

Orchard Hills precinct

Explanation of Intended Effect



October 2024



Acknowledgement of Country

The Department of Planning, Housing and Infrastructure acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land, and we show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Orchard Hills Precinct

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Executive summary

The Orchard Hills Precinct (Figure 1) will contribute significantly to housing in the Western Parkland City. It will have new, vibrant neighbourhoods that are shaped by a unique landscape, supported by open space and servicing infrastructure.

This explanation of intended effect applies to the rezoning of the first stage (Stage 1). The document:

- summarises the draft vision and Structure Plan for the precinct, which are detailed in the draft Orchard Hills Urban Design Framework, as well as the Stage 1 rezoning land (see Figure 1)
- gives the statutory planning context
- explains the proposed planning controls for the Stage 1 land
- summarises key technical studies.

This document also explains how the NSW Department of Planning, Housing and Infrastructure plans to carry out the vision, Structure Plan and Stage 1 rezoning. The Department will do this through:

- a self-repealing state environmental planning policy that will, when finalised, change the Penrith Local Environmental Plan 2010 to rezone most of the Stage 1 land
- new policy that will apply to future rezonings in the precinct, to ensure the Orchard Hills Urban Design Framework, when finalised, applies to areas outside Stage 1
- the draft development controls that will apply to Stage 1 lands.

Current and next steps

The Department is exhibiting this explanation of intended effect in keeping with section 3.30 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The exhibition will allow the public to make submissions. We will consider this feedback as we finalise the draft planning controls for the Stage 1 land. We invite the public to comment on all matters in this explanation of intended effect and the supporting documentation.

We are publicly exhibiting this document and other parts of the draft planning framework at <https://www.planning.nsw.gov.au/plans-for-your-area/priority-growth-areas-and-precincts/orchard-hills>

The Department will carefully review all submissions before preparing and completing a final Orchard Hills Urban Design Framework and rezoning package for the Stage 1 land.

Our intent is that areas proposed for change that are outside of the Stage 1 land will be rezoned through future proposals. The level of market interest and take-up of development opportunities within the Stage 1 land will set the pace of infrastructure delivery, as well as the timing and progress of future rezonings.

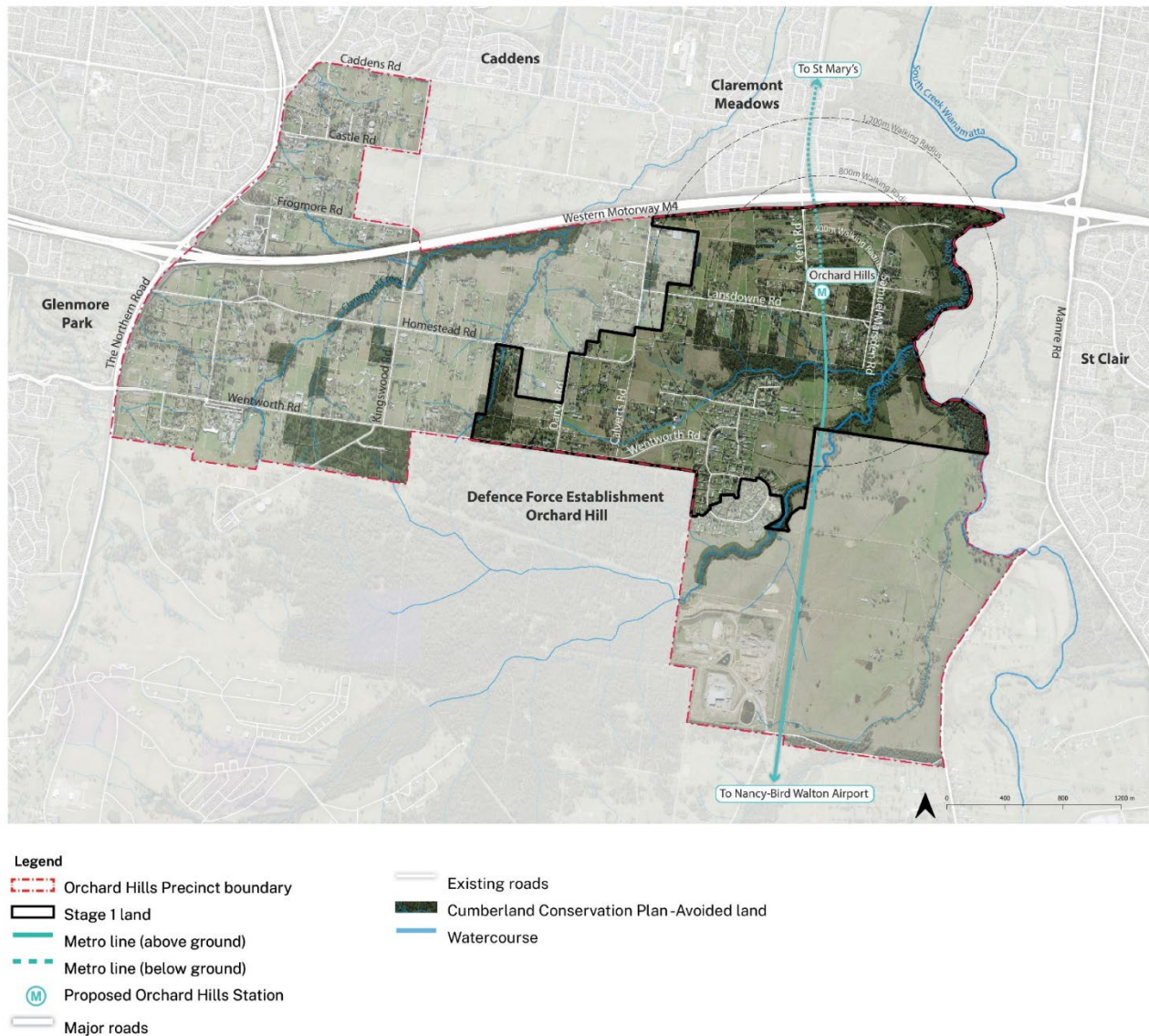


Figure 1. The Orchard Hills Precinct and the Stage 1 land

1 Introduction

The Orchard Hills Precinct sits at the heart of western Sydney, an area that is expected to grow and change significantly over the coming decades. Orchard Hills is strategically located within the Western Parkland City. It is ideal for new homes, given its location and planned connections through Orchard Hills Station to the emerging Western Sydney Aerotropolis and Western Sydney Airport.

The NSW Department of Planning, Housing and Infrastructure has prepared a draft planning framework, including:

- this explanation of intended effect, which:
 - summarises the draft vision and Structure Plan for the precinct, as well as the Stage 1 rezoning land
 - gives the statutory planning context
 - sets out the proposed planning controls for the Stage 1 land
 - summarises key technical studies
- the draft Orchard Hills Urban Design Framework, which includes the:
 - vision and design principles for development within the precinct
 - draft Structure Plan for the wider precinct and the draft Stage 1 Indicative Layout Plan
- the draft development controls that will apply to Stage 1 lands
- an infrastructure framework, which includes:
 - the background report on the draft local infrastructure contributions
 - an infrastructure brochure, which is a snapshot of state government and utility infrastructure needed to support development within the precinct, and the potential funding pathways.

The draft planning framework has been shaped by:

- a range of technical studies
- consultation with:
 - the community, including the Orchard Hills Community Consultative Committee and Independent Community Commissioner
 - Penrith City Council

- various NSW Government agencies
- various utility providers
- the Commonwealth Department of Defence.

The Department will rezone land in the Orchard Hills Precinct in stages to ensure new urban development matches the planned delivery of new and upgraded infrastructure. The draft Stage 1 Indicative Layout Plan identifies capacity for about:

- 11,600 homes
- 4,000 jobs
- almost 50 hectares of open space.

The draft Structure Plan also shows the zoning intent for the remainder of the precinct, which will guide future rezonings.

1.1 Orchard Hills and its strategic context

The precinct (See Figure 2) sits within the Penrith local government area. It is about eight km to 12 km from Penrith Central Business District and is within 5 km of major employment hubs, including the:

- Western Sydney University Kingswood campus
- Mamre Road and Aerotropolis precincts
- St Marys Strategic centre.

The Orchard Hills Precinct is currently characterised as a semi-rural area with small rural holdings and market gardens. It is surrounded by established and developing suburban areas, including Caddens to the north, St Clair to the east and Glenmore Park to the west.

The precinct was named as an urban investigation and priority release area in:

- Our Greater Sydney 2056 – Western City District Plan (updated 2018)
- Greater Penrith to Eastern Creek Strategic Framework (2023).

It will capitalise on the significant infrastructure investment in the new Western Sydney Airport and Western Sydney Airport Metro line.

The Stage 1 land sits within the precinct and will be rezoned as proposed in this document.

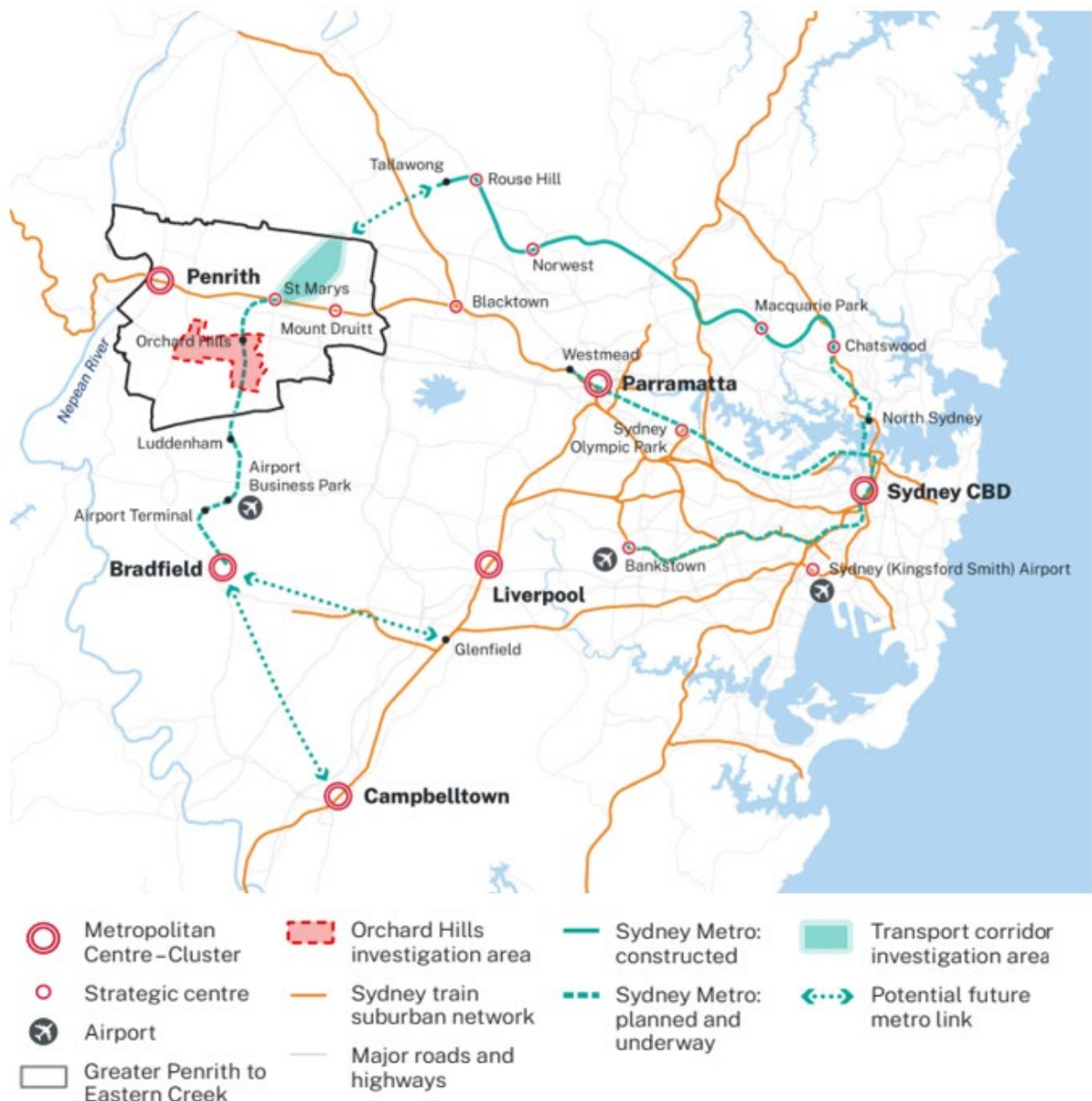


Figure 2. Context map of Orchard Hills Investigation Area within Greater Sydney

The Greater Penrith to Eastern Creek Strategic Framework has six priorities supported by themed directions and actions, such as creating a new mixed-use centre around Orchard Hills Station. The Western City District Plan also names Wianamatta–South Creek as a priority green grid project for the region.

Penrith City Council’s Local Strategic Planning Statement, *Planning for a Brighter Future* (2020), also recognises the need to investigate Orchard Hills for new opportunities for homes close to jobs and transport options. Council’s local strategic planning statement includes specific actions to deliver new mixed-use and high-density residential development around

stations on the Sydney Metro Western Sydney Airport Line and explore opportunities for more housing in Orchard Hills, around Orchard Hills Station.

The priorities in these plans form the foundation for the urban design approach, which is shown in the:

- draft Orchard Hills Urban Design Framework
- draft Structure Plan
- draft Stage 1 Indicative Layout Plan.

1.2 Vision and design principles

Vision

The vision for the precinct is below. It is an aspirational statement, expressing the desired outcome for the new community of Orchard Hills. The draft planning framework will help to achieve this vision:

Orchard Hills is inspired by its natural landscape. The seamless integration of waterways, Cumberland Plain woodland, ridgelines and iconic views to the Blue Mountains allows the community to connect with the Country around them. New development and public spaces have been designed with these unique elements in mind and reinforce the area's identity.

The mixed-use local centre is at the heart of the new community, providing community facilities, great places to shop and socialise, and diverse housing for a vibrant community. It is also seamlessly integrated with Orchard Hills Station and public and active transport networks that link to the rest of the Orchard Hills Precinct, and areas beyond, which connects residents to jobs and services in Bradfield, St Marys and Penrith, and to markets and destinations farther afield, via the new Western Sydney Airport.

The network of walking, cycling and public transport options means that the community can safely and sustainably access these centres within a 15-minute walk or bike ride from their home.

As Orchard Hills has grown organically over time, smaller neighbourhood-scale centres have established to serve the daily needs of their local community and offer opportunities for social connection. These new centres will be the focus of their respective areas which will continue to welcome diverse communities who can access homes that fit their needs – whether this is the type or size of home, or the type of tenure arrangement.

As new areas within Orchard Hills develop, the network of open space and urban tree canopy has extended through the private and public domain, to maximise the place making opportunities, achieve urban cooling, and contribute to the NSW Government's commitment to Net Zero by 2050.

Design principles

The vision for the precinct is supported by design principles that respond to the analysis and findings, and community and agency consultation. These principles have informed the draft Structure Plan, and the proposed place and design outcomes for the precinct:

- Renewed connection to Country
- Reflect and build on historic development patterns
- The creeks, ridgelines and vegetation shape urban form
- Diverse and inclusive public space and community facilities, with site-specific and engaged public art
- Integrate movement and create a connected place
- Create vibrant, compact and walkable neighbourhoods.

1.3 Draft Orchard Hills Structure Plan

The draft Structure Plan (see Figure 3) identifies the proposed development outcomes for the Stage 1 land, and the zoning intent for the areas that make up the remainder of the precinct.

The Stage 1 rezoning will consist of 3 sub-stages. Sub-stage 1A will include the new Orchard Hills Station, main street and mixed-use areas within the new local centre. Sub-stage 1B is to the immediate west. Sub-stage 1C is south of both areas and includes part of The Vines and its surrounds. We expect new development to happen in line with the sub-stages with Sub-stage 1A developing first, followed by sub-stages 1B and 1C.

Based on the current projections, the Stage 1 land is projected to have about 20 years of housing supply for the precinct. The timing of development will be determined by market interest and development take-up, and the planning and delivery of key enabling infrastructure, by private developers, and government.

It is important to understand that not all areas identified as 'residential investigation areas' within the draft Structure Plan will be available for residential or employment development. Within these areas land will also need to be identified for supporting urban infrastructure which will include, new utility infrastructure sites such as a water reservoir site, stormwater

infrastructure, roads, schools, open space and recreation and community facilities. The more detailed planning and land-use allocation for each area outside of Stage 1 is intended to happen as part of the more detailed planning proposal process.

The rezoning of stages beyond Stage 1 is also likely to happen in sequence, with Stage 2 expected to be the next area to be rezoned, followed by Stage 3 and Stage 4. The timing and progress of rezoning is also not currently known. However, it will be determined by:

- the take-up of development in the Stage 1 area and other nearby development areas.
- developer interest and housing need.
- the capacity for Penrith City Council and/or the NSW Government to take the planning forward.
- the capacity and funding of key enabling infrastructure.

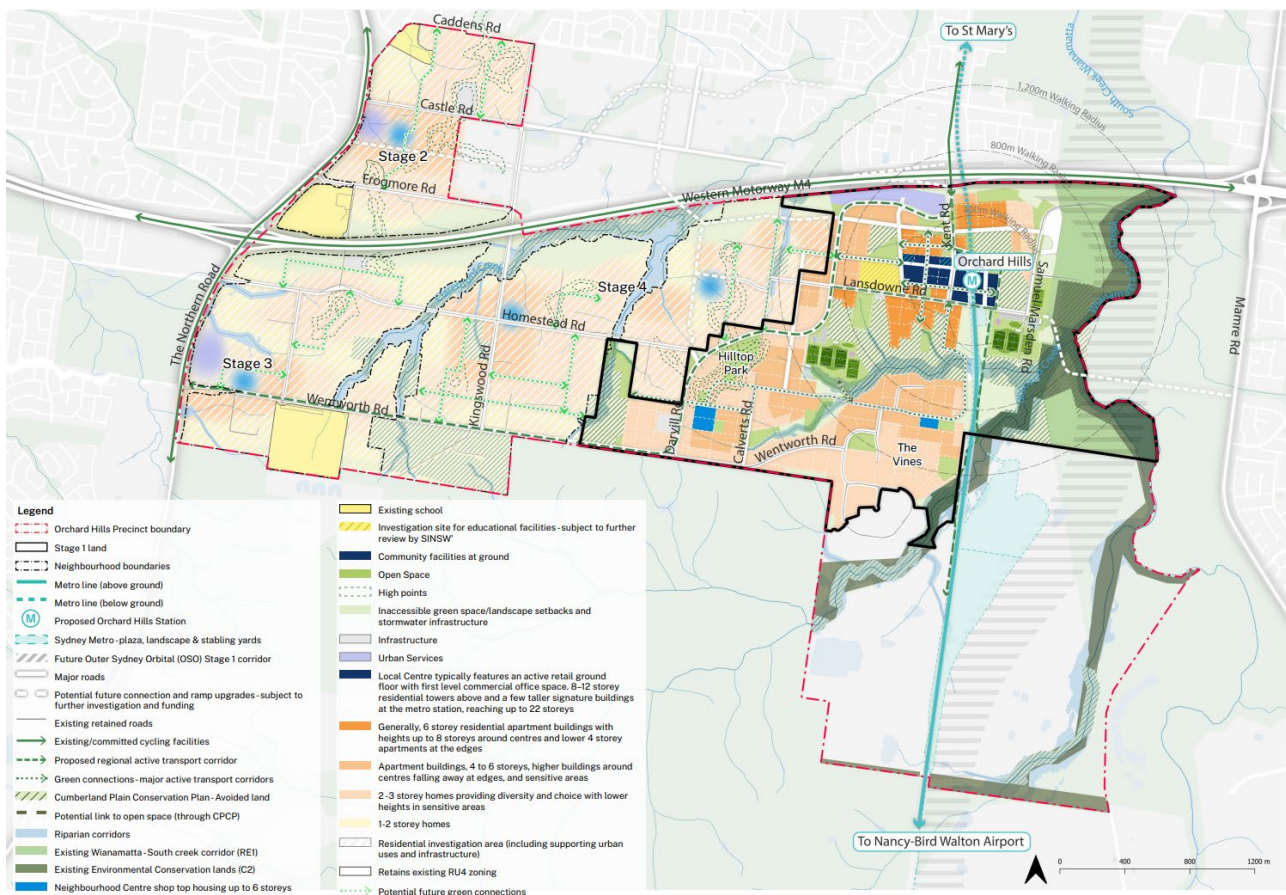


Figure 3. Draft Orchard Hills Structure Plan

The draft Structure Plan identifies the broad zoning intent for the stages (that is, stages 2-4) outside of the Stage 1 land, which is also articulated in Appendix B of this document. The anticipated dwelling capacity and land-use intent for each stage is identified in Table 1 below and articulated in more detail in section 3.3 of the draft Orchard Hills Urban Design Framework.

Table 1. Housing numbers and proposed land-use intent for neighbourhoods in Orchard Hills

Neighbourhood	Anticipated dwelling capacity	Broad land-use intent
Stage 2	2,720	<p>All these areas will be low- to medium-density residential areas with:</p> <ul style="list-style-type: none"> new neighbourhood-scale centres, which will be the focus of mixed-use and medium-density development, with densities decreasing towards the M4 and Defence Force Establishment Orchard Hills site. open space (district and local) that complement the ridge lines, riparian corridors and Cumberland Plain Conservation Plan avoided land. a mixture of employment opportunities (for example, urban services, new and existing schools) and community facilities that will be integrated into the precinct. <p>new and upgraded roads, utilities, and stormwater infrastructure.</p>
Stage 3	3,456	As above
Stage 4	5,716	As above
Total	11,892	n/a

1.4 The Stage 1 land

The draft Stage 1 land Indicative Layout Plan (see Figure 4) provides the framework for a future community that is connected to Greater Sydney and beyond via the new Sydney Metro Western Sydney Airport Line. The plan shows how the Stage 1 land can accommodate a range of housing types and densities, supported by a network of centres, employment areas, open space, and community infrastructure, including:

- capacity for about 11,600 new medium- to high-density homes, with the greatest densities where people can benefit from the excellent access to transport, shops, services and open space and pedestrian networks.
- capacity for up to 4,000 new jobs, within:

- a new mixed-use town centre anchored around Orchard Hills Station, with a new main street and pedestrian plaza that will be the focus of retail and commercial development, community facilities.
- light industrial and urban services development in the north, in areas with excellent vehicle access and high visibility.
- two new neighbourhood-scale shopping centres that will provide day-to-day local services within a 15-minute walk of most homes, and that are co-located with public open space and bus services to ensure a high level of accessibility and amenity.
- almost 50 hectares of new local and district open space which will:
 - provide space and amenity for residents, workers and visitors to enjoy
 - be distributed across the area, connected by pedestrian and cycle connections
 - include two new large sporting spaces, with space for eight new playing fields, 12 multipurpose outdoor courts and a new Hilltop Park.
- a local road network that uses the existing one to build the new walkable centres and residential areas, with a new distributor road that will support development within the Stage 1 land and broader precinct.
- potential for one new public school and two community facilities in the town centre, and other facilities elsewhere.
- utility water, electrical and stormwater infrastructure that will be developed progressively to service and enable new development.
- a green bushland setting, with existing bushland surrounds the town centre creating a natural boundary and transition between the mixed-use and high-density residential areas around the station and lower-scale residential areas beyond the 10-minute walking catchment.

Legend

- Orchard Hills Precinct boundary
- Substage 1A
- Substage 1B
- Substage 1C
- Metro line (above ground)
- Metro line (below ground)
- Proposed Orchard Hills Station
- Sydney Metro-plaza, landscape & staging yards
- Future Outer Sydney Orbital (OSO) Stage 1 corridor
- Major roads
- Potential future connection and ramp upgrades - subject to further investigation and funding
- Indicative local streets and laneways
- Existing retained roads
- Existing/committed cycling facilities
- Proposed regional active transport corridor
- Green connections - major active transport corridors
- Cumberland Plain Conservation Plan - Avoided land
- Potential link to open space (through CPCP)
- Riparian corridors
- Existing Winamatta - South creek corridor (REI)
- Existing Environmental Conservation lands (C2)

Landuse

- Neighbourhood Centre generally with a retail ground floor and shop top housing up to 6 storeys
- Investigation site for educational facilities - subject to further review by SINSW
- Community facilities at ground
- Metro plaza
- Open Space
- Inaccessible green space/landscape setbacks & stormwater infrastructure
- Infrastructure
- Urban Services
- Local Centre typically features an active retail ground floor with first level commercial office space to the edges, and sensitive areas above and a fewer taller signage buildings at the metro station, reaching up to 22 storeys
- Community, 6 storey residential apartment buildings with heights up to 8 storeys around centres and lower 4 storey apartments at the edges
- Apartment buildings from 4 to 6 storeys with higher buildings around centres and falling away to the edges, and sensitive areas
- 2-3 storey homes providing diversity and choice with lower heights in sensitive areas
- Retains existing RU4 zoning



2 Proposed changes to planning controls

2.1 Explanation of provisions

This section sets out the proposed planning control amendments to give effect to the land-use changes proposed by the draft Stage 1 Indicative Layout Plan (see Figure 4).

