

FIFTEENTH AVENUE COMMERCIAL PRECINCT WEST HOXTON

URBAN DESIGN REPORT

27 April 2016



Prepared by LFA (Pacific) Pty Ltd for:



Western Sydney
Parklands Trust



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EXECUTIVE SUMMARY

This Urban Design Report has been prepared as part of a State Significant Development (SSD) application to develop a 4.3 hectare land parcel located on Fifteenth Avenue, West Hoxton, within an identified 9.3 hectare development area that is envisaged to become a Business Hub. This report addresses the amended Secretary's Environmental Assessment Requirements pertaining to the preparation of an Environmental Impact Statement as part of the SSD application. Specifically this report addresses:

- Site Layout and Urban Design, including Design Guidelines
- Staging
- Visual Impact
- Crime Prevention Through Environmental Design

The site is rural in character with south west facing sloping land, scattered vegetation and two dams together with a house, ancillary outbuildings and a Bus Depot.

The proposed concept is for the development of a range of commercial uses including commercial and retail buildings (including a small supermarket), a fast food outlet, a service station, large format retail and a child care centre with access to the complex from Fifteenth Avenue.

The site is located within the Western Sydney Parklands adjacent to the Sydney Water Upper Channel System in proximity to the developing South West Growth Centres precincts of Austral and Leppington. Accordingly, the future context of the site will be considerably more urban than at present and the proposed development will operate as a relatively small commercial service centre within the existing setting.

Following a process of site analysis and identification of the inherent constraints and opportunities of the site, LFA established a set of key design layout principles to inform the preparation of a Concept Plan. The key site layout and design principles are detailed in Section 3 of the Report and can be summarised as follows:

- Main access from Fifteenth Avenue via an internal access road in the eastern portion of the site that will feed into the various land uses / developments
- High traffic uses, such as service station and fast food outlet located to the south of the site, to take advantage of high visibility and immediate access along Fifteenth Avenue.
- Carpark to be located on the flatter terrain in the vicinity of the existing dam site, which is to be filled.
- Child care site to be sited adjacent to Kirkpatrick and Boyland Park to respect heritage elements within the park and to take advantage of good outlook over the park and the Sydney Water Channel.
- Larger footprint buildings to the north
- Stormwater detention and raingardens to be provided at the natural low point of the site in the

north-western corner.

Design guidelines have been developed to inform the site planning, built form and landscaping for the proposed commercial centre including land use, floor space, architectural character, building height, sustainability, setbacks, building orientation, retail square, signage, parking and access, landscaping (hard and soft) as well as specific guidelines for the service station. Refer to Section 3 of this report.

Due to the size and nature of the proposed development, the subject site could be developed in a single stage or a series of stages, dependent on market response and demand.

An assessment of visual impact has been undertaken, demonstrating that:

- Views looking east and north will change with the presence of new development. Given the existing commercial uses on the southern side of Fifteenth Avenue, the impact would be acceptable.
- The proposed development will have little impact on views looking west along Fifteenth Avenue as buildings will be cut into and set below the ridgeline.
- The development will be visible from views along Twentysecond Avenue but proposed landscaping both within the site and within the street will soften the impact.

The Crime Prevention Through Environmental Design principles of surveillance, access control, territorial reinforcement and space management have been considered and forms part of the Design Guidelines.

1.0 INTRODUCTION

The Western Sydney Parklands Trust (Trust) intends to lodge a State Significant Development (SSD) application to develop a 4.3 hectare land parcel, within an identified 9.3 hectare development area, for commercial purposes. The West Hoxton subject site has a 250m frontage to Fifteenth Avenue and is within the Liverpool Local Government Area.

This urban design report has been undertaken to address the amended Secretary's Environmental Assessment Requirements (SEARs) as part of an Environmental Impact Statement (EIS) and Staged State Significant Development application for the Fifteenth Avenue Commercial Precinct (SSD6407), on behalf of the Trust.

Specifically, the following SEARs (No. 4 and 8) are addressed:

4. Site Layout and Urban Design

- *Provide urban design guidelines and design parameters for the entire site which address the future subdivision layout and design for the development including but not limited to staging, site layout, open space and public domain, connectivity, building mass, site coverage, setbacks, floor space distribution, building height, building articulation, materials and finishes, parking landscaping, signage, vehicle and pedestrian access and circulation, loading and servicing, safety and amenity;*
- *Identify the location of the land required for the future widening of Fifteenth Avenue in consultation with Liverpool City Council and Roads and Maritime Services;*
- *Address potential land use conflicts associated with current and planned future neighbouring uses, in the layout and potential building footprints/envelops. Include spatial separation, siting, noise mitigation, and suitable design response incorporating appropriate presentation to the public domain, and landscaping using endemic species;*
- *Provide an assessment of any geo-technical and/or topographical limitations (such as site soils and slope) and, if necessary, design considerations that address these limitations; and*
- *Outline how the extent of cut and fill associated with the proposal has been minimised*

8. Staging

Provide details regarding the staging of the proposed development.

1.1 SITE CONTEXT

Subregional Context

The subject site is located on Fifteenth Avenue, which forms part of a main east-west link to Liverpool CBD via Hoxton Park Road. The subject site is located within the Western Sydney Parklands, which occupy a swath of land on the eastern side of the Sydney Water Channel corridor. To the west of the Channel are the South West Growth Centre precincts of Austral and Leppington North. To the east is the expansion of Liverpool's established urban areas, such as Middleton Grange.

the expansion of Liverpool in established urban areas including Middleton Grange

The South West Growth Centre will provide 110,000 new dwellings for some 300,000 residents (Department of Planning and Environment, 2014). Within the South West Growth Centre, the

