Williamtown Special Activation Precinct

NSW GOVERNMENT

Draft Master Plan
April 2022

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Williamtown Special Activation Precinct Draft Master Plan

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Cover photo:
No. 3 Squadron F-35A Lightning II aircraft fly in formation while on return to RAAF Base Williamtown. Credit: Department of Defence

Photo above: Stars and the Milky Way shining over the Stockton Sand Dunes in Port Stephens. Credit: Destination NSW

Acknowledgement of Country

We acknowledge Country and pay respects to the Worimi people as the Traditional Owners and Custodians of the land and waters on which the Williamtown Special Activation Precinct is situated and connected to via a broader landscape.

We recognise their continued connection to Country and that this connection can be seen through stories of place and cultural practices such as art, songs, dances, storytelling and caring for the natural and cultural landscape of the area.

We also recognise the continuing living culture of Aboriginal people, and the significance of Williamtown in that living culture. We recognise the contemporary stories of displacement and the cultural significance of Worimi in the continued journey of self-determination in Australia.

We acknowledge all the people who have and will contribute their stories of Williamtown and their connection to this place.

We recognise the importance of telling the First story, first. All other stories of place come from and are woven into the First Story. We recognise the importance of truth telling, a reckoning and the telling of the whole story.

We acknowledge that the land on which the Williamtown Special Activation Precinct stands was, is and always will be Aboriginal land.

Contents

Executive summary

Vision

With the upgrade of Newcastle Airport and significant investment in defence at Royal Australian Air Force Base Williamtown (RAAF) Base Williamtown including the F-35 Joint Strike Fighter program, the Williamtown Special Activation Precinct will become Australia's leading defence and aerospace precinct. Leveraging from the investment in defence and strategic connections to national and international air, sea and road transport and freight networks, the Precinct will create long term job opportunities and become an economic powerhouse for the Hunter region.

A catchment-wide approach to managing constraints and the provision of early lead-in infrastructure ensures the Precinct will attract world-class investors and businesses, embrace innovation, emerging technologies and create a sustainable employment precinct which people want to work, play and visit.

What are Special Activation Precincts?

Special Activation Precincts are a new way of planning and delivering industrial and commercial infrastructure projects in certain areas of regional NSW to attract and grow businesses, provide more employment opportunities and stimulate the regional economy.

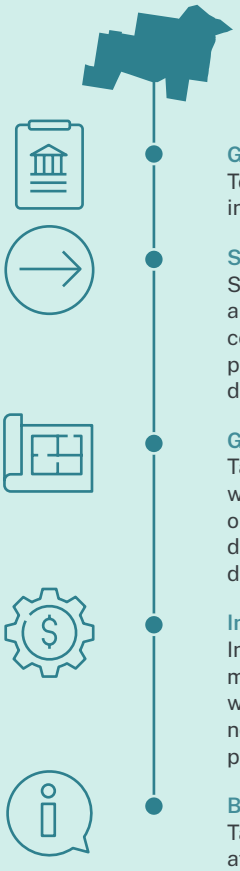
The NSW Government is supporting this approach by:

- leading the master planning that streamlines the planning pathways
- investing and delivering enabling infrastructure that supports businesses in establishing
- facilitating and supporting the establishment of new industries and businesses.

This means that businesses will be able to establish and grow with certainty and confidence knowing that the right planning framework is in place for streamlined approvals and infrastructure is in place to start up quickly and efficiently.

The creation of Special Activation Precincts is part of the NSW Government's 20 Year Economic Vision for Regional NSW and will be delivered as part of the $4.2 billion Snowy Hydro Legacy Fund.

Figure 1: Key elements of a Special Activation Precinct



Government-led studies
To create upfront strategic land use and infrastructure planning.

Streamlined planning
Streamlined planning and environmental approvals to provide certainty and confidence to business. This may include providing for land uses that suit complying development or approval exemptions.

Government-led development
Tailored master plans for each precinct with a delivery schedule that supports orderly development, sensitive to market drivers, landowners and infrastructure delivery.

Infrastructure investment
Investment into enabling infrastructure is made by the NSW Government into roads, water, power, digital connectivity, and other necessary infrastructure to support the precinct.

Business Concierge
Targeted business concierge services to attract investment and support businesses to establish and grow in each precinct.

The Williamtown Special Activation Precinct

The Williamtown Special Activation Precinct (the Precinct) was announced by the NSW Government in May 2020. The Precinct covers an area of 395 hectares focusing on Newcastle Airport and the adjoining RAAF Base Williamtown, being Australia's largest combined defence and civilian airport. Newcastle Airport is identified as a nationally significant global gateway with the proposed upgrade of the runway to provide significant opportunities to enhance international connectivity.

RAAF Base Williamtown is Australia's premier fast-jet fighter base with programs such as the F-35 Joint Strike Fighter, the Precinct will leverage the Hunter Region's existing strengths in defence, aerospace, advanced manufacturing, industry and also merging industries to create a national defence and aerospace hub. It is envisaged that the Precinct will become the economic powerhouse for Port Stephens local government area and will support the Hunter Region. It will also focus on addressing the existing constraints that have been a challenge for development previously by providing precinct wide solutions, improving transport connectivity and conserving and enhancing important environmental and heritage values.

Purpose of the Master Plan

The Precinct Master Plan is an important part of the planning framework for the delivery of the Special Activation Precinct. Once made, it will be a statutory planning document that supports the *State Environmental Planning Policy* (Precincts–Regional) *2021* (Precincts–Regional SEPP).

The Master Plan provides the vision and principles for the Precinct and is supported by a Structure Plan and provisions to ensure the vision is achieved. It also describes particular matters that should be addressed in more detail as part of the Delivery Plan, or to be prepared in future stages. An overview of the planning framework for Special Activation Precincts and how the Master Plan fits within it is provided in 1.4 Planning framework on page 18. The Master Plan will be reviewed every five years or as required under statutory obligations and to inform strategic planning direction.

Enabling streamlined planning

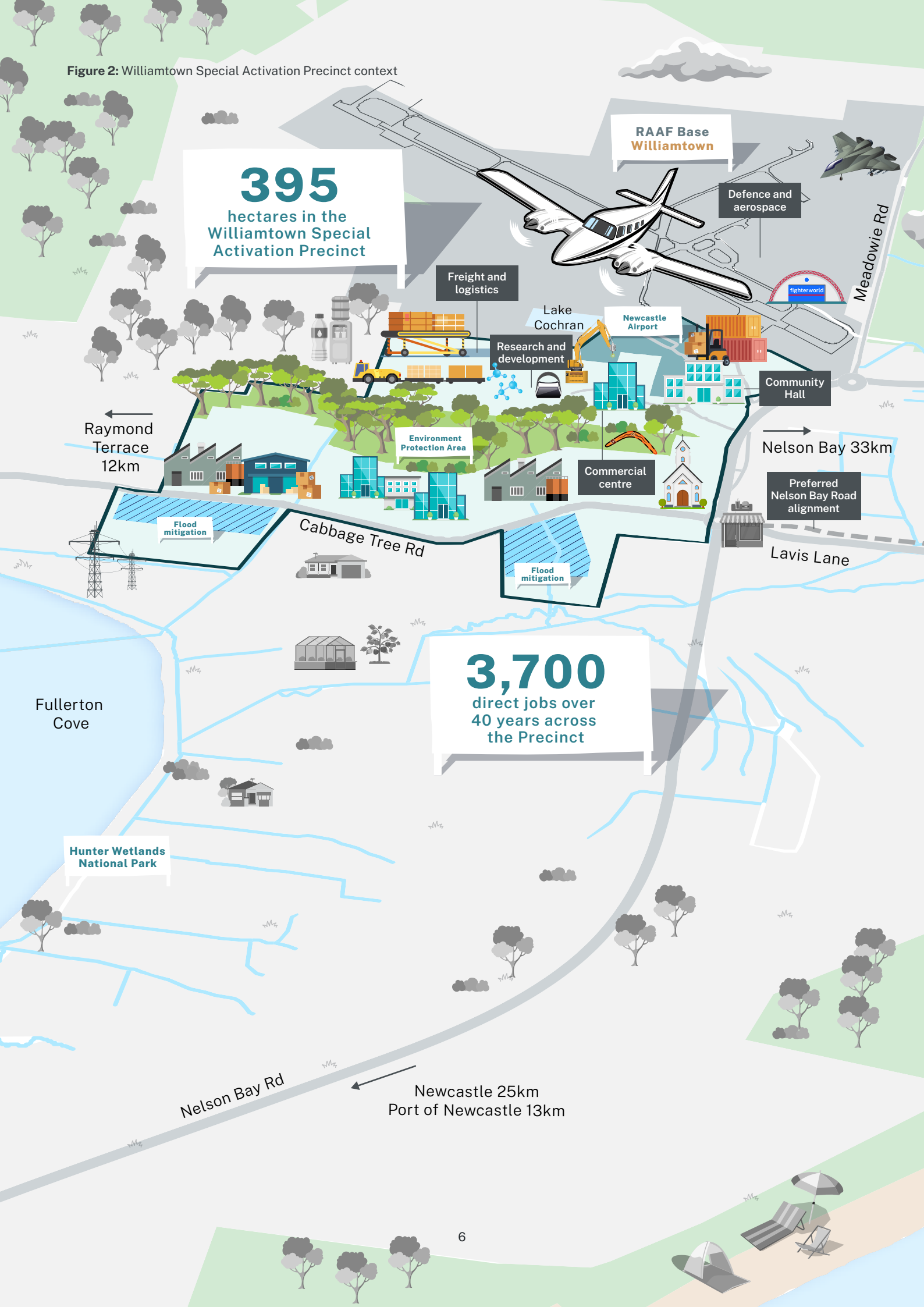
Given the significant constraints present within the Precinct including biodiversity, environmentally sensitive areas, flooding, bushfire prone land, areas of heritage significance (Aboriginal and non-Aboriginal), contamination (per-and poly-fluoroalkyl substances (PFAS) and non-PFAS contamination) and potential impacts on RAMSAR Wetlands, complying development would not be capable of proceeding (even after rezoning) on the majority on the land within the Precinct. An alternative approach needed to be considered to ensure a streamlined planning pathway could still be achieved.

To enable future complying development on land within the Precinct, up-front assessment of constraints and enabling works and infrastructure are proposed. The most appropriate planning pathway that takes into account the strategic local, regional and international significance of the Precinct is to list Precinct as an 'identified site' under Schedule 2 of the *State Environmental Planning Policy* (Planning Systems) *2021* (Planning Systems SEPP) and prepare and lodge a State Significant Development (SSD) application.

The SSD application would be lodged by the Regional Growth NSW Development Corporation (the Corporation) for the entire Williamtown Precinct. The purpose of the SSD application would be to enable early works and lead-in infrastructure whilst ensuring all environmental, social and economic issues are appropriately assessed and monitored.

Subject to approval, and once constructed in accordance with any relevant conditions, the majority of development in the Precinct would then be able to be considered as complying development (provided it was consistent with the Precincts–Regional SEPP, Master Plan and Delivery Plan). Further details are provided in Figure 5: Planning framework.

