



Orchard Hills North

Open Space Strategy

Prepared for

Legacy Property

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i. Executive Summary - Open Space Strategy

The open space network has been revised in accordance with the Strategic Road Network Master Plan updates. The proposed strategy provides the required passive open space (POS). Area B calculations have been included throughout this Planning Proposal Report to provide a holistic indication of the open spaces within the Master Plan area. A summary of the total open space calculations is shown below:

	Required Area A	Proposed Area A December 2022	Required Area B	Proposed Area B April 2021
Passive open space	8.51ha	8.56ha	11ha	11ha
Active open space	7.26ha	7.30ha	4.81ha	4.81ha
Total	15.77ha	15.86ha	15.81ha	15.81ha

An additional open space offering in the form of an active transport loop **(1.25ha)** creates a 5km network of active linear space that connects key areas of the site and provides access to surrounding landmarks. This key feature of the development will bring significant health and recreation benefits and better connect the community to open space. The active transport loop (minimum 2.5m wide shared path) is not classed as public open space but does deliver on one of the core objectives of the Penrith Sport and Recreation Strategy which is to 'encourage active and healthy lifestyles for all'.

1 Introduction

Legacy Property is proposing to rezone a site in Orchard Hills North, located within the Penrith Local Government Area (LGA). The proposed Area A is approximately 151.97 hectares (ha) with frontages to Caddens Road to the north, Kingswood Road to the west, the Western Motorway to the south and Claremont Meadows residential lots to the east.

Orchard Hills North, is well located being north of the Western Sydney Motorway, in close proximity to the University of Western Sydney (to the north), Nepean Hospital (to the north) and to the Penrith City Centre. South of the Motorway is currently mostly Orchard Hills rural lands, Defence Lands and to the south west is Glenmore Park. Further south, will be the Badgerys Creek Airport.

The rezoning site comprises 54 existing lots (including the school and uniting church) within the proposed Area A (Area A is identified in Figure 1).

The existing fragmented ownership of the site has historically been a barrier to coordinated planning or development of the area, however Legacy Property has now secured agreements covering the majority of Area A.

Legacy Property nominated the Orchard Hills North site under Penrith City Council's Accelerated Housing Delivery Program (AHDP) in October 2017. In November 2017 the site was endorsed by Penrith City Council as a short-term rezoning opportunity to provide for housing delivery over the next 3-5 years.

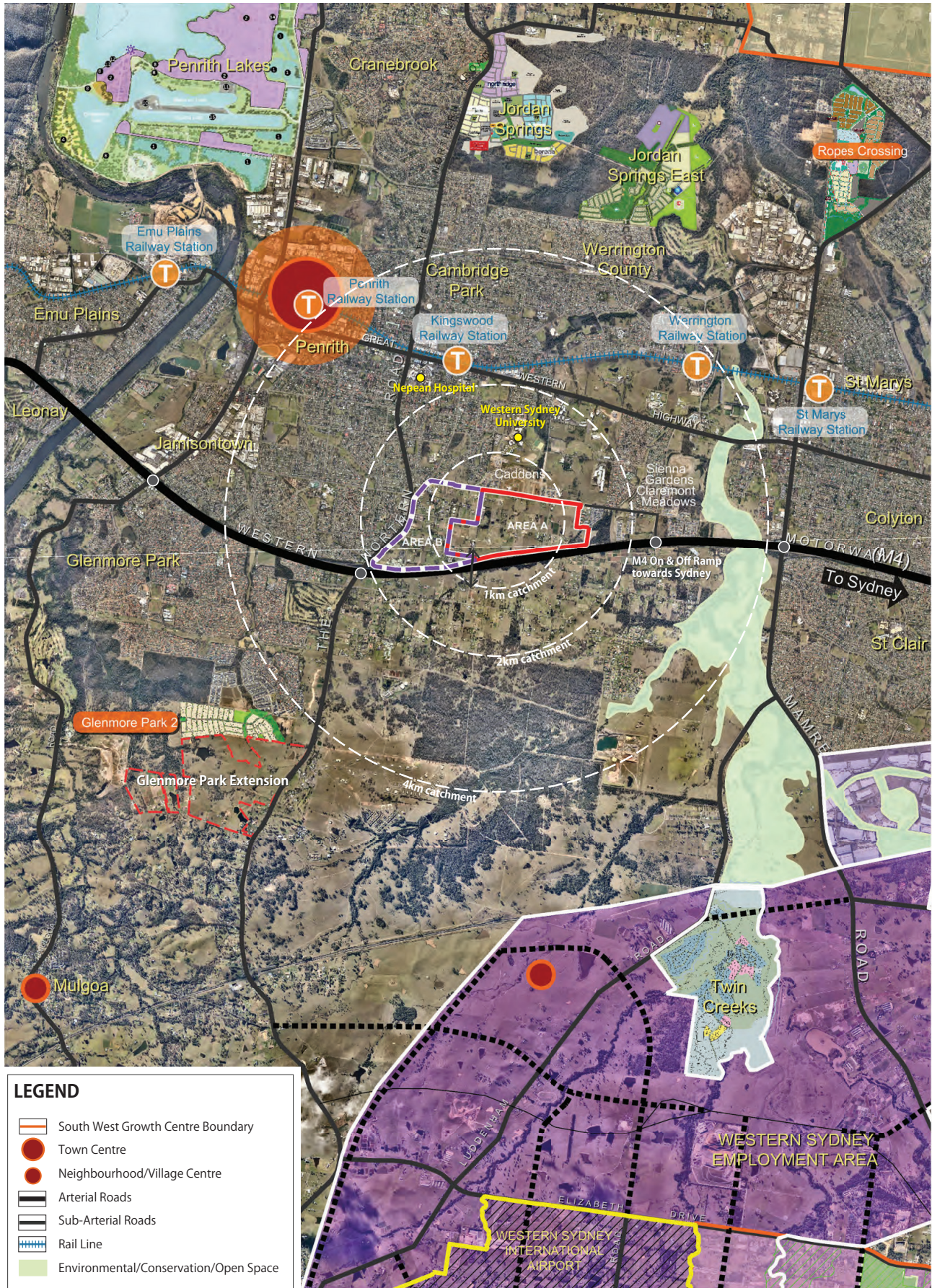


Figure 1 Regional Context

Source: Design and Planning 2021

1.1 The Study Area

Legacy Property submitted a Planning Proposal (PP) in March 2018 to rezone land identified as Orchard Hills North, which was subsequently endorsed by Penrith City Council in June 2018. Gateway Determination was received from the Department of Planning and Environment in February 2019.

Rezoning efforts have progressed over 2019/2021 with rezoning anticipated to occur in late 2021.

The Planning Proposal for Orchard Hills North aims to rezone the 151.97ha site from agricultural land to mixed land uses, forming around 1,729 residential lots, a village centre and numerous areas of green space.

Discussions with the Department of Planning and Environment (DP&E) and Council have highlighted the need to consider the logical extension of Area A west (namely the Master Plan area) to The Northern Road, to ensure that future land uses and connections for the entire Orchard Hills North precinct are planned in a holistic manner.

In order to ensure that the future development is fully integrated, a high level Master Plan has been prepared for the entire precinct, covering an area of approximately 268.87ha. The Master Plan considers how Area A (151.97ha) integrates with the balance of the precinct (116.9 ha) and identifies potential future land uses as well as key road connections. It is expected that the Master Plan will provide a framework for the future rezoning of the remaining area, either through a Council Local Environmental Plan (LEP) amendment or a developer/owner led Planning Proposal.



Figure 2 Proposed Area A and Area B

Source: Design and Planning 2021

1.2 Background

The cultural landscape of the Orchard Hills North site has developed as a rural landscape over the past 100 years with constantly evolving pastoral practices and declining Cumberland Plain Woodland. Within the last 50 years Orchard Hills North has typically been associated with orchard food production, grazing farming practices with some specialisation in agricultural farming and rural residential communities.

Although genuine food production practices have steadily declined over recent years, and only two lots within the site are currently used for any form of agricultural production, the site remains zoned as RU4 Primary Production Small lots. Today, the majority of the site is utilised for residential purposes and has been substantially cleared.

1.3 Our Vision

Orchard Hills North will be a residential community set amongst rolling hills in the rich natural landscape of Western Sydney, offering panoramic views to the Blue Mountains and surrounding areas. The development will incorporate a diverse mix of housing types across 1,729 residential lots, focused around a new village centre that forms the focal point of the future community and offers a high level of convenience for residents.

The over arching vision of Orchard Hills North is to support a safe, welcoming and connected community. This will be achieved through the provision of a wide variety of green spaces and links, connecting each of the future neighbourhood precincts with one another as well as the wider regional community, thereby placing a focus on active transport such as walking and cycling.

1.4 Area A Design Principles

A site analysis, supported by extensive technical studies, has informed the following design principles for the Master Plan and Area A:

- Retain key creek lines and capitalise on the opportunity to create a central green link.
- Retain existing significant vegetation as natural bushland.
- Manage and retain views into and out of the site.
- Provide opportunities for a diverse mix of housing types, with medium density housing located around the village centre and major open space.
- Create a new village centre combined with a relocated primary school to establish a community focal point.
- Respect and celebrate heritage buildings and the character of the area.
- Integrate with the community to the north, west and east.
- Link O'Connell Lane, Caddens Road, Frogmore Road and The Northern Road into a meaningful urban road network.
- Improve water quality and water flow.
- Utilise landscaping and topography on the southern boundary to manage noise.
- Promote pedestrian and cycle linkages.
- Generate employment opportunities along the Northern Road.

1.5 Structure Plan Area A and Area B

It is proposed to rezone the site from RU4 Primary Production Small Lots, under Penrith Local Environmental Plan (PLEP) 2010, to part R1 General Residential, B2 Local Centre, RE1 Public Recreation, E2 Environmental conservation and E4 Environmental living in the south eastern corner of the site, as well as provide for appropriate controls relating to minimum lot size, height, heritage items, and visual landscape.

The rezoning of Orchard Hills North will provide approximately 1,729 residential allotments. It is expected that the site will ultimately provide a broad mix of dwelling types on allotments ranging from larger environmental living lots (2,000m²) to traditional detached residential lots (250-550m²) as well as some medium density townhouse product. The proposed village centre will provide approximately 6,000-8,000m² of retail space supported by cycle and pedestrian links with approximately 19.22ha of open space, bushland and riparian corridors.

The location of parks and open space areas have been carefully selected to enhance the existing value of the natural landscape, such as hill tops and creek lines, and to retain the significant bushland areas, in order to provide the highest level of amenity for future residents.

The site is physically and strategically suited for urban development, noting that:

- It is a discrete area formed by the boundary of an existing urban area and major road infrastructure.
- It adjoins an existing residential subdivision, and in close proximity to the hospital, Western Sydney University and the Penrith CBD.
- There are limited environmental or physical constraints that would prevent redevelopment
- It is outside the Western Sydney Priority Growth Area and is therefore better placed to be rezoned through a developer led PP
- Upgrades are currently being undertaken to the Northern Road, which the Orchard Hills site is located east thereof, and gains access thereto. Thus, the rezoning of the land will support the Government's cost of infrastructure and will result better utilisation of the land

— It is able to capitalise on the availability of new and existing infrastructure, such as the recently completed Werrington Arterial Road and new M4 on and off-ramps, the signalisation of the Frogmore Road/Northern Road intersection as part of The Northern Road upgrade, and four train stations within 4.5km of the site (Penrith, Kingswood, Werrington, St Marys).

The indicative Urban Design Structure Plan for the site is identified in Figure 3 below*.

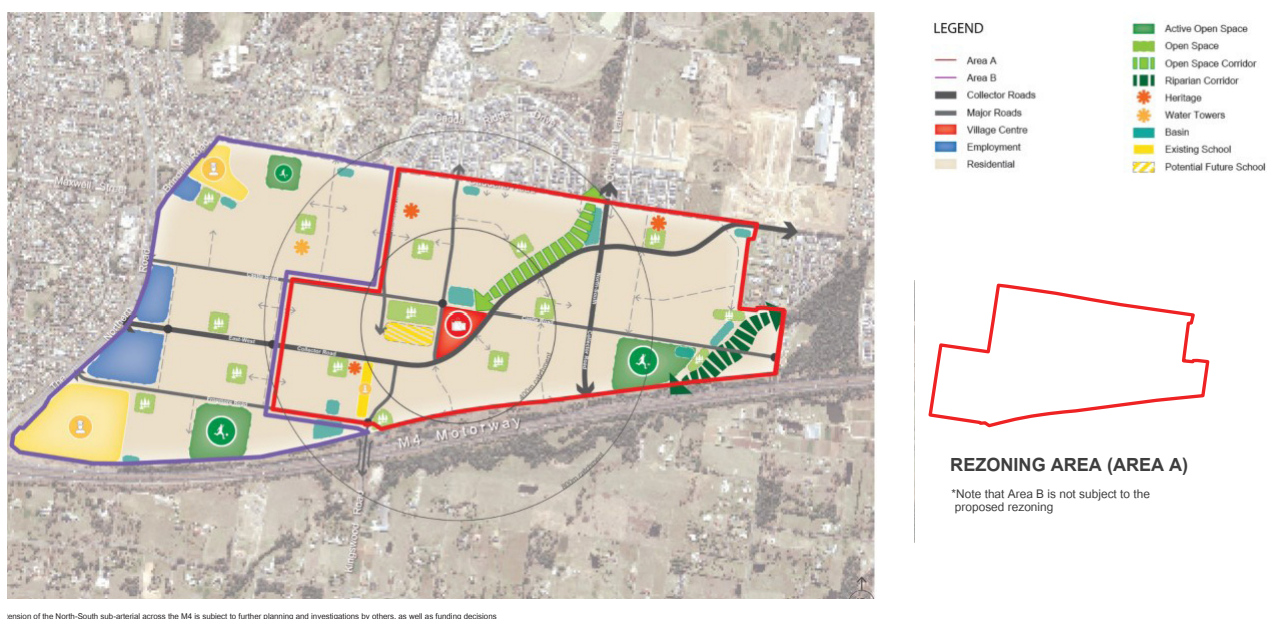


Figure 3 Indicative Structure Plan - Area A and Area B

Source: Design and Planning 2022

* Further indicative information relating to Master Plan Area B can be found on pages 78 - 71 of this report.

