

Chapter 4.2 Thrumster

Note: New or significantly revised text is shown in yellow highlight.

4.2.1 Area Context

Land to which this section applies

This Plan applies to land identified within the boundary shown in red in Figure 4.1, known as Thrumster (formerly Area 13).

This Plan will also apply to any deferred matter identified within the Local Environmental Plan 2011 and located within the Thrumster boundary.

*DRAFT for public exhibition
Not Council policy*

Precinct map

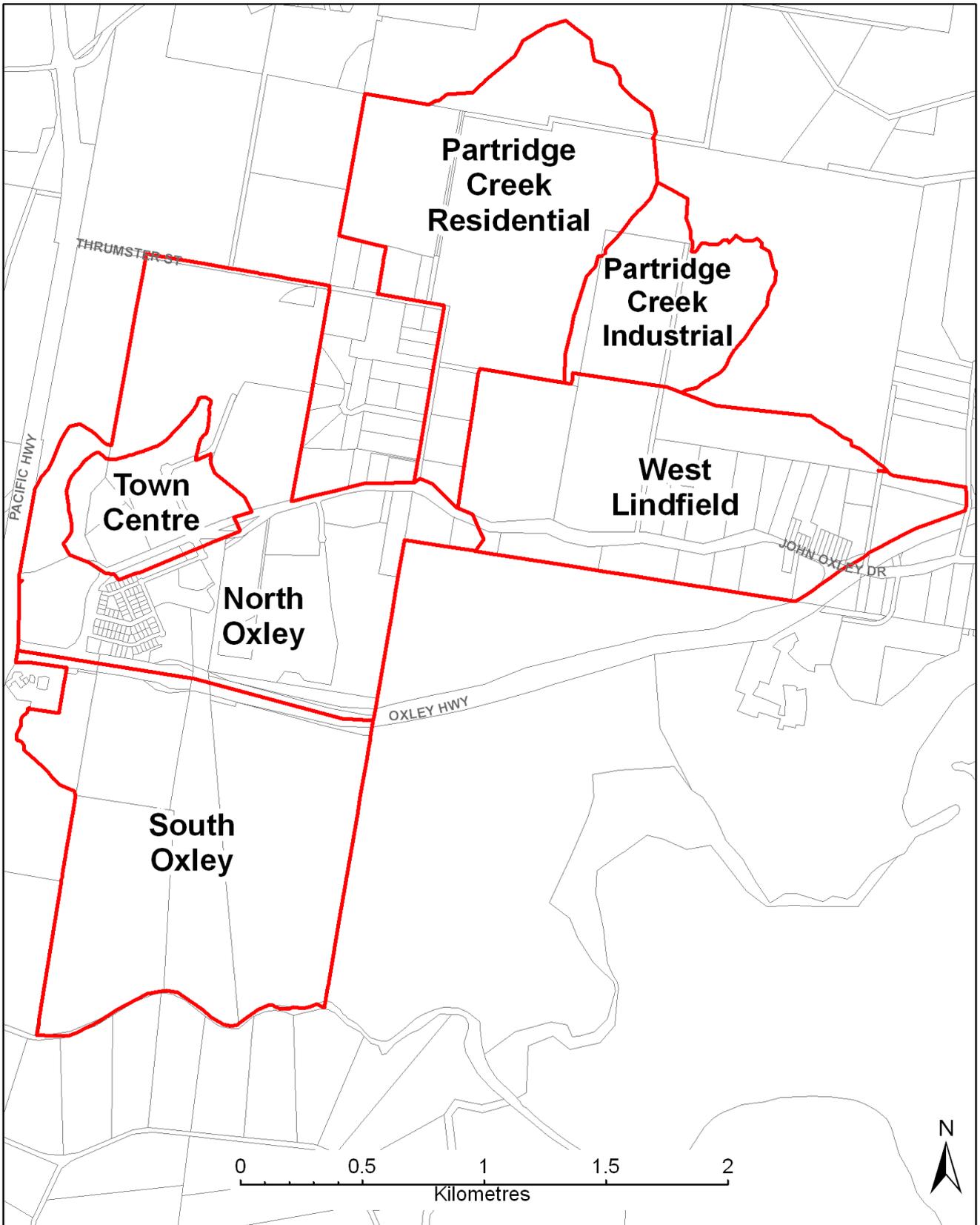


Figure 1: Thrumster Neighbourhoods

Application

This chapter applies to the land shown within the red boundary line on Figure 1.

Applicable EPIs

- Port Macquarie-Hastings Local Environmental Plan 2011,
- State Environmental Planning Policies No 21, 36, 44, 64, 65, Affordable Rental Housing, Building Sustainability Index: BASIX, Exempt and Complying Development Codes, Housing for Seniors or People with a Disability, Infrastructure.

Relationship to other sections of the DCP

The following provisions are in addition to the general requirements of Parts 1 to 3 of this Development Control Plan. Where they conflict with the requirements of Chapters 1 to 3, this plan prevails.

Purpose

- To establish a framework of general objectives and development controls, in relation to:
 - The achievement of a sustainable population in Thrumster that makes efficient use of urban land.
 - Protection and management of environmental features.
 - Management of environmental hazards.
 - The provision of infrastructure, services and facilities.
 - The establishment of employment areas and opportunities.

Amendment History

Date of Adoption by Council	Date of Commencement	Description	Version
Not yet adopted		Port Macquarie-Hastings Development Control Plan 2013, inclusion of reformatted Thrumster chapter	v20140502
20/04/2011	13/05/2011	Port Macquarie-Hastings Development Control Plan 2011	v20110513
22 October 2008		Addition of Part 5 - North Oxley Neighbourhood	

4.2.2 Strategic Context

Introduction

Thrumster is identified in the Port Macquarie-Hastings Urban Growth Management Strategy 2011-2031 as a key urban release area. Thrumster will play a major role in development of the Port Macquarie-Wauchope Corridor. The Corridor will contain the majority of urban growth and 'higher order' services and facilities needed to serve a catchment population in excess of 100,000 persons. The new Thrumster community will accommodate up to 10,000 people. The Thrumster Town Centre will offer convenience retail services to local residents to strengthen the structure of the corridor.

Vision for Thrumster (Area 13)

Thrumster is to become a diverse but integrated community distinguished by the natural advantages of its setting, yet living in harmony in its unique flora and fauna. It will be a model development for sustainable living in the mid north coast region, containing distinct neighbourhoods defined by the topographic, bush land and other natural features of the location.

Neighbourhoods and precincts

Thrumster comprises six distinct neighbourhoods, each comprising several precincts. The six Thrumster neighbourhoods are shown in Figure 1. The desired future character for each neighbourhood and precinct is described below.

North Oxley

The North Oxley Neighbourhood (Figure 2) is centrally located and within easy access to the future Thrumster neighbourhoods to the north, south and east. The neighbourhood is bisected by John Oxley Drive. The area generally to the north of John Oxley Drive will form the future Town Centre.

The vision for the North Oxley community builds upon the rationale established in Thrumster DCP and the role that the Town Centre will play within the overall community. The North Oxley vision will also apply to the future planning and design of the South Oxley Neighbourhood.

North Oxley will be a community that will be:

- a sustainable place that is liveable, competitive and environmentally sensitive,
- a well-connected and accessible place that is easy to get to, move through and make contact,
- a creative place that provides opportunity and nurtures innovation and creativity,
- a place designed in response to its setting, climate and the emerging needs of the community,
- a place designed for change, with lasting and adaptable buildings and spaces,
- a new neighbourhood with a strong identity and contemporary design character.

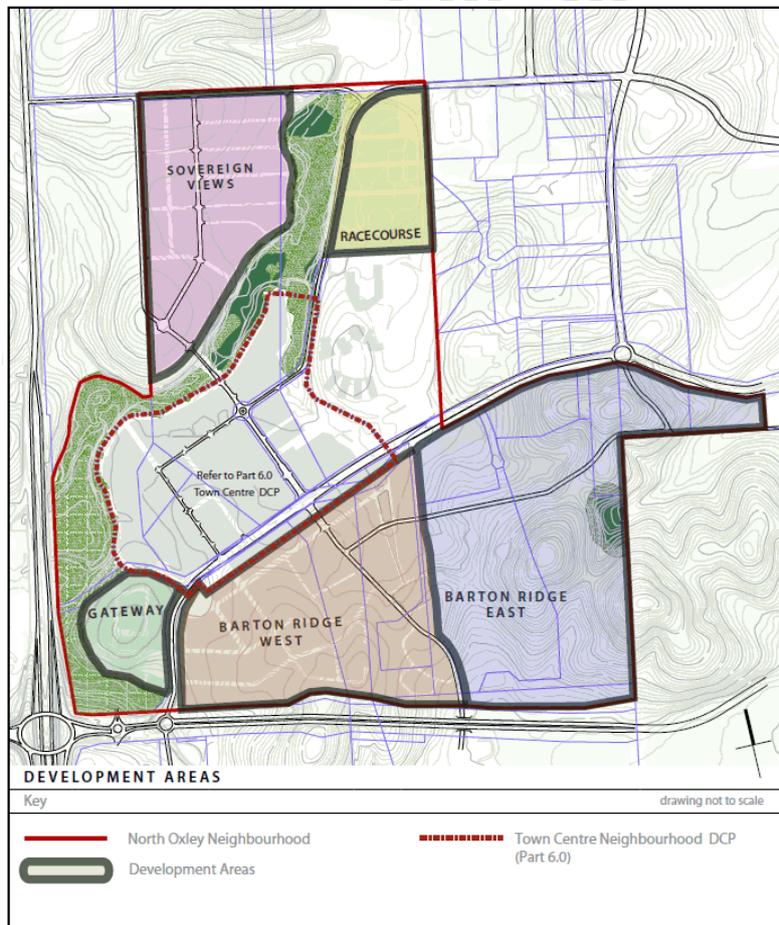


Figure 2: North Oxley Precincts

Partridge Creek Industrial

The Partridge Creek Industrial Neighbourhood (Figure 3) provides an employment ‘hub’ for the area. The neighbourhood contains a diverse range of employment generating uses. Buildings have been designed to incorporate articulation, as well as a variety in colours, materials and finishes in order to provide a high level of visual amenity when viewed from the public domain and roadways.

All development has been designed and operates so as to minimise impacts on adjacent residential areas in terms of noise, traffic, emissions and bulk and scale. Public transport circulates through the area and connects to other employment areas.

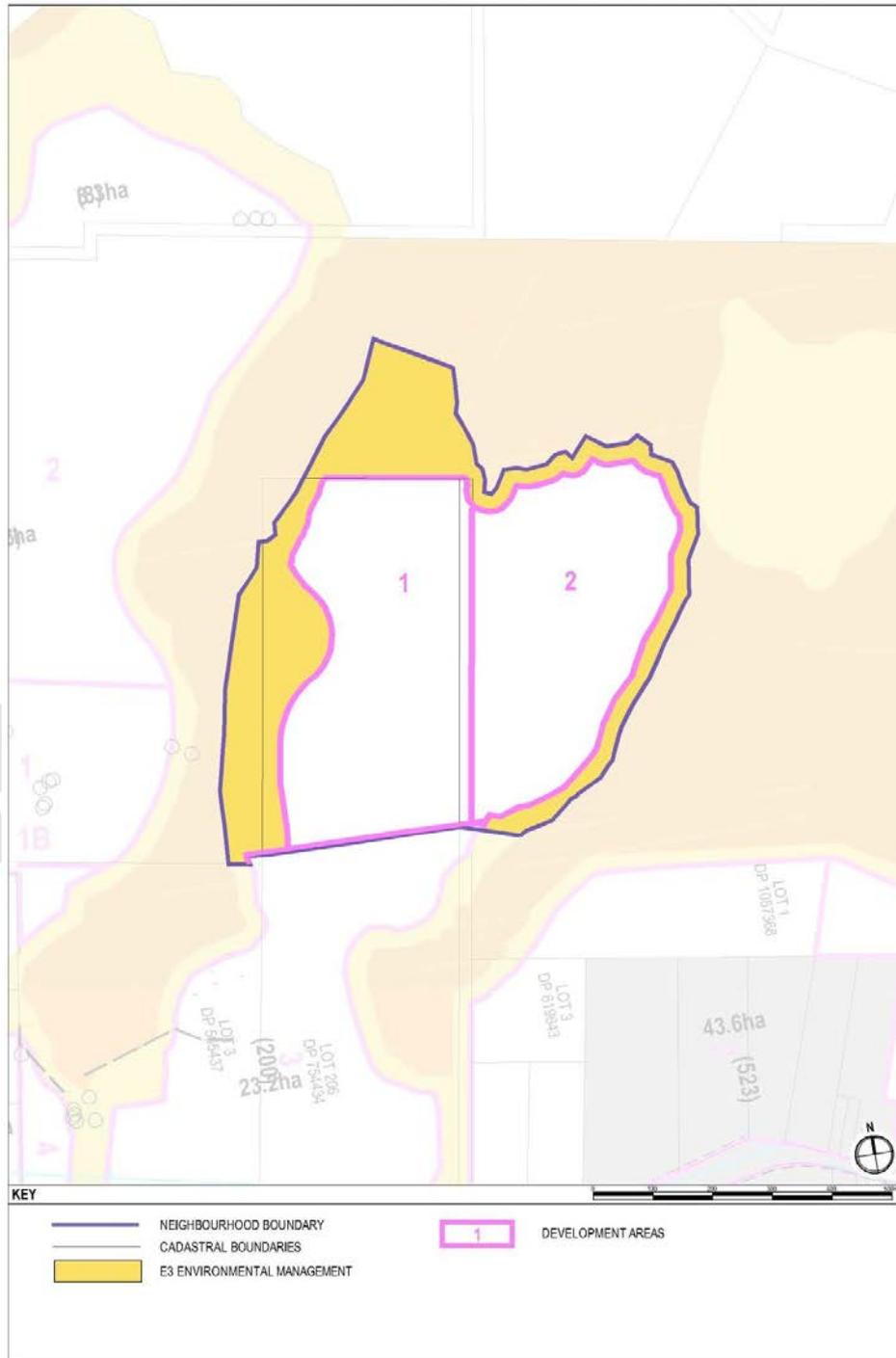


Figure 3: Partridge Creek Industrial Development Areas

Partridge Creek Residential

The main objective of this local community is to retain and enhance the existing biodiversity, watercourses and riparian and Koala vegetation. Community groups undertaking bush regeneration and other works have achieved this objective. An old growth hollow bearing tree is a landmark within this community and has been retained in a park setting. This tree is visible from a number of places.

Conventional housing forms have been developed to the north of this rural residential area. This area is clearly defined by the wetlands and riparian corridors that fringe the locality on the northern, eastern and

western sides. This provides for a 'sense of place' within this setting. Streets in the residential area are characterised by landscaped front gardens and consistent front setbacks.

The area is well serviced by public transport. The streets are legible and connectivity to other areas is maximised.

A small neighbourhood (village) centre is the focal point of this community. The village centre provides retail and community focus for the locality, incorporating a mix of uses and housing types. Mixed use buildings have been orientated to the street. Ground floor premises are characterised by shops and commercial uses that encourage street level interaction and contributes to life within the streets and other public spaces. Housing and offices are located on the upper floors. Higher residential density development is located within the immediate area of the village centre and frames the centre.

Building and dwelling designs contribute to the vibrancy and define the streets and public spaces; creating environments that are comfortable, interesting and safe. Streets are characterised by landscaped front gardens and consistent front setbacks.

Local parks are strategically provided, generally within 400 metres walking distance to residents. These parks are well used and safe for families. Dwellings overlook these parks to provide casual surveillance.

Three development areas are shown on Figure 4.

Partridge Creek Village Precinct (Area 1) is the gateway to the Partridge Creek Residential Neighbourhood. The area will become the neighbourhood hub for convenience shopping and services. Residential dwellings will be at a higher density than elsewhere in the neighbourhood to take advantage of the proximity to shops and public transport and may include a mix of detached houses on small lots as well as attached or multi-dwelling housing catering to a variety of residential needs.

A key feature of the area will be an old growth tree, preserved within the landscaped entrance to the village.

Partridge Creek Residential Precinct (Area 2) represents the bulk of the Neighbourhood and is bordered by environmental lands to the north and east. This area forms the core residential area of the neighbourhood and includes two local parks within walking distance from the majority of homes. This area will be predominantly detached dwellings on a mix of lot sizes

John Oxley Drive Precinct (Area 3) stands at the corner of Thrumster Street and John Oxley Drive and is the entrance to the neighbourhood. Residential dwellings will be predominantly detached houses on larger lots and will be responsive to Koala Habitat in the area.

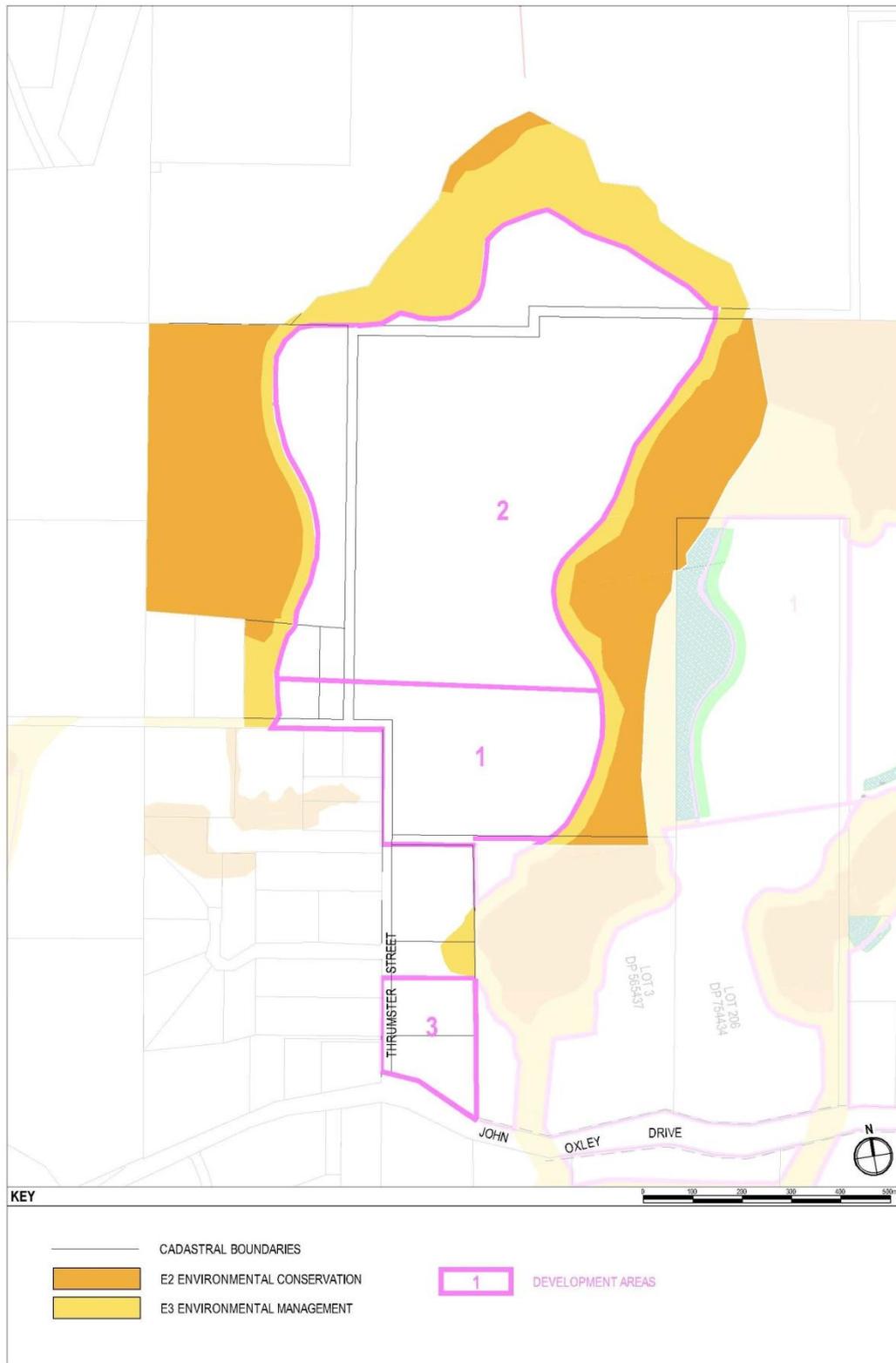


Figure 4: Partridge Creek Residential Development Areas

South Oxley

The locality is characterised by residential uses in the form of attached dwellings, detached dwellings and other forms of medium density development. The precinct has easy access to the Town Centre and the various services and facilities.

A small neighbourhood (village) centre is the focal point of this community. The village centre provides retail and community focus for the locality, incorporating a mix of uses and housing types. Mixed-use building has

Thrumster

been orientated to the street. Ground floor premises are characterised by shops and commercial uses that encourages street level interaction and contributes to life within the streets and other public spaces. Housing and offices are located on the upper floors. Higher residential density development is located within the immediate area of the village centre and frames the centre.

Building and dwelling designs contribute to the vibrancy and define streets and public spaces; creating environments that are comfortable, interesting and safe. Streets are characterised by landscaped front gardens and consistent front setbacks.

Local parks are strategically provided, generally within 400 metres walking distance to residents. These parks are well used and safe for families. Dwellings overlook these parks to provide casual surveillance.

Two riparian corridors traverse the locality in an east/west direction. These systems have been preserved and enhanced through appropriate landscaping. Part of the Karikeree Creek system contains items of significance to the local indigenous community. These items have been conserved within a park. A core Koala habitat corridor runs in a north/south direction. The Koala population has increased over the years due to the retention of this and other corridors.

Three Development Areas have been identified within the South Oxley Neighbourhood, as shown on Figure 5.

Area 1 – Gleeson Creek Residential and South Oxley Neighbourhood Village Centre

This area will become the first of the residential land releases for South Oxley establishing the early population necessary to support the future neighbourhood Village Centre.

Development within South Oxley Area 1 will be characterised by gently sloping residential areas overlooking the central water course locally known as Gleeson's Creek, ringed by elevated residential lands and retained vegetation areas designed to protect and complement the environmental values of the precinct.

The habitat link, Tarrocoe Habitat Corridor is to be enhanced and further strengthened by vegetation plantings during the course of development.

The location of the Village Centre on the North side of the Gleeson's Creek Corridor will facilitate a greater degree of connectivity between the 3 Development Areas of South Oxley Neighbourhood and is supported by proximity to key road routes.

This area will be predominantly detached dwellings on a mix of lot sizes, with opportunity for medium density housing close to the Village Centre.

Area 2 – East Oxley Residential and Tarrocoe Environmental Living

This area includes significant tracts of Koala habitat and is bordered to the North and West by Koala habitat corridor.

Steeper lands in the South East corner coincide with potential Koala habitat and the management of these lands is addressed in the Environmental Management Principles Plan

Shareway (pedestrian/cycle) links and strategic road crossings of the Tarrocoe Habitat Corridor will enable residents of the Development Area 2 to engage with and be a part of Village Centre community.

Area 3 - Karikeree Residential

This area forms the Southern residential area of the Neighbourhood.

It will be characterised by the natural environmental setting to the south and east of the development area and focus towards the passive recreational opportunities along Gleeson's Creek Recreational area.