Figure 2: Williamtown Special Activation Precinct context

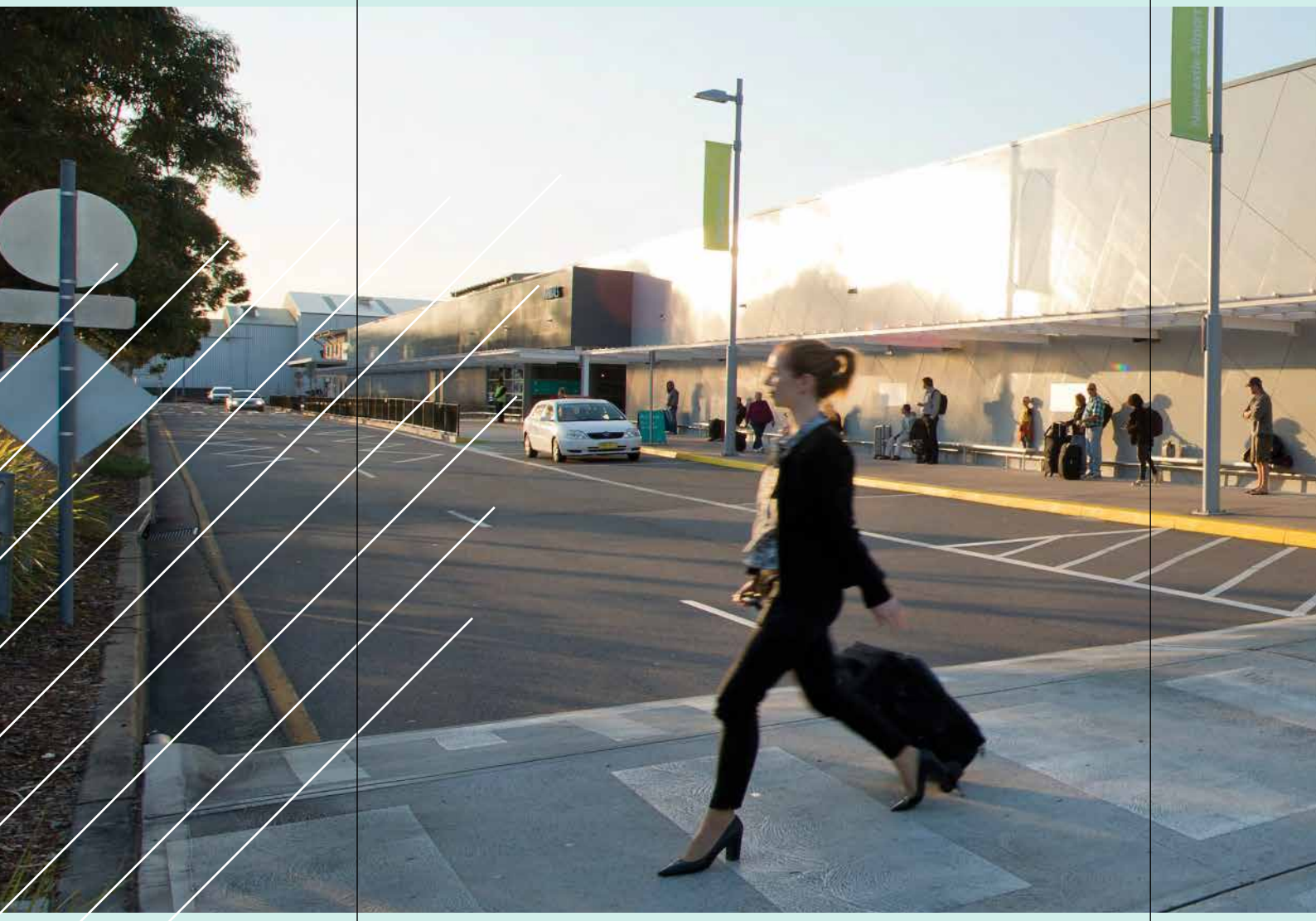


The Master Plan at a glance

- A national defence and aerospace precinct building on Australia's largest combined defence and civilian airport
- Encompasses an area of 395 hectares, including, 223 hectares of land zoned for Regional Enterprise across three (3) catchments (Northern, Eastern and Western) and protection of 102 hectares of native vegetation
- Wide range of employment uses within the Regional Enterprise Zone to support defence, aerospace, industry, advanced manufacturing, commercial, freight and logistics
- Central "green heart" protecting environmental and heritage values whilst providing a health loop weaving together amenity, recreation, health and cultural opportunities
- Leveraging economic opportunities associated with Australian Defence Force programs and investment at RAAF Base Williamtown and the upgrade of Newcastle Airport to national and international markets
- Building on the strategic location between the Hunter Region's key air, sea and road gateways of Newcastle Airport, Port of Newcastle and M1 Pacific Motorway with improved regional connections including the upgrade of Nelson Bay Road
- A catchment-based approach to flooding, drainage and water quality through an innovative system of wetlands and channels and best practice natural drainage solutions
- Continued protection of existing aircraft operations and airspace including preventing development exceeding the obstacle limitation surface (OLS), mitigating noise impacts and minimising bird strike risk
- Creating a well-connected, vibrant employment precinct providing an array of commercial, cultural, social activities and infrastructure which people will want to work, visit and play that is activated throughout the day and evening
- Incorporation of Designing with Country into all elements of the Master Plan including protection of sensitive sites, strategies for the interpretation and celebration of Worimi culture and history including opportunities for education and employment
- Protection of the Hunter Region's critical Tomago Sandbeds drinking water catchment
- Support and enable the Department of Defence to continue existing PFAS remediation activities in the area
- Create an innovation, training and education hub through accessible public transport, high quality urban form with leading architecture solutions and open space
- A catchment based approach to staging and development, with the Precinct split into the Northern, Eastern and Western Catchments

1

Strategic context



Newcastle Airport. Credit: Goodthanks Media.

1.1 A unique opportunity for the Hunter region

The Hunter Region has a current population of 732,400 and by 2036 is expected to grow by almost 130,000 people (*Draft Hunter Regional Plan 2041*). The region is the leading regional economy in Australia and is currently experiencing significant growth and economic diversification.

The Hunter Region represents 28% of the gross regional product (GRP) of regional NSW and is the largest regional contributor to NSW's gross domestic product (*Draft Hunter Regional Plan 2041*). The region has many advantages as an employment location including a skilled workforce, lower property costs than capital cities, excellent transport links (road, rail, sea and air), proximity to major Australian markets, strong industry networks and well-established health and education facilities. The Hunter Region is well placed to continue growing including benefiting from trends such as the ageing population and increased exposure to the global economy (*Draft Hunter Regional Plan 2041*).

The Precinct is framed by Newcastle Airport in the north, Nelson Bay Road to the east and Cabbage Tree Road to the south. RAAF Base Williamtown is located directly north.

The Precinct is strategically located between the two global gateways of Newcastle Airport and the Port of Newcastle. Newcastle Airport is significant for unlocking the potential of the Hunter Region's tourism industry and also providing an opportunity for the region to export services, goods, and skilled labour to Australia and internationally (*Draft Hunter Regional Plan 2041*). There are also a number of export opportunities associated with existing and potential new Hunter supply chains such as tourism, business, education, agribusiness, defence, manufacturing and trade supply that the Precinct could help facilitate.

The Precinct is also strategically connected to the national road network with the M1 Pacific Motorway 20 kilometres to the west providing connections to Sydney and Brisbane (refer to Figure 4: Regional context). Williamtown is 30km north of Newcastle and is surrounded by a network of local centres including Raymond Terrace, Medowie, Maitland, and Nelson Bay. Should fast rail between Sydney and Newcastle form part of the future transportation mix, the Precinct will be well placed to benefit from the significant improvements in travel times and regional connectivity.

Population

732,400

+130,000
by the year 2036

Gross regional product of NSW

28%

Distance from Newcastle

25km

View of the Hunter River at Newcastle, near the Port of Newcastle.

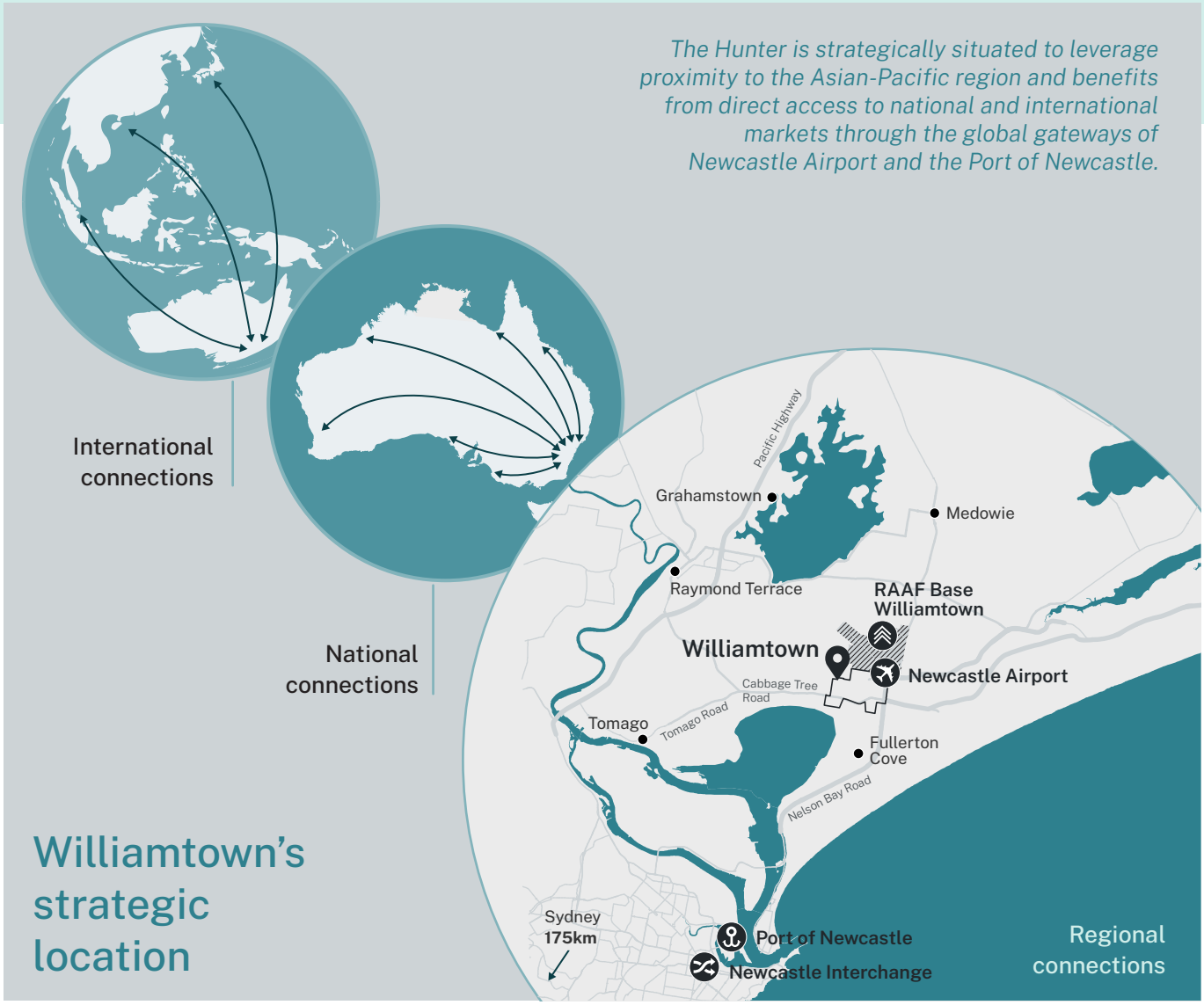


Figure 3: Williamtown's strategic location

1.1.1 Newcastle Airport

Newcastle Airport at Williamtown is one of the largest combined defence and civilian airfields in Australia. The airfield is Commonwealth owned and operated and Newcastle Airport is a tenant.

The Hunter Region is strategically situated to leverage proximity to the Asian-Pacific region and benefits from direct access to national and international markets through the global gateways of Newcastle Airport and the Port of Newcastle. This has enabled the Hunter Region to become the largest regional economy (*Draft Hunter Regional Plan 2041*), and an essential gateway for regional NSW for sectors such as agriculture, health, education and tourism. With the diversification of the Hunter Region, growing sectors such as defence, aerospace, research and development and advanced manufacturing provide significant opportunities for the region.

Newcastle Airport currently caters for 1.2 million passengers per annum and is forecasted to grow to 2.6 million by 2036. The airport provides direct connections to Auckland, Brisbane, Ballina, Canberra, Dubbo, Gold Coast, Lord Howe Island, Melbourne, Port Macquarie, Sunshine Coast and Sydney, with the list of destinations regularly expanding. Newcastle Airport is the gateway to the Hunter Region and the upgrade of the runway to international standards commenced in 2021 will provide connections to North Asia, the Middle East and the United States.

In 2021, the Federal Government announced a $66 million contribution to upgrade the RAAF Base Williamtown runway, enabling additional international destinations. In addition to tourism, the upgrade also presents significant opportunities associated with freight and logistics with a potential increase from 100 tonnes per annum of air freight to 500 tonnes per annum by 2036 (Newcastle Airport, 2021).

Flight line personnel preparing for a launch at RAAF Base Williamtown. Credit: Department of Defence.

1.1.2 RAAF Base Williamtown

As well as commercial aviation, the airport is the home of RAAF Base Williamtown. Aircraft operated by the Royal Australian Air Force out of RAAF Base Williamtown includes the Hawk Mk127, PC-21, E-7A Wedgetail and, most recently, the F-35 Lightning aircraft. RAAF Base Williamtown is Australia's premier fighter pilot training facility, employing 4,500 people directly and with a committed capital works program into the future[1]. The RAAF Base Williamtown drives a strong tourism industry with thousands of patrons visiting the adjoining Fighter World, Aviation Heritage Centre and its collection of 15 original and replica Australian and international fighter aircraft annually.

Over $270 billion will be invested in the Australian Defence Force (ADF) over the next 10 years in Australia, with $65 billion attributed to air domain capabilities, of which RAAF Base Williamtown is Australia's premier fast-jet fighter base (Deloitte, 2021).