2 EXISTING CONDITIONS

2.1 Site Location and Context

The Orchard Hills North site is 151.97 ha and is located within Penrith City Council's local government area. Orchard Hills North is bound by Caddens and Caddens Hill developments and Caddens Road to the north, Claremont Creek and the suburb of Claremont Meadows to the east, the M4 Motorway to the south and is partially bound in parts by length of Kingswood Road to the west with potential land acquisition opportunities into the Master Plan area further the west.

The subject site is surrounded by a variety of social infrastructure and transport corridors. It is located directly to the north of the M4 motorway and south of Caddens Road. Penrith Town Centre is located approximately 5km to the west of the subject site and can be accessed via the M4, the Northern Road or the Great Western Highway road network. The site is supported by numerous educational facilities including the Kingswood Campus of the Western Sydney University and the Nepean Campus of TAFE NSW to the north, with Kingswood High School, Montgrove College and Penrith Christian College to the west. The Nepean district hospital is located 3km to the north west of the site.

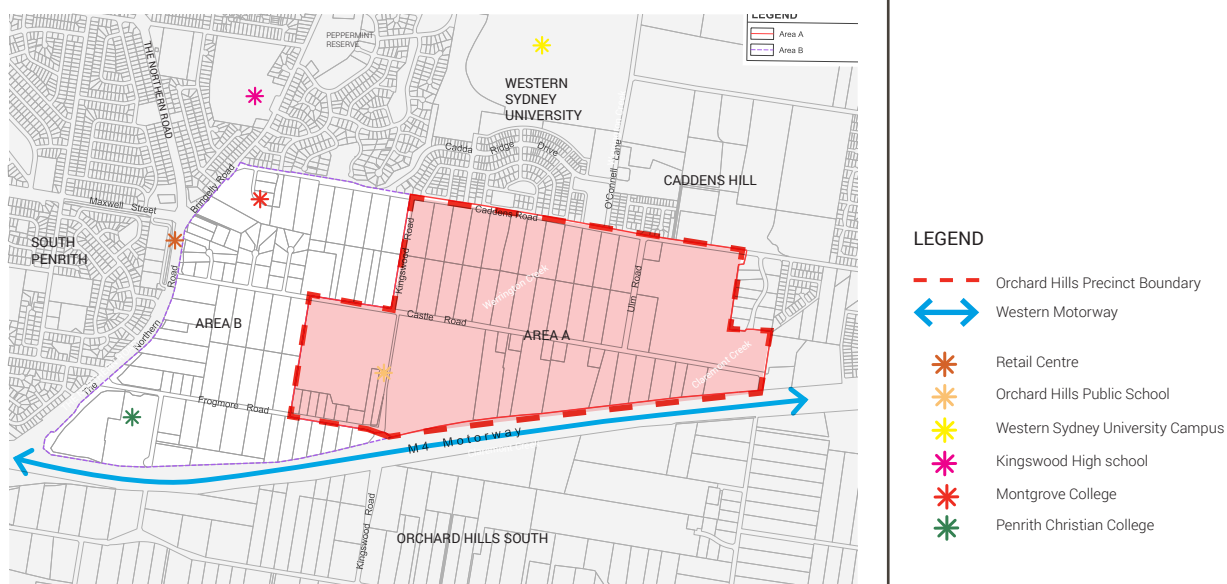


Figure 4 Site Context Plan

2.2 Heritage

An assessment of both indigenous and non-indigenous heritage reports was undertaken by Kelleher Nightingale Consulting and NBRs Architecture Heritage respectively.

No Aboriginal artefacts or sites were identified within the study area. The cultural landscape of Orchard Hills North site has developed as a rural landscape over the past 100 years with constantly evolving pastoral practices and declining Cumberland Plain Woodland and River-Flat Eucalypt Forest.

Within the last 50 years the district of Orchard Hills North has typically been associated with orchard food production, grazing farming practices with some specialisation in agricultural farming and rural residential communities. Although genuine food production practices have steadily declined over recent years the site is still zoned as RU4 and as such the dominant landscape character is still rural residential. However, three properties within the site and one within the structure site have been identified by Penrith Local Environmental Plan, 2010 as having historical significance.

Any proposals for future development should conserve the heritage significance of the heritage items identified on site (identified as 1155, 1845, 1657 and 1153 on the LEP map) and known as Brick Farm House, Lindfield, Orchard Hills Uniting Church and Water Reservoir.

Any future development should aim to conserve the heritage significance of heritage items within and in the vicinity of the site through appropriate visual curtilage created by increased front and side boundary widths to the heritage item and appropriate side boundary set back to all future lots adjoining any heritage item.



Brick Farmhouse



Lindfield



Orchard Hills Uniting Church



Water Reservoir

2.3 Vegetation and Habitat

Most of the site has been cleared of native vegetation for uses such as grazing and horse agistment, residential development and semi-rural activities. The clearing of native vegetation has allowed the site to be dominated by exotic pasture grasses and shrub species. Remnants of native vegetation remaining on site have been subject to high levels of disturbance such as rubbish dumping and noxious weed invasion.

An ecological assessment was undertaken by Cumberland Ecology in 2018. The report states that the vegetation within the site is identified strands of Cumberland Plain Woodland and River Flat Eucalypt Forest: both vegetation types are Endangered Ecological Communities (EEC) under the Threatened species Act 1995.

Five threatened fauna species were identified within Area A. Although not recorded in Area A, four threatened species have also been recorded in the surrounding location due to the presence of suitable foraging habitat.

2.4 Topography and Geology

The site's topography is characterised by undulating hills with some outcrops and low-lying areas coinciding with streams and creeks.

Mapping shown on the Soil Landscapes of the Penrith 1:100 000 Sheet Map (Bannerman and Hazelton, 1990) indicates that the subject site is underlain by Luddenham, South Creek and Blacktown Soil landscapes.

The Luddenham unit is described as an erosional soil landscape with dark podzolic soils or massive earthy clays on crests, with moderately deep red podzolic soils on upper slopes and moderately deep yellow podzolic soils and prairie soils distributed throughout the lower slopes and drainage lines (Bannerman and Hazelton, 1990).

The South Creek unit is described as an alluvial soil landscape comprised of deep layered sediments over bedrock or relict soils with structured plastic clays or structured loams occurring along drainage lines with red and yellow podzolic soils commonly forming terraces (Bannerman and Hazelton, 1990).

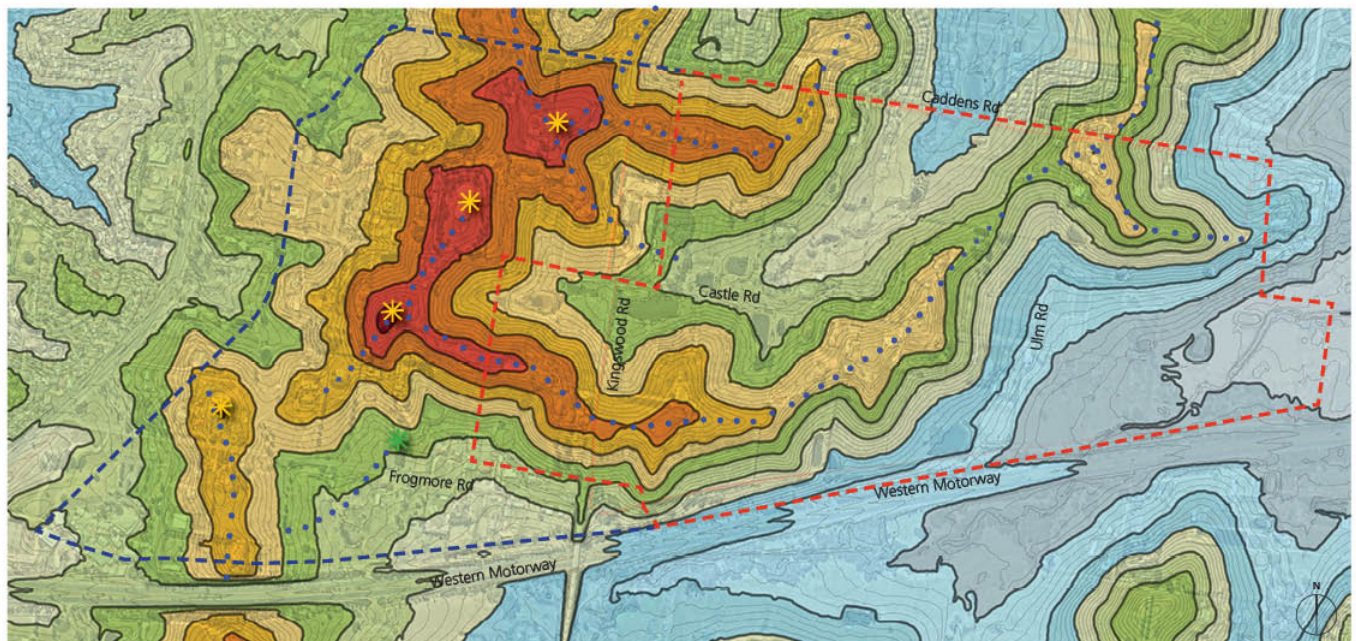
A small area of the subject site in the south eastern corner falls within the distribution of the Blacktown Soil Landscape unit.



LEGEND

- Orchard Hills North Area A
- Orchard Hills North Master Plan Area
- Cumberland Plain Woodland
- River-Flat Eucalypt Forest

Figure 5 Existing Native Vegetation Diagram



LEGEND

- | | | | |
|---|---|---|--|
| 35 to 40m | 55 to 60m | 75 to 80m | ★ High Points |
| 40 to 45m | 60 to 65m | 80 to 85m | ● ● ● ● Ridge Line |
| 45 to 50m | 65 to 70m | 85 to 90m | --- Orchard Hills North Area A |
| 50 to 55m | 70 to 75m | > 90m | --- Orchard Hills North Master Plan Area |

Figure 6 Existing Contour Map

2.5 Hydrology

The watercourses within the subject site form part of the Hawkesbury-Nepean Catchment. The two primary watercourses occurring within the subject site include Werrington Creek and Claremont Creek, occurring alongside a number of associated minor drainage lines. The headwaters of Werrington Creek are located within the south-west area of the subject site. Werrington Creek flows through the subject site for approximately 950m in a northerly direction. Werrington Creek is a tributary of Claremont Creek, with which it joins north of the subject site. The headwaters of Claremont Creek are located south of the subject site with the main body of the creek occurring as a 650m stretch through the subject site. Claremont Creek is a tributary of South Creek. Claremont Creek continues north for approximately 3km before flowing into South Creek. Twenty-four (24) farm dams are scattered throughout the subject site, with ten occurring along watercourses or drainage lines.

2.6 Site Character

The overall character of the site is created by the undulating rural topography with its distinct north south and east west ridge line which provides expansive distant views of the Blue Mountains to the west, the education and conservation lands of Werrington in the north, rural farms of Orchard Hills in the south and the riparian corridor of Claremont Creek and South Creek to the east.

The landscape character is dominated by a framework of numerous large rural lifestyle lots and the inclusion of approximately 5Ha of commercial market gardens. The semi-rural character prevails and is viewed as being predominately a composition of pasture grasslands, cleared paddocks with some grazing, isolated semi-rural buildings and clumps of remnant Cumberland Plain Woodland and River Flat Eucalyptus Forest trees. The physical presence of numerous farm dams, overland flow rivulets that form Werrington Creek to the north and Claremont Creek to the east further enhance the prevailing rural character of the site.

The open space principles of the Orchard Hills Master Plan area are based on creating an open space framework that retains this unique rural character where practical, utilise the high points along the ridge lines to maximise views and incorporate the heritage values of the site. These core features are to be further enhanced by retention of the natural environment which includes pockets of remnant woodland to be retained in open spaces, conservation parks and delivers sustainability in the re-vegetation of creek line corridors.

