BELMORAL ROAD PRECINCT LANDSCAPE MASTERPLAN

URBIS

PREPARED FOR CKDI PTY LTD SEP 2023

INTRODUCTION

PURPOSE OF THIS REPORT

The purpose of this report is to provide a Landscape Masterplan for the North-West Precinct of South Creek West. This precinct is being referred as the Belmoral Road Precinct.

The draft Landscape Masterplan proposes will articulate the design direction, principles and objectives to inform and deliver a connected network of quality open space across the Belmore project.

This document will be used to support the detailed design development of open space areas. This document should be use as a guide and does not replace the requirements of the relevant planning process.

The proposed outcome is response to the strategic planning context, technical studies, and inputs from stakeholders including the different land owners.

The report responds to the ILP and the associated technical investigations that include the following:

- Roads and public transport;
- Landform and topography;
- Biodiversity and riparian corridors;
- Flooding and water cycle management;
- Indigenous and European heritage;
- Social infrastructure and open spaces;

For ease of understanding, the report is divided into three parts:

- Part A: Landscape and Visual Character (Site Opportunities and Constraints)
 Collates the key findings from the visual character study and into a series of site opportunities and constraints' maps, with the aim to identify key open space areas that maximise existing landscape features.
 - Part B: Open Space Strategy Provides an overview of the vision and key principles of the Landscape masterplan and a series of strategy plans, including Street Tree Strategy and Open Space Strategy
- Part C: Landscape Masterplan
 Provides an overview of the proposed Masterplan and detailed areas with look and feel imagery to support the spaces.

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PROJECT DESCRIPTION

A new approach to precinct planning has been developed, which empowers local councils to plan for their local areas because they know their people and communities best.

Being one of the main landowners at South Creek West, CKDI Pty Ltd (CKDI) has worked closely with Camden Council to prepare a draft ILP for the precinct.

CKDI has engaged Urbis in December 2020 to provide Landscape Design Services for the North-West Precinct, also known as Belmoral Road Precinct. This report applies to the Belmoral Road Precinct only.

Key deliverables from the commission are the preparation of an Landscape Masterplan.

- South-West Growth Area Land Release Area
- South Creek was designed with Camden Council.
- The Department supported and collaborated with the project team to ensure the project focused on strategic issues and got a coordinated approach from State agencies.
- The Department is preparing a strategic plan for the South West Growth Area. We will work collaboratively with Camden, Campbelltown and Liverpool Councils to progress planning for the growth area



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PARTA: LANDSCAPE AND VISUAL CHARACTER

6 Belmore Road Precinct Landscape Masterplan Report

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1.1 **PRECINCT DESCRIPTION**

Belmoral Road Precinct is located at the north-west of South Creek West Land Release Area. The Precinct comprises an approximate area of 187 hectares.

The Precinct shares the border with Badgery's Creek Aerotropolis, being Greendale Road and Belmore Road at the north. The Precinct immediately adjoins the new planned precinct, Lowes Creek Marylands, to the south.

Landform Characteristic

The site is undulating in character with an elevation between 72m at the east and 132m at the south-west.

Belmore Precinct has two ridgelines transverse across the site, with one transverses from the west to north-east, and the other transverses from the south-west to the east. Two of these ridgelines fall towards the central of the site, forming a creek corridor at the core of the Precinct.

Road Infrastructure

The main access to Belmoral Road Precinct is via The Northern Road, which lies on the eastern boundary of the Precinct.

The Northern Road is currently being realigned and upgraded. This will strengthen connection of the Precinct with two key centres, i.e. Badgery's Creek Aerotropolis at the north and Oran Park at the south.

Both of these centres are within 10 to 15 minutes driving distance from Belmore Precinct. The Northern Road also provides access to Parramatta CBD and Sydney CBD.

Greendale Road and Belmore Road to the north provides major east-west connection between the Northern Road, Camden Valley Way and South Western Freeway.

Zoning

The central and northern part of the Precinct is predominantly zoned as RU4 Primary Production Small Lots, with B1 Neighbourhood Centre at the north-east corner. This portion of the land currently accommodates Belmore Zone Substation, Belmore Village, the Northern Road's Batch Plants Area, and few small rural residential lots.

The southern part of the Precinct (predominantly owned by CKDI Land) is currently zoned as RU1 Primary Production.

LEGEND



Belmore Precinct Substation

Watercourse (Strathler Stream Order 2 and 3) The Northern Road



Figure 1 Key existing features of the precinct on aerial photo

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1.2 **LANDSCAPE CHARACTER MAPPING - SOIL TYPES**



Bringelly Precinct 2 is located within two distinct geological zones: the yellow podzolic soils and the soloths. Over time the land has been formed by water (e.g. process of erosion and deposition) and human interaction (e.g. Farming).

Soloths soils typically follow the creek and water ways, and comprises of thick, continuous surface crust; sand grains may be visible on the surface and forms a distinctive characteristic of the existing landscape.

Additionally, the soil properties and underlying geology are known to effect the infiltration levels of surface water and will have an impact on sustainable urban drainage systems (WSUD)

Figure 2 Bringelly Soil Types





1.3 LANDSCAPE CHARACTER MAPPING - HYDROLOGY & WATER



Bringelly Precinct 2 current conditions have high water perspiration being rural and green. A sires of small creeks and farm dams manage over land flow. There are a number of creeks and gully banks where erosion and/or soil creep may be present.

The local flood level is expected to increase with new development taking place. This can be managed through strategically locating detention basins to appropriately manage flows back to the existing conditions at Bringelly Precinct 2.

Erosion, water logging and uncontrolled filling were identified as minor constraints that will be addressed during engineering investigations as development proceeds.