The Department proposes that the planning controls will be applied through a state environmental planning policy made under the EP&A Act. This will amend controls in the Penrith Local Environmental Plan 2010. This means that immediately after the rezoning, the policy will be repealed (withdrawn), and the amended planning controls for the Stage 1 land will sit within Penrith Local Environmental Plan 2010.

The proposed planning controls for the Stage 1 area will seek to allow the development of:

- about 11,600 homes, with higher-density residential areas concentrated within 800 m of Orchard Hills Station and a range of housing types, including terraces and mid-rise apartments.
- a range of densities and building heights, with the greatest height and density concentrated close to Orchard Hills Station.
- a new local town centre anchored around Orchard Hills Station, providing for activation, community and new jobs.
- almost 50 hectares of new local and district open space, providing for active and passive recreation opportunities.
- new roads and transport connections, including cycleways and walkways.
- two neighbourhood-scale mixed-use centres to provide local services within walking distance of homes.
- protection of riparian corridors, and high value environmental areas.
- new employment areas next to the M4 Motorway.

We have outlined the proposed planning control changes below:

Current land-use zones in the Stage 1 land

Currently, the Stage 1 land is mostly zoned RU4 Primary Production Small Lots and RU2 Rural Landscape under the Penrith Local Environmental Plan 2010. Other zones under Penrith Local Environmental Plan 2010 include C2 Environmental Conservation and RE1 Public Recreation along Wianamatta–South Creek and Blaxland Creek. Table C1 in Appendix C shows the existing land-use zones in the Stage 1 land.

Sydney Metro’s above-ground infrastructure corridor south of Lansdowne Road is currently zoned SP2 Infrastructure under the State Environmental Planning Policy (Transport and Infrastructure) 2021. Although the corridor sits within the Indicative Layout Plan area, we do not propose changing its zoning for the rezoning of the Stage 1 area.

Proposed land-use zones in the Stage 1 land

The Department plans to amend the Land Zoning Map of the Penrith Local Environmental Plan 2010. This will rezone land in the Stage 1 area as follows:

- **MU1 Mixed-Use** – applied to the proposed mixed-use town centre at Orchard Hills Station to allow for a range of retail, commercial, community and residential uses.
- **R4 High-Density Residential** – applied to land surrounding the mixed-use town centre and areas within 800 m of Orchard Hills Station or within 400 m of the neighbourhood-scale centres to allow for residential apartments.
- **R3 Medium-Density Residential** – applied to areas farther than 800 m from Orchard Hills Station to allow for a range of medium-density housing such as dual occupancies and terraces.
- **E1 Local Centre** – applied to the two new neighbourhood-scale centres to provide for local services for future residential areas.
- **E3 Productivity Support** – applied to land for employment uses next to the M4 Motorway.
- **RE1 Public Recreation** – applied to new local and district open spaces throughout the Stage 1 land as well as the expanded Wianamatta–South Creek regional open space corridor.
- **SP2 Infrastructure** – applied to infrastructure items such the Metro stabling yards, stormwater infrastructure, proposed school site, and major roads.

There are some areas of land we do not propose to rezone at this stage. These areas will keep their existing land-use zones under Penrith Local Environmental Plan; the new development controls will not apply to them. This includes areas of avoided land under the Cumberland Plain Conservation Plan. A separate rezoning will apply to these avoided land areas in the

future for conservation and open space purposes, after more investigation and consultation. We also propose to exclude from the Stage 1 rezoning a small part of a riparian corridor that is flood-affected.

Figure 5 shows the draft Land Zoning Map. The areas in white will keep their current land-use zones under Penrith Local Environmental Plan 2010. Further detail is shown in Table C1 in Appendix C: Existing and proposed maps – Penrith Local Environmental Plan 2010

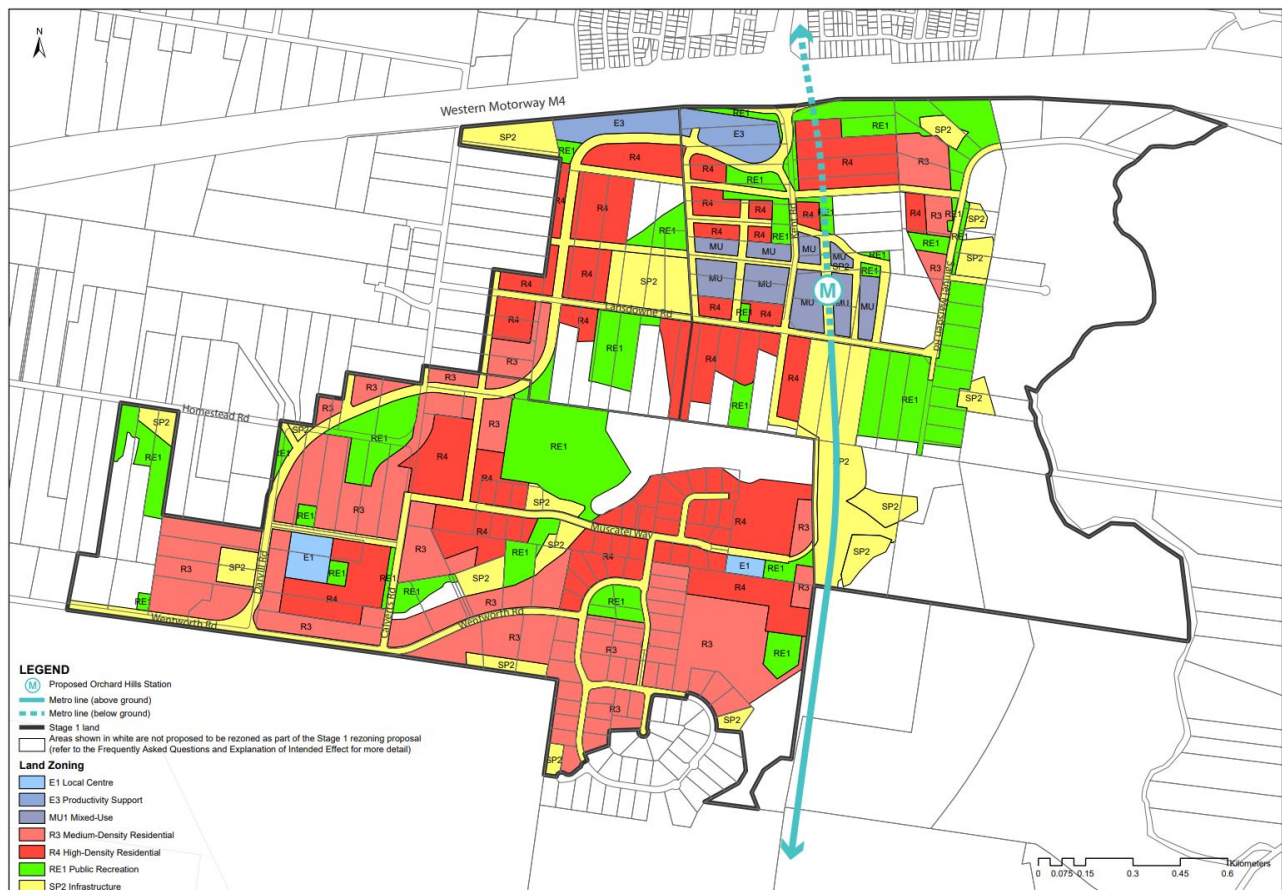


Figure 5. Proposed zoning for the Stage 1 land (noting that white areas will keep their existing land-use zone)

2.2 Height of buildings

There are no maximum building height controls that currently apply in the Stage 1 land under the Penrith Local Environmental Plan 2010.

We propose a range of maximum building heights across the Stage 1 land which, combined with the proposed floor-space ratio controls, aim to deliver a variety of building types and forms.

The proposed building heights propose the highest buildings closest to Orchard Hills Station with two key locations proposed for taller signature towers next to Orchard Hills Station.

The proposed height controls transition down from Orchard Hills Station and town centre, with proposed heights allowing for 4- to 6-storey buildings within 800 metres of Orchard Hills Station and then transitioning to lower heights in more sensitive locations such as next to waterways, bushland and near ridgelines.

We propose to amend the Height of Buildings Map of the Penrith Local Environmental Plan 2010 to introduce the following maximum building heights:

- 28 metres (about eight storeys) and 42 metres (about 12 storeys) for most of the land proposed to be zoned MU1 Mixed-Use.
- 55 metres (about 16 storeys) and 73 metres (about 22 storeys) in two key locations for land proposed to be zoned MU1 Mixed-Use next to Orchard Hills Station.
- 15 metres (about four storeys), 22 metres (about six storeys) and 28 metres (about eight storeys) for land proposed to be zoned R4 High-Density Residential.
- 9 metres (about two storeys) and 12 metres (about three storeys) for land proposed to be zoned R3 Medium-Density Residential.

The proposed maximum building height controls that will apply in the Stage 1 land are shown in Figure 6 below, and in more detail in Table C3 in Appendix C: Existing and proposed maps – Penrith Local Environmental Plan 2010

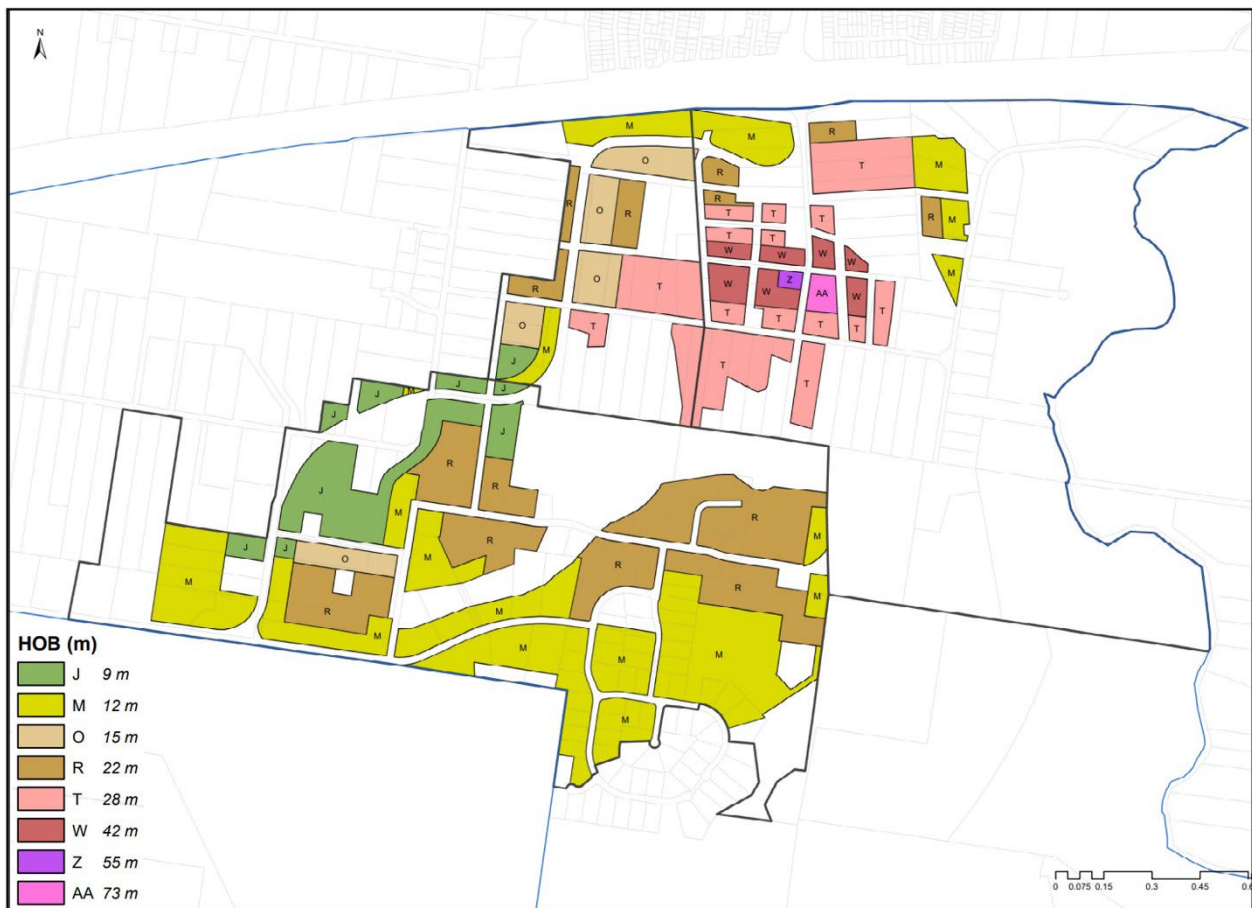


Figure 6. Proposed maximum building heights within the Stage 1 land

2.3 Floor-space ratio

There are no floor-space ratio controls that currently apply to the Stage 1 land under the Penrith Local Environmental Plan 2010.

The proposed floor-space ratio controls will work in combination with the proposed height controls to provide for a range of building types and densities, to ensure:

- the highest density is concentrated around the metro station and lower density development in areas next to important landscape or environmental features.
- the intended dwelling outcome for the Stage 1 land can be achieved when local roads and site-specific setbacks are also applied to a site.

We propose to amend the Floor-Space Ratio Map of the Penrith Local Environmental Plan 2010 to introduce the following floor-space ratio controls:

- Floor-space ratio controls ranging from 2.2:1 to 3.5:1 for land proposed to be zoned MU1 Mixed-Use.
- A floor-space ratio control of 1:1 for land proposed to be zoned E3 Productivity Support.

- Floor-space ratio controls ranging from 1:1 to 2:1 for land proposed to be zoned E1 Local Centre.
- Floor-space ratio controls ranging from 1.4:1 to 1.8:1 for land proposed to be zoned R4 High-Density Residential.
- Floor-space ratio controls ranging from 0.7:1 to 0.8:1 for land proposed to be zoned R3 Medium-Density Residential.

The proposed maximum floor-space ratio controls that will apply in the Stage 1 land are shown in Figure 7, and in more detail in Table C2 in Appendix C: Existing and proposed maps – Penrith Local Environmental Plan 2010.

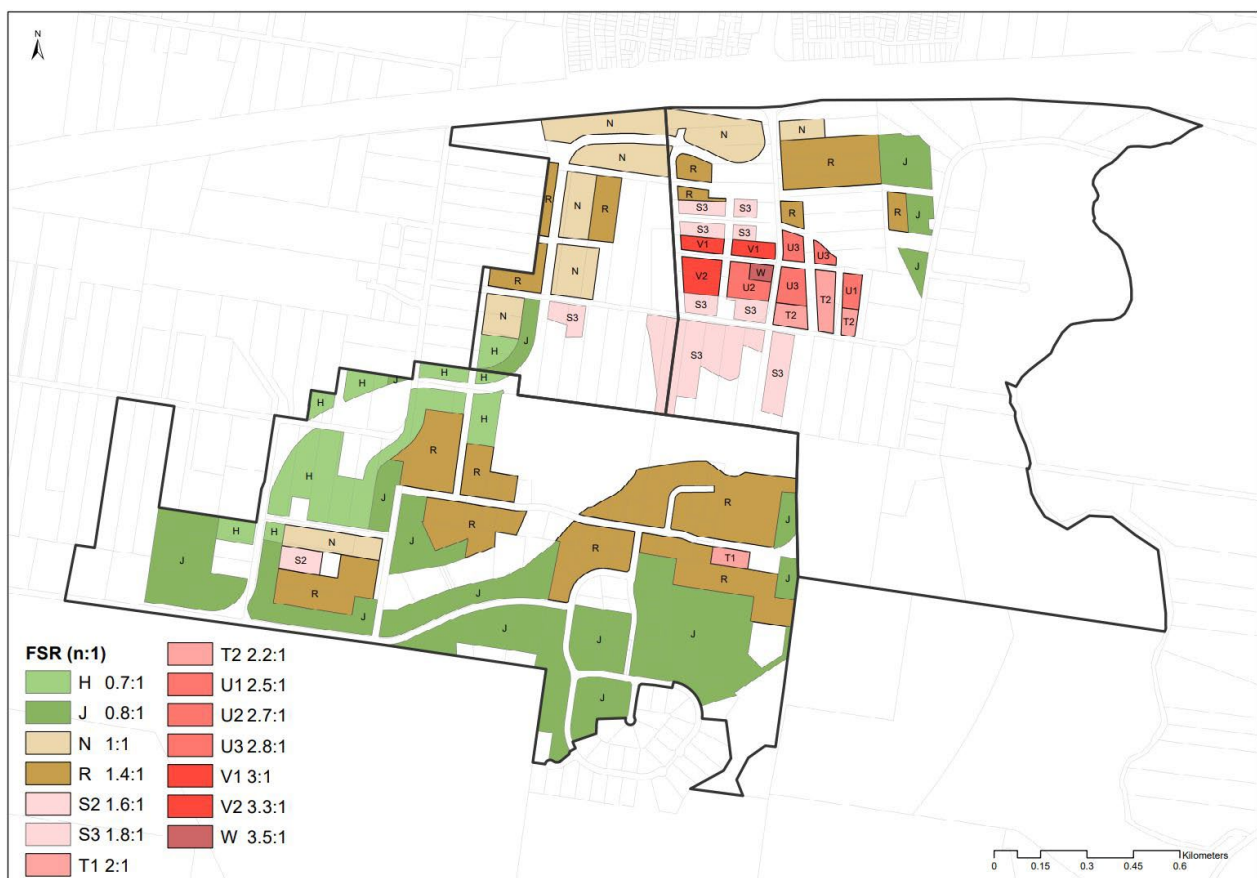


Figure 7. Proposed maximum Floor-Space Ratios within the Stage 1 land

2.4 Minimum lot size

The existing minimum lot size controls for the subdivision of land within the Stage 1 land relate to the existing rural land-use zones and range from two hectares to 1,000 hectares.

To ensure future lots are big enough for the proposed (that is, post-rezoning) residential development, we propose to amend the Lot Size Map of the Penrith Local Environmental Plan

2010 to remove the minimum lot sizes for subdivision that currently apply to the Stage 1 land. Table C4 outlines these changes.

Instead, Clause 4.1A Minimum lot sizes for dual occupancies, multi-dwelling housing and residential flat buildings of the Penrith Local Environmental Plan 2010 will apply, providing for minimum lot sizes for residential development including multi-dwelling housing and residential flat buildings.

Table 2 to Table 8 show the proposed changes to the controls in Penrith City Council's existing Clause 4.1A. The proposed changes are in **bold and marked with a (P)**. These changes will apply only to development within the Stage 1 land.

Proposed (P) amendments to the minimum lot size controls in Penrith City Council's existing Clause 4.1A

Table 2. Dual occupancy (attached)

Zone	Minimum lot size
R2 Low Density Residential	650 m ²
R3 Medium- Density Residential	550 m ² for standard lot
R3 Medium- Density Residential	600 m ² for battle-axe lot

Table 3. Dual occupancy (detached)

Zone	Minimum lot size
R2 Low Density Residential	750 m ²
R3 Medium- Density Residential	650 m ² for standard lot
R3 Medium- Density Residential	700 m ² for battle-axe lot

Table 4. Semi-detached homes

Zone	Minimum lot size
R3 Medium- Density Residential (P)	550 m ² (275 m ² per home) (P)

Table 5. Multi-dwelling housing

Zone	Minimum lot size
<ul style="list-style-type: none"> • R3 Medium- Density Residential • R4 High- Density Residential 	1,200 m ²

Table 6. Multi-dwelling housing (terraces) and attached homes

Zone	Minimum lot size
<ul style="list-style-type: none"> • R3 Medium- Density Residential (P) • R4 High- Density Residential (P) 	800 m ² (265m ² per home) (P)

Table 7. Residential flat building

Zone	Minimum lot size
<ul style="list-style-type: none"> • R3 Medium- Density Residential (P) • R4 High- Density Residential • MU1 Mixed- Use (P) 	800 m ² for standard lot
<ul style="list-style-type: none"> • R3 Medium- Density Residential (P) • R4 High- Density Residential • MU1 Mixed- Use (P) 	900 m ² for battle-axe lot

Table 8. Shop-top housing

Zone	Minimum lot size
<ul style="list-style-type: none"> • R3 Medium- Density Residential (P) • R4 High- Density Residential (P) • MU1 Mixed- Use (P) • E1 Local Centre (P) 	800 m ² (P)

The existing Penrith Local Environmental Plan 2010 Clause 4.1B Minimum subdivision lot size for land in Zones R2 and R3 will also apply to future development in the proposed R3 Medium-Density Residential zone. Clause 4.1B includes minimum lot width controls for development in the R3 Zone to ensure lots are of a sufficient width to accommodate medium-density development.

2.5 Public utility infrastructure

The provision of public utility infrastructure (water, wastewater and electricity) is critical to support future development in the Stage 1 land. We propose to map the Stage 1 land on the Urban Release Areas Map of the Penrith Local Environmental Plan 2010 to apply the provisions of Part 6 ‘Urban Release Areas’, which includes a requirement for public utility infrastructure to be available to service development.

Specifically, Clause 6.2 Public utility infrastructure requires development in an urban release area to show that the necessary water, wastewater and electricity infrastructure is available or that arrangements have been put in place to ensure the necessary infrastructure is available when needed.

The intent is that these conditions will be supported by provisions in the changes to the draft development control plan, which seek to ensure development is staged in line with the availability of servicing infrastructure.

Figure 8 shows the proposed Urban Release Areas Map. Further details are included in Table C7 in Appendix C: Existing and proposed maps – Penrith Local Environmental Plan 2010.

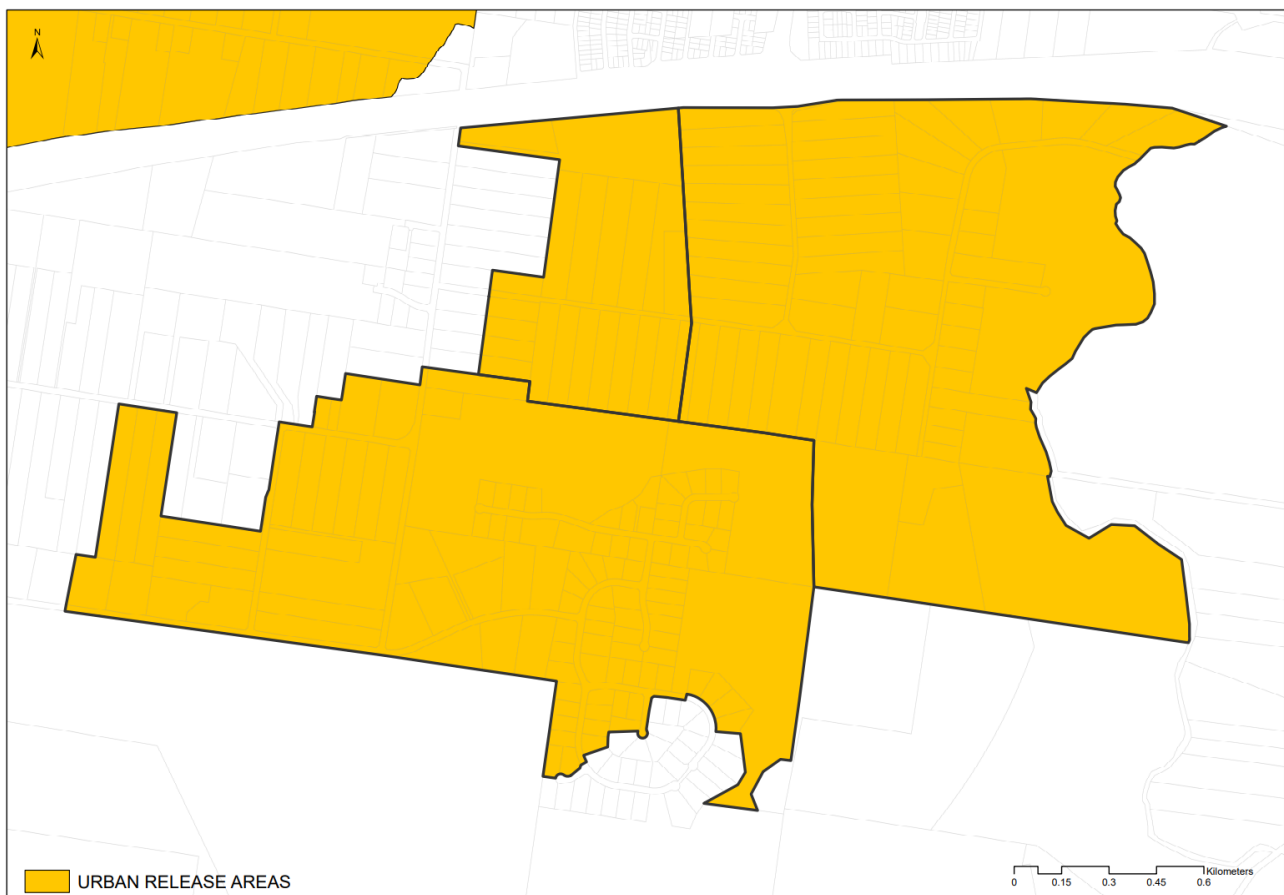


Figure 8. Proposed Urban Release Areas Map

2.6 Additional permitted uses

We propose to amend Schedule 1 Additional Permitted Uses and the Additional Permitted Uses Map of the Penrith Local Environmental Plan 2010 to allow residential flat buildings as an added permitted use in the R3 Medium-Density Residential zone on the Stage 1 land.