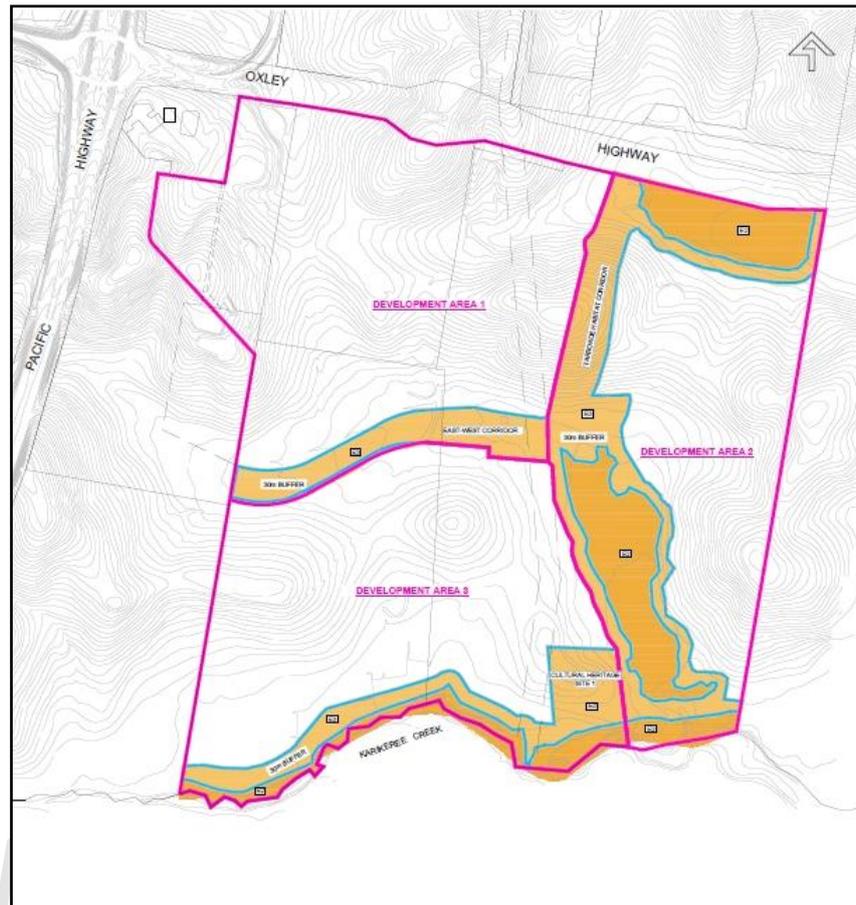


Figure 5: South Oxley Development Areas

Town Centre

The Town Centre will provide the activity centre and heart of the new community planned for Thrumster. It will be characterised by a diverse mix of land uses and provide an integrated living and working community with the potential for up to 2,000 jobs in a diverse range of businesses.

The Town Centre will complement the hierarchy of centres, both existing and proposed, within Port Macquarie-Hastings, adding to the diversity of retailing, servicing and employment, without detracting from the significance, role and function of other centres.

The Town Centre will provide a range of high quality convenience retail, lifestyle entertainment, commercial uses and service facilities to meet the needs of the local community.

To provide for an active, secure and vital town centre, residential accommodation within the centre is required. A minimum dwelling yield of 180 residential dwellings will be provided; however, depending upon the mix of future land uses in the Town Centre, this yield could increase to over 300 dwellings.

The Town Centre can be defined by five separate Precincts which will all perform different roles and functions but interrelate to cumulatively provide for a viable and vital Town Centre (Figure 6).

The Precincts are:

1. Town Centre Core
2. Oxley Highway
3. Mid-Town
4. Northern Edge
5. West End

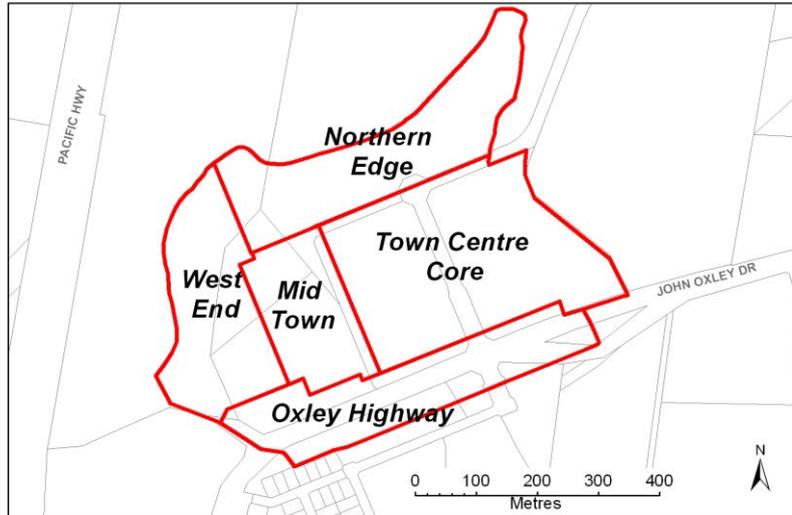


Figure 6: Town Centre Precincts

The **Town Centre Core Precinct** should be the centre of retail, leisure, community and civic activity for the emerging community. It should integrate both physically and visually with the lakes to the east through the provision of east west pedestrian priority areas and activity nodes which link civic open spaces, market places and pedestrian priority zones with active uses at ground level.

'**Main Street**' (Figure 7) will provide the prime activity spine and the most important street in the Town Centre. When the Town Centre is fully developed, Main Street will be the primary retail street in the Town Centre. From a landscaping perspective, Main Street will be the signature street of the town. It will have a consistent central median for its entire length providing a striking avenue of Norfolk Island Pines and Jacaranda trees.

A 'Main Street' running north-south should provide the main access, but through good design and landscaping, create an identifiable, high quality place which encourages interaction and activity for all people.

The Town Centre should be an aesthetically pleasing place which is safe, vibrant, accessible and economically, environmentally and socially sustainable. A place designed to foster a community where people come to work, live and play.



Figure 7: Main Street - Key elements of the public domain

The **Oxley Highway Precinct** defines the southern edge of the Town Centre and incorporates both sides of the highway to ensure built form relates to both the main connector road and the Town Centre itself.

It should accommodate a mix of land uses appropriate to a major highway frontage which may include, but are not limited to: business, showrooms, retail and health/medical centres.

High quality buildings and landscaping should define the gateway to the Town Centre.

Flexibility of future land use is a fundamental requirement for the **Mid Town Precinct**. It should provide a mix of uses which promote a range of live-work, studio/workshop, light industrial and commercial activities contributing to the vitality and diversity of the town. High quality design of buildings and spaces which integrate with the adjoining precincts in form, siting and use is essential. While providing a transition between the retailing hub of the Town Centre Core and the West End, mid town development must ensure a coherent urban design structure which enables identification of place.

Housing development within the Mid Town and West End precincts must have a density of 10 dwellings per hectare which equates to approximately 76 dwellings.

The **Northern Edge Precinct** is bound to the north and east by riparian vegetation. Its 'edge of town' location is ideal for the provision of a range of land uses, comprising business (potential Business Technology Park), medium density residential and recreational uses (potential Health and Country Club). The precinct is accessible and provides a high visual amenity while enabling the provision of a defined built edge envelope to the Town Centre.

Housing development within the northern edge precinct must have a density of 12 dwellings per hectare which equates to approximately 104 dwellings.

The **West End Precinct** sits within the view corridor from the Pacific Highway and is bound by the riparian corridor to the north. The amenity offered by the gently sloping land lends itself to medium density residential development interspersed with ancillary mixed uses designed to integrate with the landscape setting and provide an edge to the Town Centre.

Housing development within the west end and mid town precincts must have a density of 10 dwellings per hectare which equates to approximately 76 dwellings.

Town Centre Population and Employment Strategy

The greenfield development of a new town needs to allow for the provision of an appropriate balance of land uses to ensure vitality and economic viability over time. Sufficient flexibility is required to ensure demand can be catered for while providing a degree of certainty that the ultimate development will be viable. In this regard, as Thrumster and the Town Centre grows, based upon the overall block structure and land uses proposed, two main employment / residential population scenarios are proposed for the future development of the Town Centre. For the purpose of achieving Town Centre employment and residential population objectives, Scenario Two is preferred.

Scenario One, at Figure 8, assumes the development of a moderately sized Business Technology Park of 5 Hectares, as indicated in an expanded Northern Edge Precinct, combined with more extensive medium density residential areas and a higher residential population. In this scenario, dwelling yield may reach in excess of 300 dwellings. This would equate to a density of up to 28 dwellings per hectare.

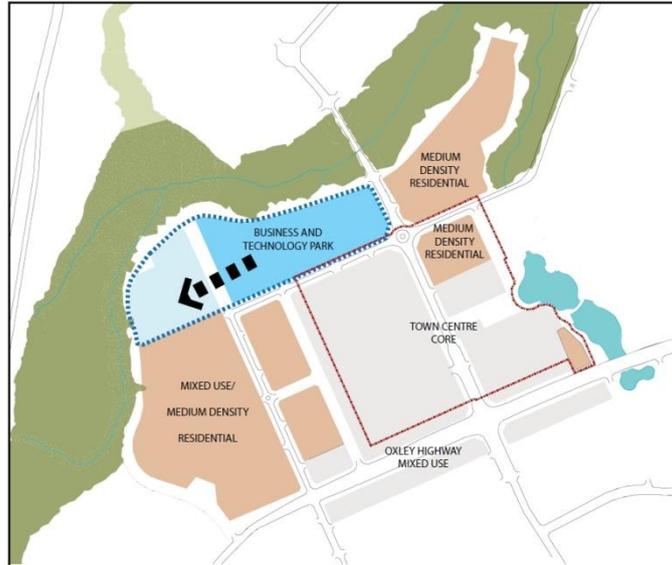


Figure 8: Thrumster Town Centre Development Scenario One

Scenario Two, at Figure 9, assumes the development of a more successful and extensive Business Technology Park of up to 11 Hectares, occupying the entire Northern Edge, part of Mid Town and part of West End precincts. In this scenario, the dwelling yield will achieve a minimum of 180 dwellings on 6 Hectares. This would equate to a density of up to 30 dwellings per hectare.

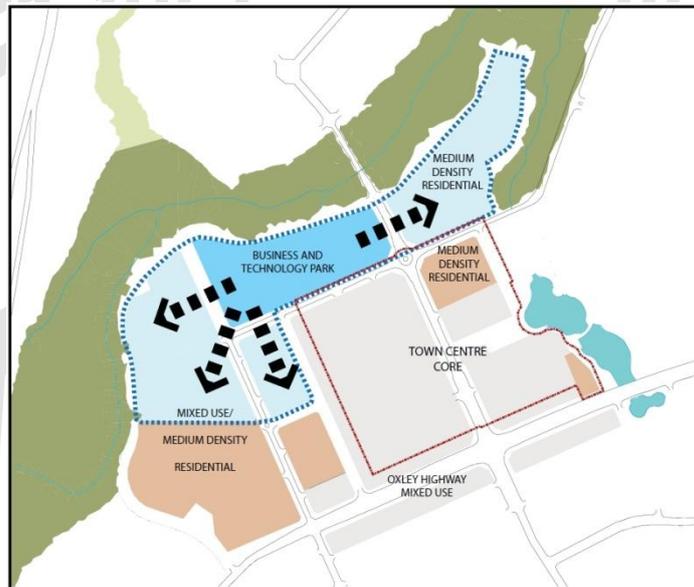


Figure 9: Thrumster Town Centre Development Scenario Two

West Lindfield

West Lindfield is a low-density residential locality, with medium density concentrated around the neighbourhood centre. The road system provides for legibility and circulation throughout the precinct. A public transport system (bus) operates and connects to other areas, particularly for employment and shopping.

Building and dwelling designs contribute to the vibrancy and define streets and public spaces; creating environments that are comfortable, interesting and safe. Streets are characterised by landscaped front gardens and consistent front setbacks.

Local parks are strategically provided, generally within 400 metres walking distance to residents. These parks are well used and safe for families. Dwellings overlook these parks to provide casual surveillance.

The two major wildlife linkages running north-south through the neighbourhood are well established and are home to a variety of native species.

An employment area is located on the eastern edge of this neighbourhood. The employment area is compact and provides employment opportunities for residents of the neighbourhood and is within easy walking distance to peoples' place of residence and reduces the need for car dependency.

Three development areas are shown at Figure 10.

West Lindfield neighbourhood centre and Lindfield Park Light Industrial (Area 1) will become the West Lindfield neighbourhood hub for convenience shopping and services and includes the local employment area of the Lindfield Park Light Industrial precinct. Residential dwellings in this area will be at a higher density than elsewhere in West Lindfield to take advantage of the proximity to shops and public transport and may include a mix of detached, attached or multi-dwelling housing catering to a variety of residential needs. Development at the interface between residential and industrial zones will be designed to be harmonious. A corridor of existing and revegetated Koala habitat will contribute to a visual buffer between industrial and residential areas.

West Lindfield Residential (Area 2) forms the core residential area of the neighbourhood and includes a local park within easy walking distance from the majority of homes. This area will be predominantly detached dwellings on a mix of lot sizes.

West Lindfield Environmental Living (Area 3) includes significant tracts of Koala feed trees and is bordered to the east and west by Koala habitat corridor. Residential dwellings in this area will be designed to protect and contribute to these valuable features. The area will be predominantly detached dwellings on larger lots, retaining significant vegetation in private ownership. The northern edge of the area adjoins the Partridge Creek Industrial neighbourhood with separation provided by an electricity transmission easement and adjacent collector road.

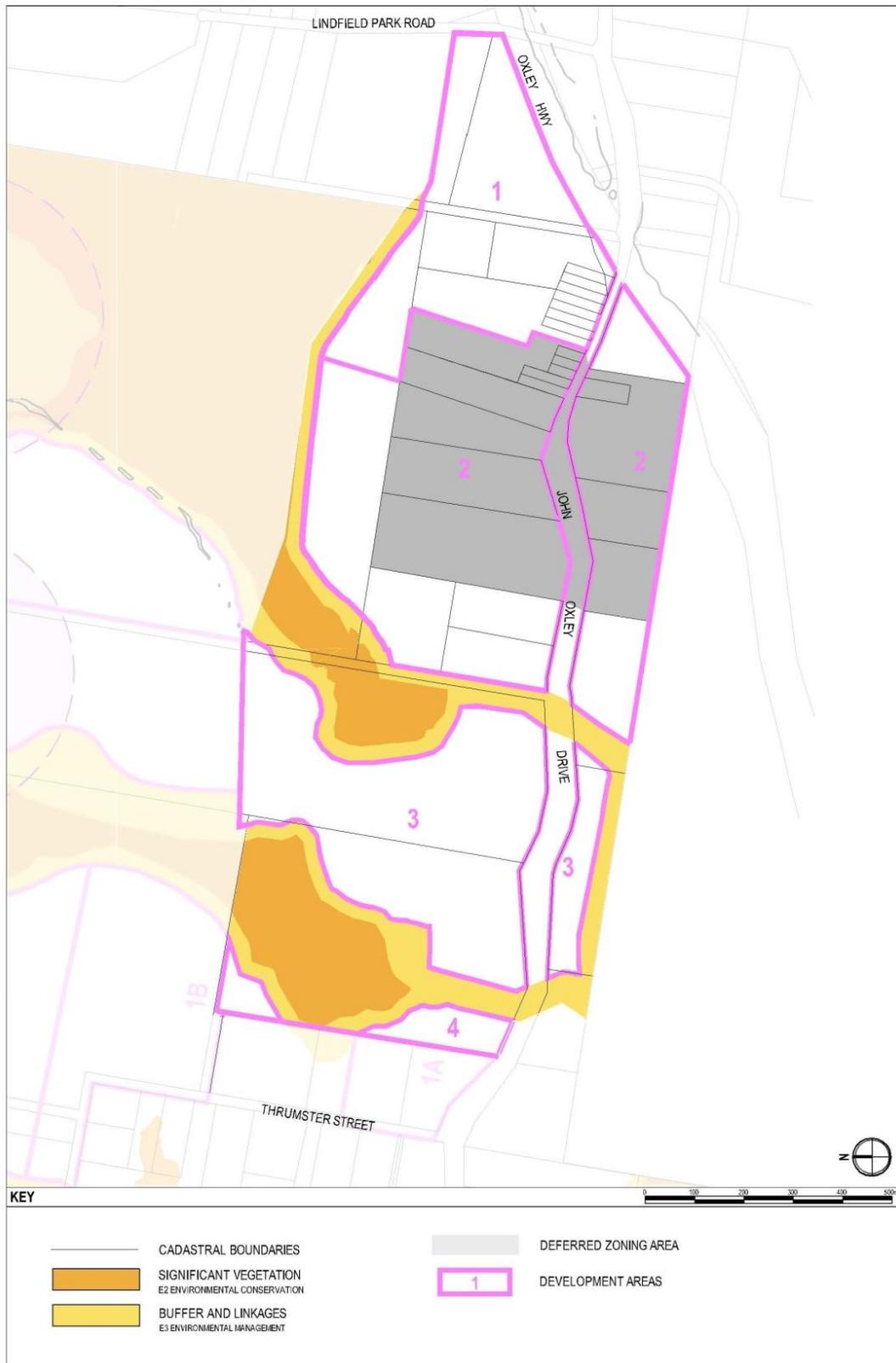


Figure 10: West Lindfield Development Areas

4.2.3 Development Guide

Environmental management

Aboriginal heritage and archaeology (guidance to clause 5.10 of the Local Environmental Plan)

4.2.3.1 Objective

- To preserve and manage key areas of Aboriginal heritage and archaeological remains.
- To ensure other areas of Aboriginal heritage and archaeological remains are assessed prior to development proceeding.

Development Provisions

General

- Sites 1, 2 and 3 shown in Figure 11 are to be preserved and managed to reflect their significance.
- All development-related surface disturbance works within a 300 metre radius of Sites 1,2 or 3 are to be monitored by Birpai Sites Officers. The affected areas are shown in Figure 11 as Buffer Area.
- Development is not to proceed in other areas containing Aboriginal archaeological sites without appropriate consideration and consultation with the relevant local Aboriginal community.
- In areas where development cannot avoid impacting on identified Aboriginal sites, "Consent to Destroy" Permits are to be sought under Section 90 of the NSW National Parks and Wildlife Act 1974, and any such application will be Integrated Development.

Site 1 (Karikeree 1)

- Prior to any earthworks, clearing works, or excavation works, an inspection of the proposed development site is to be undertaken by an Aboriginal Cultural Sites Officer from the Local Aboriginal Land Council and a report on the site inspection is to be obtained.
- If any Aboriginal artefacts are discovered during earthworks, subdivision and or building works, all work in the vicinity of the site is to immediately stop and the discovery reported to the Office of Environment and Heritage in accordance with the provisions of the National Parks and Wildlife Act 1974.
- If discovered, artefacts should be moved under an approved Aboriginal Heritage Impact Permit to a location outside the impact area but within South Oxley Neighbourhood in consultation with the relevant Aboriginal stakeholders and Office of Environment and Heritage.
- If a scarred tree is located during site works or development, all works are to immediately stop in the vicinity of the tree, the area cordoned off and contact made with the Office of Environment and Heritage, a suitably qualified archaeologist and the relevant Aboriginal stakeholders so that the site can be appropriately assessed and managed.

Site 2 (Wattoo 7)

- 'Wattoo 7' (Site 2 on Figure 11) has been assessed to be of high Aboriginal social and moderate to high local scientific significance. The following protection and management measures are required for this site:

Protection:

- A buffer area consisting of a 300 metre radius of Wattoo 7 is to be delineated within which development related surface disturbance works are to be monitored by Birpai Sites Officers.
- A sign is to be erected identifying the area as Bush Regeneration Area.
- Fencing is not required.

Custodianship:

- While Council will continue to own the site, the Birpai Local Aboriginal Land Council is entrusted with the care and control of the site.
- The shaded area on Figure 11 is to be allowed to regenerate naturally to bushland.

Aboriginal heritage and archaeology (guidance to clause 5.10 of the Local Environmental Plan)

- c. Vegetation management including control of noxious weeds (such as lantana) is the responsibility of the Birpai Local Aboriginal Land Council.
- d. Port Macquarie Hastings Council has responsibility for weed management along any roads bounding the site.

Site 3 (The Island)

j) The buffer area associated with 'The Island' (Site 3 on Figure 11) is partially located within the Partridge Creek Industrial Neighbourhood. The following protection measures are required for this site:

Protection:

- a. A buffer area consisting of a 300 metre radius of The Island is to be delineated within which development-related surface disturbance works are to be monitored by Birpai Sites Officers.

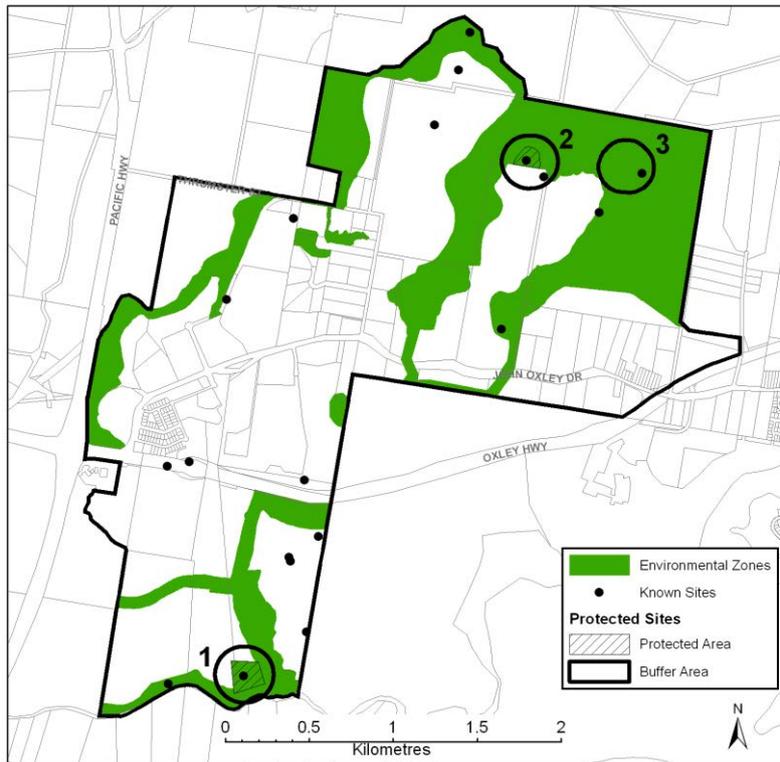


Figure 11: Aboriginal Archaeological Sites

Environmental Management Areas and Buffers

4.2.3.2 Objective (in addition to 2.3.3.4)

To coordinate development activity with the rehabilitation and dedication of environmental management areas (E2 and E3 Environmental Management Zones).

Development Provisions

General

- a) The first development application within a Development Area is to be accompanied by a Vegetation Management Plan for the Development Area prepared by a suitably qualified person and consistent with Council's Vegetation Management Plan Guidelines. The plan should include, but is not limited to, guidance on the following matters:
- a. Environmental Management Areas
 - b. Hollow-bearing trees
 - c. Koala habitat
 - d. Stormwater management
 - e. Asset Protection Zones
 - f. Airspace protection (in particular tree heights where affected by the Obstacle Limitation Surface)
 - g. Any additional matters identified in an 'Assessment of Significance' report related to the land
 - h. Relevant planning agreements
 - i. Staging of environmental works, including the co-ordination of clearing or regeneration works within individual development stages, and link these stages to development within the associated stormwater catchment
 - j. The timing of any dedication of land to Council, including the maintenance regime before and after dedication, and the process for certifying completion of works at critical stages
 - k. Relevant neighbourhood-specific matters and plans identified in this chapter.

Note: The first subdivision or major development application in a Development Area will usually prepare the Vegetation Management Plan. Subsequent development applications are required to be consistent with the approved plan or prepare a new plan for Council approval.