Figure 3 Bringelly Hydrology & Water

LEGEND:

- PRECINCT BOUNDARY
 - ___ 2M CONTOURS



FLOOD PLANNING - TRANSITIONAL LAND

HYDROLOGY AREA

HYDROLOGY LINE



1) Farm Basin and associate vegetation



2) Creek line crosses under Belmore Road

LANDSCAPE CHARACTER MAPPING - VEGETATION 1.4



Belmore Vegetation Figure 4

LEGEND:

- PRECINCT BOUNDARY
 - **2M CONTOURS**



SHALE PLAINS WOODLAND



ALLUVIAL WOODLAND





1) Cumberland Plain Woodland and River-Flat Eucalypt Forest



2) Cumberland Plain Woodland

Belmoral Road Precinct has 25ha of Existing Native Vegetation (ENV) and approximately 34ha of vegetation that has Additional High Conservation Value (AHCVV). Much of this vegetation are distributed on land in or adjoining riparian corridors. In the NPWS vegetation mapping, two forms of Cumberland Plain Woodland have been identified — shale hills woodland and shale plains woodland.

Shale hills woodland occurs mainly on the elevated and sloping landscape, dominant canopy trees include grey box (Eucalyptus moluccana), forest red gum (E. tereticornis) and narrow-leaved ironbark.

Shale plains woodland is the most widely distributed Woodland. Bursaria spinosa is the dominant shrub species and there are canopy trees such as grey box (E. moluccana), forest red gum (E. tereticornis), spotted gum (Corymbia maculata).

1.5 LANDSCAPE CHARACTER MAPPING - BIODIVERSITY AND RIPARIAN



Figure 5Belmore Biodiversity
and Riparian

Belmore Precinct

Belmoral Road Precinct is mostly biodiversity certified, where there is no obligation to retain any areas of Existing Native Vegetation (ENV). Nevertheless, there is clusters of good quality, mature trees adjoining the riparian corridors that would provide significant biodiversity and amenity outcomes if protected.

There is a total of 12.2ha of riparian corridor within Belmore Precinct, of which, 10.8ha comprises validated first-order, second or thirdorder watercourses. These are predominantly within the central riparian corridor of the Precinct.

The riparian corridor at the core of Belmore Precinct has riparian vegetation in good condition. This vegetation provides good habitat and contributes to bank stability.

LEGEND



Riparian Corridor to be retained (Top of bank with Strahler Stream Order 2 & 3)

Validated Watercourses (Strahler Stream Order 1)

Potential Riparian Corridors (Strahler Stream Order 1)

Not a Watercourse (Pending NRAR Approval)

Unlikelyhood of a Watercourse/ Riparian Corridor (Strahler Stream Order 1)



Existing Native Vegetation (ENV)

Additional High Conservation Value Vegetation (AHCVV)

Note: Based on field survey and validation within CKDI land only. Remainder of Belmore Precinct are based on desktop assessment.



1) swollen creek after heavy rainfall





1.6 LANDSCAPE CHARACTER MAPPING - VIEWSHED

The visual context in relation to external visibility, scenic quality of the view and sensitivity of views. The site is surrounding by a wider visual context that is broadly semi-rural relatively open characterised by limited relief or distinct visual attributes to mark them as unique, or of high scenic quality overall. Notwithstanding the rich heritage and of the region in visual terms the existing scenic quality of the landscape for both sites could be seen vernacular agricultural land not dissimilar in character to other parts of the McCarthur Region. Whilst there are individual landscape features, stands of vegetation and some changes in local relief, these do not contribute to any notable view corridors or documented heritage views which would be considered as a constraint on development.

The nature of the view or importance is influenced by a number of factors including whether or not a particular public domain view is documented in any statutory or non-statutory document. When considered holistically these factors contribute to the overall value and relative significance of a view. The factors that are typically used to assess the nature of a view are described as follows;

SCENIC QUALITY

Scenic quality relates to the likely expectations of viewers regarding scenic beauty, attractiveness or, preference of the visual setting of the subject site and is baseline factor against which to measure visual effects. Criteria and ratings for preferences of scenic quality and cultural values of aesthetic landscapes are based on empirical research undertaken in Australia by academics including Terrance Purcell, Dr Richard Lamb, Colleen Morris and Gary Moore.

Moore (2006) summarises the theoretical and methodological constructs in the field of environment, behaviour and society (EBS) and discusses the largest body of research in this area prepared by Associate Professor Terry Purcell and Dr Richard Lamb. The research details results in relation to the experience, perception and aesthetics of natural and cultural landscapes, affective experience of the environment, and the perception of scenic quality.

Therefore, analysis of the existing scenic quality of a site or its visual context and understanding the likely expectations and perception of viewers is an important consideration when assessing visual effects in relation to external visibility. The site would be rated as having moderatehigh scenic quality given that they would be perceived from public viewpoints as being largely semi-natural in composition, relatively undeveloped and characterised by areas of mature vegetation.

VIEW PLACE SENSITIVITY

This factor relates to the likely level of public interest in a view of the proposed development. The level of public interest includes assumptions made about the exposure of the site in terms of distance and number of potential viewers. For example, close and medium-distance views from public places such as surrounding roads and intersections that are subject to large numbers of viewers, would be considered as being sensitive view places. However the level of sensitivity is also influenced by the nature of the view and whether it is gained from either a moving viewing situation and the duration of exposure to the view for example for short periods of time or for sustained periods. In our opinion there are limited number of sensitive public domain locations from which views are available into the either sites.

VIEWER SENSITIVITY

Viewer sensitivity is a judgement as to the likely level of private interest in the views that include the proposed development and the potential for private domain viewers to perceive the visual effects of potential development across the site. The spatial relationship (distance) the length of exposure and the viewing place within a dwelling are factors which affect and overall rating as to the sensitivity to visual effects. Private domain view sharing may be usefully considered at a later stage in the planning approval pathway at a more fine-grained level in relation to parcels of land and individual DAs.

