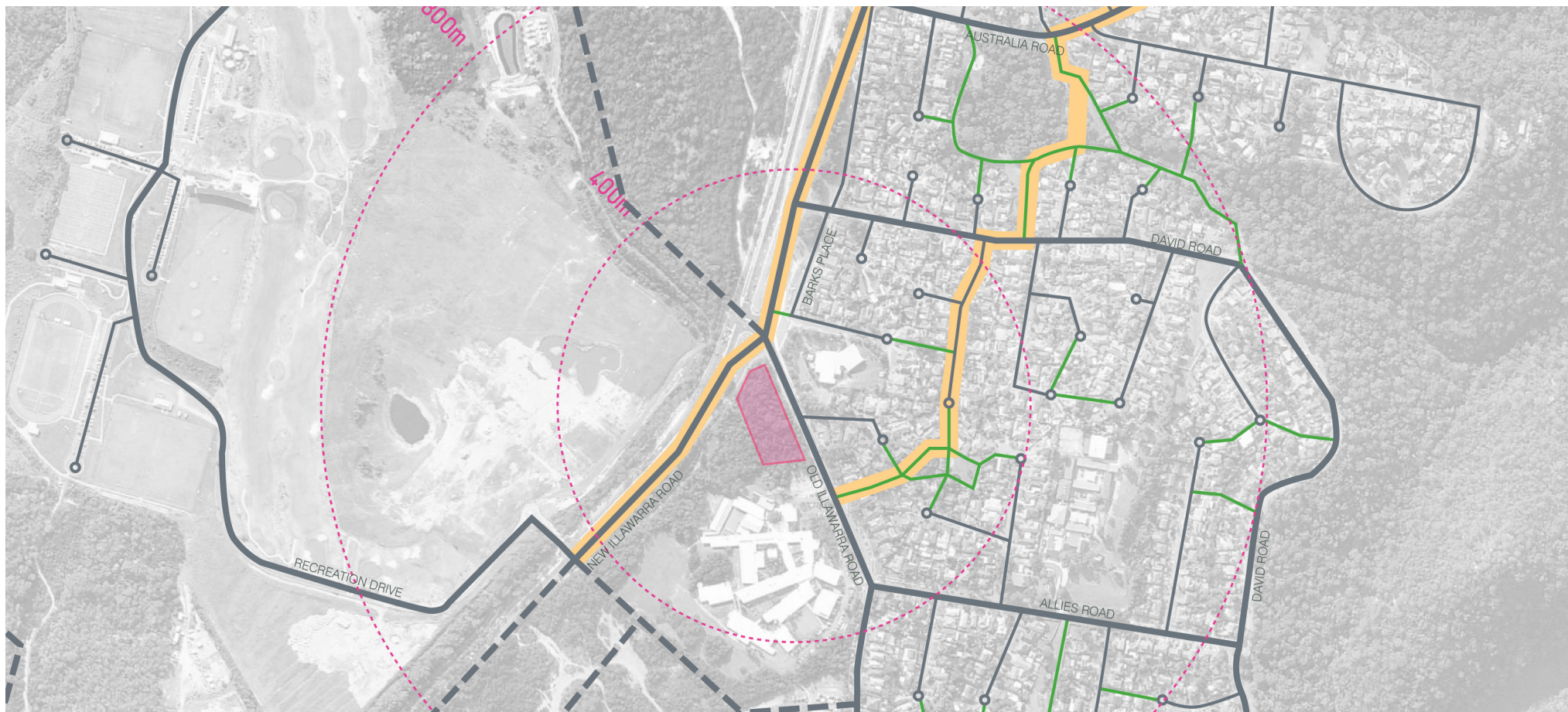




152 OLD ILLAWARRA ROAD, BARDEN RIDGE URBAN DESIGN REPORT

Prepared for Woolworths Limited



September 2011

DISCLAIMER

This report is prepared on the instructions of the party to whom or which it is addressed and is thus not suitable for use other than by that party. As the report involves future forecasts, it can be affected by a number of unforeseen variables. It represents for the party to whom or which it is addressed the best estimates of Urbis Pty Ltd, but no assurance is able to be given by Urbis Pty Ltd that the forecasts will be achieved.

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1 INTRODUCTION

Urbis have been engaged by Woolworths Ltd to undertake an urban design analysis of the subject site at 152 Old Illawarra Road, Barden Ridge (Lot 101 DP 1028645). This analysis has informed the identification of key opportunities and constraints affecting future development of the site for the purpose of a neighbourhood shopping centre.

1.1 PURPOSE

The purpose of this analysis is to provide urban design recommendations for the proposed retail development on the subject site.

The following works have been undertaken as part of the urban design process to inform the recommendations:

1. Analysis of:
 - Regional context;
 - Local context regarding character, views, built form, vehicular access and movement, loading, pedestrian and cycle ways; and
 - Topography and vegetation.
2. Preparation of urban design guidelines for the site addressing issues of access and movement, context, scale, built form and amenity.
3. Assessment of the applicant's proposal against Sutherland Shire Council's planning controls including the Barden Ridge Locality Strategy.

Furthermore the proposed retail development has been assessed in line with the results of the economic analysis prepared by Hill PDA.

1.2 THE PROPOSED RETAIL DEVELOPMENT

SITE LOCATION

The site is located in Barden Ridge on the urban fringe of the Sutherland Shire Local Government Area (LGA). The site is located on the M6 (New Illawarra Road) that links Heathcote to the south, and Hornsby to the north.

THE APPLICATION

The development proposal involves the construction of a supermarket-anchored retail building that is sized to serve the day-to-day needs of the surrounding local community. Specialty shops, community open space, and car parking are included in the proposal.

Specific elements of the proposal include:

- Supermarket with a gross floor area of 2,785sqm including offices and amenities associated with the supermarket;
- Specialty stores with a gross floor area of 530sqm;
- Freestanding kiosk of 30sqm;
- Community open space;
- 141 car parking spaces; and
- Business identification signage.



FIGURE 1 – PROPOSAL SITE PLAN, D+R ARCHITECTS

2 PLANNING CONTEXT

2.1 SUTHERLAND SHIRE LOCAL ENVIRONMENTAL PLAN 2006

The site is zoned 10-Neighbourhood Centre under the Sutherland Shire Local Environmental Plan 2006 (SSLEP 2006). The objectives of this zone are:

- *To promote small-scale retail and business activities to serve the day-to-day needs of the surrounding local community;*
- *To provide for pedestrian-friendly and safe shopping designed to cater particularly for the needs of all ages and disabilities;*
- *To encourage shop-top housing in association with small business uses.*

The maximum floor space ratio (FSR) in Zone 10-Neighbourhood Centre is 1:1.

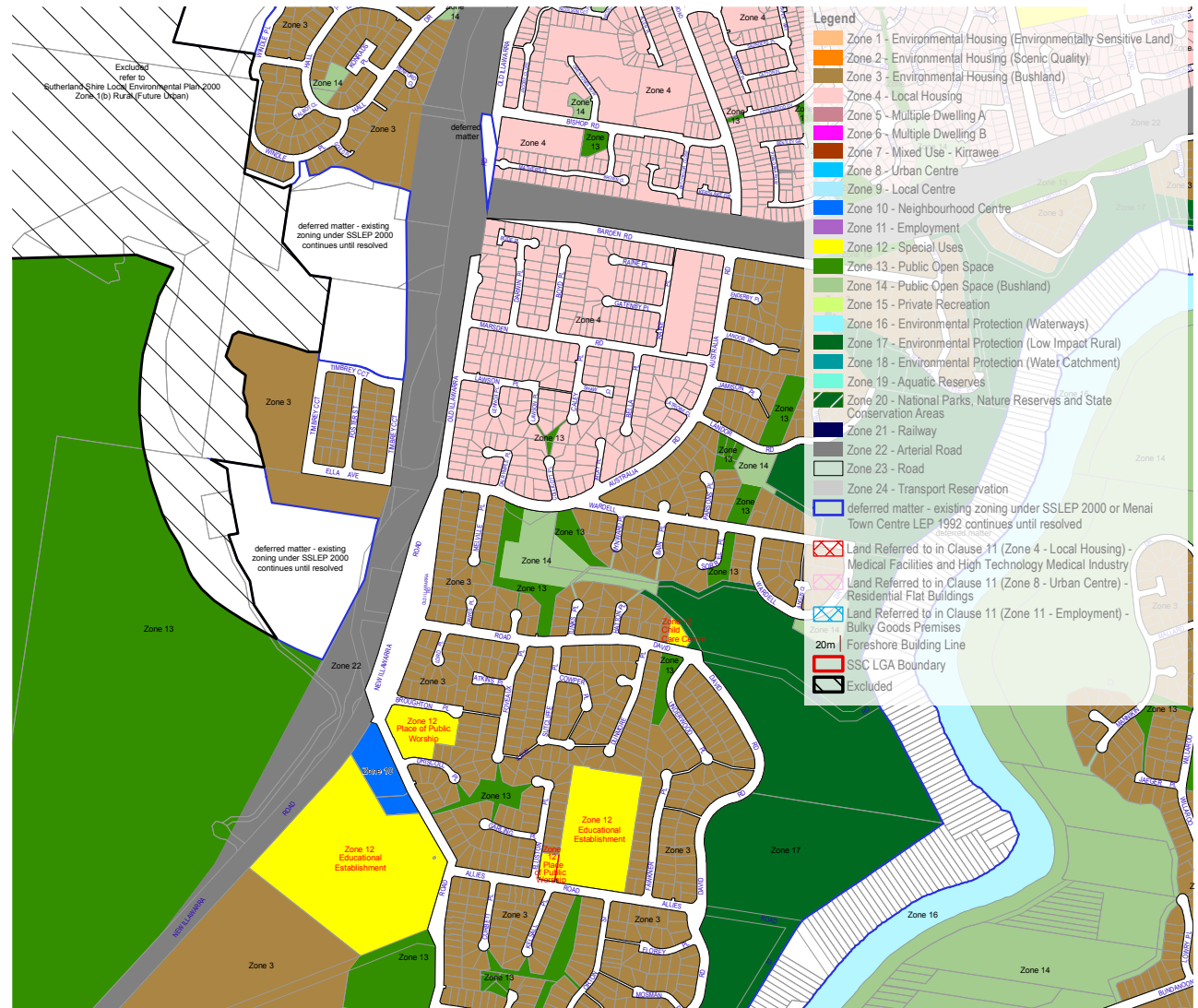


FIGURE 2 – ZONE MAP

2.2 SUTHERLAND SHIRE DEVELOPMENT CONTROL PLAN 2006: BARDEN RIDGE LOCALITY STRATEGY

Within the Sutherland Shire Development Control Plan 2006 (SSDCP 2006), a locality statement has been formulated for Barden Ridge. The objectives relating to development on the subject site are:

- *To provide a community focal point for retail and other services;*
- *To allow for local services and convenience retail shopping;*
- *To create of a 'mini-high street' that provides a meeting point and community focal point;*
- *To function as both an 'active' entry to Barden Ridge South as well as a bus collection and drop-off point;*
- *To increase opportunities for passive surveillance and a pedestrian friendly environment;*
- *To recognise the environmental constraints of the site, in particular its potential bushfire risk and the value of existing vegetation;*
- *To create an interesting and active street frontage that avoids long building forms along Old Illawarra Road.*

Further, the Barden Ridge Locality Strategy addresses accessibility issues relevant to the site, being:

- No vehicular access from New Illawarra Road; and
- Limited vehicular access from Old Illawarra Road.

2.3 KEY PLANNING CONTROLS

The site is zoned Zone 10-Neighbourhood Centre under the Sutherland Shire Local Environmental Plan 2006 (SSLEP2006). The key planning controls influencing the built form response, and the relationship to the proposal is noted as follows:

- Maximum FSR is 1:1; under this control the site can accommodate 9,380sqm of GFA and facilitate 4,690sqm of retail (under assumption of 50% shop top housing and 50% retail):
 - The proposal complies with a FSR of 0.4:1 (3710sqm of retail or retail related use).
- Building height being maximum 2 storeys:
 - The proposal complies as the building is one storey with a small part being two storeys in height, however its apparent bulk is two storeys due to the high floor to ceiling heights.
- Street setback control being nil for developments of two storeys and less:
 - The proposal complies.
- The proposed retail uses are permissible uses within Zone 10 - Neighbourhood Centre land use category.

3 ANALYSIS

3.1 REGIONAL CONTEXT

SITE LOCATION

The site is located at the north-western end of the Sutherland Shire LGA. Key contextual features of the site include:

- Proximity to residentially zoned areas to the south and the west;
- Proximity to several future potential land release areas to the north, south, and west, as indicated by Draft South Sub regional Strategy;
- Close to major transport routes, including the M1 Princess Highway and the M5 Motorway connecting to M7 Motorway and the potential future extension of the M6 Motorway to M7 Motorway;
- New Illawarra Road has replaced Old Illawarra Road as a result of the upgrading of the road network by the RTA during the last 10 - 15 years. This upgrading will continue with expected increase of traffic volume on New Illawarra Road;
- From Heathcote the road continues south towards Wollongong as the Princess Freeway. From Hornsby the road continues north towards Newcastle as the Sydney - Newcastle Freeway. This locates Barden Ridge and the site on the route from Wollongong to Newcastle.

FUTURE GROWTH BARDEN RIDGE

The Barden Ridge area has seen continued growth over the past 15 years and the area is expected to grow over the years to come.

The future release areas are expected to generate an additional 900 people within 1sq km catchment of the existing centre, bringing the total population to approximately 6,035. This translates to a total of around 3000 lots.

As such the Centre, based on the Growth Centers' Development Code (NSW) and Livable Neighbourhoods (WA) could support the uses found in a Neighbourhood Centre serving 3000-3500 lots, which includes (but not limited to):

- High school (6.6 ha).
- Primary schools (2 x 3 ha).
- Small supermarket and specialty stores in the order of 3000-4000 sqm.

The role of a neighbourhood centre is to facilitate the day-to-day needs for the surrounding residents. This role of such a centre differs from the sub regional orientated shopping centres of Menai Central and Menai Marketplace, which incorporates Discount Department store such as Big W and a number of mini-majors such as Dick Smith. Hill PDA's Barden Ridge Neighbourhood Centre Economic Impact Assessment reinforces the need for a neighbourhood centre; concluding that for supermarket and grocery stores:

- There is an existing demand for 2,200sqm (in 2009) of supermarket and grocery floorspace in the primary trade area (PTA) and secondary trade area (STA) north;
- There is an expected increase of demand for supermarket space by a further 1,200sqm in 2016 i.e. a total of 3,400sqm by 2016;

For all other types of retail:

- Forecasted growth over 2009 to 2016 would equate to demand for some 4,800sqm retail specialty floor space over this period; and
- On this basis the proposed development would account for less than 13% of the increase in specialty floor space demanded in the PTA and STA between 2009 and 2016.