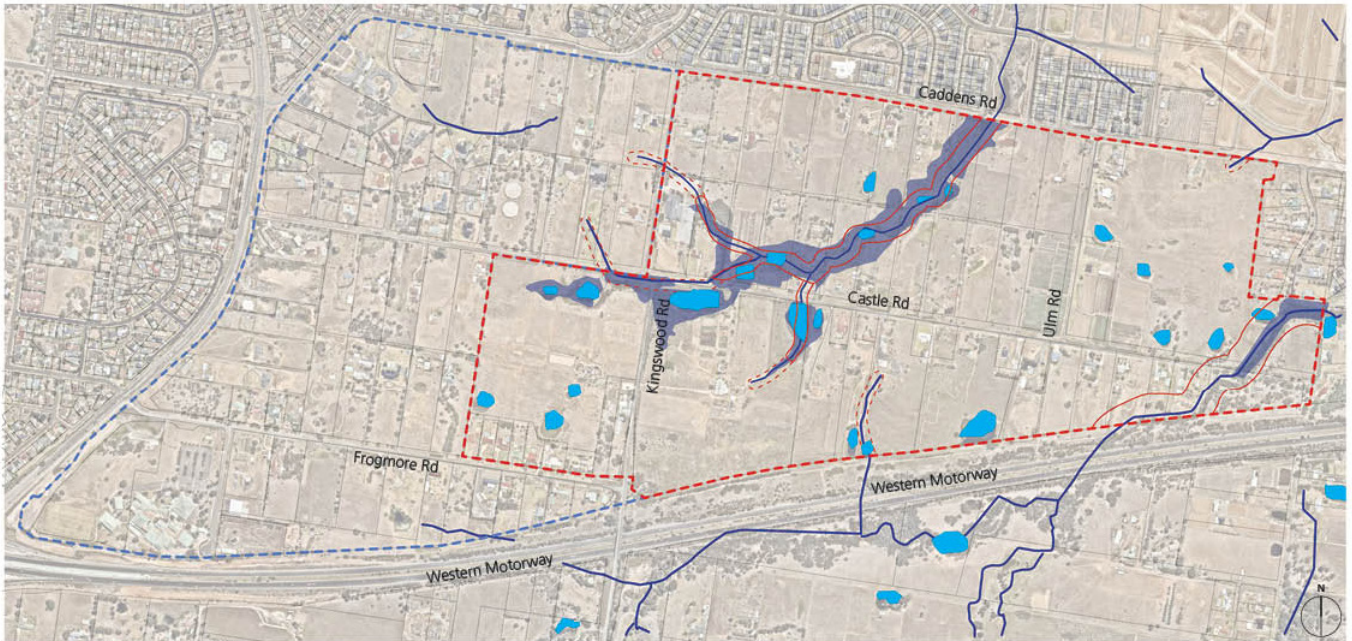


Figure 7 Flood Zone and Riparian Corridor Plan

LEGEND

- | | |
|---|---|
| --- Orchard Hills North Area A | --- Riparian Extent |
| --- Orchard Hills North Master Plan Area | --- Potential Riparian Corridor to be Removed |
| --- Watercourse | 1% AEP Flood Extent |
| Existing Farm Dam | |



Figure 8 Land Use and Character Diagram

LEGEND

- | | | |
|--|--|---|
| A Land Use - Rural / Lifestyle lots | F Land Use - Community Activities/Churches | ✱ Church |
| B Land Use - Rural Lifestyle/Agistment/Grazing Paddocks | G Land Use - Educational | ✱ Heritage Listed Building / Item |
| C Land Use - Manor Style / Semi - Suburban Lots | H Land Use - Commercial/Retail | ✱ Water Tanks |
| D Land Use - Agriculture / Market Gardens | I Land Use - Infrastructure | ✱ Mobile phone transmission tower |
| E Land Use - Existing Vegetation | | |

- | |
|--|
| --- Water body |
| --- Creek corridor |
| --- Western Motorway M4 Corridor |
| --- Orchard Hills North Area A |
| --- Orchard Hills North Master Plan Area |

3 LANDSCAPE DESIGN OPPORTUNITIES

The analysis of the existing site conditions has identified, along with some physical constraints, a series of opportunities for the Orchards Hills North site. These have been used to inform the concept design of the new development.

The exiting rural landscape characterised by rolling hills is the core characteristic of the Orchards Hills site. The opportunity to reinforce the low lying riparian areas with endemic vegetation, emphasis the topographical changes and maintain views within and beyond the site will contribute to the rural character quality within the development.

3.1 Heritage

It is understood from the Aboriginal Heritage Study undertaken for the rezoning site that no Aboriginal artefacts or archaeological site were identified within the study area.

The cultural heritage of the has been dominated by the European style agricultural practices over the subject site for the past 100 years. Although the agricultural These site clearing and farming strategies have formed the prevailing rural character of the site as seen today. Sitting within Area A site are three significant heritage buildings know as the Brick House, Lindfield and the Orchard Hills Uniting Church. Conserving these items provide the opportunity to retain elements of the sites heritage that would otherwise be lost. The heritage elements can be emphasised within the development area through improved visual curtilage in and around teach of the sites to increase their presence within a landscape setting and to reduce the visual impact of future development. Certain elements can be drawn upon for reinterpretation within some open space areas to further expand upon the local heritage of the site.

3.2 Vegetation

Although the subject site has been predominately cleared of most native vegetation there exists several scattered and fragmented stand of Cumberland Plain Woodland and River-Flat Eucalypt Forest across the site. The opportunity exists to conserve these endangered communities within bushland parks, riparian corridors and in some instances, within opens space areas. Protection of the remnant vegetation allows for the preservation of these threatened communities and provides for additional pockets of native vegetation that inter-connects with the open space areas distributed throughout the site.

The high level of clearing of the native vegetation allows for the introduction of a variety of deciduous and evergreen tree species that will prevail through the streetscape hierarchy and subsequent pockets of public open space. This will create a diverse palette of colour and textures to the development site that is reflective of the orchard farm heritage that once existed over the site.

3.3 Topography

The undulating topography generates opportunities for the creation of several key viewing points along the ridge lines to the surrounding immediate suburban context and Blue Mountains beyond. Open space opportunities should be located on or along the ridge line high points where possible to enhance the objective of providing the sense of ridge line vegetation and to preserve views.

The lower slopes surrounding the ridge lines provides the site with a more gentle topography and thus is more conducive for many suitable development opportunities. Nestled in behind the ridge line, these gentle slopes provide the opportunity to locate a local centre, and associated medium density housing without adversely impacting the visual qualities of the site from the surrounding neighbourhoods.

3.4 Hydrology

The prevailing overland flow travels from south west of the site to the north east and forms into Werrington Creek beyond Caddens Road. This flow provides the site with the opportunity to incorporate a series of large open water bodies that will enhance the rural character of the site currently provided by the numerous existing farm dams. Water bodies provide the site with a unique landscape setting and provide the development site with a significant focal point for the development along with visual and potentially active amenity.

3.5 Reducing the Urban Heat Island Effect

The most striking characteristic of an urban microclimate is the urban heat island (UHI) effect. Urban areas become significantly warmer when there is limited green cover and an abundance of hard surfaces which absorb, store and radiate heat.

In a widely reported era of warming climate, research shows that trees and other plants are an effective way to reduce the urban heat island effect (UHI). Trees in particular, are proven to be most effective in reducing the urban heat island effects (by shading building surfaces, deflecting radiation from the sun and releasing moisture into the atmosphere). The use of trees and vegetation in the urban environment also brings benefits beyond mitigating urban heat islands (including reduced energy use, improved air quality, provide habitat for many species, offer enhanced storm water management and improve quality of life).

The Orchard Hills North development area is located in western Sydney, (an area with already hot temperatures experienced in summer). The following mitigation methods are an opportunity to assist in reducing air temperature across the Orchard Hills North development and provide improved levels of thermal comfort:

- Provide a 'cool pavements' and 'street greening' approach including shrub and ground cover planting to reduce the maximum ambient temperature of the development. The selected response should provide consideration to the relevant council and Australian Standards both for construction and maintenance.
- Implement larger canopy trees to reduce the impacts of solar radiation and improve comfort at the pedestrian level.
- Provide optimal growing conditions for trees (increasing soil volume where possible to support larger tree growth, reducing compaction and providing additional passive irrigation opportunities such as integrated WSUD)
- Implement good long- term maintenance practices to ensure trees remain healthy and full canopy potential can be reached.

3.6 Inclusive and Accessible Open Spaces

The open space network of the Orchard Hills North development will provide spaces which are not only safe, fun and family orientated but that are centred around the principle that everyone should be able to equally share in the fun and be included. This includes considering the right mix of facilities and furniture when developing each open space (so that the needs of all users are considered). Thoughtful selection of furniture such as seats, picnic settings, bins and bubblers will be undertaken with accessibility in mind, as well as the provision of accessible path networks, signage for wayfinding, and the provision of play spaces that offer accessible, inclusive experiences for people of all ages, abilities and backgrounds.

3.7 Inclusive Play

Penrith City Council Sport and Recreation Strategy is committed to providing quality play spaces throughout the Penrith LGA and this commitment will be demonstrated in the new play offers at Orchard Hills North development. All spaces will be designed with the NSW Government's best practice inclusive play guidelines 'Everyone Can Play' in mind. These guidelines will be used when developing designs for all new play spaces to create new and exciting parks that provide various forms of play, improve shading, seating and access.

In line with Council's visionary strategy documents, all new play spaces within the Orchard Hills development will (where physically possible) seek to:

- Cater for everyone (regardless of ability)
- Bring people together and be welcoming, comfortable, and easy to navigate
- Offer a range of physical challenges across a variety of landscape settings
- Be spaces to explore, promoting active and healthy lifestyles
- Be diverse, contemporary, unique, safe and innovative
- Be accessible, creating a connected network across the development where everyone is able to engage and play together
- Be classified based on Council's clearly identified hierarchies

4 DESIGN PRINCIPLES AND OBJECTIVES

4.1 Principles

The Landscape Master Plan will incorporate the following design principles:

- Create a strong integrated landscape framework that capitalises on the site's physical attributes and establishes a clear vision for the landscape.
- Retain key creek lines and capitalise on the opportunity to create a central green link.
- Integrate stands of Endangered Ecological Community vegetation (Cumberland Plain Woodland) into open space areas where possible and feasible.
- Preserve and enhance existing areas of significant ecological value such as riparian corridors, wetlands and habitat vegetation.
- Capitalise on the views and vistas shaped by the existing topography to create a variety of spatial experiences that exploit view opportunities from and within the site.
- Provide a diverse mix of open space and public domain amenity for the community.
- Promote a walkable community and include pedestrian and cycling networks.
- Improve water quality and on site retention issues by integrated water sensitive urban design principles.
- Incorporate environmentally sustainable design principles.
- Incorporate Crime Prevention through Environmental Design principles.
- Incorporate APZ and other bush fire management requirements within the landscape design.
- Provide accessible and inclusive community open spaces.

4.2 Objectives

The landscape master plan will incorporate the following design objectives:

- Establish a high quality landscape based on the synthesis of development objectives, contextual issues, legibility, green links, site constraints and opportunities, sustainable asset management, and best practice.
- Strengthen the appearance and amenity of the proposed development by sensitively integrating land form, architecture and landscape through effective site planning and landscape design.
- Create a variety of quality landscape spaces that are sympathetic to the environment and natural processes and are linked with existing ecological corridors.
- Provide a permeable and legible framework of streets and open spaces closely integrated with the surrounding landscape, open spaces and streets.
- Consider Council's 3 objectives of high quality, low maintenance and robustness for open space planting, furniture and finishes.
- Manage the Urban Heat Island effect by implementing strategies that will increase tree canopy cover potential and sustain long term tree health.
- Deliver open spaces that offer diversity of experiences and support 'community togetherness' where everyone feels welcome, regardless of age, ability or cultural background.






5 LANDSCAPE MASTER PLAN

5.1 Area A

The landscape Master Plan adheres to and achieves the above design principles and objectives in the following ways;

- Location of major open spaces along existing natural features of the site such as the riparian park and detention basins along low lying areas and the integration of rain gardens and detention basins within these parkland environments with WSUD principles.
- The major open spaces maintain and improve the existing stands of threatened ecological communities, namely the Cumberland Plain Woodland (CPW) in the Riparian Park and the Sydney Coastal River Flat Forest (SCRFF) along the riparian corridor by incorporating and consolidating the existing vegetation into the landscaped open space.
- The streetscapes enhance the natural landscape and reinforce the road hierarchy, through their arrangement, size and species selection. The streets provide green links and view corridors throughout the site, making connections with and between other open spaces.
- The road layout follows the existing road framework and reflects the natural topography of the site. The streets provide a circulation network that is safe, permeable and legible for pedestrians, cyclists and vehicles alike.
- A selection of high quality street furniture, lighting, finishes and planting which relate to the natural environment, low maintenance and robust have been proposed for the site.
- Integration of rural and native themes through out the open spaces and streets gives the Orchard Hills area a strong sense of character. The urban commercial and retail precinct, children's play areas, active and passive open spaces and conservation corridors provide a range of amenities and uses for the future community of Orchard Hills. Each space and street has a purpose and theme in keeping with the overall landscape vision for the site.
- Open space areas fronting residential dwellings shall be designed to promote natural surveillance and resident accessibility. Low planting and visually permeable fencing will provide for passive surveillance (whilst maintaining privacy for residents. Verges, crossings and pram ramps will be located with careful consideration of accessibility and connectivity to the public open space network and the landscape character of the streetscapes (street trees and possible verge planting) shall be designed to be in keeping with any adjacent open space character.