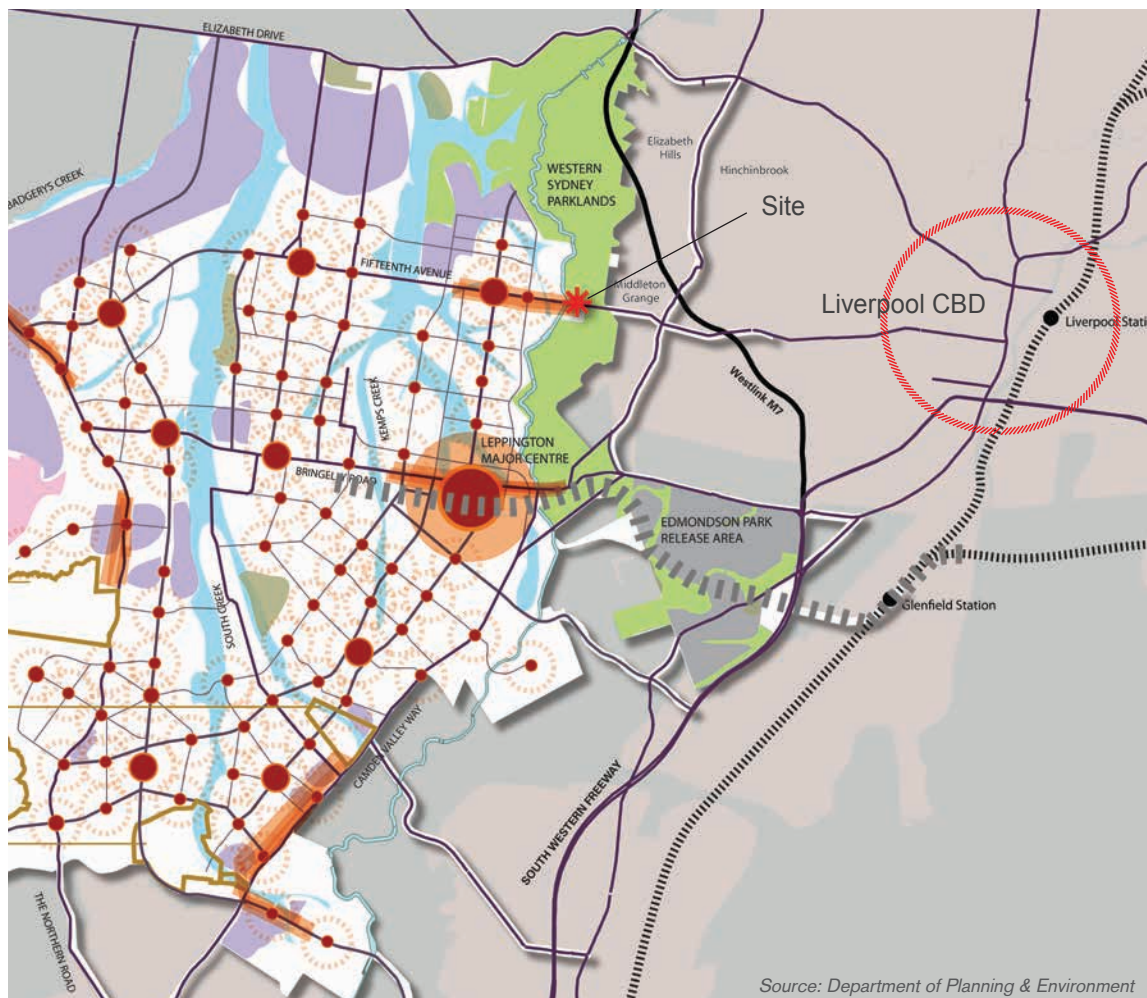


FIGURE 01: Regional Context Plan



FIGURE 02: Sub Regional Context Plan

Precincts of Austral and Leppington North were rezoned for urban development in March 2013. Together they will deliver approximately 17,500 dwellings for 54,000 residents (Department of Planning and Environment, 2014) immediately to the west of the subject site. When fully developed the Precincts will also provide for:

- Leppington Major Centre with regional shopping, employment, cultural and community facilities
- New Leppington Rail Station
- 3 neighbourhood centres
- 220 hectares of employment land
- 135 hectares of open space and recreation areas
- Upgrades to major roads
- New primary and high schools
- Protection of 116 hectares of significant vegetation, and major creek corridors
- New pedestrian and cycle links

The land within the Precincts along the Fifteenth Avenue Corridor has been rezoned for a combination of light industrial, rural transition and low/ medium residential uses.

The subject site is in close proximity to both the planned Austral Town Centre and Leppington Major Centre in the Austral and Leppington North Precincts respectively. Austral Town Centre is located on Fifteenth Avenue, approximately 2km to the west. The Leppington Major Centre has access to the South West Rail Link and is located 4km south of the subject site, along Rickard Road.

Apart from the lands within the Western Sydney Parklands corridor, the existing semi-rural lands between the site and the existing urban area of Middleton Grange to the east, are also zoned for future residential growth.

Local Context

The subject site is located within the Western Sydney Parklands Precinct of West Hoxton (also known as Precinct 15) in the Liverpool City Council Local Government Area.

The subject site covers an area of 4.3 hectares within a 9.3 hectare development area and is currently primarily used as grazing and agricultural land. The site is rural in character with south west facing sloping land, scattered vegetation and two dams together with a house, ancillary outbuildings and a Bus Depot.

The site is on the northern side of Fifteenth Avenue, which provides the major access. Twentyseventh Avenue is directly to the west and to the north Flynn Avenue provides secondary access to the wider development area. There is rural residential land to the east and at the south western corner is Kirkpatrick and Boyland Park, which is identified as having Local Heritage significance in the Western Sydney Parklands SEPP (Item 13, Lot 1, DP 307334).

The site is adjacent to the Sydney Water Upper Channel System which forms part of upper Nepean scheme. The Channel system has State Heritage significance in the Western Sydney Parklands SEPP (Item 7). The Channel system forms the boundary between Austral and West Hoxton.

Existing surrounding land uses are largely rural residential with some clusters of detached housing. A small shopping centre (West Hoxton) is across Fifteenth Avenue to the south, which includes take-away food outlet, a liquor store, a service station, a real estate agency, mower supplies and Campisi butchery/fine food deli.