- b) Development retains mature vegetation in buffer areas and revegetates existing cleared areas of the E3 Environmental Management Zone as shown in Figure 12.
- c) Environmental areas are to be publicly managed in accordance with any voluntary planning agreements between landowners and Council, or managed by private land owners in perpetuity in accordance with management plans and enforced through development accompanied consent conditions.
- d) Development is in accordance with the approved Vegetation Management Plan.

North Oxley

- e) Environmental management works are consistent with the Environmental Management Principles and Works Plans shown at Figure 14 to Figure 17 and staged to occur in conjunction with development of the adjacent residential land generally in accordance

Environmental Management Areas and Buffers

with the Staging of Environmental Works Plan shown at Figure 17. Note however, the special requirements for Barton Ridge East detailed later in this chapter.

Partridge Creek Industrial

- f) Environmental management works are consistent with the Environmental Management Principles Plan at Figure 18 and the Environmental Management Works Plan at Figure 19 and staged to occur in conjunction with development of the adjacent residential land.
- g) Vegetated swales and bio-retention ponds are to be incorporated within the E3 Environmental Management Zone, as set out on Figure 18.

Partridge Creek Residential

- h) Vegetated swales and bio-retention ponds are to be incorporated within the E3 Environmental Management Zone, as set out on Figure 20.
- i) Environmental management works are consistent with the Environmental Management Principles Plan at Figure 20 and the Environmental Management Works Plan at Figure 21 and staged to occur in conjunction with development of the adjacent residential land.

South Oxley

- j) The Vegetation Management Plan demonstrates a buffer width of not less than 50 metres to both sides of the centre line of Karikeree Creek and 30 metres to both sides of the centre line of identified watercourses shown in Figure 22.
- k) Environmental management works are consistent with the Environmental Management Works Plan at Figure 22 and staged to occur in conjunction with development of the adjacent residential land.

Town Centre

- l) Environmental management works are consistent with the Environmental Management Principles Plan at Figure 23 and staged to occur in conjunction with development of the adjacent land as shown by the black arrows.
- m) The Vegetation Management Plan for each stage of restoration work identified in Figure 24 is to be submitted to Council and approved prior to the issue of consent for development relating to that stage.

West Lindfield

- n) Environmental management works are consistent with the Environmental Management Principles Plan at Figure 25 and with the Environmental Management Works Plan at Figure 26 and staged to occur in conjunction with development of the adjacent residential land.

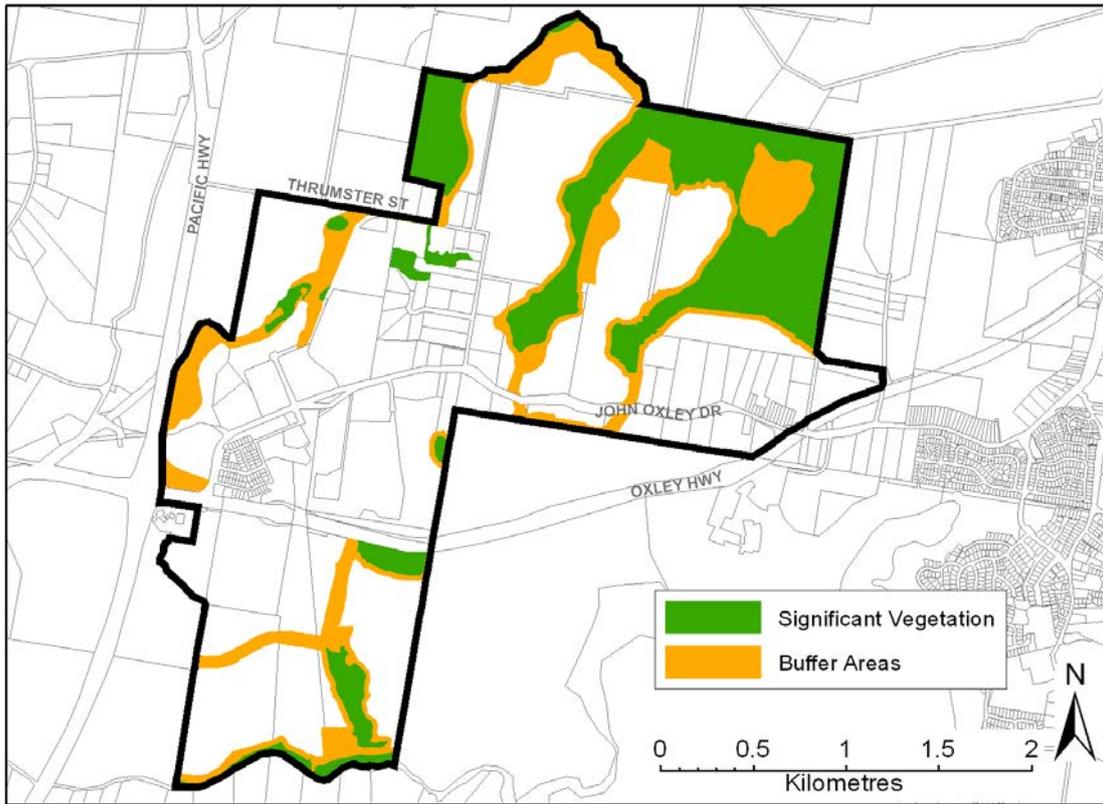


Figure 12: Significant Vegetation Areas

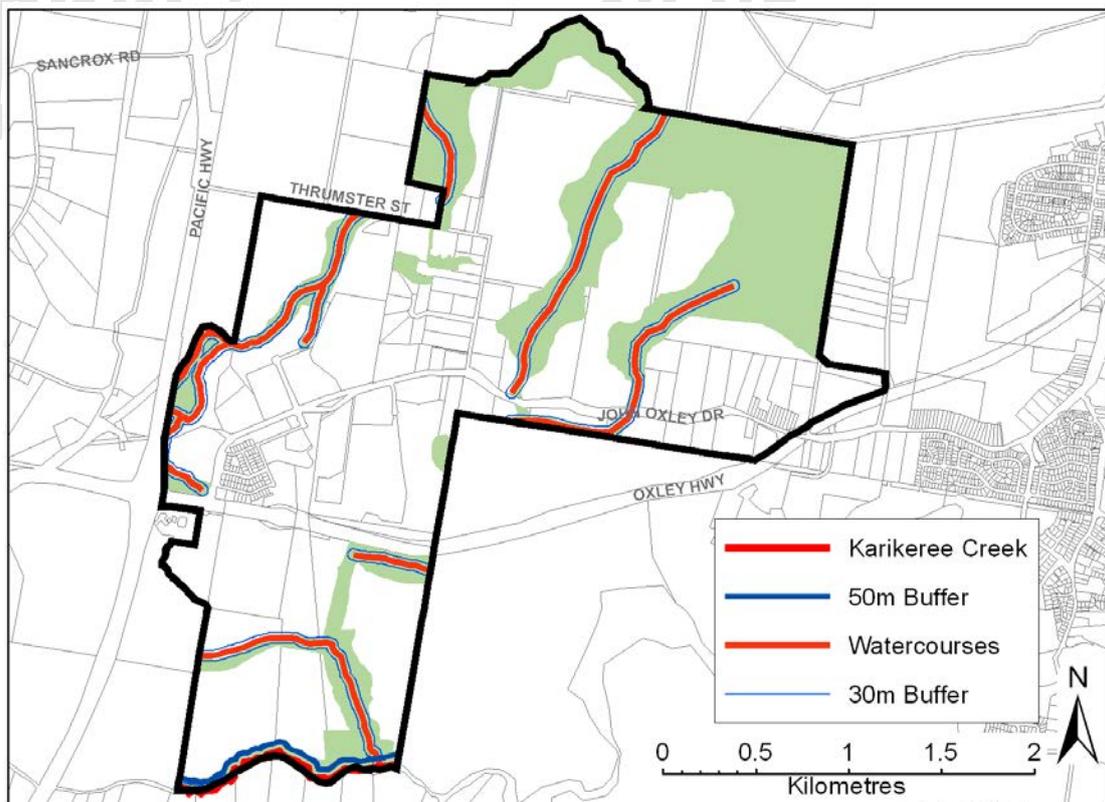


Figure 13: Watercourses

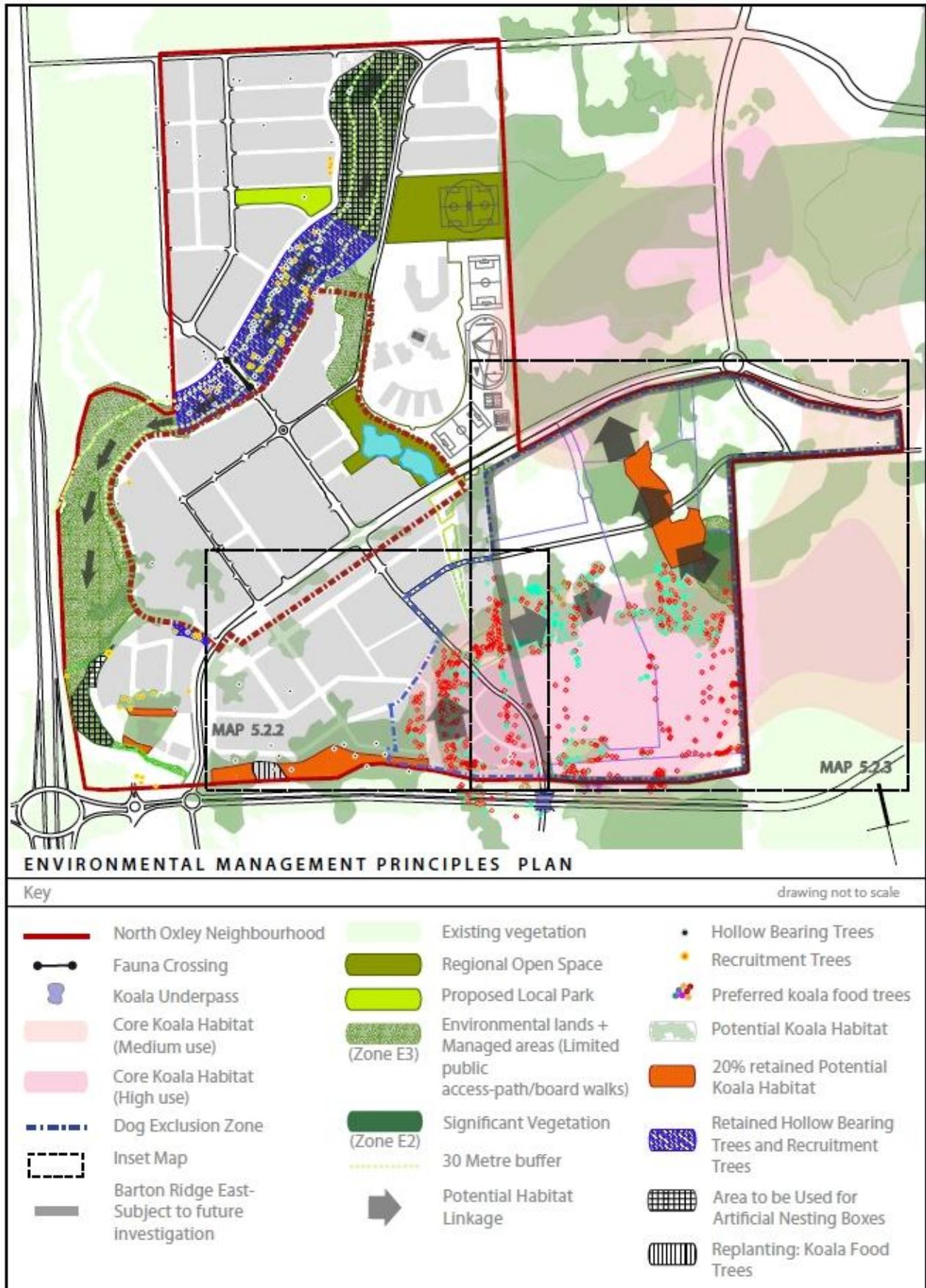


Figure 14: North Oxley - Environmental Management Principles Plan

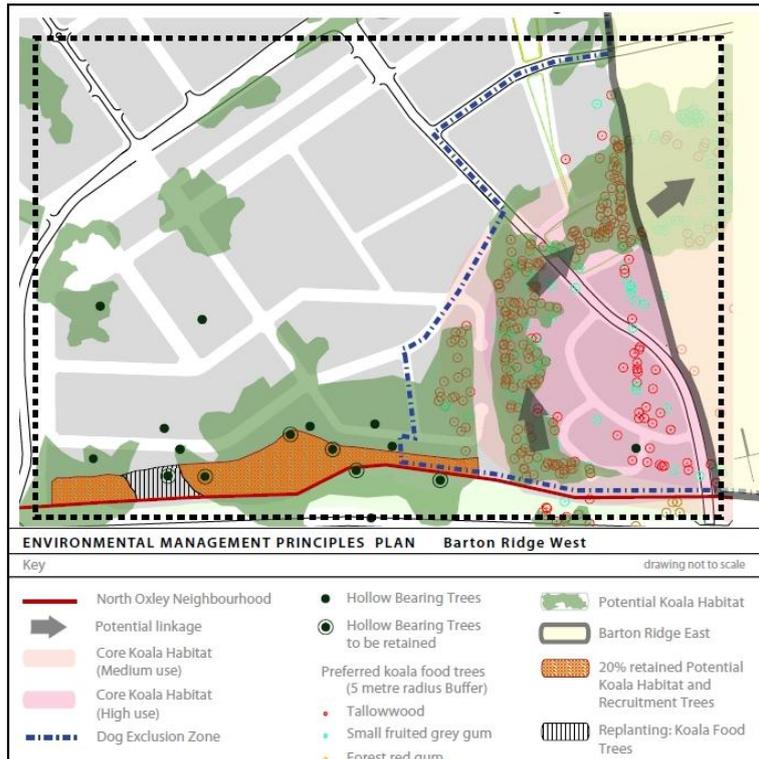


Figure 15: North Oxley - Barton Ridge West Environmental Management Principles Plan

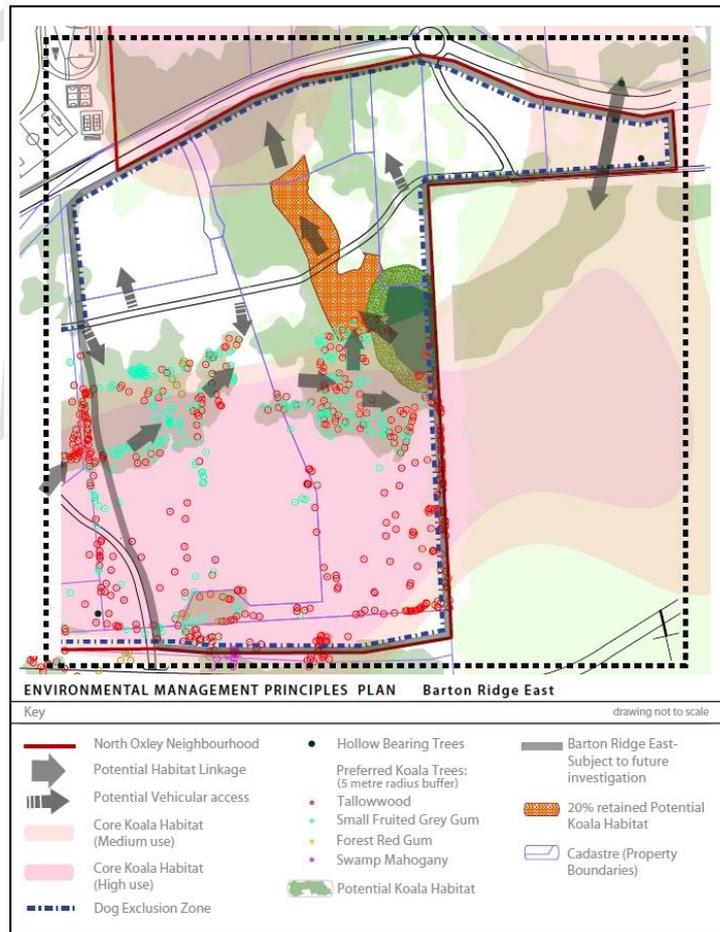


Figure 16: North Oxley - Barton Ridge East Environmental Management Principles Plan