Legend

-  Residential Land
-  Landscape Area
-  Site Boundary
-  Master Plan Area
-  Collector Road

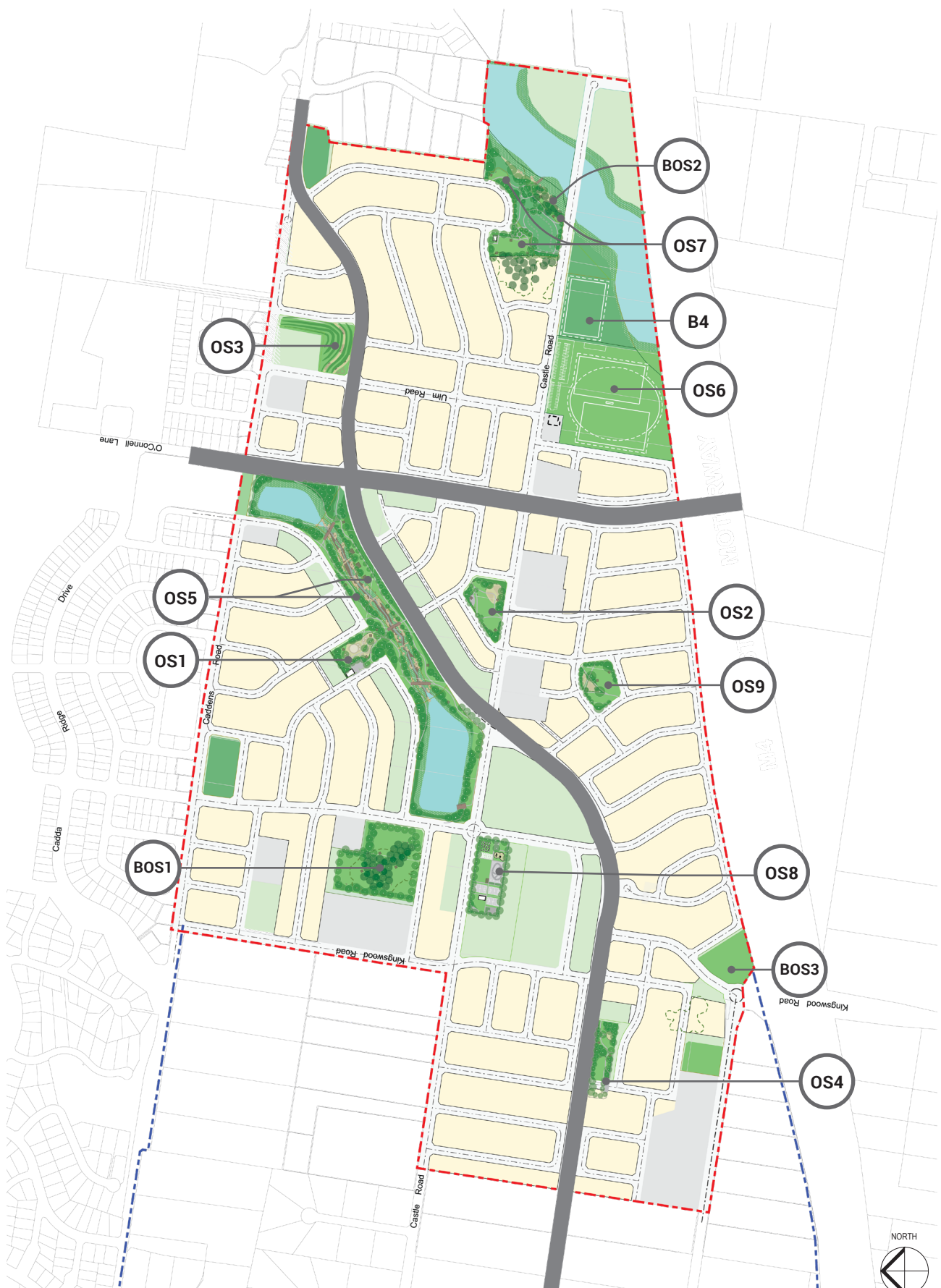


Figure 9 Landscape Master Plan - Area A

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5.2 Area B

The indicative Master Plan for Area B adheres to continuing the above design principles and objectives for Area A. The indicative open spaces provide a varied mix of functions and facilities within accessible walking distances for residents living in the development.

Further breakdown of the indicative function and facilities can be found on pg71 of this report.

Legend

-  Active OS/Sporting Ground
-  District Park
-  Local Park
-  Basin
-  Rezoning Site Boundary
-  Area B Site Boundary



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6 OPEN SPACE MATRIX

The Orchard Hills North Open Space matrix on page 31 provides an overview of the open space typologies and the proposed functions and recreation facilities proposed within each open space. A number of key drivers have been used to determine the location, function and facilities proposed for each open space including:

- Diversity of proposed residential lots. For residents who live in smaller and higher density lots, the need for access to high quality public open space and additional facilities is increased due to the density of population living nearby.
- Co-location and proximity to other open spaces/recreation facilities (i.e improving walkability to a diverse open space experiences)
- Ecological constraints (responding appropriately to the presence of protected vegetation communities)
- Flooding Constraints (responding appropriately areas at risk of flooding)
- Stormwater treatment and the requirement for detention basins

Open Space Number	Approx. Area (ha)	Indicative Dimension (m)	Character Precinct	Open Space Type (as per PCC park classification)	Ecological Constraint	WSUD Constraint	Function/Facilities	Toddler Play	Junior Play	Senior Play	Teenager Play	Water Play	Water Story	Kickabout	Formal Sport	Sport Court	Fitness Stations	Shelter	BBQ	Market	Productive Gardens	Lookout	Boardwalk	Dog off-leash (fenced)	Conservation	Regeneration	Performance/Events	Interpretation	Public Art	Cycle Network
OS1	0.5	84x60	District Playground	District park	N/A	N/A	District scale 'inclusive' play space. Incorporating play opportunities for kids under 12.																							
OS2	0.6	75x80	Informal Recreation	Local park	N/A	N/A	Active local park with high level recreational activities for children and picnic facilities.																							
OS3	0.67	90x74	Informal Recreation	Local park	N/A	N/A	Adjacent the Gaddens Road heritage building which is located at a high point on the site. Open space maintains view corridors to Orchard Hills Development																							
OS4	0.5	140x36	Informal Recreation	Linear park/Dog Park	N/A	N/A	Adjacent heritage church building a meandering flower garden with playground and shelters. OS4 services the development as a dedicated dog off-leash area.																							
OS5	2.69	70x385 (including riparian channel)	Family Park/Riparian Interface	Linear park/City Wide Park	N/A	2 x bio retention basin to north and south of riparian drainage channel	Central open space linear park that varies in width from 15m - 30m. Incorporating fitness, play and riparian themes throughout and providing connections with other opens spaces.																							
OS6	3.97	185x215	Active Open Space	Sporting space	N/A	N/A	Major sports hub (formal recreation) with sports fields and associated amenity. Connected by active transport network.																							
B4	1.29	150x100	Active Open Space/Riparian Interface/Raingarden	Sporting space/Local Park with drainage	N/A	Detention basin 1.29 ha. Rain Garden 0.57 ha (Not included in OS calculation)	Detention basin for flood mitigation from the Claremont Creek. Serves as an intermediate park between OS6 & OS7, providing both active and passive recreation. Raingarden with maintenance path																							
OS7	0.84	50x190	Informal Recreation/Riparian Interface/Raingarden	Local park/Local bush park	N/A	N/A	Open spaces adjacent to Claremont Creek. Nature play opportunities with water play inspiration, raingarden. Active transport network links through park and bush zones. Seating and picnic shelters throughout for passive recreation.																							
OS8	2	116x92	Active Open Space	Sporting space/Market Space	N/A	N/A	This park will function as a sporting space with a community garden, multi-courts and market space adding to the flexible nature of the space.																							
OS9	0.5	83x62	Informal Recreation	Local Park	N/A	N/A	Active local park with passive recreational spaces for children, dog walking, picnic and kickabout spaces																							
Bush OS1	2.04	145x140	Natural Recreation	Local bush park	Approx 75% Cumberland Plain Woodland (CPW)	N/A	Areas of bush conservation and regeneration. Low levels of passive interaction opportunities including shelters and seating																							
Bush OS2	0.36	35x100	Natural Recreation	Local bush park with drainage	Approx 60% Cumberland Plain Woodland (CPW)	N/A	Areas of bush conservation and regeneration. Low levels of passive interaction opportunities including shelters and seating																							
Bush OS3	0.64	76x85	Natural Recreation	Local bush park	Approx 50% Cumberland Plain Woodland (CPW)	N/A	Areas of bush conservation and regeneration. Low levels of passive interaction opportunities including shelters and seating																							

Figure 11 Area A - Open Space and Recreational Infrastructure Provision Table

7 OPEN SPACE FRAMEWORK

The Orchard Hills Master Plan will provide the local community with a variety of recreational opportunities from formal sport to active and passive recreation and amenities. The landscape Master Plan aims to enhance the existing landforms and natural character and of the area to create a cohesive network of landscaped open spaces and streetscapes that will contribute to the future community of Orchard Hills.

- The open space framework has been designed with walkability in mind. All open spaces are within a 400m radius of a lot.
- The open spaces have been located at a variety of elevations and orientation, ensuring differing levels of exposure and microclimate.
- Each open space has an over arching function designation, but the approach is to provide a wide range of passive and informal active facilities within each space.
- Play spaces have been located throughout the development and offer a range of amenities and experiences for all ages.



Boardwalk/Bridges



Picnic Shelters



Family Park



Barbeque



Community Garden



Heritage Building



Public Art



Parking



Toddler Play



Juniors Play



Senior Play



Mixed Recreation



Cycleway



Dog Off Leash Area



Look Out



Revegetation Zone



Playing Fields



Kickabout Space



Fitness



Market Space



Sports Courts



Event Space



Toilet/Amenity

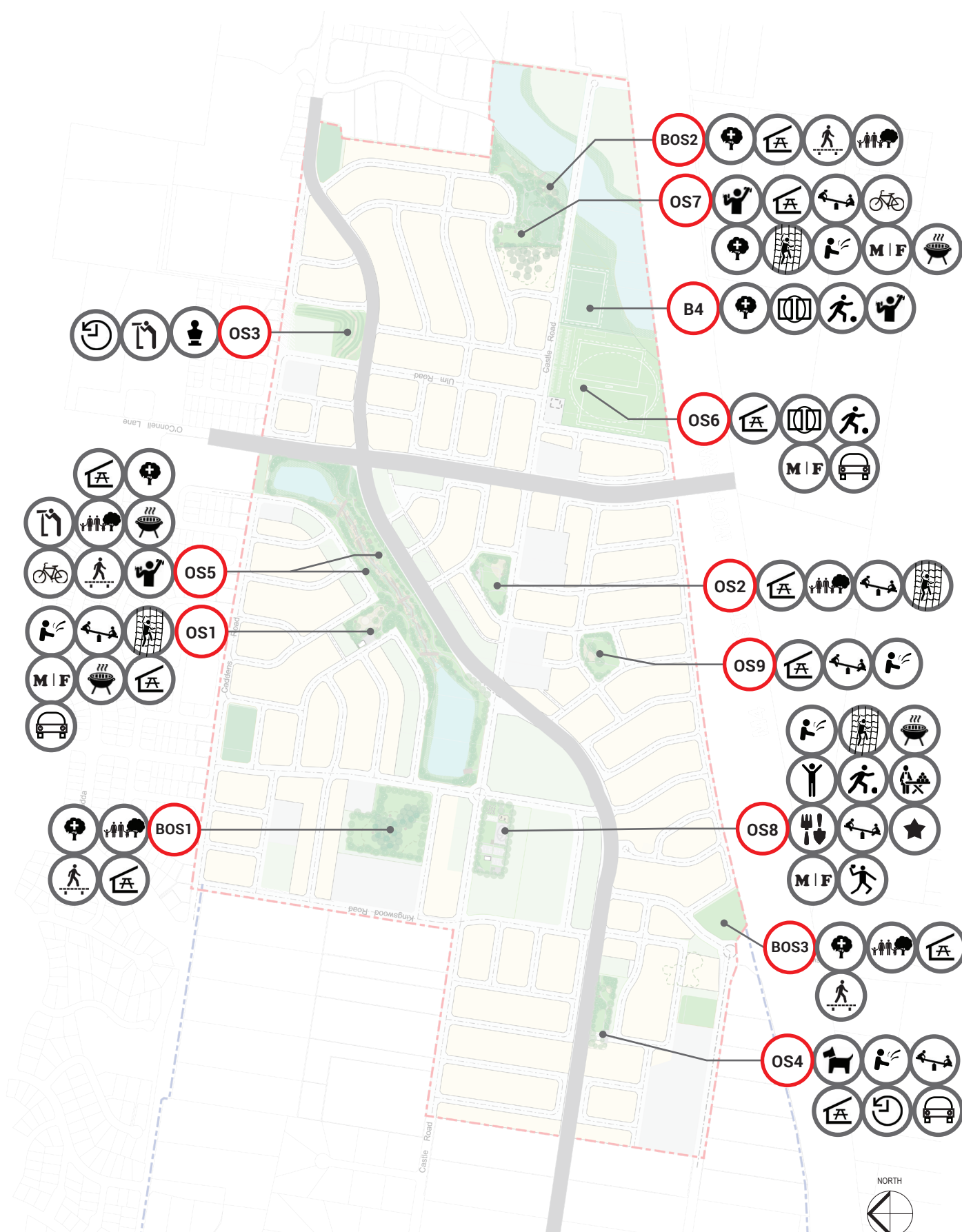


Figure 12 Open Space Framework Diagram

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8 ACTIVE TRANSPORT STRATEGY

The Open Space Strategy will provide varied recreational opportunities that reflect emerging trends in sport and recreation. The open space network will provide enhanced experiences for walking, safe accessible cycling and facilities for fitness and play in public spaces with ease of access.

Precinct wide connectivity is crucial in delivering an attractive and successful public domain. Maximising pedestrian and cyclist interaction will enhance the sense of community identity and integrity of the future residents and visitors.

The key features of the network include:

- The creation of a legible pedestrian and cycleway loop (Active Transport Network) that connects key areas of the site and provides access to all surrounding landmarks. The 5km loop extends to all corners of the development site, and will connect people with natural and built amenities including the Claremont Creek, the proposed Village Centre, public artworks and local heritage items.
- Active Fitness zones with dedicated equipment will be located along the pedestrian and cycle network. Outdoor gym equipment promotes healthy lifestyles, instigates community social engagement and is accessible to a wide range of demographics.
- A wayfinding strategy unique to the Orchard Hills development to increase the ease of navigation and highlight distances and walk times to key areas within the precinct.
- Street tree selections that provide larger canopy and/or feature trees that enhance the experience through increased shade.

It is important to note that site approvals, topographical challenges and site access will require further detailed investigations during design development to ensure the feasibility of the Active Transport Network.



Legend

- Primary Active Cycle Loop
- Secondary Cycle Route
- Fitness Zones
- Area of Interest
- Site Boundary
- Master Plan Area



Figure 13 Active Transport Strategy Diagram

SCALE 1:8000@A4

8.1 Open Space Catchments

The placement of open spaces responds to the residential lots present in the Orchard Hills development. Providing accessible, vibrant and purposeful open space to cater to various needs of the community. Proposed connected street networks and active transport links create a walkable neighbourhood structure supported by a connected green streets consistent with 21st century best practice urban design principles.

Orchard Hills open space definitions and provision rates have been aligned with Penrith City Councils standards.