DEFINITION OF VIEW TYPES

View composition type when considered in formal pictorial terms, refers to the placement or arrangement of visual elements in a view which in this case will include the proposed development in the composition of the view.

Considering a view in formal pictorial terms means that we consider various parts of the composition as if it were a painting where the composition can be divided broadly into the sections of foreground, mid-ground and background.

Description of typical view types:

• Expansive: unrestricted other than by features behind the viewer, such as a hillside, vegetation and buildings.

• Restricted: a view which is restricted at some distance by features between or to the sides of the viewer and the view for example by vegetation or built forms.

• Panoramic: a 360-degree angle of view unrestricted by any features close to the viewer.

• Focal: a view that is focused and directed toward the proposed development by features close to the viewer for example a view that is constrained to a road corridor by buildings etc

• Feature: a view where the proposed development is the main feature or element and dominates the view. A feature view would be a close-range view.

Other additional factors that influence the significance of visual effects include consideration of the viewing period, the distance of the view from the viewing location to the proposed development, the level of view loss or blocking effects and in some situations the viewing level alters the ability to perceive the level of visual effects.

VIEWING PERIOD

Viewing period in this assessment refers to the influence of time available to a viewer to experience the view to the site and the visual effects of the proposed development. Longer the viewing periods, experienced either from fixed or moving viewing places such as dwellings, roads or the waterways, provide for greater potential for the viewer to perceive the visual effects. In the majority of views from close locations including the Northern Road to the proposed development will be from moving viewing locations.

VIEWING DISTANCE

Viewing distance can influence on the perception of the visual effects of the proposal which is caused by the distance between the viewer and the development proposed. It is assumed that the viewing distance is inversely proportional to the perception of visual effects: the greater the potential viewing distance, experienced either from fixed or moving viewing places, the lower the potential for a viewer to perceive and respond to the visual effects of the proposal.

EXTERNAL VISIBILITY Belmore

Using GIS view shed mapping we have determined that the majority of both sites have low external visibility. GIS mapping provides a useful indication of likely visibility but does not include the location of built forms or vegetation which further constrain the extent of views that are available into the site. This has been 'ground truthed' by fieldwork and observations made from neighbouring publicly accessible locations including the Northern Road and in relation to the Belmore from smaller local roads Loftus, Belmore and Greendale. There are a limited number of moderately sensitive view places would include; the intersection of Greendale Road and the Northern Road notwithstanding it appears that views from there are largely blocked by intervening built form. Views of moderate scenic quality and composition are available to the south from a local high point approximately adjacent to 27 Loftus Road. Isolated views into the site from Greendale road exist via large lot residential development and are partially screened by road side and vegetation located in residential lots. Existing view access into the site from Belmore Road is intermittent and isolated due to the semi-continuous vegetated screen which exists along both sides of the road.

External visibility into the site is further constrained by the location of intervening vegetation including groups and individual trees. Higher topography including gentle vegetated slopes across the mid-section of the site that are broadly aligned south-west to north-east are of medium external visibility, whilst a minor part near the south-west margins of the site include a local vegetated ridgeline that is highly visible in some views from the Northern Road.





1) View east along Loftus Road



3) View east from tree lined Belmore Road



5) View south west towards large lot residential



7) View east to low lying paddocks



9) View east across plane to Northern road



2) View south-west from the Northern Road



4) View west from Belmore Road



6) View east to farm house and out buildings



8) View east towards woodland clump and Riparian Corridor



10) View west towards wooded ridgeline

1.7 LANDSCAPE CHARACTER APPRAISAL

The landscape character of the site that is visible today is a product of nearly 200 years of cultural modification. The landscape visual character has changed significantly since the early 19th Century when native vegetation across the local areas of Belmore and Cobbitty was cleared for farming.

The retained rural and historical character, which is largely defined by its rural use, undulating topography, creek, riparian corridors, woodland areas and scattered buildings. In addition, the character is heavily influenced by large rural allotments. Most of the Precinct has been cleared for uses such as grazing with some remnant vegetation present along the creek and ridgeline, with stands of open and closed wooded areas.

Native vegetation: The northern allotments are generally limited to isolated stands of mature trees and shrubs. Below are allotments associated with Belmore Road, which have significantly more vegetation coverage and riverine vegetation with open and closed woodland along the creek. The southern part of the site are numerous tree belts, woodlands and a scattering of mature trees, with the largest cohesive and most significant vegetation feature is a stand of woodland located south-east below the allotments boundaries.

Landform: The Precinct sits in an undulating rural landscape that falls gently west towards The Northern Road. The combination of Hills and ridgelines that flow down to creeks and waterbodies is the setting for the landscape, with long and commanding of views that remain a central theme of the Precinct.

The sloping topography of the Precinct varies by 65m across the Precinct, from the highest point in the south-western corner (132m AHD) to (ADD NAME) Creek at The Northern Road (67m AHD). The Precinct can be divided into the following three main topographical areas:

• Ridgelines – Two ridgeline intersect the site. To the western edge of the Precinct falling towards the course of (ADD NAME) Creek and its associated tributaries and a lower ridgeline to the south-east.

• Steep slopes – Steeply sloping land is associated with some areas of the ridgeline

• Valley floor – The remainder of the Precinct comprises of valley floors and gently sloping hillsides feeding the creek.

• Creek - The low-lying riparian zones and adjacent topography are subject to flooding and as such sit within the 100-year ARI floodplain.

Land use:

• Allotments – Approximately 40 Rural residential lots .