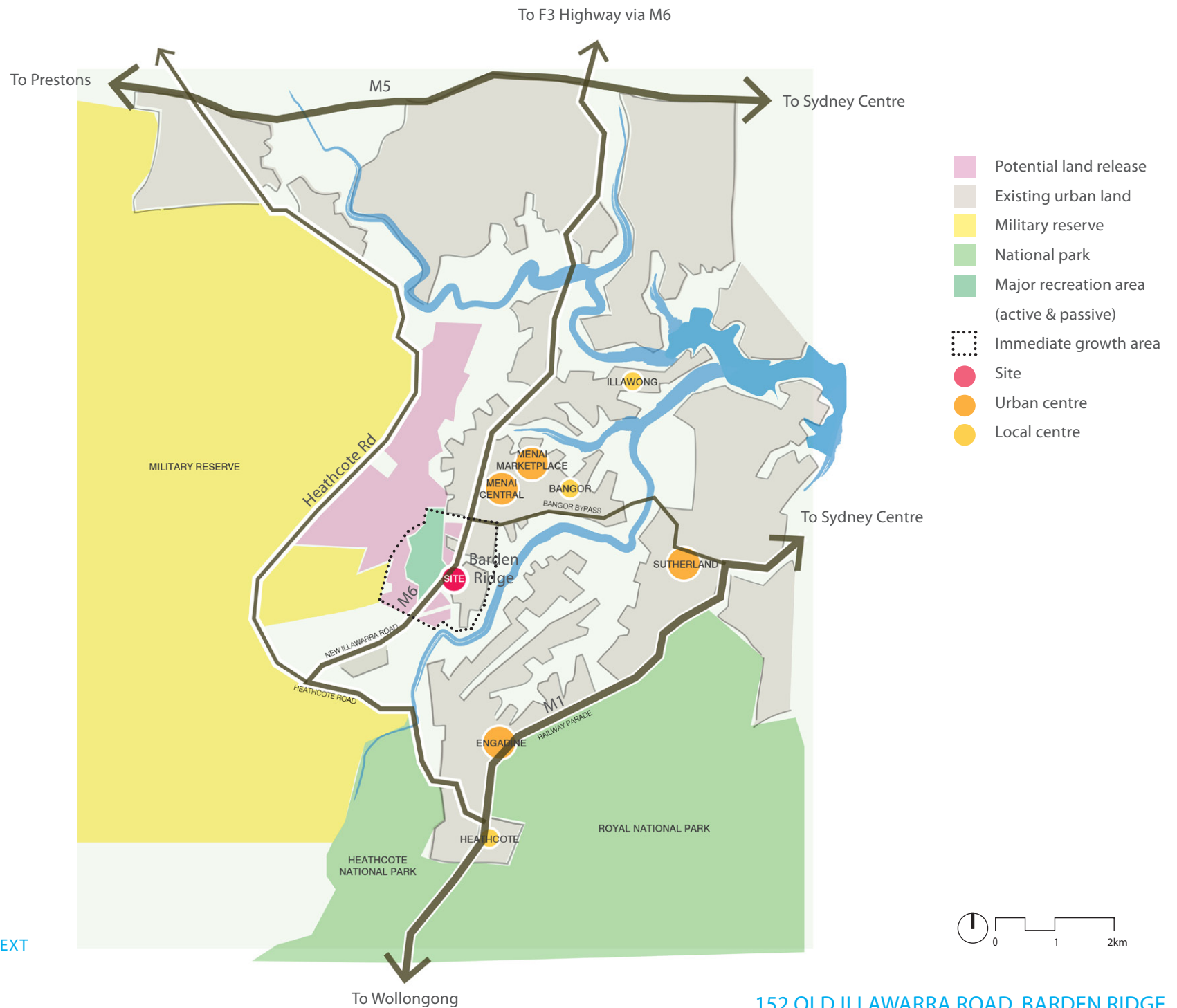
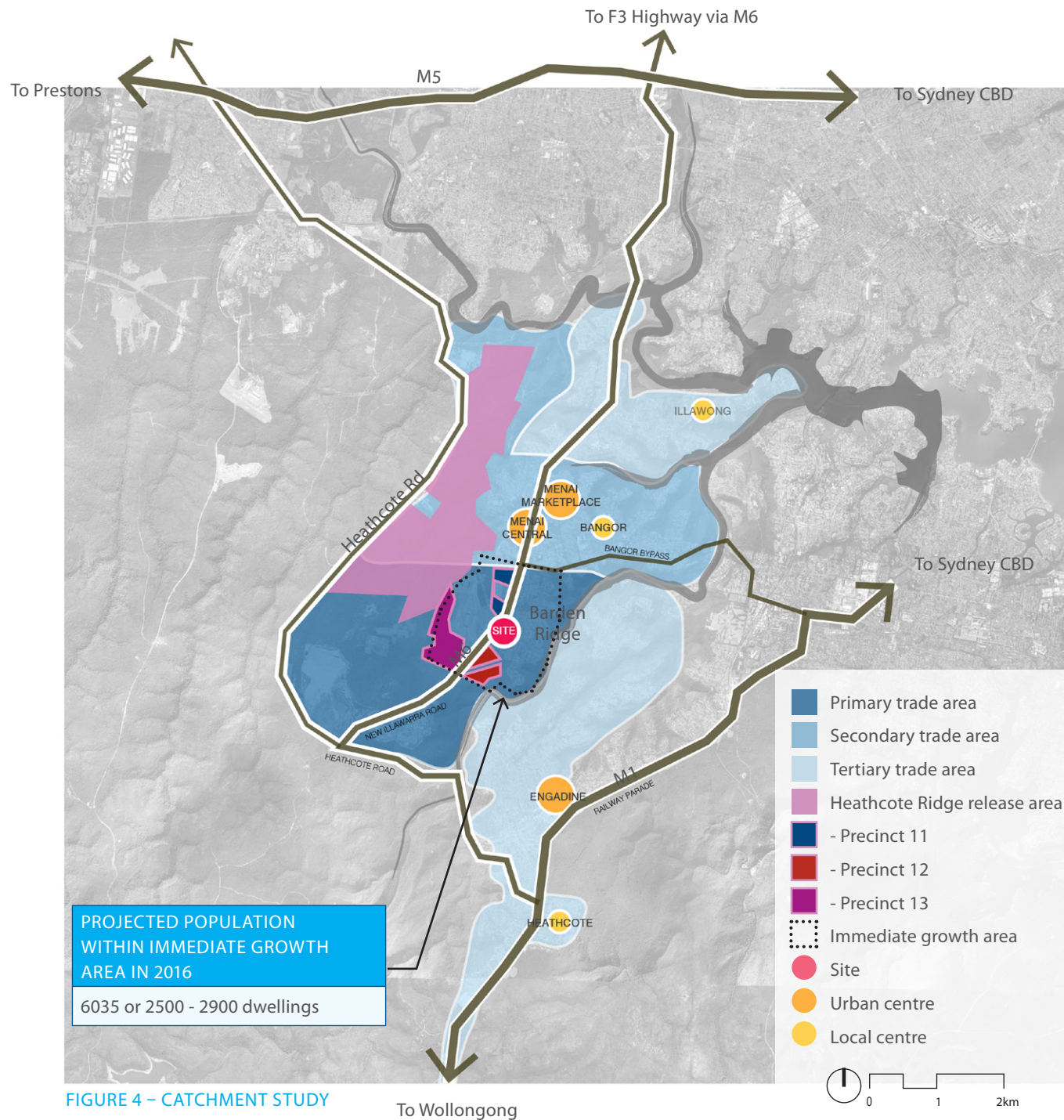


FIGURE 3 – LOCAL CONTEXT



TRADE AREA	CURRENT POPULATION (2006)	PROJECTED POPULATION (2016)
Primary	4,190	5,135
Secondary	15,919	17,157
Tertiary A (north)	10,925	11,547
Tertiary B (south)	28,826	30,953

ESTIMATED GROWTH OF HEATHCOTE RIDGE RELEASE AREA	
Total population	6300
Precinct 11 population	300 approx.
Precinct 12 population	300 approx.
Precinct 13 population	300 approx.

RESULTANT RETAIL DEMAND	
Existing undersupply of supermarket and grocery store floorspace (2009)	2,200m ²
Projected undersupply of supermarket and grocery store floorspace (2016)	#3,400m ²
Projected undersupply of other retail floor space (not including supermarket and grocery store) (2016)	#4,800m ²

Figures exclude any population increases associated with Heathcote Ridge Release Area

FIGURE 4 – CATCHMENT STUDY

To Wollongong

3.2 LOCAL CONTEXT

NEIGHBOURHOOD CENTRE

The Barden Ridge Neighbourhood Centre is well located in the middle of the locality, at the intersection of Old and New Illawarra Roads. Several land uses commonly found in neighbourhood Centres are located close to the subject site, strengthening the overall neighbourhood centre function. These uses include but are not limited to:

Education

- Lucas Heights Community School: a NSW Department of Education comprehensive K-12 school. The school caters for students from Kindergarten right through to the HSC. Enrolment is approximately 470 in the high school and 450 in the primary school. The school has a site area of around 9.18ha. The school site area has increased. A normal size for a high school is 6.6ha.
- Sutherland Shire Christian School: the school caters for students from Kindergarten right through to year 12 (K-12).

Place of Worship

- St Paul's Anglican Church.

Sport and Recreational

- The Ridge Golf Course and 52 bay golf driving range.
- 6 Playing fields (Netball, soccer).
- Athletics Track.

Retail Facilities

There are no retail facilities in the centre (the nearest retail Centre, being Menai Central, is two kilometers from the site). Residents must therefore travel outside the suburb to serve their day-to-day shopping needs.

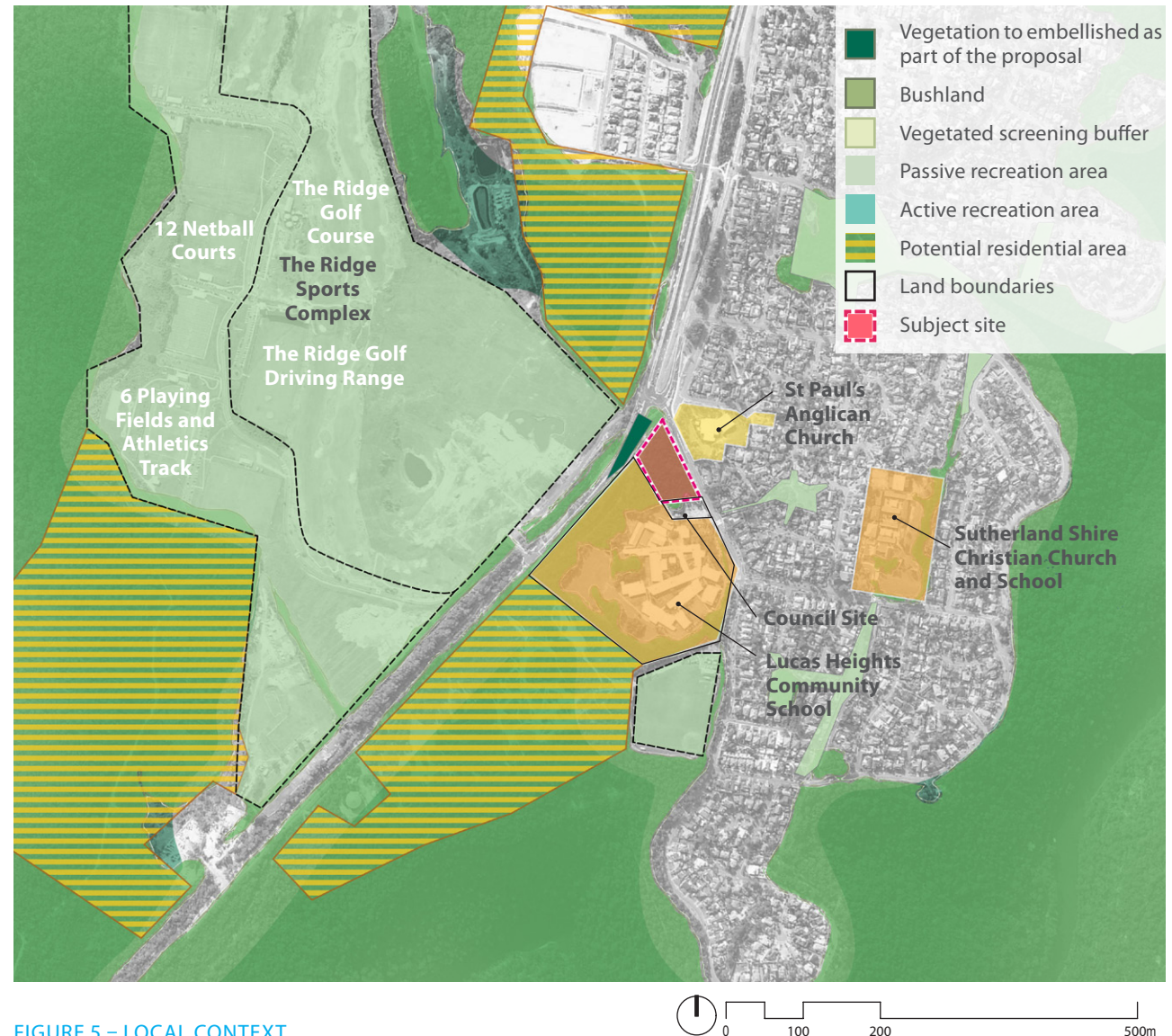


FIGURE 5 – LOCAL CONTEXT

3.3 CHARACTER

OVERALL CHARACTER

Barden Ridge is characterised by residential development within a natural setting. The character has changed over time from a bush land setting to an urban fringe area. This change has occurred through:

- The gradual development of zoned residential development;
- The bifurcation of New Illawarra Road;
- The substantive and significant intersection upgrade of New Illawarra Road and Old Illawarra Road; and
- The development of a regional sport complex and the conversions of the old landfill into the Ridge Golf course and Driving Range.

Barden Ridge Neighbourhood Centre

The centre of Barden Ridge comprises a K-12 community school and the St. Paul's Anglican Church and car park. There is no consistency between the built form of developments in the centre. The buildings are larger in scale than adjoining residential areas, and are partly screened by planting,

Residential Areas

The character of residential areas are constituted by detached single-family homes on cul-de-sac roads. The lots facing the roads do not have fences (see photo overleaf).