FIGURE 03: Site Local Context



1. Small dam and portions of Shale Plain Woodland area



2. Portions of the Shale Hills Woodland area - rural uses



3. Western bank of dam looking south



4. Upper Channel System to the west of the site



5. Informal carpark, and retail shops in background on Fifteenth Ave



6. View from Fifteenth Ave looking north over the site



7. View towards bus depot and along Twentysecond Avenue from Flynn Avenue looking south



8. View of heritage memorial in Kirkpatrick and Boyland Park

FIGURE 04: Site Photos

2.0 SITE ANALYSIS

2.1 SITE INSPECTION

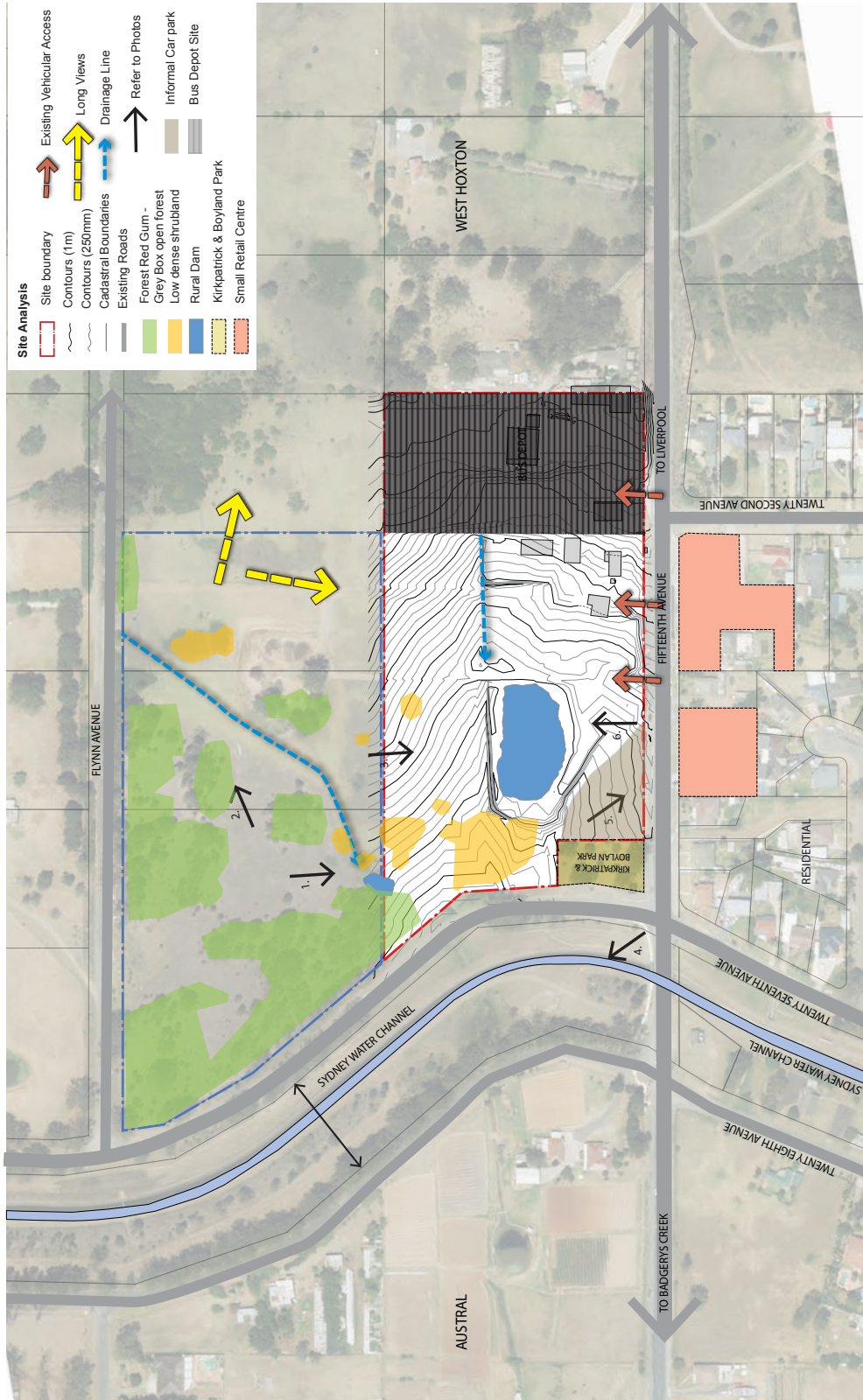
Site inspections have identified a number of important characteristics.

Site:

- Partially cleared grazing land falling from the north eastern corner of the site to the south western corner.
- A private residence in the south eastern sector of the site. Two small out buildings located around the residence.
- A large rural dam at the southern end of the site. The dam appears to have been formed by building up the north west and southern edges.
- A small clearing on the south eastern corner of the site currently used as an informal carpark.
- An unsealed road that leads from a site entrance to an area of uncleared land, currently used to store mounds of soil.
- A bus depot with maintenance buildings in the eastern sector.
- A small dam near the western boundary of the site.

Context:

- A small commercial/retail precinct directly to the south of the site on Fifteenth Avenue (West Hoxton Shops), containing the following
 - General store
 - Liquor store
 - Mechanic/service station
 - Hair salon
 - Real estate agent
 - Small post office
 - Mower store
 - Butcher/deli/cake store
- The Sydney Water Supply Channel adjacent to the western boundary of the site. This channel system and associated landscape corridor acts as the boundary between the subject site, West Hoxton and Austral.
- A small park to the south west of the site, known as Kirkpatrick and Boyland Park containing a War Memorial.
- There is a large stand of Forest Red Gum - Grey Box within the broader 9.3 hectare development area to the north of the subject site, a small portion of which occupies the north-western corner of the subject site (refer to Figure 5). The stand consists of *Eucalyptus tereticornis* and *Eucalyptus molluccana* as well as the occasional spotted gum - *Corymbia maculata*. Tree heights are between 10-15m. While the vegetation is in moderate condition, it is not considered to represent a viable intact example of the vegetation community (refer to Flora and Fauna Assessment March 2015 by Lesryk Environmental Pty Ltd).