• Farmlands – Agricultural land, open, turfed paddocks for farming and grazing practices

• Industrial – Land associated with The Northern Road upgrade works

Substation - adjacent to Greendale Road

The Northern Road is an historical access route, formerly the Cowpastures Road, which remains rural largely in character. The rural character of this road and the vistas through to historic properties and surrounding farmlands remains as a largely intact reminder of the colonial landscape character of the area

Heritage: The heritage listed Maryland's homestead and its curtilage boundary is located near the southern boundary of the site, but not within it. The curtilage comprises a natural valley that shelters the homestead from external views. The extent of curtilage to the Maryland's property was lies outside of Precinct boundary

LEGEND:

| | PRECINCT BOUNDARY |
|----|---|
| | 2M CONTOURS |
| | LANDSCAPE CHARACTER AREA 1: LARGE RURAL ALLOTMENTS |
| 11 | LANDSCAPE CHARACTER AREA 2: LARGE RURAL ALLOTMENTS WITHIN WOODLAND |
| 24 | LANDSCAPE CHARACTER AREA 3: THE NORTHERN ROAD INDUSTRIAL SITE |
| | |



LANDSCAPE CHARACTER AREA 4: OPEN RURAL FARMLAND



Figure 7 Belmore Landscape Character Areas

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1.8 LANDSCAPE CHARACTER AREAS

The Belmoral Road Precinct is a record of the interaction between natural forces and the people who lived and worked here over its long and current history.

The four Landscape Character areas identified are:

(1) Landscape Character Area 1: Large rural allotments

This LCA is predominantly characterised by 1 ha residential lots along Belmore Road which comprise of hobby farms, small paddocks and large residential dwelling

2 Landscape Character Area 2: Large rural allotments within woodland

This LCA is predominantly characterised by 1 ha residential lots along Belmore Road which comprise of hobby farms, small paddocks and large residential dwelling, that has relatively extensive tree cover and includes the (ADD NAME) Creek

3 Landscape Character Area 3: The Northern Road Industrial Site

This LCA is predominantly characterised by The Northern Road and Belmore Road Stage 2 upgrades main site compound, consisting of site office and parking, plant storage and processing area and the constructions operations

4) Landscape Character Area 4: Open rural farmland

This LCA is predominantly characterised by Tree topped ridgelines and hills frame the riparian corridors and stands of vegetation that sit within open pastoral turfed paddocks separated by agricultural-style post and wire fencing, the layout of which is a bi-product of early farming and grazing practices.





LCA 1 - Large rural allotments: View west along Loftus Road



LCA 2 - Large rural allotments within woodland: View west along Belmore Road



LCA 3 - The Northern Road Industrial Site: View north from Belmore Road



LCA 4 - Open rural farmland: Elevated view looking east towards creek and waterbody

1.9 LANDSCAPE FEATURES

Key features of the Belmoral Road Precinct include:

• Topography: The sloping topography of the Precinct varies by 64m across the Precinct, from the highest point in the south-western corner (134m AHD) to the Creek at The Northern Road (70m AHD).

• Watercourses: The (ADD NAME) creek is a tributary of South Creek, which is located 1.4km to the east of the Precinct. The Creek is the main waterway through the Precinct, generally flowing in a south-west to north-east direction before discharging through culverts on the eastern Precinct boundary under The Northern Road. Whilst the Creek is classified part 3th and part 4th (TBC), there are several 1st and 2nd order tributaries within the Precinct in various conditions and to be confirmed by consultants site review. The Precinct sits wholly within the South Creek catchment.

• Farm dams: The dams are generally co-located with large rural allotments and not significant in size. The largest begin only approximately 0.5ha located on the creek watercourse, south of the site.

• Vegetation: The Land is largely disturbed following years of agricultural activities including clearing, grazing, and other farm related activities. Highly degraded remnants of native vegetation occur in narrow strips along boundary lines and scattered along the creek, which have small pockets of regrowth stands dotted throughout.

Two notable woodland clumps lie....with open woodlands on ridgelines.

At least two native vegetation communities listed as endangered under the NSW Threatened Species Conservation Act 1995 (TSC Act) have been identified on the site to date: — Cumberland Plain Woodland; and

Biodiversity Certification under the Biodiversity Conservation Act 2016. The certification means there is no need to undertake assessment and obtain approvals required under the BC Act for development of land that is certified.

• Heritage: Although no heritage assets area within the site, Maryland Homestead which is situated on a prominent hill (currently listed as a heritage item of local significance) directly south of the site is clearly visible within the southern portion of the site

LEGEND:

| | PRECINCT BOUNDARY |
|----------|---|
| 1 | ADDITIONAL HIGH CONSERVATION VALUE VEGETATION (AHCVV) |
| 1 | EXISTING NATIVE VEGETATION (ENV) |
| | EXISTING WATER COURSES |
| | RIPARIAN CORRIDORS |
| | WATER BODIES |
| 41 | HIGH BIODIVERSITY VEGETATION |
| | RIDGE LINES |
| * | HIGH POINTS |
| | 2M CONTOURS |
| 1 | SLOPE > 18% |
| • • | DIRECTION OF MOST SIGNIFICANT VIEWS TO THE SURROUNDING LANDSCAPE FROM WITHIN THE SITE |



Figure 8 Belmore Landscape features

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1.10 LANDSCAPE AND OPEN SPACE OPPORTUNITIES

The identified opportunities build upon the unique character of the area by responding to the natural features of the landscape including the topography, watercourses, riparian areas, native vegetation, natural constraints.

Landscape character of the Precinct provides multiple opportunities for interpretation, adaptive reuse, and integration of land uses.

The precinct a dramatic setting, the landscape and visual opportunities and constraints assessment identified that the area outside of the 100-year ARI, within the southern half of the Site, would be most suitable for development.

Protecting and incorporating the physical and visual riparian corridors of Lowes Creek provides a framework for the potential spatial layout of the site and will enhance the existing landscape and visual character of the site and wider visual context.

The retention, protection and enhancement of significant landscape features including high quality vegetation and the Creeks riparian corridors would contribute positively to the aesthetic landscape and visual character of the site.