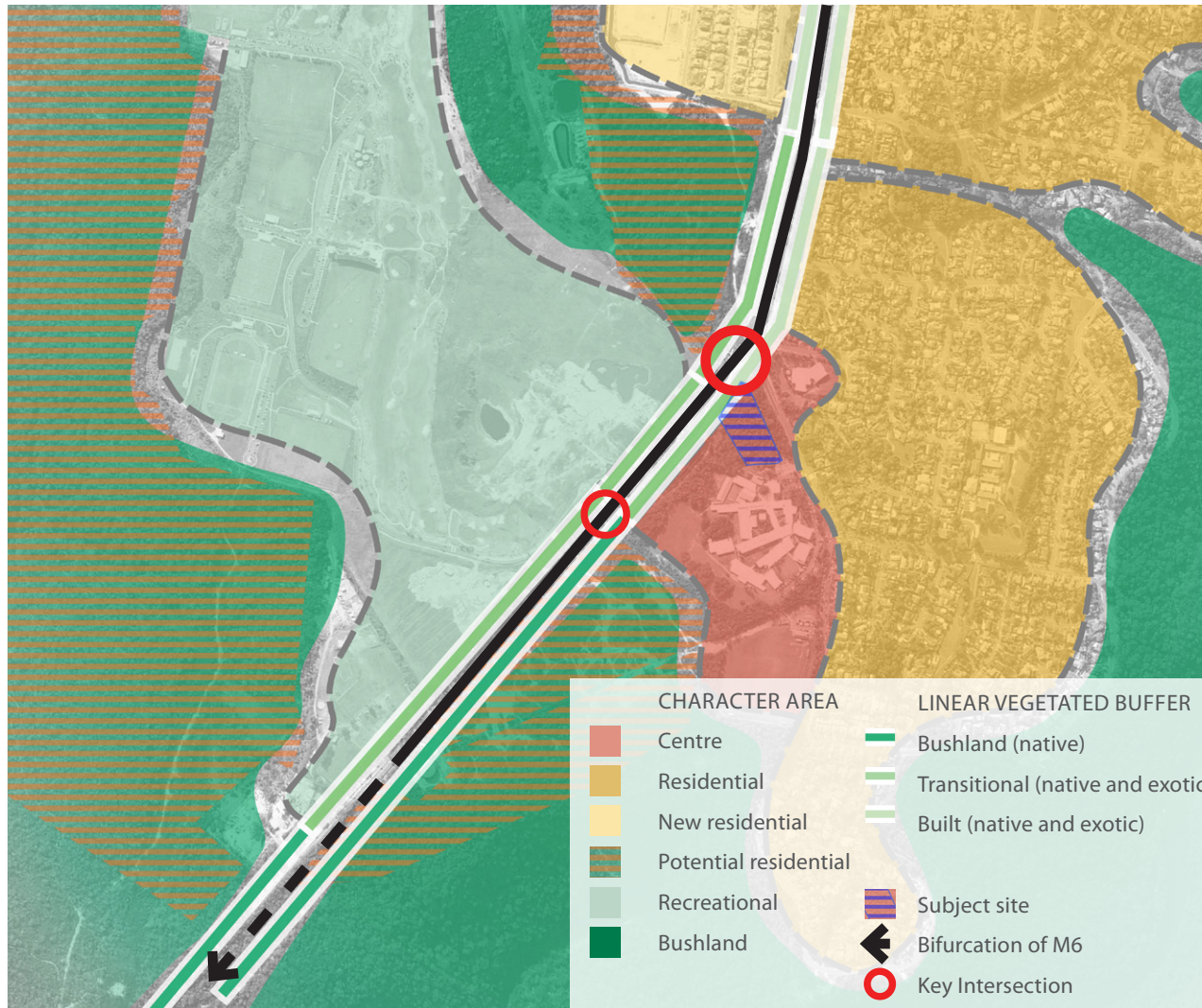


FIGURE 6 – CHARACTER AREAS

Recreational Area

A recreational area is located west of New Illawarra Road (see figure 4) and includes:

- The regional sports complex with the associated sports fields; and
- The Ridge Golf Course and Driving Range.

The old landfill has been converted into the Ridge Golf course and Driving Range.

The recreational area is a typical picturesque open sports area screened from New Illawarra Road and the rest of Barden Ridge by existing bushland buffer planting.

RTA Strip Landscape Planting

A strip of vacant RTA land is located between the east side of New Illawarra Road and the site with a width ranging between 10 - 15m. This strip has been re-landscaped and comprises young planting. The strip landscape planting is a typical 'left over' strip of land. Basic landscaping has been provided to achieve a level of aesthetics. This strip currently does not blend in the local character and is in danger of not being maintained over time.



Subject site comprises of vegetation regrowth to complement Barden Ridge bushland character



Residential character of Barden Ridge



Screening vegetation of Barden Ridge built form.

NEW ILLAWARRA ROAD CHARACTER

Existing Conditions

New Illawarra Road comprises three distinct character areas:

1. The fairly urban area on the northern part of New Illawarra Road is screened by a dominating mounted buffer. Housing is still visible behind this mound.
2. The middle part of New Illawarra Road is more transitional with a suburban character. Residential dwellings are clearly visible from New Illawarra Road. This character continues southwards towards the site. Planting screens residential dwellings predominantly on the east side of the road. The space separating Old Illawarra Road and New Illawarra Road is densely vegetated.

Opposite the site, west of Illawarra Road, lies the regional sport complex and the Ridge Golf course and Driving Range, previously the conversions of the old landfill. A bush land corridor has been retained to screen the sports and recreational areas from New Illawarra Road.

3. South of the Centre, New Illawarra Road changes in character towards Heathcote Road in the south. The road character changes from the Suburban Character of the center to remnant rural and bush land as one approaches the intersection with Heathcote Road.

Future Scenario

The character of Old Illawarra Road has changed over time with the upgrading up New Illawarra Road and it is expected that this will continue over time with the anticipated growth of Barden Ridge.

The long-term intention for New Illawarra Road is to become three moving lanes in each direction. The increasing traffic volumes on New Illawarra Road require the continuation of the bifurcation works from Barden Ridge to Heathcote Road to the south.

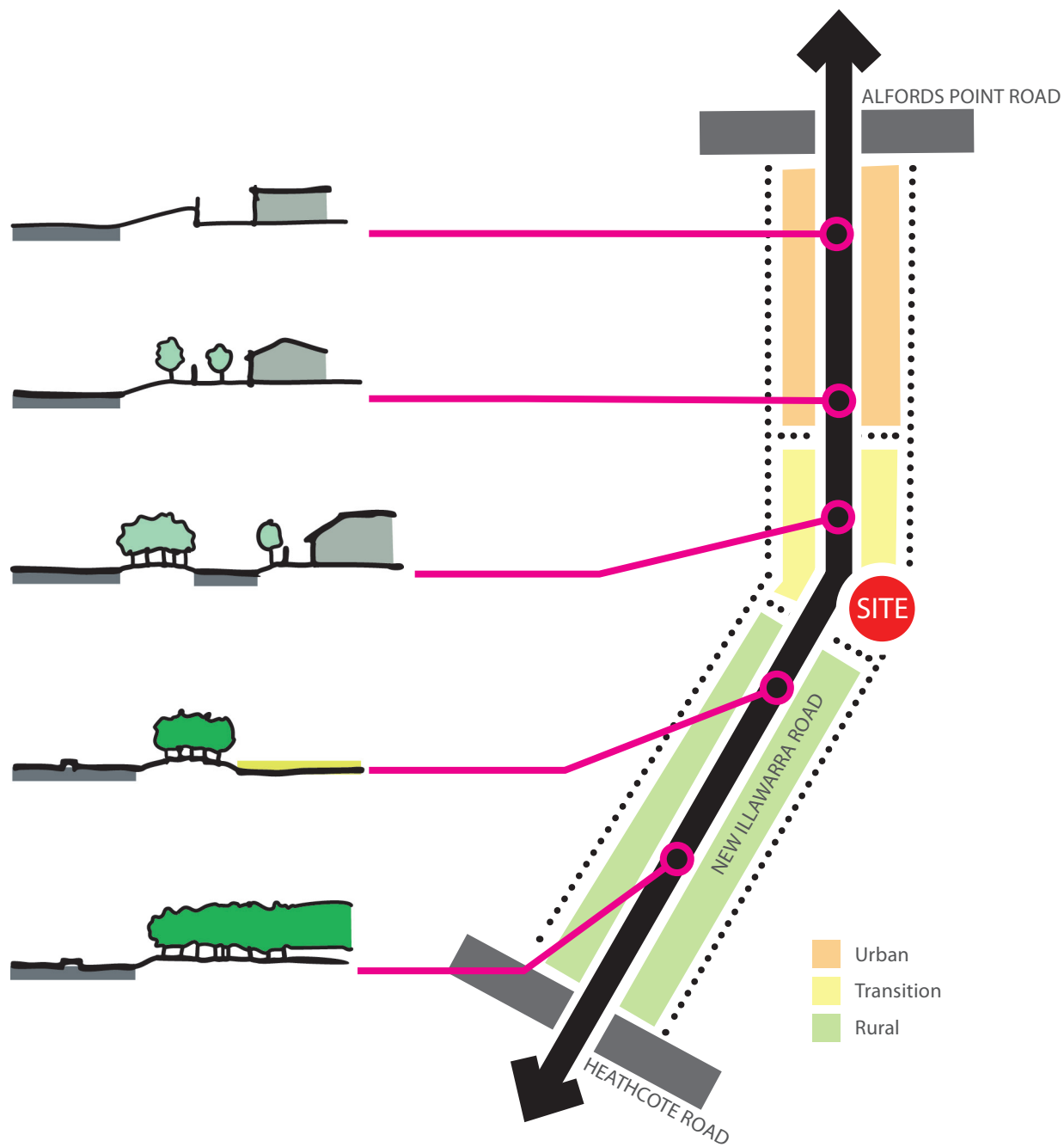
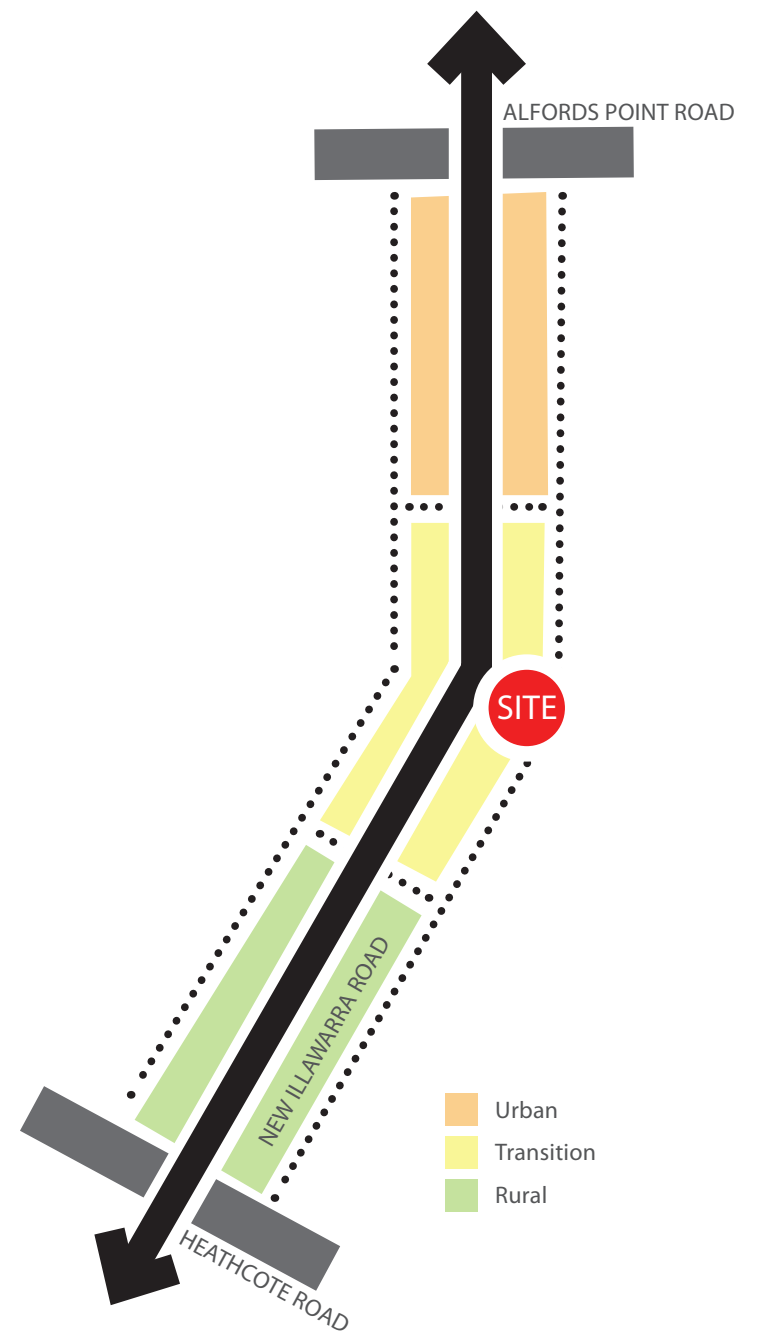


FIGURE 7 – NEW ILLAWARRA ROAD CONDITION

CURRENT



FUTURE SCENARIO

3.5 VISUAL ASSESSMENT

EXISTING CONDITIONS

Approaching from the north

The site is visible at its northwest corner (viewpoint 1) on approach from the north along New Illawarra Road, due to the curvature of the roadway and geometry of the intersection with Old Illawarra Road. Currently, land between the site and the intersection of Old and New Illawarra Road has been planted to re-establish the bush land character of the roadway. The site is visible from Old Illawarra Road as the broad side of the site fronts the roadway (viewpoint 2).

Approaching from the south

Travelling northbound along New Illawarra Road the development is likely to be partly visible from viewpoint 3, due to vegetation within the New Illawarra Road reserve and also within the adjacent school property to the southwest. From areas further south, there is limited visibility to the site from viewpoints 4 and 5, given the existing topography restricting distant views to the site. Existing vegetation on the edge of New Illawarra Road on approach from the south also restricts direct visibility into the site.

The visual character of New Illawarra Road is characterised by bush land screen planting forming a vegetated corridor along the roadway with building forms located behind.

Overhead power lines run along New Illawarra Road on the northern side of the site. The power lines are clearly visible and distract from the landscape setting of New Illawarra Road. The power lines do not form an obstruction to the view of the site.

Viewpoints discussed in detail under section 3.7.



FIGURE 8 – VISUAL ASSESSMENT KEY

3.6 VISUAL ANALYSIS

VIEWPOINT 1 – INTERSECTION OF NEW ILLAWARRA ROAD AND OLD ILLAWARRA ROAD

Users

The view from the Intersection of New Illawarra Road and Old Illawarra Road will be experienced by drivers and pedestrians. The duration of views to the site will be limited given the speed limit of 80km/hr.

Visual Quality

The quality of this view is dominated by a 4-lane (5th lane for vehicular turn-off) roadway with large expanses of asphalt at the intersection of Old Illawarra Road and New Illawarra Road. Dense vegetation forms the mid-ground to these views, framing the northern edge of the subject site.

St Paul's Anglican Church has a setback from Old Illawarra Road, which is used for car parking. Upon entering Barden Ridge this car park is clearly visible and strongly influences the entrance experience.

Likely Visual Impact

Recently installed tree planting on adjacent RTA road reserve to the north of the site will reduce the visibility of the development in the future, upon maturity. In the interim, the development will be visible from this location. The will establish a built form marker upon entry to Barden Ridge.

VIEWPOINT 2 – OLD ILLAWARRA ROAD (NEAR INTERSECTION WITH NEW ILLAWARRA ROAD)

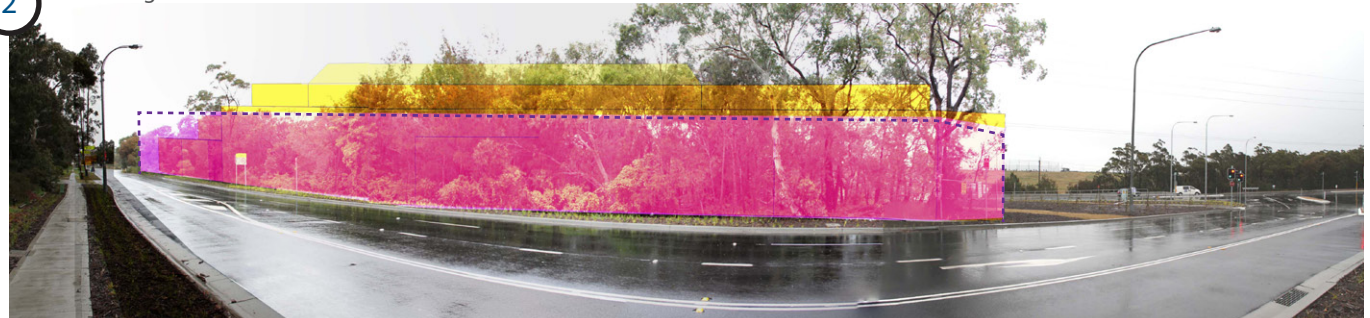
Users

From viewpoint 2, drivers and pedestrians travelling south along Old Illawarra Road, and users of St Paul's Anglican Church and car park will be able to view the site.