Fifteenth Avenue Commercial Precinct
Site Analysis

site analysis
2014-4330-SA-01
01 July 2015
FIGURE 05: Site Analysis Diagram

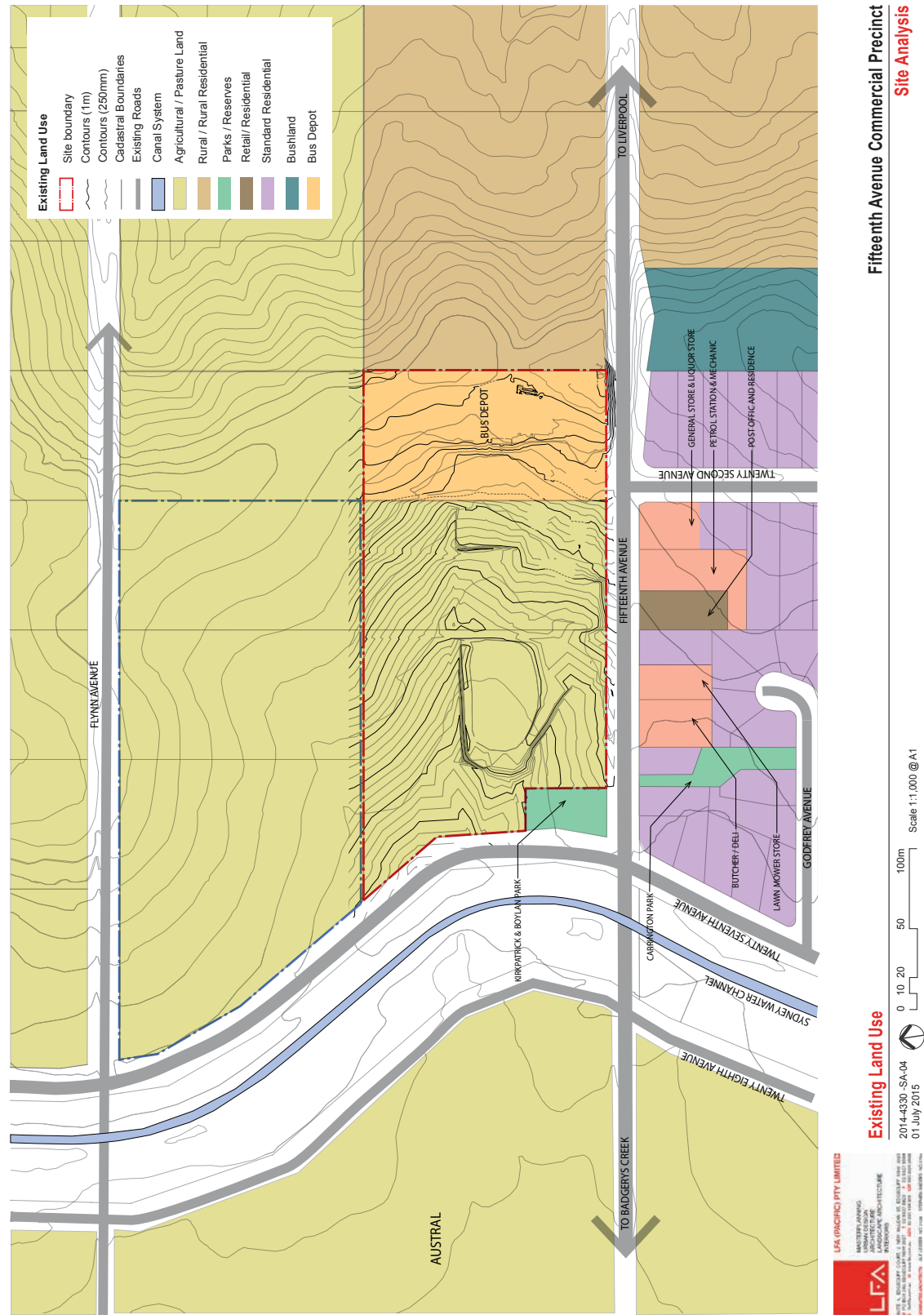


FIGURE 06: Existing Land Use

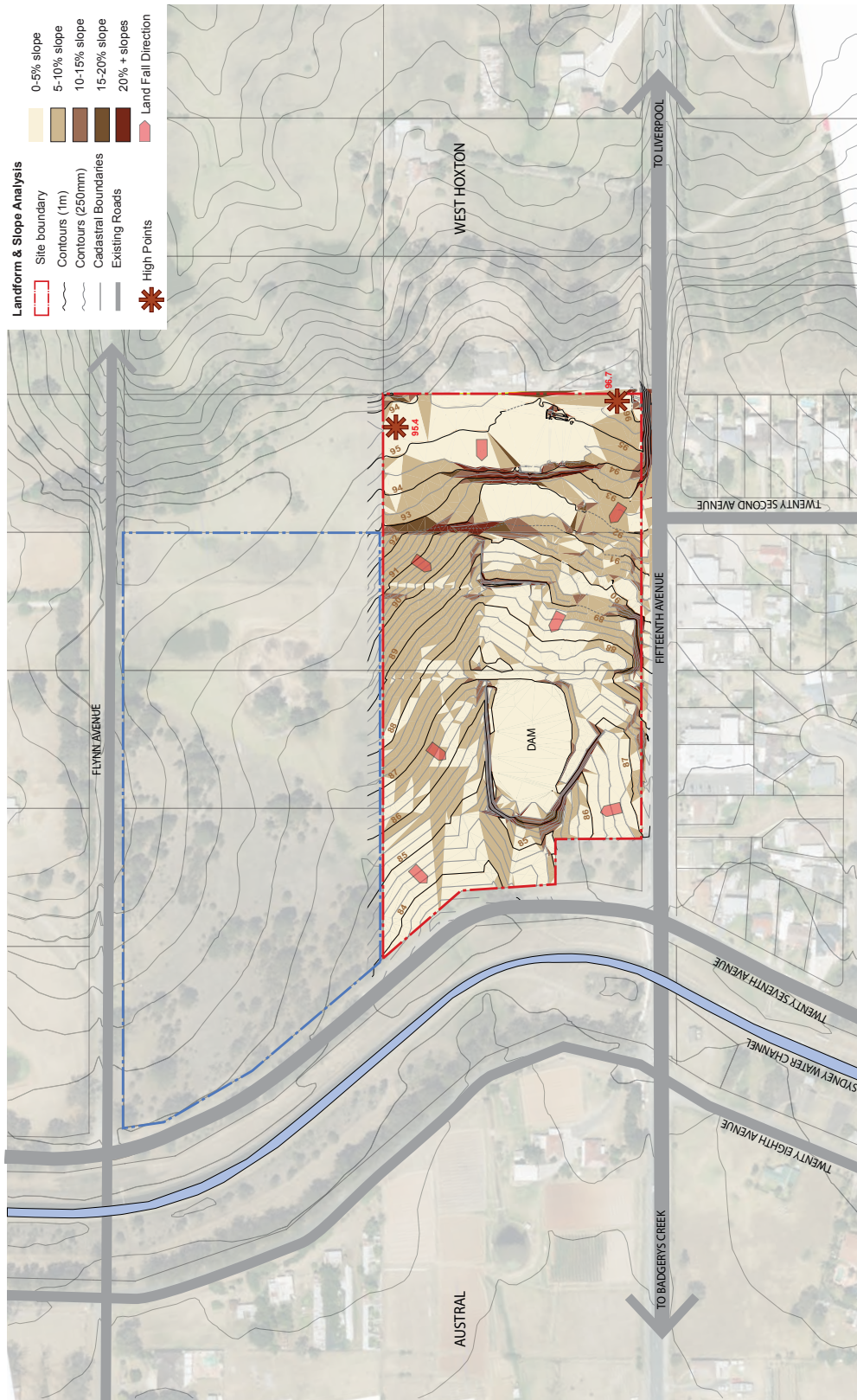


FIGURE 07: Landform & Slope Analysis

2.2 CONSTRAINTS AND OPPORTUNITIES

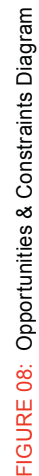
Constraints:

- Potential geotechnical issues associated with the existing large rural dam which may represent a constraint to building
- Future road widening of Fifteenth Avenue by 20m with a divided carriageway on the northern side of existing road reserve.
- Existing drainage lines
- Bushfire constraints. Potential requirement for a 40m APZ around any retained woodland.

Opportunities:

- The southern part of the site has moderate grades and flatter land, particularly around the existing dam.
- High visibility and access from Fifteenth Avenue which is planned to be a future major east/west link between Austral and Liverpool.
- Pleasant outlook from the northern part of the site
- Accessibility options from two road frontages (Fifteenth Avenue and Twentysecond Avenue).
- Attractive bushland setting in future development of northern lands
- Future widening upgrade of Fifteenth Avenue will add sub regional road connections
- Progressive development of the Austral Precinct following planning and rezoning as one of the South West Growth Centre Precincts will provide nearby population catchment for commercial activities
- Siting of child care facility to take advantage of Parkland setting and aspect to the Channel.
- Potential for on-site stormwater detention and cleansing/raingardens in north west corner of the site.

Refer to Figure 8.



3.0 DESIGN GUIDELINES

The Trust has established a high standard of urban design, architecture and landscape for various projects undertaken within the Parklands.

As a consequence, the following Design Guidelines have been developed to inform the site planning, built form and landscaping for the proposed commercial centre.