This is to support housing diversity and promote flexibility in housing types throughout the R3 Medium-Density Residential zone on the Stage 1 land.

The inclusion of residential flat buildings as an added permitted use in the R3 Medium-Density Residential zone will allow more diverse housing options with walking distance to Orchard Hills Station and local centre, neighbourhood-scale centres and services on the Stage 1 land.

2.7 Land reservation and acquisition

The Stage 1 land includes new roads, public open space, a new electricity substation site, regional open space and a future school site. The NSW Government will need to buy land for these. Accordingly, we propose to amend the Land Reservation Acquisition Map of the Penrith Local Environmental Plan 2010 to identify such lands.

During the precinct-planning process, we found that a historic proposed acquisition on behalf of the Planning Ministerial Corporation had been removed from the Penrith Local Environment Plan 2010 in error. It is on the rear part of 128–132 Samuel Marsden Road (Lot 90 DP29388). This area is currently zoned RE1 Public Recreation and C2 Environmental Conservation. It was intended to be bought for inclusion into the Wianamatta–South Creek Corridor regional open space corridor. We propose that the acquisition requirement will be reinstated for part of this area, as part of the current rezoning proposal. The draft plans also propose that the area currently zoned RE1 Public Recreation on this site be rezoned to SP2 Infrastructure to facilitate the construction of stormwater management infrastructure. The area proposed to be rezoned SP2 Infrastructure will be identified for acquisition by Penrith City Council, to reflect its proposed use for stormwater management infrastructure.

Land within the Stage 1 area that is identified for the acquisition on the Land Reservation Map will be bought by the relevant acquisition authority listed in Clause 5.1 Relevant acquisition authority of the Penrith Local Environmental Plan 2010, which will, once amended, include the following acquisition types (new allocations proposed to be added to Clause 5.1 are shown in **bold** and with an (A)):

- Endeavour Energy for land zoned SP2 Infrastructure and marked '**Electrical substation**' (A)

- Department of Education for land zoned SP2 Infrastructure and marked 'Education Establishment'
- Penrith City Council for land zoned SP2 Infrastructure and marked 'Local Drainage' (A), 'Local Open Space' and 'Local Road'
- The corporation constituted under section 8 of the EP&A Act or the Planning Ministerial Corporation for land zoned RE1 Public Recreation and C2 Environmental Conservation and marked 'Regional open space'.

Figure 9 below shows land that we propose to map on the Land Reservations and Acquisitions Map. More detail is included in Table C5 In Appendix C.

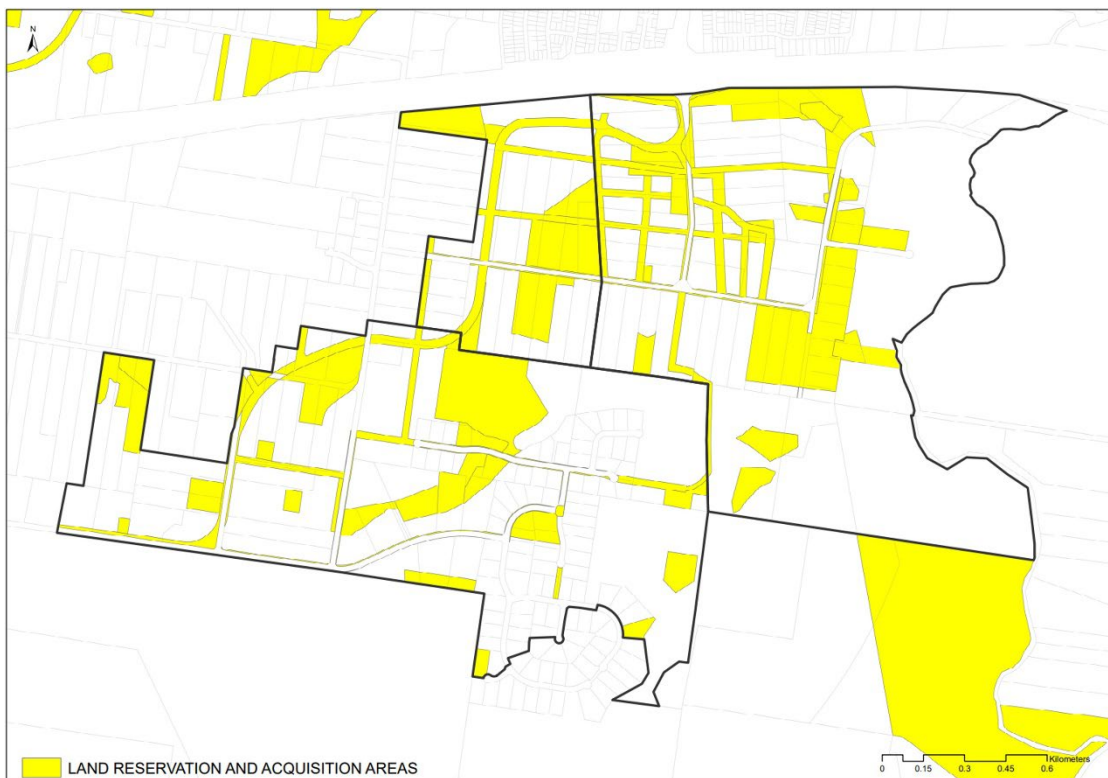


Figure 9. Proposed changes to the Land Reservations and Acquisitions Map

2.8 Affordable housing

The provision of affordable housing within the Stage 1 land is important. On surplus land owned by Sydney Metro, affordable housing will be provided in line with the NSW Government's approach for surplus government-owned land.

For areas outside of the Sydney Metro land holdings, it is proposed to have an affordable rental housing contribution. Penrith City Council has implemented an Affordable Rental Housing Contributions Scheme (the Scheme) which collects funds from development to

deliver affordable housing within the Penrith Local Government Area. At present, the Scheme only applies to the new release areas of Glenmore Park Stage 3 and Orchard Hills North.

It is proposed to apply an Affordable Rental Housing Contributions Scheme to non-government-owned land in Stage 1 land, consistent with rates in Orchard Hills North. This would be a staged approach, with a 1% (of Gross Realisable Value) rate applied when the Stage 1 area is rezoned, and a 2% rate 3 years later.

The possible mechanisms to give effect to this include:

- amending Penrith City Council's existing Affordable Rental Housing Contribution Scheme Map to include non-government-owned land in Stage 1
- preparing, exhibiting and adopting a draft Affordable Rental Housing Contribution Scheme for this area
- updating Penrith Local Environmental Plan 2010 Clause 7.31 Affordable housing contributions to include reference to the Stage 1 land.

This scheme could either be implemented by the Department, through the amending state environmental planning policy for the Stage 1 land, or by Penrith City Council.

Figure 10 shows the proposed Stage 1 areas where the scheme will apply. More detail is included in Table C6 in Appendix C.

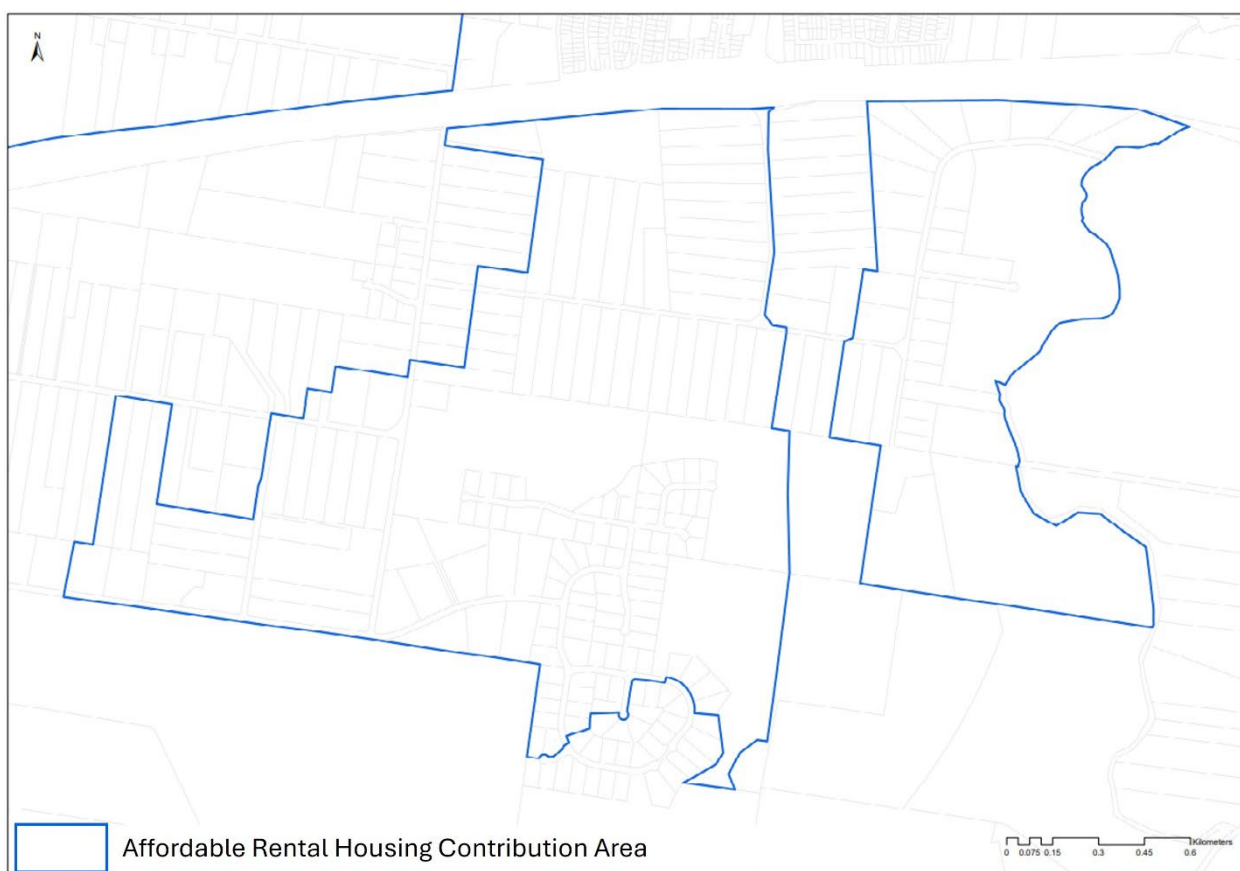


Figure 10. Proposed Affordable Rental Housing Contribution Scheme Map

2.9 Exemption from in-fill affordable housing provisions

The in-fill affordable housing bonus is a floor-space ratio bonus of 20% to 30% and a height bonus of 20% to 30% for projects that include at least 10% to 15% gross floor area for affordable housing. The height bonus, established under State Environmental Planning Policy (Housing) 2021, only applies to residential flat buildings and shop-top housing, and the floor-space ratio and height bonuses are proportional to the affordable housing component.

Given the precinct is subject to a state-led rezoning for a greenfield release area, that has included a recent place-based urban design and infrastructure capacity assessment, it is proposed that the Stage 1 land will be exempt from both the in-fill affordable housing bonuses under Chapter 2 of the State Environmental Planning Policy (Housing) 2021 and the associated State Significant Development pathway under section 26A of the State Environmental Planning Policy (Planning Systems) 2021.

2.10 Orchard Hills Stage 1 land draft development control plan

The draft development control plan includes built form, urban design, and sustainability provisions to ensure high quality development can be delivered. The draft development control plan also includes:

- the infrastructure sequencing and development staging requirements
- the transport and street network requirements, and street sections to guide the designs of new streets
- stormwater and water quality management controls
- biodiversity and riparian corridor controls
- amelioration of natural and environmental hazards, including bush fire, flooding and site contamination. In relation to natural hazards, the safe occupation, and the evacuation from, any affected land
- measures to encourage higher-density living around transport, open space and service nodes
- measures to accommodate and control appropriately scaled commercial and retail uses
- suitably located public facilities and services, including provision for proper traffic management facilities and parking.

The Department is considering options for putting the development control plan clauses into action, once they are final. We could do this through a separate development control plan

made by the Secretary of the Department, or an amendment to the existing Penrith development control plan, before development consent is granted for Stage 1.

3 Infrastructure funding and delivery

3.1 Infrastructure outline

The draft Indicative Layout Plan identifies a range of infrastructure items that are needed to support the proposed development in the Stage 1 land. These include stormwater infrastructure, social infrastructure, open space and utilities that we discuss in more detail in Appendix A of this report (sections A.3, A.8 and A.10 respectively).

An outline of the infrastructure needed to support the Stage 1 rezoning, together with potential funding and delivery mechanisms, accompanies this explanation of intended effect. The identification of the items, delivery and timing has been informed by the technical studies done as part of the precinct investigation process and consultation with the community and other stakeholders.

Orchard Hills will also be supported by the planned delivery of regional infrastructure, such as the:

- Western Sydney (Nancy Bird) International Airport
- new Sydney Metro line
- the future Outer Sydney Orbital, which is described in Appendix A (section A.5).

3.2 Funding infrastructure in Orchard Hills Stage 1

Contributions collected from development in the Orchard Hills Precinct will support the projected growth of Orchard Hills. Contributions are a tool to help deliver infrastructure at the same time development is happening, ensuring new and growing communities have prompt access to the infrastructure and services they need. They are charged at the time the land is developed and are informed by the cost of the added infrastructure and associated land needed to service the added population.

We expect that five components of developer contributions may apply in the Stage 1 land. Table 9 and Table 10 below outline what these components are and how they will be used, if applied.

Table 9. Developer contributions

Developer contribution	To whom it is paid	What it can be used for
s7.11 Local Contributions Plan	Penrith City Council	Parks, stormwater drainage infrastructure and local roads
Sydney Water Development Servicing Plan	Sydney Water	Drinking water infrastructure and wastewater infrastructure
Affordable Rental Housing Contribution	Penrith City Council	Delivering affordable rental housing in the Penrith local government area

Table 10. Developer contributions – Housing and Productivity Contribution

Component	To whom it is paid	What it can be used for
Base	NSW Government (Housing and Productivity Fund)	Regional infrastructure such as schools, hospitals, public transport infrastructure, major roads, regional open space
Strategic biodiversity	NSW Government (Strategic Biodiversity Fund)	Delivering the direct conservation measures of the Cumberland Plain Conservation Plan

The accompanying infrastructure outline (*Delivering Infrastructure in Orchard Hills*) gives more detail about these different types of contributions.

Local contributions

Section 7.11 Local infrastructure contributions plan

Councils are authorised under the EP&A Act to collect developer contributions to help pay for local infrastructure including open space, stormwater drainage and local roads.

In collaboration with Penrith City Council, the Department will prepare a draft local infrastructure contributions plan. The draft contributions plan will be exhibited when the Stage 1 rezoning is finalised. A draft Local Contributions Background Report has been prepared to inform the preparation of the draft contributions plan and is part of the Stage 1 draft rezoning exhibition package. The draft Local Contributions Background Report estimates the following

contribution rates for local infrastructure, with the higher per dwelling rates applying to the lowest density development:

- Most development within Stage 1 will be located within the Wianamatta-South Creek sub catchment, where the local contribution rates could range from \$83,960 – \$118,654 per dwelling.
- Within the Claremont Creek sub catchment, local contribution rates could range from \$86,854 - \$132,119 per dwelling.

Given that it is likely the draft section 7.11 contributions plan will propose rates higher than \$30,000, once it has been prepared it will need to be referred to the Independent Pricing and Regulatory Tribunal, for its review.

Affordable Rental Housing Contribution

For areas outside of the Sydney Metro land holdings, it is proposed to have an affordable rental housing contribution. Penrith City Council has implemented an Affordable Rental Housing Contributions Scheme (the Scheme) which collects funds from development to deliver affordable housing within the Penrith Local Government Area. At present, the Scheme only applies to the new release areas of Glenmore Park Stage 3 and Orchard Hills North.

It is proposed to apply an Affordable Rental Housing Contributions Scheme to non-government-owned land in Stage 1 land, consistent with rates in Orchard Hills North. This would be a staged approach, with a 1% (of Gross Realisable Value) rate applied when the Stage 1 area is rezoned, and a 2% rate 3 years later.

The possible mechanisms to give effect to this include:

- amending Penrith City Council's existing Affordable Rental Housing Contribution Scheme Map to include non-government-owned land in Stage 1
- preparing, exhibiting and adopting a draft Affordable Rental Housing Contribution Scheme for this area
- updating Penrith Local Environmental Plan 2010 Clause 7.31 Affordable housing contributions to include reference to the Stage 1 land.

This scheme could either be implemented by the Department, through the amending state environmental planning policy for the Stage 1 land, or by Penrith City Council.

Housing and Productivity Contribution

The Housing and Productivity Contribution could help fund essential state infrastructure in the Stage 1 land, including the proposed school and public transport infrastructure. Contributions

collected through the scheme could also help fund some major roads and some open space areas. The Housing and Productivity Contribution applies to:

- residential development that increases the number and density of homes
- commercial and retail developments such as shops and commercial office buildings where new floor space is created
- industrial developments such as warehouses where new floor space is created.

For more details about the Housing and Productivity Contribution, refer to the accompanying infrastructure brochure and the [Department's website](#).

Strategic biodiversity contribution

The Cumberland Plain Conservation Plan provides upfront NSW and federal biodiversity approvals. These support the delivery of housing and infrastructure, while offsetting the effects on native vegetation and important biodiversity (discussed in Appendix A, section A.2).

The strategic biodiversity component of the Cumberland Plain Conservation Plan is an extra contribution under the Housing and Productivity Contribution, which applied from 1 July 2024. It applies to new development on land that has been biodiversity certified as part of the conservation plan under the *Biodiversity Conservation Act 2016*.

For more details about the strategic biodiversity contributions, refer to the accompanying infrastructure brochure and the [Department's website](#).

Sydney Water Development Servicing Plan Charges

Sydney Water will collect contributions for drinking water and wastewater infrastructure to help recover the cost of providing this infrastructure to new developments. The Stage 1 land is subject to the [Greater Sydney Drinking Water Development Servicing Plan](#) and the [Nepean River Wastewater Development Servicing Plan](#) with contributions being calculated on a per 'equivalent tenement' basis. Generally, detached, semi-detached and townhouses are one equivalent tenement, with apartments equivalent to 0.8 equivalent tenement. Sydney Water proposes to apply these charges progressively until 1 July 2026, when they will be charged in full.

For more information on the charges, visit the [Sydney Water – Infrastructure Contributions webpage](#).

4 Consultation

4.1 Precinct-planning process, and the discussion paper

In 2022, the Department defined the Orchard Hills Investigation Area (see Figure 2 and the Orchard Hills Precinct boundary), as the focus of precinct-planning investigations and released *Orchard Hills: A discussion paper on planning for the future of Orchard Hills*.

We publicly exhibited the discussion paper between November and December 2022. The discussion paper proposed a draft vision and principles for the investigation area and created several internal areas (previously referred to as neighbourhoods). The paper identified the following as important for precinct planning:

- the Dharug people are the area's Traditional Custodians.
- the Orchard Hills Investigation Area is substantially larger than many other areas subject to precinct planning, being 1,315 hectares in size.
- the area is currently mainly rural in use, with rural lots of predominantly one of two hectares or more, and with fragmented and primarily private ownership.
- the area has a network of creeks and their tributaries, including Wianamatta–South Creek, Blaxland Creek and Claremont Creek.
- the area has significant biodiversity values, including Cumberland Plain woodland on avoided land under the Cumberland Plain Conservation Plan.
- Orchard Hills Station is currently under construction, and is scheduled to be running when the airport opens to passengers.

Out of the 154 submissions we received in response to the discussion paper, the top themes we found were:

1. concern about excessive built form and density. The community supported preserving the unique rural character and identity of Orchard Hills.
2. the importance of connectivity to, from and within, the precinct with a focus on more active transport infrastructure such as dedicated cycle paths, upgraded intersections and improved way finding. Concerns were raised regarding access to the M4 Motorway and a congested road network for freight services.
3. protecting and maintaining the green and blue network throughout the precinct. The community supports prioritising green, vegetated and natural spaces accessible to the public while preserving native vegetation and habitat.

4. community support for adequate social infrastructure such as community facilities, education, health, open space and recreation to support the new population.

We have addressed these themes, and others raised in the submissions, in preparing the draft Structure Plan, draft Stage 1 Indicative Layout Plan and draft rezoning package.

The Department also engaged several technical consultants to investigate a range of issues to better understand the precinct, and the likely needs and opportunities for the area and its future residents. These studies have been critical to understanding the precinct overall and have informed the draft plans for the precinct. We discuss them in more detail in Appendix A of this report.

4.2 Community Commissioner

The (former) NSW Government appointed Professor Roberta Ryan as the Independent Community Commissioner for Orchard Hills. The Community Commissioner's role has been to:

- work closely with residents to help them understand the planning process, what any proposed changes may mean and to raise any issues and concerns on their behalf, with government
- chair and coordinate the Orchard Hills Community Consultative Committee, which includes a community representative from each of the investigation area 'neighbourhoods' that were named in the discussion paper.

The Orchard Hills Community Consultative Committee is an important engagement forum for the community and other key stakeholders in the planning and development of the area, with members providing advice to government on ways it can support and collaborate with the community during planning and development. The committee has also provided an opportunity for other agencies working within Orchard Hills (for example, Sydney Metro) to hear about issues that are important to the community and provide information about their respective areas of interaction with greenfield communities (for example, Sydney Water, Office of Strategic Lands and The NSW Valuer General).

The Terms of Reference and minutes of each Orchard Hills Community Consultative Committee meeting are available on the Department's website. The committee met five times in 2023 and 3 times in the first half of 2024. The Department will continue to update the committee on the outcome of the public exhibition and post-exhibition changes, before finalisation of the rezoning package.

For information about the Community Commissioner and the committee, visit the Community Commissioner's web site, <https://www.planning.nsw.gov.au/plans-for-your-area/priority-growth-areas-and-precincts/independent-community-commissioner>

4.3 Aboriginal engagement

We engaged with Aboriginal people to identify the historic and present-day Aboriginal cultural and heritage values of Orchard Hills. Seventeen Aboriginal stakeholders submitted their expression of interest to participate as Cultural Knowledge Advisors (that is, First Nations people that hold traditional knowledge and teachings). These stakeholders included representatives from the Dharug Traditional Custodians, other Aboriginal community members and representatives from registered Aboriginal parties.

The key themes identified from engagement activities were:

- culturally sensitive creeks, areas and ridge lines
- the Highview cultural site
- presence of Cumberland Plain woodland
- the need for culturally responsive housing and accommodation.

We also engaged with registered Aboriginal parties as part of preparing the Aboriginal archaeological study. Prior to public exhibition, additional consultation was undertaken on the draft study and proposed precinct-planning response to the identified themes.

The precinct-wide Connecting with Country approach is outlined in Appendix A, section A1. We developed the Connecting with Country map (Figure A1) by analysing:

- the outcomes of the pre-exhibition consultation
- key historical sources
- geographic analysis
- previous studies
- previous Aboriginal engagement information.