LEGEND:

| | PRECINCT BOUNDARY |
|---------|---|
| 1 | Drainage and ecological overlay |
| 2 | Retained woodland with local park |
| 3 | Green Streets to link north and south with shade trees and cycling / walking routes |
| 4 | Widen Riparian Corridor to include improved ecological farm dams for water/flood management and allow for walking and cycling tails |
| 5 | Town Green with Oval in Park setting, including play, BBQ, exercise equipment, multi-purpose sports courts |
| 6 | Landscape precinct gateway and buffer planting to upgraded Northern Road |
| 7 | Hill top Park will help maintain positive long- distance views to Maryland's Homestead |
| 8 | Extend green link to southern boundary to allow for complete off road walking and cycling from north to south |
| 9 | Playing fields to low land and can be co-located with required school |
| 10 | Retention of Cumberland Woodland with nature trail |
| (11) | Ridgeline Park provides vantage points with views back into the Precinct |
| | RIPARIAN CORRIDOR |
| | ENVIRONMENTAL CONSERVATION |
| | LOCAL PARKS |
| | PLAYING FIELDS |
| | LANDSCAPE BUFFER |
| | DRAINAGE |
| • • • • | GREEN STREETS |



PART B: OPEN SPACE STRATEGY

26 Belmore Road Precinct Landscape Masterplan Report

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1.11 VISION AND DESIGN PRINCIPLES



PROTECT ENVIRONMENTAL QUALITY

Create a resilience environment that responses to the natural setting of South Creek

- Protect places with ecological value
- Regenerate and reconstruct natural environments
- Allow community access and interaction
- Manage use and limit dog access in vulnerable ecological areas

- Harness the effects of flooding for the benefit of the environment



ACTIVE LIFESTYLES

- A clearly defined green network provided for cyclist and pedestrians connecting open space
- Provide opportunities for diverse recreational participation
- Provide recreation for arrange of ages and abilities
- Dynamic passive recreational corridor linking facilities and features.
- Opportunity for heritage, environmental or art trail
- Create places of interest and delight
- Promote health and fitness within the local area with various routes possible as circuits of various lengths
- Create places for relaxation, viewing, contemplation and socialising
- Create places for all year round use hot and inclement weather
- Encourage sport participation providing sports fields and facilities for active recreation



CONNECTIVITY WITHIN & BEYOND

Form clusters of community around the open spaces to strengthen the sense of belonging.

- Connect to the broader active transport network
- A hierarchy of access for cohesiveness and legibility

- An inclusive path system to provide opportunities for a range of users in terms of ages and abilities

- Reinforce open space connections by providing a sense of arrival and destination



A GREEN HEART

Provide a diverse mix of open spaces to enable flexibility in meeting varied needs and the changing demand of a future community

- Create a public realm that is flexible, inclusive and accessible

- Green street and open space to promote WSUD and biodiversity

- Adopt Safety by Design (CPTED) principles to ensure that users are safe and also feel safe when in all open space

- Allow safe access to the Creek and drainage areas

- Mitigate the effects of flooding with dual use open spaces

- Encourage high levels of use to promote the sense of safety for users

OPEN SPACE VISION

THE OPEN SPACE WILL BE PLANNED TO PROMOTE A HEALTHY LIVEABLE COMMUNITY.

AN EXTENSIVE NETWORK OF CONNECTED OPEN SPACE THAT CONSERVES AND REFLECTS THE LANDSCAPE CHARACTER AND BIODIVERSITY OF BELMORE, OFFERS A DIVERSITY OF HIGH QUALITY RECREATIONAL OPPORTUNITIES AND EXPERIENCES FOR ALL, BUILDS ON THE RICH NATURAL AND CULTURAL HERITAGE AND IS CELEBRATED AS A HIGHLY VALUED COMMUNITY ASSET CONTRIBUTING TO THE DISTINCTIVE CHARACTER AND LIVEABILITY OF BELMORE.

1.12 STREET TREE MASTER PLAN

An indicative layout of street trees and landscaping which helps to provide shade, comfort, and amenity, particularly for pedestrians and to create visual order for the streetscapes. It will use appropriately scaled native species which can grow within the constraints imposed by an urban environment and respond to ESD Principles consistent with the level of maintenance.

Plant selection will take into account the following: – species that complement remnant native vegetation, – level of on-going maintenance, – potential impacts on road and footpath pavements, – focus on hardy, drought tolerant, easily maintained species, – scale in relation to the function of the area, and – contribution to the character of the local centre.

Street trees and open space planting is to provide generous shade for pedestrians in summer and allow for sunlight penetration to street level in winter.

Main Street: species selection to respond to the east / west orientation of the street and its corresponding usage by: limiting shade and maximising sun penetration for trees on the northern side of the street; providing medium to large trees on the southern side, capable of delivering appropriate scale to Main Street and at the same time allowing a dappled shade effect throughout the year.

North / South Street as a green link and major pedestrian and cycle path, tree species should: reflect local character in species selection; provide a scale appropriate to a wide avenue; provide a density of canopy which is capable of significantly modifying hot conditions typical of Western Sydney in summer.

Village Plaza: the plan indicates the following performance requirements for: a dense tree stand of medium to large deciduous trees whose purpose is to provide seasonal amenity for pedestrians in the vicinity of the Town Square; large scale trees on the northern and southern perimeters of Town Park capable of providing primary enclosure to a large open space.

North / South oriented streets: use wide close canopy evergreen species in order to modify the effects of the western sun.

East / West oriented streets: medium open canopied species which will allow partial sun penetration throughout the year.





1.13 OPEN SPACE STRATEGY

Belmore Road Precnct ILP proposes 46.5 hectares of open space, with approximately 37 hectares (80%) as usable open space. This is based on the assumption that 50% of the riparian corridor and drainage basins are publicly accessible and usable for leisure and recreational purposes.