Legend



-  Local Park Catchment
(80% residents within 400m)
-  Site Boundary



Figure 14 Open Space Catchment

SCALE 1:8000@A4

9 PLAY SPACE STRATEGY

The distribution of play space 'typologies' and facilities has been considered to provide a wide variety and diversity of experiences that respond to the local conditions and future proposed facilities.

The play space hierarchy plan identifies the aspirational play experiences to be included in the open space network and considers all age groups (from high energy, active youth play spaces to younger children and toddler play areas). A dedicated inclusive play space is proposed centrally (near to the proposed higher density living) and multiple nature play focused spaces are located across the development. These nature inspired spaces respond to the existing natural bushland areas and provide a focus on sensory and imaginative play experiences. Six new play spaces have been proposed for the Orchard Hills development:

Local: Offering passive and low key recreation opportunities such as seating and landscaping, these play spaces are small in nature and target toddlers and or juniors (0-3 and 3-6 year olds). Play spaces include equipment for toddlers to seniors and may include assets such as seating, shade bins and picnic tables.

District: Attracting a wider catchment and located on larger parcels of land also used for other activities such as sport, these playgrounds offer all ages a wide variety of play 'choice' from toddler, to youth, to senior.

Nature: Accessible to a broad range of ages, natural play spaces provide children access to irregular and challenging spaces which help them learn to recognise, assess and negotiate risk, build confidence and competence within their environment.

Shade will be considered within all typologies of play space. Shade provision will include a mixture of natural (tree canopy) and built (shade sails or similar) to achieve required sun safety and comfort. Play spaces are to be designed according to NSW Government Everyone Can Play guidelines, Council's Sport and Recreation Strategy and Council's Shade Policy.



Legend

- ▲ Local play space
- ▲ District play space
- Nature play space
- Open space next to riparian land
- Parks (no play provision)
- Sports fields (no play provision)
- Ecology area (no play provision)
- District Playground Catchment (80% residents within 800m)
- Local Playground Catchment (80% residents within 400m)

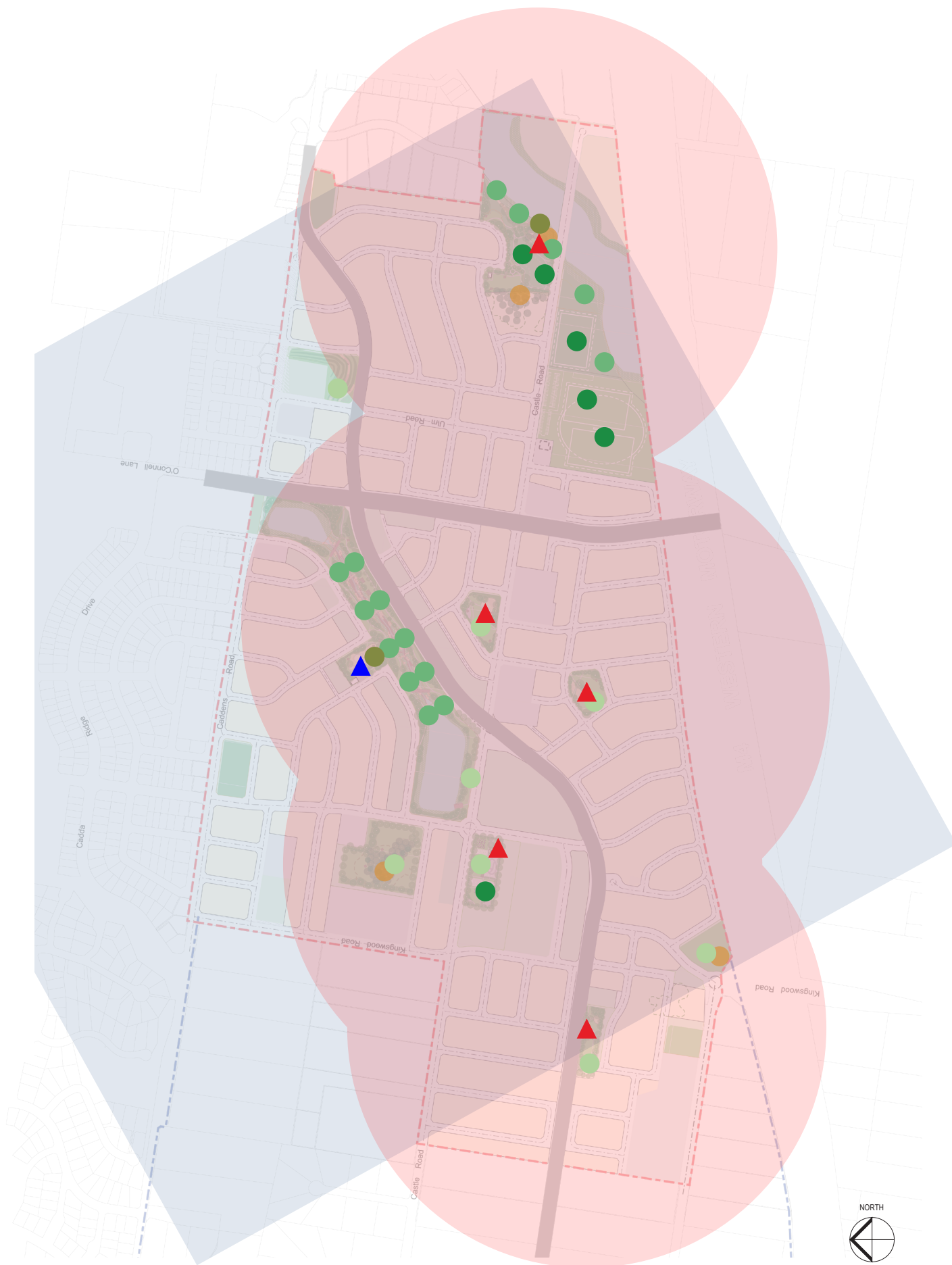


Figure 15 Play Space Strategy Diagram

SCALE 1:8000@A4

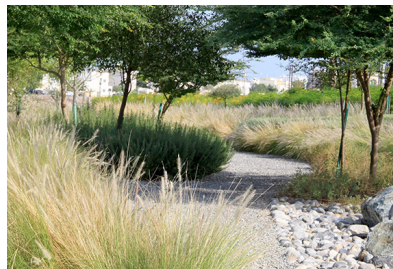
10 OPEN SPACE STRATEGY

OS1. INCLUSIVE DISTRICT PARK AND PLAY SPACE

Centrally located and strategically positioned within the proposed urban design Master Plan, OS1 is adjacent to the linear riparian corridor and the medium density dwellings that fringe the riparian corridor. This park functions as a district level park with a high level of recreational activities and internal passive spaces for family gathering.

The surrounding medium density blocks provide ample passive surveillance as they overlook the park. The surrounding streets will provide a pedestrian focus to the streetscape and connectivity to main active transport route through the development.

The park is approximately 0.5ha in size and provides a series of spaces for high level active recreation and inclusive children's' play in a more contemporary urban parkland context. Tree and understory planting should be responsive to the more internalised view corridors to open space 5.



Images indicative only of potential landscape character and equipment

It is anticipated that the Inclusive District Park and Play Space will consist of:

- Fenced 0.16ha district 'inclusive' play space incorporating elements for a variety of ages and abilities. High quality interactive play structures, mounding with scrambling nets, climbing walls and other equipment
- Splash play area (90sqm) with inground bubblers
- 0.34ha passive open space and garden
- Terraced lawns to increase usability of passive spaces in sloped areas
- Accessible furniture including picnic settings, seats with backs and accessible barbecues and bubblers.
- Accessible amenities building (size TBC by council)
- Shared path continuing a green link beyond the park leading to the local centre and the adjoining green spaces
- Shared path bridge connection over the riparian corridor to connect with OS5 facilities cycle way network and indirectly link with wider open space network
- Semi-open canopy trees and structures (shelters and sails) to provide filtered shade and amenity
- Tree and under storey planting is to comply with CPTED principles
- Planting of endemic native species
- Low maintenance, robust plant species and finishes.



Key Plan



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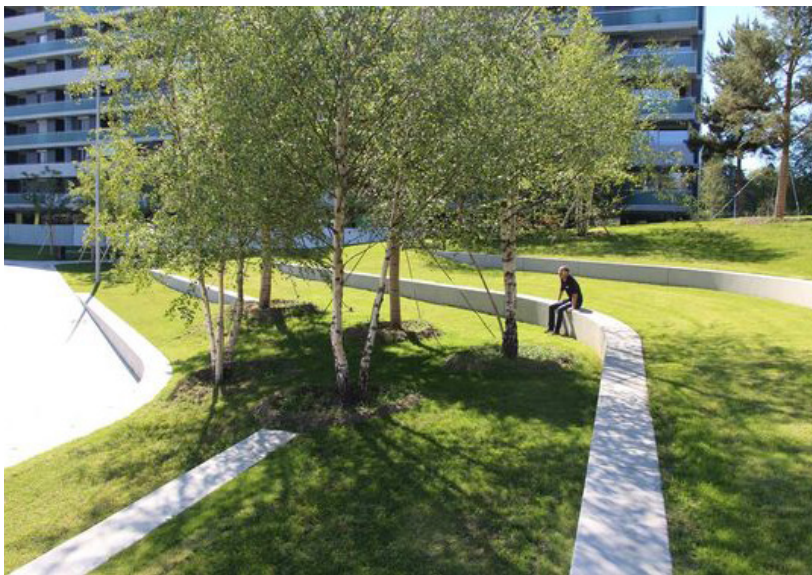


Figure 16 OS1 Concept Plan

OS2. OPEN SPACE PICNIC PARK

This park is located on the north-west facing slope of the main east west ridge line of the site. This park could function as an active local park with high level play spaces for children aging from 6-12yo.

The park is approximately 0.6ha in size and provides space for a sequence of differing park uses based on the topography. The site is gently sloping to the west and therefore the park offers easily accessible open grass areas as well as capabilities to include shelter structures and seating facilities.



Images indicative only of potential landscape character



It is anticipated that the Open Space Picnic Park may consist of:

- Fenced 0.6ha passive open space and garden
- Fenced 6-12yo children's playground with interactive play elements. Play feature to be 110m2 in offering
- Terraced lawns to increase usability of passive spaces in sloped areas
- Accessible path network
- Paved area with park furniture including a shelter with seats, bubbler and seating walls
- Semi-open canopy trees and structured planting to provide filtered shade and visual amenity
- Tree and under storey planting is to comply with CPTED principles
- Low maintenance, robust plant species and finishes



Key Plan



SCALE 1:1000@A4

0 10m

50m



Figure 17 OS2 Concept Plan

OS3. CADDENS ROAD FARMHOUSE PARK

This park is located at a high point to the north east corner of the development. This park features a heritage listed house from the late 19th Century. The south-facing slope surrounding open space lends itself to quite limited recreational amenity but does provide an opportunity for interesting terraced landform and connecting pathways offering passive recreation opportunities. The park is located within a 500m radius of the proposed Caddens Hill sports fields with a high level of active recreational facilities and therefore can be treated as being more passive in nature.

The park is approximately 0.67ha in size and provides a feature pedestrian path with seating to view the surrounding landscape. Planted terraces with formal orchard style planting (including fruit trees) will be a key feature of this space. Low planting should lend itself to the outward focused view corridors to other surrounding parks and green spaces within and beyond the site.

Public art and interpretive elements will provide an insight into the heritage house as well as the greater Orchard Hills region. Further information about the Public Art strategy can be found on page 64.



Images indicative only of potential landscape character

It is anticipated that the Caddens Road Farmhouse Park may consist of:

- 0.66ha passive open space and garden
- High quality Public Art installation
- Terraced planting and sandstone retaining walls to increase
- Accessible connecting footpaths
- Shaded pergola structures with seating to provide filtered shade and amenity
- Shared path adjacent the park connecting the active transport network linking to the future Caddens Hill sports facilities and Werrington Creek riparian corridor and OS7
- Tree and under storey planting is to comply with CPTED principles
- Planting of endemic native species with some exotic species (including fruit trees)
- Low maintenance, robust plant species and finishes
- Recognisable landmark opportunity for the Active Transport Network



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0 10m

50m



Figure 18 OS3 Concept Plan

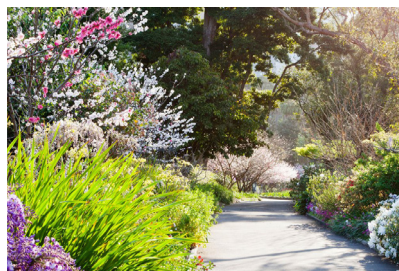
OS4. COMMUNITY DOG PARK AND FLOWER GARDEN

This park is located on the western edge of the main collector road. This park could function as a dedicated off-leash dog park servicing the greater community. The dog park will be fenced and provide 10 car spaces for ease of access.

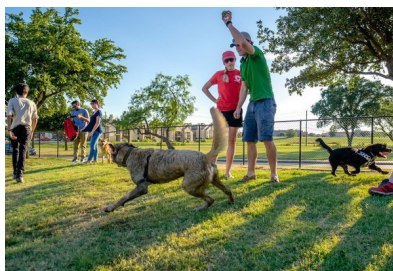
The park is approximately 0.5ha in size and provides space for a variety of park uses based on the topography. The site is gently sloping to the south and therefore could utilise battered turf areas and amphitheatre zones to create event spaces. Seating and picnic shelters can be placed around the site to give users the opportunity to relax and enjoy their surroundings.

OS4 being located next to the Church, could include a contemplative flower garden with meandering paths and planting indicative of what is found within the Church grounds. This unique space would give the community a quiet place to gather and reflect.

A transitional space between the church and the dog park will provide more traditional park amenity with picnic shelters, open lawn areas and a 0-6yo children's playground.