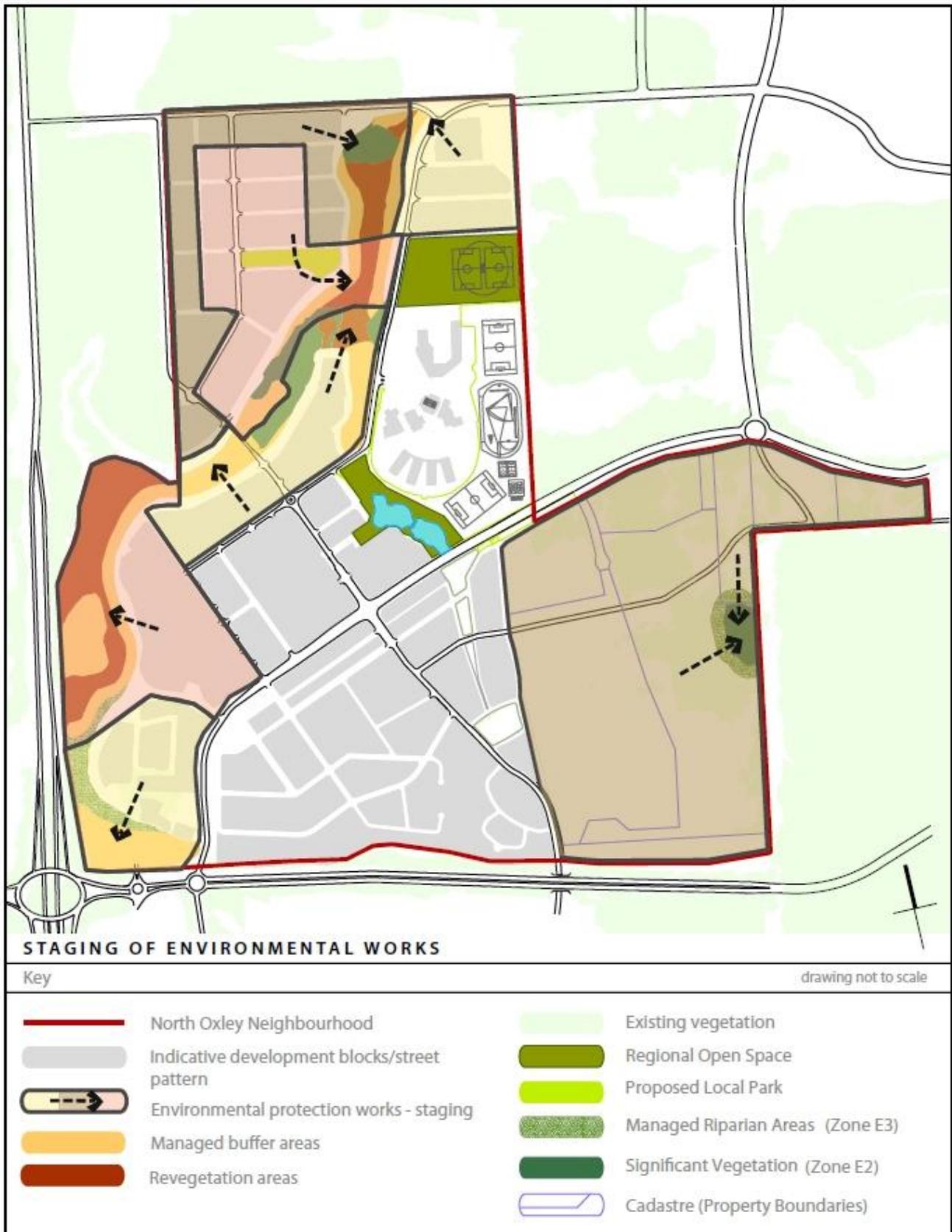


Figure 17: North Oxley - Environmental Management Works Plan

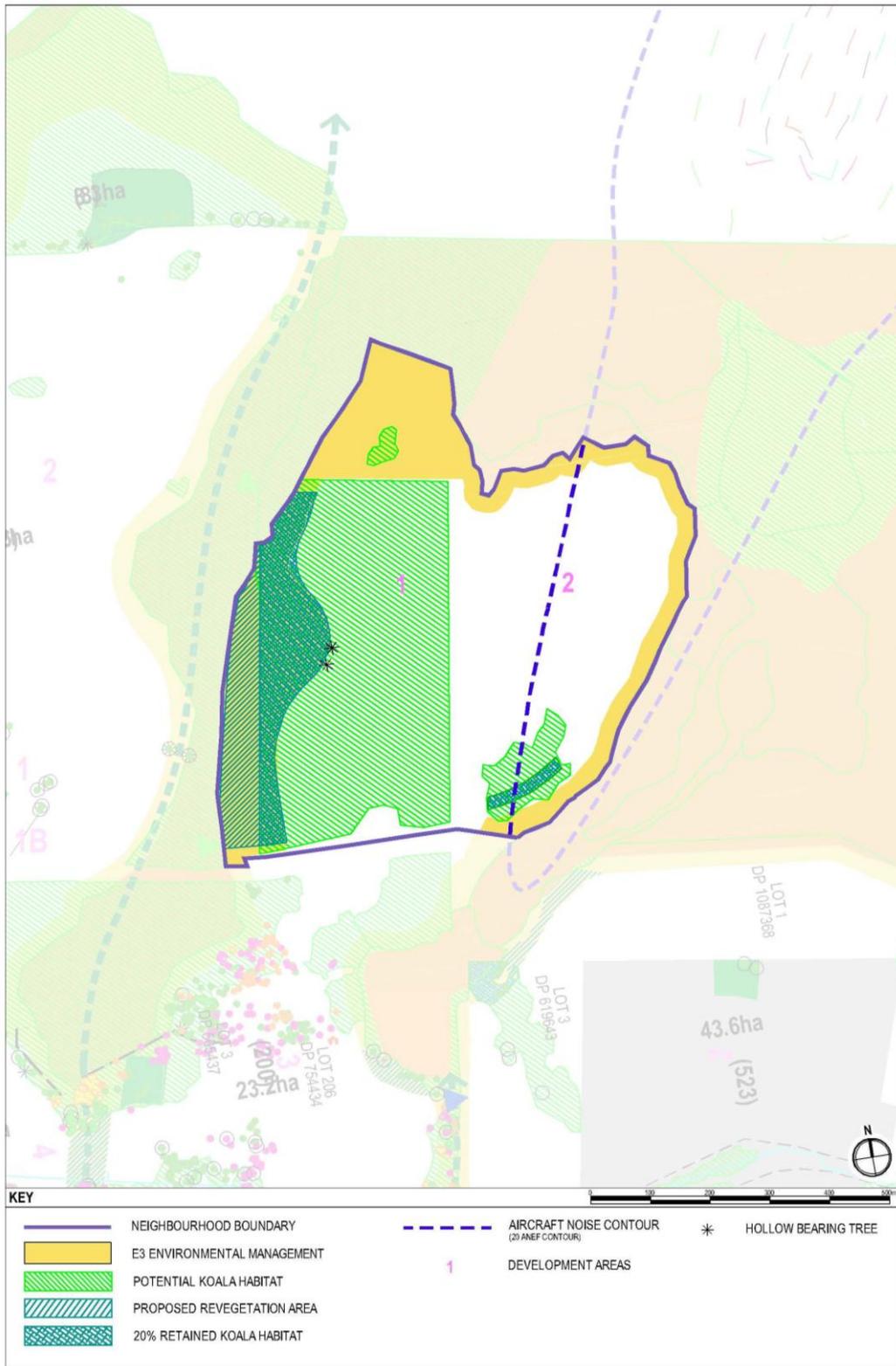


Figure 18: Partridge Creek Industrial - Environmental Management Principles Plan

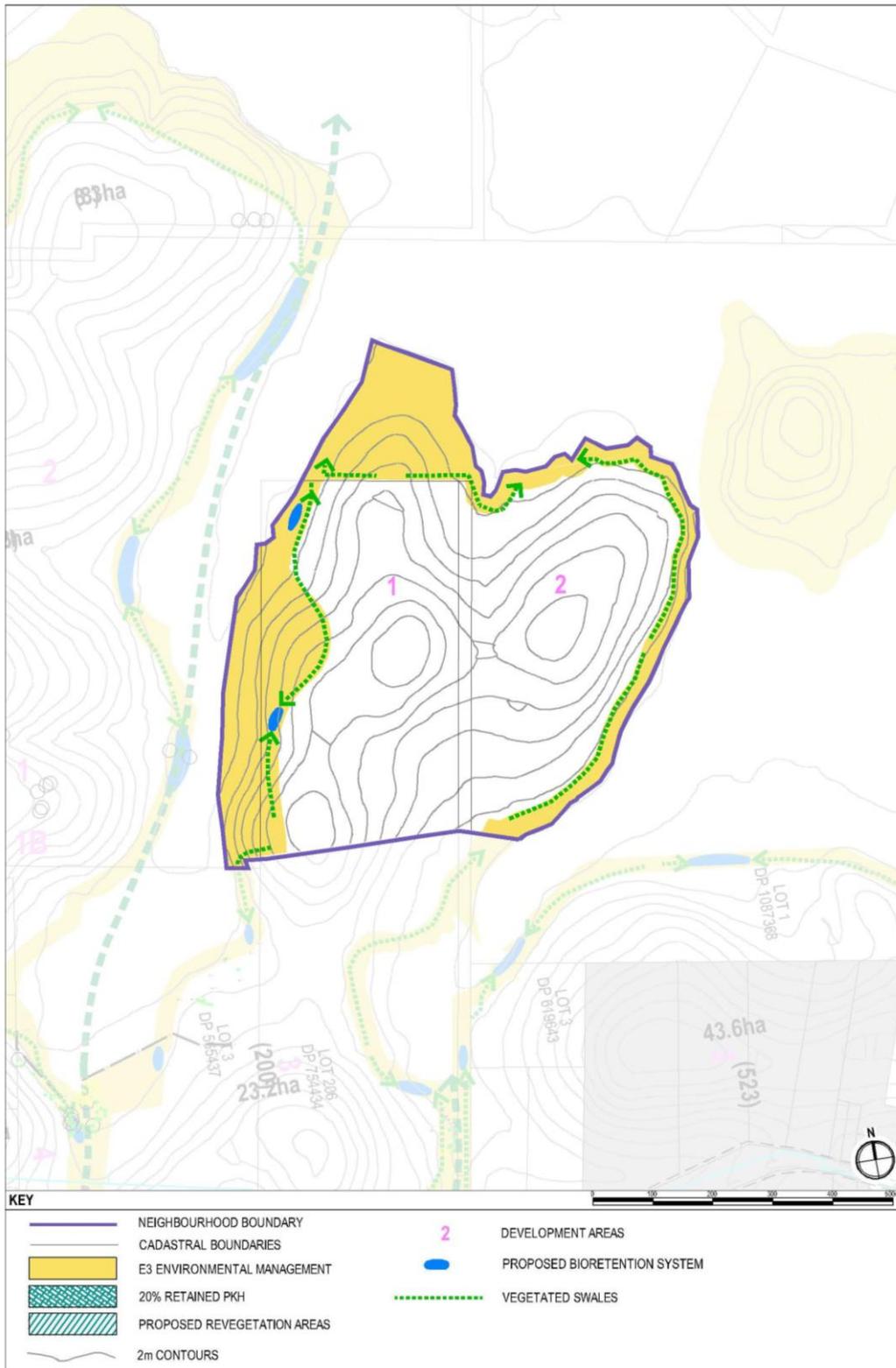


Figure 19: Partridge Creek Industrial - Environmental Management Works Plan

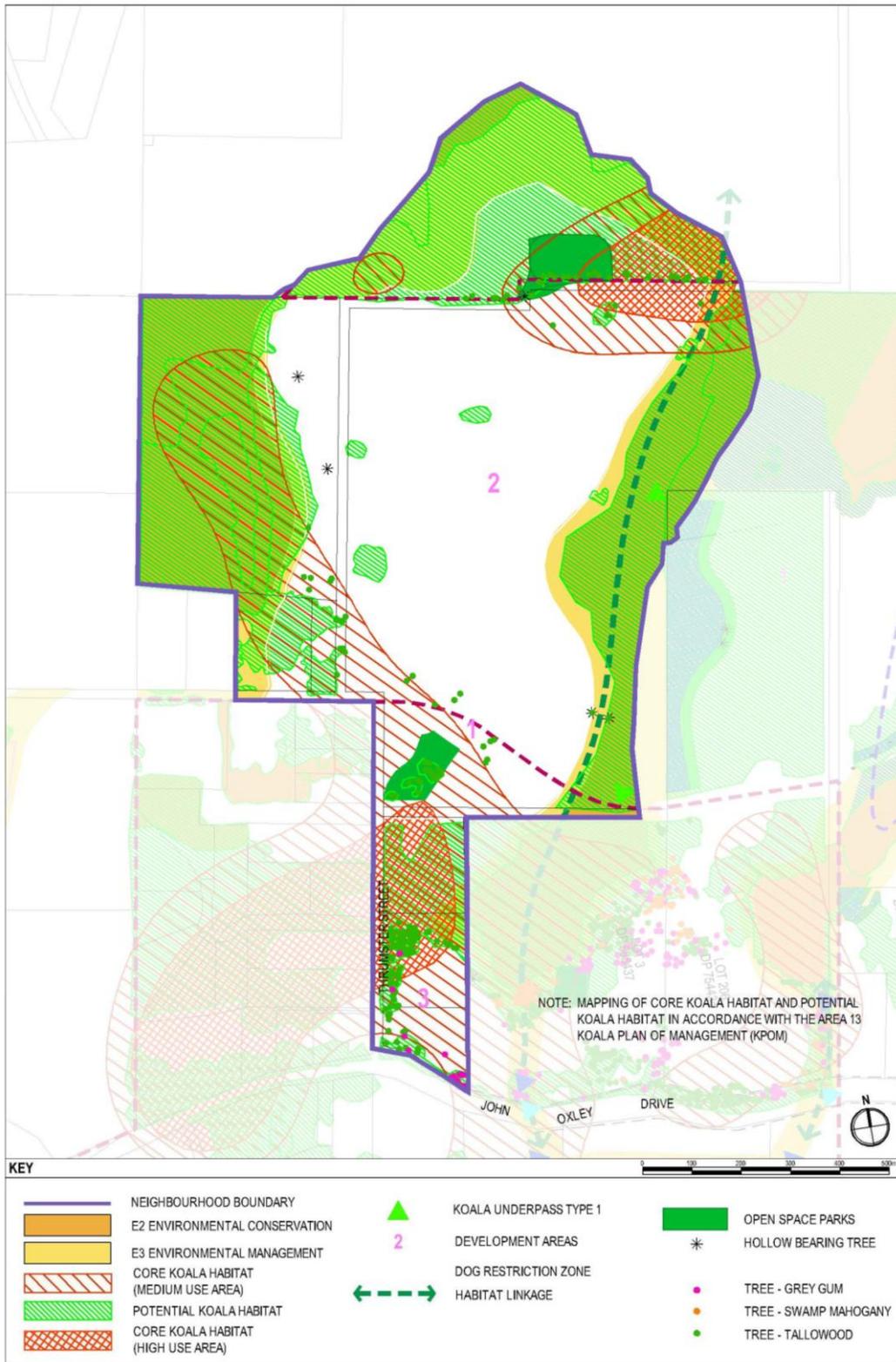


Figure 20: Partridge Creek Residential - Environmental Management Principles Plan