1 View of subject site from New Illawarra Road - Old Illawarra Road intersection with proposal built form



2 View along Old Illawarra Road



Visual Quality

On the eastern side of Old Illawarra Road, the visual quality is suburban in nature, with a surface car park and detached residential dwellings fronting this side of the street. Scattered streetscape vegetation is visible. On the western side of the street (the subject site), the view is dominated mainly by existing regrowth vegetation on the site. Further south along the western side of Old Illawarra Road, vegetation fronting the street is largely cleared, with exposed large building footprints associated with the Lucas Heights Unity School.

Likely Visual Impact

- The development will be visible from Old Illawarra Road;
- Development on site will result in a change to the existing view; and
- Retention of landscaped area on adjacent RTA road reserve to the north of the site will reduce visibility of the development from the northern portion of Old Illawarra Road into the future, as trees mature.

3

View from New Illawarra Road (Northbound)

VIEWPOINT 3 – NEW ILLAWARRA ROAD NEAR SITE
(LOOKING NORTH)

Users

Users from this point will be exclusively drivers and cyclists, as there are no pedestrian footpaths along this portion of the road.

Visual Quality

The visual quality of this viewpoint is dominated by a 4-lane (5th lane for vehicular turn-off) roadway with large expanses of asphalt and associated road infrastructure, light poles and power lines in the foreground. The mid-ground comprises dense vegetation along the northern site boundary, extending along the length of New Illawarra Road to the south.

Likely Visual Impact

The top of the proposed built form is likely to be visible from this location, as portions of the building's structure will extend above the existing tree line canopies. The proposal will be visible in the mid-ground of this view, and will be read in the context of an existing roadway and infrastructure in the foreground. Existing bushland adjoining the southwestern face of the building sits outside of the site, and will remain visible along the eastern side of New Illawarra Road.

4

View from New Illawarra Road (Northbound)

VIEWPOINTS 4 AND 5 – NEW ILLAWARRA ROAD
(LOOKING NORTH)

Users

Users from viewpoints 4 & 5 will be exclusively drivers and cyclists, as there are no pedestrian footpaths along this portion of the road.

Visual Quality

Viewpoints 4 and 5 largely show vegetated views along New Illawarra Road. Tree canopies particularly on the western side of New Illawarra Road dominate views from these locations south of the subject site. The interface between the tree line canopies and the sky are dominant visual features.

Likely Visual Impact

- Overall, the proposal's visibility ranges from exposed (Old Illawarra Road, facing the site), to partially visible (New Illawarra Road south of the site); and
- The development will retain the character of New Illawarra Road as a major roadway with vegetated edges.

5

View from New Illawarra Road (Northbound)



VISUAL ANALYSIS SUMMARY

Development will be clearly visible on the site.

The visual assessment indicates that a car park on the subject site along New Illawarra Road will:

- Not clearly mark the site from a distance;
- Not present a clear entry to Barden Ridge; and
- Will not provide an appropriate entry to the centre.

A car park should not be located at this corner. A building at the crossing of Old and New Illawarra Road can create a good entry statement for Barden Ridge. Given that the building has one ownership, quality of the built form can be better managed and such a building is preferable.

3.7 ENTRY AREA ASSESSMENT

Barden Ridge currently does not have a strong legible entry, mainly because of the lack of built form presence at the intersection of Old and New Illawarra Road. Other contributing factors include the following:

- St Paul's Anglican Church is setback from Old and New Illawarra Road;
- This setback area is car park for the Church;
- The Church car park does not contribute to a legible entry area; and
- The Church car park is situated behind buffer planting.

IMPLICATIONS OF PROPOSED RETAIL DEVELOPMENT

Car parking on the subject site adjacent to the large intersection would not provide an or appropriate entry for the Centre.

A building located on the northern side of the site and along New Illawarra Road can create an entry statement to Barden Ridge and the Barden Ridge Neighbourhood Centre, which has the preference over car parking, either at grade or as a 2-storey car park.

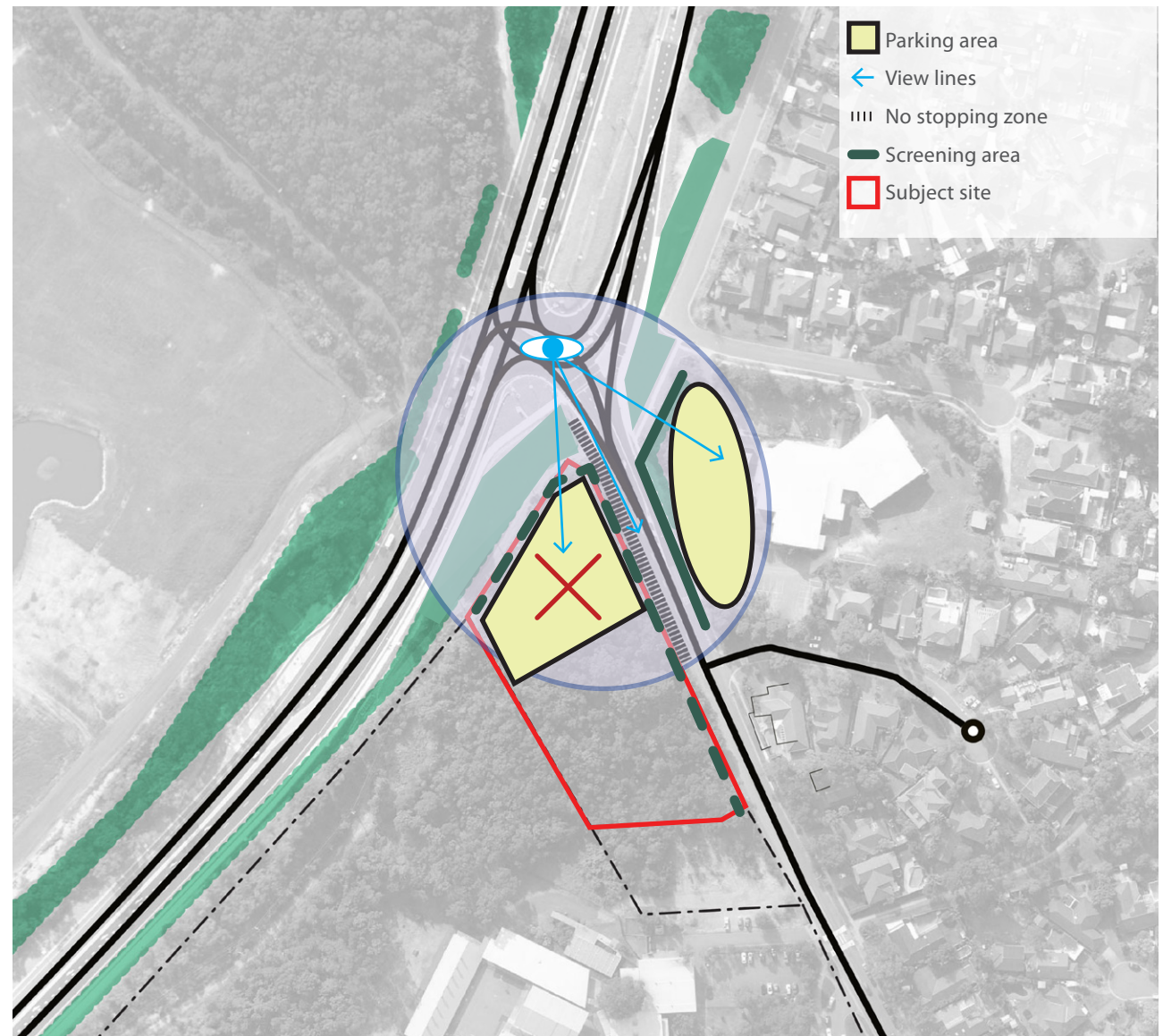


FIGURE 9 – COMPOSITE DIAGRAM

3.8 TOPOGRAPHY

The slope analysis indicates:

- The site's topography gently falls at approximately 2.7% in a westerly direction towards New Illawarra Road. The slope falls 5.6% from the southeast corner to the west corner and 2% across the narrow dimension of the site;

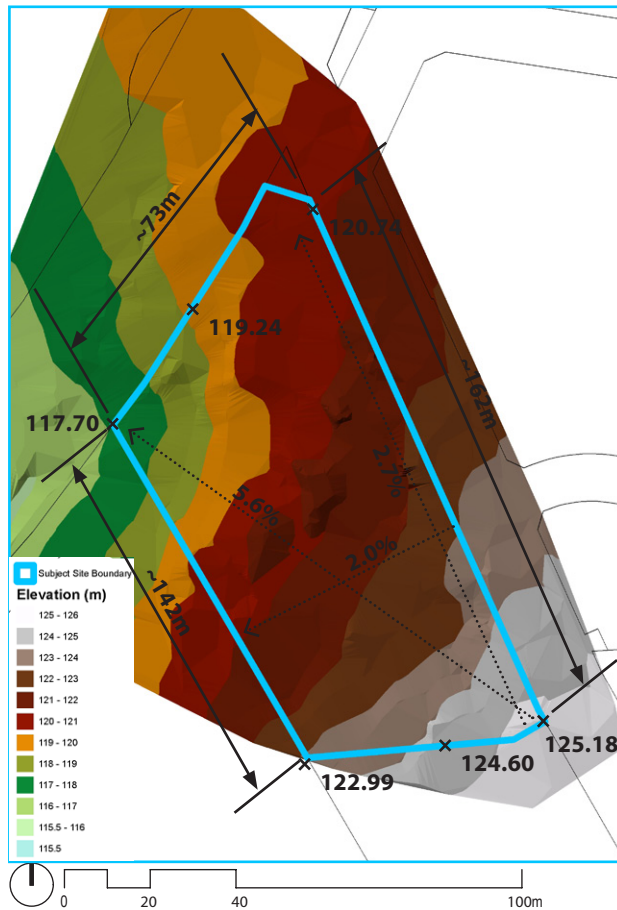


FIGURE 10 – ELEVATION TOPOGRAPHY MAP

- The least amount of slope is in the northern part of the site; and
- The sloping across the site falls in parallel direction to New Illawarra Road.



FIGURE 11 – SLOPE TOPOGRAPHY MAP



View of subject site from New Illawarra Road - site sloping down West along the property boundary.



View of subject site from Old Illawarra Road - site sloping gently down towards the northern part of the site.

Response to Topography - Option 1

The area in the northern part of the site represents the best location for a building:

- This is the largest area of relatively flat land;
- The site here is situated about 5 m lower than at the site's southern boundary. Building on the southern part of the site will visually impact the neighbouring residential area greatly;
- A building has the potential to create an entry statement; and
- The area south of the building can be utilised as car park area. Car parking should follow the direction of the contours to best integrate the development into the natural environment.

Response to Topography - Option 2

The area in the middle part of the site is a possible building location from a slope point of view. This option is not a desired outcome:

- The site here is situated about 3-4 m higher than at the site's northern boundary. Building on this part of the site will visually impact the neighbouring residential area greatly; and
- The car parking will be broken up in two parts (to the north and south), which is not practical from a retail point of view.

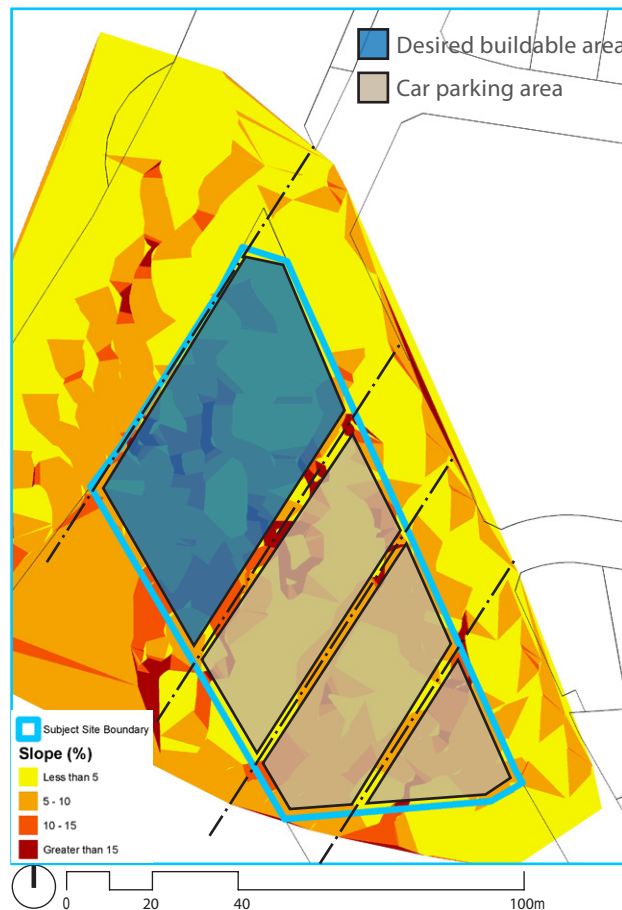


FIGURE 12 – TOPOGRAPHY OPTION 1

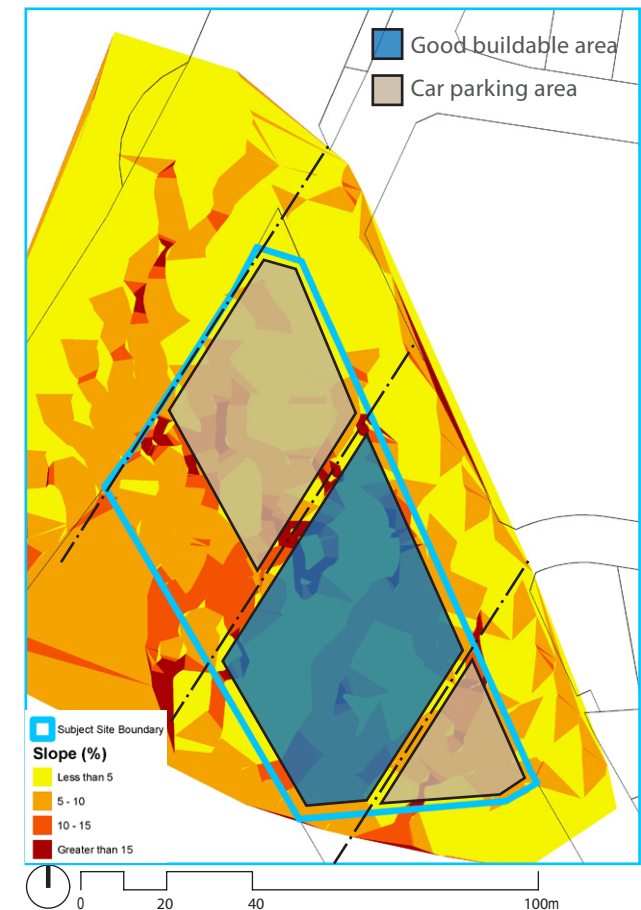


FIGURE 13– TOPOGRAPHY OPTION 2

3.9 VEGETATION

GREENWEB STRATEGY

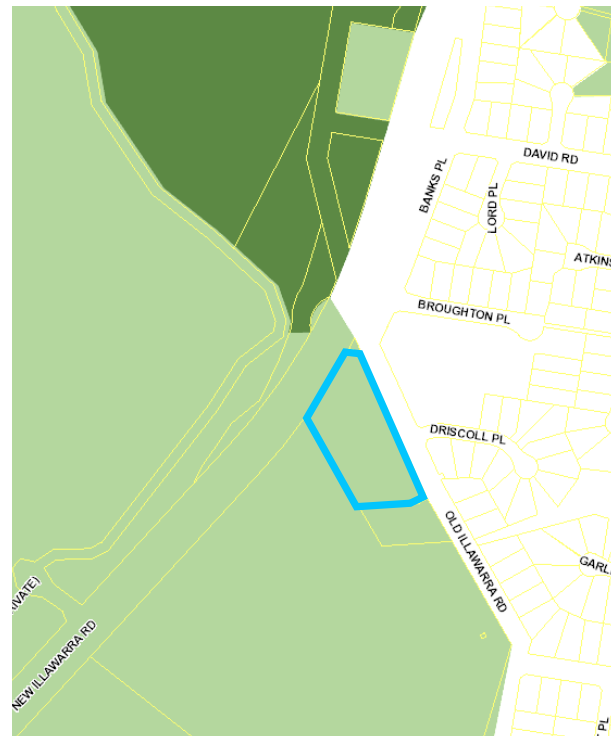
The subject site is located in the Sutherland Shire's Greenweb Strategy. The following applies to the site:

- The subject site is identified as 'Support' area;
- Flora and Fauna Assessment undertaken by Cumberland Ecology has determined that the site's vegetation does not form part of a greenweb corridor and its removal will not disrupt connectivity to other vegetated areas;



FIGURE 14 – GREENWEB STRATEGY MAP

- The site does not significantly impact the Greenweb Support area, particularly when it was a landfill site and now a sporting complex and golf course.
- The areas south of the site along New Illawarra Road are zoned for development. This indicates that the majority of vegetation in the immediate surrounding of the site will be removed (see fig 16).



