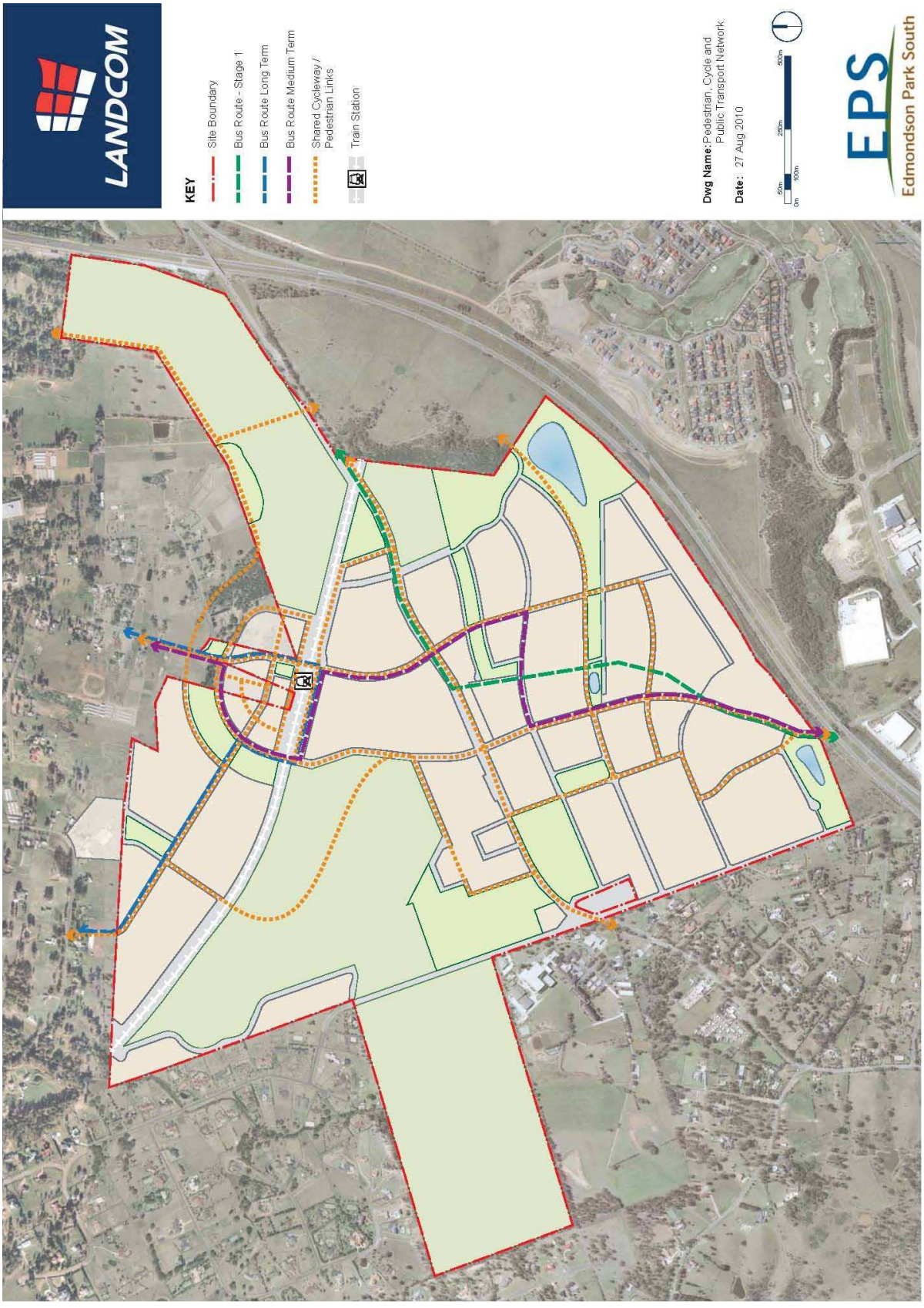

Figure 26 - Concept Plan Pedestrian, Cycle and Public Transport Network

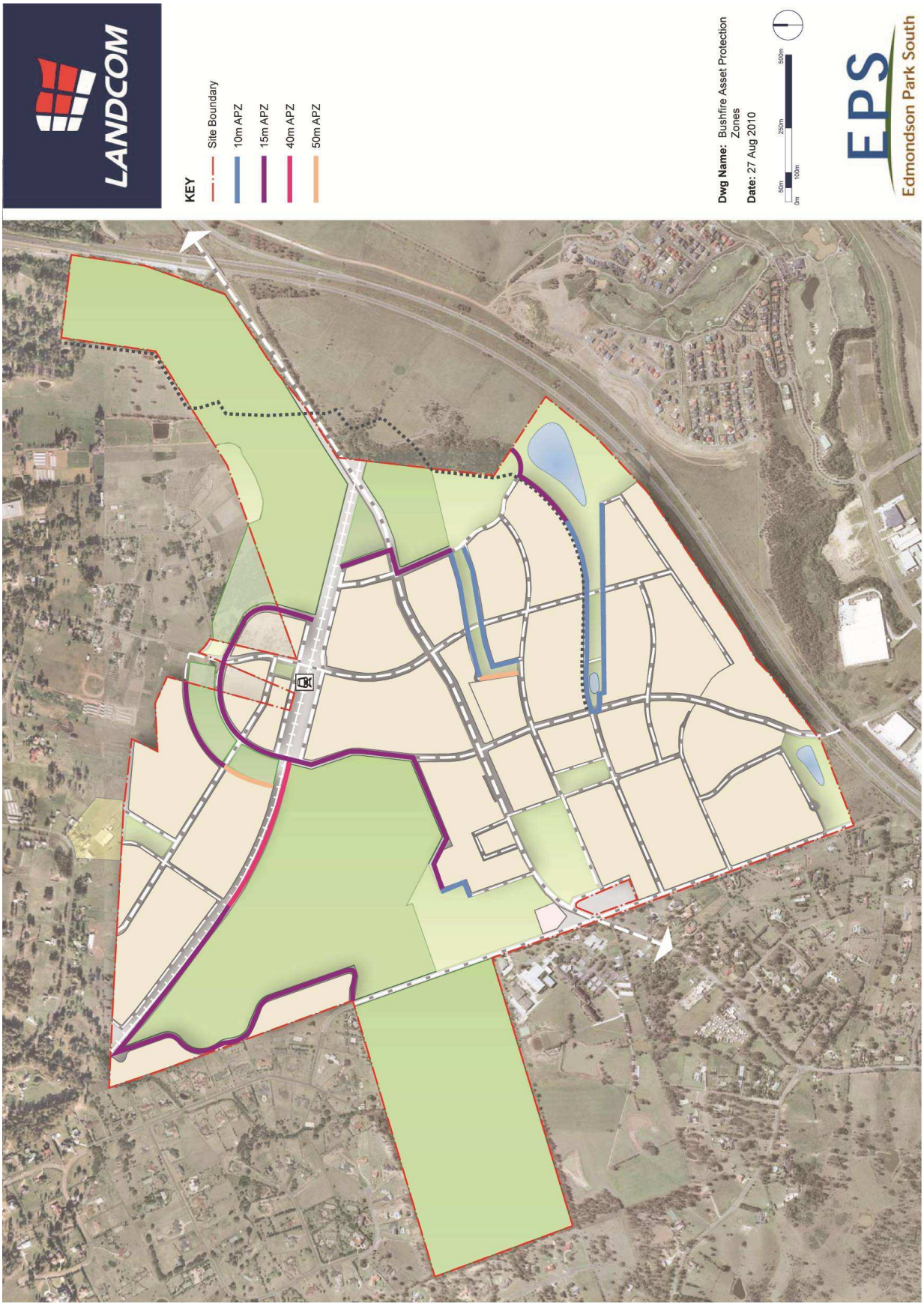

Figure 27 - Maximum Bushfire Asset Protection Zones

4.11 Infrastructure Servicing

The Concept Plan Utility Services Strategy is illustrated at **Figure 28** Utilities infrastructure servicing will require both on and off site works and upgrades in stages over the life of the development.

Sewer

Figure 27 illustrates the location of the proposed sewer through the site. The proposed alignment will traverse the Regional Park in the east of the site. The route for the proposed 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. It is proposed to construct the Sydney Water sewer carrier main located to the north-east of the site to ensure that sewer is available to service the initial phases of not only Edmondson Park South but also the wider Edmondson Park Precinct.

The existing onsite Sewage Treatment Plan (STP) within the eastern portion of that part of the site currently owned by the Commonwealth is proposed to be decommissioned.

Water

Two existing Sydney Water Corporation (SWC) reservoirs are within relative close proximity to Edmondson Park, being:

- Minto reservoir; and
- Raby (Denham Court) reservoir.

During consultation, SWC has confirmed that current supply to the initial part of the initial stage of Edmondson Park (i.e. Stage 1) can be achieved via an existing main along Campbelltown Road extending out from the Minto reservoir with the following parameters:

- Bulk water supply being restricted to between 250 – 300 dwellings;
- Pressure limitation that any proposed residences be located on landform no greater than RL 75m AHD.