The Williamtown Precinct is well-positioned to capture associated investment with the Economic Report for the Precinct estimating that $62 billion of the investment may be directed through Williamtown through investment related to ADF programs such as F-35 Joint Strike Fighter, additional air combat capability and Wedgetail upgrades (Deloitte, 2021). These significant programs are the catalyst for the development of Williamtown into a national defence and aerospace precinct.

The Precinct will attract businesses including large multinational defence companies (known as 'primes') and small and medium enterprises (SMEs), to Williamtown by providing a streamlined approval process for suitable land uses, which are strategically located near the Pacific Motorway and airside or near to the existing airport, leveraging off its upgrade to international standards and the $17 billion investment in 72 aircraft comprising Australia's F-35A fleet.

Investment in the ADF over the next 10 years in Australia

$270 billion

1.2 Worimi cultural heritage

Located on the east coast of NSW, the Worimi people are the Original Custodians of the Port Stephens area. Their connection to Mother (earth) spans further than Westernised boundaries; however, predominantly lies in the areas today, known as the Hunter River to Forster, and inland to the Barrington Tops.

The Precinct is located within a portion of the lands of the Worimi people. The registered Aboriginal Stakeholders include Worimi Local Aboriginal Land Council (LALC), Mur-Roo-Ma Inc, Nur-Rn-Gee Pty Ltd, and Karuah Indigenous Corporation.

The knowledge, traditions and beliefs that the Worimi people have in relation to the land are unsurpassed and continue to be handed down from generation to generation. Their adaptive usage of the environment and what was available to them is incredibly advanced and this can be seen in the archaeological sites that are still being discovered to this day.

Whilst land within the Precinct has undergone significant modification since European settlement, Aboriginal cultural heritage sites and artefacts have survived in the dunes in the northern portion of the Precinct. There is a high likelihood of additional sites and artefacts within the Precinct that have not yet been discovered. The type of artefacts and their location is consistent with the broader Aboriginal cultural heritage of Williamtown which features numerous artefacts, potential archaeological deposits (PAD), hearths, shells, and burials in undisturbed parts areas along creeks, amongst remnant vegetation and the extensive dune system.

The Master Plan seeks to:

- use the Connecting with Country guidelines to shape the Precinct and partnerships with the Indigenous community,
- retain and celebrate Williamtown's proud Aboriginal culture and heritage,
- empower Indigenous people in designing the Indigenous elements in the Precinct,
- involve the local Indigenous community in the planning and delivery of the Precinct
- appropriate use of Indigenous design elements, dual naming and signage, education and eco-tourism opportunities are incorporated into the Precinct following consultation with the Indigenous community.
- encourage and enable training and employment opportunities for the Aboriginal community, and
- support cultural practices for land management.

Aboriginal man playing the didgeridoo on the Stockton sand dunes, Port Stephens. Credit: Destination NSW.

1.3 Williamtown Special Activation Precinct context

1.3.1 Governance

Department of Regional NSW

The Department of Regional NSW is the lead agency for the Special Activation Precincts Program, as part of the $4.2 billion Snowy Hydro Legacy Fund. Overseeing the funding, planning and development of each precinct. The Department of Regional NSW works closely with the Department of Planning and Environment (Department) and the Corporation to create master plans for each Special Activation Precinct, identify and invest in common user enabling infrastructure, and provide ongoing concierge services to help investors establish and grow.

Department of Planning and Environment (Department)

The planning of Special Activation Precincts in regional NSW is the responsibility of the Department. The Department leads the master planning process, including the technical study process and community and stakeholder engagement.

Regional Growth NSW Development Corporation (the Corporation)

The Corporation is a NSW Government agency created to support economic development and job creation opportunities in regional NSW by facilitating the development of the Special Activation Precincts. The Corporation is working with all levels of government, the private sector and the community to secure economic development and investment attraction opportunities to these unique areas. The Corporation will be responsible for the ongoing enhancement, coordination, implementation and delivery of economic development and job growth in these specialised enterprise hubs across regional NSW. The Corporation is a one-stop-shop to support investors and will lead the delivery of enabling infrastructure, support the attraction and facilitation of investment in the Precinct, provide support on planning and environmental approval processes, and create strategic partnerships to foster education, training and collaboration opportunities. The Corporation will be the applicant for the future SSD application for the Precinct.

Commonwealth Department of Defence

The Commonwealth owns land within the Precinct, however more importantly, the airfield is Commonwealth owned and operated and Newcastle Airport is a tenant on the airfield. The Department of Defence operates RAAF Base Williamtown which is located adjacent to the Precinct boundary and the Department of Defence will continue to play a critical approval role in the future of land uses within the Precinct. Furthermore, a significant portion of the Precinct is impacted by aeronautical limitations that will require referral to the Department of Defence for consideration prior to the issue of an Activation Precinct Certificate under the Precincts–Regional SEPP. It is anticipated many of the future investors and businesses within the Precinct, will be related to the defence and aerospace industries.

Port Stephens Council

The Precinct is located wholly within the Port Stephens local government area. Regional NSW, the Department and the Corporation have worked closely with Port Stephens Council to ensure that the Structure Plan and Master Plan is consistent with the strategic vision of Council and aligns with the Port Stephens Local Strategic Planning Statement (LSPS) and extensive strategic planning work already undertaken by Council in Williamtown.

Port Stephens Council will continue to play an integral part in the approval and certification process for future development (including local roads) and the Council's role in the collection and expending of local infrastructure contributions from developers to provide local infrastructure and facilities under section 7.11 and 7.12 of the *Environmental Planning and Assessment Act 1979*.

Hunter Water Corporation

The *Hunter Water Act 1991* (HW Act) establishes and gives function for the Hunter Water Corporation (HWC) to provide, construct, operate, manage and maintain systems and services for supplying water, providing sewage and drainage services and disposing of wastewater. A portion of the Precinct is located within the Hunter Water drinking catchment and therefore Hunter Water Corporation will continue to play a role in the consideration of development in

the catchment to ensure no significant or adverse impacts on the Corporation's works, operations or water quality.

Consultation and referral of relevant development and building applications to HWC and the requirement for the issuing of compliance certificates under the HW Act will remain.

The Project Control Group (PCG) for the Precinct contains many other government agencies that are not listed above.

1.3.2 Land to which the Williamtown Master Plan applies

This Master Plan applies to the land identified as the Williamtown Special Activation Precinct and will be included as a schedule of the Precincts–Regional SEPP. The area is shown in the Master Plan in Figure 6: Structure Plan.

1.3.3 Work undertaken to date

Planning for the Precinct began in 2020 with technical experts engaged to undertake strategic environment, economic and planning studies.

A detailed assessment of the investigation area was undertaken throughout 2021 and technical experts, ecologists, engineers, economists, stakeholders and urban planners tested and refined scenarios and ideas to create this Master Plan.

Master planning commenced with a large investigation area of over 11,000 hectares. The investigation area spread from Tomago to Salt Ash and from the Worimi Conservation Lands and Stockton sand dunes to the Grahamstown Dam in the north. Technical investigations, stakeholder input and feedback has also informed the master planning process and the Structure Plan reduced to an area covering 395 hectares.

Credit: Goodthanks Media.

These technical studies informed the development of the Master Plan:

- Structure plan
- Historic heritage
- Aboriginal cultural heritage
- Hydrogeology
- Aeronautical limitations and bird strike
- Land use safety
- Air quality and odour
- Noise
- Biodiversity
- Renewable energy
- Bushfire
- Social infrastructure
- Climate change adaption
- Statutory planning
- Contamination (PFAS and non-PFAS)
- Sustainability
- Economics
- Traffic and transport
- Flooding and water cycle management
- Utilities and infrastructure
- Geotechnical

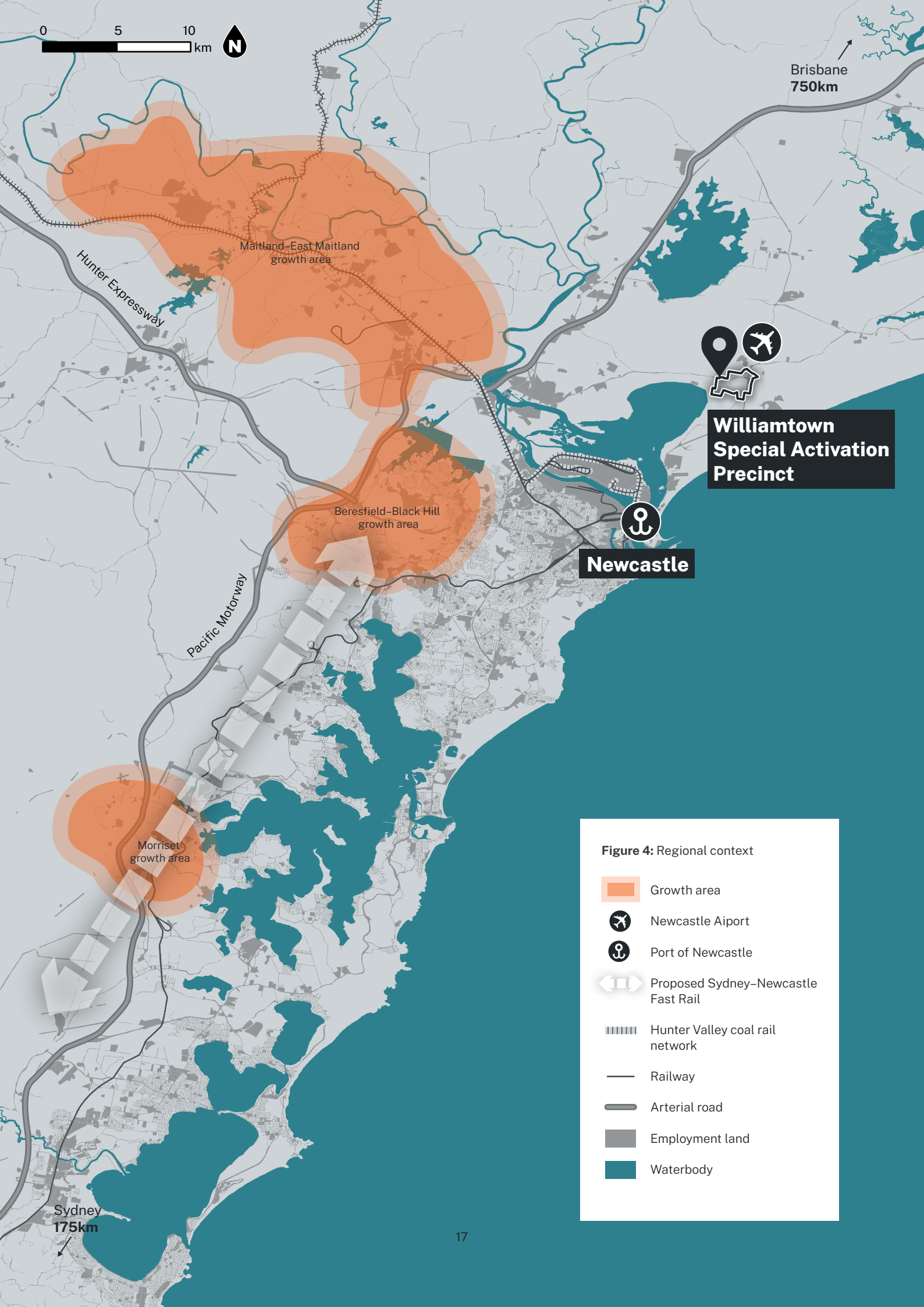


Figure 4: Regional context

1.4 Planning framework

1.4.1 Port Stephens Local Environmental Plan 2013

The *Port Stephens Local Environmental Plan 2013* is the existing foremost environmental planning instrument that applies to land within Williamtown and will continue to apply until such time as the amendments to the Precincts–Regional SEPP comes into effect.

A limited number of provisions from *Port Stephens Local Environmental Plan 2013* will apply to land within the Precinct in the same way as they apply to land to which that Plan applies.

1.4.2 Planning framework for Special Activation Precincts

The planning framework shown in Figure 5: Planning framework ensures the right mechanisms are in place for industry to access and comply with a streamlined planning process for the effective delivery of the Precinct.

Note: Any reference to Special Activation Precinct in this Master Plan has the same meaning as Activation Precinct in the Precincts–Regional SEPP.

An aircraft technician monitoring the engine start-up of an E-7A Wedgetail aircraft at RAAF Base Williamtown.
Credit: Department of Defence.