The amount of bush land to be removed will not adversely impact on the scenic values of the area, nor will it compromise the visual identity of Barden Ridge. Large areas of bush land remain in adjacent areas and will maintain the character of the locality.

New Illawarra Road dissects wildlife corridors and vegetation links and has resulted in the limited function of the corridor. The removal of vegetation for the proposal will therefore not significantly impact the habitat corridor and vegetation links with surrounding bush land, the main existing link being retained further south of the site along New Illawarra Road in the area identified as Greenweb Core.

SITE BUSHLAND VEGETATION

A detailed flora and fauna survey including identification of hollow-bearing trees has been carried out. This analysis has confirmed that the proposed works are acceptable from an ecological viewpoint. This report has been included as part of the DA package.

BUSHFIRE

The site is adjacent to the Lucas Heights Community School land consisting of bushfire prone vegetation. Bushfire risk should be addressed here as outlined in the Bushfire Protection Assessment, prepared by ABPP.

The land to the south of the site is cleared from vegetation and does not pose a fire risk.

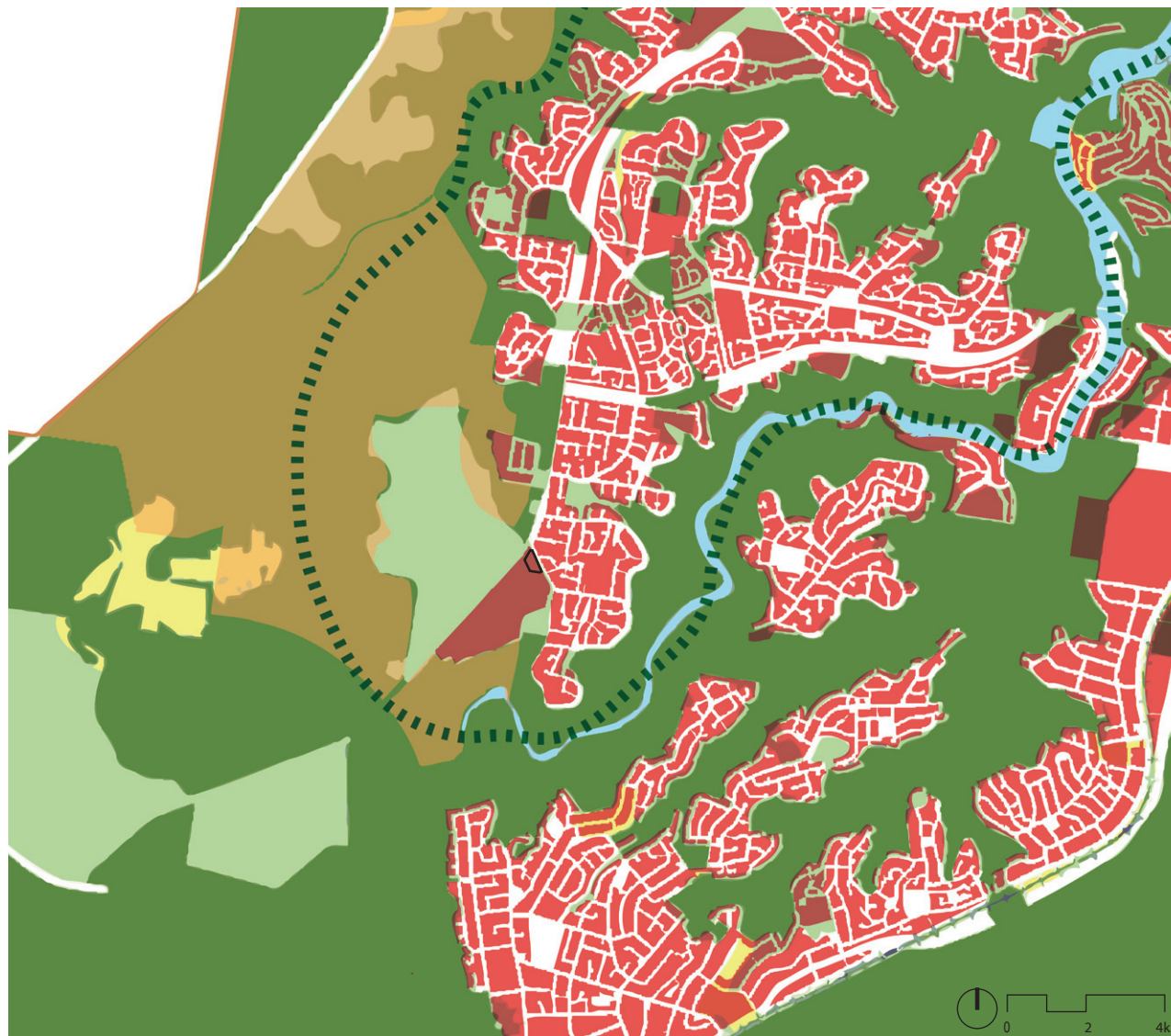


FIGURE 15– GREENWEB STRATEGY MAP

- Core
- Support
- Restoration
- Areas zoned for development
- Areas zoned for future development
- Potential Greenweb Connection



Vegetation on New Illawarra Road identified as “Greenweb Core” in Sutherland Shire’s Greenweb Strategy



Vegetation on Old Illawarra Road identified as “Greenweb Support” in Sutherland Shire’s Greenweb Strategy

3.10 URBAN AND BUILT FORM

URBAN FORM

The urban form in the immediate context of the subject site varies both in building footprint size as well as height. There is no relationship between the buildings surrounding the site. Buildings are placed in an ad-hoc and random manner within the landscape, which determines the existing character of the area.

BUILT FORM

The various built form elements are listed below:

1. St Paul's Anglican Church: placed with a setback from both Old and New Illawarra Road and screened by buffer planting. The church has the appearance of a 2 storey building with long pitched roofs.
2. Lucas Heights Community School: situated mostly behind buffer planting except the main entry, which is clearly visible from Old Illawarra Road. The School building appears as a 2-3-storey building and has a drop off area in front. The School presents a fragmented and modulated built form, which reduces the bulk and scale of the building. Longer built forms are positioned away from Old Illawarra Road, minimising the impact of the school building to its surrounding.
3. Detached residential housing: mainly comprising of 1 and 2-storey buildings with tiled pitched roof comprising of brick. Most residential housing have no front yard fences, which contributes to the overall character of the area.
4. Sutherland Shire Christian School: blends in well with its context. The main building is situated away from the street. The School has its main entry on Allies Road where the school building is of a smaller scale and more compatible to the surrounding residential houses.



FIGURE 16- FIGURE GROUND

IMPLICATIONS OF PROPOSED RETAIL DEVELOPMENT

The development creates a strong statement on the corner of Old and New Illawarra Road signalling the entry to Barden Ridge Neighbourhood Centre. The increased road dimension and intersection, as well as the overhead power lines create the need for a strong built form that can act as an entry point to Barden Ridge. As an entry building it is critical that the facade is not perceived as a bulky blank wall, but rather a modulated facade, complementing the Barden Ridge scale and character.

1 St Paul's Anglican Church



2 Lucas Height Community School



3 Sutherland Shire Christian School



4 Existing residential



3.11 NEIGHBOURHOOD CENTRES STUDY

A study of comparable (level 9 and level 10) Centres within the Sutherland Shire LGA has been assessed in comparison to the subject site (subject site area overlayed in red), in terms of:

- Zoning;
- Size;
- Built Form and Structure;
- Accessibility and Loading;
- Car Park;
- Landscape; and
- Ownership.

SYLVANIA WATERS

Zoning

- Zone 10 - Neighbourhood Centre

Size

- Sylvania Waters comprises of an area of 11,920 sqm and with a GFA of 3,200 sqm

Built Form and Structure

- Does not provide a mini-high street
- Majority of shops fronts on to the central car park
- Does not provide continuous active edges along the street

Accessibility and Loading

- Loading via rear lane that backs onto residential

Car Park

- Car parking is located in the Centre of the site, which makes it a car-dominated development

Landscape

- Minimal vegetation on site and along the street

Ownership

- Strata title, which makes it difficult to:
 - Amalgamate for redevelopment;
 - Create consistency of retail development quality; and
 - Overall maintenance of Centre.



SYLVANIA WATERS - ZONE 10

TYPE	AREA (SQM)
Site area	11,920
GFA	3,200



FIGURE 17 – CENTRES STUDIES, URBIS + GOOGLE MAP
152 OLD ILLAWARRA ROAD, BARDEN RIDGE

KIRRAWEE

Zoning

- Zone 9 - Local Centre

Size

- Kirrawee comprises of an area of 16,400 sqm and a GFA of 6,260 sqm
- This is more than 1.5 times the site area of Barden Ridge and around 1.7 times the GFA of Barden Ridge

Built Form and Structure

- Creates a mini-high street retail strip
- Provides continuous active edges
- Requires sites on both side of the street

Accessibility and Loading

- Loading via rear lane that backs onto residential

Car Park

- Limited on street car parking with open parking to the south - viable because adjacent to railway station

Landscape

- Formal Street trees presence
- Limited vegetation within the sites

Ownership

- Strata title, which makes it difficult to:
 - Amalgamate for redevelopment;
 - Create consistency of retail development quality; and
 - Overall maintenance of Centre.



KIRRAWEE - ZONE 9

TYPE	AREA (SQM)
Site area	16,400
GFA	6,260



FIGURE 18 – CENTRES STUDIES, URBIS + GOOGLE MAP

BARDEN RIDGE (SUBJECT SITE)

Zoning

- Zone 10 - Neighbourhood Centre

Size

- Subject site comprises of an area of 9,820 sqm and with a GFA of 3,710 sqm

Built Form and Structure

- Does not provide a mini-high street
- Single building

Accessibility and Loading

- Loading via Old Illawarra Road away from residential.

Car Park

- Sufficient amount of car parking
- Car parking is dominant as surface parking

Landscape

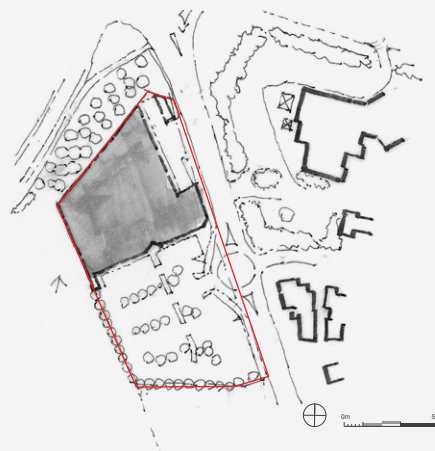
- Landscaped car parking
- Provides a high number of vegetation for development of this scale and type.

Ownership

- Single ownership, which makes it easier to:
 - Amalgamate for redevelopment;
 - Create consistency of retail development quality; and
 - Overall maintenance of Centre.

BARDEN RIDGE - ZONE 10 (SUBJECT SITE)

TYPE	AREA (SQM)
Site area	9,820
GFA	3,710



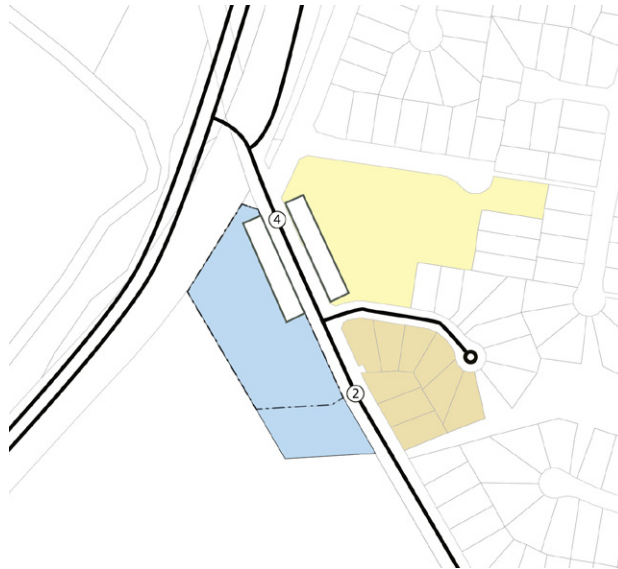
CONCLUSION

- The subject site is not large enough to incorporate a mini-high street, as discussed in the following section.
- The subject site has a single ownership, which is beneficial for retail development quality and maintenance.
- Loading is not backing onto residential in the proposal for the subject site.

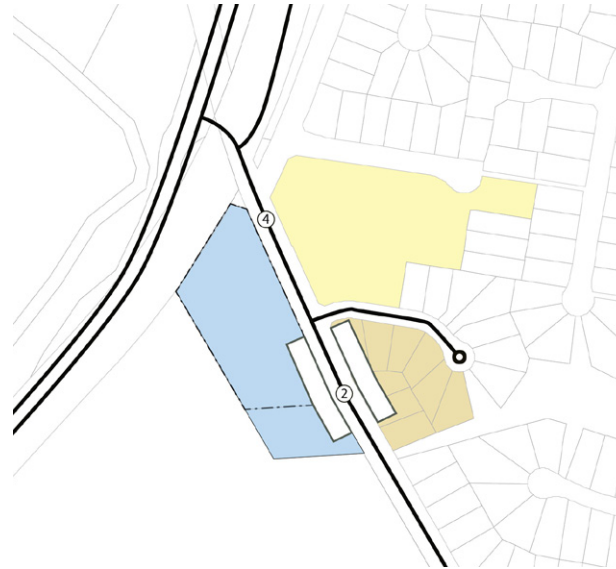
FIGURE 19 – CENTRES STUDIES, URBIS + GOOGLE MAP

3.12 MINI-HIGH STREET VIABILITY SCENARIOS

OPTION 1: MINI-HIGH STREET ON OLD ILLAWARRA ROAD ADJACENT TO M6 INTERSECTION



OPTION 2: MINI HIGH-STREET ON OLD ILLAWARRA ROAD PARTIALLY ON SITE AND ON COUNCIL LAND



-  Indicative mini-high street building
-  Zone 10 - neighbourhood centre
-  Zone 12 - place of public worship
-  Zone 3 - environmental housing (bushland)
-  Number of traffic lanes
-  Subject site

FIGURE 20 - MINI-HIGH STREET STUDY

The viability of a mini-high street on the subject has been analysed, with the following outcomes:

WILL NOT WORK BECAUSE:

- Adjacent land not correct zone category. It is Zone 12 - Place of Public Worship;
- Would likely require the demolition of an existing structure (the Church);
- On-street parking is not permitted (no stopping zone);
- Undesirable to cross four lanes of roadway towards the northern end of Old Illawarra Road for cross-shopping.