SWC has forecast to supply the balance of the Concept Plan area with potable water redirected from the Raby (Denham Court) reservoir, with a new supply pipeline along Denham Court and Campbelltown Road into Edmondson Park South. This switching of the source reservoir would enable servicing of the Concept Plan as proposed to be developed along with the pressure limitation raised to RL 105m AHD.

Landcom will fund the design and construction of this main upfront and negotiate an arrangement for reimbursement at a later time.

Recycled Water

Recent SWC construction has established recycled water feed and supply mains extending to and from the SWC Glenfield STP to the recently acquired land at the intersection of Zouch and Campbelltown Road. In accordance with SWC current Part 5A approval for this infrastructure, a new supply mains was planned to extend north and beyond the proposed town centre, on an alignment which would have coincided with the eastern proposed bridge across the SWRL corridor.

Electricity

An interim upgrade of the existing overhead mains along Croatia Avenue and Campbelltown Road is required. This will include a combination of overhead

mains upgrades and a new underground feeder extensions through the future Town Centre and South West Rail Link corridor. The interim upgrade will only service the initial stages of the development (up to 400 lots/dwellings). A future zone substation will be required to be located within Edmondson Park South. Landcom and Integral Energy have commenced the formal process for the transfer of a suitable site.

Gas

An extension of the existing mains along Campbelltown and MacDonald Roads will be undertaken to enable relocation and reconstruction of main roads together with reticulation within the proposed stages of development.

Telecommunications

An extensive network of communications linework extends around and within the perimeter of Edmondson Park South. Realignment of existing fibre optic infrastructure is likely to be required, subject to detailed design.