Figure 5: Planning framework

1

State Environmental Planning Policy (Precincts–Regional) 2021

- Identifies each Special Activation Precinct.
- Provides zoning and land use controls for each Precinct.
- Identifies exempt and complying development pathways for certain development.

2

Special Activation Precinct Master Plan

- Made by the Department and approved by the Minister.
- Identifies the vision, aspirations and principles for the Precinct.
- Identifies performance criteria at a Precinct-scale for amenity, environmental performance and infrastructure provision.
- Identifies the matters to be addressed as part of the Delivery Plan.

3 Delivery Mechanisms

Special Activation Precinct Delivery Plan

Concurrent processes

State Significant Development Application

- Prepared by the Corporation and approved by the Planning Secretary.
- Identifies development controls.
- Provides guidelines, controls and/or strategies and plans for:
  - Aboriginal cultural heritage
  - environmental protection and management
  - protection of amenity
  - infrastructure and services
  - staging.
- Provides procedures for ongoing monitoring and reporting.

- Application prepared by the Corporation.
- Provides concept approval for the entire Precinct.
- Provides early works approval for development in a portion of the Precinct consistent with technical studies and the final business case.
- Comprehensive assessment and community consultation in accordance with Secretary's Environmental Assessment Requirements (SEARs).
- Undertakes a bilateral assessment under the *Environmental Protection and Biodiversity Act 1999* (Cth).
- Prepared in accordance with *State Significant Development Guidelines* (DPE, 2021).
- Approved by Minister for Planning.

2

Vision

With the upgrade of Newcastle Airport and significant investment in defence at RAAF Base Williamtown including the F-35 Joint Strike Fighter program, the Precinct will become Australia's leading defence and aerospace precinct. Leveraging from the investment in defence and strategic connections to national and international air, sea and road transport and freight networks, the Precinct will create long term job opportunities and become an economic powerhouse for the Hunter Region.

A catchment-wide approach to managing constraints and the provision of early lead-in infrastructure ensures the Precinct will attract world-class investors and businesses, embrace innovation, emerging technologies and create a sustainable employment precinct which people want to work, play and visit.

Newcastle Airport. Credit: Goodthanks Media.

2.1 Principles for Williamtown Special Activation Precinct

The Department has worked in partnership with the Department of Regional NSW, the Corporation and Port Stephens Council and consulted with relevant Commonwealth, local and state agencies to develop guiding principles for the Precinct to inform the Master Plan.

These principles underpin the planning for the Precinct and will be considered in the assessment of applications for Activation Precinct Certificates and the issuing of development consents.

Economic development

- **Australia's leading defence and aerospace precinct** leveraging from significant investment associated with RAAF Base Williamtown and the upgrade of Newcastle Airport. It will become an economic powerhouse for the Hunter Region supporting jobs and economic development opportunities.
- The Precinct will provide a unique offering by enabling **direct airside access** (subject to relevant approval and Department of Defence agreement) for certain uses where direct access to the airfield is a critical component of operations connecting to the proposed new taxiway (noting the taxiway is not approved).
- Benefiting from the Precinct's strategic location adjacent to Newcastle Airport and close to the M1 Pacific Motorway and the Port of Newcastle - the key air, road and sea gateways to the Hunter Region, the Precinct will focus on **freight and logistics opportunities.**
- The campus-style Precinct will become a **training and innovation hub** that encourages defence, aerospace, advanced manufacturing, research and development, industrial and commercial activities increasing job prospects and up-skilling the local community.
- Provides a **strategic approach to managing growth** with developers and businesses having certainty about the planning process and expectations relating to streamlined assessments and determination for appropriate development and a coordinated approach to managing environmental constraints.

Place and landscape

- By **designing and Connecting with Country,** the Precinct weaves together high-value cultural sites both Indigenous and non-Indigenous within a walkable, natural setting including the existing Keeping Place, a central environmental protection area and creates an education and health loop.
- The Precinct will include a **high-quality public realm,** connecting businesses, people and visitors through meaningful design into the natural landscape and built form that is representative of a nationally significant employment precinct and work effectively for all in society, including people with disability and elderly people.
- Built form within the Precinct is functional and aligned with the topography and landscape form. The Precinct aims to **create a place with its own identity** by responding to and reinforcing locally distinctive patterns of development, landscape and culture.
- Create a place with a mix of **compatible developments and uses** that work together to create viable places that respond to market and local needs.

Environment and sustainability

- The Precinct will **embrace the principles of the United Nations Industrial Development Organisation (UNIDO)** for Eco-Industrial Precincts, including the United Nations Sustainable Development Goals.
- The Precinct will aim to be **net-zero**, with the goal to adopt 100% of its energy from renewable energy (including purchasing from off-site generators or Greenpower).
- The Precinct will protect high value biodiversity and cultural heritage areas in a **central environmental protection area** connecting to adjoining vegetated areas to provide amenity, a green heart and passive recreation opportunities.
- Implement an **integrated, best practice catchment-wide approach to flooding, drainage and water quality management** initiatives through a system of wetlands and channels to deal with both quantity and quality aspects including designing for flood resilience, climate change and protecting the adjoining Tomago sandbeds drinking water catchment.
- Precinct wide approach to the **management of environmental constraints** and supporting the Department of Defence who are leading existing PFAS remediation activities in the area.
- Developing measures to consider the **management of climate change risks** in future planning within the Precinct.

Community

- The Precinct will provide connections for the Williamtown community including a **range of new cultural, social, and commercial activities** where people will want to work, visit, play and remain throughout the day.
- Designing a world-class defence and aerospace precinct that attracts investors, boosts the region's economy, and **improves the quality of life** for the people of Williamtown.
- Respect the Worimi people's rights, obligations, roles, and connections to Country as Traditional Custodians of the land and water by **embedding Aboriginal cultural values** in the project's delivery.
- Support the **empowerment of the local Worimi community** through jobs and business opportunities including management of areas with high biodiversity value.

Infrastructure and transport

- Leverage **strategic transport connections** to Newcastle Airport, Port of Newcastle, and the M1 Pacific Motorway.
- Facilitate an access and movement framework through capitalising on the **Nelson Bay Road upgrade** by providing enhanced connections to surrounding local and regional centres and **promoting public transport opportunities** to and within the Precinct.
- Create a legible street, walking and cycling network within the Precinct by establishing **highly connected** recognisable routes, intersections, and landmarks to help people find their way around.
- **Safe and equitable access for all road users** with rational heavy vehicle access that provides for efficient access and appropriate separation from commuters, workers and airport-related traffic.
- Utilities and services that meet the **current and future servicing needs** of the Precinct, whilst also minimising land impacts and maximising reliability, efficiency and sustainability.
- The Precinct is to provide quality and innovative secure **digital infrastructure** that can support high, functioning competitive businesses.

2.2 Williamtown Structure Plan

The purpose of the Structure Plan is to illustrate the strategic land uses and vision for the Precinct. It provides a guide for future development. The Precinct has three catchments, the Northern, Eastern and Western catchments (see Figure 6: Structure Plan) which are based on flooding and drainage catchment areas.

The Northern Catchment, adjacent to Newcastle Airport incorporates the existing approved Astra Aerolab development. Stages 1-3 of the Astra Aerolab development are already under construction. The Northern Catchment builds on this existing approval, with a primary focus on direct airside-access leveraging off the adjacent airfield and the potential future taxiway. It is noted that the proposed taxiway is located on Department of Defence owned land is unapproved and subject to relevant approvals. The areas adjacent to the airfield can either be a secure area or integrated into the proposed road network, noting the relevant security requirements for individual buildings. Market sounding confirms strong interest from those investors requiring direct airside-access or need to be located close to RAAF Base Williamtown or Newcastle Airport.

The Northern Catchment includes the commercial heart of the Precinct with cultural, social and public open space infrastructure to improve the amenity and enjoyment for people who work and visit the Precinct. It provides an appropriate interface for vehicles and pedestrians between the differing uses including heavy vehicle movements for freight and logistics, pedestrian traffic in the campus-style employment areas and visitors to Newcastle Airport. The entrance from Nelson Bay Road to the Precinct at Williamtown Drive provides an opportunity to deliver a gateway entrance to the Precinct and more broadly the Hunter Region for those visitors arriving by air.

The southern half of the Precinct including both the Eastern and Western Catchments will build on the uses proposed in the Northern Catchment interwoven with an extensive drainage and wetland network to manage flooding, drainage, and water quality. The network of wetlands combined with the central environmental protection area will provide amenity and recreation opportunities to create a unique employment precinct. The Eastern and Western Catchments will benefit from access from Cabbage Tree Road and present opportunities for improved public transport and high-quality urban design at a number of key sites given the high visibility of these areas.

The Master Plan, together with the Precincts–Regional SEPP and Delivery Plan, provide the detailed controls that will facilitate the delivery of the Precinct in line with the Structure Plan. It presents a long term vision for the Precinct over the next 40 years.

The Precinct will be delivered in stages. Staging will be detailed in the Delivery Plan which will be prepared by the Corporation after the Master Plan has been finalised, however some initial details are provided in Section 3. The staging will be in accordance with the progressive delivery of infrastructure as the Precinct is developed. Initial development is likely to be prioritised in the Northern Catchment building on the existing defence and aerospace development already underway at Astra Aerolab.

The Precinct's Structure Plan outlines the development opportunities provided across the Precinct to support the proposed defence, aerospace, industry and training and innovation vision including road access, protection of biodiversity, appropriate management system for flooding, drainage and water quality and the avoidance and management of PFAS.

Figure 6: Structure Plan

- Williamtown SAP boundary (395 hectares)
- RAAF Base Williamtown and Newcastle Airport
- Waterway
- Waterbody
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Heritage or green space
- Newcastle Airport
- Local heritage item
- Aboriginal Keeping Place
- New access road
- Future alignment of Nelson Bay Road
- Access points
- Proposed road
- Runway and taxiways
- Proposed unapproved taxiway
- Western catchment
- Eastern catchment
- Northern catchment
- Regional enterprise zone
- Flood mitigation - shallow flood storage
- Drainage and wetlands
- Environmental protection area
- SP2 Infrastructure

3

Why Williamtown

An F-35A Lightning II A35-015 from No. 3 Squadron taxis out at RAAF Base Williamtown. Credit: Department of Defence.

3.1 Key economic drivers

The RAAF Base Williamtown is Australia's premier fighter pilot training facility employing 4,500 people, with investment in defence the major economic driver for the Precinct. RAAF Base Williamtown is well-positioned to capture a significant proportion of key air domain related investment as identified in the *2020 Force Structure Plan* (Commonwealth of Australia, 2020). An estimated $40.4–$62.9 billion may be directed to the Precinct through investment in the following defence related programs listed below:

Program	Investment
F-35 Joint Strike Fighter (JSF) ongoing F-35 Joint Strike Fighter (JSF) ongoing acquisition and sustainment	$9.9–$17 billion
F-35 replacement evaluation	$300–$400 million
Additional air combat capability	$4.5–$7.6 billion
Growler replacement	$7/6–$11.4 billion
E-7A Wedgetail upgrades and replacement	$14–$21.1 billion
Joint Air Battle management system	$1.8–$2.8 billion

Source: Deloitte

These significant programs are key catalysts for development in the Precinct and will help to achieve the vision of a national defence and aerospace precinct. The *Economics Report* (Section 8) prepared by Deloitte identified that there will be two drivers for demand within the Precinct including:

- Demand driven by existing defence programs that may grow substantially over time in response to Commonwealth investment in Defence; and
- Demand driven by existing infrastructure.

The Master Plan aims to attract business including defence primes and SMEs to Williamtown by providing suitably zoned land with supporting lead-in infrastructure, strategically located adjacent RAAF Base Williamtown, with an offering of direct airside access. Whilst only some companies may require direct airside access, this is a distinct advantage of the Precinct to secure land for Department of Defence sustainment programs and land uses requiring airside access. To achieve this, the Precinct aims to establish enabling infrastructure including roads, public transport, social and community infrastructure, land suitable for commercial and employment uses and to provide amenities to both support and attract workers and investment in the Precinct.

In order to anticipate demands for defence and aerospace, freight and logistics, research and development, industry and commercial mixed uses, market sounding analysis and economic demand modelling was completed. The Master Plan has adopted the recommendations of the *Economics Report* (Section 8) and provides sufficient land within the Precinct over the 40 year horizon to cater for aforementioned uses.

The Precinct's clear competitive advantage and opportunity are to establish the Precinct as a national and international defence precinct supported by RAAF Base Williamtown, the existing presence of defence primes (i.e. BAE Systems) and investment opportunities provided by ongoing and future defence programs.

An aircraft technician and leading aircraftman referring to the technical publications at RAAF Base Williamtown. Credit: Department of Defence.