WILL NOT WORK BECAUSE:

- Adjacent land not correct zone category, Zone 3 - Environmental Housing (Bushland);
- Would require assembling multiple parcels of land under fragmented ownership;
- Would require the demolition of multiple existing structures (residential homes);
- Would introduce noise amenity impacts on directly adjoining properties; and
- Would introduce visual impacts on directly adjoining properties.

3.13 VEHICULAR ACCESSIBILITY

EXISTING CONDITIONS

The site is well positioned next to the major intersection of New Illawarra Road and Old Illawarra Road. Significant traffic volumes on New and Old Illawarra Road result in an optimal location for a neighbourhood centre near this intersection.

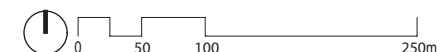
Old Illawarra Road (whilst being the original main north-south road) now acts as a service road running parallel along the eastern side of New Illawarra Road. Old Illawarra Road provides local vehicular access to the site from the north and southeast.

The Old and New Illawarra Road interchange has altered the character of the area and Barden Ridge significantly. Previously a roundabout, it is now a signalised interchange with multiple lanes.

The scale of the interchange and intensity of the New Illawarra Road create an opportunity to use the built form as a buffer between the Road and residential area. As it is currently a T-intersection formation, there is a future opportunity to extend the interchange into a full intersection to access the potential land release to the northwest.



FIGURE 21 – VEHICULAR CIRCULATION



VEHICULAR ACCESS TO THE SITE

The site is well positioned within Barden Ridge and is accessible both regionally and locally.

New Illawarra Road connects the site with the wider region, whilst Old Illawarra Road connects the site to the surrounding residential areas of Barden Ridge.

The road network of Barden Ridge is structured effectively as loop roads with most loops joining Old Illawarra Road. Old Illawarra Road provides direct access to the site and as such the site is well integrated in to the local road network.

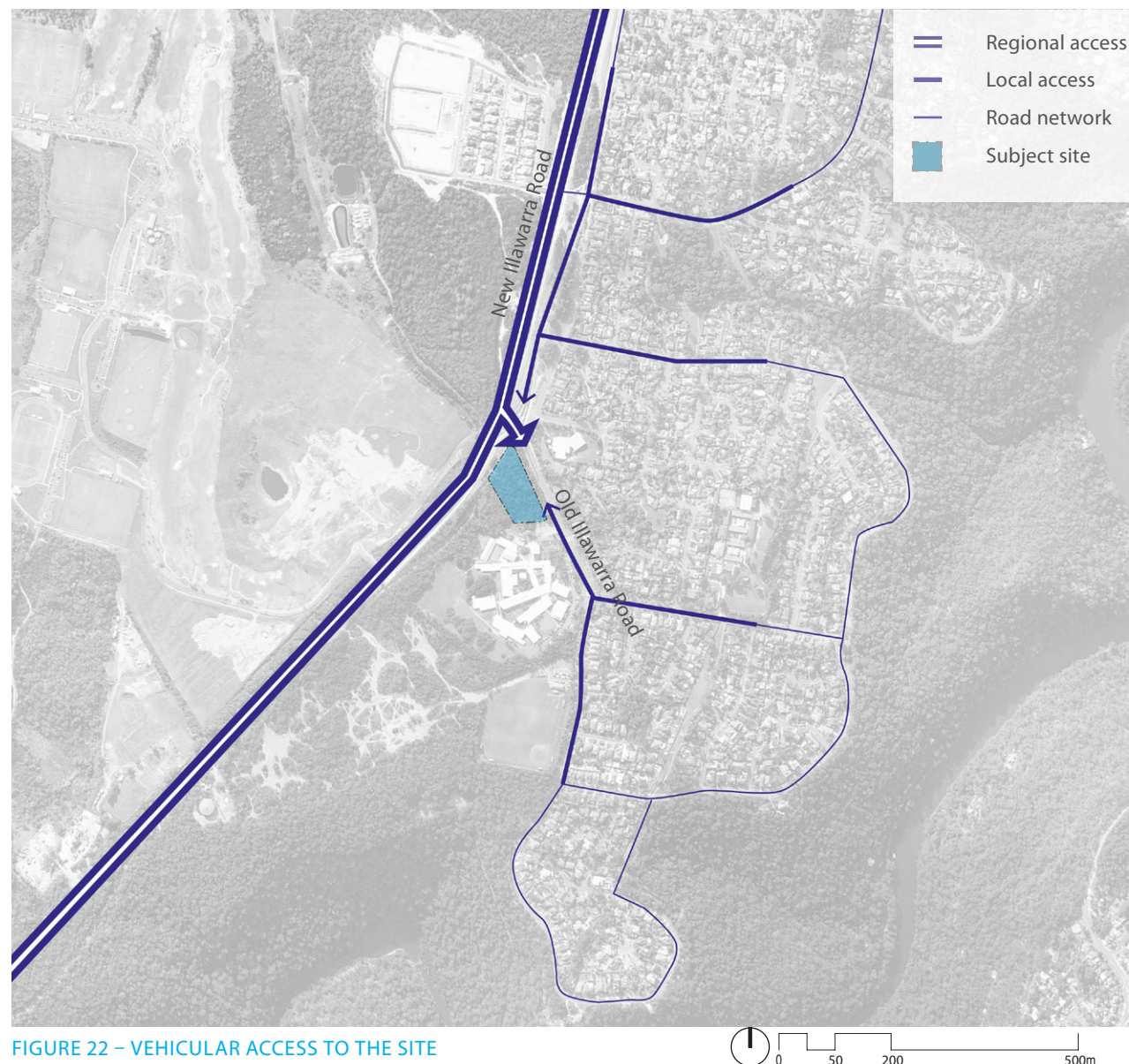


FIGURE 22 – VEHICULAR ACCESS TO THE SITE



VEHICULAR ACCESS INTO THE SITE

Limited access can occur from Old Illawarra Road as outlined in the Barden Ridge Locality Strategy of the SSDCP 2006.

The site is adjacent to School land on the west side of the site zoned as Zone 12 - Educational Establishment and Council land on the south side of the site currently zoned as Zone 10 - Neighbourhood Centre. Access to the site along these boundaries will not be possible.

The only area from where the site can be accessed is from Old Illawarra Road. The traffic movements (i.e. queues for the light) with regard to the intersection at New and Old Illawarra Road may restrict access to site in close to the intersection.

There is a 'no stopping' zone on Old Illawarra Road due to the close proximity of New Illawarra Road intersection and on-street parking is not possible in this area.

A 'no stopping' zone is not conducive to creating active street frontages at this location.



FIGURE 23 – VEHICULAR ACCESS INTO THE SITE

OPTION 1



ASSESSMENT OF LOADING OPTIONS

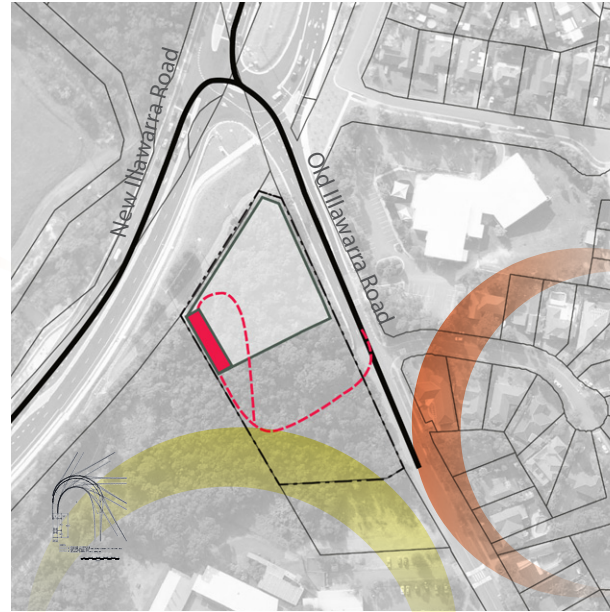
The following options have been reviewed and assessed by Colston Budd Hunt & Kafes Pty Ltd regarding traffic. The loading options assessed on this page relate to the proposed development option with the building situated on the northern part of the site.

Option 1

Loading bay along New Illawarra Road is not appropriate as:

- This facade forms the entry to Barden Ridge from New Illawarra Road;
- Turning circle requires too much space to comply with AS2890.1-2004;
- Access into the site would be limited to left in/ left out due to closeness with traffic signal controlled intersection with New Illawarra Road; and
- No access allowed directly from New Illawarra Road by RTA.

OPTION 2



Option 2

Loading bay towards western side of the site is not appropriate as:

- Turning circle requires too much space to comply with AS2890.1-2004; and
- Loading trucks integrated with car park is not desirable from safety point of view and quality of shopping experience.

Option 3 (Proposed option)

Loading bay along Old Illawarra Road is achievable as:

- Turning circle can be formed as part of Old Illawarra Road through a round a bout, which complies with AS2890.1-2004;
- Loading bay requires appropriate screening. This side is clearly visible upon entering Barden Ridge from New Illawarra Road; and
- Loading trucks are separated from car park.

OPTION 3 (PROPOSED OPTION)



- | | |
|--|--|
| Loading area | Residential interface |
| Loading route | School interface |
| Subject site | |

Colston Budd Hunt & Kafes Pty Ltd transport assessment of the options concludes that the proposed option provides the best traffic outcome:

- Trucks are separated from car park;
- Round a bout deals which complies of AS2890.1-2004;
- Provides good access to the site; and
- Car park access far enough away from the intersection with New Illawarra Road.

FIGURE 24 – LOADING ACCESS INTO THE SITE

No stopping sign



No stopping zone identified adjacent to site on Old Illawarra Road

IMPLICATIONS OF PROPOSED RETAIL DEVELOPMENT

For cars, the site is only accessible from Old Illawarra Road south of the 'no stopping' zone due to the proximity of the intersection of Old and New Illawarra Roads. It is however possible to manage loading here between am - pm peak periods.

The assessment of loading options confirms the best loading option can be achieved by two points of access, separating delivery of goods from main car park for the visiting public. A roundabout is proposed on Old Illawarra Road. The roundabout forms the main entry to the car park, and acts as a turning circle for the delivery trucks to enter and exit the building.

The preferred outcome for loading is along Old Illawarra Road in the northern part of the site, provided it is well screened with minimal visual impact on Old Illawarra Road.



Major at-grade intersection adjacent to site

3.14 PEDESTRIAN AND CYCLIST ACCESSIBILITY

EXISTING CONDITIONS

The layout of Barden Ridge has been designed with public open spaces connecting the cul-de-sac ends, providing for a traffic free pedestrian and bicycle network, as indicated in figure 25. Consequently, Barden Ridge has high level of pedestrian accessibility given the significant and well-interconnected network of pedestrian pathways that exist throughout the adjacent residential neighbourhoods. As such the site is accessible by foot and bicycle, by a large portion of the surrounding residents.

Controlled and formal pedestrian crossings are located within 50 m both north and south of site.

Currently the verge along the site has no footpath to connect the site to the school to the south, nor to the intersection to the north.

There exists an opportunity to connect the cycle routes identified by Council and RTA and to fill the gap in the pedestrian network along Old Illawarra Road adjacent to the site. The development of the site will build on and complement the existing pedestrian network. This will potentially encourage residents to use the car less for their day-to-day shopping.

The site's central location to the existing built environment as well as future land releases provide a great opportunity to extend the network of pedestrian and cycle routes to the west across New Illawarra Road and to the south.

IMPLICATIONS OF PROPOSED RETAIL DEVELOPMENT

The site will become a main destination for Barden Ridge neighbourhood. Filling the gap in the pedestrian and bicycle network will potentially encourage residents to use cars for day-to-day shopping, which in return is beneficial from a sustainability point of view.

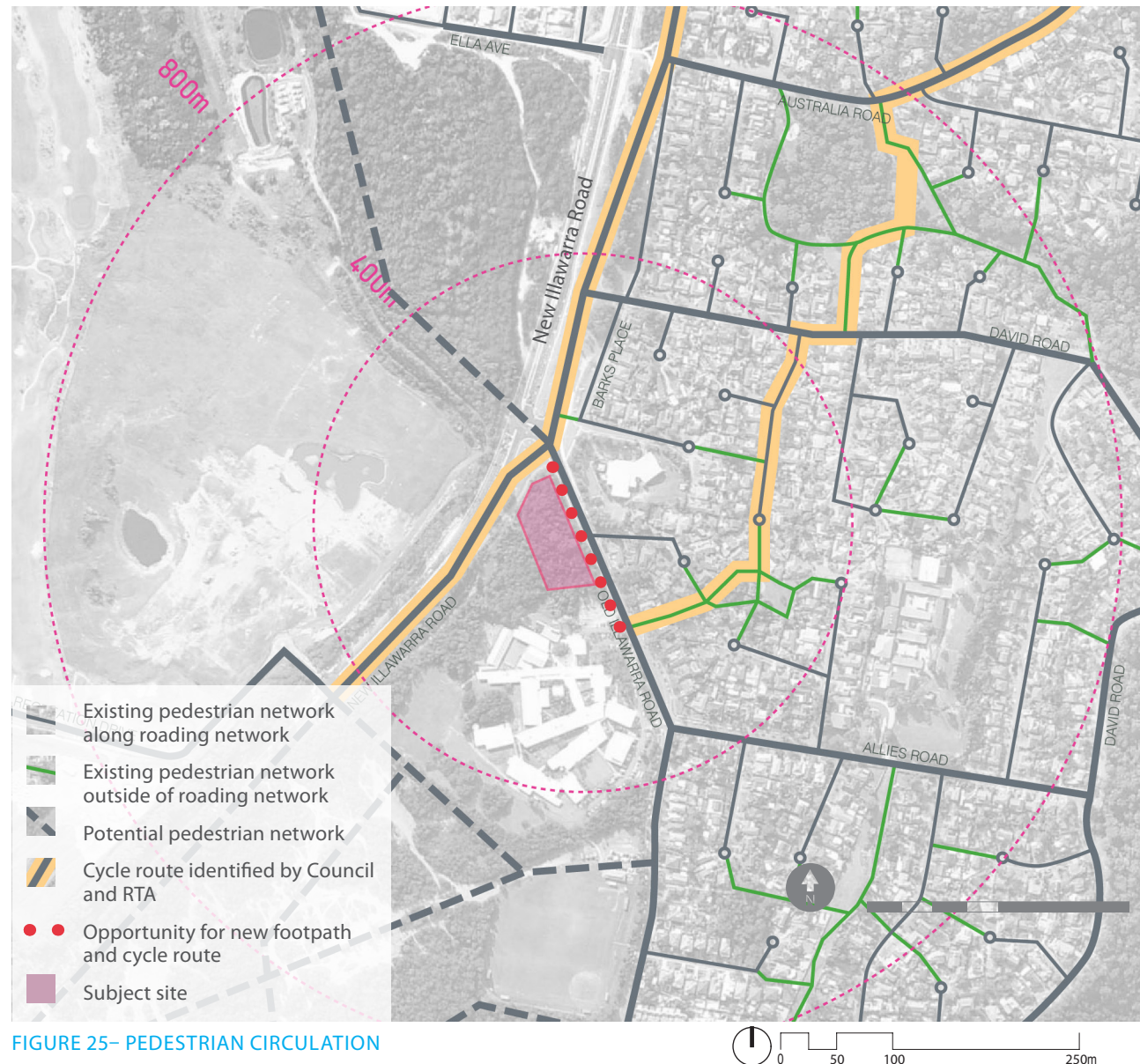


FIGURE 25- PEDESTRIAN CIRCULATION



Raised pedestrian crossing south of site on Old Illawarra Road.