Future development should reference the Western Sydney Parklands Design Manual for sustainability guidelines and the design of relevant landscape elements including entry features, fences, gates, walls, handrails, signage, furniture, planting and landscape management.

3.1 PROPOSED DEVELOPMENT & PLANNING APPROACH

The future context of the site will be considerably more urban than at present and the proposed development will operate as a relatively small commercial service centre within the existing setting.

A concept layout has been prepared, based on the site layout principles shown in Figure 9, against which the Design Guidelines will be applied and CPTED principles established.

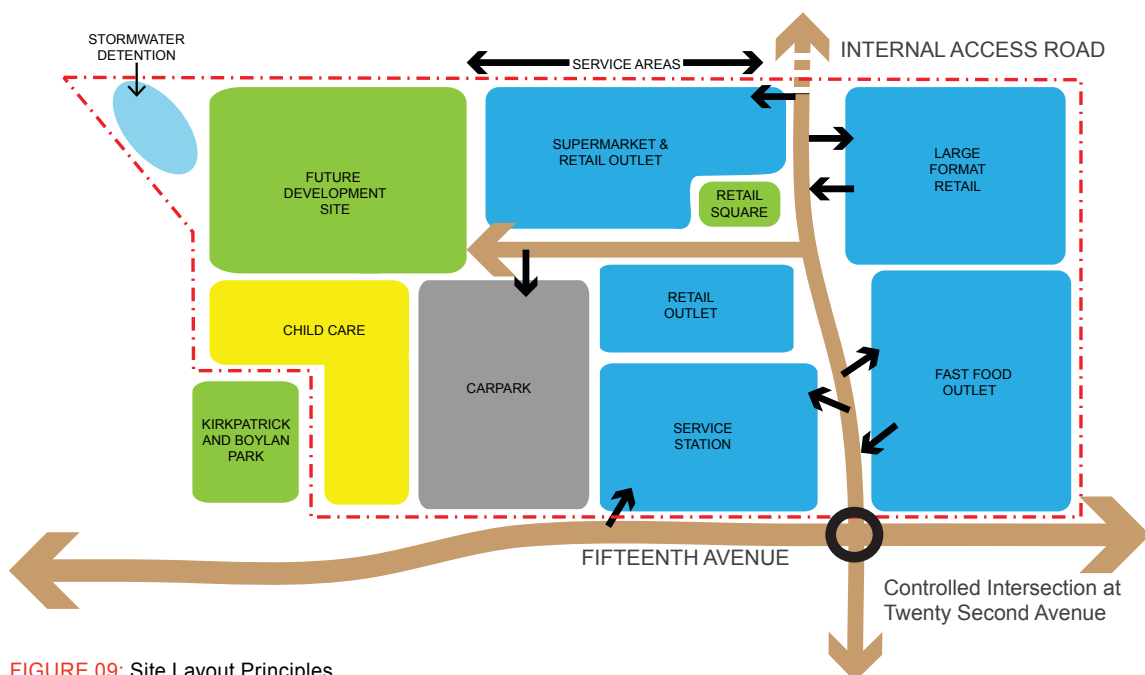


FIGURE 09: Site Layout Principles



FIGURE 10: Illustrative Site Layout Plan



FIGURE 11: Indicative Site Plan

The Indicative Site Layout Plan (refer to Figure 11) shows a roundabout intersection entry off Fifteenth Avenue at Twentysecond Avenue. This intersection will provide the main vehicular and service access to the site. Provision has been made for the anticipated future road widening of Fifteenth Avenue and landscape planting.

Proposed commercial development will be clustered around a north/south private access road stemming from the roundabout. The internal access road will provide access to the fast food and large format retail to the east; to the service station, supermarket and specialty retail in the central part of the site; and the Child Care Facility to the west, adjacent to the Kirkpatrick and Boylan Park; and associated parking.

Retail development and the main carpark are located to the flatter, southern portion of the site in the vicinity of the existing dam, which is to be filled. The fast food and large format retail uses are to be located on higher ground to the east of the Precinct. Stormwater detention and raingarden requirements are accommodated in the north west corner of the site.

Figure 12 demonstrates how the site may be subdivided.

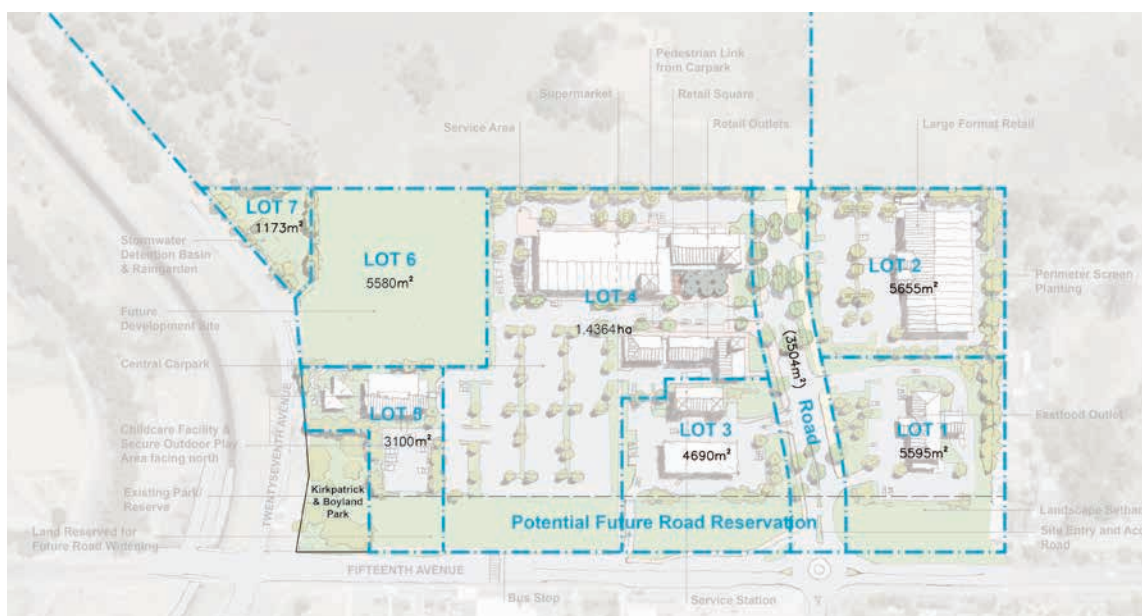


FIGURE 12: Illustrative Site Plan with Proposed Lot Layout

3.2 DESIGN GUIDELINES

The following provides succinct Design Guidelines for the proposed commercial development.

Land Use

The following land uses are proposed:

- Commercial / Retail (including small supermarket)
- Fast Food Outlet (including drive-through)
- Service Station
- Large Format Retail
- Child Care

Land Use and Floor Space

The following provides an indication of the land use and gross floor areas:

Land use	GFA (m ²)
Retail/Commercial	1,200
Supermarket	1,500
Large Format Retail	1,500
Retail Pad Site (Fast food)	400
Service Station	250
Child Care	500
Total	5,350

Architectural Character

- The architectural design of new buildings should:
 - be contemporary and not mimic historical styles
 - be sympathetic to the landscape and
 - draw on the form, materials and colours used in recent Trust projects (e.g. Plough and Harrow Cafe).