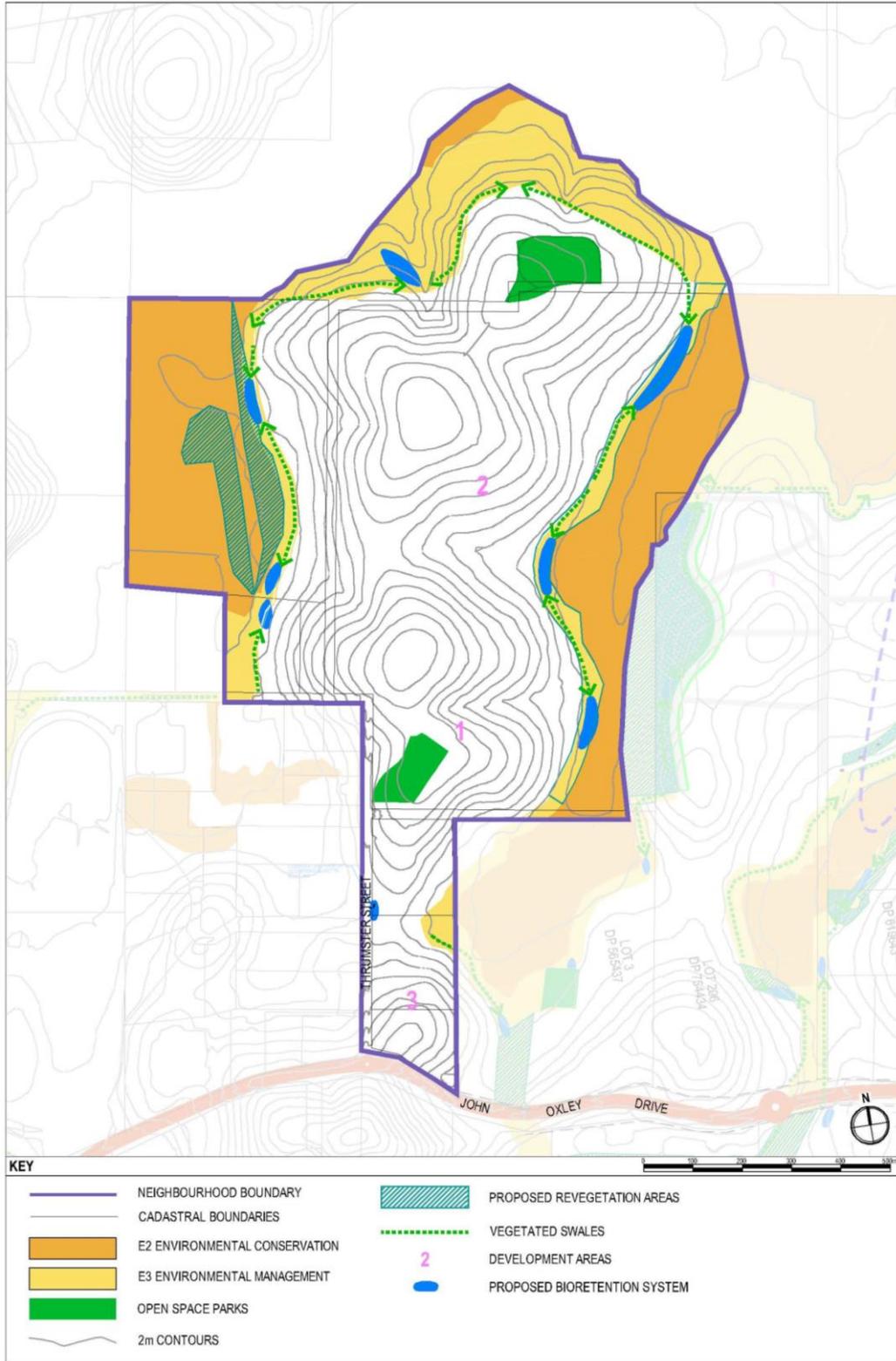


Figure 21: Partridge Creek Residential - Environmental Management Works Plan

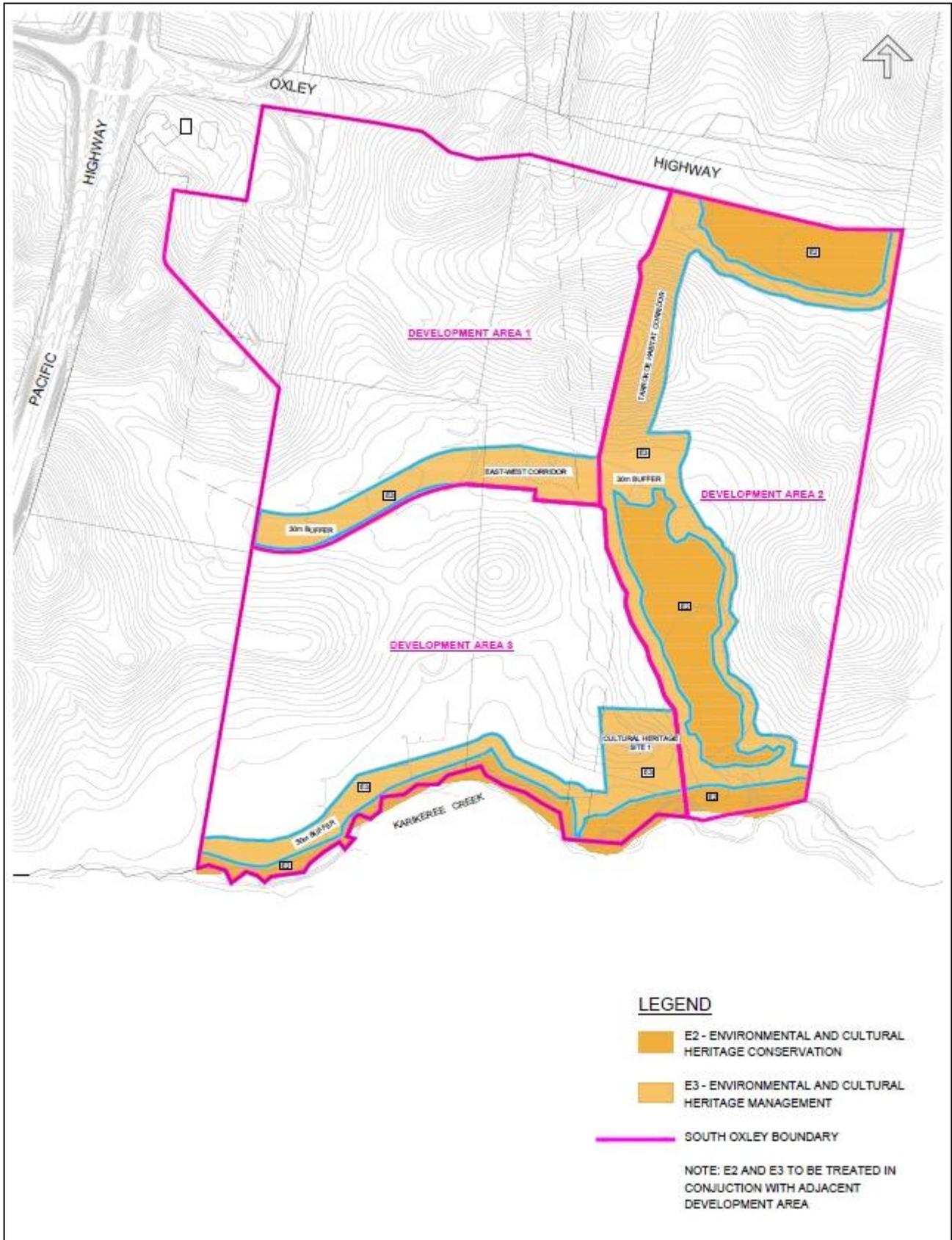


Figure 22: South Oxley - Environmental Management Principles Plan

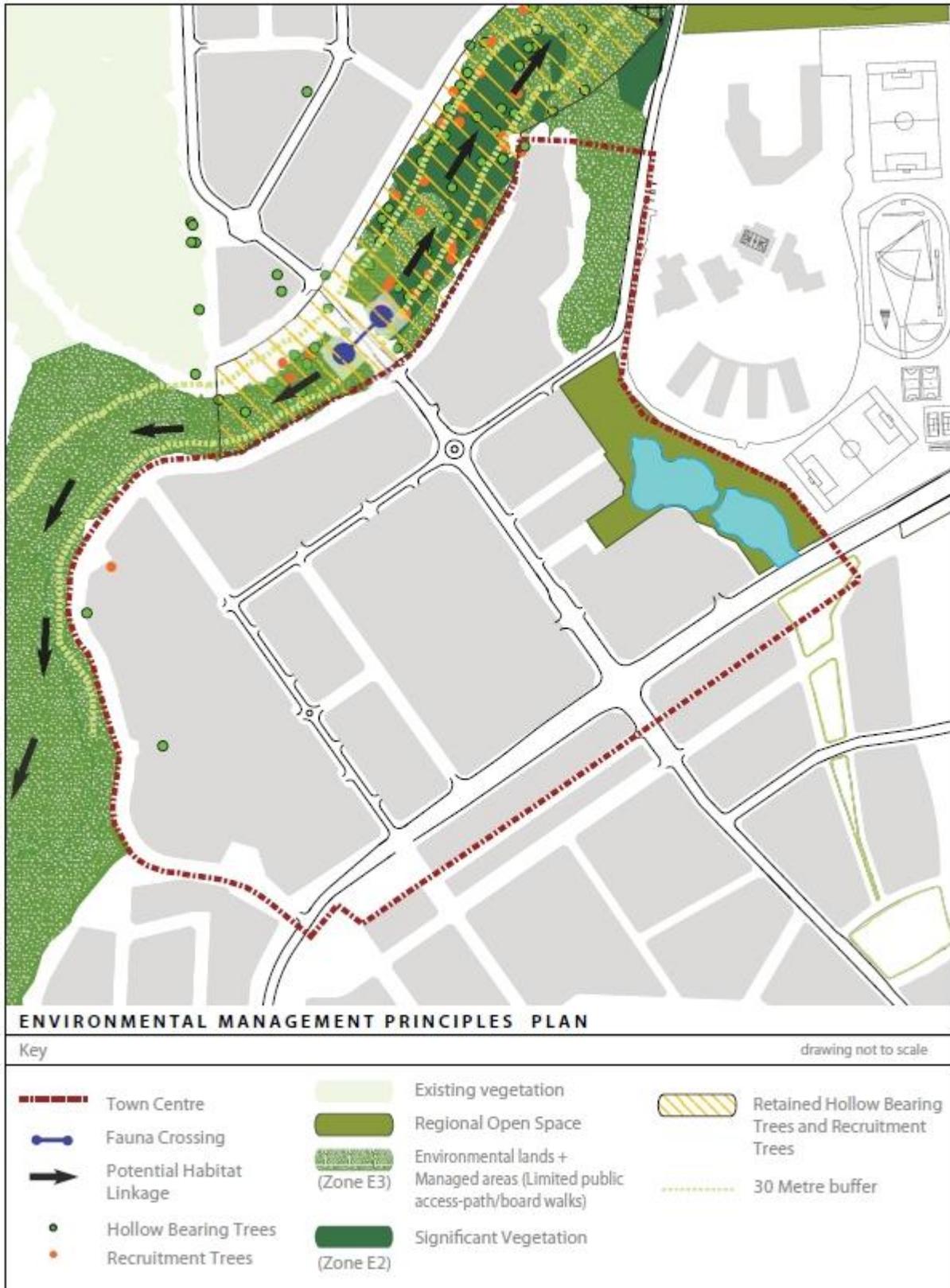


Figure 23: Thrumster Town Centre Environmental Management Principles Plan

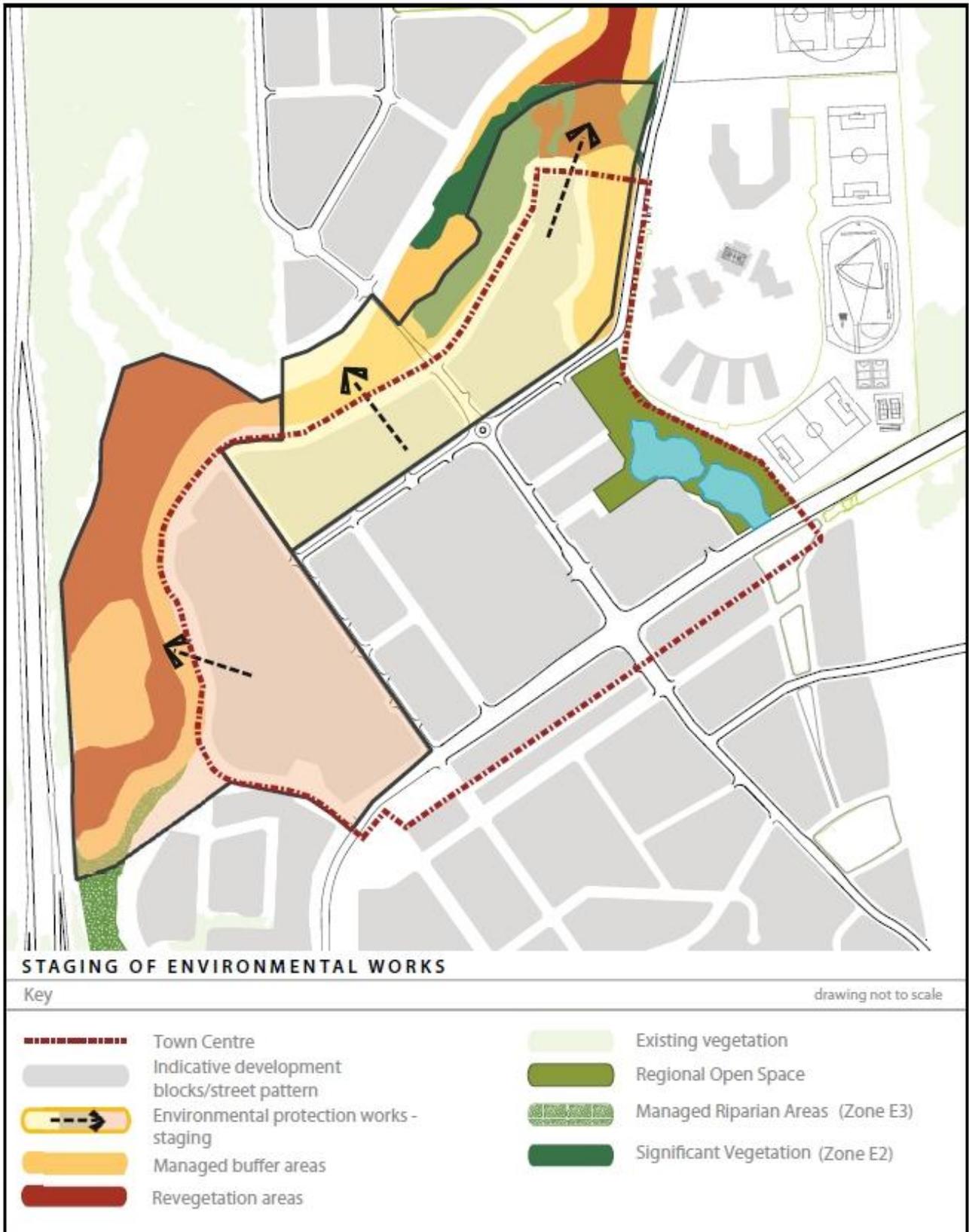


Figure 24: Thrumster Town Centre Environmental Management Works Plan



Figure 25: West Lindfield Environmental Management Principles Plan

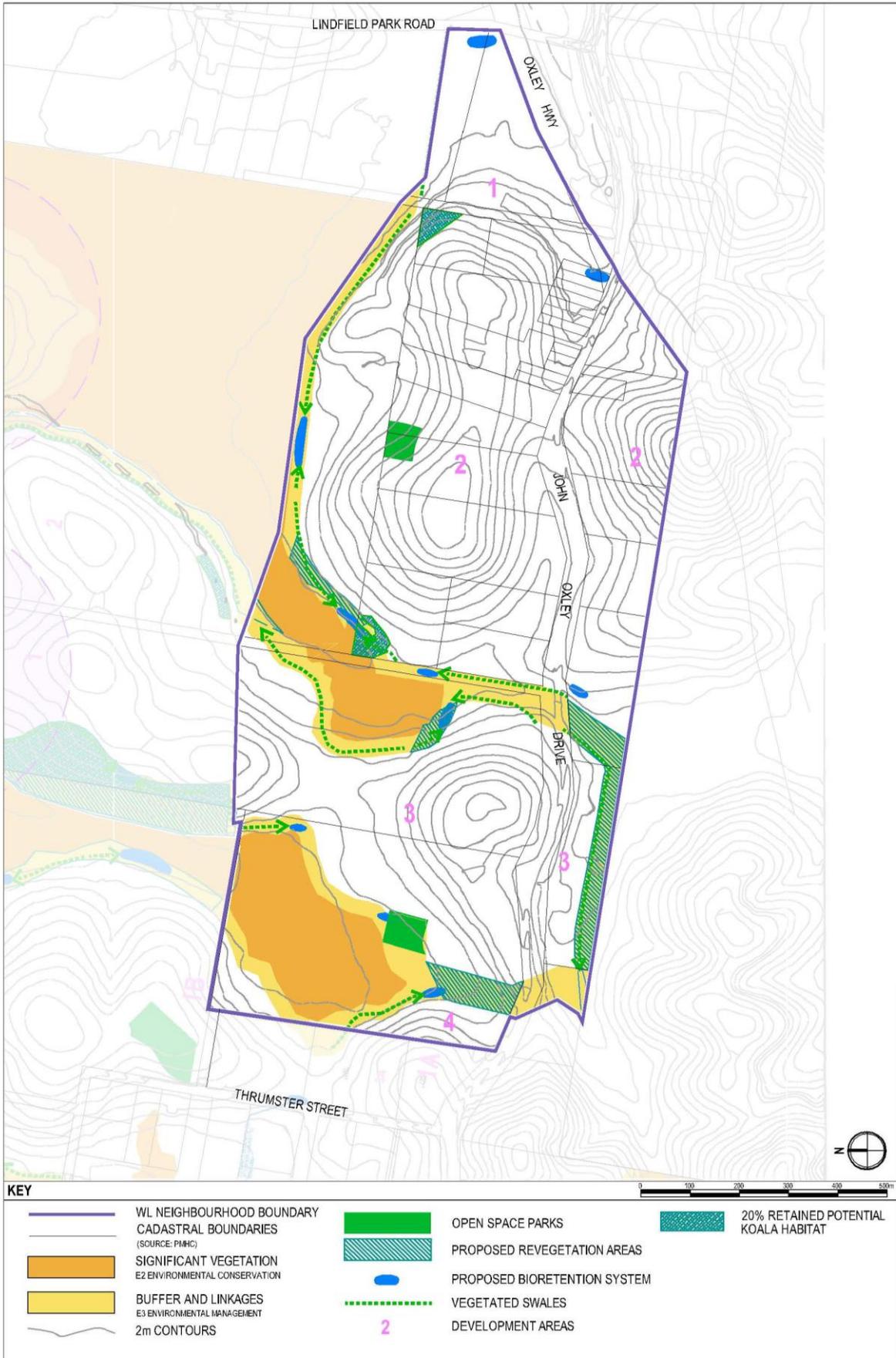


Figure 26: West Lindfield Environmental Management Works Plan

Hollow bearing trees**4.2.3.3 Objective**

Refer to 2.3.3.8

Development Provisions**General**

- a) Vegetation Management Plans confirm the hollow-bearing tree locations shown in the relevant neighbourhood maps and provide detailed guidance on their retention or possible removal.

Koala habitat**4.2.3.4 Objective (in addition to 2.3.3.7)**

- To assist the effective implementation of the *Area 13 Urban Investigation Area Koala Plan of Management*.

Development Provisions**General**

- a) Vegetation Management Plans are to provide necessary guidance to achieve the aims and objectives set out in Part 2 of the *Area 13 Urban Investigation Area Koala Plan of Management* as amended from time to time. This will primarily be achieved through the actions and measures set out in Parts 3 to 8 of the Koala Plan of Management. Key aspects of the Koala Plan of Management are shown on Figure 27.
- b) No lot is to be created within an area shown as “Dog Restriction Area” in Figure 27 unless there is to be a restriction prohibiting the keeping of domestic dogs attached to the title of the land.
- c) Development applications for subdivision of land in the Dog Restriction Area are to provide details of signage and information boards to advise prospective purchasers or tenants of the restriction on the keeping of dogs.
- Note: Council has adopted a Local Orders Policy controlling the bringing of dogs into the area.*
- d) All restoration works required by the Koala Plan of Management are to be undertaken prior to release of the subdivision certificate.
- e) Where E3 Environmental Management Zones cannot accommodate Koala feed tree offset plantings, a suitable area is to be identified and be subject to the same conditions as environmental lands as defined in the relevant voluntary planning agreements. Applicant must demonstrate that this additional environmental land is secured and managed in perpetuity to Council’s satisfaction.
- f) A habitat link is to be provided in accordance with Figure 27 which comprises a minimum of 20% of preferred Koala feed trees.

Partridge Creek Industrial

- k) Specifications are to be included in the relevant Vegetation Management Plan for the inclusion of Koala feed tree species within the nearby revegetation area associated with the environmental zone shown at Figure 18.

Partridge Creek Residential

- g) Where development provides for a connection to the Partridge Creek Industrial Neighbourhood, a ‘type 1’ Koala underpass within the E3 Environmental Management Zone is to be provided generally in the location shown on Figure 27.
- h) Development provides suitable signage within the northern area to advise of the importance of the area for the Koala and that domestic dogs are prohibited from entering this area

South Oxley

- a) Type 4 Koala Crossings are to be included in the design for the East West link roads across the habitat corridor between Development Areas 1 and 2. Refer to Road Hierarchy Figure 59.
- b) Where additional offset plantings are required they are to be located around the South East corner of

Koala habitat

Development Area 2 and along the Karikaree Creek Corridor.

West Lindfield

- i) The Development Application for urban development adjoining the western north-south buffer / habitat link will provide for a 'type 2' Koala underpass within the north-south buffer / habitat links as shown on Figure 25.
- j) The initial Development Application for urban development within Area 4 provides for a 'type 2' Koala underpass within the north-south buffer / habitat link as shown on Figure 25.
- k) The initial Development Application for urban development within Area 3 provides for a 'type 2' Koala underpass within the eastern and western north-south buffer / habitat links as shown on Figure 25.
- l) Where development south of John Oxley Drive provides for a connection to either Area 3 (east) or to the west, the Development Application will provide for a 'type 2' Koala underpass within the E3 Environmental Management Zone as shown on Figure 25.
- m) Where development south of John Oxley Drive provides for connection to Area 3, the Development Application will provide for a 'type 2' Koala underpass within the E3 Environmental Management Zone as shown on Figure 25.

Core Koala Habitat

General

- a) Dwellings must be located so as to retain preferred Koala feed trees identified on neighbourhood maps.
- b) Residential allotments containing preferred Koala feed trees of a size specified in Part 6 of the Koala Plan of Management must ensure their protection through an effective restriction on the title of the land.
- c) High-density subdivision is not supported in the High-Use Core Koala Habitat identified on Figure 27.
- d) Vegetation Management Plans relating to areas defined as Core Koala Habitat on Figure 27 should demonstrate that any landscaping incorporates preferred Koala feed trees.

South Oxley

- e) The grassed open area within the mapped Core Koala Habitat of Development Area 2 may be considered for a Neighbourhood Park, where such use can be shown to be compatible with the Koala Plan of Management and not hinder the passage of Koala's across the mapped Core Koala Habitat area. Refer Figure 22.
- f) Modification to the Koala Plan of Management may be considered prior to determining Development Applications affecting the Core Koala Habitat areas in South Oxley Neighbourhood, where current and suitably rigorous SAT assessments of the Potential Koala Habitat and Core Koala Habitat in South Oxley Neighbourhood demonstrate a better outcome for Koala's and Koala Habitat can be achieved in this neighbourhood.

Potential Koala Habitat

General

- a) Any proposed lot that contains potential Koala habitat to be retained in private ownership contains an adequate building envelope outside of the vegetation to be retained and any associated Asset Protection Zone. The building envelope is to be identified in an appropriate restriction on the title of each lot.
- b) The removal of trees within the areas of Potential Koala Habitat are to be compensated by the inclusion of Koala feed tree species within the adjacent Environmental Zone. Specifications are to be included in the relevant Vegetation Management Plan

North Oxley - Barton Ridge West Development Area

- c) The Vegetation Management Plan is to provide for 20% of the potential Koala habitat within that development area to be retained, generally in the location shown on Figure 15.

South Oxley

- d) The Koala Plan of Management provisions for retention of 20% of mapped Potential Koala Habitat for

Koala habitat

Development Areas 1 and 2 may be consolidated into the South East extent of the Potential Koala Habitat in Development Area 2. Refer to the Environmental Principles Plan at Figure 22 and the modified perimeter road alignment in the Road Hierarchy Map Figure 63.

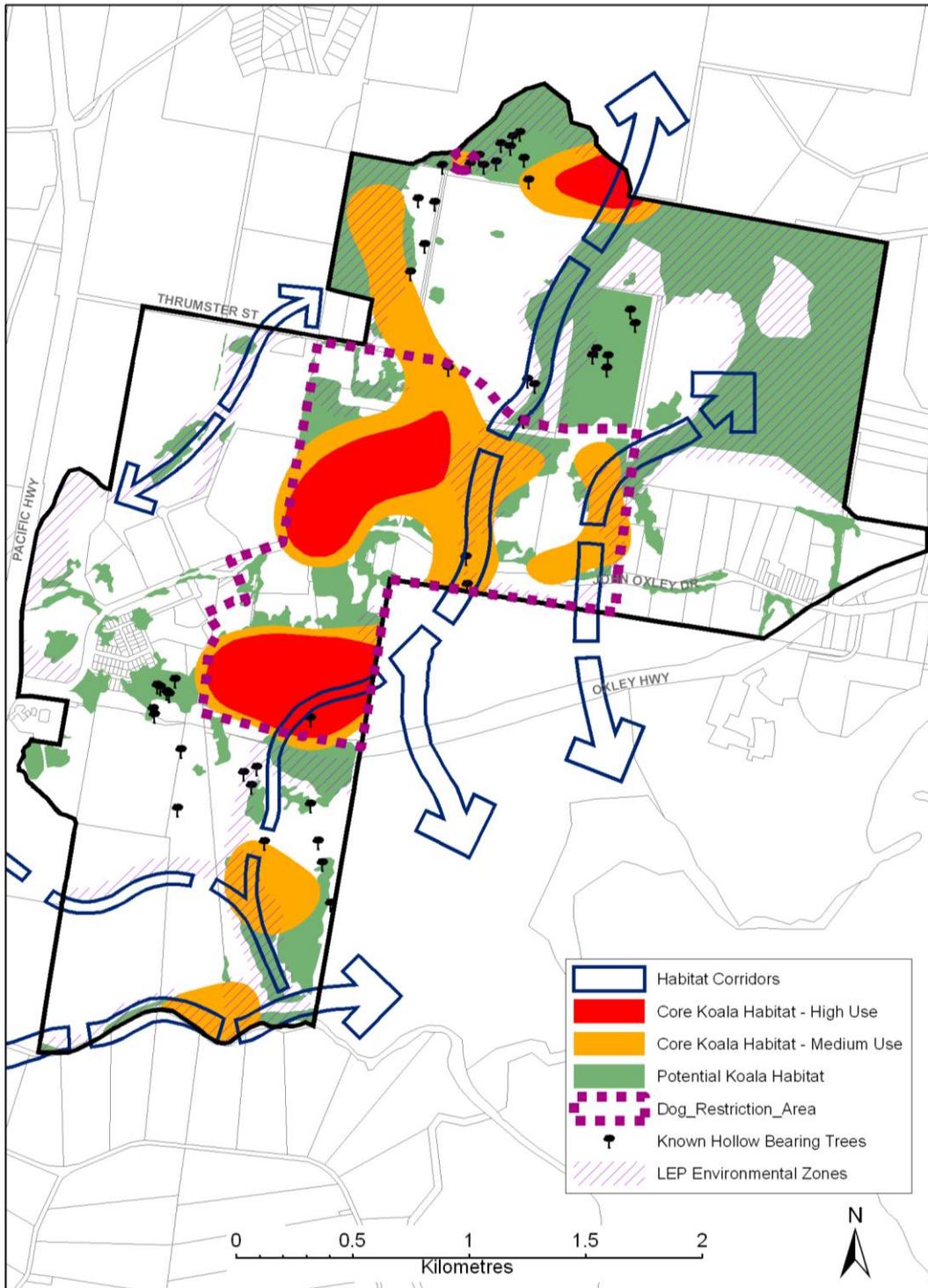


Figure 27: Koala Habitat

Stormwater Management

4.2.3.5 Objective (in addition to Objectives 3.6.3.17-19)

- To protect and enhance the natural water systems and water quality.
- To ensure no net increase in runoff.
- To ensure that stormwater discharge does not degrade the water quality of surface runoff and underground receiving waters.
- To maximise opportunities for local on-site storage where feasible and appropriate.
- To avoid adverse alteration to water balance and the groundwater system.

Development Provisions

General

- a) Where development is required to prepare a Stormwater Management Strategy, the strategy is to have regard to the relevant neighbourhood Stormwater Management Strategy and the Thrumster Integrated Water Management Plan Stage 3 Final Report (Maunsell 2007) and incorporates the following design solutions:
- Bioretention areas ('rain gardens'), which can be integrated into the residential streetscape along local streets. Rain gardens are to be provided at a density of 50 square metres per hectare and will desirably be between 5 metres x 3 metres and 7 metres x 3 metres in size.
 - Grassed swales along all perimeter roads and divided collector roads to collect and treat road runoff.
 - Conventional stormwater piped trunk drainage system extending from the residential bioretention areas to the 'end-of-line' treatment system.
 - End-of-line bioretention treatment systems (off-line) before discharge of stormwater into natural waterways. End-of-line stormwater treatment systems that incorporate standing water (eg wetlands/ponds) are not preferred. It will be the developer's responsibility to ensure the securing of any off-site facilities to achieve the preferred location of end-of-line stormwater treatment infrastructure.
 - Structural water quality management devices, including gross pollutant and sediment traps, oil/water separators (where required) and litter management devices for the Town Centre, neighbourhood centres and light industrial areas.
 - Residential Bioretention Areas for typical low - medium density residential areas (with approximately 60% impervious area), are to be located within the street reserve (as shown in Figure 28 and designed as follows:
 - Desirably be 5 metres x 3 metres to a maximum of 7 metres x 3 metres in size.
 - Maximum ponding depth 300 mm.
 - Maximum ponding time of 24 hours.
 - Filter medium comprising sandy loam with a saturated permeability coefficient between 40 and 180 mm/hr.
 - Minimum filter medium depth of 600 mm.
 - By-pass for flows greater than the design event.

Stormwater Management



Figure 28: Example of typical bioretention system along roadway

- Grassed Swales (vegetated depressions that are used for the conveyance and treatment of stormwater runoff from impervious areas, as shown in Figure 29) are to be designed as follows:
 - Longitudinal grades between 1% and 6%.
 - Bed width minimum of 0.8 metres.
 - Batter slopes no steeper than 1:4.



Figure 29: Example of typical grassed swale along roadway

- End-of-line bioretention systems are to be designed in accordance with the following:
 - A total bioretention surface area equivalent to 2% of the contributing catchment area.
 - A sub-soil filtration surface area (with underlying sub-soil pipes) equivalent to 0.5% of the total contributing catchment area.
 - A maximum ponding time of 24 hours.
 - Filter medium comprising sandy loam with a saturated permeability coefficient between 40 and 180 mm/h.
 - Minimum filter medium depth of 0.6 metres.
 - A Maximum ponding depth of 0.3 metres.

Stormwater Management

- o Flood attenuation to reduce the post-development flows to no greater than the 1:100 year average recurrence interval for pre-development flows.



Figure 30: Example of sand filter with dual purpose

- b) Where an alternative water sensitive urban design (WSUD) solution is proposed, it is to:
 - a. demonstrate compliance with the water quality targets, and
 - b. include justification for the alternative method, and
 - c. demonstrate that the overall number of treatment system is not increased, and
 - d. include suitably detailed documents, plans and computations of the preferred WSUD strategy.
- c) Where inconsistent, development applications are to demonstrate attainment of the objectives for this section and Objectives 3.6.3.17-19.

Additional neighbourhood design considerations

North Oxley

- d) Development within Development Areas should generally be consistent with the strategy at Figure 32.

Note: Preliminary design investigation for North Oxley residential areas has identified the potential need for an additional end-of-line bioretention area. The need for such a structure is to be justified during the detailed design phase.

Partridge Creek Industrial

An Indicative Stormwater Management Strategy for the Partridge Creek Industrial Neighbourhood is included at Figure 33.

Partridge Creek Residential

An Indicative Stormwater Management Strategy for the Partridge Creek Residential Neighbourhood is included at Figure 34.

South Oxley

An indicative Stormwater Management Strategy for South Oxley is included at Figure 35.

Town Centre

An indicative Stormwater Management Strategy for the Town Centre is included at Figure 36.

Permeable pavements

- e) Permeable pavements are to be used in car parking areas to minimise peak stormwater flows.

Grass swales

Stormwater Management

- f) Central medians are to be provided to the Main Street and significant neighbourhood avenues (collector roads).
- g) Development is required to incorporate gently sloping grassed or rock lined swales in appropriate locations.

Traditional detention basins

- h) Ornamental detention basins in the upper catchments surrounding the Town Centre are to be considered in the design of development.
- i) Detention basins are to be designed to serve multiple purposes and provide recreational spaces as well as stormwater control.

Gross Pollutant Traps

- j) Gross Pollutant Traps should be provided to intercept debris or litter before it enters receiving waters, must be considered having regard to upstream land uses and other proposed treatment facilities.

Greenroofs

- k) Consideration must be given to the incorporation of greenroofs and other forms of roof garden as part of buildings to assist in the detention and utilisation of rainwater, stormwater filtration, storm flow management and promotion of environmentally sustainable design.

West Lindfield

An Indicative Stormwater Management Strategy for the West Lindfield Neighbourhood is included at Figure 37.