Table 2 below documents the types of open spaces provided within Belmore Road Precinct.

Table 1 Belmore Road Precinct Open Space Provision

| OPEN SPACE CATEGORIES | TOTAL AREA (HA) | USABLE OPEN SPACE (HA) |
|---|--------------------|---------------------------|
| Passive Open Space (Parks) | 4.70 | 4.70 |
| Playing Fields | 16.04 | 16.04 |
| Open Spcae - Tree Retention (RE1 Zone) | 8.05 | 8.05 |
| Open Spcae - Tree Retention (RE1 Zone) | 1.49 | 1.49 |
| Total | 30.27 | 30.27 |

Qualitative Design and Effective Use of Open Space

Belmore Road Precnct ILP adopts a 400m-catchment rule in locating open spaces. This helps to create a series of interconnected neighbourhood across the Precinct, whilst enriching the leisure and recreational experience.

The open spaces at the Precinct have a minimum of 5,000m² in size and are designed around a landscape program that aims to form synergy with surrounding amenities, and enable active use of these spaces in community daily life.

This has driven the assumption that 50% of both riparian corridors and drainage basin will contribute towards the Precinct's usable open space.

Whilst majority of the riparian corridor is reserved as an ecological asset and the drainage basins are primarily used for water management, these areas can be sensitively designed to enable active and passive recreational uses, including incorporation of pedestrian route and cycle network along the edges.





1.14 OPEN SPACE PRECINCTS

A key component of the site is a specific open space network that implements a comprehensive and robust pedestrian and cycle network providing comprehensive access to all open spaces with increased numbers of street trees for shade, comfort and passive amenity across Belmoral Road Precinct.

Open Space precincts are identified as;

- Ridgeline Nature Reserve Retaining and enhancing an existing woodland copse that connects to a larger regional reserve opportunity to the west.
- Neighbourhood Parks A series of open spaces that offer a varied set of amenities across the Bingelly Precinct. The proposed catchment and accessibility configuration for Local Parks has been designed to maximise accessibility from surrounding residential areas and provide safe and equitable access

Belmore Creek Parklands

ACTIVE - The Parklands will provide a continuous active spine to Bingelly with cycle paths, shared paths that join neighbourhood parks, sports fields and play spaces, as listed below.

- Play Park
- Sports Park
- Local Park
- PASSIVE An extensive network of riparian corridor thats revegetaed, generally consisting of hydrophilic planting, extended with an environmental buffer either side to support nature trails in rich habitat setting.
 - Riparian Corridor
 - Nature reserve





1.15 PEDESTRIAN AND CYCLE ROUTES

The proposed road typologies at the Precinct focuses on the pedestrian and cycle connectivity. Whilst the main pedestrian and cycle route is aligned along the green link streets and park streets, all other roads form part of the network.

Figure 11 provides an overview of the pedestrian and cycle network with in Belmore Road Precinct.

All roads and streets at the Precinct have dedicated pedestrian pathways. Pedestrian and cycle routes at the Precinct is accommodated in 3 forms:

- Pedestrian and off-road cycle routes (a minimum of 2.5m shared path)
- Off-road cycle routes (at a minimum of 1.65m)
- Pedestrian Paths (at a minimum of 1.5m)

LEGEND

Green Link Streets
 Main Road Cycle Streets
 Cycle Connector Park Streets
 Internal Park Connection Paths
 Main Pedestrian Links


Figure 12 Pedestrian and cycle routes

1:7,500 @ A4 300 400 Λ

200

100

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1.16 RIPARIAN CORRIDOR AS OPEN SPACE AMENITY

The retained and enhanced creek which crosses Belmore north-east to south-west provides a connecting spin to Belmore open spaces, with a comprehensive network of paths, viewing decks and seating areas that encourage the use of creek for walking and cycling with direct access to visual and accompanying amenities of the riparian corridor adding to the Precinct's usable open space. Below shows an overview of the connected open space and the associated visual amenity that will contribute towards the Precinct's usable open space.





1.17 LOCAL CASE STUDY: KOLOMBO CREEK

With a view to include a percentage of the Riparian corridor as open space, we have reviewed Kolombo Creek, a local creek within Oran Park, NSW. The creek connects Kolombo Reserve and South Creek through the new residential community of Oran Park. The Creek provides for the required riparian corridor and includes a dedicated path network that helps define pockets of open space, including fitness stations. Along the creek is a continuous open woodland that varies in width and density affording a high level of visual amenity with views through, across and to the rich riparian landscape, which provides the functional water management and ecological environments, as well as being an important linear open space for the local community.















Tall Screening Shrubs



Layered Low Shrubs



Open Woodland Framed by Canopy



Layered Low Grassland



Open Lawn Space on Street Edge











PART C: Landscape Masterplan

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1.18 SPORTING FACILITY DIMENSIONS FOR REFERENCE





Figure 14 Sporting facility dimensions

Throughout the landscape masterplan a set of standard dimensions (as shown above) are used consistently for the sporting facilities within the active open space areas.

LEGEND

- **1.** Sports Pitches (football field 80m x 118m)
- 2. Cricket Playing Field (Oval 154 x 140m)
- **3.** Multi-mode/Basketball/Netball Courts (32m x 19m)

1.19 LANDSCAPE MASTER PLAN

The defining element of the public realm is the Creek Parklands, a combination of passive and active open spaces that are seamlessly integrated with an enhanced riparian corridor, providing a central green node which extends the open space outlook and provides for multi-functional open spaces.

The open space will support a broad spectrum of activities and interactions between people and nature and sustains environmental functions for the health of communities. Along with other community infrastructure and services, open spaces are significant public assets that contribute to the development of liveable and sustainable communities which can be easily activated by a wide range of uses across a broad range of experiences throughout all times of the day and year.