Examples of materials, colours and profiled steel roofing used in other Trust buildings

- The built form should be articulated rather than bulky or uniform, and roof lines should respond to the broader landscape setting.
- Simple roof forms are preferred and the potential to gain northern light should be explored.
- The external colours and materials palette of buildings should be simple, robust and natural in appearance.
- Materials should include timber, masonry, steel, glass and concrete, and finishes are to be low maintenance and durable. Any masonry used should be stone, smooth faced brick and/or rendered and painted concrete. All colours should reflect the earthy tones of the landscape.
- Where possible materials should be sustainable, recycled and timber should be FSC Certified.
- Profiled steel roofing is preferred and the use of lightweight materials is encouraged. Such materials may include weatherboard, CFC and custom orb.

Building Height

- All buildings are to be no more than two storeys, with a maximum height of 8.5m.

Sustainability

- The design of all buildings should maximise energy efficiency through ecologically sustainable design (ESD) measures to provide high levels of natural daylight and ventilation (while acknowledging the need for some spaces to be air conditioned).
- The design of buildings should utilise passive design techniques and respond to the microclimate of the site, in particular the exclusion of western sun, the capture of northern sun in the winter and the use of cooling breezes from the north-east.
- ESD measures should include the use of water saving devices, energy efficient lighting and photovoltaic cells, solar energy and hot water generation, and re-use of rainwater collected from roofs.

Service Areas & Plant

- Service areas should be sited to avoid adverse visual impact from main viewpoints (i.e. Fifteenth Avenue) and should be suitably screened from secondary viewpoints (i.e. internal roads).
- Plant should be contained within service areas or within the building enclosure and not be located on roofs.

Setbacks

- As a minimum, buildings are to be setback from the subject site boundary as follows:
 - From Fifteenth Avenue frontage: 10m (from future road reservation)
 - Side and rear boundaries: 3m
- Landscaped setbacks should be provided from the internal access road a minimum of 5m.

Building Orientation

- Development shall address the Fifteenth Avenue frontage as the main road frontage to maximise image and exposure.
- Retail uses should focus on the internal access road and present active frontages to other roads where possible. Supermarket walls to the access road should be appropriately treated to maintain visual interest.

Retail Square

- A small square/open space should be provided adjacent to the retail/supermarket uses as a sitting/relaxation area with shade trees, seats and amenities (such as a play element) as a focus for pedestrian activity.

Signage

- One major pylon sign is permitted to Fifteenth Avenue frontage (maximum height 6m) for the precinct. Individual uses can have appropriate signage on sites and buildings.
- There is to be no roof-top signage.

Parking & Access

- Parking is to be provided as follows:

Land use	GFA / Capacity	Rate	Minimum provision
Retail/Commercial	1,200	1 per 20m ²	60 spaces
Supermarket	1,500	1 per 20m ²	75 spaces
Large Format Retail	1,500	1 per 20m ²	75 spaces
Fast Food Site	90 seats	1 per 3 seats	30 spaces
Service Station	250	1 per 20m ²	13 spaces
Child Care	80 children	-	15 spaces
Total			268 spaces

- Parking for the commercial sector is to be broken down into at least two areas. There may be limited areas for overflow parking to the north of buildings.
- Parking for drive-throughs may be shared between uses / sites and should primarily be located to the side or rear of the buildings.

Landscaping

In general terms, landscape design should ensure that buildings sit comfortably within the natural setting.

Requirements include:

- Use of locally endemic trees, grasses and groundcovers as broad scale and background species
- Well defined pathways and movement systems using a palette of robust, low maintenance

materials

- Definition of special activity areas (eg play/sitting area)
- Innovative use of design elements which are contemporary in their expression.
- Low maintenance, sustainable landscapes

Hard Landscaping

Primary pathways & pedestrian pavements	<ul style="list-style-type: none"> • Concrete – water washed or grit blast • Hot mix
Secondary pavements	<ul style="list-style-type: none"> • Decomposed granite
Edging, walling & steps	<ul style="list-style-type: none"> • Off-form concrete • Brick or stone if associated with buildings • Gabions
Carparks	<ul style="list-style-type: none"> • Hot mix • Standard concrete kerb or flush edging • Bollards

Soft Landscaping

Trees (background & non-use areas)	<ul style="list-style-type: none"> • Cumberland Plain Woodland species
Streets (activity zones)	<ul style="list-style-type: none"> • Predominately native with smaller deciduous species in specific function locations (e.g. square)
Visual screening	<ul style="list-style-type: none"> • Mass planting of large and medium shrubs is discouraged in favour of small/medium trees where function is to provide shade rather than direct screening to reduce visual prominence of vehicles.
Note: mainly in and around car parks	

The landscape treatment to carparks should aim to reduce the effect of massed parking. Measures should include hard and soft landscaping such as trees and screening.

3.2.1 CHILD CARE

The child care facility is proposed to be sited adjacent to the Kirkpatrick & Boyland Park and to Twenty Seventh Ave to take advantage of views into the Park and over the Sydney water Channel.

The external play area should face north for optimal sun control and the building should be sited to minimise any adverse visual impact on the Park and associated heritage elements.

3.2.2 SERVICE STATION OPERATION, DESIGN & LAYOUT

The proposed site for the Service Station use has been selected to ensure that it:

- Respects the APZ requirements associated with a committed WSPT Woodland
- Complements the character of the locality, is compatible with the adjoining uses and the physical characteristics of the site
- Is sited and designed to maintain public safety
- Achieves a high standard of vehicular accessibility and minimises impacts on the traffic network
- Prevents adverse environmental impacts resulting from activities on the premises

The following provides guidelines for the operation, design and layout of the Service Station.

Siting and Scale

- The site is located to prevent ribbon development and complements the existing and proposed commercial / retail centres in the immediate area, particularly the local West Hoxton shops on Fifteenth Avenue and future Austral centres to the west.
- The selected site is highly visible from Fifteenth Avenue
- The buildings and structures are to be compatible with the scale of nearby uses i.e. 1 -2 storey. The overall building height is to be no more than 8.5m above finished ground level and the building is to be set back a minimum of 10m from the road reservation for future widening along Fifteenth Avenue.

Lighting

- Lighting is to be located and designed to prevent adverse impacts on nearby properties and in accordance with the relevant Australian Standards.

Signage

- Signage location and design is to be integrated into the site layout and landscaped areas.

Fuel Storage

- Fuel storage tank fill points are to be located to maintain safe access and manoeuvrability.

Retail Use

- Retail services convenience items are to be ancillary to the service centre use and not exceed 200m².

Landscape

- The site is to be landscaped to screen and provide visual relief from buildings to present an attractive appearance and to minimise visual and noise impacts on adjoining uses.
- A 3m wide planted landscape area should be established to all boundaries.