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Not Council policy

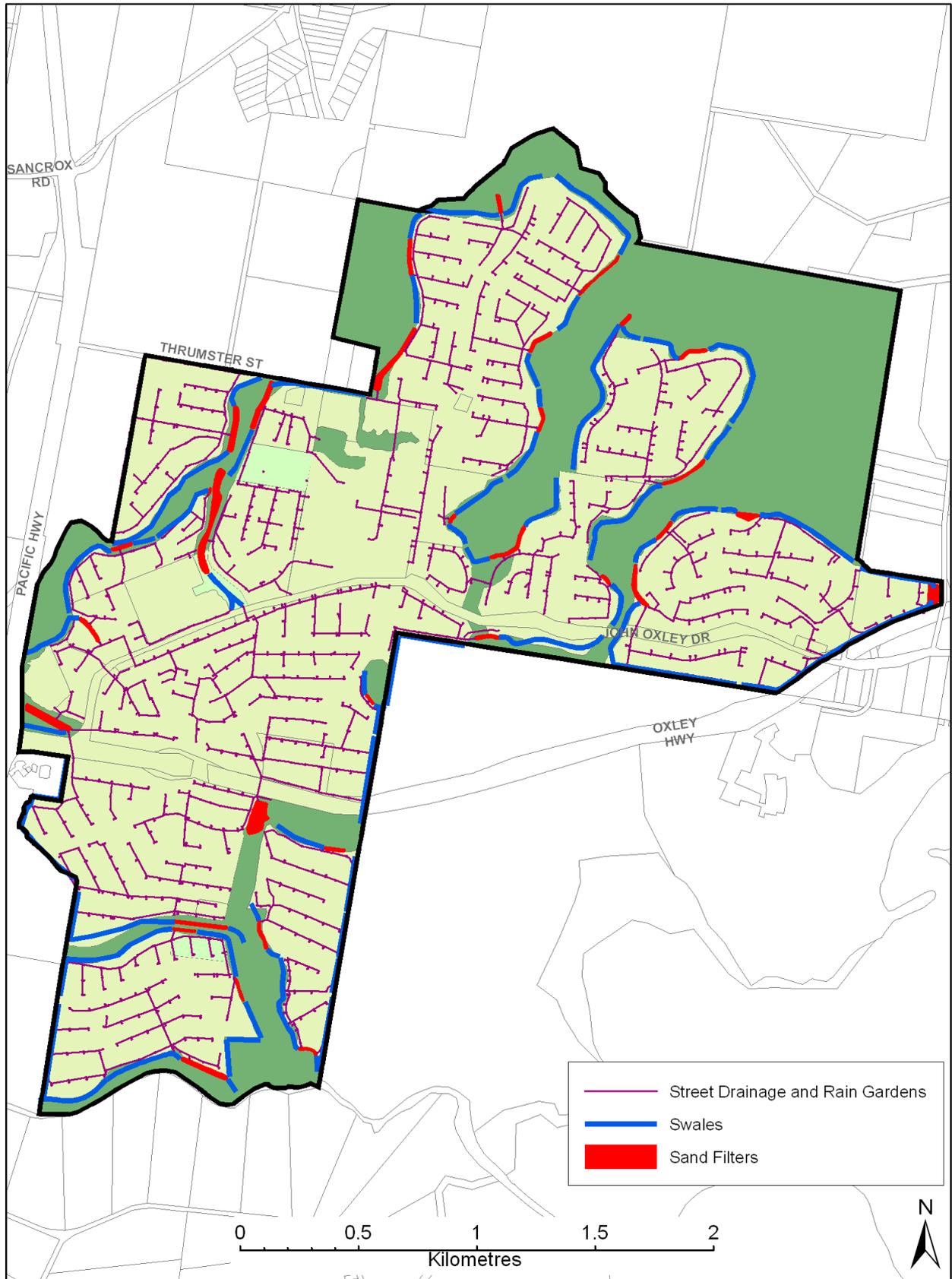


Figure 31: Stormwater Management

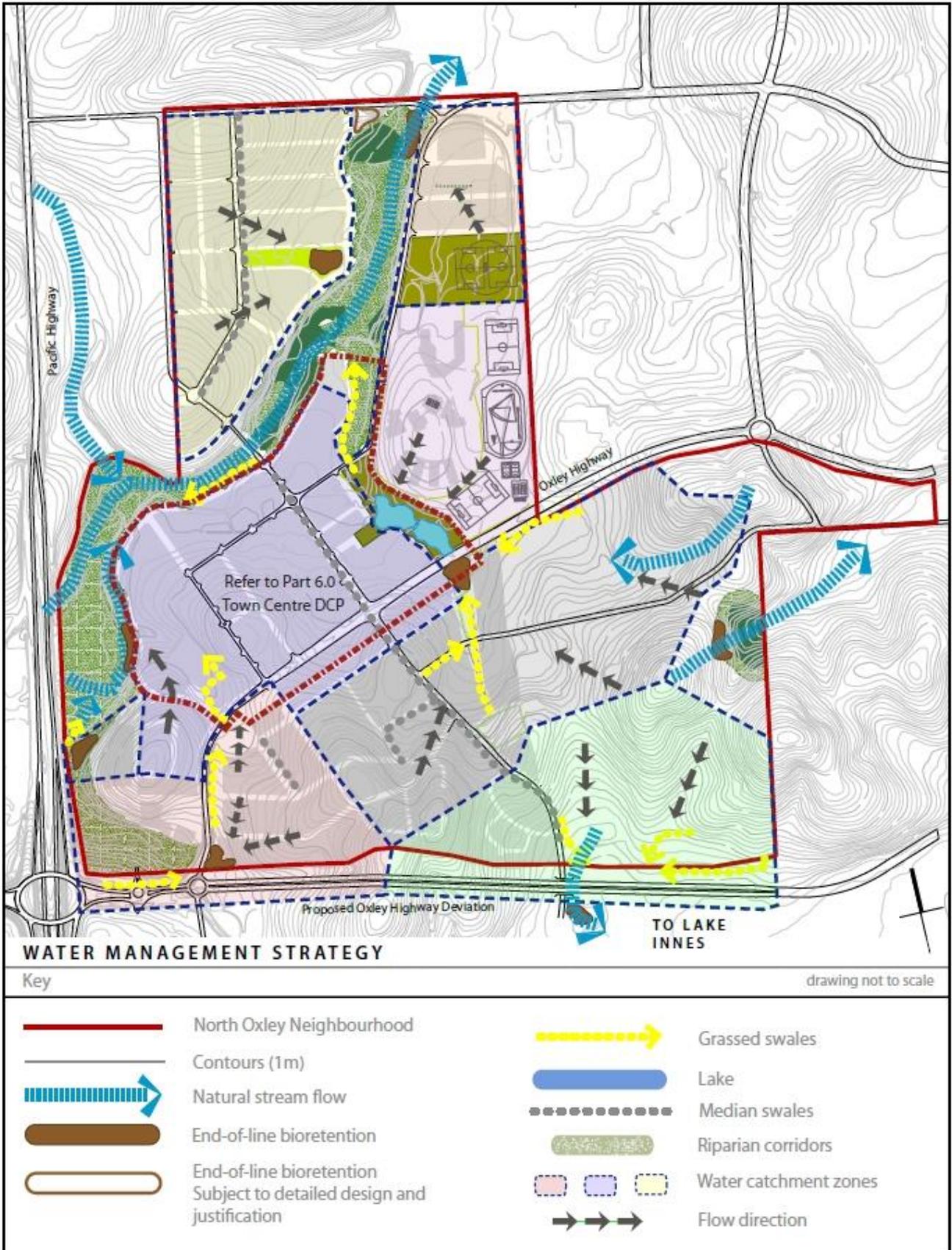


Figure 32: North Oxley Stormwater Management Plan

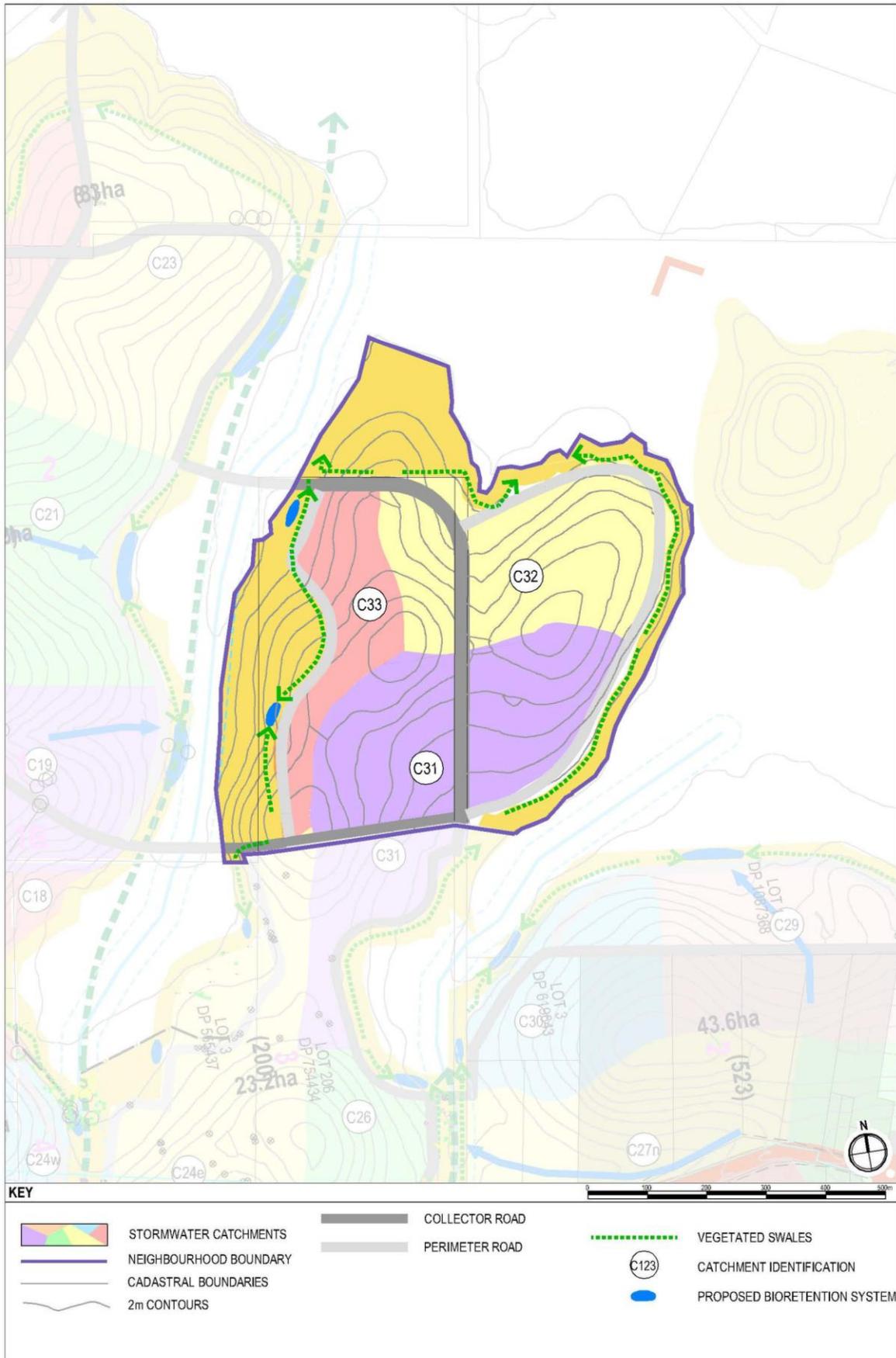


Figure 33: Partridge Creek Industrial Stormwater Management Plan

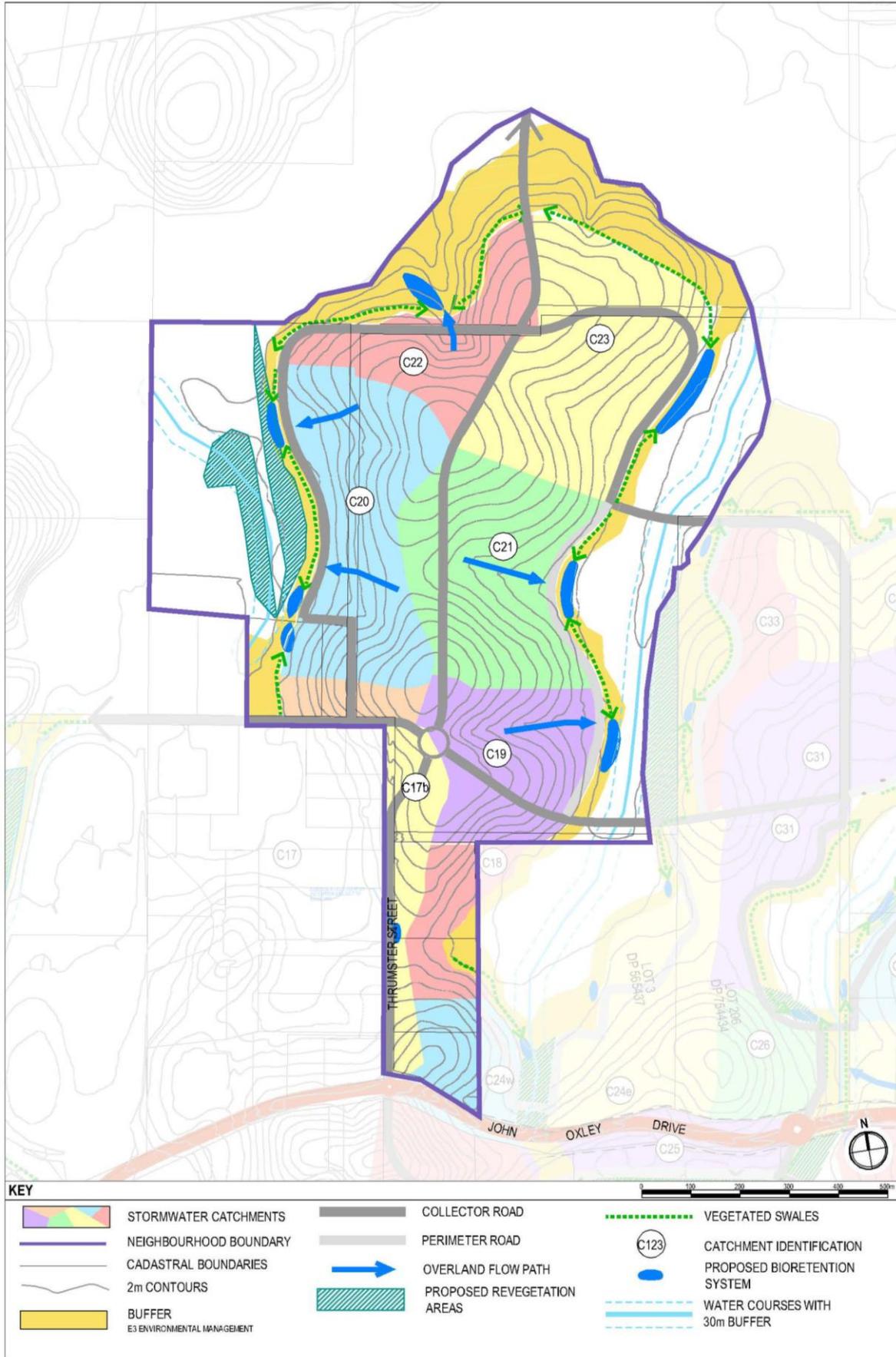


Figure 34: Partridge Creek Residential Stormwater Management Plan

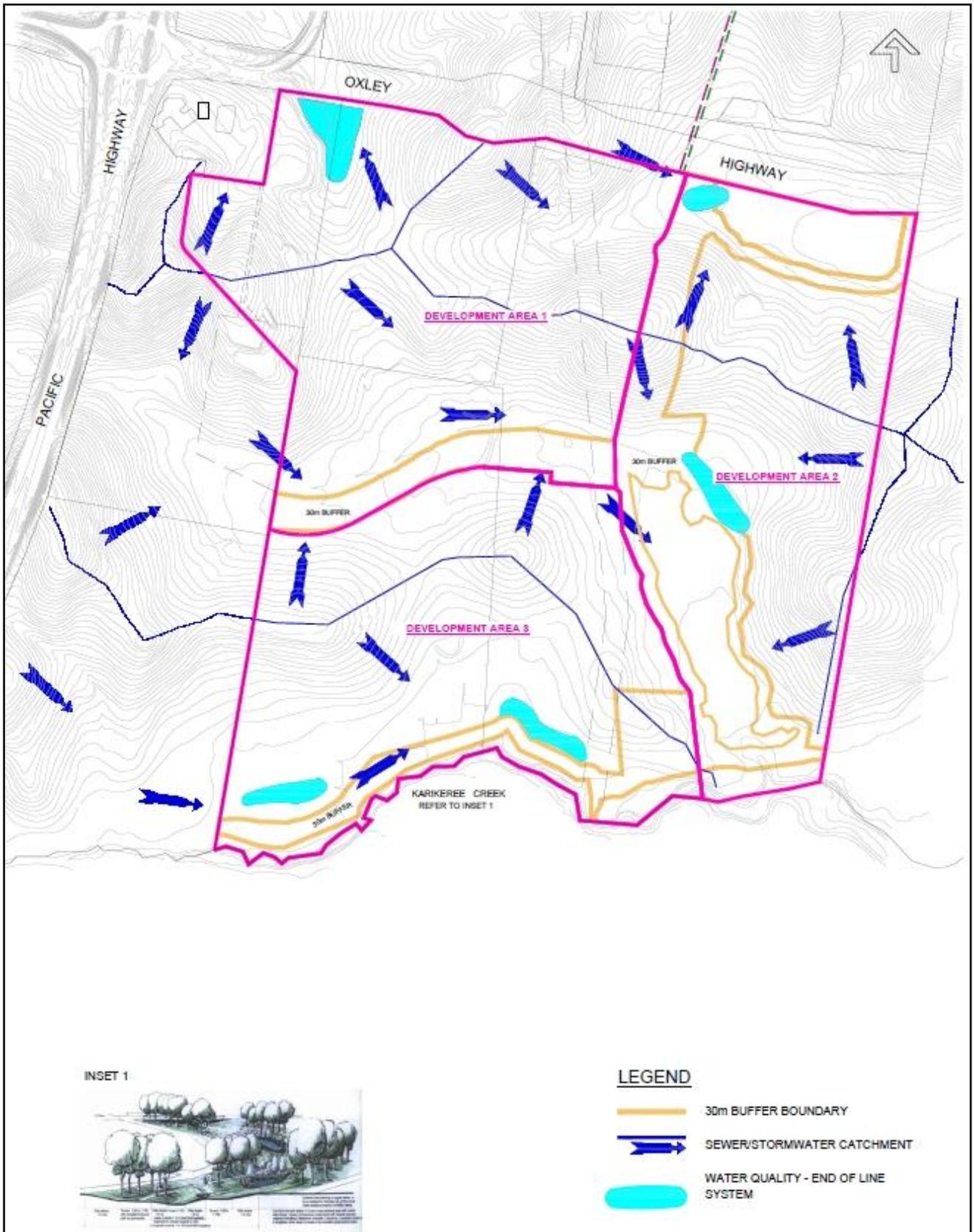


Figure 35: South Oxley Stormwater Management

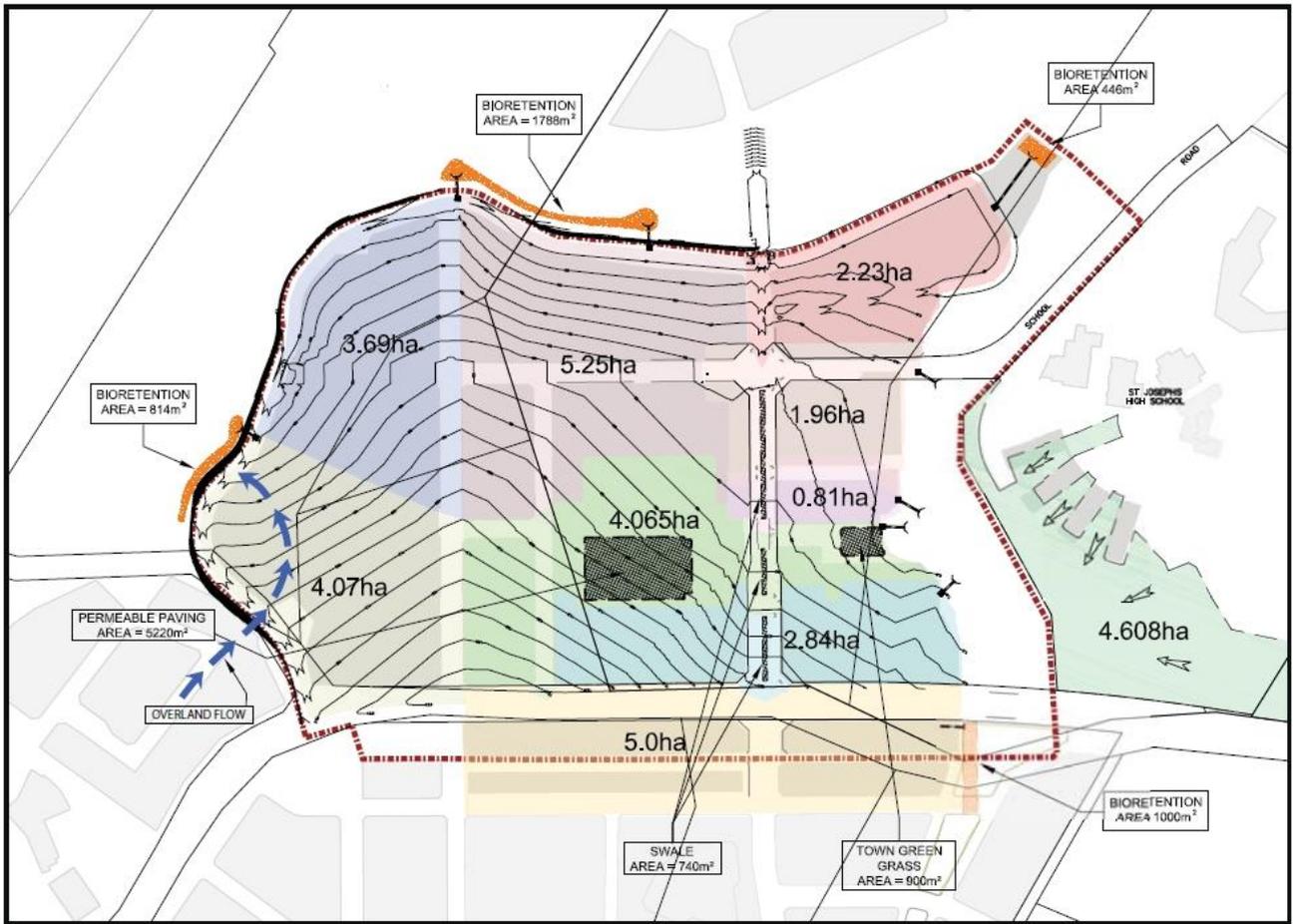


Figure 36: Thrumster Town Centre Stormwater Management Plan

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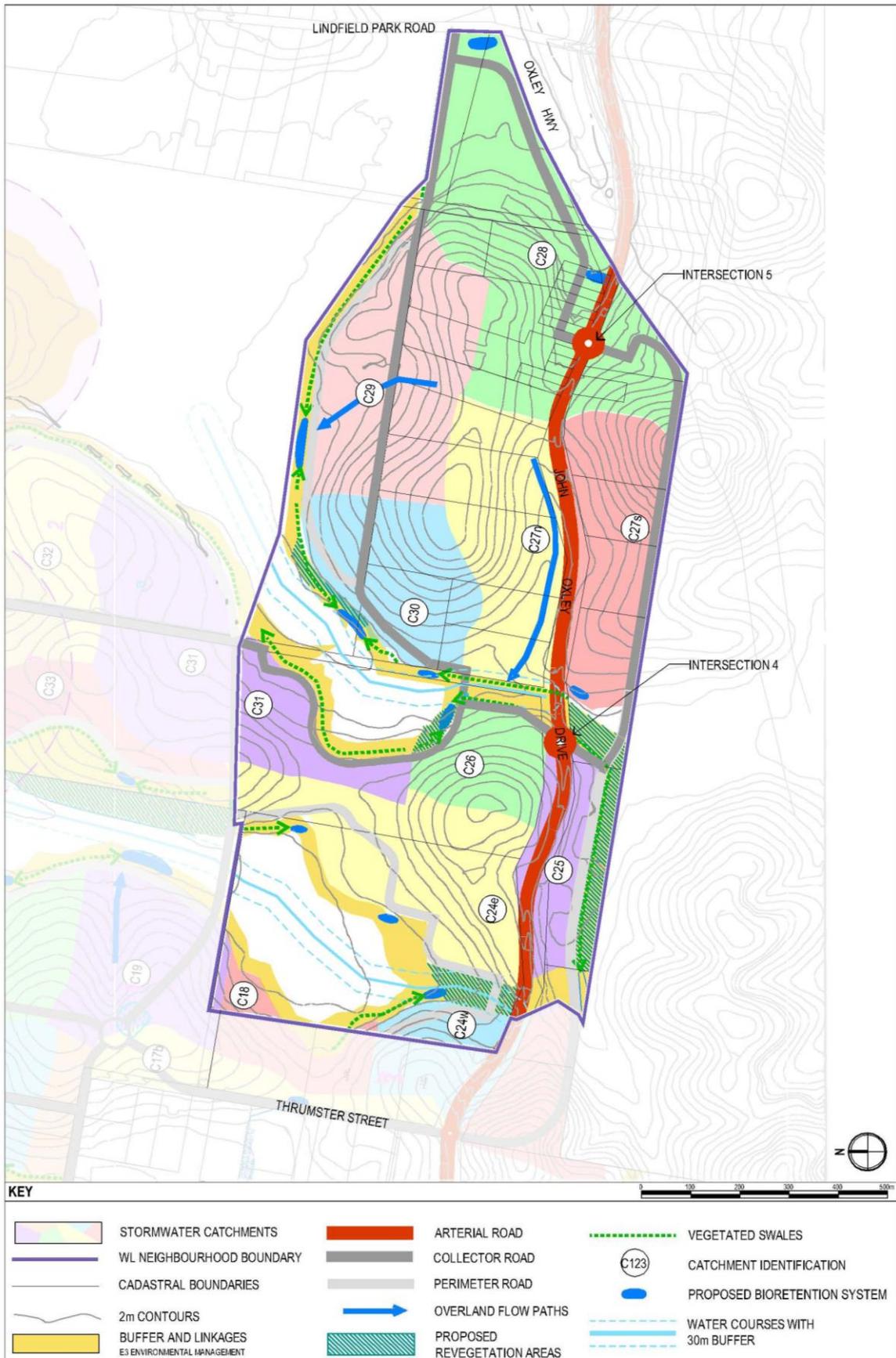


Figure 37: West Lindfield Stormwater Management Plan

Water supply - Reclaimed Water and Rainwater Tank Supply

4.2.3.6 Objective (in addition to Objectives 3.6.3.20-23)

- To minimise the use of potable water where appropriate, minimising the water supply demand from the Hastings River.
- To facilitate the efficient and safe use of reclaimed water as an integrated component of the water supply system of the release area.

Development Provisions

General

- a) Development is to incorporate the provision of a dual reticulated supply of water.
- b) Development is designed to ensure:
 - a. Only reclaimed water to supply all toilet cisterns,
 - b. Only reclaimed cold water or rainwater to supply washing machines
 - c. Only reclaimed water to be available for outdoor uses except pool filling.
- c) Gardens, open spaces and recreational areas to be planted with drought tolerant plants and irrigated with reclaimed water.
- d) Commercial developments, public buildings and schools to use reclaimed water or rainwater for toilet flushing and approved outdoor uses.
- e) All public toilets to be supplied with reclaimed water for toilet flushing. Waterless urinals are to be used where practical.
- f) Consent may be granted to development that does not incorporate the provision of dual reticulated supply of water if Council is satisfied:
 - a. It is for additions or alterations to existing development and it would be unreasonable to require dual reticulation, or
 - b. It is an area that is not proposed to be serviced by dual reticulation
- g) Rainwater tanks may supply household hot water systems, all laundry cold water and water for pool filling provided that the tank top-up system is not connected to the reclaimed water system.
- h) Rainwater tanks may supply household hot water systems, all laundry cold water and water for pool filling provided that the tank top-up system is not connected to the reclaimed water system.
- i) Potable water top-up to rainwater tanks is permitted. The top-up flow rate should not exceed 9 litres per hour (maximum 210 litres per day) and be set to operate only between 25% and 33% of tank capacity. Automated rainwater tank bypass systems are prohibited.

Partridge Creek Industrial

- j) Reclaimed mains are to be constructed along John Oxley Drive in conjunction with water main upgrades and intersection works.
- k) New reclaimed water mains are to be constructed in conjunction with the north-south arterial road.