5 Next steps

The Department is publicly exhibiting the draft planning framework for the Orchard Hills Precinct and the rezoning package for the Stage 1 land.

Once we have reviewed the submissions in detail, we will update the draft planning framework in response to the feedback and finalise it. The final planning framework is intended to:

- guide future rezonings within the precinct
- rezone the Stage 1 land to allow urban development around Orchard Hills Station to begin.

We aim to carry out these changes in 2025.

Our intent is that Stages 2 to 4 within the precinct will be rezoned through future proposals. These could be brought forward by landowners or groups of landowners, Penrith City Council or the NSW Government.

The timing and progress of these future rezonings will be determined by the level of market interest and take-up of development opportunities within the Stage 1 land, as well as the pace of infrastructure planning and delivery.

Appendix A: Technical issues and outcomes

This section outlines the key technical issues, advice from the technical consultants, and how we have applied this advice within the draft rezoning package. The main technical reports that informed this study include:

- Aboriginal Engagement Outcomes Report, GHD, Zion and Waters
- Biodiversity Assessment, Biosis
- Riparian Corridor Assessment, Biosis
- Integrated Water Cycle Management Strategy, Design Flow
- Flood Impact Assessment Report, Rhelm
- Transport Management and Accessibility Plan, Jacobs
- Aboriginal and Non-Aboriginal Heritage Assessments, Extent Heritage
- Social Infrastructure and Open Space Needs Assessment, Urbis
- Infrastructure and Servicing Report, Infrastructure and Development Consulting
- Economic and Feasibility Study, Atlas Economics
- Land Capability and Contamination Report, Douglas Partners
- Bushfire Assessment, EcoLogical Australia
- Noise and Vibration Assessment, Aecom
- Air Quality and Odour Assessment, Todoroski Air Sciences.

A.1 Connecting with Country

Connection with Country has been a fundamental driver in developing the draft rezoning package. Consultation with traditional owners has identified that Orchard Hills is home to important places on Country.

Through consultation and cultural heritage investigations, we have identified the high points, ridgelines, waterways and creeks as important places for connecting with Country in Orchard Hills. Wianamatta–South Creek is a particularly important connection.

Consultation and engagement with traditional owners has confirmed that Orchard Hills has important landscape features that hold significant cultural value, including:

- Wianamatta–South Creek, Blaxland Creek and their unnamed tributaries and the associated riparian corridors.
- the ridgelines that predominantly run north–south and offer views across the landscape and to the Blue Mountains in the west, with a central high point that offers the opportunity to see across Country and connect with important cultural places.
- several areas of vegetation, including high value Cumberland Plain woodland, which is identified in the Cumberland Plain Conservation Plan, and other vegetation along the riparian corridors.

The Orchard Hills Precinct has the potential to provide meaningful connection to Country through the application of principles that seek to protect these features to future development.

Connecting with Country principles

- The draft rezoning package should consider opportunities to protect:
 - waterways and ridgelines, including a network of connected ridgetop open space
 - the central high point, including providing access to this area
 - view lines between key ridgelines and waterways, as well as key cultural places
 - connectivity of Cumberland Plain woodland areas and safe crossings for plants and animals
 - opportunities for space for cultural practice and education which is connected to Country.

The draft Stage 1 land Indicative Layout Plan responds to the Connecting with Country principles by; protecting culturally sensitive creeks and remnant bushland within riparian corridors and open space, creating a connected network of green spaces between areas of Cumberland Plain woodland to encourage connectivity and movement of animals, and providing public open spaces on ridgelines and high points to protect views across Country.

Future development in the precinct will continue to be guided and shaped by continued engagement and consultation with traditional owners and detailed Aboriginal cultural heritage investigations.

The Connecting with Country principles and features are illustrated in Figure A1.

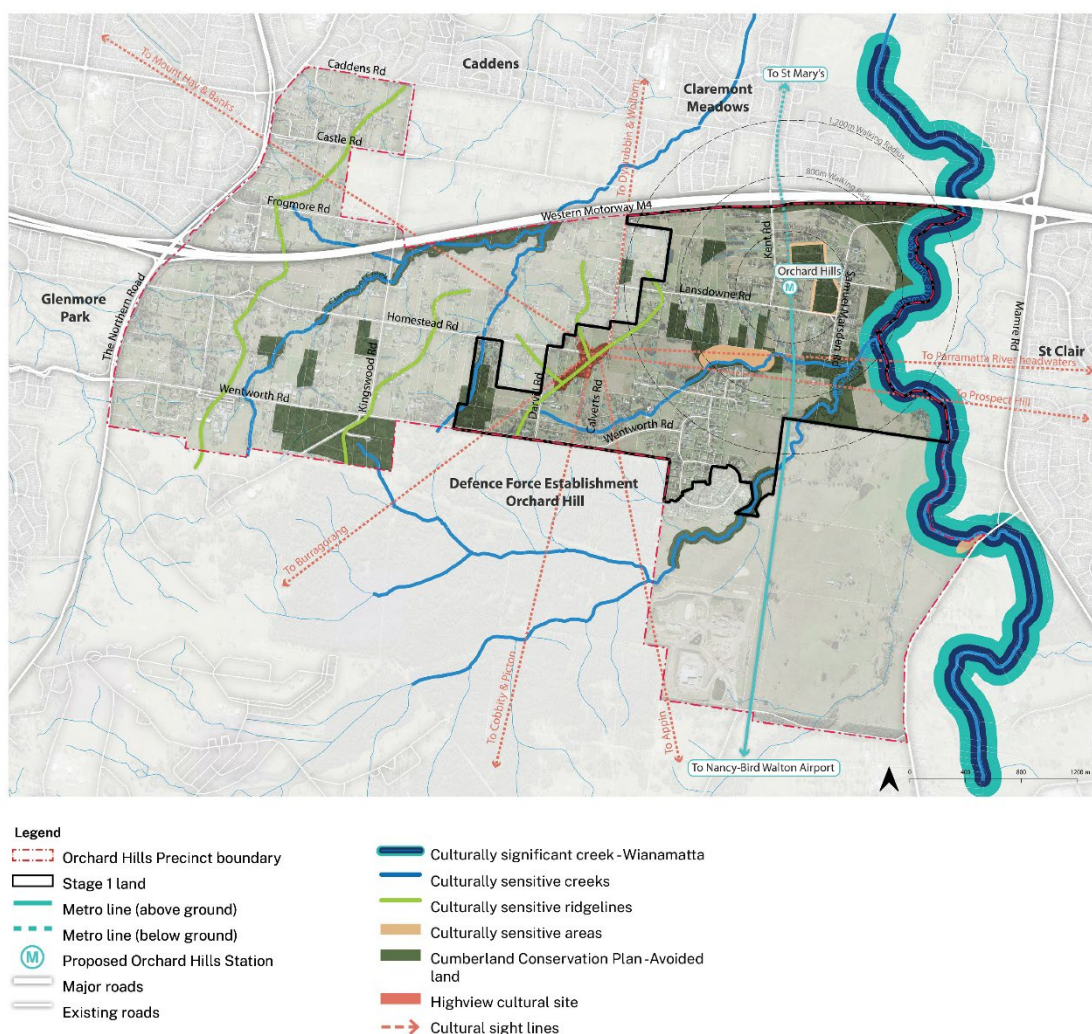


Figure A1. Connecting with Country map

A.2 Biodiversity and riparian corridors

A Biodiversity Conservation Assessment has been prepared by Biosis to inform the preparation of the draft rezoning package. The assessment identifies existing biodiversity values in the Orchard Hills Precinct including significant vegetation and areas of high ecological value and waterways to be considered as part of the planning for Orchard Hills.

Biodiversity

The Orchard Hills Precinct is in the Cumberland Plain, characterised by woodlands and open forests of Eucalypt species, with a grassy to shrubby understorey. The precinct has undergone extensive clearing and is now comprised of large rural and rural residential lots with remnant vegetation scattered throughout the precinct, predominately concentrated around waterways.

Riparian vegetation along Blaxland Creek and the unnamed tributary is well connected to the riparian vegetation extending along Wianamatta–South Creek, as well as the intact bushland around the Australian Defence Force site immediately south of the precinct. There is an opportunity to improve vegetation connectivity and tree canopy cover and greening across the precinct.

State and federal biodiversity legislation requires impacts to important biodiversity are avoided, minimised, and as an option of last resort, offset. There are several areas of remnant native vegetation and high value biodiversity throughout the precinct. This includes vegetation along 3 major waterways Wianamatta–South Creek, Claremont Creek and Blaxland Creek as well as several tributaries.

Database searches identified 36 threatened plant species and 67 threatened animal species recorded or predicted to be within 10 kilometres of the precinct. Vegetation mapping for the site, provided in the Cumberland Plain Conservation Plan, identifies four threatened ecological communities listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and five threatened communities listed under the NSW *Biodiversity Conservation Act 2016* (BC Act). Vegetation within the study area is considered to provide habitat for threatened microbats, Cumberland Plain Land Snail, Swift Parrot, Grey-Headed Flying Fox and large Forest Owls.

The open grassy areas of the precinct, adjoining Defence land are identified as being used by the eastern grey kangaroo. Longer-term studies may be needed to determine the population size and movement patterns of the species and inform mitigation measures.

Cumberland Plain Conservation Plan

The Cumberland Plain Conservation Plan is a strategic conservation plan for west and south-west Sydney. The plan unlocks delivery of large areas of urban growth and development while protecting regionally important habitat. The Cumberland Plain Conservation Plan obtained biodiversity certification under part 8 of the NSW *Biodiversity Conservation Act 2016* (the BC Act) in August 2022 and strategic assessment under Part 10 of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) in March 2024.

Within Orchard Hills, the Cumberland Plain Conservation Plan provides upfront environmental approvals for development on land that is identified in the State Environmental Planning Policy (Biodiversity and Conservation) 2021 as certified urban-capable and certified major transport corridor land, so long as the proposed development is consistent with the planning controls associated with the Cumberland Plain Conservation Plan. This strategic biodiversity approval will enable the proposed development outcome in the Stage 1 land to happen.

The preferred land-use zones under Penrith Local Environmental Plan 2010 for the avoided land will be C2 Environmental Conservation, or, if Penrith City Council identifies areas it wishes to include in its open space network, RE1 Public Recreation.

To minimise the impact of development on the area's biodiversity values, the draft Stage 1 Indicative Layout Plan:

- concentrates proposed urban development on certified urban capable land
- facilitates the desire to protect other existing vegetation within certified land to provide improved biodiversity, landscape, and tree canopy outcomes for the precinct
- aspires to retain existing vegetation on certified land through the location of proposed open space, protection of riparian corridors and the inclusion of supporting provisions in the draft development control plan amendments requiring a minimum of 40% tree canopy cover to be provided in the Stage 1 land
- proposes to retain vegetation in mapped avoided land, which will be excluded from the Stage 1 rezoning to allow more consultation and investigation to be done and to consider the most appropriate outcome for these areas.

It is anticipated that a separate planning proposal or similar will be progressed to rezone the areas of avoided land, (excluded from the Stage 1 rezoning) to C2 Environmental Conservation and RE1 Local Open Space at a later stage. Any rezoning will involve consultation with the NSW Department of Climate Change, Energy, Environment and Water, Penrith City Council and landowners as part of a separate process. The areas of avoided land excluded from the Stage 1 rezoning are to retain their existing land-use zoning (that is, primarily 'RU4 Primary Production Small Lots') under the Penrith Local Environmental Plan 2010.

A small area of Cumberland Plain Conservation Plan avoided land is proposed to be zoned SP2 Infrastructure to facilitate new council roads. The new roads are critical links and needed to facilitate development within the Stage 1 land. More detailed biodiversity assessment will be needed to consider the potential impacts at the detailed design stage, and it is recommended that this land is further considered in a future modification to the Cumberland Plain Conservation Plan avoided land.

Riparian corridors

Within the Stage 1 land there are two major waterways, Blaxland Creek and an unnamed waterway, which connects to Wianamatta-South Creek. There is potential for key fish habitat within these waterways.

The riparian corridors surrounding these waterways vary in condition, but within the Stage 1 land there are areas of Cumberland Plain Conservation Plan avoided land located within

riparian corridors which are to be protected. The draft Stage 1 land Indicative Layout Plan does not propose urban development on avoided land.

The draft Stage 1 land Indicative Layout Plan seeks to protect vegetated riparian corridors through inclusion within proposed open spaces (where the corridor forms part of the open space network) and locating open space and roads next to riparian corridors to minimise impacts of adjoining development. A detailed assessment of any potential development impacts will be done at the respective development application stages, with impacts to riparian zones managed under the *Water Management Act 2000* and guided by the *Guidelines for controlled activity on waterfront land – Riparian corridors*, which will apply to development in the Stage 1 land.

There are several areas where Strahler Order 1 streams, with catchments of less than 15 hectares, within areas proposed for residential development that could be decommissioned, and piped, as part of a future development. The draft Stage 1 land Indicative Layout Plan has incorporated these areas into the proposed urban development area. Proponents wishing to do this will have to address this as part of their respective development applications and seek the necessary approvals, under the *Water Management Act 2000*.

The Integrated Water Cycle Management Strategy prepared for the Stage 1 land also confirms that the stormwater quality targets for Wianamatta–South Creek can be achieved. The proposed stormwater strategy will ensure stormwater run-off will not significantly affect the flow regime or water quality of riparian areas. The proposed stormwater strategy includes the following mitigation measures, which ensure potential effects on riparian corridors are minimised:

- detention basins
- wetland bioretention systems to treat stormwater
- collection of run-off from impermeable surfaces, such as apartment roofs, into rainwater tanks
- prevention of encroachment of development onto Cumberland Plan avoided land, which will retain their natural streams and channels.

It is noted that most riparian corridors in the Stage 1 land will remain privately owned and managed. Riparian corridors that form part of the proposed open space network are proposed to be zoned RE1 Public Recreation and will ultimately be acquired by council.

A.3 Water Cycle Management

The Department has worked closely with Sydney Water and Penrith City Council (as the relevant Stormwater Authority) to identify options for integrated water cycle management, including stormwater management, infrastructure placement and ownership, and how the targets for the precinct can be achieved.

The Integrated Water Cycle Management Strategy, prepared by Design Flow, has been prepared to support the proposed rezoning and details how the stormwater targets for Wianamatta–South Creek will be achieved.

Development controls to implement the Integrated Water Cycle Management Strategy are also included in the draft development control plan amendments, being exhibited concurrently.

Orchard Hills Stormwater Strategy

Stormwater from the Stage 1 land flows into Wianamatta–South Creek, either directly or via existing waterways and proposed stormwater infrastructure in the Orchard Hills North area.

Given the cultural and environmental significance of Wianamatta–South Creek and to ensure the ongoing health of Wianamatta–South Creek and its tributaries, the NSW Government has established specific targets for water quality and flow volumes being directed to Wianamatta–South Creek. The targets are above the stormwater targets in the current Penrith Development Control Plan 2014 and are set out in the *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* (NSW Office of Environment and Heritage (OEH) and Environment Protection Authority (EPA), 2017).

More detailed information on the stormwater targets can be found in the Integrated Water Cycle Management Strategy.

Stormwater from most of the Stage 1 land flows easterly, directly into Wianamatta–South Creek. Smaller areas on the western and southern edges on Stage 1 flow into Wianamatta–South Creek via other waterways (Claremont Creek and Blaxland Creek). This is illustrated in Figure A2 below:

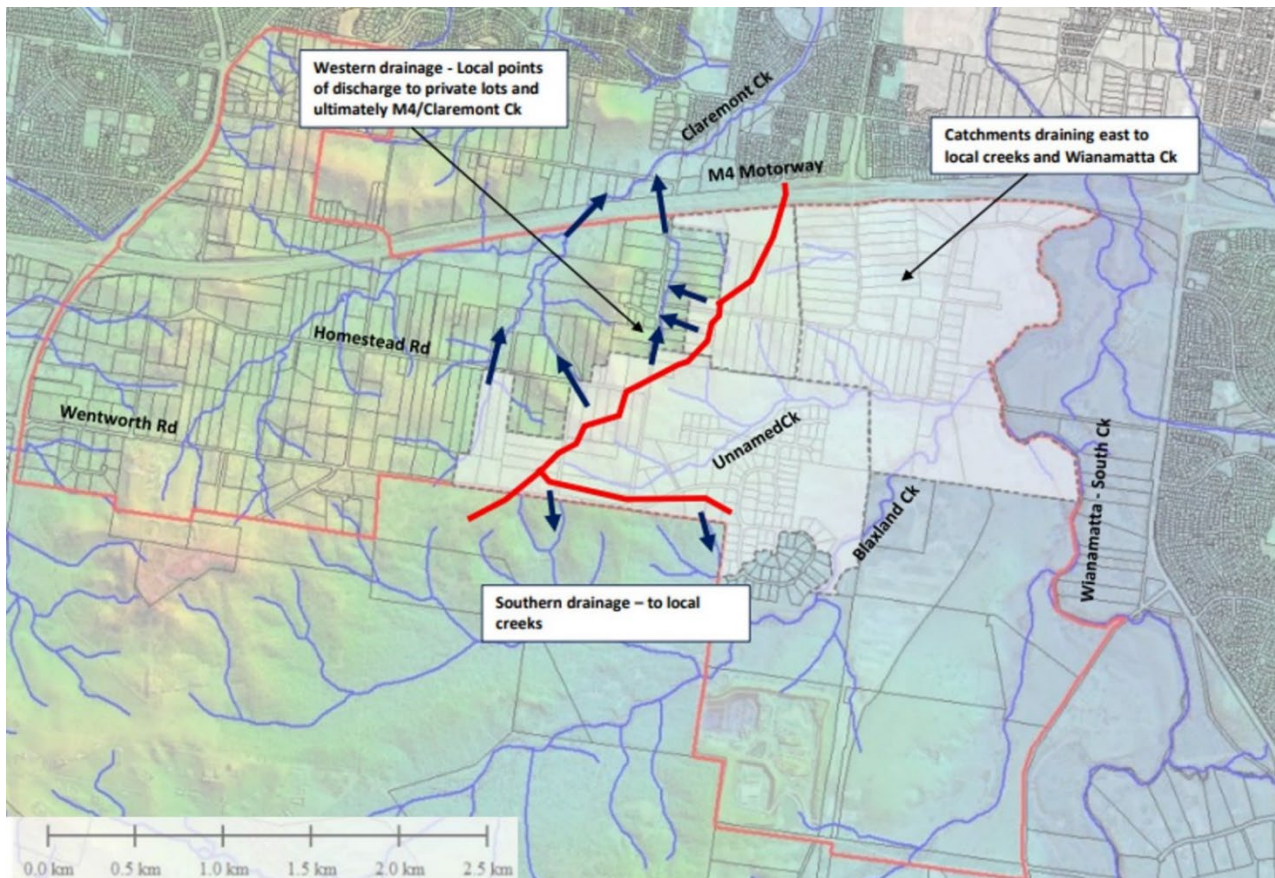


Figure A2. Stormwater drainage sub-catchments and points of discharge at the boundaries of the Stage 1 land

Stormwater detention

Two approaches are proposed for stormwater detention in the Stage 1 land:

- For direct flows to Wianamatta–South Creek – no detention is needed
- For areas flowing west and north (under the M4) and south (into the Defence Force Establishment Orchard Hills establishment) – the existing Penrith Development Control Plan 2014 detention requirements apply, which requires detention basins to be located above the existing 1% Annual Exceedance Probability (1 in 100 chance per year) flood level.

Regional-scale flood detention is not proposed for land that drains directly to Wianamatta–South Creek. This is because Rhelm’s flood impact assessment and associated modelling found it is not necessary. See section 4.4 for more discussion on flooding.

In the western and northern parts of the Stage 1 land detention basins will be needed to manage flows. A location for a large detention basin along the north-western boundary next to the Western Motorway is identified in the draft Stage 1 Indicative Layout Plan. Until this basin is constructed, developers will need to construct and maintain temporary basins, and connect to the larger basin when available. To avoid numerous small detention basins on the western

boundary of the Stage 1 land, temporary flood basins will be provided at points of discharge at the western boundary to manage localised flows and avoid impacts on neighbouring properties. Temporary basins will also need to meet the existing Penrith Development Control Plan 2014 stormwater requirements.

The stormwater strategy also ensures the development of the Stage 1 land maintains pre-development peak flows downstream of the site. The draft Development Control Plan amendments contain requirements to ensure that onsite management of stormwater does not result in increased flood impacts and/or impacts downstream of the site.

Stormwater quality and flows

The stormwater quality targets that apply in the Stage 1 land were established in the *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* (NSW OEH and EPA, 2017). Guidance for achieving these targets is outlined in the Technical Guidance for achieving Wianamatta–South Creek management targets, DPE 2022 (Technical Guidance document).

The Orchard Hills Stage 1 Integrated Water Cycle Management, Report for NSW Department of Planning, Housing and infrastructure (the Integrated Water Cycle Management Report) (Design Flow, 2024) proposes separate stormwater approaches for three sub-catchments within the Stage 1 land, with recommendations for stormwater detention, treatment and re-use. These approaches are all aimed at meeting the Wianamatta–South Creek stormwater targets.

Stormwater quality treatment is proposed to be provided in systems located within parks and riparian corridors above the 1% Annual Exceedance Probability, and in areas stormwater basins that are proposed to be rezoned to SP2 Infrastructure. Treatment systems will typically include a combined wetland and bioretention system.

The flow management targets for Wianamatta–South Creek aim to protect the significant cultural, social and environmental values of the creek by protecting it from the impacts of excessive drying, becoming too wet from excessive flow and from environmental impacts such as reduced water quality and stream bank erosion.

Future development will be needed to assess and manage a range of flow conditions and frequencies into Wianamatta–South Creek to achieve the flow targets. These targets have also been applied to other new development in this catchment, which includes part of the Western Sydney Aerotropolis and Mamre Road Precincts.

The Integrated Water Cycle Management Strategy demonstrates that the proposed stormwater scheme which is illustrated in Figure A3 can achieve the needed flow targets for

the Stage 1 land through the use of rainwater tanks, stormwater harvesting and the bioretention system.

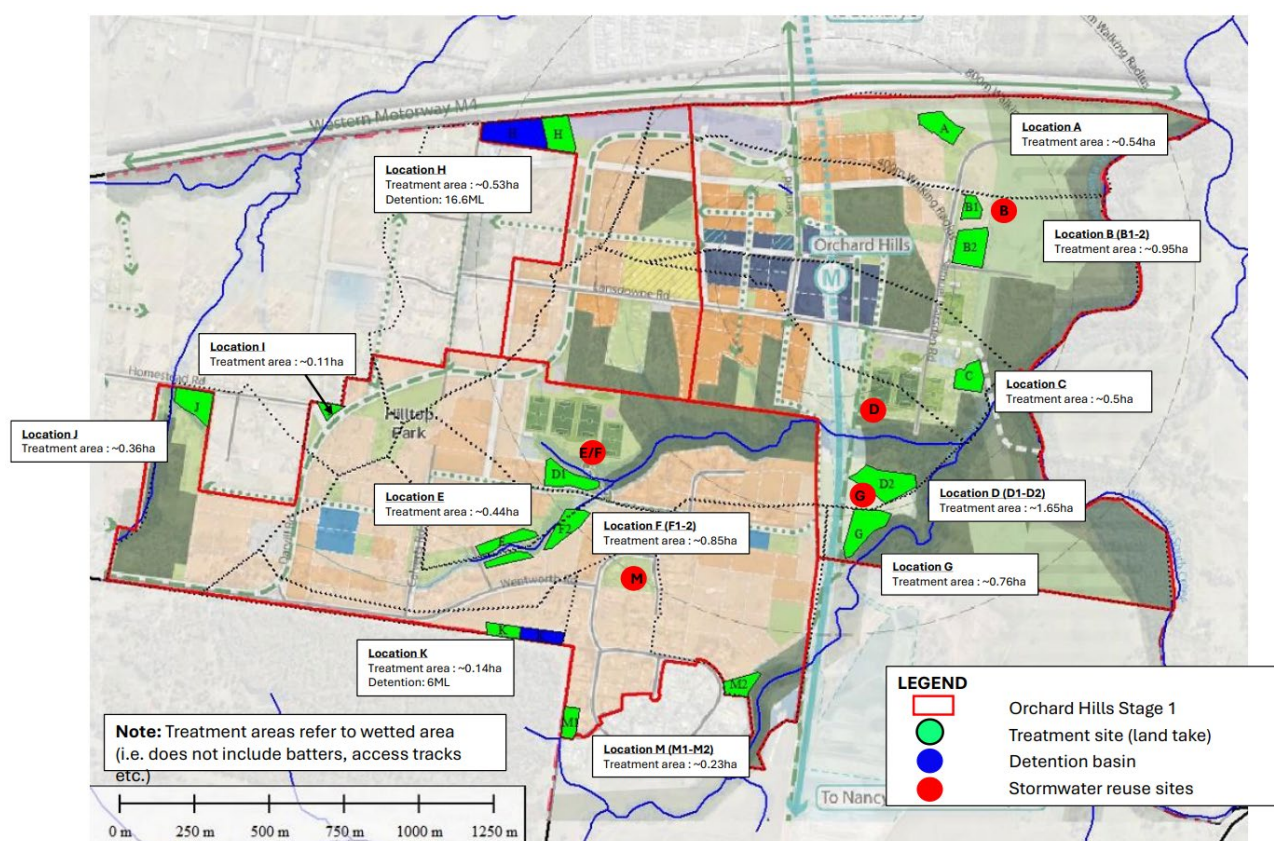


Figure A3. The proposed Orchard Hills stormwater scheme

Waterway and riparian corridor retention

Development controls associated with the retention of waterways are proposed to be guided by the Penrith Development Control Plan 2014 and *Controlled Activities – Guidelines for riparian corridors on waterfront land* (Department of Planning and Environment (DPE), 2022).