Images indicative only of potential landscape character



It is anticipated that the Community Dog Park and Flower Garden may consist of:

- 0.17ha Dedicated off-leash dog park with fence zones for small and large dogs, with dedicated seating, water, shelter and waste bins
- Fenced 0-6yo children's playground with interactive nature play elements
- Shelters adjacent open lawn spaces
- Bicycle parking (10 Spaces)
- Car Parking (10 Spaces)
- Accessible path network
- Paved area with park furniture including a shelter with seats, bubbler
- Semi-open canopy trees and structured planting to provide filtered shade and visual amenity
- Tree and under storey planting is to comply with CPTED principles
- Low maintenance, robust plant species and finishes
- Small outdoor heritage installation to the rear of the church that celebrates the cultural and theological significance of the Church and its role in forming the Orchard Hills community



Key Plan



SCALE 1:1000@A4

0 10m

50m



Figure 19 OS4 Concept Plan

OS5. LINEAR RIPARIAN PARK

The Werrington Creek riparian corridor will contain a fully vegetated minimum 40m wide (20m from the top of each bank) Core Riparian Zone (CRZ) and a 10m wide vegetated buffer zone. Contiguous to and integrated into the central corridor are areas for storm water management, indigenous heritage conservation and revegetation. The revegetation of the riparian corridors and other Cumberland Plain Woodland areas will follow best practice principles; retaining existing trees and native vegetation with enrichment planting of local provenance flora species to create a full vegetation profile and creek formations with natural features

The Linear riparian park provides significant usable green space that would otherwise be unusable if located within the riparian corridor footprint. This park (due to its linear nature) will primarily contain cycle ways, open space lawns and shelters dotted periodically along its length. Outdoor gym/fitness stations will be included as part of the site wide fitness loop. A key feature will be the inclusion of a shared pedestrian, elevated walkway or bridge structure to connect this park to the open space OS2 playground area with the main cycle way network. The cycle way within this park provides the key connection from the Caddens development in the north, past a large open water body adjoining Caddens Road to the local centre in the middle of Area A.

Carefully managed, the riparian corridor, along with the integrated water bodies, will be integrated into a large open space park.



Images indicative only of potential landscape character

It is anticipated that the Linear Riparian Park may consist of:

- 2.69ha generally passive open space and garden
- Public access to permanent water body via boardwalks or bridge crossings to open spaces. Crossings and lookouts are to incorporate educational signage elements describing the biodiversity of flora and fauna in Area And the drainage filtration process of the basins.
- Large swathes of lawn to increase usability of passive spaces without encroaching on the core riparian zone
- Informal shared pedestrian and cycle path to retain significant vegetation and provide a definitive edge to the riparian planting
- Detention basins or rain gardens integrated into open space area if required outside of the riparian corridor
- Revegetation of riparian corridor along creek line
- Outdoor gym/fitness stations
- Interpretive public art for aboriginal/ environmental awareness/ European heritage along the recreation path to be placed sensitively and minimise disturbance to this area.
- Seating area and shade structures along the cycle way network, with community BBQ
- North - South shared path continuing a green link through the park to the local centre and centralised green spaces
- Semi-open canopy trees and structures to provide filtered shade and amenity
- Tree and under storey planting is to comply with CPTED principles
- Planting of endemic native species
- Low maintenance, robust plant species and finishes



SCALE 1:1000@A4

0 10m

50m



Figure 20 OS5 Concept Plan

OS6. ACTIVE SPORTING FIELDS

This park is located on the south-east facing slope of the riparian corridor in the south-east corner of the site and provides diverse sporting amenity for the entire community.

The park is approximately 3.97ha in size and provides space for a sequence of differing park uses based on the topography. The site is gently sloping to the east which offers substantial middle distance views to the east towards the vegetated canopies that align along Claremont Creek.

Due to its size, this park functions as a sporting space with high quality active and passive recreational activities and finishes, focusing on sport within the local area. A full size multi-field (two full size football fields in winter and a cricket field in summer). To help facilitate this park, additional amenities will also include a new amenities building (with changerooms, public toilets, BBQ storage and canteen to support training and competition), car and bicycle parking areas, a series of larger team shelters and picnic shelters to house home and away teams and spectators on game days.



Images indicative only of potential landscape character

It is anticipated that the Active Sporting Fields may consist of:

- 1.86ha of formal sport field potentially comprising of the following activities:
- Football fields (2), Cricket fields (1)
- 2.11ha passive open space, viewing areas, garden and parking space
- New inclusive amenities building (557m²) to include 4 x changerooms, 1 x referees room, public toilets, BBQ storage and canteen
- Sport fields to be flood lit to 100 LUX (as per Australian standards)
- Off street car park (110 spaces)
- Retaining walls and terraced lawns to increase usability of passive spaces in sloped areas
- Accessible path network
- Harvested stormwater is to be used to irrigate the sports fields and to be used by other community facilities as appropriate
- Paved area with park furniture including a shelter with seats, bubblers and seating walls
- Semi-open canopy trees and structured planting to provide filtered shade and visual amenity
- Tree and under storey planting is to comply with CPTED principles
- Low maintenance, robust plant species and finishes



Key Plan



SCALE 1:1000@A4

0 10m 50m



Figure 21 OS6 Concept Plan

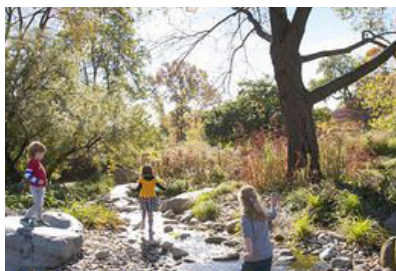
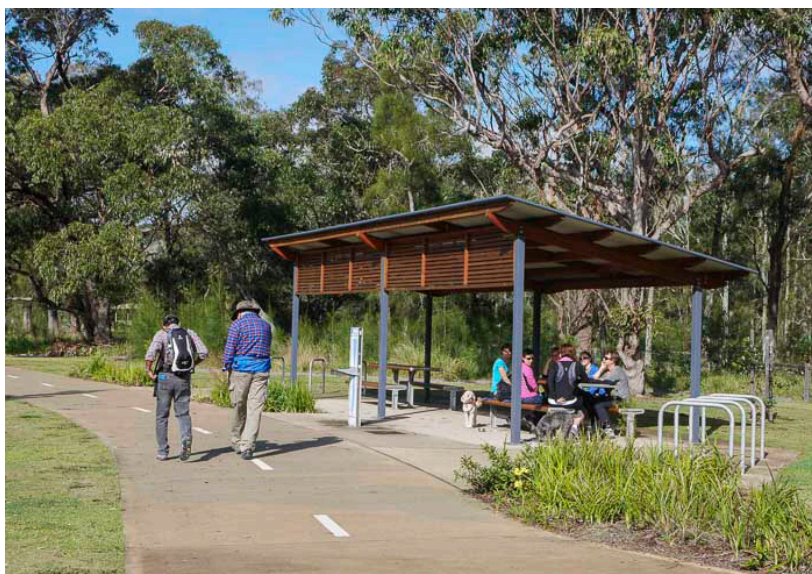
B4. PLAYING FIELD

This 1.29ha park is located adjacent OS6 and strategically positioned to be an extension of the active sport fields. B4 also acts as a detention basin to mitigate flash flooding from the Claremont Creek.

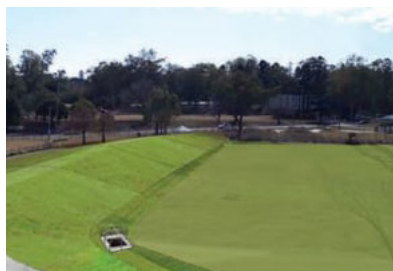
The park transitions between OS6 and OS7 and thus absorbs design principles from both open spaces. The B4 area has only a slight slope and a battered perimeter due to its dual purpose as a basin and sports field. South of the playing field is an open turf space which can also incorporate passive recreational activities.

Trees and under storey planting should be responsive to the view corridors to other surrounding park links, riparian corridor and green spaces within and beyond the site. Riparian planting to the Claremont Creek edge is to incorporate WSUD principles to treat water as it is directed to the creek.

The Raingarden will be accessible to the public and provide basic amenity such as adventure play for children, shelters and path networks. A series of culverts will ensure that paths remain accessible in all weather conditions.



Images indicative only of potential landscape character



It is anticipated that the Playing Field may consist of:

- 0.48ha of passive open space and garden (forms part of basin)
- 0.81ha formal sport field (forms part of basin)
- Rain garden/Dry Creek beds facilitating nature play and WSUD
- Field to be flood lit to 100 LUX (as per Australian standards)
- Team/Picnic shelters
- Spectator slope seating
- Low maintenance, robust plant species and finishes
- Cycle ways and accessible paths
- Outdoor gym/fitness stations
- Lookout over Claremont Creek
- East West shared path continuing a green link through the park to the local centre and adjoining green spaces within the development
- Semi-open canopy trees and structures to provide filtered shade and amenity
- Tree and under storey planting is to comply with CPTED principles
- Planting of endemic native species
- Irrigation to playing field



Key Plan



SCALE 1:1000@A4

0 10m

50m



Figure 22 B4 Concept Plan

OS7. RIPARIAN BUSHLAND PARK

This park is located within the southern region of Area A adjacent Claremont Creek. The park also adjoins B4 which then leads on to OS6. This park will function primarily as a recreation/fitness park and CPW conservation area. The learn to ride facilities will sit within an area that is passive in nature with low level recreational space located to the edges of the CPW. Passive surveillance will be afforded from surrounding properties and streets that front onto the park. The surrounding streets will provide a pedestrian focus to the streetscape.

The park is split into 3 zones which total approximately 0.84ha in size and provides a series of spaces for low level passive recreation connected via a central landscaped raingarden. During high rain events the raingarden is to remove pollutants and mitigate the flow of water into the Claremont Creek. The existing CPW will be annexed off from the park and preserved for revegetation and conservation purposes. Tree and under storey planting should be responsive to the surrounding remnant vegetation and CPW areas. Natural materials such as timber, gravel and stone should be used to give the park a natural woodland feel. Future planting within the NW edge of OS7 will support the CPW vegetation community that exists in BS02.



Images indicative only of potential landscape character



It is anticipated that the Riparian Bushland Park may consist of:

- 0.84ha passive open space, active transport paths, play spaces, garden areas and toilet facilities.
- Adjacent 0.36ha of CPW conservation (BOS2). Retain and enhance the existing CPW trees on site
- Celebrate one of the last areas of endemic woodland on the site through reuse of on-site materials and access through the woodland where appropriate
- Central landscaped raingarden with accessible path network.
- Possible use of raised board walks through the understory of the CPW with interpretive trail
- Open lawns to increase usability of passive spaces
- 6-12yo playground
- Small nature playground for 0-6yo groups celebrating the existing trees with natural play elements
- Seating area, shade and community BBQ
- Lookout over Claremont Creek
- Active transport network continuing a shared path through the park to the adjoining green spaces along the creek edge
- Outdoor gym/fitness stations
- Learn to ride facilities - providing roundabouts and mini road signs for children to manoeuvre
- Semi-open canopy trees and structures to provide filtered shade and amenity
- Tree and under storey planting is to comply with CPTED principles
- Planting of endemic native species
- Low maintenance, robust plant species and finishes



SCALE 1:1000@A4

0 10m 50m



Figure 23 OS7 Concept Plan

OS8. FARM PARK

Open Space 8 (OS8) has been envisioned to provide multiple activities for community recreation. The park offers multiple opportunities for engagement for all ages and abilities. The configuration of the space allows for a greater extension of the adjacent village centre- allowing for spill out of events and the sharing of amenities.

The eastern portion of the park has been configured to be a welcoming space for families and provides a 'green, soft and leafy' community parkland visual connection from the village centre. This will entice pedestrians into the space to enjoy the community parkland

The western portion of the site provides direct access to active sport and inclusive access to the amenities block. The amenities block has been located adjacent the car park to provide accessible access for less able-bodied people and provides direct amenity to those utilising the higher energy activities the site has to offer

The community Garden provides a 'soft' buffer between residential properties, the street and active sport areas. The balance of activity achieved in OS8 will provide a node of activation for the benefit of the entire community and the school, the separation between spaces within the park provides comfortable passive and active recreation for everyone, in a safe and inclusive environment OS8 considers not only what activity will be programmed within, but also the broader context, considering all activities and provisions within the immediate area to ensure the high-level design encapsulates the entire community and does not provide insular public space.



Images indicative only of potential landscape character

It is anticipated that the Farm Park may consist of:

- 2.00ha of passive areas to be used by the general public such as a large lawn or community gardens
- Educational trail on the agricultural heritage of the site leading into the community garden activities and educational play
- New amenities building to include public toilets (accessible), store room and meeting room (240m2)
- Water Sensitive Urban Design water treatment gardens surrounding the village green to inform the public of the importance of the local hydrological system
- Fenced 0-6yo children's playground with interactive nature play elements
- Multi-purpose courts to be flood lit to 100 LUX (as per Australian standards).
- Formal planting of deciduous trees reflective of the previous orchard farms
- Accessible paths, seating area and pergola shade structure
- Tree and under storey planting is to comply with CPTED principles
- Planting of exotic species
- Low maintenance, robust plant species and finishes
- Flexible space to facilitate markets, performances and hobby meet ups.
- East West shared path continuing a green link through the park to the local centre and adjoining green spaces
- Robust urban park (2,300m2) that caters for years 6-12+ and facilitates wheeled activities including skate, scooter and bike. Multipurpose impact wall with ground line markings for smaller informal ball games.
- 20 space carpark



Key Plan



SCALE 1:1000@A4

0 10m

50m



Figure 24 OS8 Concept Plan

OS9. SOUTHERN PARK

This park is located on the south facing slope of the main east west ridge line of the site. OS9 will work in conjunction with OS2 to provide additional open space area and facilities to the southern quadrant of the development. The embellishments could include similar amenity to OS2 to support open space accessibility within the southern quadrant of the development.