3.2 Managing the constraints

Williamtown is a sensitive natural environment nestled between the iconic Stockton Beach sand dunes, internationally recognised wetlands at Fullerton Cove (Hunter Estuary Wetlands RAMSAR site), Tilligerry and Worimi State Conservation areas and the Tomago Sandbeds drinking water catchment which are assets that present both opportunities and challenges to ensure that future development and growth outcomes recognise and respect the natural assets.

The market sounding analysis identified that one of the key challenges for investors developing in the area was the need for a precinct-wide approach to land use planning to address current constraints and a coordinated approach to attract investment and resolve the issues. Some of the key constraints are summarised below.

3.2.1 Water cycle management

Flooding presents a significant constraint across the Precinct and is influenced by multiple flooding mechanisms including groundwater surcharge, local flooding, regional flooding and tidal inundation. The existing drainage network in Williamtown including a series of drains such as Dawsons, Leary's, 10 Foot, 14 Foot Drains are ageing and in some instances are undersized and constrained by tidal processes which limit capacity, efficiency and ongoing maintenance.

The Precinct is located within and adjacent to the drinking water catchment for the Hunter Region and close to Fullerton Cove which is identified as within the Hunter Estuary Wetlands RAMSAR site, of international importance.

Drainage and flooding in Williamtown have been the subject of numerous investigations over the years providing an indication of how complex the constraints are. To facilitate the development of the Precinct, bulk filling to the flood planning level is required and needs to appropriately balance of floodplain management measures and controls to mitigate and offset flood impacts. The measures are documented in Section 5 but include measures such as flood detention, floodplain storage offsets, augmentation of existing drainage infrastructure and accommodating flood impacts on site. Where the objective of 'no flood impact' is unable to be achieved as a result of development in the Precinct, the Master Plan has identified a number of sites that are proposed to be in future NSW government ownership and zoned SP2 Infrastructure to ensure there is no impact on private land and to assist with managing adverse impacts in more frequent flood events. The Corporation will determine any potential land that is to be acquired as part of the Delivery Plan.

A proposed drainage approach for the Precinct has been integrated with the water quality strategy with drainage and flood detention provided along a series of longitudinal wetland corridors.

3.2.2 Per-and poly-fluoroalkyl substances (PFAS) management

Soil, sediments, surface water and groundwater within the Precinct are impacted with PFAS. In 2017, the NSW Environmental Protection Authority (EPA) issued the Williamtown Management Area Map which identified three management zones – primary, secondary and the broader management zones. The Precinct is located within either the primary or secondary management zones which lists precautionary advice for residents to minimise exposure to PFAS originating from the RAAF Base (see Figure 20: NSW EPA PFAS Management Area).

The proposed flooding, drainage, stormwater, geotechnical and biodiversity strategies for the Precinct have considered the management of PFAS and this forms an integral part of the management strategies to ensure any future development within the Precinct will limit PFAS mobilisation and limit the exposure for future industry and the public.

Whilst the Precinct is not a remediation project, it will not create additional impacts and will aim to prevent the mobilisation of PFAS through mitigation measures and strategies informed by industry experts. The NSW Government seeks to work closely with and support the Department of Defence who are currently undertaking an extensive remediation program both on and off base.

The Master Plan actively facilitates and enables the Department of Defence's remediation program to continue.

3.2.3 Biodiversity protection

The Precinct contains vegetated areas that comprise of high-value biodiversity areas including the critically endangered Swift Parrot and vulnerable Koala, Squirrel Glider, Wallum Froglet and Earp's Gum. The Netted Bottle Brush may also occur within the Precinct.

The Precinct also contains two Threatened Ecological Communities (TEC) under the *Biodiversity Conservation Act 2016 (BC Act)* Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions and Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions.

The Precinct includes 102 hectares of native vegetation. The Precinct aims to protect a large proportion of this native vegetation and the associated biodiversity values through the expansive central environmental protection area located in the core of the Precinct.

While the goal of the new planning framework is to achieve a streamlined planning pathway, this is not intended to come at the expense of high-value biodiversity areas. In these areas, complying development will not be permitted.

3.2.4 Protection of aircraft and defence operations

The Precinct is subject to specific aeronautical constraints related to the operation of RAAF Base Williamtown and Newcastle Airport. The constraints include aircraft noise, bird strike risk, extraneous lighting, obstacle or height limitations, wind shear and public safety considerations.

The National Airports Safeguarding Framework (NASF) consists of a set of guiding principles and guidelines consisting of aircraft noise, windshear, wildlife strike, wind turbines, lighting distractions, protected airspace, communication equipment, helicopter landing sites and public safety areas which have been reflected in the design of the Structure Plan.

The Master Plan seeks to ensure that any future development within the Precinct safeguards the Newcastle Airport and Defence operations and ensures they are protected from inappropriate development whilst still supporting the development of employment uses within the Precinct.

Koala sanctuary, Port Stephens. Credit: Destination NSW.

3.3 Staging

3.3.1 Catchment-based approach

The Master Plan presents a vision for the Precinct over the next 40 years and aims to provide both the certainty and the flexibility that will enable the development of the Precinct. Meeting the vision for the Precinct requires the coordination of land use, infrastructure and transport infrastructure. The Master Plan seeks to embrace a 'beyond business-as-usual' approach with an infrastructure and catchment-based approach to staging.

The Structure Plan has three catchments that have been informed by a catchment-based approach to staging (see Figure 7: Staging). They include:

- **Northern Catchment (101 ha)** – focused on the area adjoining Newcastle Airport and north of the environmental protection area;
- **Western Catchment (134 ha)** – centred around Dawsons Drain catchment; and
- **Eastern Catchment (115 ha)** – centred around Leary's Drain catchment

The flexible approach to staging ensures a catchment-wide solution is provided for each of the three catchments. The proposed flooding and water cycle management strategy has largely driven this staging approach and is designed as a distributed system that services the exclusive catchments. This approach minimises the need for substantive drainage infrastructure outside of the relevant catchment.

Both the Western and Eastern Catchments include land to the south of Cabbage Tree Road for flood mitigation and infrastructure that needs to be included as part of the flooding and water cycle management strategy prior to any development in the Eastern and Western Catchments occurring.

Whilst the staging of the catchments will be detailed further in both the Delivery Plan and SSD application, NSW Government has prioritised the Northern Catchment for the first stage of development.

Drainage channel, Williamtown. Credit: Goodthanks Media.

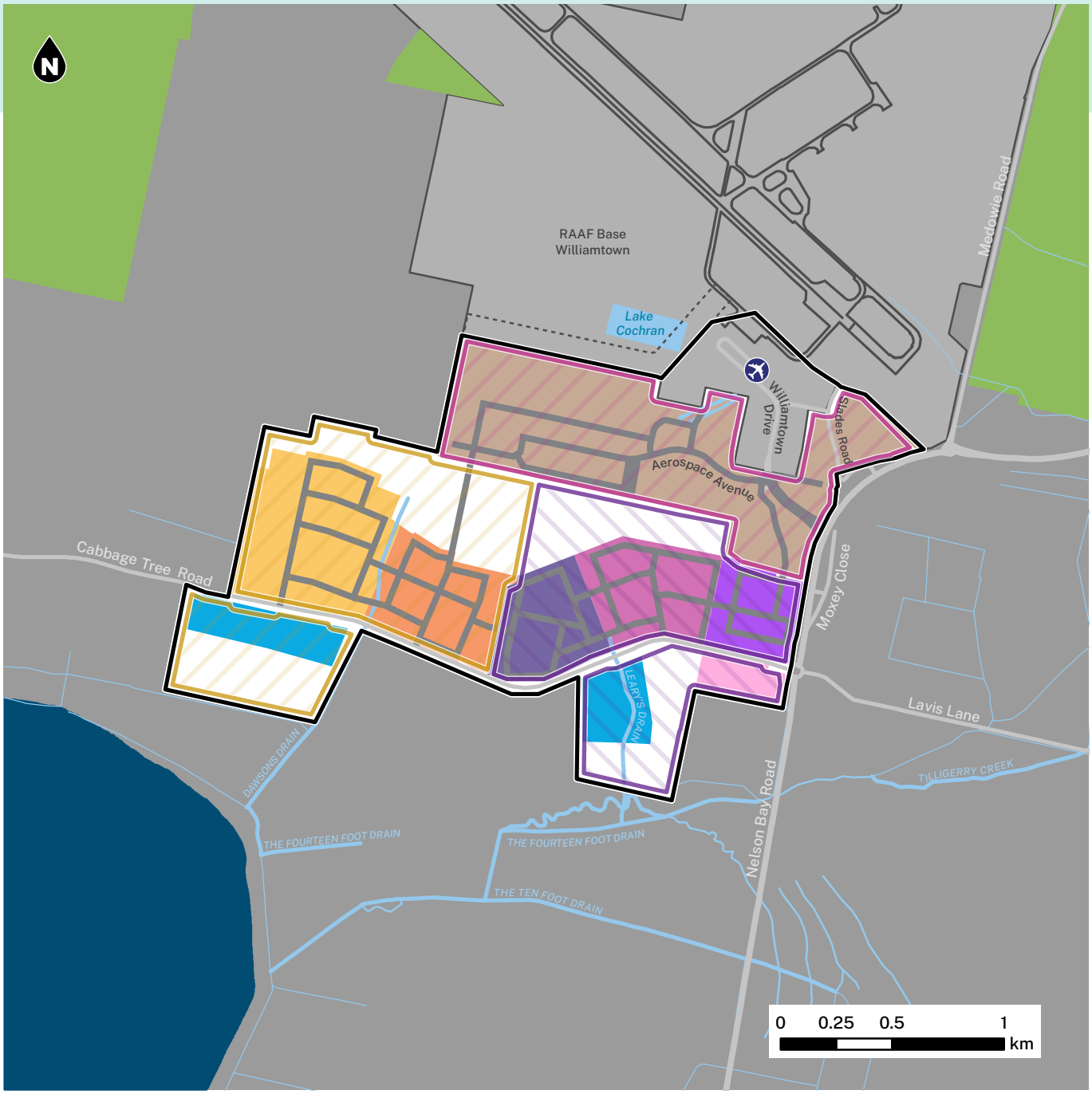
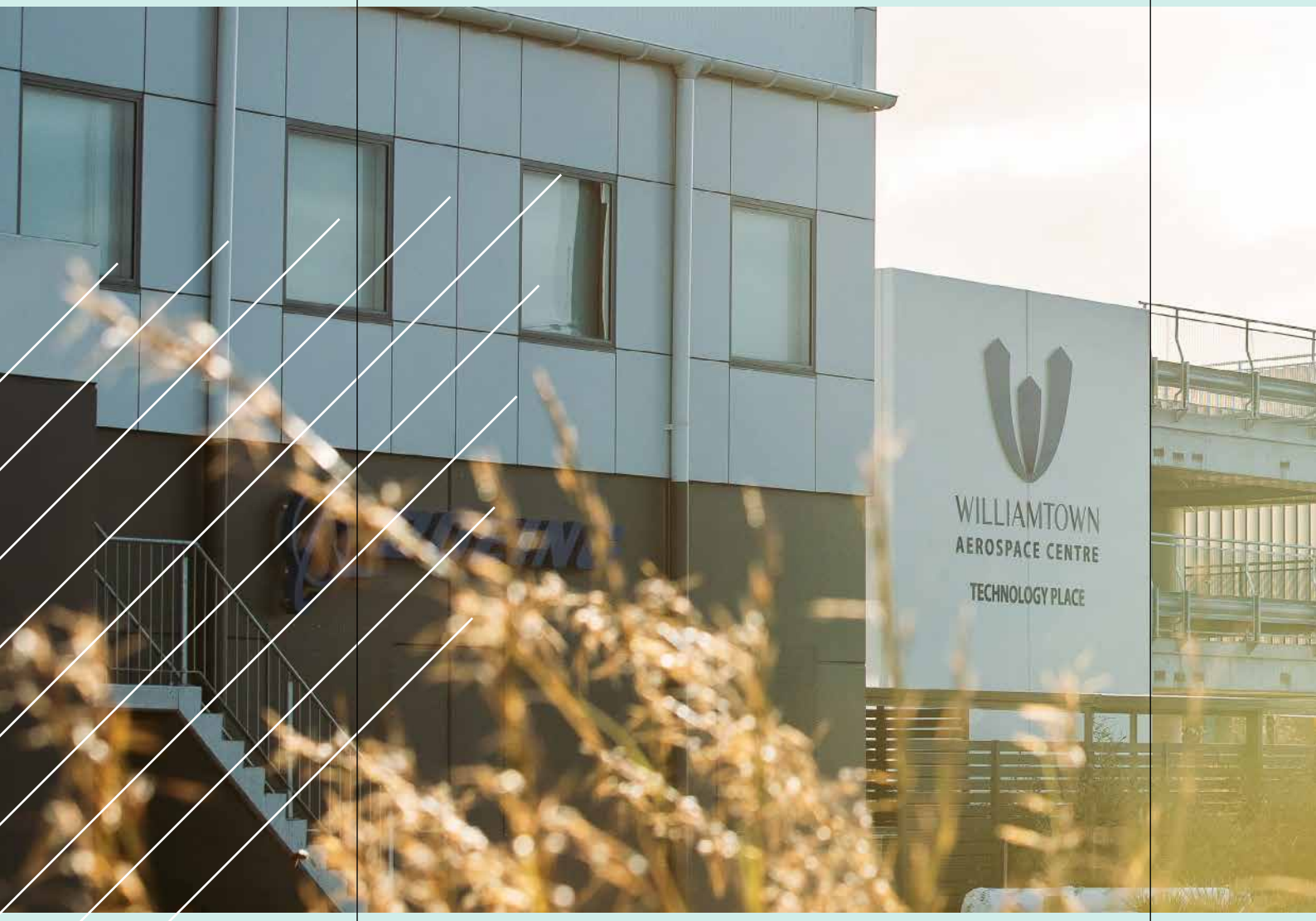