The open space masterplan establishes a hierarchy of both active & passive open space ranging from recreation parks such as the future Creek Parklands - Community Park to sporting grounds such as the Creek Parklands – Sports Park to local and pocket parks. The hierarchy ensures that a diverse network of programmed open spaces will be created to cater for the health and recreation of the local community and have positive impact on local flora and fauna, celebrate the history of the site and positively contribute to the identity of the development.

LEGEND

| 1 | Biofiltration Drainage Basin #1 | | |
|------|---------------------------------------|--|--|
| 2 | Biofiltration Drainage Basin #2 | | |
| 3 | Green Streets (Main Open Space Links) | | |
| 4 | Creek Parklands - Community Park | | |
| 5 | Creek Parklands - Sports Park | | |
| 6 | Creek Parklands - Local Sports Park | | |
| 7 | Creek Parklands - Nature Reserve | | |
| 8 | Creek Parklands - Sports Courts | | |
| 9 | Creek Parklands - Local Park #1 | | |
| 10 | Creek Parklands - Local Park #2 | | |
| (11) | Local Park #1 - Loftus Park | | |
| 12 | Local Park #2 - Active | | |
| 13 | Local Park #3 - Play | | |
| 14 | Local Park #4 - Prospect Park | | |
| 15 | Local Park #5 - Dog Park | | |
| 16 | Local Park #6 - Community Playground | | |
| 17 | Landscape Buffer | | |
| 18 | Village Plaza | | |
| 19 | Ridgeline Reserve | | |



Figure 15 Proposed Landscape Masterplan

1.20 OPEN SPACE AMENITY

The recommended open space, sport and recreation facilities generated by the projected Precinct population have been captured and inform the number and placement of a wide range of formal sports facilities that caters for a range of activities, purposes and demographics which are integrated into the new neighbourhoods.

- Total of public amenities are listed below and located opposite;
- 7 No. Multi-Courts
- 6 No. Sports Pitches
- 3 No. Oval
- 9 No. Playgrounds
- 3 No. Fitness nodes



1.21 **CREEK PARKLANDS - COMMUNITY PARK**

Creek Parklands - Community Park will provide access to large informal and formal open spaces, which will encourage various levels of activities, fitness and play. This is achieved through providing shade adjacent to active spaces to create thermal comfort. This park will feature dedicated playground spaces and equipment, catering for a growing demographic. The formal western side of the park will transition into the riparian corridor which will offer the community the chance to interact with their local environment through nature and discovery trails.

The size of this park and to offer small toilet block.

The park will provide:

- Nature trails
- WSUD Rain Garden
- Cycling and walking opportunities
- Refreshment facilities (drink tap)

- Public amenities (toilets)
- BBQs
- Picnic lawn
- Opportunity for community festival / event space
- Riparian Corridor



Large Playground









Prepared by Urbis for CKDI Pty Ltd 49

1.22 **CREEK PARKLANDS - SPORTS PARK NORTH**

This Sports Park will provide the community access to a variety of active formal sporting and recreational facilities. It is appropriately sized and designed to optimise space for a range of sporting activities and provide for adequate parking, lighting and waste management facilities. A large park will provide spaces and facilities for practising and playing structured or organised sports. This park will accommodate several sporting organisations that share the sports facilities. The Park will also feature a playground on the South-east corner with close proximity to the proposed playground and will form an active edge to the town centre.

The sports park will deliver:

- Two rectangular spots playing fields (eg. 70x100m playing surface)
- Overhead flood lighting to main sports field
- Synthetic cricket pitch
- Nature Trails
- Riparian corridor
- WSUD Rain Garden

- Four basketball courts
- Large Playground
- Public Amenities- Toilets & Changing Rooms









Nature Trails



Junior play opportunities



CREEK PARKLANDS - SPORTS PARK SECTION









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1.23 CREEK PARKLANDS - SPORTS PARK SOUTH

The community will have access to a number of active formal athletic and leisure facilities in the sports park. It is the appropriate size and shape to maximise area for a variety of athletic events, as well as to offer sufficient parking, lighting, and waste management facilities. Athletic organisations will be able to use the park's facilities.

The local park will deliver:

- Two sports pitches
- BBQ and Picnic Shelters
- WSUD Rain Garden
- Public Amenities- Toilets & Changing Rooms









Public Amenities- Toilets & Changing Rooms

CREEK PARKLANDS - PLAYING FIELDS SECTION





1.24 CREEK PARKLANDS - NATURE TRAILS

The Nature Trail open space shall comprise of revegetation works within the proposed riparian corridor, enhancing and increasing habitat areas. The open space will form a dedicated water treatment and storage network with increase tree planting for erosion control and additional canopy cover. A shared path will form part of a cycling network, and a pedestrian path will bound the space with the opportunity to include a viewing platforms and creek crossings.

The Nature Trail will deliver:

- Nature Trail
- Habitat Creation
- Environmental Planting
- Water Treatment









1.25 CREEK PARKLANDS - NATURE RESERVE

Characterised by large stands of existing native trees, the Nature Reserve will be enhanced with a native bushland revegetation planting program which will increase flora and fauna habitat to create a rich reserve. This will allow the community to access a high quality nature reserve and enjoy the benefits of biophillia.

Walking paths will connect to viewing platforms which will provide respite and moments for reflection and allow for views back across the wider landscape. Inclusion of interpretative signage detailing local history, Aboriginal cultural values, environmental education themes will be located along the trail to provide insights and tell local stories.

The Nature Reserve will deliver:

- Nature Trail
- Habitat Creation
- Environmental Planting
- Water Treatment
- Education Opportunities





Screen bund and planting



Viewing Platform



WSUD Rain Garden



1.26 **CREEK PARKLANDS - SPORTS PARK**

Separating the open space and facilities with natural mounding of landscape buffer, the Sports Park will support and provide various sporting and fitness programs for the local community. Incorporating the existing bushland and green buffer between the park and the Northern Road, the introduced landscape screening will enhance the visual experience of visitors, reduce traffic noise, and create a safer and greener community space.