The park is approximately 0.50ha in size and provides space for a sequence of park uses. The site is gently sloping to the west and therefore the park lends itself to passive informal activities with capacity to include picnic areas and open turf spaces for gathering and sunbathing. A dual play space for 0-6yo and 7-12+yo will utilise the natural topography of the site by incorporating slides and climbing elements.



Images indicative only of potential landscape character

It is anticipated that the Southern Park may consist of:

- 0.5 ha of passive areas to be used by the general public such as a large lawn areas
- Play for 0-6yo and 7-12yo children
- Accessible paths, seating area and pergola shade structure
- Landscaped terraces for seating opportunities along slopes/viewing space for performance or overlooking play
- Tree and under storey planting is to comply with CPTED principles
- Planting of exotic species
- Low maintenance, robust plant species and finishes



Key Plan



SCALE 1:1000@A4

0 10m

50m



Figure 25 OS9 Concept Plan

BUSHLAND OPEN SPACES - BOS1, BOS2, BOS3

As part of the planning proposal process a flora and fauna report was undertaken across the rezoning site area. The survey recorded that the most dominant vegetation identified on site was determined to be exotic. However, fragmented patches of remnant native woodland and forest communities were also found. The critically endangered Cumberland Plain Woodland as listed under both the BCA Act 2016 and EPBA Act 1999 and the River-Flat Eucalypt Forest, as listed under the BCA Act 2016 were both found in small disconnected groupings throughout the site. Each of these endangered communities are proposed to be retained within proposed bushland parks, existing creek corridors and where applicable, in public open space.

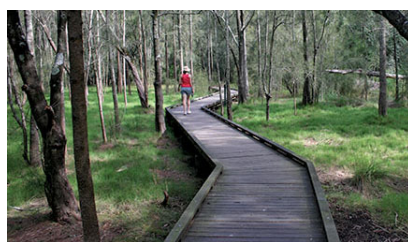
In general the bushland parks will be created to protect and conserve the existing stands of remnant communities. However, they should also be utilised as areas that the community can enjoy both visually and in some instances, through physical interaction. Where public access is permitted within the bushland parks the level of public interaction should be restricted to very low levels of passive interaction and is required to be environmentally sensitive and ecologically sustainable.

The Bushland parks will incorporate the following design principles:

- Retain the existing endangered communities as natural bushland
- Maintain and enhance the existing areas of significant ecological value such as the Claremont Creek riparian corridor and the identified areas containing the endangered vegetation communities.
- Integrate stands of endangered ecological vegetation communities (CPW & River Flat Eucalypt Forest) into open space or bushland park settings where possible.
- Promote walkability of the natural environment and exploration of the bushland settings.



Images indicative only of potential landscape character



It is anticipated that the Bushland Parks may consist of:

- Stands of mature trees for future conservation and possible revegetation of the understory subject to VMP requirements
- Low level recreational pursuits within open grass areas
- Small areas of passive open space to the perimeter of the vegetation where possible
- Accessible paths connected with elevated boardwalks through the woodland areas where possible
- Low key seating area and shade structures
- Tree and under storey planting is to comply with CPTED principles
- Planting of endemic native species subject to VMP requirements
- Low maintenance, robust plant species and finishes

NOTE: The following methods are in place to minimise risk of illegal dumping in BOS:

- Passive surveillance through low planting, people friendly spaces (open grass areas, paths, shelters etc) and rear lot fence lines.
- Boundary of BOS to have tighter street tree planting and groundcover planting.
- Potential for low fence/bollards in certain locations.

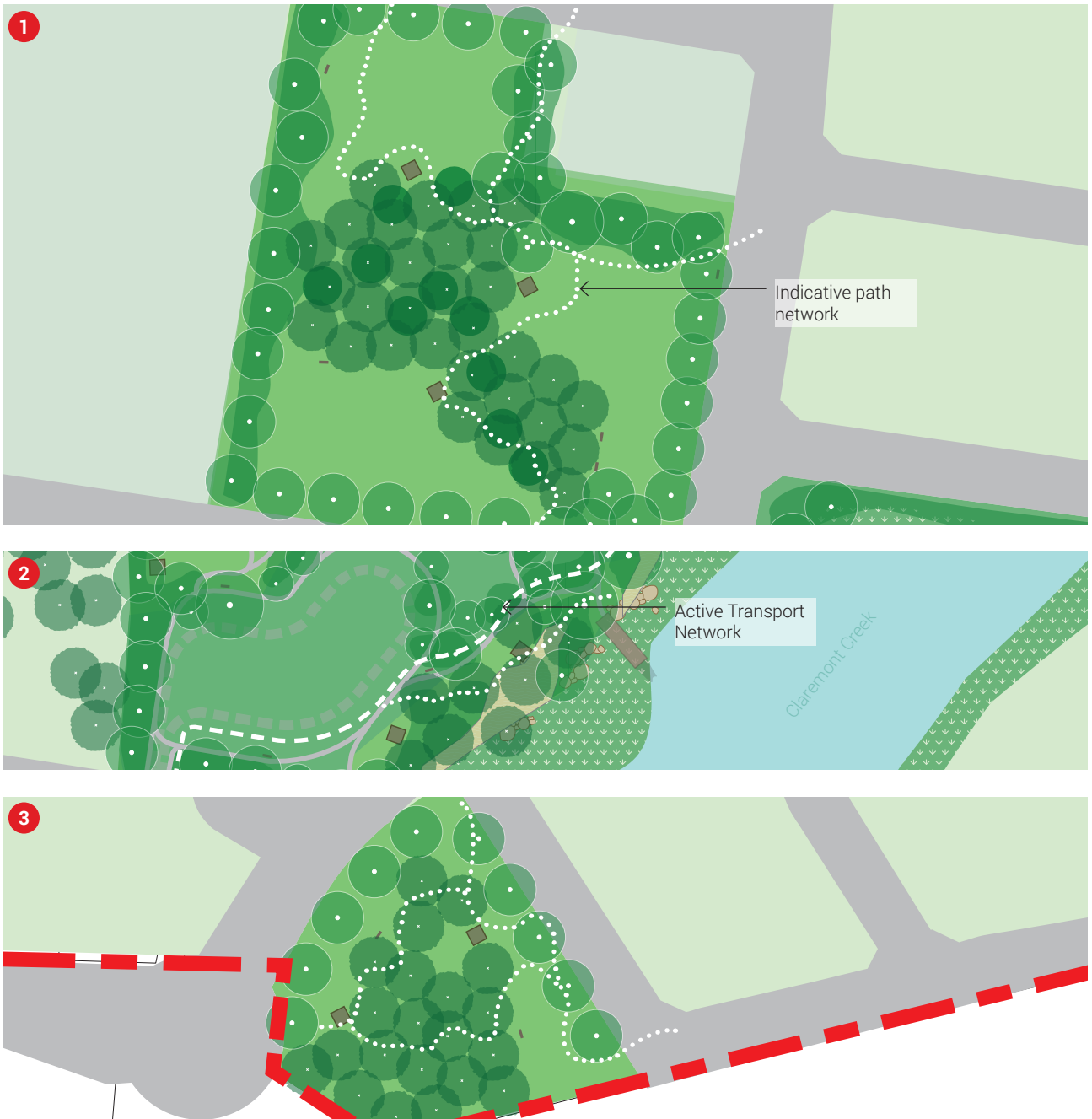


Figure 26 BOS1 - 3 Concept Plans

11 STREETScape

Streetscape character and tree species reflect the natural character and landform of the site, while accommodating the functional needs of pedestrian, cycle and vehicle movement along each of the roads.

The streetscape characters should reinforce and enhance the road hierarchy. The street tree character and indicative species for the various street types have been proposed to reflect the different characters of the site such as the proposed Village Centre, the open spaces and existing riparian corridors and the heritage items. For example the tree species within the local roads adjacent to the heritage areas, have been proposed to reflect a historical element reminiscent of historical gardens and church gardens.

Split road medians are to be planted with low maintenance native planting species at both the base and the top of the retaining wall. The selected retaining wall finish is to match the surrounding streetscape character.

Native endemic riparian species are proposed along the green links, local roads near the open spaces and within the low lying areas adjacent to the riparian corridors and various detention basins situation around the site.

In addition to the above, deciduous tree species have been selected along the east – west roads to ensure access to winter sun and native evergreen trees have been proposed to the north – south streets.

Large deciduous trees are proposed along the Collector Road 1 to emphasis and defined the east – west road through the site.

Street tree species have been selected following a review of street tree species appropriate to Western Sydney (heat and drought tolerance).

Street trees adjacent Bush Open Spaces are to have a tighter spacing to deter vehicular entry.

Road Type 1 (East-West)

- *Fraxinus pennsylvanica* 'Cimmaron'
- *Platanus x hybrida*
- *Angophora floribunda*

Road Type 1 (North-South)

- *Arunticarpa rhombifolia*
- *Acacia binervia*
- *Corymbia gummifera*

Road Type 2

- *Melaleuca styphelioides*
- *Callistemon salignus*
- *Lophostemon confertus*

Road Type 3 (East-West)

- *Ginkgo bilboa* 'Princeton Sentry'
- *Geijera parvifolium*
- *Zelkova serrata*

Road Type 3 (North-South)

- *Hymenosporum flavum*
- *Lophostemon confertus*
- *Waterhousia floribunda* 'Green Avenue'

Road Type 4 (Adjacent OS)*

- *Corymbia eximia*
- *Eucalyptus robusta*
- *Melaleuca styphelioides*
- *Tristaniopsis laurina*

Road Type 4 (Adjacent Heritage)*

- *Acacia binervia*
- *Photonia robusta*
- *Lagerstroemia* 'sioux'
- *Waterhousia floribunda* 'Green Avenue'

Road Type 4 (Village Centre)*

- *Brachychiton populneus*
- *Gordonia axillaris*
- *Pyrus calleryana* 'Aristocrat'

Road Type 4 (North-South)*

- *Buckinghamia celsissima*
- *Callistemon salignus*
- *Acacia binervia*

Road Type 4 (East-West)*

- *Brachychiton acerifolius*
- *Pyrus calleryana* 'Aristocrat'
- *Zelkova serrata*

* Within 1.6m grass verge

Ⓢ Split level road



Figure 27 Street Tree Plan

SCALE 1:8000@A4

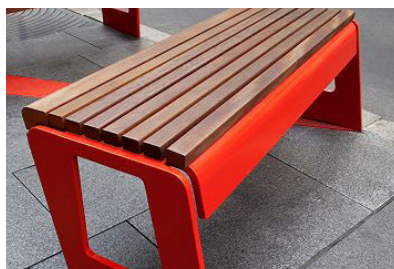
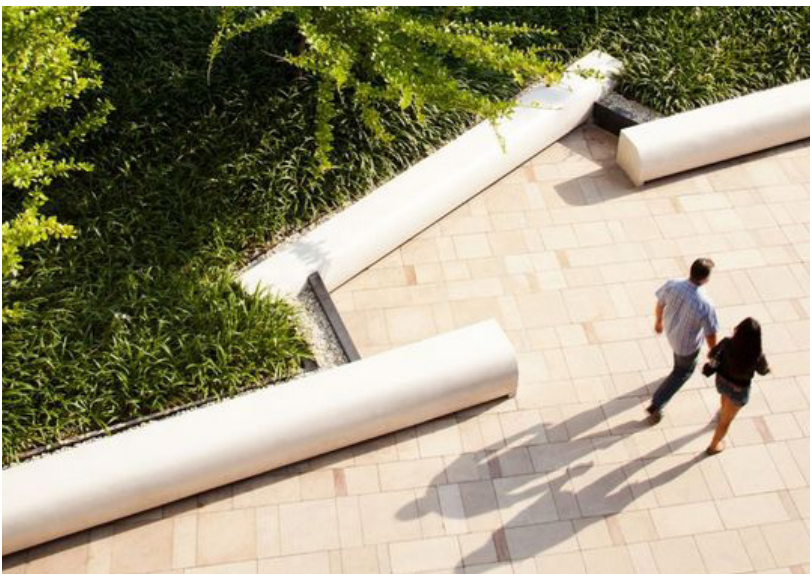


12 FURNITURE LIGHTING AND MATERIAL PALETTE

A coordinated suite of quality street furniture will ensure that the public domain has consistent and clear identity. It will also express high quality in the design of the development and positively contribute to the site character.

A designed palette of high quality street furniture is recommended. This will ensure that the various precincts are integrated through a common language. Products must be durable enough to sustain extreme conditions and medium to heavy use. **The elements may include:**

- Benches /seating
- Shade including picnic shelters and pergola structures
- Bus shelters
- Bicycle racks
- Bollards
- Bins
- Tree guards

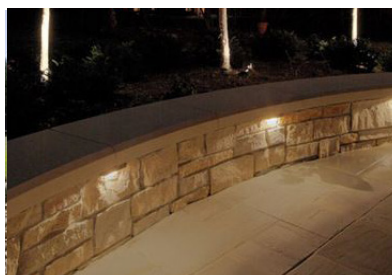


An indicative selection of products has been identified that provides fresh and contemporary appearances appropriate to the meet the performance requirements.

Themed street furniture in the Local Centre is to be of a modern, simple, elegant design that suits the more urban environment.

Furniture in the residential or neighbourhood precincts will have a more distinct rural character and predominately feature natural materials and finishes.

The materials palette has been selected on the basis of fit for purpose requirements. The range suggested includes high quality paving materials and cast in situ and stone clad walling where appropriate.

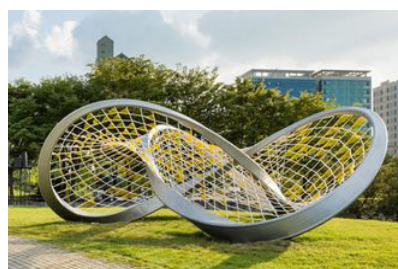


13 PUBLIC ART

The natural and cultural environment of Orchard Hills North provides the setting for a new community within the suburb of Penrith and within the broader context of the developing region of Western Sydney. The proposed public open spaces of this emerging community can be significantly enriched by a public art strategy which reflects local heritage, cultural values and in large, the communities aspirations.