Figure 7: Staging

- Williamtown SAP boundary (395 hectares)
- RAAF Base Williamtown and Newcastle Airport
- Waterway
- Waterbody
- Flood mitigation - shallow flood storage
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Western catchment
- Eastern catchment
- Northern catchment
- Roads
- Proposed road
- Runway and taxiways
- Proposed unapproved taxiway
- Newcastle Airport
- Dawsons East
- Dawsons West
- Defence and Aerospace
- Leary's Central
- Leary's East
- Leary's West
- Leary's South

4

Provisions of this Master Plan



Williamtown Aerospace Centre. Credit: Goodthanks Media.

4.1 Land use zoning

Currently, land within the Precinct is primarily zoned RU2 Rural Landscape and B7 Business Park under the *Port Stephens Local Environmental Plan 2013*. The RU2 Rural Landscape zone applying to most of the Precinct permits a mix of agricultural, rural residential and some commercial uses whilst the B7 Business Park zone applying to the northern edge of the Precinct permits a range of business uses to support RAAF Base Williamtown and Newcastle Airport.

The proposed zoning shown in Figure 8: Proposed zoning provides a flexible approach to support employment activity across the Precinct with the use of the Regional Enterprise Zone under the Precincts–Regional SEPP and overall guidance of the Master Plan.

The continued operation of RAAF Base Williamtown and Newcastle Airport will be protected under the Precincts–Regional SEPP through the inclusion of provisions that will ensure development does not create wind shear or turbulence, increase the risk of bird strike, include excessive lighting, exceeds the obstacle limitation surface (OLS) and management the location of noise-sensitive uses in accordance with noise contours.

Land uses proposed within the Regional Enterprise Zone include a range of employment uses to support defence and aerospace industries, advanced manufacturing, training, innovation, research and development, commercial, freight and logistics, industry and tourism opportunities. The Precinct is well-positioned to become the emerging national defence and aerospace precinct. The employment uses proposed will support the local working population minimising the need for out-of-precinct travel for day-to-day necessities.

The Discussion Paper for the Precincts–Regional SEPP provides a land use table and objectives for each zone.

4.1.1 Features of the planning framework

Following the outcomes of the technical studies and stakeholder engagement for the Precinct, a planning framework for its delivery was developed. The planning approach can be summarised as follows:

New Regional Enterprise Zone

A flexible land use zone that allows a wide range of employment and industrial uses to be constructed within the Precinct whilst safeguarding the airport and ADF operations. As such no additional residential uses will be permitted in the zone and sensitive land uses will be located appropriately to limit potential adverse impacts.

Infrastructure zone

Covers physical infrastructure provision including road corridors, land required for flood and drainage mitigation and utilities, Newcastle Airport and associated land in Commonwealth ownership to support the ADF and airport operations.

Protection for biodiversity and special places

Areas of high biodiversity and cultural value at the centre of the Precinct are protected in perpetuity through environmental conservation zoning.

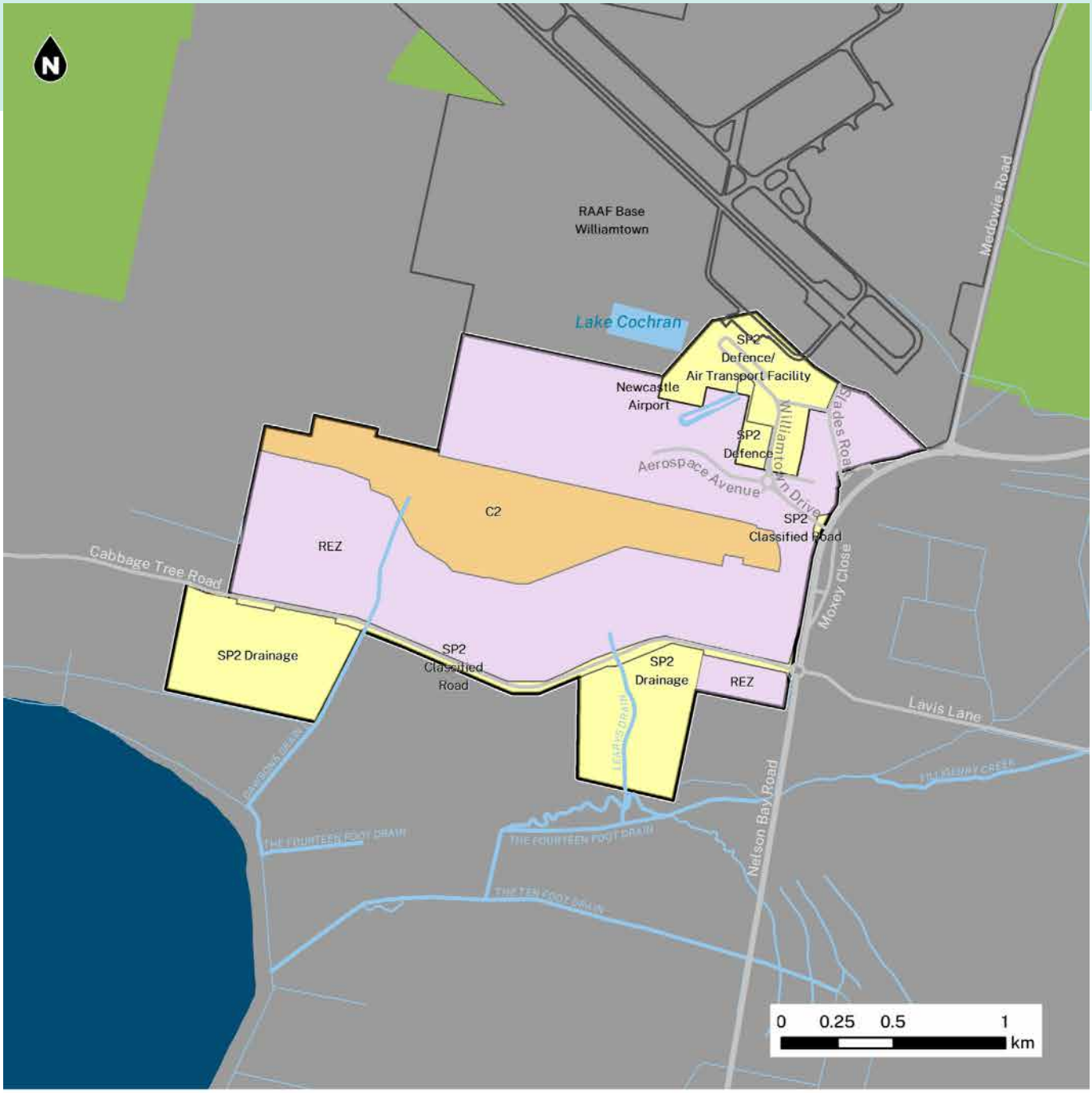


Figure 8: Proposed zoning

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- C2 - Environmental Conservation
- REZ - Regional Employment Zone
- SP2 - Infrastructure

4.1.2 Consideration for future stages of development

As part of the delivery stage of the project, supporting provisions will be developed for the following land uses:

- Identify where the commercial nodes are to be located.
- Identify appropriate locations for the following additional permitted uses:
  - centre-based childcare facilities.*
  - resource recovery facility
  - service station
  - vehicle repair station
  - vehicle body repair workshop
- Specialised retail premises that are permissible in the Regional Enterprise Zone, however, consideration needs to be given to limiting the total floor area of these retail uses across the Precinct to ensure that they do not fragment the existing commercial centres within Port Stephens.
- The Delivery Plan must consider limiting development for specialised retail premises to land in the Eastern and Western Catchment.

*Note: Centre-based child care facilities within the Precinct must, where practical, be located on land on which the ANEF does not exceed 25 units. other locations may be considered where the ANEF does not exceed 30 units, but only where the design and construction of the childcare centre can demonstrate compliance with *Australian standard AS2021-2015 - Acoustics - Aircraft noise intrusion - Building siting and construction.*

Astra Aerolab. Credit: Greater Newcastle Aerotropolis Pty Limited

5

Environment and sustainability

Stockton sand dunes. Credit: Goodthanks Media.

5.1 Biodiversity, wetlands and the landscape

The Precinct includes areas of high biodiversity values including the critically endangered Swift Parrot, and the vulnerable Koala, Squirrel Glider, Wallum Froglet and Earp's Gum. The Netted Bottle Brush may be prevalent within the Precinct, however, confirmation of the species identification is underway.

The Precinct contains two threatened ecological communities (TEC) under the *Biodiversity Conservation Act 2016,* the Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions and Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions.

The Precinct includes 102 hectares of native vegetation. The Master Plan protects a large proportion of this native vegetation and the associated biodiversity values through the retention of an expansive central environmental protection area in the centre of the Precinct. This will provide an important habitat connection and corridor with adjacent high-value biodiversity areas including land forming part of the Hunter Region drinking water catchment and Tilligerry State Conservation Area further to the west.

It is noted that existing vegetation in the Northern Catchment mapped in Figure 9: High value biodiversity areas will be cleared to facilitate development adjacent to the airfield. Appropriate offsetting mechanisms will be required.

For those areas to be retained, the Master Plan seeks to protect and enhance these biodiversity values within the Precinct through mapping high biodiversity value where complying development cannot occur.

Aims

- To protect and enhance the Precinct's biodiversity, landscape, cultural and heritage values.
- To provide a central environmental protection area that provides amenity, biodiversity protection, health benefits and education opportunities.
- To preserve and rehabilitate natural and man-made watercourses and groundwater-dependent ecosystems (consistent with drainage and flooding strategy).
- To ensure that surrounding wetlands (including Hunter National Park (RAMSAR wetlands) and Hunter Estuary Wetlands) and the hydrology of the Tomago Sandbeds are protected from direct and indirect impacts of development.

Performance Criteria

A. Development on land within the Precinct and mapped as containing high biodiversity values (see Figure 9: High value biodiversity areas) is to maximise retention of existing biodiversity values including incorporating into development design, landscape and drainage features.

B. All development is to apply the avoid, minimise and offset methodology, noting some high value biodiversity areas in the Northern Catchment will modified to facilitate development within the Precinct.

C. All development is to enhance the biodiversity values of cleared and developed areas by using local native species for landscaping and constructed wetlands, and species that are important to threatened native species including the creation of microhabitats using items removed during development.

D. Establishment of long term objectives and protection mechanisms for the central environmental protection area, including:

   i. ongoing monitoring and management of biodiversity values,

   ii. establishment of management measures to prevent impacts (i.e. release of pollutants and spread of weeds), and

   iii. development of controls to decrease the impact of development such as wildlife safe fencing, retention of vegetated buffers and directing artificial lighting and noise away from the area.

E. Riparian corridors (see Figure 10: Riparian corridors), are protected and revegetated where possible, whilst ensuring consistency with the proposed flooding and drainage strategy for the Precinct.

F. Development on land within the Precinct and identified as containing wetlands (see Figure 11: Wetlands) must consider whether or not the development is likely to have any adverse impact on:

   i. the condition and significance of the existing native fauna and flora on the land,

   ii. the provision and quality of habitats on the land for Indigenous and migratory species, and

   iii. the surface and groundwater characteristics of the land, including water quality, natural water flows and salinity.