Pedestrian and cyclists shared paths will extend the riparian corridor walk, along with various fitness facilities and courts on the side. At the southern end where the park connects to the existing riparian corridor, native species of canopies and shrubs will be introduced to create a natural transition.

This park will deliver:

- 2 multi-courts
- 1 free play court
- Community facilities and shade canopy
- 1 outdoor gym









Outdoor gym



Landscape mounding



The concept is indicative only and is subject to detail design.

1.27 CREEK PARKLANDS - LOCAL PARK #1

The Park will be largely retained vegetation but with the incorporation of nature play and community elements. The tree canopy and key crossing points will allow ease of access for walking and cycling. Shade trees will also provide rest points for a range of active recreational opportunities such as a fitness node and a large playground.

The local park will deliver:

- One Large Playground
- Fitness nodes











1.28 CREEK PARKLANDS - LOCAL PARK #2

The Park will extend the riparian corridor character and combine with open grassland to offer an informal kicka-bout area and picnic spots. The extended Creek Parklands will continue walking and cycling opportunities as well as provide a range of active recreational opportunities such as a fitness node and sports courts.

The Creek Parklands will deliver:

- Multi-court
- Open Lawn
- WSUD Rain Garden











1.29 LOCAL PARK #1 - LOFTUS PARK

The Local Parks deliver small open spaces and informal use spaces, which encourages activity, fitness and play. This is achieved by providing shade adjacent to open spaces for informal recreation and kick-around space. This park will feature dedicated formal sport courts, playground spaces and equipment, catering for a growing age demographic.

The local park will deliver:

- 1 Multi-mode Court
- Playground
- Open Lawn





Open Lawn



| LEGE | | |
|-------------|------------------------------------|---|
| 1 | Open Lawn and Large shade trees | |
| 2 | Multi-court | |
| 2 3 4 | Playground | |
| 4 | Shared Path | |
| 5 6 | Key controlled pedestrian crossing | NOTES |
| 6 | WSUD Rain Garden | The concept is indicative only and is subject to detail design. |

1.30 **LOCAL PARK #2 - ACTIVE**

The Park will have an open lawn surrounded by lush planting beds and scattered shade trees within. Street shade trees and key crossing points will allow ease of access for walking and cycling. Shade trees will also provide rest points for a range of active recreational opportunities such as a fitness node and a large playground.

The Local Park will deliver:

- BBQs
- Picnic tables
- Shade structures



SHARED PATH





PARK AMENITIES



1.31 LOCAL PARK #3 - PLAY

A local park at the centre of the residential area will offer a vibrant social and sustainable environment. The community will have access to a large playground space which will act as the foci and allow families and community members to gather and enjoy BBQ and picnic facilities.

The Local Park will deliver:

- Large Playground
- BBQs
- Picnic tables
- Shade structures
- Multi-court





Multi-court



| LEGE | <image/> | |
|------------------|--|---|
| 1 | Screen Planting | |
| | Shared Path | |
| 3 | Multi-court | |
| (4) | Large Playground | NOTES |
| 2 3 4 5 | Park Amenities (Sheltered BBQ, picnic tables and seating | The concept is indicative only and is subject to detail design. |

1.32 **LOCAL PARK #4 - PROSPECT PARK**

The Park is situated at a high point and will allow for views across the landscape, this aspect can be enhanced through viewing platforms. The park will contain a large lawn area for a kick-about space and BBQ and picnic facilities to allow families to enjoy the outlook and have supervision over their children.

The Local Park - Prospect Park will deliver:

- Open Lawn
- Fitness Nodes
- BBOs
- Picnic tables
- Shade structures





Kick-about area

Fitness node





1.33 LOCAL PARK #5 - DOG PARK

The Dog Park will be characterised by existing large groups of native trees forming part of a transitional experience from the neighbouring Ridgeline Park to Creek Parklands. Providing the community a space for an off-leash dog park will allow for dogs and their owners to interact and form close connections with members in their community. The park will include dog friendly play equipment to encourage owners and their dogs to live an active and healthy lifestyle.

The Dog Park will deliver:

- Open lawn areas
- Dog friendly play equipment
- Public amenities Toilets
- BBQs
- Picnic tables
- Shade structures



Shared Path through existing vegetation



Dog Friendly Play equipment



| LEGEND | | |
|------------------|---|---|
| | Open Lawn - Dog Park | |
| 1 2 3 4 | Shared Path | |
| | Dog friendly play equipment | |
| | Public amenities, Toilets, Shade Structures, Seats and BBQ | NOTES |
| U | Seats and BBQ | The concept is indicative only and is subject to detail design. |

1.34 LOCAL PARK #6 - COMMUNITY PLAYGROUND

Celebrating the existing watercourse running through the site, the park has included a raingarden bio-swale at the southern boundary. A nature play area has been introduced incorporating the existing vegetation, as well as shared paths running through the park.

The Local Park - Play will deliver:

- -Playground & nature play
- -Open lawn area
- -Sheltered BBQ



Open Lawn & kick-out space



Bio-swale





1.35 **RIDGELINE PARK**

Ridgeline Park is characterized by large existing native trees, and a native bushland revegetation will enhance habitats and provide users the opportunity to experience an informal bushwalk. Viewing platforms will provide users the opportunity to have a view across the landscape. Inclusion of interpretative signage detailing local history, Aboriginal cultural values, environmental education themes will be located along the trail to provide insights and tell local stories.

The Ridgeline Park will deliver:

- Walking Trail
- Lookouts
- Environmental Planting







Interpretative signage incorporated into furniture (inc. local language transcribe)





The concept is indicative only and is subject to detail design.



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