Entrance to pedestrian link through reserve

3.15 SITE PRINCIPLES

Based on the site analysis, various studies and Sutherland Council's Planning Controls, the principles for development on the subject site have been identified as:

Built Form

- Locate a building on the northern part of the site;
- Create a strong articulate built form on the north corner of the site to create a clear entry to Barden Ridge;

Accessibility

- Create vehicular entrance to the site on Old Illawarra Road south of no stopping area, opposite Driscoll Place;
- Create a footpath on Old Illawarra Road along the site to fill the gap in the pedestrian network;

Loading

- Locate loading on site off Old Illawarra Road, away from the residential area;

Landscape

- Align development with existing height contours to integrate the development into the natural setting;

Amenity

- Create a community space along Old Illawarra Road;

Aesthetics

- Provide an attractive facade along New Illawarra Road. The facade should not be designed as a blank wall, but rather articulated and segmented to minimize scale and visual impact onto New Illawarra Road.

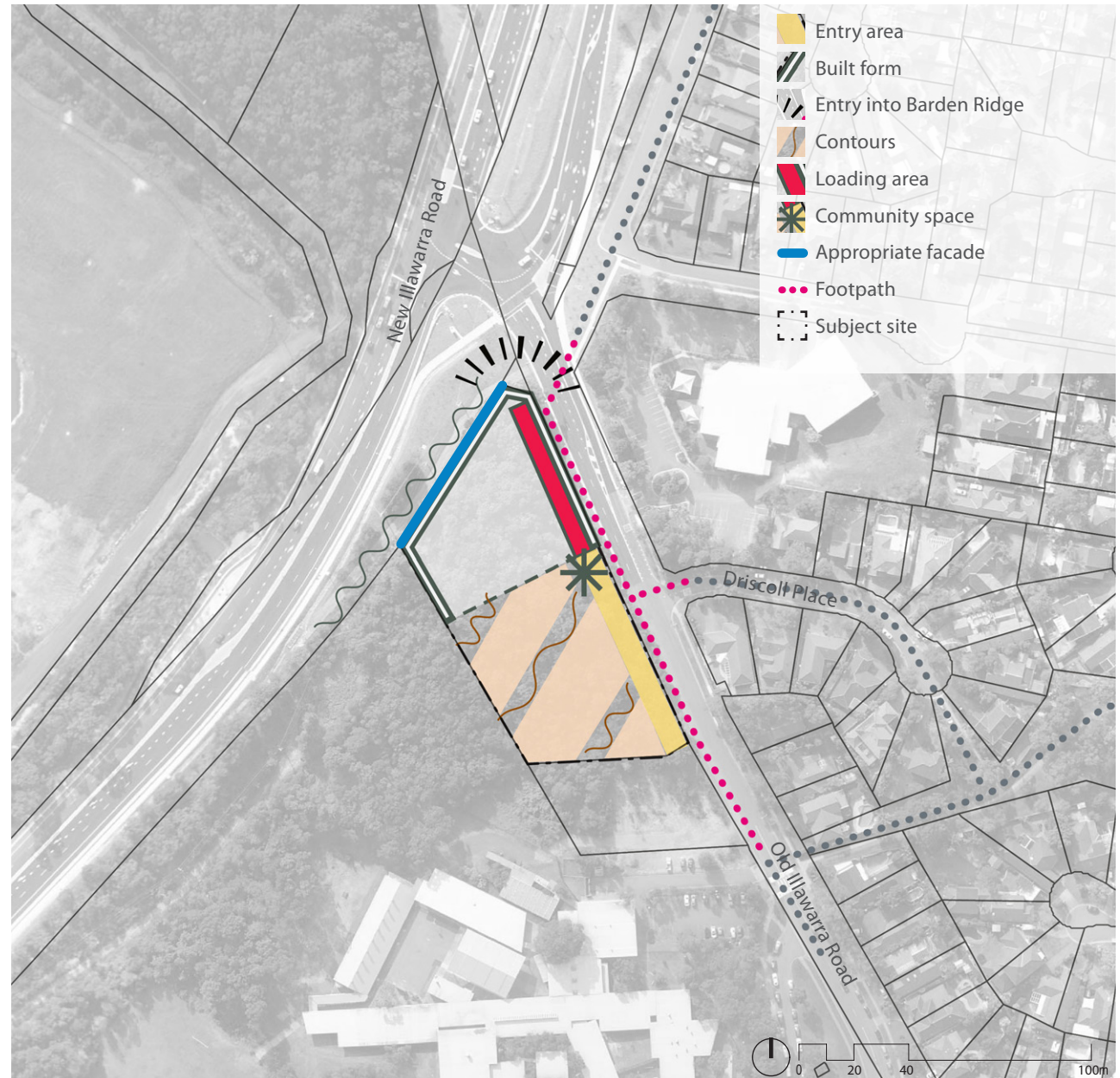


FIGURE 26 – OPPORTUNITIES DIAGRAM

4 DEVELOPMENT SCENARIOS

4.1 POTENTIAL DEVELOPMENT SCENARIOS

A number of potential development scenarios have been considered and assessed by D & R Architects and Colston Budd Hunt & Kafes Pty Ltd as part of the design process. Various development scenarios have been developed, mainly with regards to (but not limited to):

- Location of building.
- Location of loading.
- Location of car park.

The two main alternative development scenarios are nominated below.

Option A

Option A involves the creation of an at-grade car park and access point off Old Illawarra Road (northern end), with a separate service access opposite Driscoll Place. The building is placed towards the southern side of the site, facing Council land and Lucas Heights Community School. This option has been discussed with the school and objections were made to this option. The large bulky facade facing towards the school was seen as disadvantage to the school. This option would also place the car parking towards New Illawarra Road and this would be experienced upon entering Barden Ridge. St Paul's Anglican Church has a car parking area fronting Old Illawarra Road, parallel to New Illawarra Road. Accordingly, the entry to Barden ridge would comprise car parking on both sides of Old Illawarra Road.

Colston Budd Hutt and Kafes Pty Ltd has reviewed D+R Architects' alternative layout options of the shopping centre with the following result:

- Separate access for cars and trucks;
- Car park access would be limited to left in/left out due to closeness with traffic signal controlled intersection with

New Illawarra Road;

- Fair pedestrian access;
- Service access does not comply with AS2890.2-2002 as located within intersection; and
- Service access right in/left out.

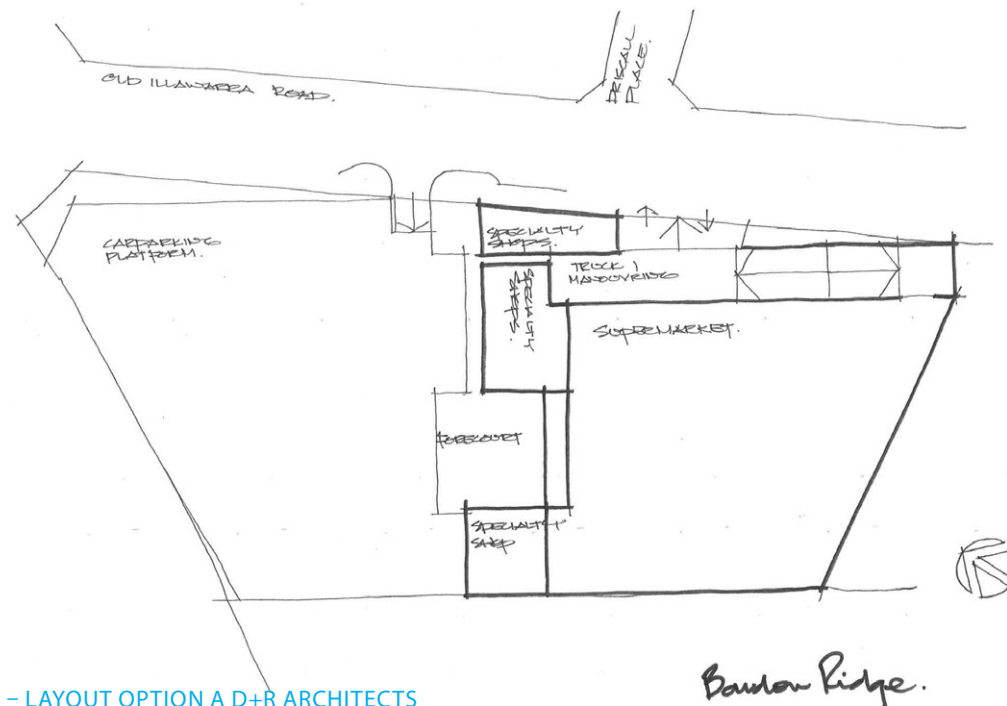


FIGURE 27 – LAYOUT OPTION A D+R ARCHITECTS

Option B

This option involves placing the building at the intersection of New Illawarra Road and Old Illawarra Road, with an at-grade car park and loading dock area located opposite Driscoll Place. This option was developed based on our analysis and as a response to the School's input, resulting in the location of the building to the northern side of the site at the Intersection of New Illawarra Road and Old Illawarra Road. Accordingly, car parking has been located to the southern side of the site, adjacent to the vacant Council owned land.

Colston Budd Hutt and Kafes Pty Ltd have reviewed D+R Architects' alternative layout options of the shopping Centre with the following result:

- Shared access between cars and trucks;
- Trucks need to travel through car park to access loading dock;
- Fair pedestrian access;
- Conflict between trucks reversing into service area and undercroft car park access;
- Access does not comply with AS2890.1-2004 and AS2890.2-2002 as located within intersection; and
- All turning movements permitted at site access.

Current Proposal

The current proposal addresses the issues of:

- Shared access between cars and trucks;
- Trucks needing to travel through car park to access loading dock;
- Trucks reversing into service and or car park areas; and
- Access does comply with AS2890.1-2004 and AS2890.2-2002.

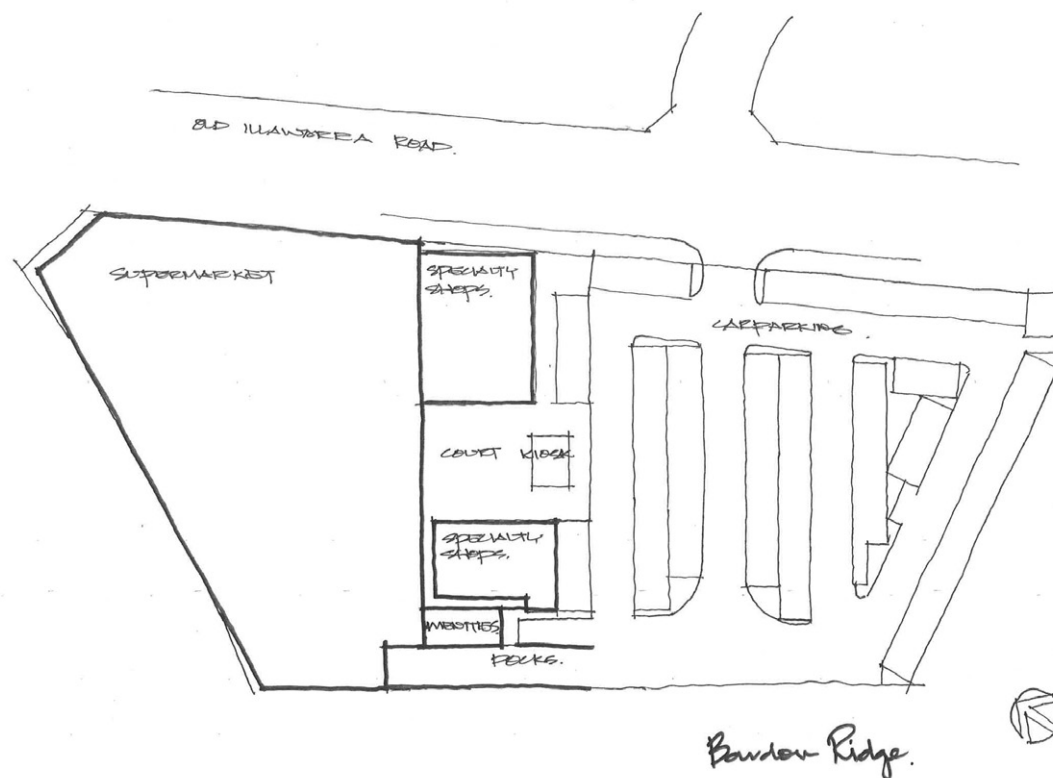


FIGURE 28 – LAYOUT OPTION B D+R ARCHITECTS

4.2 URBIS SITE DESIGN GUIDELINES

BUILT FORM

Objectives

To provide a strong gateway built form to Barden Ridge in the corner of New Illawarra and Old Illawarra Road.

Guidelines

- Create well defined edges along the property boundary to the street;
- Building to create the entry to Barden Ridge; and
- Create modulated and articulated facade along New Illawarra Road.

LOADING

Objectives

To minimize the impact of loading onto traffic, residential and public areas.

Guidelines

- Separate loading from vehicular access and car parking area;
- Separate loading from pedestrians; and
- Locate loading to the north side of the site along Old Illawarra Road away from interfacing with existing residential.

PEDESTRIAN NETWORK

Objectives

To complete the pedestrian network and integrate the network into the development.

Guidelines

- Improve pedestrian connections along and into the site;
- Provide a community area to the centre of the site along Old Illawarra Road; and
- Provide footpath along Old Illawarra Road adjacent to the subject site to link up with existing pedestrian and bicycle network.

VEHICULAR ENTRANCE FOR AUTOMOBILES

Objectives

To create a safe and convenient vehicular entrance to the site which does not obstruct local traffic.

Guidelines

- Sufficiently distance vehicular access from the Old and New Illawarra Road intersection; and
- Create access off existing Old Illawarra Road on Driscoll Place intersection.