This involves managed use of existing riparian corridors to convey stormwater. Open channels are proposed for areas greater than 15 hectares that do not discharge into riparian corridors; an approach also applied within the Western Sydney Aerotropolis.

Coupled wetland and bioretention treatment systems can be located partially within riparian corridors. Where this happens, these systems are generally complimentary to the riparian areas as their design extends beyond the riparian corridor to ensure the vegetated footprint offsets the encroachment into the riparian corridor.

The Integrated Water Cycle Management Strategy recommends that first-order watercourses with a catchment area of less than 15 hectares are replaced with piped drainage or engineered overland flow (except in areas with Cumberland Plain Conservation Plan avoided land). These drainage lines will be designed to ensure sufficient sizing to convey flows in the 1% Annual

Exceedance Probability, plus climate change flood event and ensure flows in the probable maximum flood event will not result in any significant impacts. Site-specific consideration will also be needed, at the design stage, to ensure an appropriate transition from piped systems to any natural channels, including where streams run through Cumberland Plain Conservation Plan avoided land.

Stormwater re-use

Re-use of stormwater is proposed using rainwater tanks and a stormwater harvesting strategy. These measures will assist in reducing stormwater flows by retaining and re-using stormwater for non-potable uses such as irrigation and toilet flushing.

The proposed stormwater scheme assumes that 75% of houses and terraces adopt rainwater tank re-use systems, with all apartments, commercial and school buildings assumed to adopt rainwater tanks for re-use of stormwater. The stormwater harvesting schemes are proposed to supply irrigation for sports fields and selected park areas.

There is potential in the future for the Stage 1 land to have a recycled water connection. Including a development control plan provision that requires the upfront installation of onsite recycled water reticulation elements, to facilitate the connection to the broader recycled water network.

A.4 Flooding

A Flood Impact and Risk Assessment prepared by Rhelm details the existing flood risk and flood behaviour of the study area and outlines how post-development impacts and flood risk mitigation measures have been considered in the draft Stage 1 Indicative Layout Plan.

Existing flooding

A network of waterways traverses the precinct, the most significant being Wianamatta–South Creek (a tributary of Dyarubbin, the Hawkesbury–Nepean River system) along the eastern boundary of the precinct. Blaxland Creek is also significant waterway which traverses the south-eastern portion of the Stage 1 land. Blaxland Creek, along with several minor watercourses in the precinct, flows into Wianamatta–South Creek.

The precinct is affected by both mainstream flooding (that is, flooding from open channels and creeks) and overland flow (that is, flooding following heavy rainfall along topographical depressions or from surcharging stormwater drainage systems).

Risk-based flood management

The 2022 NSW Flood Inquiry identified the Hawkesbury–Nepean as a high-risk catchment. Consistent with the findings of the NSW Flood Inquiry, the Department has applied a risk-based approach to the land-use planning and flood risk management within Orchard Hills. Accordingly, the full range of flood events and the potential effects of climate change have been considered for the precinct in determining the flood planning level and flood planning area for the precinct.

For the Stage 1 land the flood planning level is the 1% Annual Exceedance Probability (1 in 100 chance per year) flood level plus an added allowance for climate change, and the standard 500 mm freeboard. This does not mean all development below the flood planning level is prohibited. Limited types of development are possible below the flood planning level, subject to compliance with flood related development controls.

The flood planning area (shown indicatively in Figure A4 below) is defined by the 1% Annual Exceedance Probability (1 in 100 chance per year) flood level plus an added allowance for climate change, and the standard 500 mm freeboard. In some cases, the flood planning area has been clipped so it does not exceed the mapped probable maximum flood level.

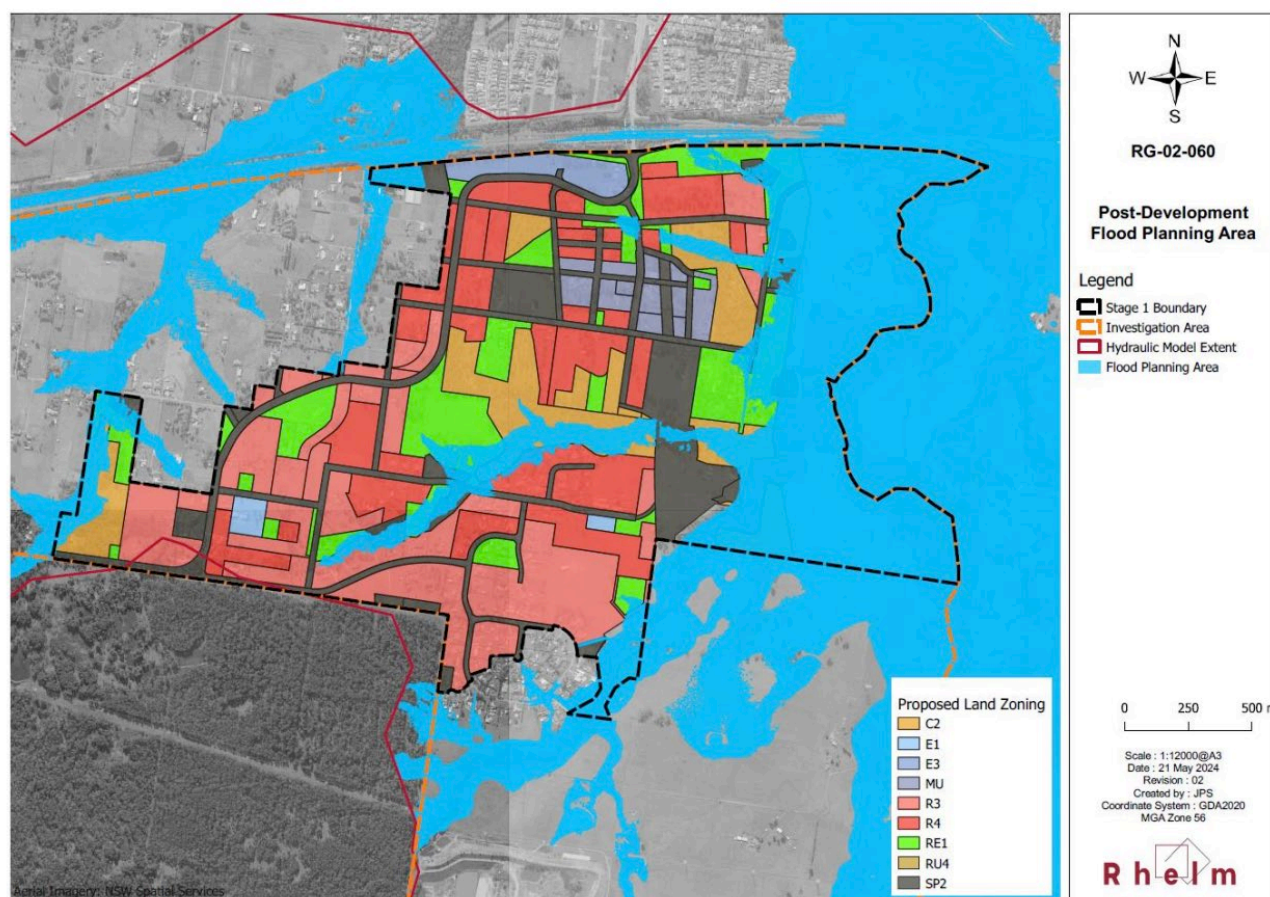


Figure A4. The post-development flood planning area

The modelled post-development Stage 1 rezoning flood planning area is shown in Figure A4.

Most residential areas are to be located outside of the probable maximum flood. There are minor areas where the probable maximum flood encroaches within land proposed to be rezoned R3 Medium-Density Residential and R4 High-Density Residential, however, these areas are low hazard, and the encroachment is typically limited to the interface with riparian corridors where roadways are proposed in the draft Stage 1 land Indicative Layout Plan and could be managed through regrading and/or increases in potential conveyance in adjacent road reserves.

The following mitigation measures are proposed to manage this minimal risk:

- raising key internal roads (that is, those that are potentially affected by flash flooding) and also upgrading cross drainage culverts to provide a 1% Annual Exceedance Probability plus an allowance for climate change, level of flood immunity
- minor filling of selected residential areas to reduce probable maximum flood hazard to a level that would not pose a significant risk to life of future residents and visitors
- sensitive land uses, such as early education and care facilities, educational establishments and seniors housing are to be located outside of the probable maximum flood.

Post-development flood risk

Flood modelling done by Rhelm for the post-development scenario demonstrates that the draft Stage 1 Indicative Layout Plan causes insignificant adverse flooding impacts along Wianamatta–South Creek for the full range of flood events up to the probable maximum flood.

The draft Stage 1 Indicative Layout Plan will not result in any significant adverse off site flooding impacts. It is noted that during the 20% Annual Exceedance Probability and probable maximum flood events there would be minor impacts along the M4 Motorway, however this is minor being less than 0.08 m in the 1% Annual Exceedance Probability and remains a low flood hazard (H1) which is safe for vehicles and people.

The flood modelling done by Rhelm demonstrates that development in the draft Stage 1 land Indicative Layout Plan area will not cause flood level or velocity impacts in a range of flood events offsite or within Wianamatta – South Creek. The proposed stormwater management scheme prepared by Design Flow includes wetlands and bioretention basins and is appropriate for managing stormwater run-off volume and achieving water quality treatment targets and effectively manages frequent flows.

Onsite detention measures have also been proposed for catchments draining north to Claremont Creek and south to Blaxland Creek to mitigate downstream impacts associated with increased flows from the developed catchment.

The following recommendations by Rhelm will also be applied to the Stage 1 land:

- There are several creek crossings that should be designed to the 1% Annual Exceedance Probability level, with an allowance for climate change, to ensure sufficient sizing to convey flows in the design flood event and ensure flows in a probable maximum flood event will not result in any significant impacts. These are identified in the Rhelm report and have been addressed in the draft development control plan amendments.
- Essential services such as electricity, water, sewerage and communications should, if located in flood prone areas, be flood proofed.

The current flood modelling assumed the replacement of all first-order watercourses with a catchment of less than 15 hectares, with piped drainage and that this will not happen for sections of streams that run through avoided land under the Cumberland Plain Conservation Plan.

Evacuation

Flood evacuation can be appropriately managed in the Stage 1 land by providing rising road evacuation routes for long duration flood events and ensuring occupants can safely shelter in-place during flash flooding events.

To minimise the potential for future residential areas to be impacted by long duration flooding residential areas in the draft Stage 1 land Indicative Layout Plan have generally been located outside of the probable maximum flood extent. Sensitive uses, such as childcare, educational facilities and seniors housing will also be located outside the probable maximum flood.

Ensuring residential apartments with basements have the basement entry set above the local overland flow probable maximum flood and floor levels at or above the probable maximum flood level, will also avoid the need for formal emergency response measures.

Flash flooding from Blaxland Creek, Claremont Creek and smaller unnamed watercourses is associated with local rainfall that is usually very intense but short lived and is likely to rise and fall over a period of minutes to a few hours. In these circumstances, sheltering in place is the safest option as the risk to life is primarily posed by flooding of roads.

Clause 5.21 Flood Planning within the Penrith Local Environmental Plan 2010 will continue to apply to development within the Stage 1 land to ensure that flood risk and mitigation measures are considered as part of future development.

A.5 Transport

A transport management and accessibility plan prepared by Jacobs provides an assessment of the transport network and outlines the proposed transport improvements to support future development in the Stage 1 land.

Public transport

Orchard Hills Station will transform public transport accessibility for the precinct and surrounding areas and will act as a catalyst for new homes and jobs within the Stage 1 land.

Orchard Hills Station will form the primary public transport node and connection from the precinct to St Marys and T1 rail line to the north, and to the Western Sydney Aerotropolis and airport to the south.

Several transport initiatives will be delivered as part of Orchard Hills Station, including upgrades to Kent Road and Lansdowne Road and construction of new intersections and roads to provide access to Orchard Hills Station. Orchard Hills Station will also provide a transport interchange with bus, taxi, cycle and kiss-and-ride facilities and a 500-space commuter car park.

A proposed Bus Capable Network will also connect the precinct to all major external routes and pass through major neighbourhood-scale centres providing a bus stop within 400 metres of 90% of homes. A central bus interchange on Kent Road will provide for convenient transfer between the Metro and the bus network.

The proposed public transport network is shown in Figure A5 (below).

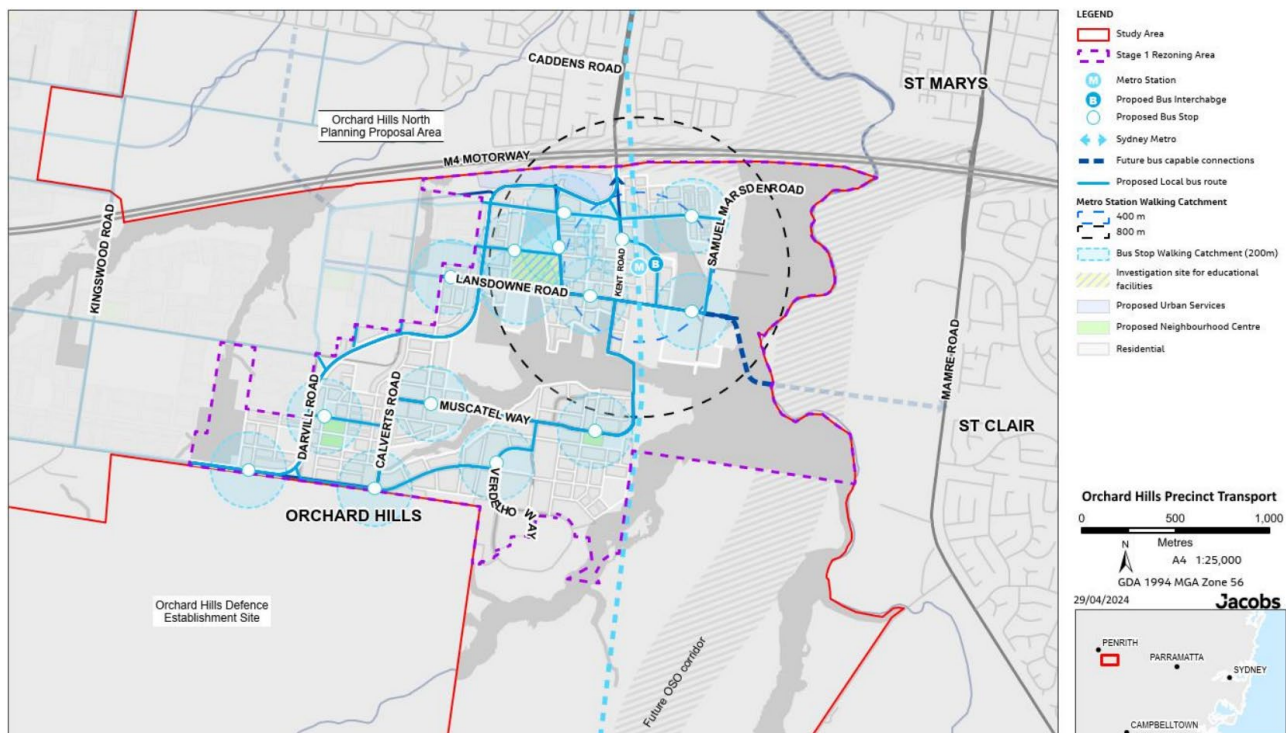


Figure A5. The proposed Stage 1 land public transport network

Proposed road network

Building on the existing road layout, the proposed road network aims to create a connected, accessible, and efficient network for all users.

The internal road network classifies routes as:

- distributor
- collector
- local primary
- green streets
- place streets.

There are no sub-arterial or arterial routes in the precinct, as the M4 and The Northern Road provide these functions.

The proposed road network includes:

- a new distributor road to connect Kent Road (at the M4 off ramps) to The Northern Road via Wentworth Road. The new distributor road is planned as the principal movement corridor through the precinct and will replace Kent Road as the main entry into the precinct. This route is intended to provide efficient movement of traffic through the precinct, removing traffic from local roads and accommodating most of the vehicle movements and district level public transport connections within the precinct.

- a series of collector and local primary roads throughout the precinct to provide a permeable and legible movement hierarchy. A number of these streets will be bus capable, ensuring provision for future bus services throughout the precinct.
- the upgrade of part of Kent Road to a Place Street with limited through traffic to support activity and connectivity in the local centre.
- provision of green streets throughout the precinct to prioritise green infrastructure and to connect to key destinations such as the local centre and open space along green corridors.

Indicative local access streets are shown on the draft Stage 1 Indicative Layout Plan; however, more investigation and detailed planning will be needed at the subdivision stage to determine the final location and geometry of local access streets for new residential areas.

Regional freight movements will be discouraged from travelling through the precinct and encouraged to use the existing freight network for all regional travel. Local deliveries to the precinct will travel mainly via the new Wentworth Road-Kent Road distributor road.

The proposed road network is shown at Figure A6 (below).

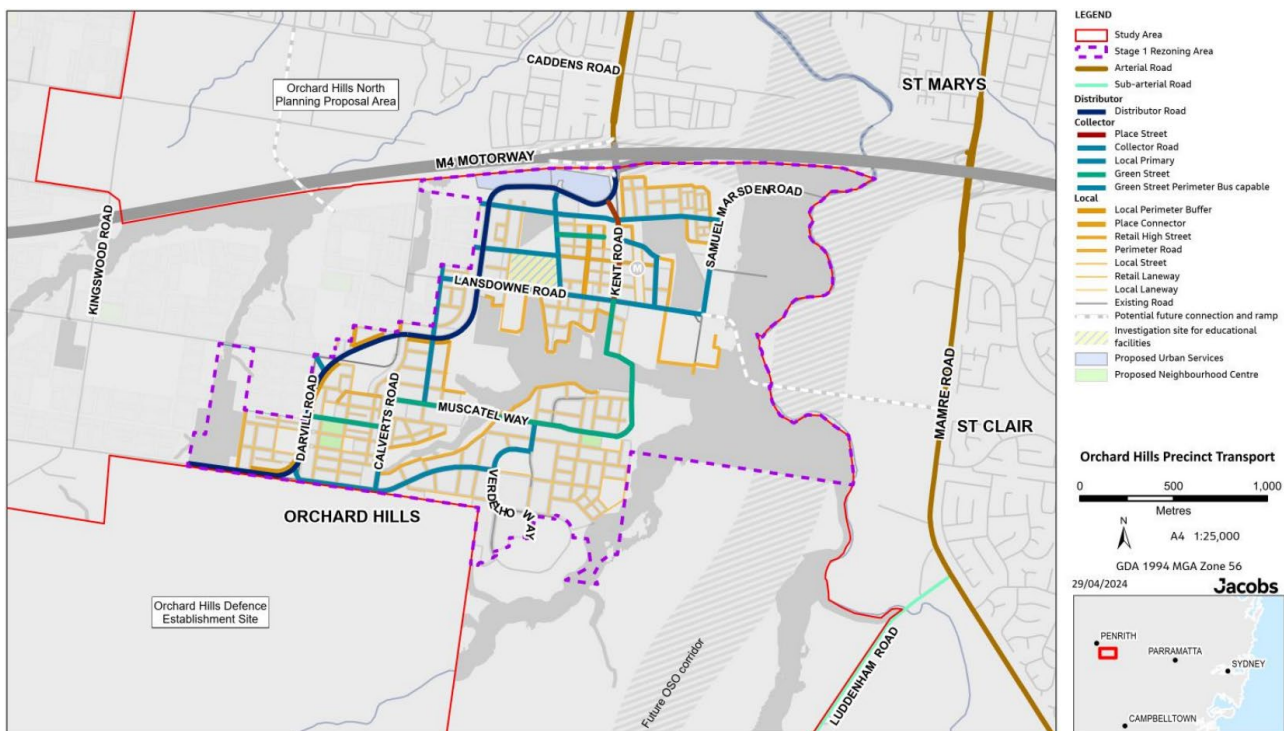


Figure A6. The proposed road network in the Stage 1 land

There are several potential longer-term connections that have been identified in the draft Stage 1 land Indicative Layout Plan to provide improved access to areas outside of the precinct and to support increased traffic and movement volumes as the precinct develops over time.

This includes a potential connection between Orchard Hills and Mamre Road crossing over Wianamatta–South Creek, a potential future bridge across the M4 Motorway, and west facing ramps at the M4/Kent Road interchange. These connections will be subject to more investigation and planning as the precinct develops, with the timing and funding options for their delivery to be confirmed.

Outer Sydney Orbital Stage 1

The Outer Sydney Orbital Stage 1 corridor will provide for a future motorway and freight rail connection between Richmond Road in the north and the Hume Motorway near Menangle in the south. Planning for the long-term delivery of the Outer Sydney Orbital is being led by Transport for NSW.

A portion of the Outer Sydney Orbital Stage 1 corridor runs along part of the Stage 1 land's eastern boundary with Wianamatta -South Creek. This section of the Outer Sydney Orbital Stage 1 is protected and is not proposed to be rezoned for urban purposes. The proposed east-west connection to Mamre Road will need to be designed to account for the potential future design of the Outer Sydney Orbital.

Active transport network

The proposed walking and cycling network within the Stage 1 land will provide a high level of permeability for pedestrians and cyclists with direct routes between key points of interests such as to Orchard Hills Station, open spaces, shops, community facilities and neighbourhood-scale centres. The draft Stage 1 Indicative Layout Plan proposes a walking and cycling network that seeks to encourage and prioritise walking and cycling for local trips.

Footpaths will be provided on all streets with crossing points at intersections and mid-block points as appropriate to provide a safe and accessible pedestrian network.

The cycle network includes priority cycling routes that will provide direct connections between key places such as neighbourhood-scale centres, Orchard Hills Station, the regional cycling network, and recreational routes that are away from high movement corridors and follow natural features such as riparian corridors and green streets.

Local cycle routes are also proposed on local roads and through open spaces and are to be integrated with the natural landscape following ridgelines, creeks and parkland. The majority of homes are planned within 400 metres of a cycle route. Road networks will incorporate active travel infrastructure consistent with the Transport for NSW Cycleway Design Toolbox.

Sydney Metro will also provide a shared path along Kent Road to connect the existing north-south link across the M4 and will construct an active transport corridor that connects Orchard

Hills Station to the Warragamba Pipeline therefore providing continuous cycle facilities through the Stage 1 land.

A.6 Aboriginal heritage

An Aboriginal Archaeological Assessment prepared by Extent Heritage has found the Stage 1 land contains 4 Aboriginal Heritage Information Management Systems registered sites and identified several areas of high archaeological sensitivity across the investigation area, especially in relation to waterways.