Safety

- The design and layout of the Service Station is to ensure the safety of people and property and is to comply with the relevant Australian Standards AS 1940: 1993 / AS 1596:2002 together with the requirements of AS 4897 - 2008 - The Design, Installation and Operation of Underground Petroleum Storage Systems.

Environmental Impacts

- Noise, air and vibration emissions are to be mitigated by minimising emissions, providing noise attenuation and locating car wash facilities to avoid any spray drift on to adjoining uses.

Service Areas

- Delivery and service areas, waste storage and collection areas, air conditioners, refrigeration units and exhaust system are to be located to the rear and/or north side to minimise impacts, provide adequate visual screening and noise attenuation and designed to incorporate adequate waste collection manoeuvring and service areas.

On-Site Drainage

- This is to be designed and maintained to preserve stormwater quality and prevent pollution of any ground or surface waters.

3.3 FUTURE ROAD WIDENING

Fifteenth Avenue has been identified as a major east-west thoroughfare (Transit Boulevard) in the Austral/Leppington North Precinct. Planning advice received by the Trust suggests that arterial road widening of up to 20m could be required.

The Indicative Site Plan provides a 20m road reservation along the southern boundary to allow for future widening.

3.4 POTENTIAL LAND USE CONFLICTS

The proposed land uses will not be in conflict with the adjacent agricultural/pasture land to the north nor the existing rural/residential land adjacent to the east. It is noted that the Trust controls such land.

The proposed land uses will be compatible with the existing commercial and retail land uses on the southern side of Fifteenth Avenue.

3.5 TOPOGRAPHY & EARTHWORKS

The site falls generally from east to west and towards Fifteenth Avenue. The entry road from Fifteenth Avenue is set at the existing level of the intersection at Fifteenth Avenue and Twentysecond Avenue.

The entry road moves across the site in a northerly direction broadly along the contours (from 90.8m at the entry to 90.2m at the northern boundary with a central low point of 89.8m).

Lots 1 and 2 to the east are both set at 92.0m - being 1.5 to 2m or more above the entry road requiring ramped access. They are also benched into the site with a retaining wall or batter to the eastern boundary.

Lot 3 and 4 are to the west of the entry road. Lot 3 is set at 90.2m, being 2.2m above Lot 5 in the west at 88.0m. Lot 4 is set at two levels of 89.80m (north part) and 90.2m (adjacent to Lot 3) and is graded uniformly down to Lot 5.

Western Retaining walls (approx 1.5m in height but varying up to 3m) proposed to the stormwater basin and batters are used to transition to existing surrounding ground levels.

The earthworks drawings prepared by Costin Roe, are based on balanced approach to cut and fill with the objective of ensuring suitable access for a functional commercial centre.

4.0 STAGING

Due to the size and nature of the proposed development, the subject site could be developed in a single stage or a series of stages, dependent on market response and demand. Should the development occur over a series of stages, the first stage may comprise:

Potential Stage 1	m ²
Commercial / Retail	1,200
Service Station	250
Child Care	500
Fastfood Outlet	400
Total	2,350

These uses will be located in the eastern, central and western sectors of the subject site, with the Service Station, Fastfood Outlet and Child Care facility defining the site and providing for high visibility from passing traffic along Fifteenth Avenue.

The Service Station will be provided with dedicated access from Fifteenth Avenue as well as access to and from the entry road in the south-eastern corner.

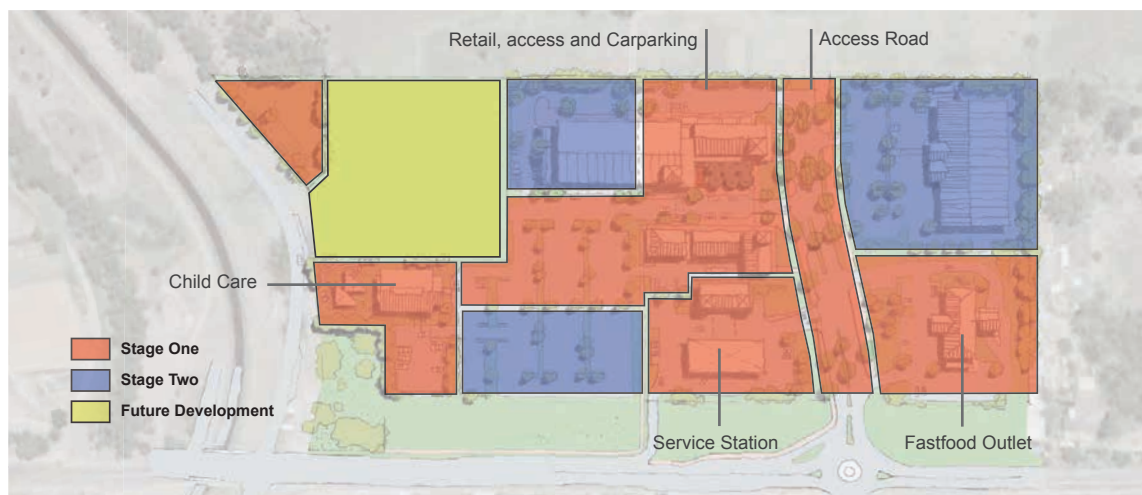


FIGURE 13: Indicative Staging Plan

5.0 VISUAL IMPACT ASSESSMENT

The site is located with a semi-rural landscape with increasing areas of detached housing being developed within the road-grid subdivision pattern.

The site is visually contained by the ridge / skyline along Flynn Avenue to the north and east, by the Sydney Water Channel corridor to the west and is generally not readily visible from surrounding areas or vantage points.

Scattered vegetation in the north-west and western edge inhibits views across the site including from Flynn Avenue high points.

Some open views to the south are available across the site dam to the shops and suburban housing on the south side of Fifteenth Avenue, to the exposed bus depot and to various low quality buildings clustered around the existing house on the site.

With continuing urban development stretching westward from Middleton Grange and Hoxton Park, the existing semi-rural landscape qualities will be progressively eroded.

The first stages of development may be located in the lower lying part of the site (existing dam), the site of the existing house and outbuildings, farm machinery and disused car bodies as well as the Bus Depot site.



FIGURE 14: Existing view of vegetated skyline from near the dam site looking north



FIGURE 15: Existing view of proposed development site looking south to Fifteenth Ave

New development with appropriate setbacks and landscaping will positively contribute to the streetscape character of Fifteenth Avenue.

Given the location of development on lower land, new development will not impact the existing disturbed landscape on the Flynn Avenue ridgeline which will remain a vegetated skyline.

Preliminary engineering design suggests 2 to 3m of cut will be required into the ridge at the Bus Depot and this will provide for a level of visual screening of the fastfood and large format retail buildings from Fifteenth Avenue.

The following images demonstrate key existing and proposed views as seen from Fifteenth Avenue looking east and west and the view northwards along Twentysecond Avenue.