Partridge Creek Residential

- l) Reclaimed mains are to be constructed along Thrumster Street to serve development in Areas 1, 2 and 3A.
- m) Reclaimed mains are to be constructed along John Oxley Drive in conjunction with main upgrades and intersection works (intersection No.3).

West Lindfield

- n) Reclaimed mains are to be constructed along John Oxley Drive in conjunction with main upgrades and intersection works.

Hazards management

The proper management of hazards is an important issue to ensure that future residents are not subject to hazards from a range of past and present human activities, as well from natural hazards. The objectives and development controls relating to hazards management issues apply to specific land affected by the various hazards across Thrumster including bushfire hazard management, road and aircraft noise, contamination and flood prone land. This section is to be read in conjunction with Chapter 2.4 as it provides additional local guidance.

Airspace protection

4.2.3.7 Objective (in addition to Objectives 2.4.3.1-3)

- To restrict the height of development within the vicinity of the airport in accordance with the Obstacle Limitation Surfaces plan.

Development Provisions

General

- a) Development does not result in any structure exceeding the obstacle clearance limitations shown on the Obstacle Limitation Surfaces identified in the Port Macquarie Airport Master Plan current at time of assessment.

Bushfire hazard management

4.2.3.8 Objective (in addition to Objective 2.4.3.4)

- To ensure appropriate protection of people and property through the provision of adequate separation of development and the bushfire hazard.

Development Provisions

General

- a) Development is to satisfy the requirements of the Planning for Bushfire Protection Guidelines.
- b) Council may allow up to 15 metres of the 30 metre buffer width within the Environmental Management Zone to be managed as an Outer Protection Area where the following requirements are met.
 - a. The 15 metres is provided on the hazard side of a perimeter road.
 - b. The canopy cover is to be an average of at least 20% to a maximum of 30%.
 - c. Where existing trees are to be removed to reduce the canopy to 30%, Koala feed trees are to be retained as far as possible **where not affected by Airspace Protection provisions.**

NOTE: Development applications are to have regard to the planned works to environmental areas in the assessment of bush fire risk and proposed Asset Protection Zones.

North Oxley

- c) Development applications are to have regard to the Bushfire Management principles shown on Figure 39.
- d) New lots created requiring management of bushland within areas identified as Managed Woodland Area on Figure 39 within Barton Ridge West and Barton Ridge East must be subject to a restriction on title for the purposes of bushfire hazard management.

Partridge Creek Industrial

- e) Figure 40 illustrates the bushfire prone vegetation within the Partridge Creek Industrial Neighbourhood.

Partridge Creek Residential

- f) Figure 41 illustrates the bushfire prone vegetation within the Partridge Creek Residential Neighbourhood.

South Oxley

Bushfire hazard management

g) Figure 42 illustrates the bushfire prone vegetation within the South Oxley Neighbourhood.

Town Centre

h) Figure 43 illustrates the indicative bushfire management plan. Development applications are to have regard to the planned works to environmental areas in the assessment of bush fire risk and proposed Asset Protection Zones.

West Lindfield

i) Figure 44 illustrates the bushfire prone vegetation within and adjacent to the West Lindfield Neighbourhood.

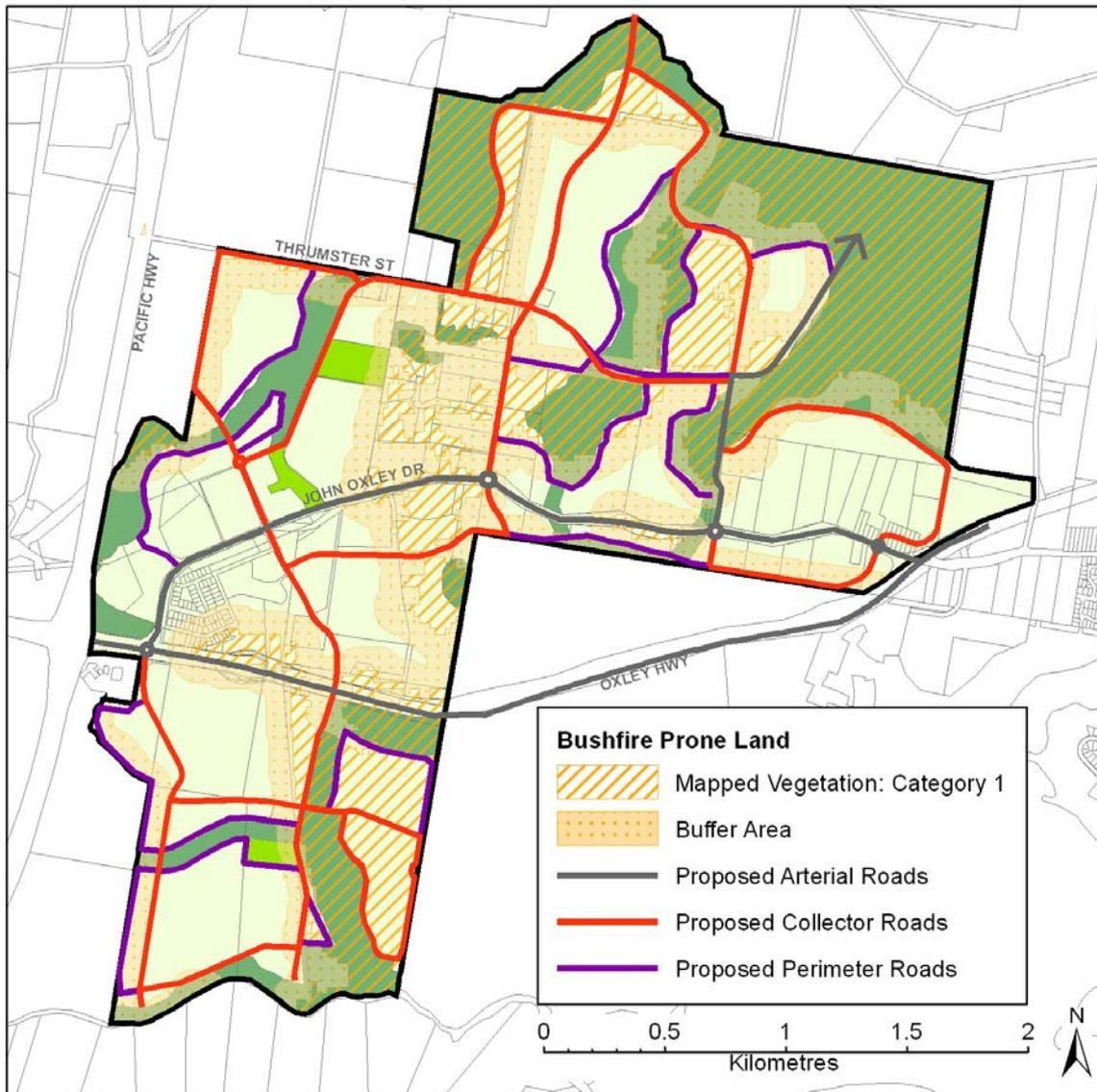
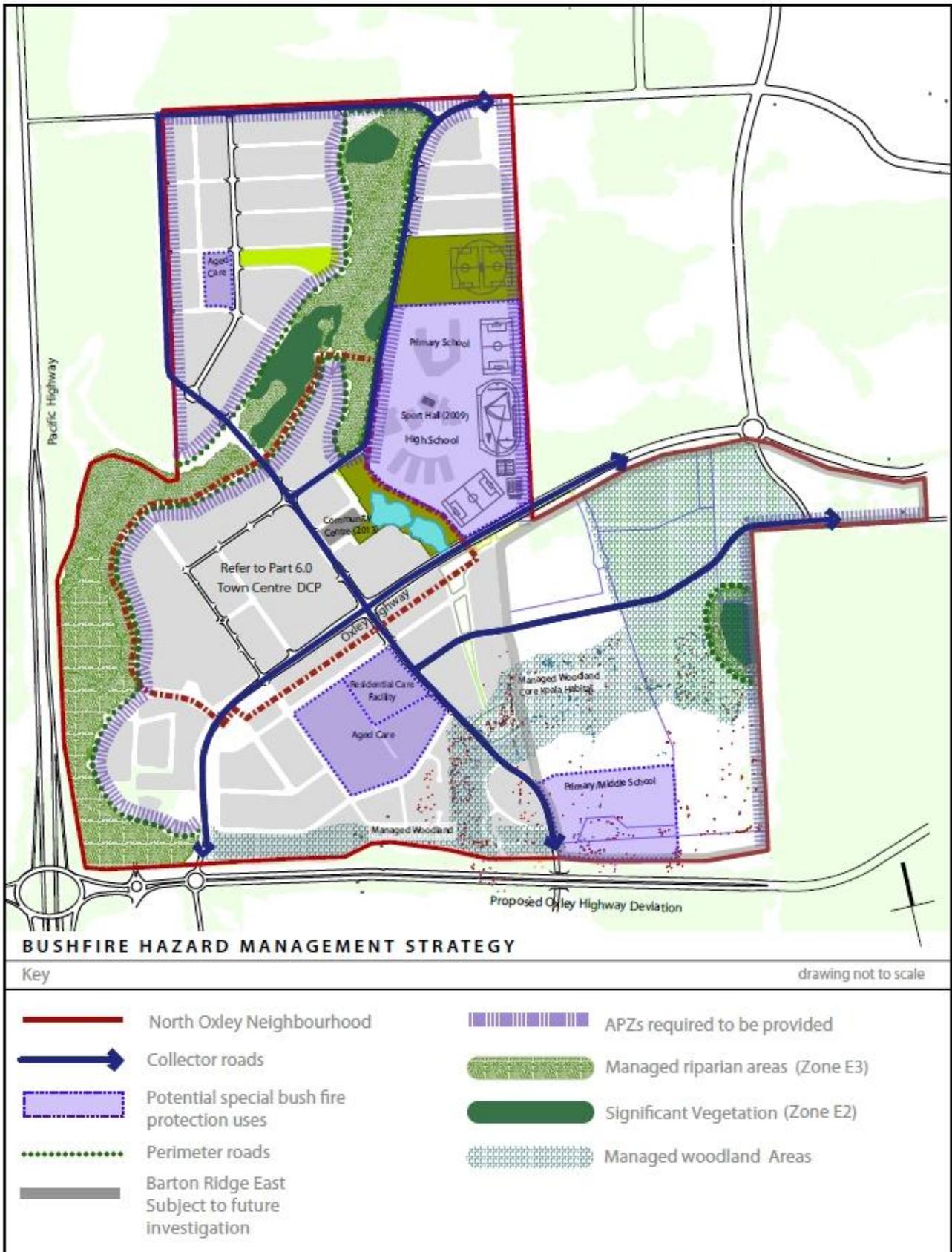


Figure 38: Bushfire Prone Land



NOTE: The extent and location of managed woodland in Barton Ridge East is to be determined following more detailed investigation.