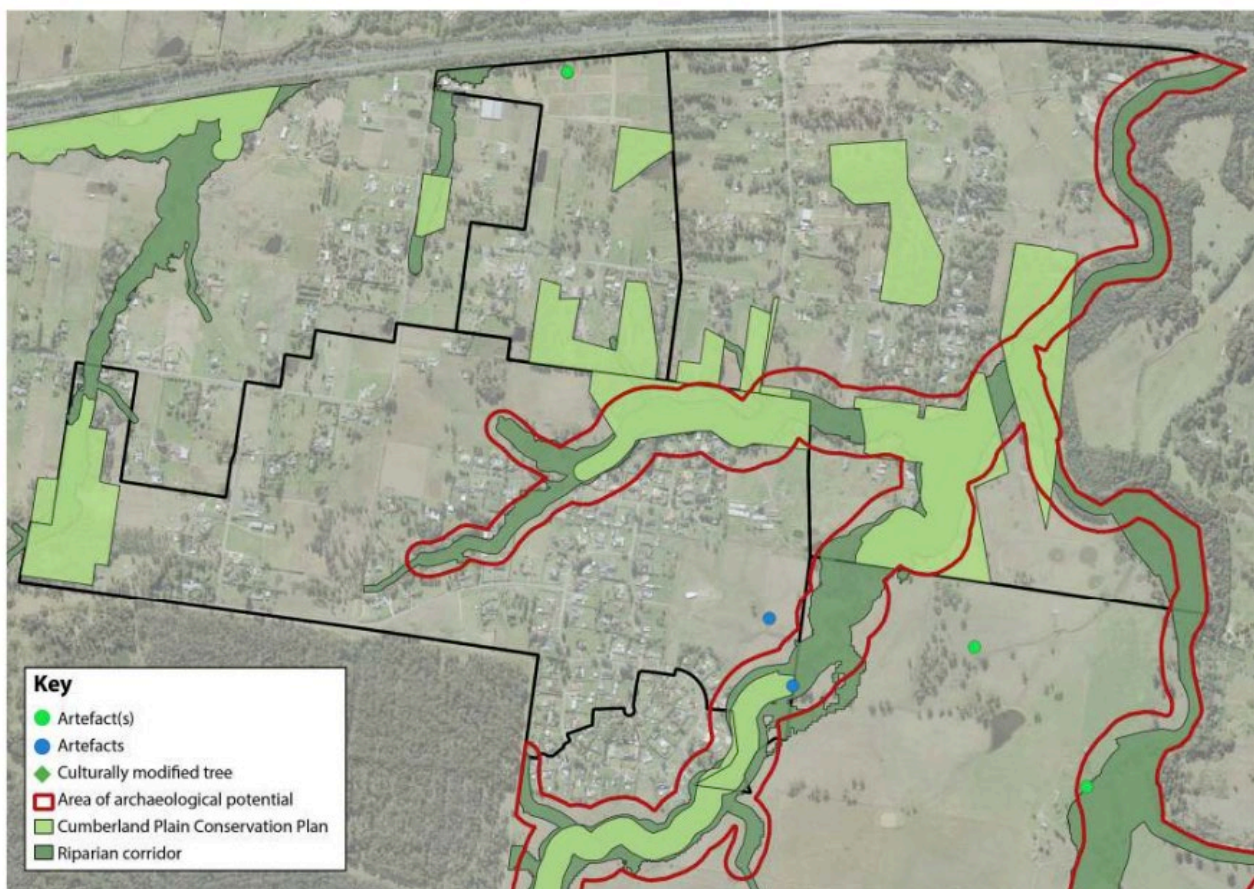


Figure A7. Identified and potential Aboriginal heritage values within the Stage 1 land

The assessment also noted the important cultural heritage values associated with the waterways, ridgelines and Cumberland Plain woodland within the precinct.

The draft Stage 1 Indicative Layout Plan seeks to minimise impacts to areas of known and potential Aboriginal cultural heritage by:

- integration of identified Aboriginal items and areas of potential archaeological significance into local and district parks, wherever possible
- minimising the extent of urban development within areas of archaeological sensitivity

- retention of vegetated riparian corridors and open space along waterways to minimise development in areas of archaeological sensitivity
- protecting and retaining areas of Cumberland Plain woodland
- retention of key east-west and north-south views from culturally significant ridgelines and viewpoints.

The draft development control plan amendments include provisions relating to Aboriginal cultural heritage and a requirement for an Aboriginal Cultural Heritage Assessment to be done for future development applications to ensure potential impacts to Aboriginal heritage are considered and appropriately mitigated at the detailed development stage. All future development will also need to be done in accordance with the requirements of the *National Parks and Wildlife Act 1974* which provides specific protection for Aboriginal objects and places.

A.7 Built heritage

Extent Heritage prepared a statement of heritage impact to support the proposed rezoning.

Within the precinct there is only one known local heritage item, a water reservoir in Castle Road, Orchard Hills, outside of the Stage 1 land. There are no listed heritage items located within the Stage 1 land. Within the vicinity of the precinct there are nine known heritage items, including Mamre homestead.

The impact statement determined that the draft Stage 1 land Indicative Layout Plan will have a low level of heritage impact on known built and landscape heritage items within and in the vicinity of Orchard Hills.

The impact statement identified areas of moderate historical archaeological potential in the Stage 1 land associated with several homesteads along Wianamatta-South Creek. To minimise potential impacts the draft Stage 1 Indicative Layout Plan includes areas identified as having moderate archaeological potential within riparian corridors and open space areas. Any potential impacts will be minimised through more assessment in later stages of the development of the precinct.

A.8 Social infrastructure and open space

A Social Infrastructure and Open Space Needs Assessment has been prepared by Urbis to support the proposed rezoning of the precinct.

The assessment:

- builds on the feedback received on the discussion paper and the broader needs assessment done by Urbis for the Greater Penrith to Eastern Creek Investigation Area
- provides detailed recommendations as to the social infrastructure and open space requirements to support the future population of the Stage 1 land
- provides a high-level assessment of the potential needs of the remainder of the precinct to support future planning for these areas.

The assessment identifies that the Stage 1 population will generate the need for a range of new social infrastructure and open space. An overview of the social infrastructure and open space requirements for the Stage 1 land is provided in the following sections.

Social infrastructure

Based on the benchmarking analysis done by Urbis, the following facilities will be needed to meet the needs of the future Stage 1 population:

- a multipurpose community hub of at least 2,400sqm including a multipurpose community centre, creative spaces, and library
- a branch library of at least 1,800sqm (co-located with the multipurpose community hub)
- a new community health centre
- a new school/s
- early education facilities and out of school hours care
- one to two multipurpose indoor courts.

The draft Stage 1 land Indicative Layout Plan identifies indicative locations for future community facilities, including the potential for a multipurpose community hub, library, and community health centre within the mixed-use town centre. Discussions are ongoing with Penrith City Council about how community facilities will be delivered in the mixed-use local centre. Depending on Council's preferred method of delivery, additional land may need to be identified in the Land Reservation Acquisition map for the purposes of Community Facilities in the locations identified in the ILP.

The draft Stage 1 Indicative Layout Plan also identifies a 4.4ha investigation site for future educational facilities, that could accommodate a new K-12 school, next to the town centre. The identified community facilities sites in the draft Stage 1 land Indicative Layout Plan are all within 400 m of Orchard Hills Station. This is consistent with the locational principles in the Social Infrastructure and Open Space Assessment which recommends locating future community facilities near public transport and centres to ensure a high level of accessibility.

The Social Infrastructure and Open Space Assessment identified a range of other services such as medical centres, places of public worship and childcare facilities will also be needed as the new community grows. Childcare centres, places of public worship and medical centres are permitted within the proposed mixed-use zone, local centre zone and most residential zones and will be provided for as the precinct develops and market demand supports the need for such services.

Open space

Based on the benchmarking analysis and open space needs assessment done by Urbis, a minimum of 15% of the net developable area of the precinct is recommended to be provided as public open space.

The draft Stage 1 Indicative Layout Plan proposes almost 50 hectares of public open space which is about 19% of the net developable area.

The benchmarking analysis is based on a proportion-based approach to open space provision, rather than a population-based approach to open space provision. The proportion-based approach is based on a proportion of land area being set aside for open space and is considered a more suitable approach for medium and high-density residential and mixed-use areas. This approach also aligns with the approach recommended in the Greater Penrith to Eastern Creek Strategic Framework, and the NSW Government Architect's Office draft Greener Places Design Guide.

A hierarchy of active and passive open space has been accommodated in the draft Stage 1 Indicative Layout Plan to meet the needs of the future population. The proposed open space network includes over 48 ha of district and local open space, comprising:

- eight playing fields (or two to three multipurpose sports fields)
- up to 12 outdoor sports courts
- a network of local parks distributed throughout the Stage 1 land, including provision for 15 to 30 playgrounds and play spaces
- several riparian open spaces with a minimum width of 15 m providing opportunities for passive recreation, such as walking and cycling, and through-site connections to link residential areas to active open space.

The draft Stage 1 Indicative Layout Plan proposes a network of local open space distributed throughout the proposed residential and mixed-use areas to ensure that future medium and high-density homes are located within 200 m to 400 m of local open space. Local open space is generally also co-located with local centres to ensure a high level of amenity and accessibility for future residents.

The draft Stage 1 Indicative Layout Plan ensures playing fields and outdoor courts are in areas that meet Penrith City Council's requirements, including being primarily located outside of 1% Annual Exceedance Probability flood-affected areas, being relatively flat and capable of accommodating fields and courts with a north-south orientation.

The potential open space identified within the Stage 1 land is shown in Figure A8.

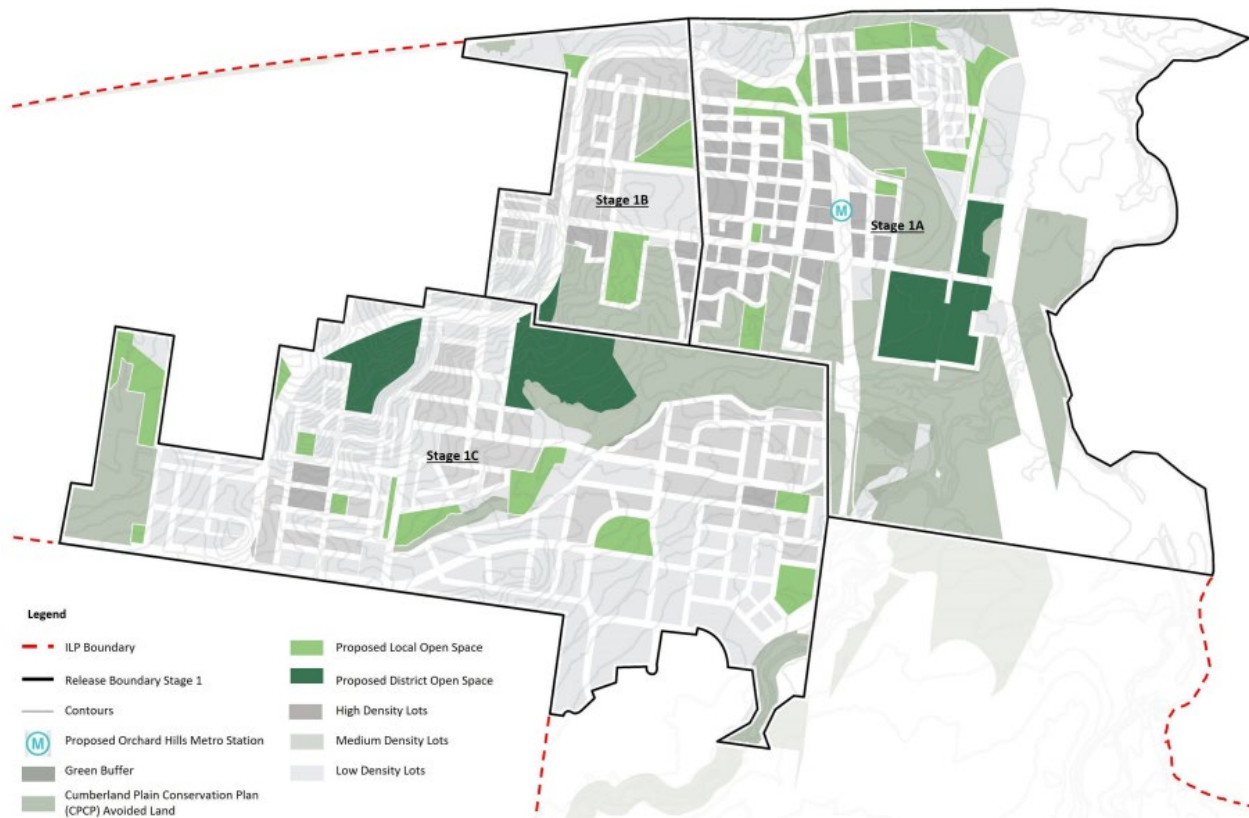


Figure A8. Proposed open space within the Stage 1 land

A.9 Affordable housing

Housing affordability remains a critical issue across Australia with all levels of government committed to exploring avenues to increase supply and delivery.

Penrith City Council's Local Housing Strategy identifies the unmet demand for social and affordable housing within the Penrith local government area is expected to rise to 11,340 homes by 2036.

Under the National Housing Accord, NSW agencies are collaborating to identify pathways to rapidly increase social and affordable housing delivery. The precinct provides a unique opportunity to deliver social and affordable housing.

An affordable housing contribution scheme provides the opportunity to mandate a proportion of the added residential floor space resulting from a rezoning to be delivered as affordable

housing or an equivalent monetary contribution. The Greater Sydney Region Plan and Western City District Plan recommend a rate of 5 to 10%, subject to viability testing.

It is proposed to apply an Affordable Rental Housing Contributions Scheme to non-government-owned land in Stage 1 land, consistent with rates in Orchard Hills North. This would be a staged approach, with a 1% (of Gross Realisable Value) rate applied when the Stage 1 area is rezoned, and a 2% rate 3 years later.

Additional affordable housing requirements in line with government policy will be implemented for the land owned by Sydney Metro (and any other government agency), that is surplus to its operational requirements.

A.10 Utility servicing infrastructure

A Utilities and Servicing Strategy prepared by Infrastructure and Development Consulting outlines the enabling infrastructure (sewer, water, electricity) needed to support future development within the Stage 1 land.

Future development applications will need to demonstrate that proposed development can be serviced, or that suitable arrangements are in place to ensure development can be serviced.

The Department will continue to work with utility providers to ensure that development in Stage 1 can be fully serviced in a timely and efficient manner.

Electricity

The electricity network will require upgrades to support future development in the Stage 1 land.

The electricity network has recently been upgraded to support construction of Orchard Hills Station. Following completion of construction of Orchard Hills Station, network capacity will be available to service about 2,500 homes in the initial stages of development around the station.

To service the later stages of development in the Stage 1 land (and the remainder of the precinct) a new zone substation will be needed, as well as 11kV feeders. The Stage 1 land Indicative Layout Plan identifies a 1.3 ha site as the preferred location for the future electrical zone substation (within Sub-stage 1C).

The delivery of the substation will be subject to more consultation with Endeavour Energy as the precinct develops to ensure that later stages of development can be serviced. Endeavour Energy will consult with landowners regarding the acquisition of the proposed substation site and prepare plans for the substation to be constructed, once it is needed.

Water and wastewater

Sydney Water is responding to the growth planned under the Greater Penrith to Eastern Creek Strategic Framework and has accelerated delivery of proposed services within the precinct, Glenmore Park Stage 3 and Orchard Hills North developments. Service provision within the Stage 1 land will initially focus on areas around Orchard Hills Station.

Sydney Water has confirmed there is planned and committed capacity to support about 3,750 homes within the initial Sub-stage 1A within the Stage 1 land, which includes:

- capacity for about 1,800 new homes on the Metro land holdings, and the Metro stabling yard development
- the remaining areas around Orchard Hills Station, within Sub-stage 1A.

Sydney Water has also advised that it could potentially service the proposed school site, which is currently within Sub-stage 1B, if needed. A decision on whether the potential school site will be added to Sub-stage 1A will be made based on more consultation with the affected landowners, as part of the public exhibition.

Beyond the planned capacity in Stage 1A, close coordination with Sydney Water will be needed to ensure the alignment of servicing with development in the Stage 1 land. Where development can be serviced but services have not yet been provided by Sydney Water, developers may need to forward fund the delivery of the needed water and wastewater infrastructure, subject to a commercial agreement with Sydney Water.

Upgraded water and wastewater infrastructure to service the remainder of the precinct is expected to be operational by at least 2031-2032 and before the planned water and wastewater capacity in the Stage 1 land is reached.

Drinking water

The primary drinking water infrastructure needed to service the initial development in the Stage 1 land includes:

- staged upgrades to the Orchard Hills Water Filtration Plan which adjoins the south-western corner of the precinct
- new trunk mains, amplifications
- a new reservoir could be necessary, the need for which will be monitored by Sydney Water. Once developed, the reservoir would also service most of the wider precinct.

Wastewater

Sydney Water has advised that Stage 1A in the Stage 1 land is proposed be serviced from the St Marys Water Resource Recovery Facility. The following will also be needed:

- upgrades to the gravity main in Samuel Marsden Road
- consideration of operational requirements to maintain odour and process controls until the area is fully developed.

Recycled water

While a recycled water strategy has not yet been confirmed, more consultation between Penrith City Council, Sydney Water and Water NSW will be done to explore potential measures to ‘future-proof’ the precinct, such as implementation of a reticulated recycled water system. One such measure is to propose a requirement that development include the necessary ‘purple pipe’ infrastructure that would form the foundation for a reticulated water recycling system. The draft development control plan includes a development control that would require this.

A.11 Economic report

An Economic and Feasibility Study was prepared by Atlas Economics to understand the existing and future demand for housing and employment uses and the potential take-up of these uses in the precinct.

Office and retail uses

Since the COVID-19 pandemic, demand for office and retail space has declined in major centres throughout Sydney, as changing consumer preferences have increased the use of online shopping.

The rise in hybrid working has re-ignited the value of localised shopping facilities and local stores, with the scale and type of retail land uses intrinsically linked to the size and characteristics of the surrounding resident, worker and visitor population.

Given its proximity to Penrith CBD, Bradfield City Centre, St Marys Strategic Centre and the Aerotropolis, the precinct is unlikely to have strong demand for stand-alone commercial office development, however there is potential demand for commercial services space such as bank branches, medical centres, accountants etc to support retail uses.

Industrial land and development

In the past 3-5 years there has been a significant increase in demand for industrial land in western Sydney. This is largely due to a shortage of undeveloped and serviced industrial land and the impending completion of the Western Sydney International Airport and the Sydney Metro – Western Sydney Airport Line. In addition, there is an increase in freight and logistics, food and grocery warehousing and e-commerce operators seeking large serviced industrial

blocks in proximity to the Aerotropolis. Industrial land is currently being developed to the south of the precinct in the Mamre Road Precinct and the Aerotropolis. Much of this land is expected to be taken up by large format industrial, and it is expected there will be a market for the urban support land from Day 1.

To complement these nearby industrial areas, the draft Stage 1 Indicative Layout Plan allows for smaller scale 'urban services' industrial land around Orchard Hills Station with good access to major roads. This urban services land is expected to support a broad range of uses that will provide employment and services for future residents within Orchard Hills such as smaller warehouses, showrooms, mechanics and private recreational uses.

Housing

There has been strong population growth in western Sydney with the area growing by about 200,000 residents in the decade to 2021. This growth is expected to continue with western Sydney expected to grow by another 364,000 people by 2041.

Driven by housing affordability, there is a preference for maintenance-friendly housing with an increase in smaller lot detached housing and medium-density typologies. These housing types are appropriate in areas where there has been significant public investment in improving accessibility to employment opportunities, including areas such as Orchard Hills, Bradfield and St Marys.

Atlas recommended that the housing across the broader precinct consist of a mix of 50% lower and medium-density housing and 50% higher-density (apartment) housing. Within the Stage 1 land, which focuses on medium and high-density, it is anticipated that the initial take-up of housing will be from medium-density housing typologies, which will in turn encourage demand for higher-density developments closer to Orchard Hills Station. Once the critical mass of residents, workers and supporting retail services are realised, higher-density apartment and mixed-use developments are expected to be more feasible.

The economic study recommends the staging of development be carefully considered to ensure steady take-up of residential development, and the efficient rollout of infrastructure. It also recommended that large landowners be encouraged to develop close to the station to use infrastructure capacity and to encourage development elsewhere, and that lot amalgamation could be incentivised to aid with landowner expectations and reduce isolation of individual lots.

The economic study also acknowledged that there should be certainty regarding infrastructure contributions which will apply in the precinct and recommended that a contributions plan be prepared to support the rezoning.

A.12 Land capability and contamination

Douglas Partners did a preliminary contamination and geotechnical assessment to determine potential contamination and geotechnical risks associated with developing the precinct.

The assessment identified two main sources of potential contamination and made recommendations on how to manage these potential impacts, through the state-led rezoning - the Patons Lane Landfill (PLL) and the Defence Establishment Orchard Hills (DEOH).

The PLL is located within the south-eastern part of the precinct, outside of the Stage 1 land boundary, and about 500 m from the closest potential new residential development area (near The Vines estate). Douglas Partners advised that, given the potential for leachate from the PLL to impact on groundwater and subsurface gas migration associated with decomposing waste material a 440 m buffer zone which restricts residential development is sufficient to address this issue. Based on the distance between the landfill and the proposed residential areas shown on the draft Stage 1 Indicative Layout Plan, the landfill does not present a significant constraint to the proposed rezoning.

Douglas Partners also identified potential for waste burial areas and hazardous building materials, the DEOH is a source of two potential contamination issues, namely unexploded ordinance (UXO)/exploded ordinance (EO) and the offsite migration of per- and polyfluoroalkyl substances (PFAS).

With respect to UXO and waste burial activities the Department of Defence advised the Department that 'the area outside of DEOH has no risk of UXO, or residual burial activities associated with operation of the depot' and accordingly, no more investigations were needed on this issue.

Preliminary PFAS investigations identified concentrations of PFAS in most onsite soil and sediment samples within the precinct. Testing concluded that:

- the PFAs was detected at levels below the residential assessment criteria
- the PFAS levels detected were similar to levels commonly encountered in a rural land-use setting in western Sydney, where the application of fertilisers and agricultural/horticultural practices have happened, or where streams have been modified and/or cleared of significant riparian vegetation and receive stormwater run-off from surrounding road and horticultural activities
- the levels of PFAS detected present a low potential for gross or widespread contamination and do not constrain rezoning of the site, and the precinct-planning process could go ahead

- more investigation for PFAS is needed on a site-by-site basis, before development applications for subdivision or bulk earthworks, in addition to hazardous building material assessments for any structures to be demolished.

Several other potential contamination sources (landfill, agricultural land uses, current and previously demolished structures, fuel and chemical storage, cattle tick dip sites and septic tanks) were identified within the precinct. While a detailed assessment of these sources was not completed as part of the Preliminary Site Investigation, Douglas Partners considers that they present a low potential for gross or widespread contamination and therefore do not constitute an unacceptable risk the draft Stage 1 land.

The geotechnical report identified the following constraints and countermeasures, ultimately advising that the proposed development is feasible from a geotechnical perspective. However, the following should be considered, on a site-by-site basis, at the development application stage:

- Potential for slope instability on the steeper slopes of the eastern ridgeline is likely to affect the banks of the creeks and tributaries on the site. More mapping and investigation will be needed to determine the areas on individual sites that are suitable for development.
- Waterlogging of soils around watercourses and lower-lying areas of the site, and the potential for this
- Groundwater inflows into excavation within lower-lying areas. The geotechnical report advises that no constraints to the development are expected, based on the site's hydraulic conductivity.
- Moderately to highly reactive soils are typical of the area, with these soils being suitable for re-use as controlled fill as they can provide a stable subgrade.
- Potential for weak subgrade soils in areas of pavement construction. Pavement thickness design, however, would be optimised when detailed subgrade investigation is done and design parameters are available.
- Rock depth and strength will be a financial constraint to the development of the land, but it will not preclude its redevelopment for urban development.
- Uncontrolled fill associated with existing development must be removed and/or rectified. Potential contamination issues associated with former development must also be addressed.
- Moderate to high potential for saline soils is expected to be within usually accepted limits, which could be managed by good engineering and land management practices.

- High soil erosion hazard, particularly along drainage lines is considered to be within usually accepted limits and could be managed by good engineering and land management practices.

A.13 Bushfire

The Orchard Hills Precinct primarily consists of rural residential land with grassland vegetation. Fire pathways are limited to remnant areas of woodland vegetation while internal areas of rural grassland are expected to present only a temporary fire pathway as these areas will be removed/reduced as urban development happens.

The western boundary of the Stage 1 land consists primarily of rural grasslands with scattered grassy woodland vegetation (Cumberland Plain woodland). As development goes ahead it is expected that rural grasslands within the precinct will transition to managed land and the primary hazard for future development will be areas of forested wetlands within riparian corridors and woodland vegetation within the Cumberland Plain Conservation Plan 'avoided lands'.