View One

The existing view from Fifteenth Avenue to the north-east includes the informal car park, rural grazing land, bus parking and is framed by vegetation along a high point in the land. Refer to Figure 16.

In the proposed view, as shown in Figure 17, the central car park and service station will be evident with the retail and supermarket set behind on a slightly higher platform. The existing tree canopy would still be visible behind the eastern section of the supermarket.

View Two

The existing view looking east along Fifteenth Avenue includes the informal at-grade carpark, rural grazing land, the existing truck parking and associated sheds, bus parking and an existing dwelling all to the north side of the road. Refer to Figure 18.

The proposed development will see all existing buildings removed and the site benched for new buildings. As shown in Figure 19, the Service Station and Large Format Retail building will be highly visible, although screened by some landscaping. It can be seen that the buildings will be substantially setback from the street (due to requirement of the 20m road reservation for future widening) and that the proposed development platforms gently step to the east, in response to the natural topography.

Given the substantial distance of the proposed development away from Fifteenth Avenue, it is considered that views eastwards along Fifteenth Avenue will not be adversely impacted.



FIGURE 16: Existing view from Fifteenth Avenue looking north-east



FIGURE 17: Proposed view from Fifteenth Avenue looking north-east



FIGURE 18: Existing view along Fifteenth Avenue looking east



FIGURE 19: Proposed view along Fifteenth Avenue looking east

View Three

The view along Fifteenth Avenue looking west is to the ridgeline east of the shopping centre/ Bus Depot and shows the cut banks which exist in the road verges and the roof of an existing dwelling. Refer to Figure 20.

The proposed development will have little impact on this view as the buildings will be cut into and set below the ridgeline.

Ridgeline planting between the proposed retaining walls and the eastern site boundary to provide for a landscape buffer/screen to the ridge should be considered.



FIGURE 20: View along Fifteenth Avenue looking west with crest and ridgeline to right

View Four

The view looking north along Twentysecond Avenue shows the existing low quality single storey dwellings and the Bus Depot site set against the Flynn Avenue ridgeline. Refer to Figure 21.

The proposed entry road into the site is aligned with Twentysecond Avenue. There will be a building platform to the right stretching to the ridge at the boundary and lower platforms and/or sloping land to the left with the service station, car parking and the child care to the west. Refer to Figure 22.

The rural land rising to Flynn Avenue will form a backdrop to the development.

Landscaping on both the site and within the street will soften the visual impact of new development.



FIGURE 21: Existing view along Twentysecond Avenue looking north



FIGURE 22: Proposed view along Twentysecond Avenue looking north

6.0 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The following reporting on Crime Prevention through Environmental Design (CPTED) is not a formal crime risk assessment but rather forms part of the Design Guidelines for the future detailed design and subsequent applications for development of the site.

6.1 CPTED PRINCIPLES

Crime Prevention through Environmental Design (CPTED) aims to reduce crime and change perceptions of crime through changing the physical environment.

- CPTED increases risk for criminals by increasing chance of detection, challenge and capture.
- Increases effort required to commit crime by increasing the time, energy and resources needed to be expended.
- Removes conditions that create confusion about behaviour norms.

There are four principles that need to be used in the assessment of development proposals to minimise the opportunity for crime:-

- Surveillance
- Access Control
- Territorial Reinforcement
- Space Management

Particular consideration is often given to the incorporation of these principles concerning entrances, lift cores (access / exit from parking levels, commercial levels, library levels and retail levels), corridors, interrelationships with existing retail and proposed spaces, lighting, legibility and accessibility, ownership and space management, security and safety, and minimisation of 'entrapment' opportunities.

6.1.1 SURVEILLANCE

The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical.

Good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would be offenders are often deterred from committing crime in areas with high levels of surveillance. From a design perspective, 'deterrence' can be achieved by:

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

The assessment in relation to surveillance opportunity can be divided into the following components being surveillance opportunities for:-

- Pedestrians on route to the site
- Visitors within the site
- Building entry points including loading areas
- Infrequently used areas of the site

Surveillance Opportunities for Pedestrians on Route to the Site

The primary pedestrian entry point will be from along Fifteenth Avenue (from bus stops / adjacent housing areas) at Twentysecond Avenue via the main access road.

Fifteenth Avenue will be the major east-west link road in the future to Austral from Liverpool and will provide high levels of surveillance due to passing traffic.

There should be a generous pedestrian pathway particularly to the west side of the entry road into the commercial uses, clear sight lines and quality lighting.

Surveillance Opportunities for Site Visitors within the Site

The main car parking area within the site is open and a good natural surveillance opportunity should be available which should be reinforced with lighting.

Roof mounted CC TV could be positioned to cover 100% of the carpark.

Where feasible open facades of individual premises should overlook the carpark and provide levels of natural surveillance.

Building Entry Points & Loading Areas

Main entry points to buildings should be provided with good surveillance opportunity including clear views from the carpark and from approaching pedestrian areas / walkways. Loading areas will necessarily be somewhat screened due to the nature of their use and should be well lit to discourage after hours unauthorised access.

Infrequently Used Areas of the Site

Any secondary carpark areas or areas of open space not actively used should be carefully considered to discourage anti-social behaviour. This could include areas to the north of development abutting the vegetated areas and broader, less intensively developed land.

6.1.2 ACCESS CONTROL

Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime.

By making it clear where people are permitted to go or not go, it becomes difficult for potential offenders to reach and victimise people and their property. Illegible boundary markers and confusing spatial definition make it easy for criminals to make excuses for being in restricted areas. However, care needs to be taken to ensure that the barriers are not tall or hostile, creating the effect of a compound.

Effective access control can be achieved by creating:-

- Landscapes and physical locations that channel and group pedestrians into specific areas
- Public spaces which attract, rather than discourage people from gathering
- Restricted access to internal areas or high risk areas (like carparks or other rarely visited areas). This is often achieved through the use of physical barriers.

Access control should be well managed and effective.

Clearly defined entries to the carpark and individual premises should be achieved by the use of distinctive pavement landscaping and spatial arrangement.

After hours access control could be achieved by lockable gates on the vehicular access to the central carpark. Access to the service station and fast food sites is likely to be 24/7.

6.1.3 TERRITORIAL REINFORCEMENT

People often feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals.

Territorial reinforcement can be achieved through:-

- Design that encourages people to enjoy specific access
- Design with clear transitions and boundaries between public and private space
- Clear design cues on who is to use space and what it is to be used for.

The proposed development is essentially public / semi-public as a commercial centre. A hierarchy of spaces should be explored with appropriate landscaping and pavement detail.

6.1.4 SPACE MANAGEMENT

Space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, replacement of burned out pedestrian and carpark lighting and the removal or refurbishment of decayed physical elements.

In this context of commercial centre development, space management is expected to be carried out in a professional manner by third party specialist shopping centre management businesses, and poor space management would not be expected to be a contributing factor to crime opportunity arising from the proposed development.