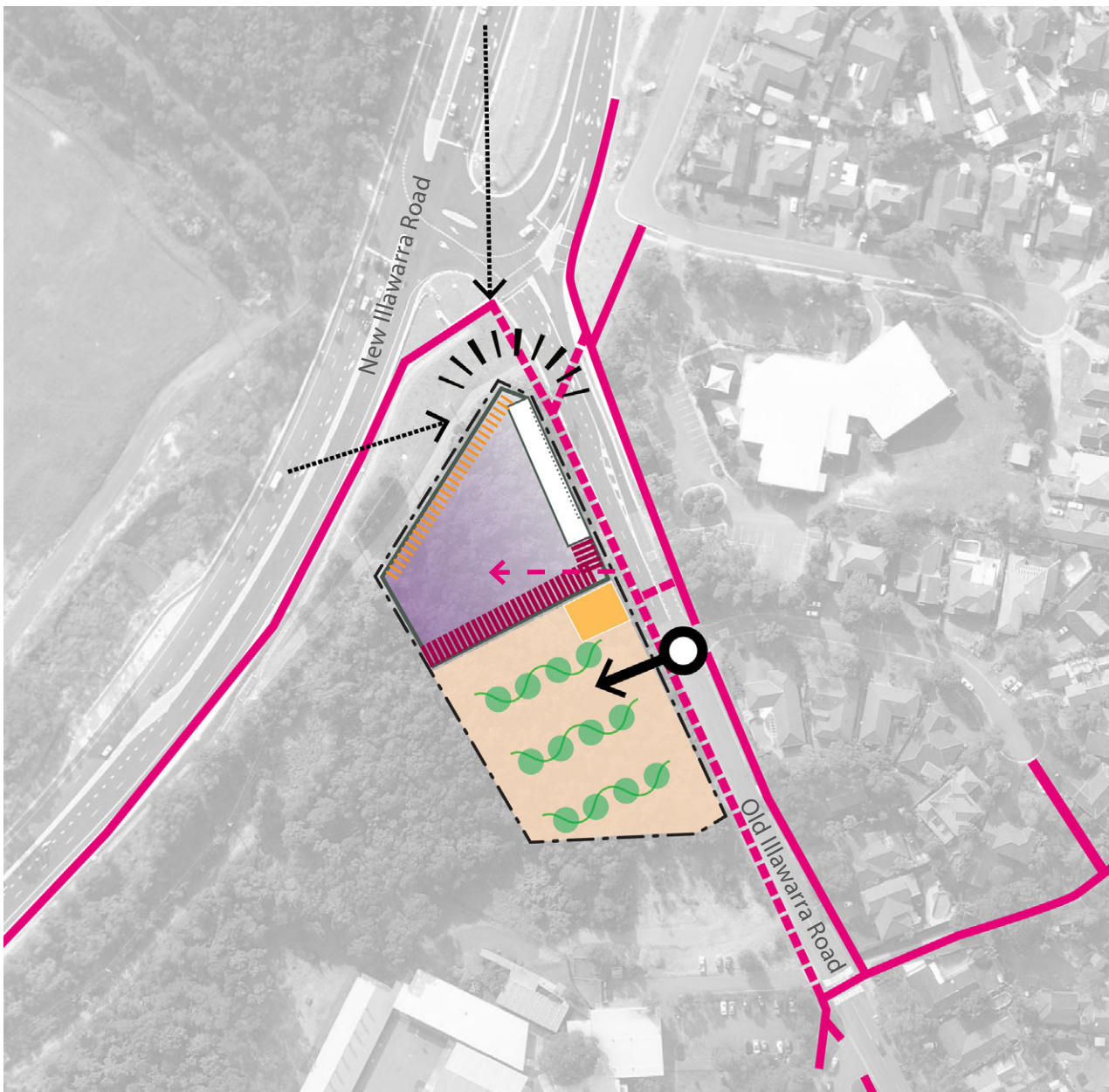


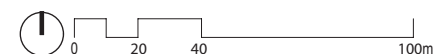
FIGURE 29 – SITE DEVELOPMENT STRUCTURE

4.3 SITE DEVELOPMENT STRUCTURE

The site design guidelines form the basis for the site development structure. The site development structure aims to guide development for the site that:

- Incorporates Council's objectives and planning controls;
- Utilises the full potential of the site; and
- Integrates the site into the surrounding context.

- Gateway built form
- Community area
- Active frontage
- Vehicular access
- Separate loading
- Pedestrian and bicycle connections improvement
- Vegetated car parking area
- Modulated and articulated facade
- Reduce visual impact
- View lines
- Pedestrian entry to site and retail
- Subject site



5 ASSESSMENT

SUTHERLAND SHIRE COUNCIL OBJECTIVES

The proposal will:

- Provide a community focal point by creating a Neighbourhood Centre servicing the day-to-day needs of local residents;
- Increase the opportunities for a pedestrian friendly environment by connecting the current pedestrian and bicycle network.

The proposal currently does not comply with some of the design intentions as outlined in the Sutherland Shire DCP2006: Barden Ridge Locality Strategy. The proposal does not:

- Create a mini-high street; or
- Provide for shop-top housing.

KEY PLANNING CONTROLS

- Maximum FSR is 1:1;
- Building height: maximum 2 storeys;
- Street setbacks: nil for developments of two storeys and less;
- Building at the corner of Old and New Illawarra Road is permitted; and
- Building along Old and New Illawarra is permitted, as long as the maximum FSR of 1:1 is being maintained.

Proposal Complies

- FSR of 0.37:1 (3710sqm of retail or retail related use);

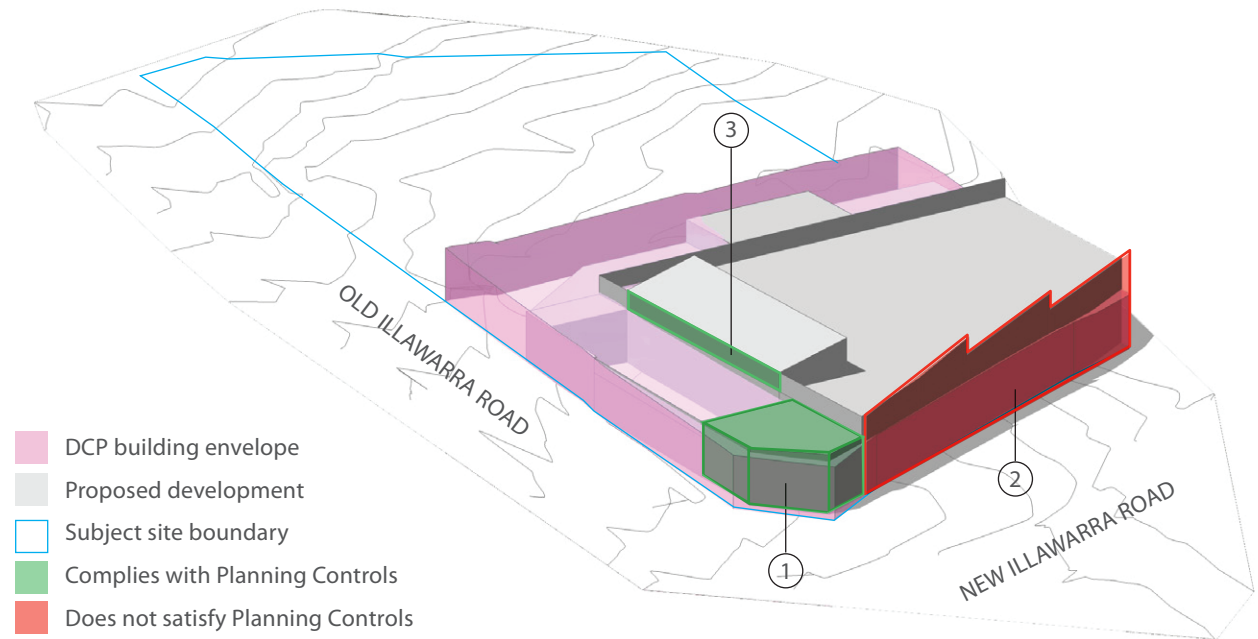


FIGURE 30 – DEVELOPMENT VISUALISATION FROM NORTH

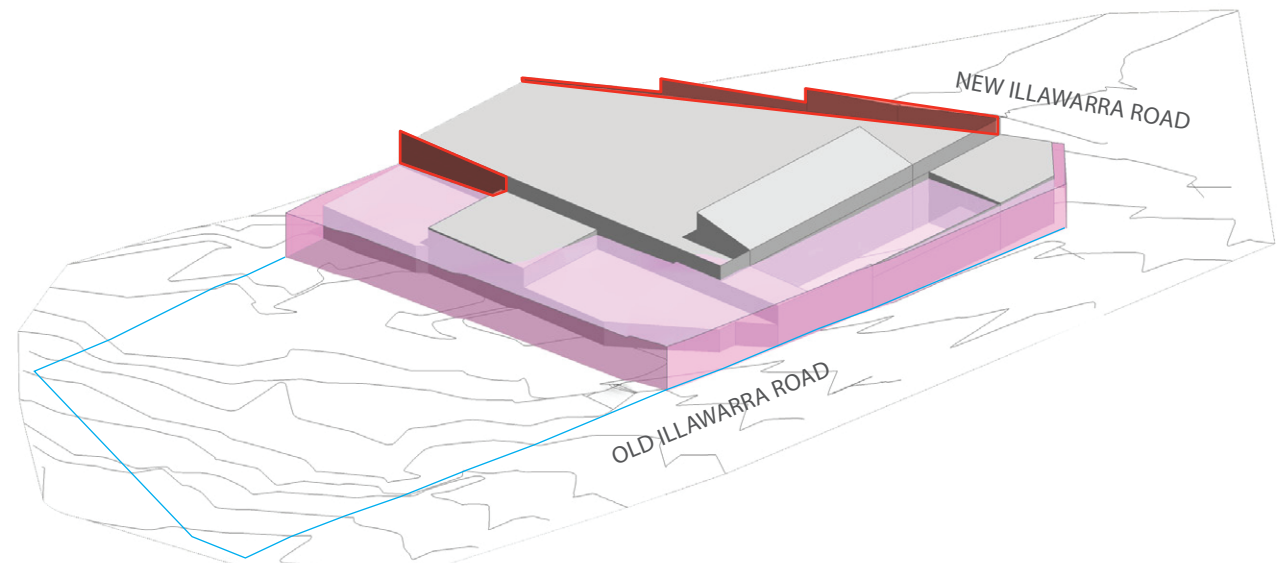


FIGURE 31 – DEVELOPMENT VISUALISATION FROM EAST

- The building is 1 storey with a small part being two storeys in height, however its apparent bulk is 2 storeys due to the high floor to ceiling heights;
- The building is not placed with a setback from the site boundary on Old and New Illawarra Road and the school land to the west;
- Corner building (1) within the DCP building envelope; and
- Built form (3) is outside the DCP building envelope but cannot be seen from Old Illawarra Road as can be seen on the next page.

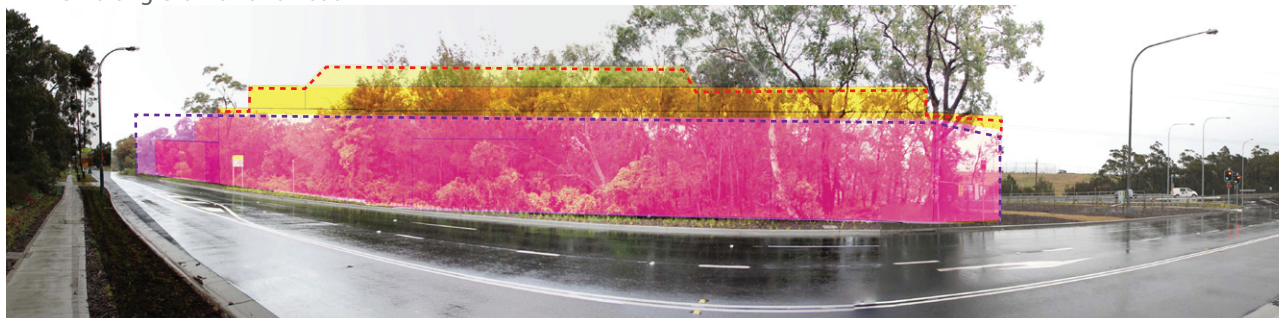
Proposed Variances to the Planning Controls

Some parts of the proposed building are outside the DCP building envelope. Part of the building identified as no. 3 is outside the DCP building envelope, but can not be seen from Old Illawarra Road. The building facing New Illawarra Road (no. 2) is outside the DCP building envelope and is clearly visible.

View of subject site from New Illawarra Road - Old Illawarra Road intersection with proposal built form



View along Old Illawarra Road



CONCLUSION

- The retail development proposal will become a community focal point in Barden Ridge;
- The retail development proposal creates a clear entry to Barden Ridge;
- The retail development proposal meets the overall planning controls and site development structure;
- The facade on New Illawarra Road is currently bulky and would need to be modulated or screened by landscaping to reduce its visual impact onto New Illawarra Road; and
- Loading is best organised along Old Illawarra Road, however loading dock needs to be screened in an effective and attractive manner.

Technical specifications:

- Camera used Canon 7D with 18mm-105mm lens
- Lens field of view setting 29mm
- Eye level of 1.6m
- Photo stitched by Photoshop
- 3d model build with Sketchup
- Model merge with photo merge function in Sketchup

■ LEP building envelop (see 2.3 Key Planning Controls for definition)

■ Proposed development

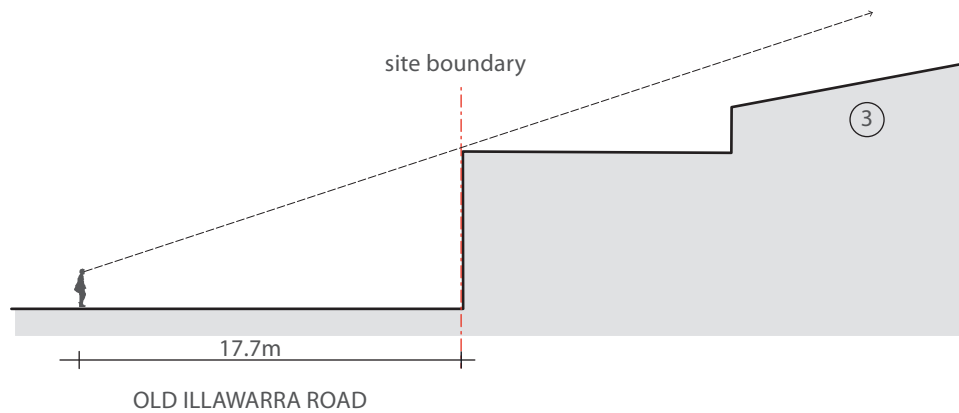


FIGURE 32 – VIEW LINE FROM OLD ILLAWARRA ROAD TOWARDS NORTH EASTERN FACADE

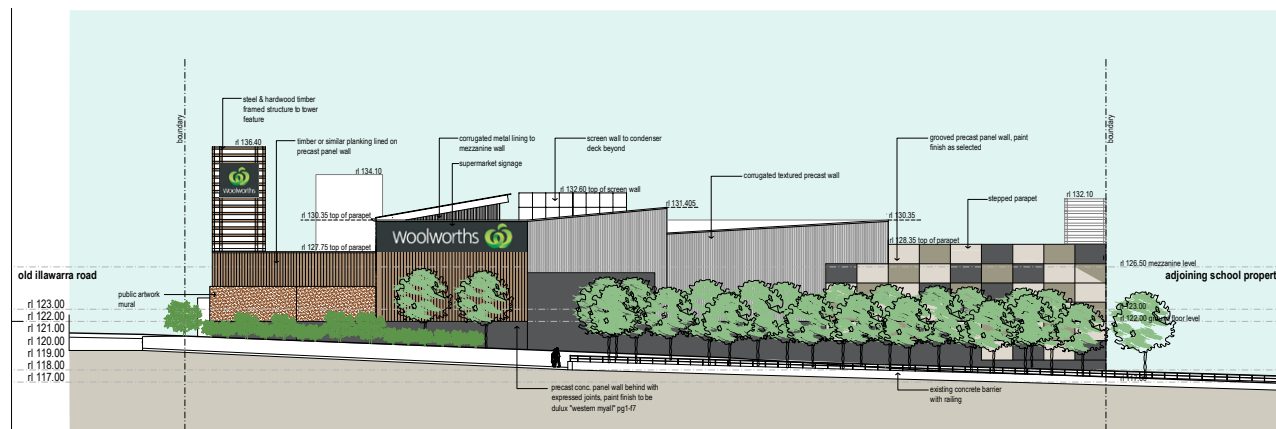


FIGURE 33 – NORTH WESTERN ELEVATION, CORNER ILLAWARRA ROAD & OLD ILLAWARRA ROAD, ELEVATION BY D+R ARCHITECTS

APPENDIX

3D VISUALISATION METHODOLOGY

- Base information:
 - Proposed development massing based on D+R Architects floor and site plan (DA2.04K) and elevation (DA2.06G)
 - Site model information provided by Lockley Land Title Solutions (as survey on 02/05/11)
- LEP building envelope definition:
 - 7m building height on natural ground level - assumed height of 2 storey shop top development;
 - building envelope over 50% of site - based on FSR control of 1:1



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