Given the transitional boundary of the three sub-stages of Stage 1 as well as the advancing western boundary of Stage 1 to the adjoining future residential investigation areas (that is, Stage 4), the strategic placement of managed open space and perimeter roads in Stage 1 will mitigate bushfire risk. Until full development happens, added provisional Asset Protection Zones and perimeter access roads will need to be provided while adjoining lands transition from grasslands and woodlands to managed lands.

We consider that the proposed development has the potential to comply with the requirements of Planning for Bushfire Protection (2021), including:

- emergency services
- traffic modelling to ensure capacity of the road network at all stages of precinct activation
- strategies to ensure existing or adjoining properties are not encumbered by any elevated bushfire risk.

Given that the transport management and accessibility plan has confirmed there is enough evacuation capacity in the proposed road network, bushfire issues will be appropriately addressed at the development application stage, where an assessment of the individual site and proposed development against the requirements of Planning for Bushfire Protection can happen. Before rezoning the Stage 1 land, and the rezoning of more stages within the precinct, we will also carry out more consultation with key stakeholders including:

- Rural Fire Service
- State Emergency Services
- Transport for NSW
- Penrith City Council.

A.14 Noise and vibration

A noise and vibration study has been prepared by Aecom to examine the potential impacts of existing, approved and yet to be approved noise and vibration sources on the draft Stage 1 Indicative Layout Plan.

The potential noise and vibration sources within and in the vicinity of the Stage 1 land are:

- road traffic noise from the M4 Motorway and The Northern Road
- rail noise and vibration from Sydney Metro – Western Sydney Airport line
- industrial noise from the Paton's Lane Resource Recovery Centre and the Sydney Water Filtration Plant
- noise from DEOH.

Controls to mitigate these acoustic risks are included in the draft development control plan amendment. These controls include requirements for road, rail and industrial noise impact assessments for noise sensitive land uses and buffers around the noise and vibration sources.

A.15 Air quality and odour

An air quality and odour baseline report has been prepared by Todoroski Air Sciences to analyse air quality and odour conditions within and in the vicinity of the precinct and how these may affect the future development in the precinct.

The following potential sources of air and odour emissions have been identified within or in the vicinity of the Stage 1 land:

- Patons Lane recycling facility
- Sydney Metro stabling and maintenance facility
- a disused or potential poultry farm.

Only the poultry farm is within the boundaries of the Stage 1 land, to the north of The Vines. It is understood that activities at the poultry farm ceased years ago and there are no known existing use rights.

The stabling yard and recycling facility are located to the south-east and south of the land. Odour emissions associated with the waste management and recycling facility are largely modelled to be contained within the site with an encroachment towards the north by 250 m. This facility is also a source of dust emissions however such emissions are not expected to cause nuisance to any sensitive nearby land uses.

The rail stabling and maintenance facility has the potential to generate air emissions, though these will be contained within a building, resulting in a low risk to air quality.

Regarding major roads, the Outer Sydney Orbital corridor is too far away from any planned new sensitive uses to pose any impact within the precinct. All sensitive land uses (for example, residential, school, childcare activities) should be avoided within a 50 m buffer from the M4 Motorway.

Appendix B: Development intent for future stages, outside of the Stage 1 land

Table B1. Development intent for future stages

Stages	Estimated dwelling capacity	Key features within each stage
Stage 2	2,720	<ul style="list-style-type: none"> • The area will have strong connections to the Orchard Hills North planning proposal area. There will be an urban services employment area and a new neighbourhood-scale centre close to the new Orchard Hills North collector road and The Northern Road. • The new neighbourhood-scale, mixed-use centre will be the focus of the highest density development. Building heights will be restricted to preserve views to the Blue Mountains. The lowest density housing will be close to the M4. Open space will be focused on the ridge line and a new district-level park, in an accessible and relatively flat location. The two existing schools will be kept and integrated into the pedestrian and cycle network within this area.

Stages	Estimated dwelling capacity	Key features within each stage
Stage 3	3,456	<ul style="list-style-type: none"> • The area will benefit from having good access to The Northern Road. There will be an urban services employment area and a new neighbourhood-scale centre close to the Wentworth Road and The Northern Road intersection. • The new neighbourhood-scale, mixed-use centre will be the focus of the highest density development. Building heights will be restricted to preserve views to the Blue Mountains. The lowest density housing will be close to the M4 in the north, and Defence Force Establishment Orchard Hills in the south. • Open space and lower building heights will be focused on the central north-south ridge line, around the water tower high point and green connections to the Cumberland Plain Conservation Plan avoided lands and riparian corridors. A centrally located district park will be nestled alongside Claremont Creek, in an accessible and relatively flat location. • The existing school will be kept and integrated into the pedestrian and cycle network within this area.

Stages	Estimated dwelling capacity	Key features within each stage
Stage 4	5,716	<ul style="list-style-type: none"> • The area will benefit from being centrally located within the precinct, with good access to the new local centre and Orchard Hills North. • Two new neighbourhood-scale centres will be centrally located, with district-scale open space, one of which could also potentially adjoin a new school site. • The new neighbourhood-scale, mixed-use centre, and nearby Cumberland Plain Conservation Plan avoided land will be the focus of the highest density development. Building heights will be restricted around the centrally located ridge line, to preserve views to the Blue Mountains. Lower density housing and rural residential development will be closest to the Defence Force Establishment Orchard Hills in the south and in areas close to the M4 and riparian corridors in the north. • Open space will benefit from connections to the Cumberland Plain Conservation Plan avoided land and riparian corridors, and green street connections through to the Stage 1 land in the east. • Land adjoining the M4, close to the urban services land in Stage 1 could also be identified for urban services or employment uses.
Total potential homes in the remainder of the study area	11,892	n/a

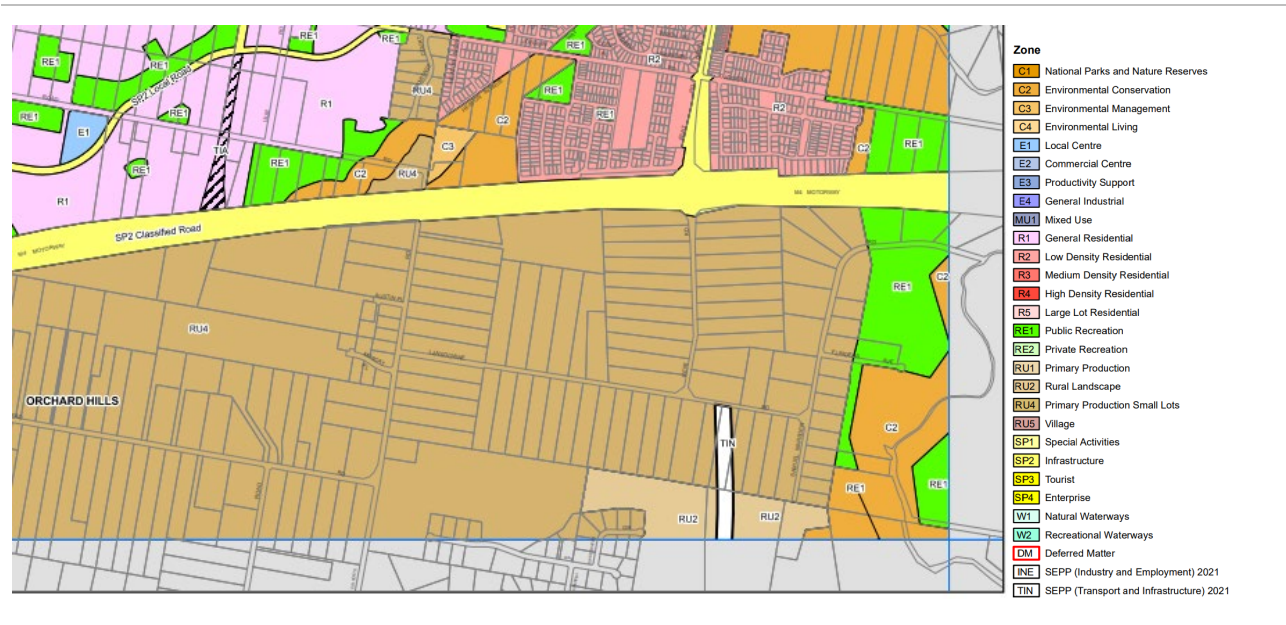
Appendix C: Existing and proposed maps – Penrith Local Environmental Plan 2010

Table C1 to Table C7 outlines the proposed mapping amendments to Penrith Local Environmental Plan 2010 that we discussed in Section 2.

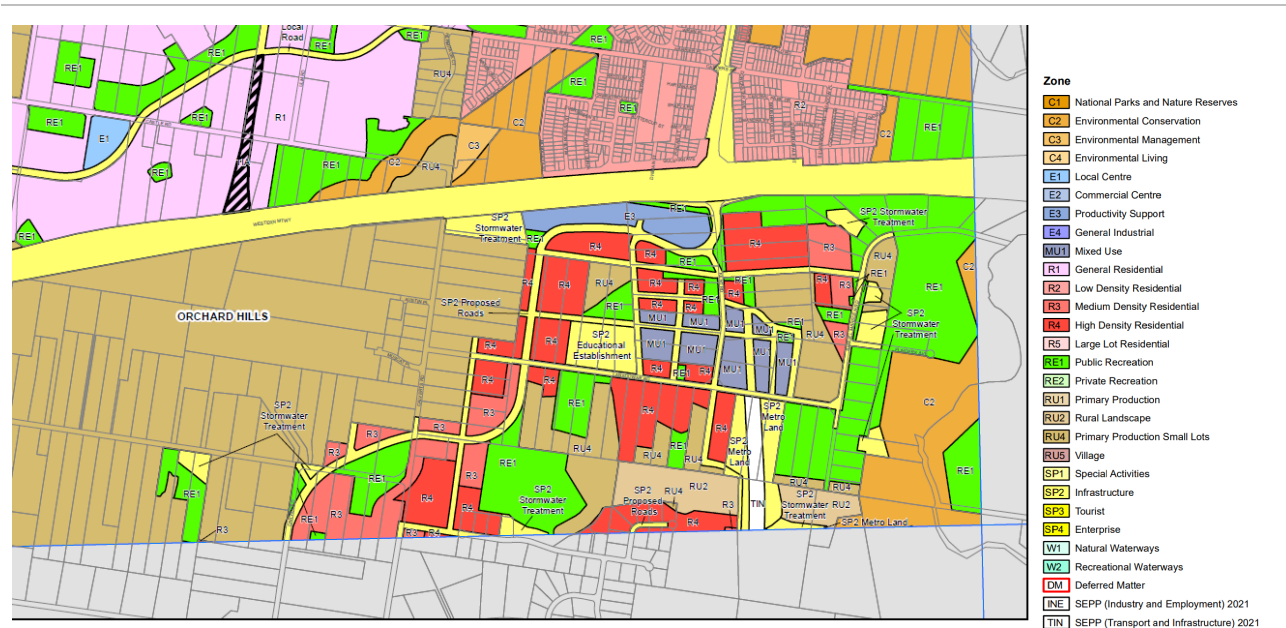
Table C1. Proposed changes to land zoning maps in Penrith Local Environmental Plan 2010

Land zoning (LZN)

LZN_013 existing

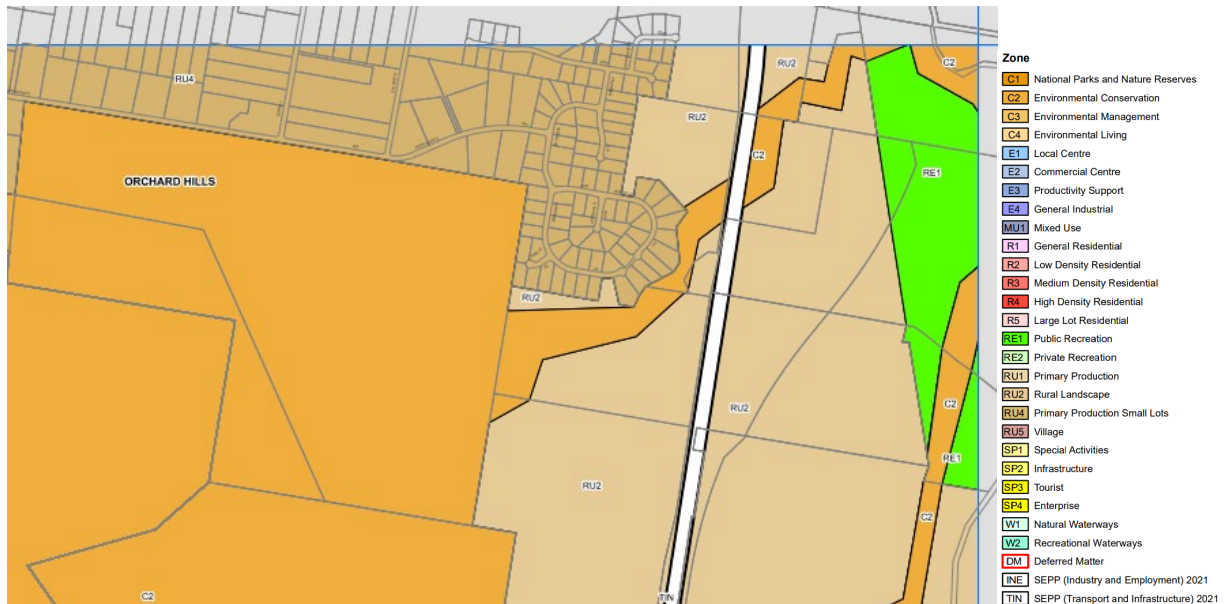


LZN_013 proposed



Land zoning (LZN)

LZN_014 existing



LZN_014 proposed

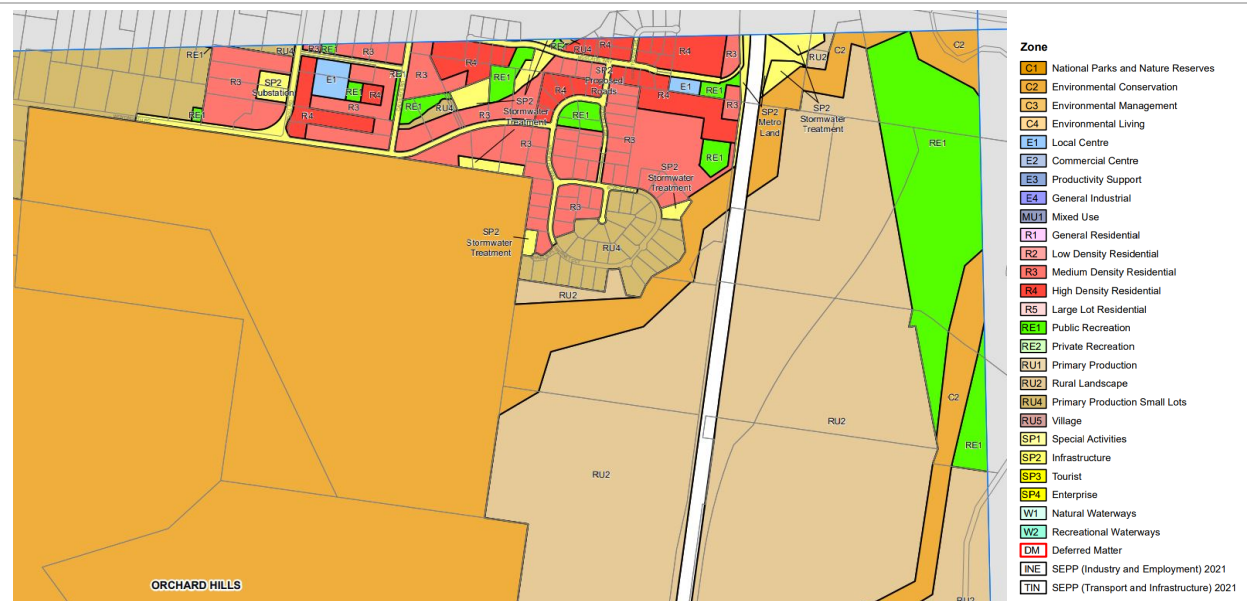


Table C2. Proposed changes to floor-space ratio maps in Penrith Local Environmental Plan 2010

Floor-space ratio (FSR)

FSR_013 existing



FSR_013 proposed



Floor-space ratio (FSR)

No existing FSR_014 map

FSR_014 proposed



Table C3. Proposed changes to height-of-building maps in Penrith Local Environmental Plan 2010

Height of buildings (HOB)

HOB_013 existing



HOB_013 proposed



Height of buildings (HOB)

HOB_014 existing



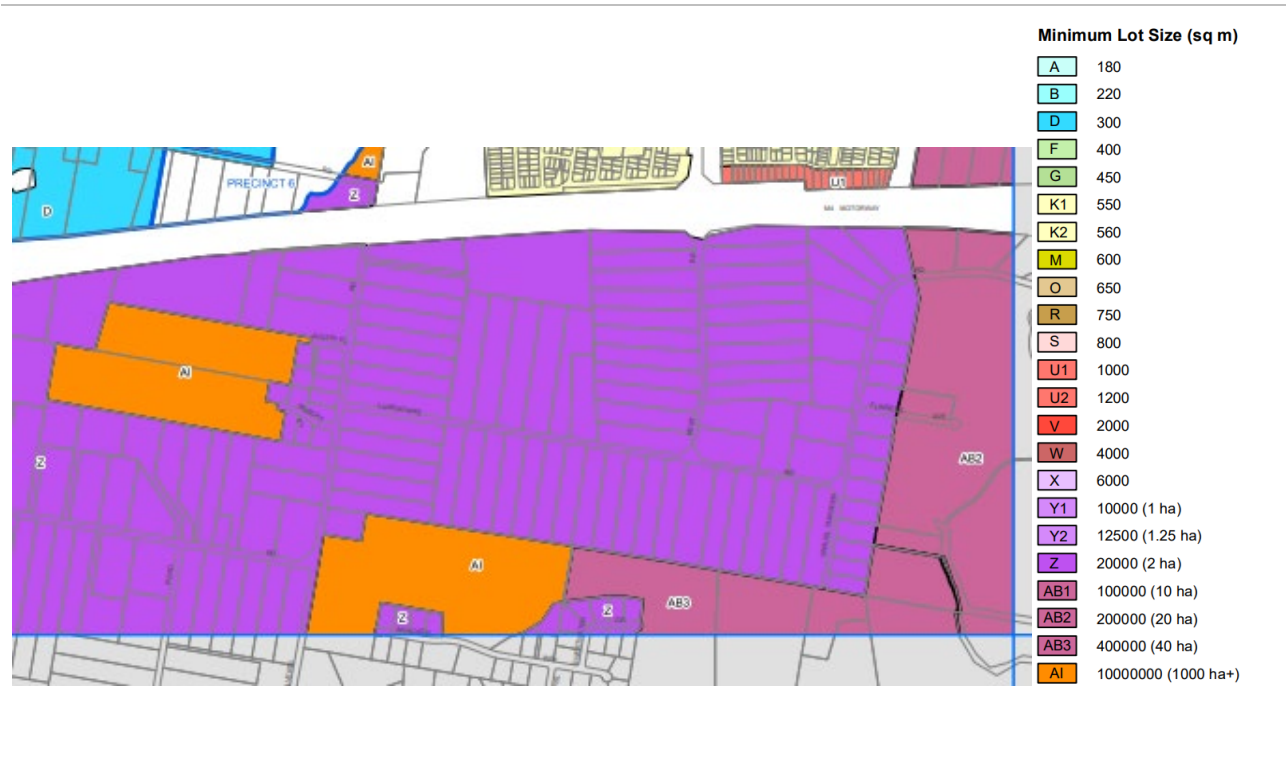
HOB_014 proposed



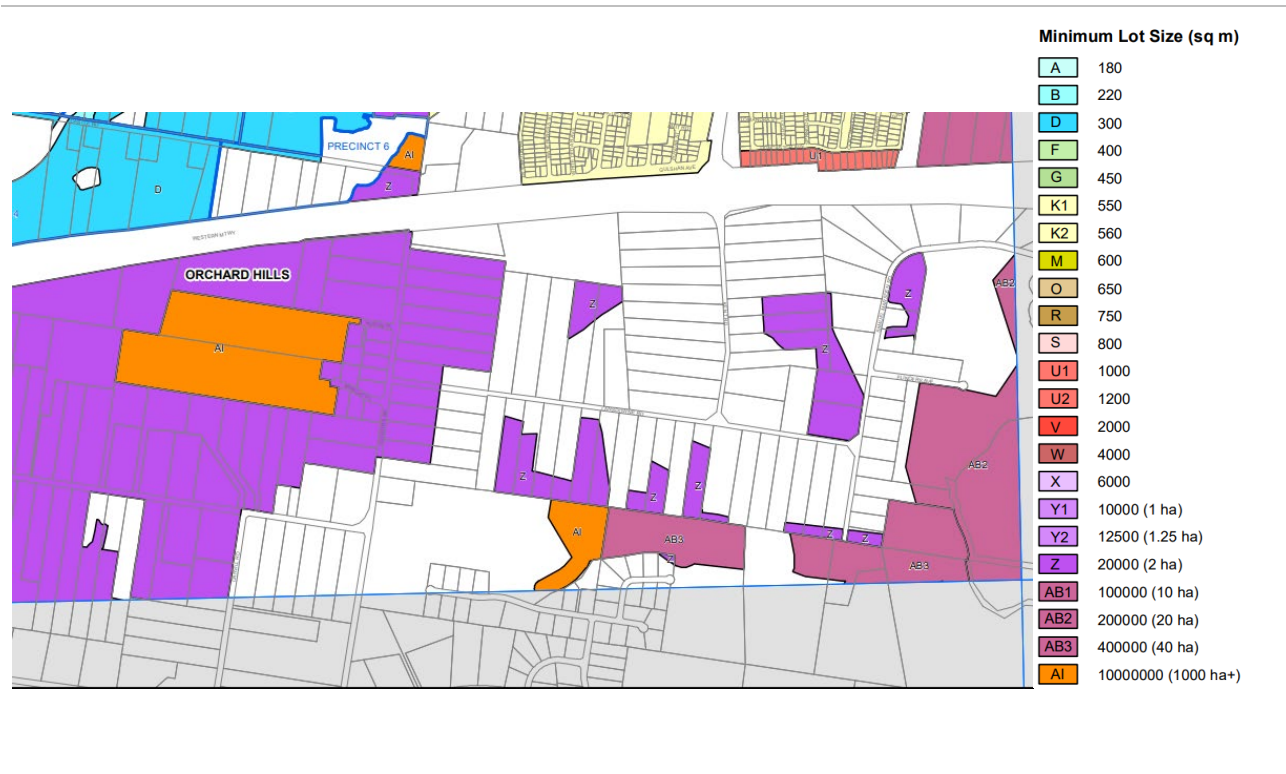
Table C4. Proposed changes to lot size maps in Penrith Local Environmental Plan 2010

Lot size (LSZ)