Figure 39: North Oxley Bushfire Management Plan

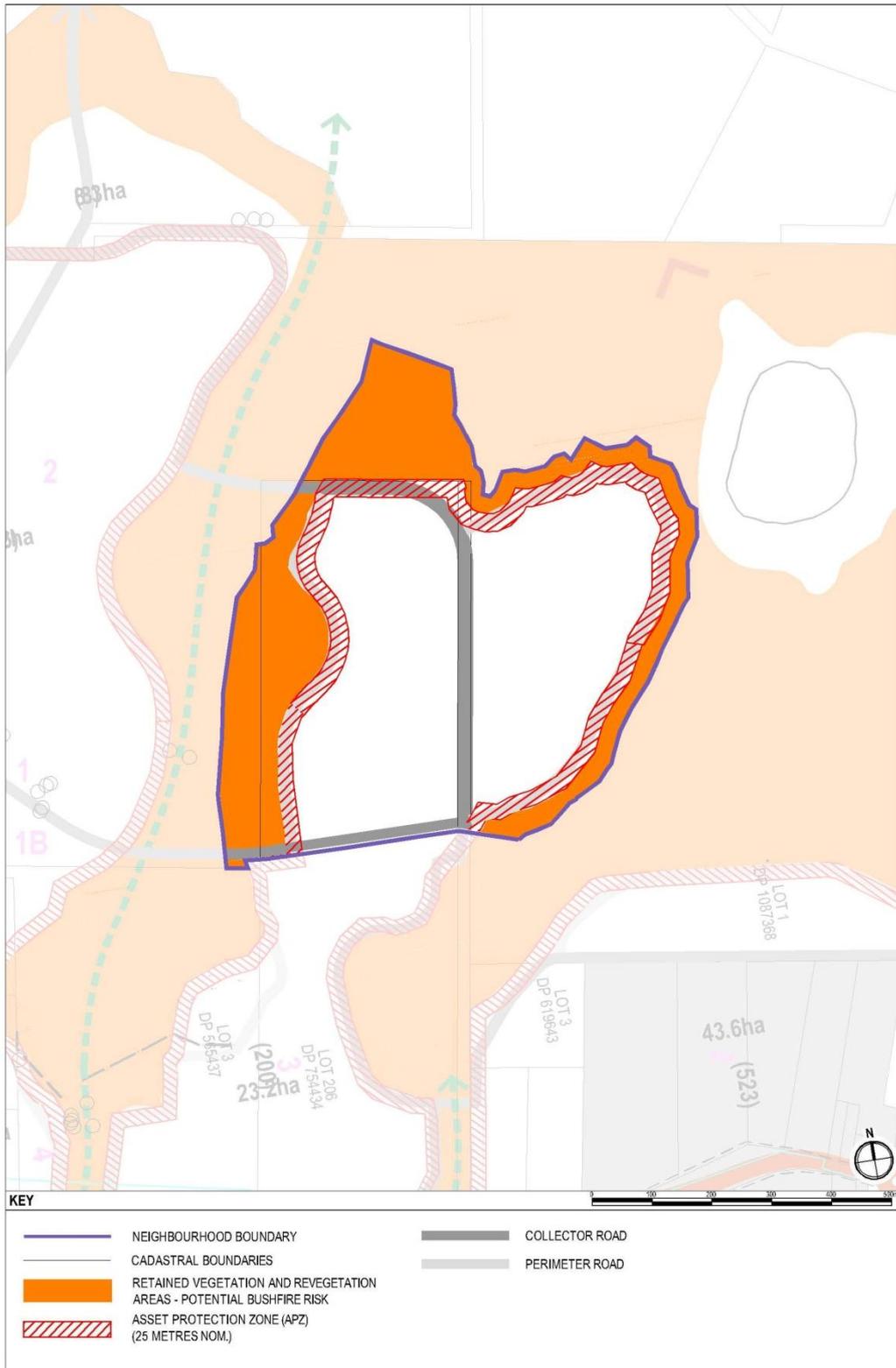


Figure 40: Partridge Creek Industrial Bushfire Management Plan

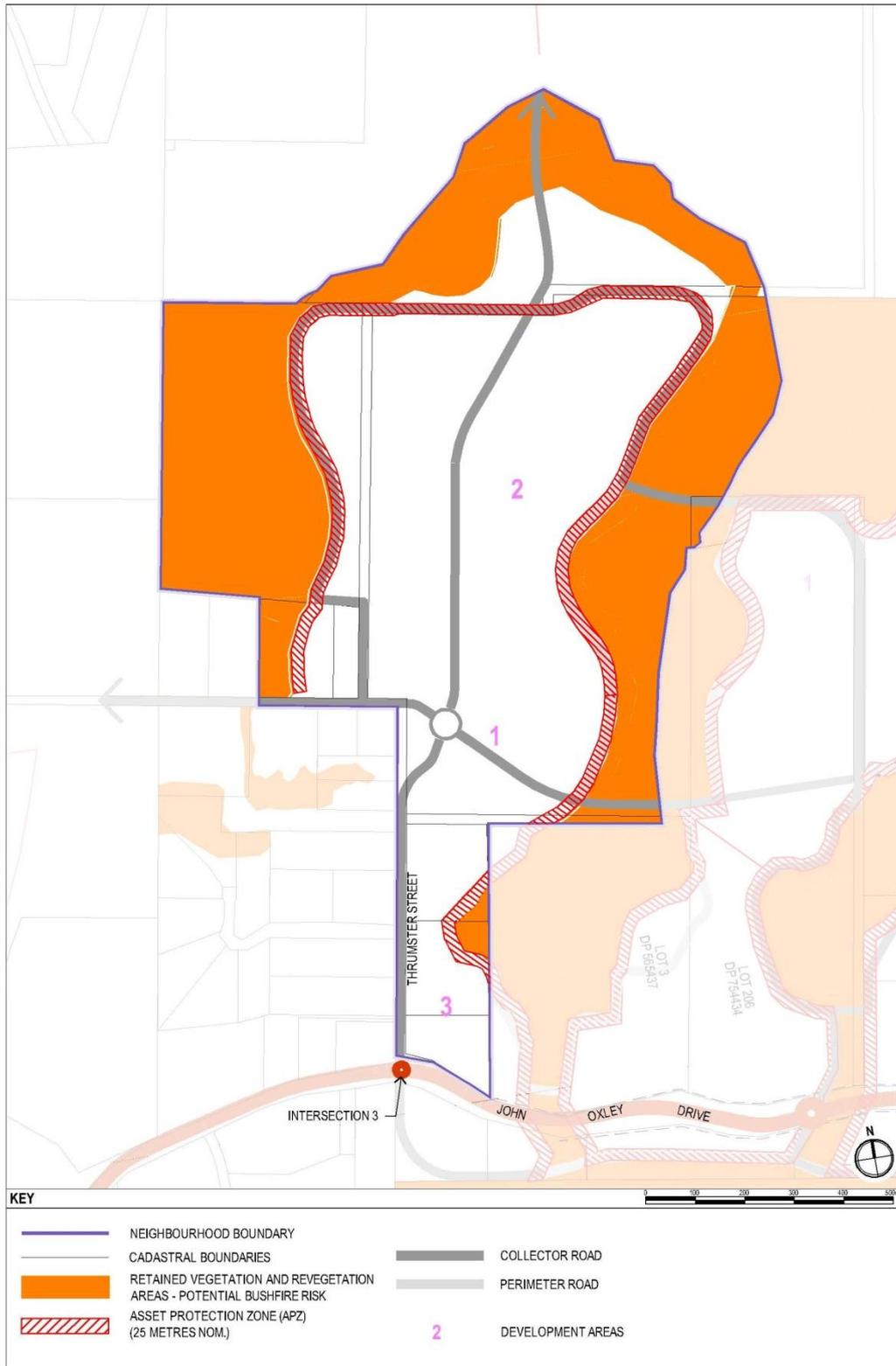


Figure 41: Partridge Creek Residential Bushfire Management Strategy

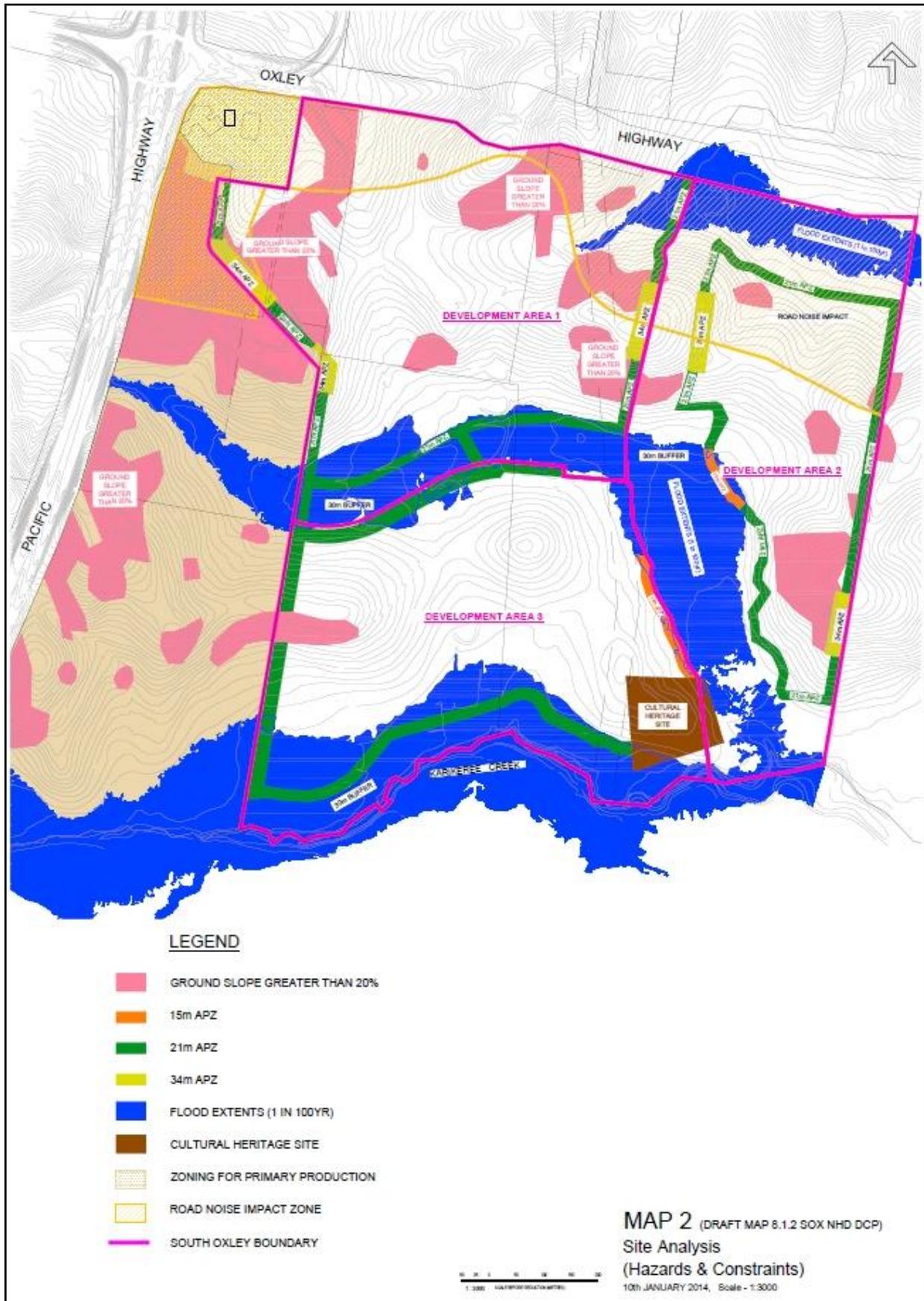


Figure 42: South Oxley Bushfire Management Plan

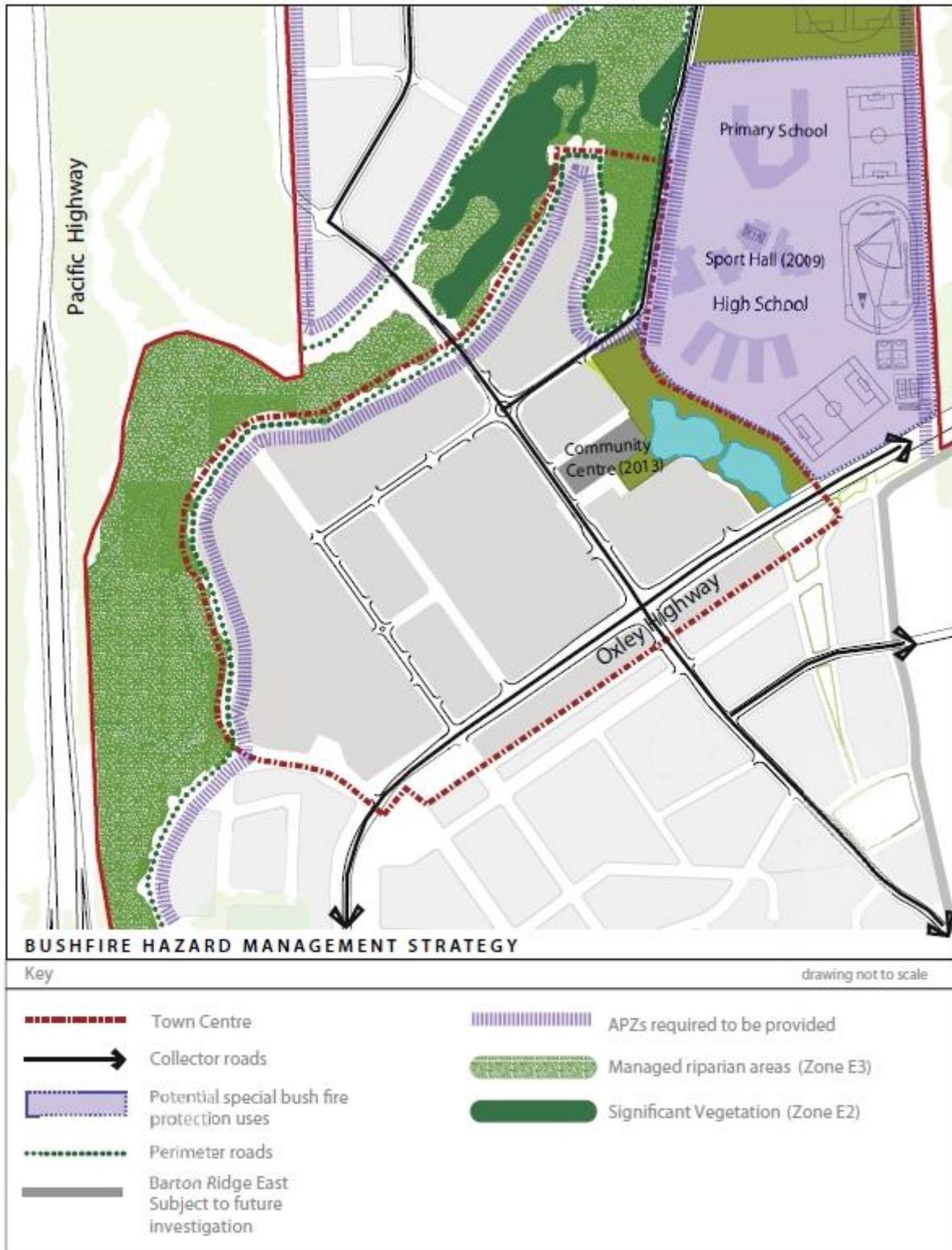


Figure 43: Thrumster Town Centre Bushfire Management Plan

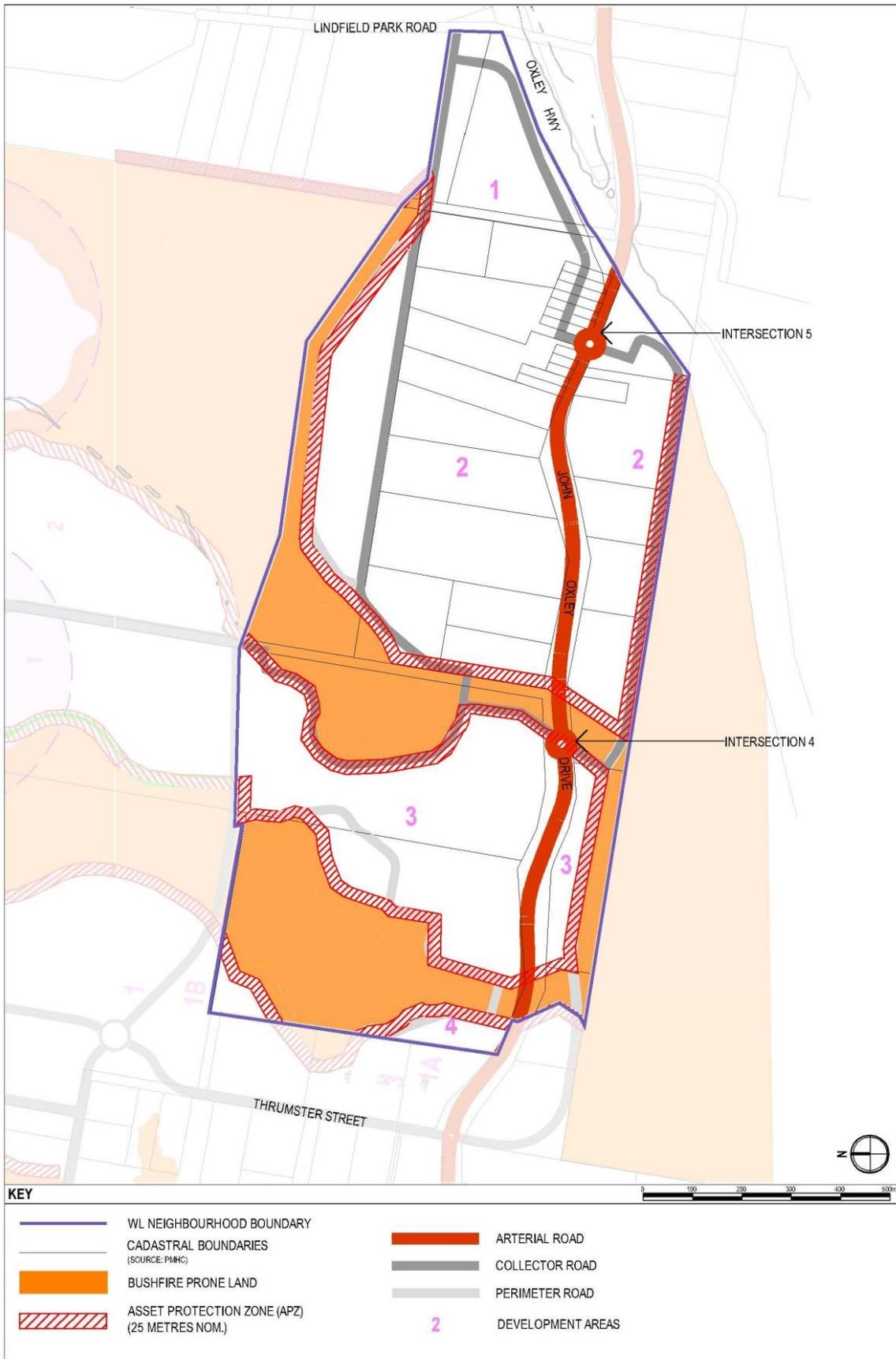


Figure 44: West Lindfield Bushfire Management Plan

Flooding

4.2.3.9 Objective

Refer to 2.4.3.5

Development Provisions

General

- a) Submission of survey accurate data is required with the development application showing site layout in relation to flood boundaries and allowed encroachments shown on Figure 45 to demonstrate maintenance of minimum floodway dimensions.
- b) Design of development and filling is to have regard to the need for overland flow paths and address issues of flood water velocities and potential for scouring. Details of fill and batter slopes and gradients to be provided with the application for Construction Certificate. The extent of batter slopes may be required at Development Application stage if there is the potential to impact on any significant vegetation communities or hollow bearing trees.

North Oxley

- c) The first Development Application for residential development in Sovereign Views, Gateway and racecourse Development Areas, are to be accompanied by a Flood Evacuation Plan for referral to the Emergency Management Committee under the State Emergency and Rescue Management Act 1989. Such plan is to be to Council satisfaction prior to issue of development consent.

Partridge Creek Industrial

- d) Overland flowpaths are to be provided generally as shown on Figure 45 and are to be designed as public reserve or road to a standard acceptable to Council.
- e) All arterial and collector roads, as shown on Figure 60, are to be constructed above the Probable Maximum Flood event to ensure appropriate evacuation routes.

Partridge Creek Residential

- f) Overland flowpaths are to be provided generally as shown on Figure 34 and are to be designed as public reserve or road to a standard acceptable to Council.
- g) All arterial and collector roads, as shown on Figure 61, are to be constructed 650mm above the 1:100 flood event to ensure that all residential lands are provided with appropriate evacuation routes.

South Oxley

- h) Overland flowpaths are to be provided generally as shown on Figure 35 and are to be designed as public reserve or road to a standard acceptable to Council.
- i) The Central Neighbourhood/Collector road, as shown on Figure 63 traversing north-south across Development Areas 1 and 3, is to be constructed above the Probable Maximum Flood event to ensure that all residential lands are provided with appropriate evacuation routes.
- j) Flood channelization of Gleeson's Creek is to take into account the Karikeree Tributary 1 report by Cardno Willing (October 2005) and planted to enhance local habitat linkages.
- k) Recreational infrastructure such as bike and pedestrian pathways or local park infrastructure can be incorporated in these areas.

West Lindfield

- l) Overland flowpaths are to be provided generally as shown on Figure 37 and are to be designed as public reserve or road to a standard acceptable to Council.
- m) All arterial and collector roads, as shown on Figure 65, are to be constructed above the Probable Maximum Flood event to ensure that all residential lands are provided with appropriate evacuation routes.

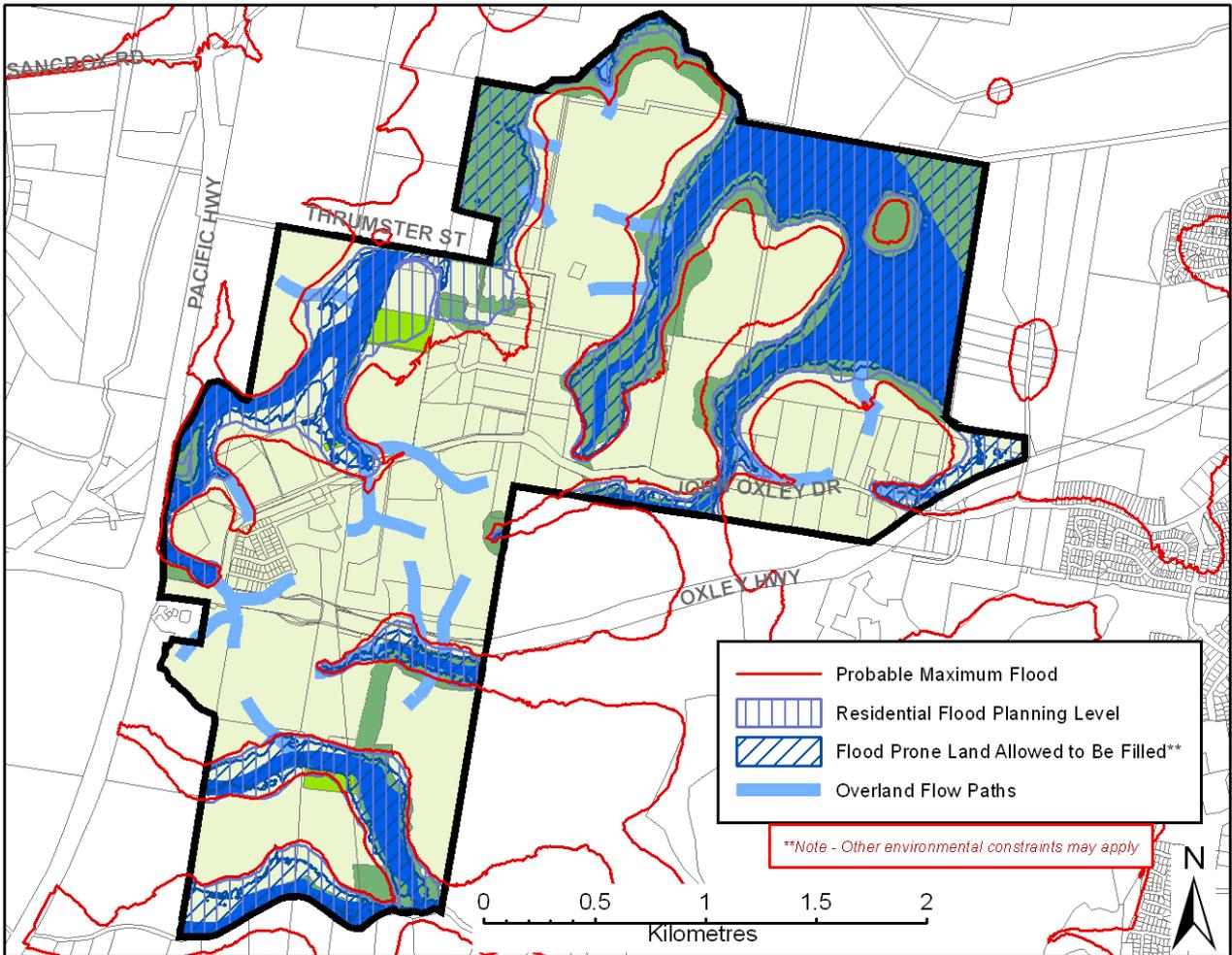


Figure 45: Flooding

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Noise - Industrial**4.2.3.10 Objective**

- Development is to contribute to the equitable management of noise by preventing exposure of residential dwellings to excessive noise and minimising the risk of noise complaints being made about industrial activities.

Development Provisions**General**

- Where in an industrial zone, proposed land uses on premises within 100 metres of a residential zone
 - operate only between 7am and 6pm, Monday to Saturday
 - are designed to limit operational activities to within the building or areas on the side of the building away from the residential zone
- Where in a residential zone and development is proposed within 100 metres of an industrial zone:
 - subdivision design responds to the potential for noise from the industrial zone by maximising the distance between future dwellings and the industrial area
 - dwelling design locates noise sensitive areas away from the industrial area
- Where alternative solutions are proposed, development applications must demonstrate that project-specific noise levels have been determined consistent with the methodology set out in the NSW Industrial Noise Policy 2000 and satisfy the acceptable noise level for the relevant amenity criterion.

Noise - Road (guidance in achieving compliance with s7.9 of the Local Environmental Plan)**4.2.3.11 Objective**

- To achieve an acceptable residential noise environment while maintaining well-designed and attractive residential streetscapes.
- Ensure that consideration is given to the future traffic volumes on the Pacific Highway, old John Oxley Drive and new Oxley Highway.

Development Provisions**General**

- Development avoids or minimises the number of new dwellings within the area identified in the Local Environmental Plan Acoustic Controls Map.

Note: Where noise mitigation measures are constructed at subdivision, council will consider amending the Acoustic Controls Map where supported by a revised noise impact assessment prepared by a suitably qualified person.
- Development Applications for subdivision relating to land identified as potentially affected by road noise on the Local Environmental Plan Acoustic Controls Map are to be accompanied by acoustic reports that demonstrate that proposed lots and future dwellings will comply with the Environmental Protection Authority's NSW Road Noise Policy.
- Where a proposed subdivision adjoins an arterial road, subdivision design incorporates noise mitigation measures on private land along the road boundary.
- The final design of noise control solutions must consider non-acoustic aspects such as aesthetics, urban planning and urban design, long term maintenance cost and solar access. Landscaped noise mounds or a combination of noise mound and acoustic barrier are preferred noise mitigation measures rather than acoustic barriers alone.
- Construction plans for any proposed acoustic barrier are to be endorsed by an acoustic engineer. The materials proposed for use are to be guaranteed to provide a minimum of ten years of life and are to be maintained by the developer for normal wear and tear
- Where development adjoins a Core Koala habitat area, noise barriers are to incorporate any wildlife exclusion fencing required under the Koala habitat provisions of this plan or the Local Environmental

Noise - Road (guidance in achieving compliance with s7.9 of the Local Environmental Plan)

Plan.

- g) Where residential lots cannot be designed to achieve an internal noise level less than the recommended maximum specified in *AS 2107-2000 Acoustics - Recommended design sound levels and reverberation times for building interiors*, residential dwellings are constructed in accordance with the relevant construction category specified in *AS 3671- 1989 Acoustics - Road traffic noise intrusion - Building siting and construction* to achieve the required noise level reduction.
- h) Where the acoustic reports required above identify the need for future dwellings to incorporate building design and construction requirements to achieve required internal noise levels, an appropriate restriction on the title of the lot is to be created ensuring compliance with the requirements.

North Oxley

- i) Cross sections shown in Figure 46 to Figure 50 provide indicative solutions to achieving the development criteria.

North Oxley - gateway site - development guidelines

- j) The following guidelines should be applied when designing development on the Gateway Site:
 - a. Development of the Gateway Site should incorporate noise barriers as indicated in the indicative cross section illustrated in Figure 51 and confirm the barrier achieves the reduced noise levels shown in Figure 52.
 - b. Mitigation measures for building development on the Gateway Site are to include:
 - Minimising the size and number of windows facing the noise source;
 - Locating noise insensitive areas towards the noise source, for example in a residential dwelling the kitchen, storage areas and laundry;
 - Using construction techniques that focus on ceiling gaps around windows, doors, ceiling spaces etc.;
 - Using thick glass or double glazing;
 - Using solid core doors and appropriate door seals;
 - Replacing a conventional roof design with eaves with a flat roof with parapets (in non-residential);
 - Considering site layout where the building structure could be used to shield outdoors areas.

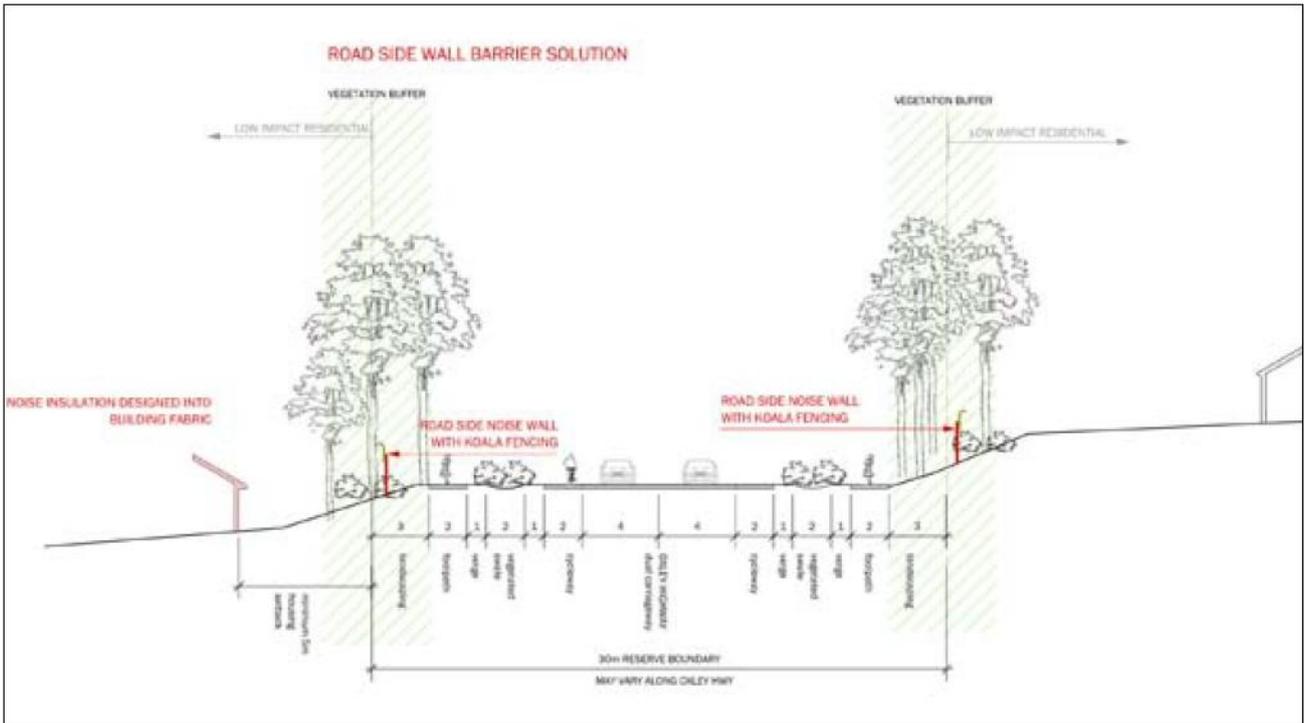


Figure 50: North Oxley Cross Section DD

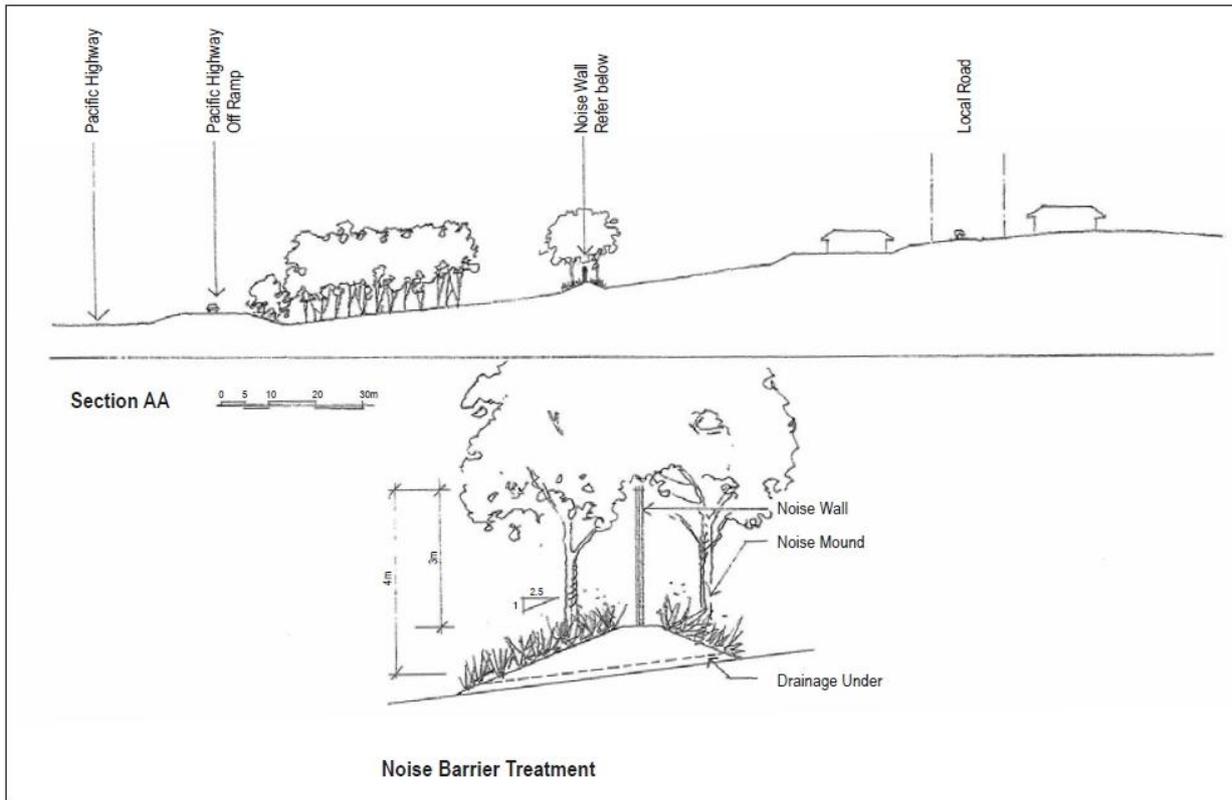


Figure 51: North Oxley Gateway Site - indicative noise barrier treatment



Figure 52: North Oxley Gateway Site - Noise Levels with barrier treatment

Visual Impacts

4.2.3.12 Objective

- To minimise the potential visual impact of development on views from the Oxley Highway

Development Provisions

West Lindfield

a) The Development Application for industrial development which includes the southern collector road (adjacent the Oxley Highway) is to include the following visual screen plantings on its southern edge, generally at 5 – 10 metre centres, as shown on the West Lindfield Urban Development Plan:

- *Eucalyptus tereticornis* (Forest Red Gum);
- *Eucalyptus microcorys* (Tallowwood); and
- *Eucalyptus propinqua* (Grey Gum).