G. Any development resulting in the removal of native vegetation mapped as containing high biodiversity values should be accompanied by a report from a suitably qualified professional that identifies any potential adverse impact of the proposed development.

Consideration for future stages of development

- Preparation of a detailed Biodiversity Development Assessment Report (BDAR).
- Preparation of a landscape and vegetation plan including demonstrating how landscape can be designed to provide Connection to Country.
- Prior to the issue of an Activation Precinct Certificate by the issuing authority on land within the Precinct and identified as containing wetlands (see Figure 11: Wetlands), the issuing authority must be satisfied that:
  - the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or
  - if that impact cannot be reasonably avoided — the development is designed, sited and will be managed to minimise that impact, or
  - if that impact cannot be minimised — the development will be managed to mitigate that impact.
- Explore research opportunities to establish and to monitor the effects of increased inundation on groundwater dependent ecosystems (an area rarely reported in literature).

Emu in Williamtown. Credit: Goodthanks Media.

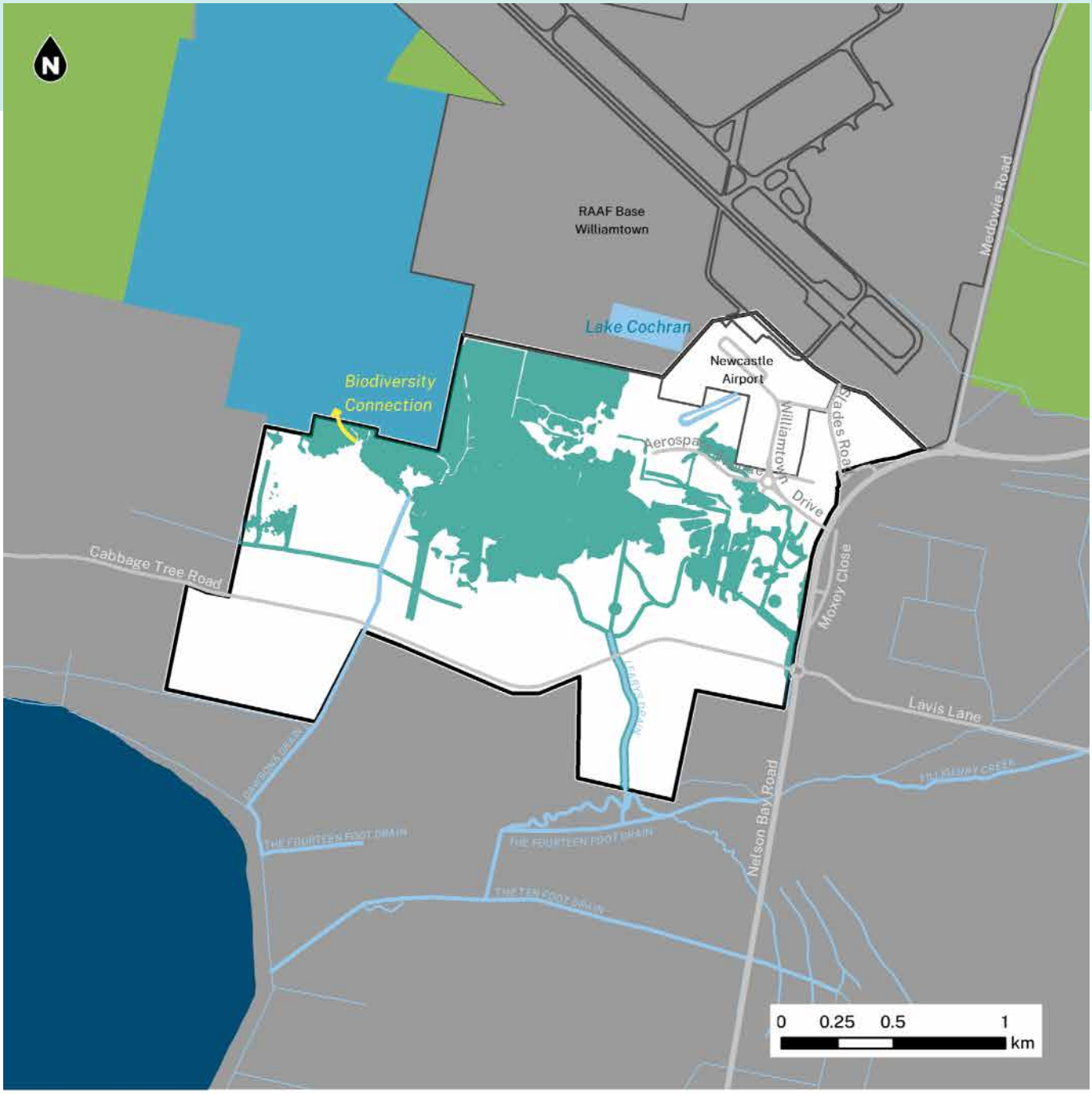


Figure 9: High value biodiversity areas

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Hunter Water Corporation
- High Biodiversity Values

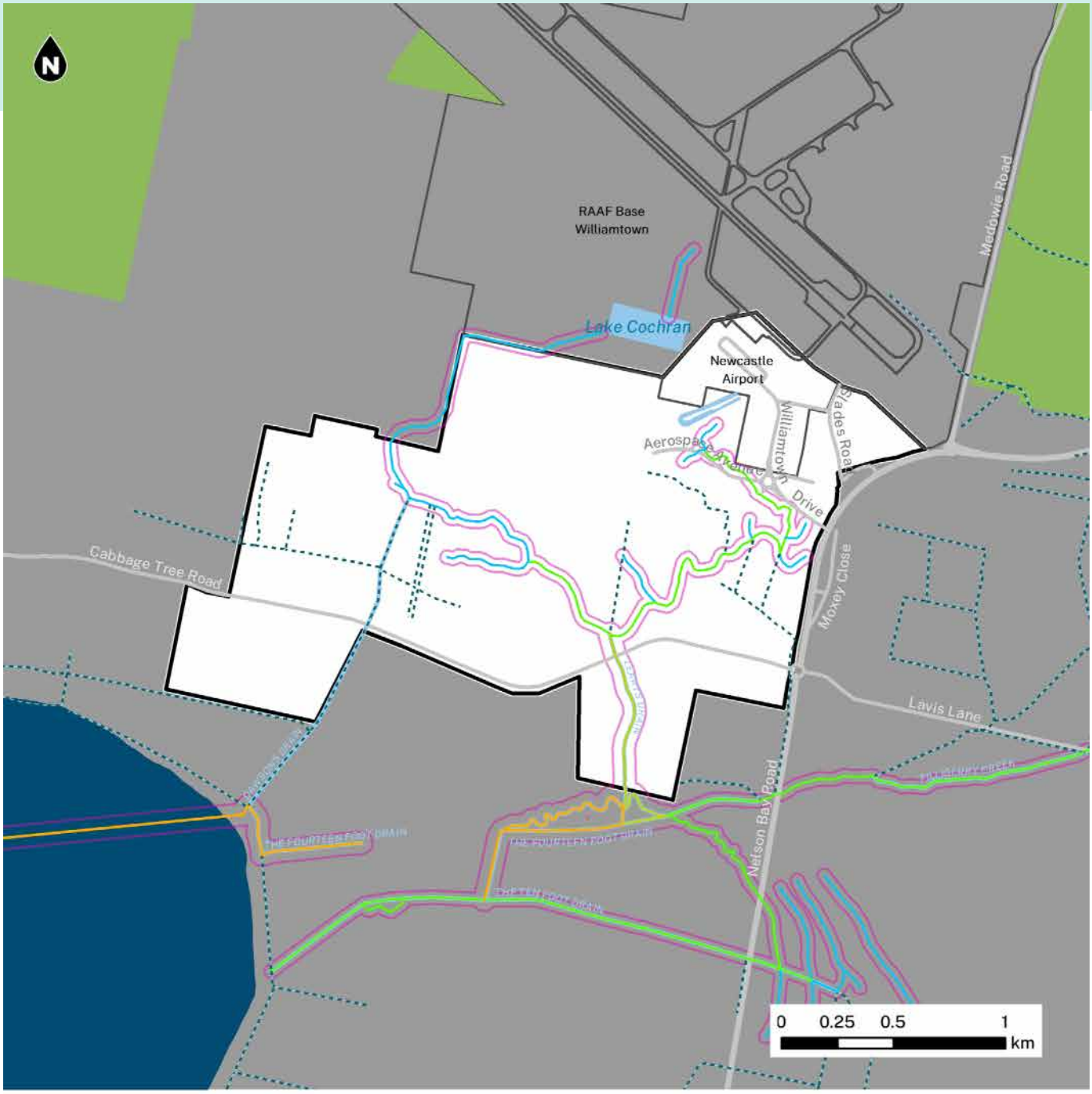


Figure 10: Riparian corridors

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Preliminary Riparian Corridor Extent

Strahler Stream Order

- 0
- 1
- 2
- 3
- 4

** The Strahler stream order applied in this figure is indicative only and Strahler stream order classification is to be determined by reference to Schedule 2 of the Water Management (General) Regulation 2018, to determine the stream order of a stream for the purpose of the Regulation.*

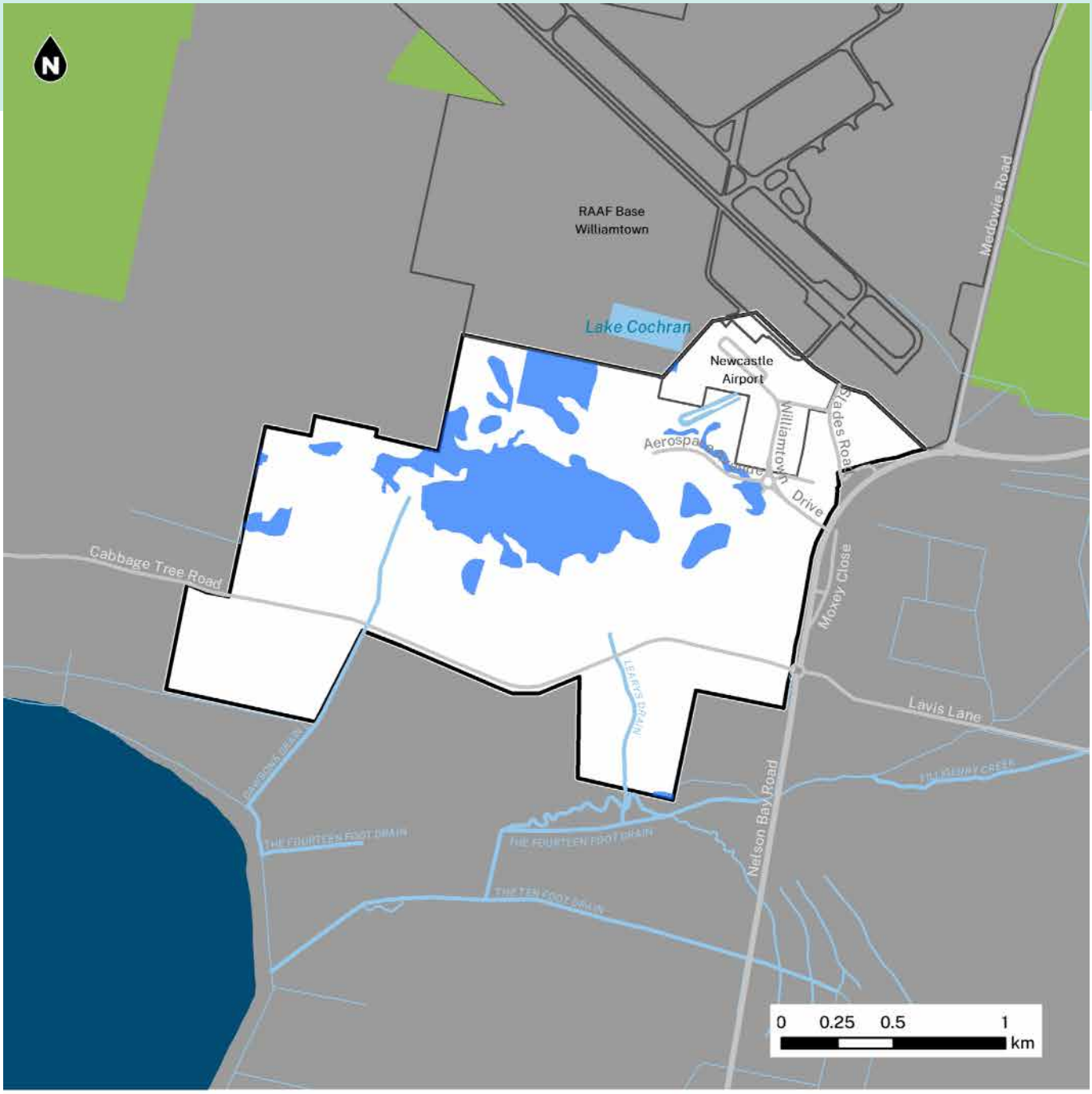


Figure 11: Wetlands

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Wetlands

Note: Source of wetland mapping within the SAP is PSLEP 2013

5.2 Noise

Noise sources within and surrounding the Precinct are well documented and include the existing aircraft noise from the RAAF Base Williamtown and Newcastle Airport and several surrounding quarries and sand mining operations. These sources have the potential to impact health, amenity, and land use compatibility if existing noise mitigation strategies to achieve noise goals are not implemented.