Public Art is known to provide the following benefits:

- Increases the quality of life for communities
- Reflects cultural and indigenous heritage
- Enhances community identity and belonging
- Reveals community aspiration and concerns
- Provides opportunities to learn and understand
- Encourages inspiration
- Encourages economic and environmental benefits



Public art can take a number of forms including: permanent, temporary, ephemeral, even performance art. It can reflect past and present cultural values as well as provide a medium to inform and educate the community about local achievements, local ecology and even environmental issues.

Public Art should be designed with the following objectives:

- Create Public Art that challenges and inspires the local community and visitors
- Encourage the participation of the community and local artists
- Celebrate the history, sense of place and locality of Orchards Hills
- Build the community through collective activities
- Develop Public Art that is suitable for the public domain and its chosen site
- Achieve excellence in design production and longevity
- Is low maintenance and has low potential for vandalism

Public Art in the Orchard Hills North area should:

- Have strong community and environmental themes
- Be incorporated along recreation paths, Active Transport Links and in high visibility open spaces
- Use natural materials and forms
- Help define spaces for use by people rather than be the focus
- Represent the different histories and cultures of the area
- Highlight environmental and conservation issues
- Comply with Penrith City Council Public Art Policy which outlines processes and procedures for the procurement of Public Art for the Penrith LGA

14 CONCLUSION

The Area A Master Plan has now been completed to reflect the following key objectives:

- Establish a high quality landscape based on the synthesis of development objectives, contextual issues, legibility, green links, site constraints and opportunities, sustainable asset management, and best practice.
- Strengthen the appearance and amenity of the proposed development by sensitively integrating land form, architecture and landscape through effective site planning and landscape design.
- Create a variety of quality landscape spaces that are sympathetic to the environment and natural processes and are linked with existing ecological corridors.
- Provide a permeable and legible framework of streets and open spaces closely integrated with the surrounding landscape, open spaces and streets.
- Consider Council's 3 objectives of high quality, low maintenance and robustness for open space planting, furniture and finishes.
- Manage the Urban Heat Island effect by implementing strategies that will increase tree canopy cover potential and sustain long term tree health.
- Deliver open spaces that offer diversity of experiences and support 'community togetherness' where everyone feels welcome, regardless of age, ability or cultural background.

Both the positioning and size of public open space network across the development has been one of the key factors in establishing the current framework. The aim is simply that the structure of the opens spaces within Area A will lead to a benchmark landscape and public domain outcome for Orchard Hills North. One that meets both the current and future needs of the community, designed for longevity, cognisant of ongoing Council maintenance requirements and assist in encouraging a walkable neighbourhood that reduces our reliance on vehicles to access our local services.

New parks are proposed to respond to the key site features and topography of the site including significant hilltops, areas where significant vegetation is to be retained and adjoining the central riparian corridor.

While it is vitally important that the proposed public domain spaces fully embraces and respects the cultural heritage, agricultural history and rural character of the site, the aim is to introduce both modern and traditional landscape design movements with materials that will provide the residents and visitors with the right mix of public amenities in both passive and non-structured recreational activities that intertwine to bring the community together and to participate in shared experiences within the open space network for the life of the development.

APPENDIX

Open Space Strategy Consideration for Area B

The Area B Plan has been provided along with the Area A updates for an overall reference of the greater Orchard Hills site. The following indicative open space calculations are provided as a summary:

Passive Open Space - There is provision for **11 ha** of Passive Open Space.

Active Open Space - There is provision for **4.81 ha** of Active Open Space.

Open spaces across the Master Plan have been carefully considered to provide varied and appropriate function and facilities for the Orchard Hills development. Smaller local park spaces are located in proximity to larger high activity spaces to provide residents with passive recreation options during sporting or other special events. Taking into consideration Area A, parks have been located to allow residents access to multiple parks within walking distance (as illustrated in Area B - Open Space Catchments on p73).

Refer to the below table for an indicative breakdown of the Open Space Provision within Area B.

Orchard Hills - Open Space and Recreational Infrastructure Provision - AREA B

Rev T Indicative Master Plan

Open Space Number	Area (ha)	Indicative Dimension(m)	Character Precint	Open Space Type (as per PCC park classification)	Indicative Function/Facilities	Toddler Play	Junior Play	Senior Play	Teenager Play	Kickabout	Formal Sport	Sport Court	Fitness Stations	Bike track	Shelter	BBQ	Market	Lookout	Boardwalk	Dog off-leash (fenced)	Conservation	Regeneration	Performance/Events	Interpretation	Cycle Network	Parking	Toilet/Amenity	Outdoor Health and Fitness	Pump Track
OS1	2.35	90x250	District Playground	District park	District scale 'inclusive' play space. Incorporating play opportunities for kids under 12, parking and toilet facilities, shaded picnic spaces.																								
OS2	1.13	67x83	Informal Recreation	Local park	Heritage interpretation park(Orchard Hills Reservoir), Interpretive and interactive elements, contemplative space, bush garden setting																								
OS3	0.85	100x80	Informal Recreation	Local park	Dog park, informal recreation spaces, small play spaces																								
OS4+6	2.72	140x120	Informal Recreation	Local park	Passive open space informal kickabout space, shade (trees/shelters), Picnic areas, Playground																								
OS5	4.81	200x240	Active Open Space	Sporting space	Sports hub (formal recreation) with sports fields and associated amenities building(toilet and changeroom facilities), open turf areas, shelters, seating, BBQ																								
OS7	1.5	250x80	Informal Recreation	Linear Park	Green links to other Open spaces(OS1,OS5), Walking and cycling, Dry creek beds/vegetation corridors, picnic and rest areas																								
OS8	2.45	120x200	Informal Recreation	Local park	Flexible Park with informal multi-courts and kickabout spaces, gathering spaces for large groups, All ages playground																								
B7	0.62	80x80	Basin	Basin	Detention basin for flood mitigation from the Claremont Creek. Serves as an intermediate park with shaded breakout spaces along basin edge																								

Figure 28 Area B - Indicative Open Space and Recreational Infrastructure Provision Table

Open Space Strategy Consideration for Area B

The location of open spaces including the sports fields has taken into consideration the landscape topography with the aim of minimising cut and fill in these areas. Open spaces have been evenly distributed within Area B to compliment Area A. The prominent sport fields in both areas will service the immediate community and their specific sporting requirements.

Legend

-  Active OS/Sporting Ground
-  District Park
-  Local Park
-  Basin
-  Local Park Catchment
(80% residents within 400m)
-  District Playground Catchment
(80% residents within 800m)
-  Rezoning Site Boundary
-  Area B Site Boundary

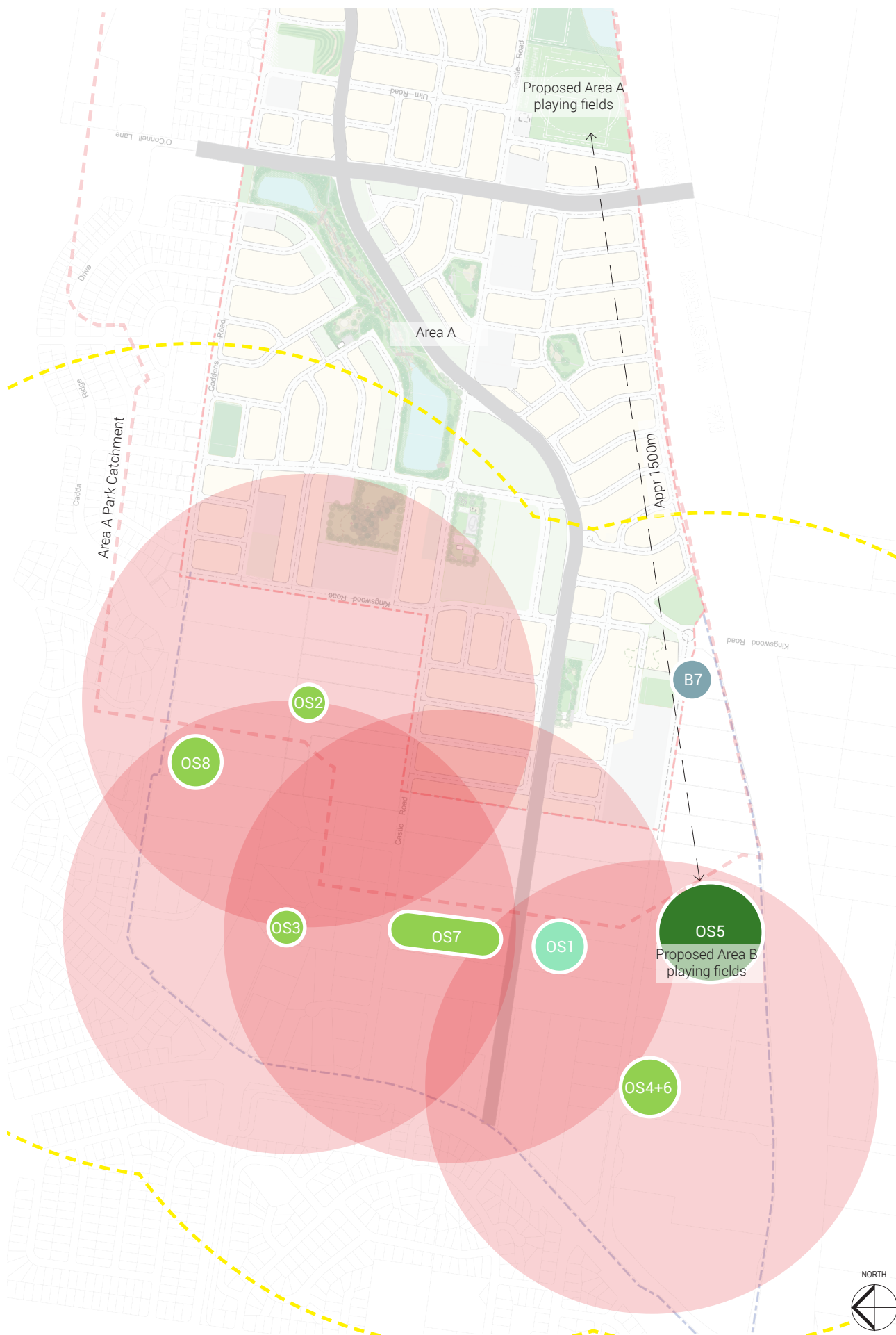


Figure 29 - Area B - Indicative Open Space Catchments

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LANDSCAPED BASINS

Landscaped basins will provide additional landscape amenity to extend the active offerings of the streetscape verge. Open space around the basins will provide opportunities for seating and picnics with a view of the unique biodiversity. The basin spaces encourage education about flora, fauna and natural ecological systems within the Orchard Hills site.

Native trees will shade the open space and invite residents to use the break out amenity, distancing themselves from the road corridor. The landscape environment will include benches and picnic tables to be utilised to define opportunities for refuge and gathering.

The active transport network runs parallel to B6 which will provide rest areas and navigational landmarks for cyclists and runners along the route.



Images indicative only of potential landscape character



Key Plan

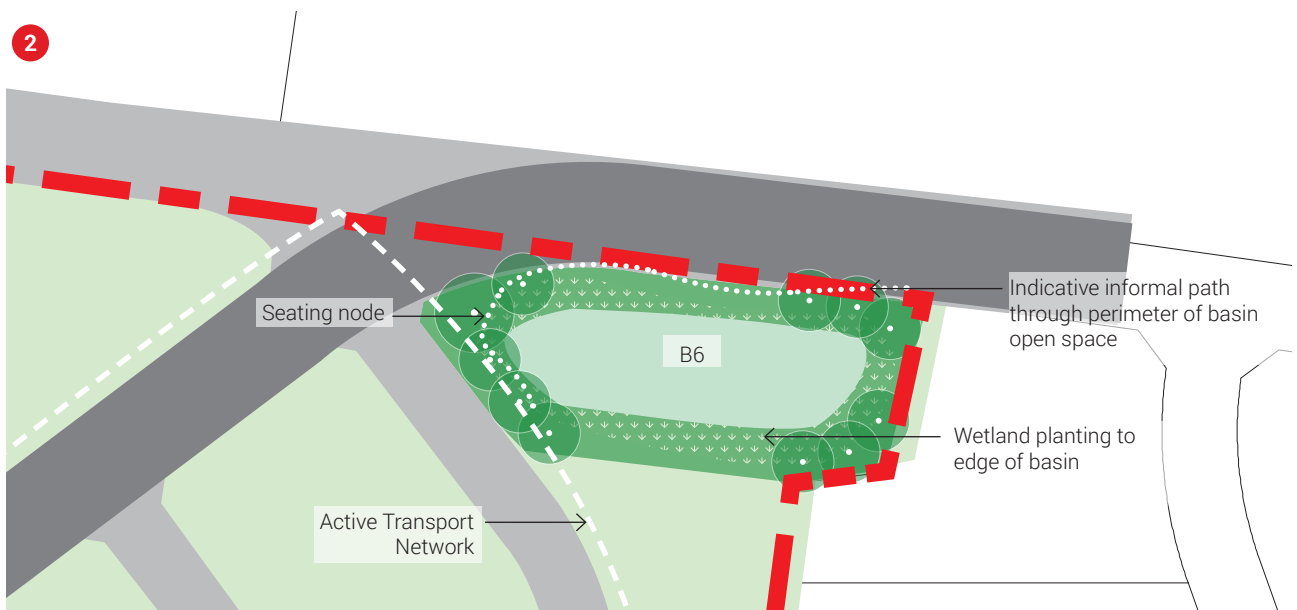


Figure 30 - Basin Landscape Treatments



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