LSZ_013 existing

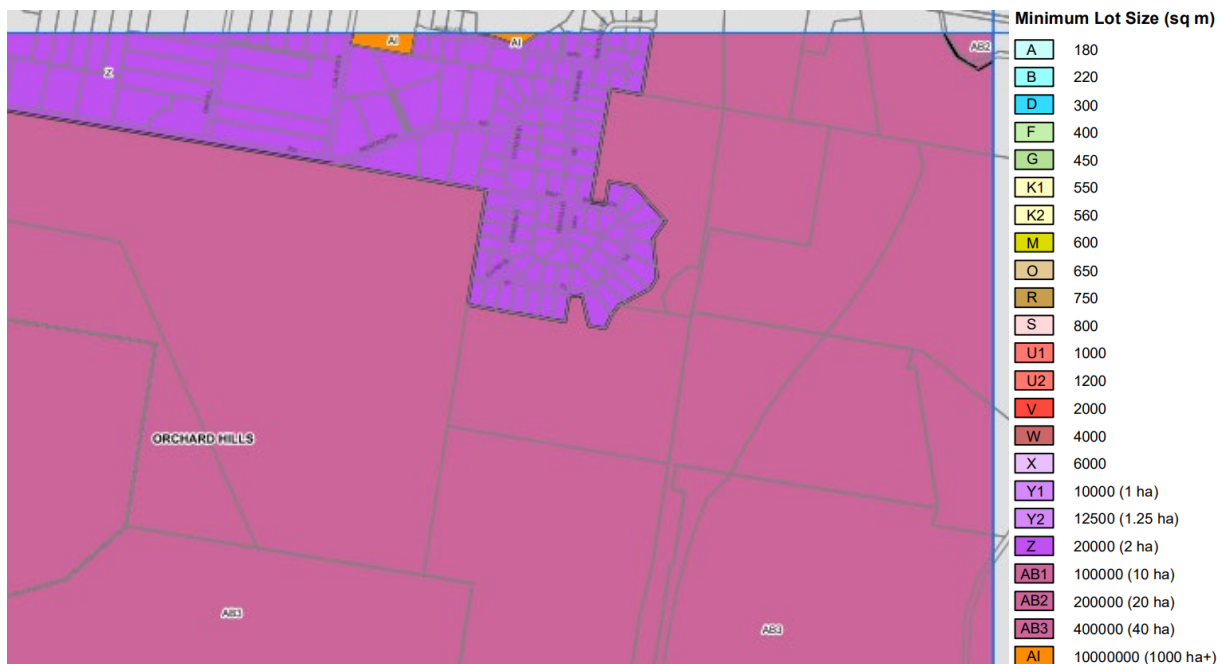


LSZ_013 proposed

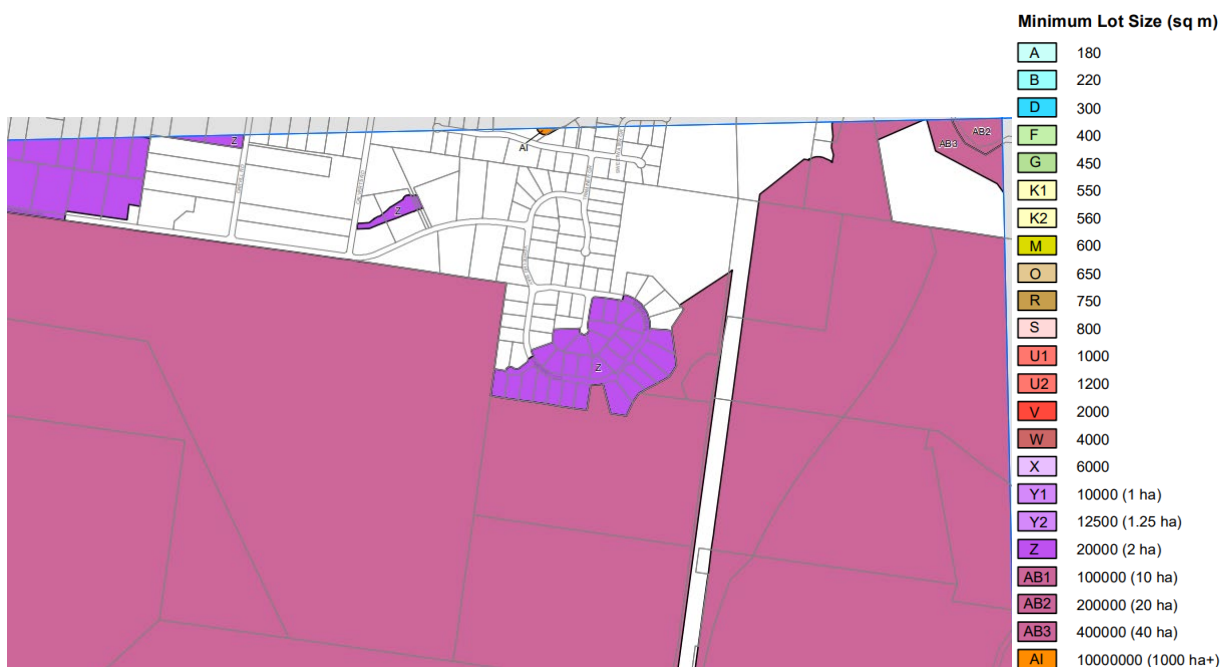


Lot size (LSZ)

LSZ_014 existing

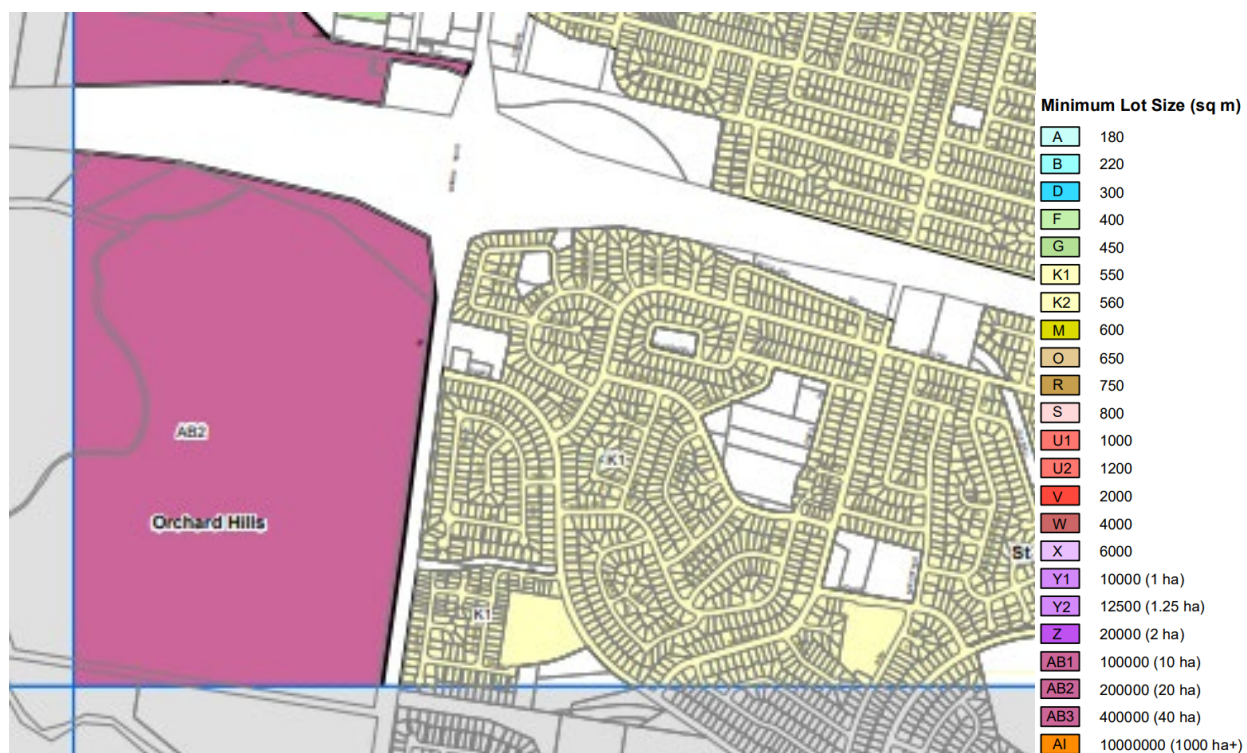


LSZ_014 proposed

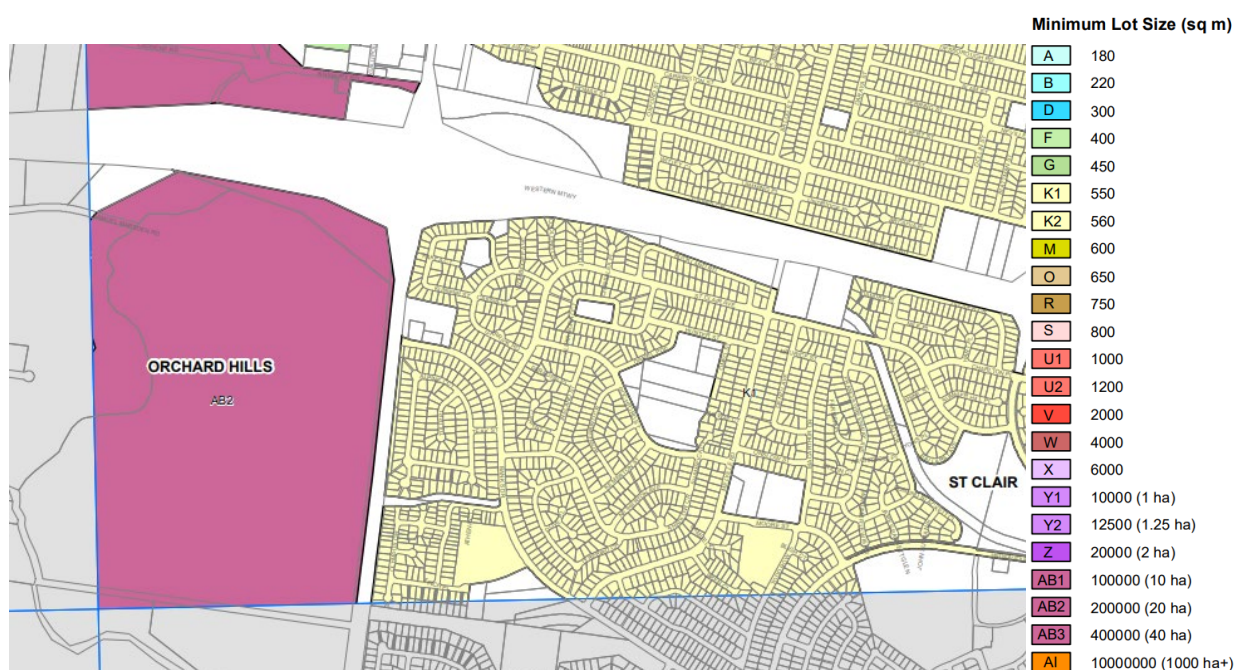


Lot size (LSZ)

LSZ_019 existing

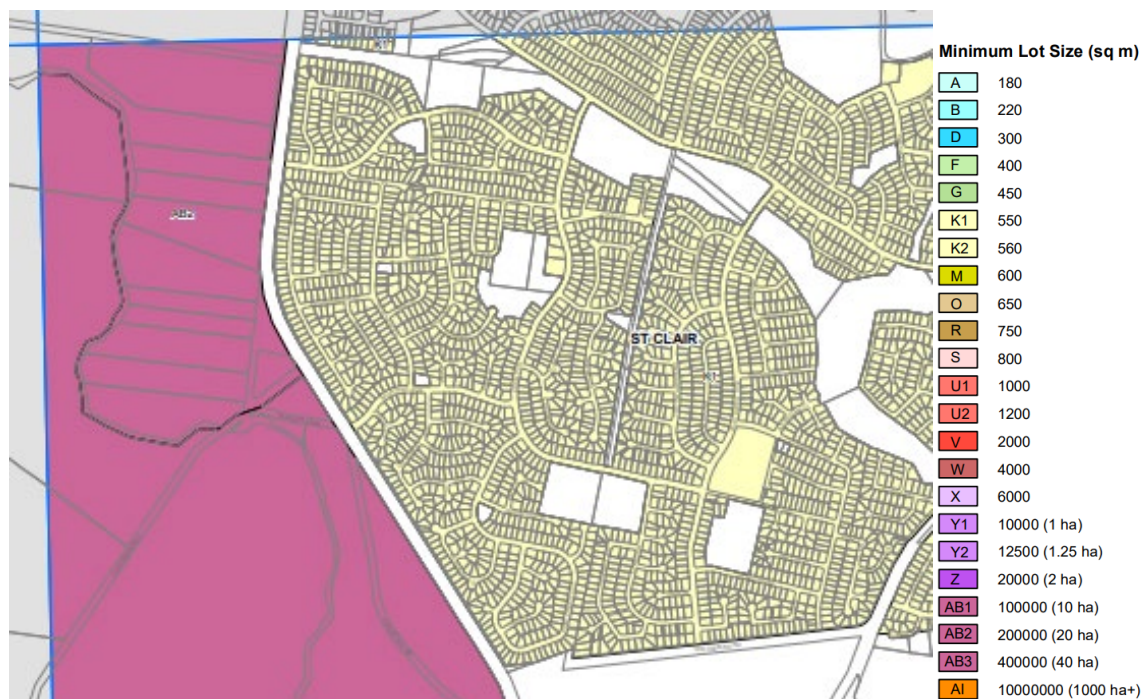


LSZ_019 proposed

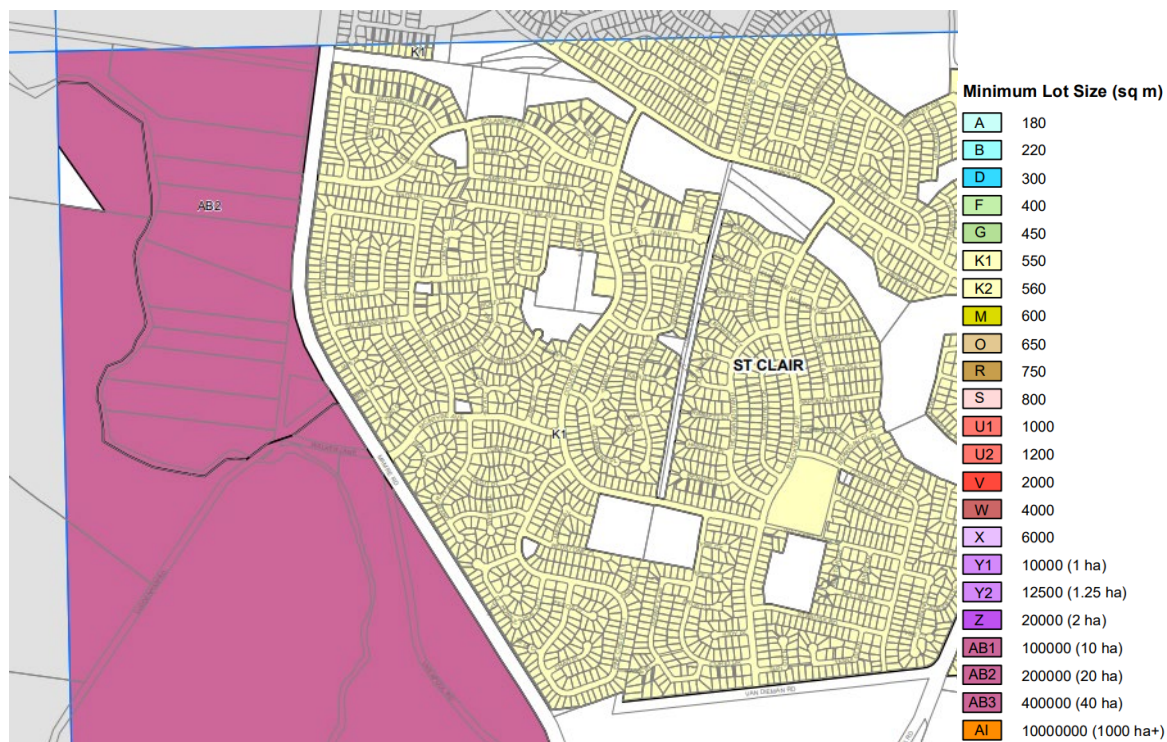


Lot size (LSZ)

LSZ_020 existing



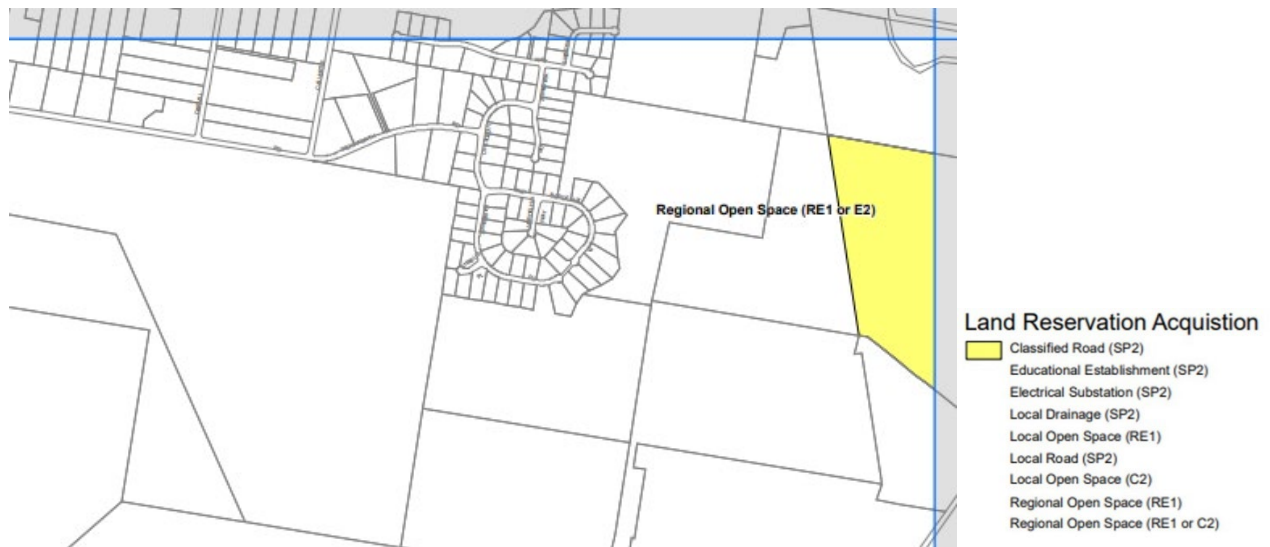
LSZ_020 proposed



Land reservation and acquisition (LRA)

Land reservation and acquisition (LRA)

LRA_014 existing



LRA_014 proposed

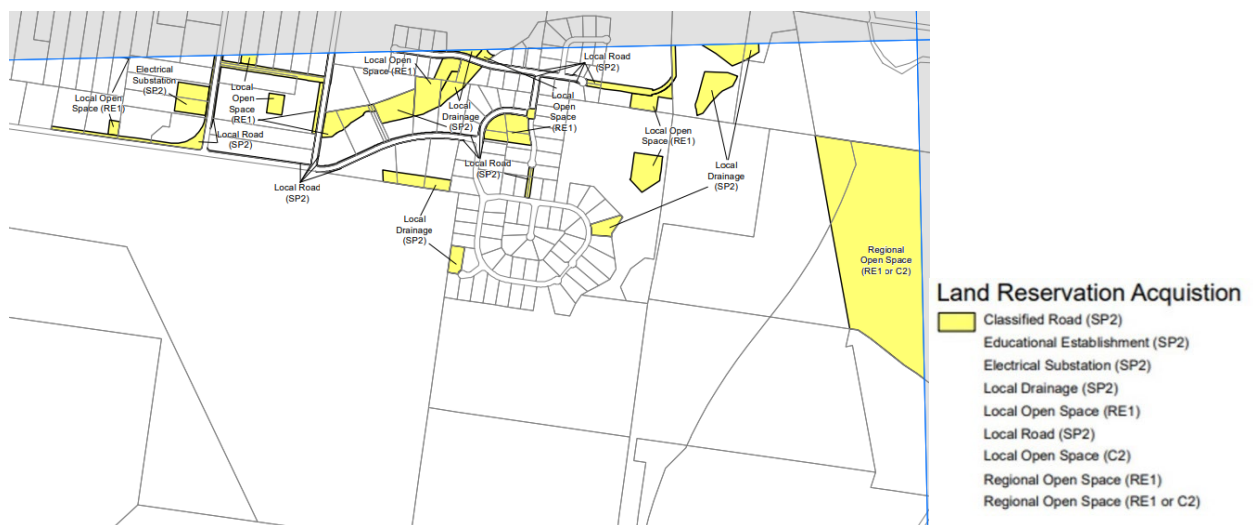


Table C6. Proposed changes to Affordable Rental Housing Contribution Scheme maps in Penrith Local Environmental Plan 2010

Affordable Rental Housing Contribution Scheme (AHCS)

AHCS_013 existing



AHCS_013 proposed



Affordable Rental Housing Contribution Scheme (AHCS)

No existing AHCS_014 map

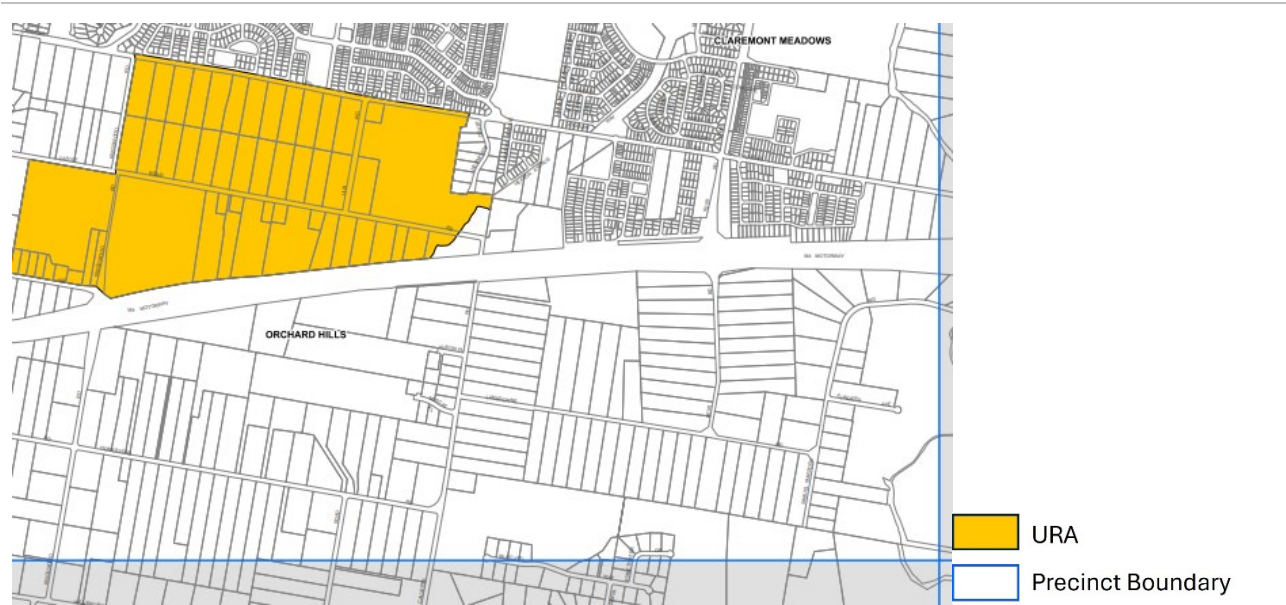
AHCS_014 proposed



Table C7. Proposed changes to urban release area maps in Penrith Local Environmental Plan 2010

Urban release area (URA)

URA_013 existing



URA_013 proposed

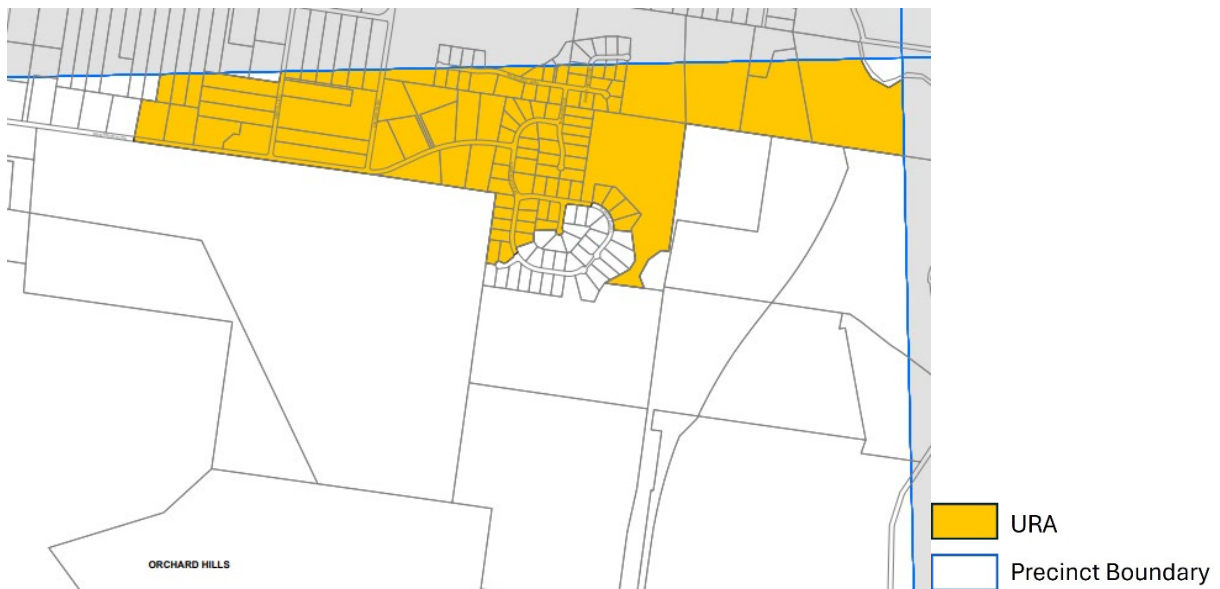


Urban release area (URA)

URA_014 existing



URA_014 proposed



Urban release area (URA)

No existing URA_019 map

URA_019 proposed



No existing URA_020 map

URA_020 proposed