Future industrial and employment uses within the Precinct (in addition to existing noise sources) have the potential to generate noise from construction, operation and transportation. To minimise any impacts, a set of performance criteria has been developed to mitigate any future noise impacts from the Precinct. These performance measures ensure that future uses located proximate to the existing high noise activities are sited and designed such that all internal spaces are in accordance with the current Australian Standards.

A Noise Management Precinct (NMP) as defined by the EPA's *Noise Policy for Industry 2017,* is a recommended management approach to ensure the cumulative impacts of any development within the Precinct are considered to meet the noise goals. An NMP allows noise impacts from multiple premises within a defined area (i.e. the Precinct) to be managed as a single area. This mechanism increases flexibility in how noise impacts are managed in the Precinct without stifling future development. This would apply to the Precinct only, and not the existing uses outside of Precinct including the airport where noise monitoring would continue to be the responsibility of RAAF Base Williamtown and Newcastle Airport.

Aims

- Manage the emission of noise from development within the Precinct for people who work and visit the Precinct and its surroundings.
- Ensure the ongoing monitoring for noise performance within the Precinct.
- Ensure all development within the Precinct is in accordance with *Protection of the Environment Operations Act 1997* and the EPA's *Noise Policy for Industry 2017.*

Performance criteria

A. Land uses that are sensitive to the adverse effects of aircraft noise are appropriately located within the Precinct to limit adverse impacts as far as possible (i.e. Australian Noise Exposure Forecast (ANEF) - 25 ANEF Contour band in the south of Precinct). Noise sensitive land uses are to be positioned appropriately within the Precinct to limit exposure to existing noise generating sources

B. The provision of buffer distances (where required) should be prioritised between a particular industry and sensitive land uses, or between industrial uses and sensitive land uses, to avoid or minimise land use conflicts both inside and outside of the Precinct. Where it is not practical to provide a buffer, the acoustic design of the building envelope must be employed.

C. All development (including construction works) is to ensure that the generation of noise and vibration does not cause environmental harm or nuisance to adjoining properties or other noise sensitive land uses.

D. Future development within ANEF contours (see Figure 12: ANEF contours) is required to adhere to the compatibility guide included in the *Noise Assessment Report* (Section 8) and in accordance with Australian Standard AS2021 – 2015 Acoustics.

Consideration for future stages of development

- Development in accordance with the EPA's *Noise Policy for Industry 2017* with a desire to develop a Noise Management Precinct (NMP).
- Any construction or operational management plan must include noise and vibration considerations including of noise monitoring and how the cumulative noise impacts from the Precinct will be managed.
- Sensitive land uses are not recommended to be positioned on the top floor of any building to limit noise impacts and associated construction costs for Australian Standard AS2021-2015 *Acoustics – Aircraft Noise Intrusion Building Sitting and Construction* compliant roofing design.
- Road traffic noise impacts related to the Precinct are to be assessed in accordance with the NSW Department of Environment and Climate Change (DECC) *Road Noise Policy, 2011*.
- An acoustic report is provided which specifies the construction standards required to achieve the Australian Standard AS2021-2015 *Acoustics – Aircraft Noise Intrusion Building Sitting and Construction* where development is located within the ANEF contour exceeding the 20 - 25 ANEF contour band.
- The locations of noise monitoring stations within the Precinct are to be protected.
- The Aircraft Noise Level (ANL), as determined by the Department of Defence, must accompany any application for development in the Precinct. The ANL must be used when calculating the Aircraft Noise Reduction (ANR) for the type of development.

Note: The Precinct is to be considered as a Greenfield site for the purposes of interpreting the requirements of AS2021-2015.

Note: Any activities required to be licensed under the *Protection of the Environment Operations Act 1997*, the issuing or consent authority must consult with the EPA to determine whether the existing technical assessments prepared for the Master Plan and Delivery Plan are sufficient to meet assessment requirements, or if additional assessments are required.

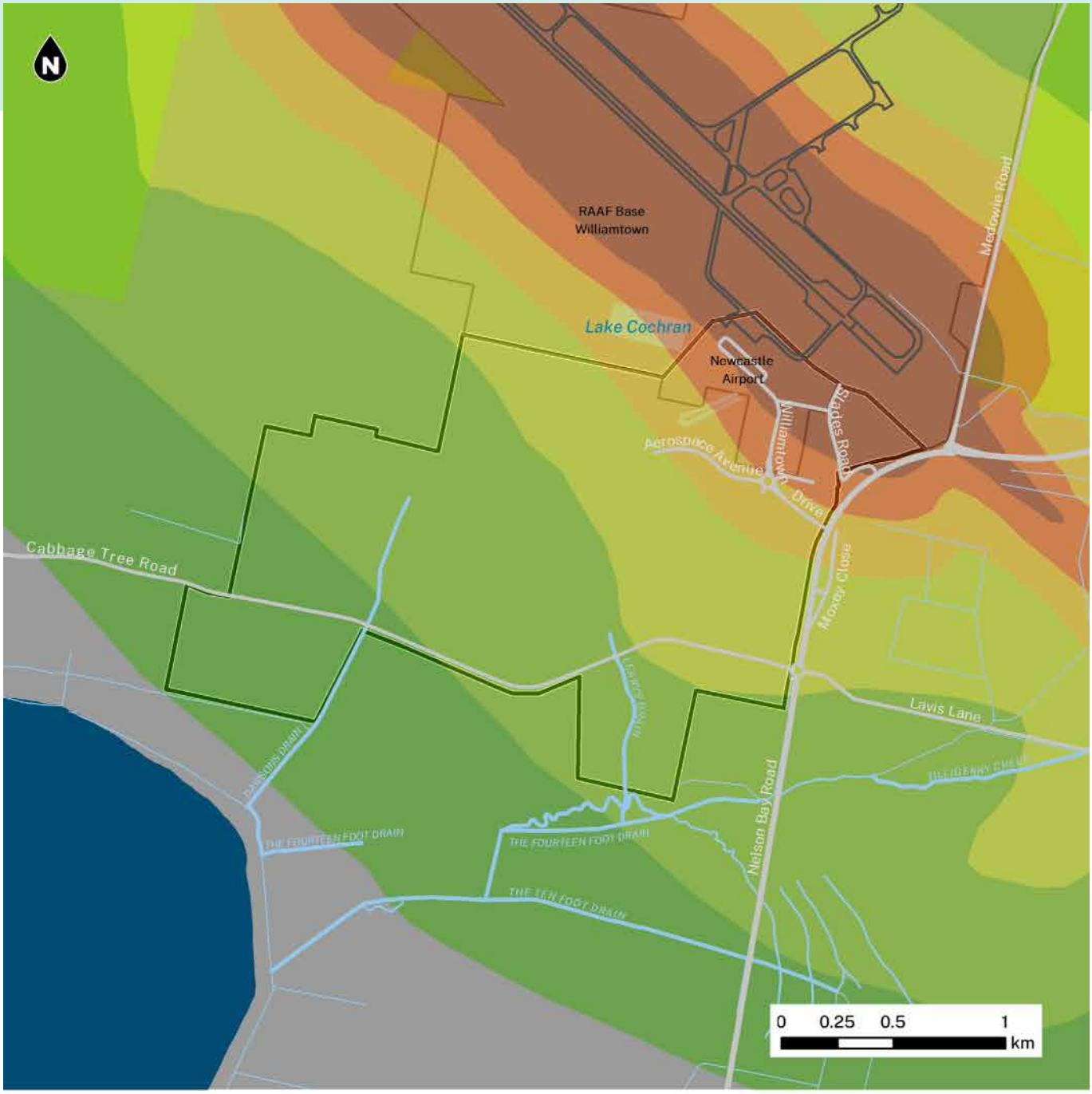


Figure 12: ANEF contours

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

ANEF Contour Band

- 20-25 ANEF
- 25-30 ANEF
- 30-35 ANEF
- 35-40 ANEF
- 40-45 ANEF
- 45 ANEF

5.3 Aeronautical limitations

The Precinct has specific aeronautical constraints related to the RAAF Base Williamtown and Newcastle Airport. These include constraints associated with aircraft noise, bird strike risk (landscaping and waste), extraneous lighting, obstacle or height limitations and windshear.

The National Airports Safeguarding Framework (NASF) was developed in 2012 which includes a set of guiding principles and guidelines relating to aircraft noise, windshear, wildlife strike, wind turbines, lighting distractions, protected airspace, communication equipment, helicopter landing sites and public safety areas. The guiding principles of NASF that relates to the Precinct are reflected in the design and land uses in the Precinct.

The Commonwealth, State and local government regulatory frameworks have recognised the need to protect the land and airspace around air transport facilities and limit the potential adverse impacts that these facilities may have on amenity and health.

Aims

- Ensure that all development within the Precinct is consistent with the NASF.
- Continue protecting the current and future safety, operation, viability and growth of RAAF Base Williamtown and Newcastle Airport by providing compatible development that does not impede on these operations.
- Ensure that the RAAF Base Williamtown and Newcastle Airport are not compromised by development that constitutes an obstruction, hazard or potential hazard to aircraft flying in the vicinity.

Performance Criteria

A. The height of buildings, structures (including stacks), landscaping and cranes do not impact the operations of RAAF Base Williamtown and Newcastle Airport or create a hazard to the safe navigation of aircraft, refer to Figure 13: Obstacle limitation surface.

B. Land uses that are sensitive to the adverse effects of aircraft noise are appropriately located within the Precinct to limit such adverse impacts as far as possible.

C. Development, landscaping and drainage infrastructure does not attract wildlife which would create a safety hazard to the operations of the airport (see Figure 14: Wildlife hazards).

D. Lighting must not cause distraction or confusion to pilots due to its configuration, pattern or intensity or prevent clear reception of aerodrome lights or signals (see Figure 15: Extraneous lighting).

E. Windshear implications are to be considered with any future development within the Precinct for all development within the Windshear Map (Figure 16: Airport windshear assessment trigger)

F. Development does not impact the operational aspects of the RAAF Base Williamtown or Newcastle Airport with regard to light emission and reflective surfaces.

G. Development within the ANEF 20-25 (Figure 12: ANEF contours) and above contours (including extensions to existing development) is constructed to achieve indoor design sound levels as per the Indoor Design Sound Levels for Determination of Aircraft Noise Reduction in AS 2021 – *Acoustics Noise Intrusion – Building Siting and Construction.*

H. Development does not create a permanent or temporary physical or transient obstruction in the protected operational airspace of the Airport and complies with the *Airports Act 1996* and *Airports (Protection of Airspace) Regulations 1996.*

I. Development does not generate turbulent emissions or impact visibility or engine operation in the operational airspace of the RAAF Base Williamtown and Newcastle Airport.

J. Development must not impact upon communication, navigation and surveillance systems either RAAF Base Williamtown and Newcastle Airport.

Consideration for future stages of development

- All development where an aeronautical limitation relates is to demonstrate general consistency with NASF.
- Upon adoption of a new height limitation chart by the Department of Defence this will supersede Figure 13: Obstacle limitation surface and the Corporation must consider the need to update this figure accordingly.

Note: NSW Government supports the NASF with the exception of Guideline A. Guideline A was not supported by NSW as it sought to introduce new policy (N contours) in respect of land use and development outcomes in the vicinity of airports that lacked scientific rigor and community consultation. Instead, DPE relies on ANEF contours and Australian Standard AS2021-2015 *Acoustics – Aircraft Noise Intrusion Building Sitting and Construction.*

Note: The Department of Defence is progressing with the development of a planning instrument to limit the height of development under the Defence Act 1903 and the *Defence Regulations 2016* via declaration of a Defence Aviation Area (DAA).

Maps attached to the DAA declaration stipulate the heights at which proposed structures need to be referred to Defence for approval.

Upon declaration as a DAA the new requirements will surplant the requirements of the Airports Act 1996 and the *Airports (Protection of Airspace) Regulations 1996.*

View of Fighter World. Credit: Goodthanks Media.

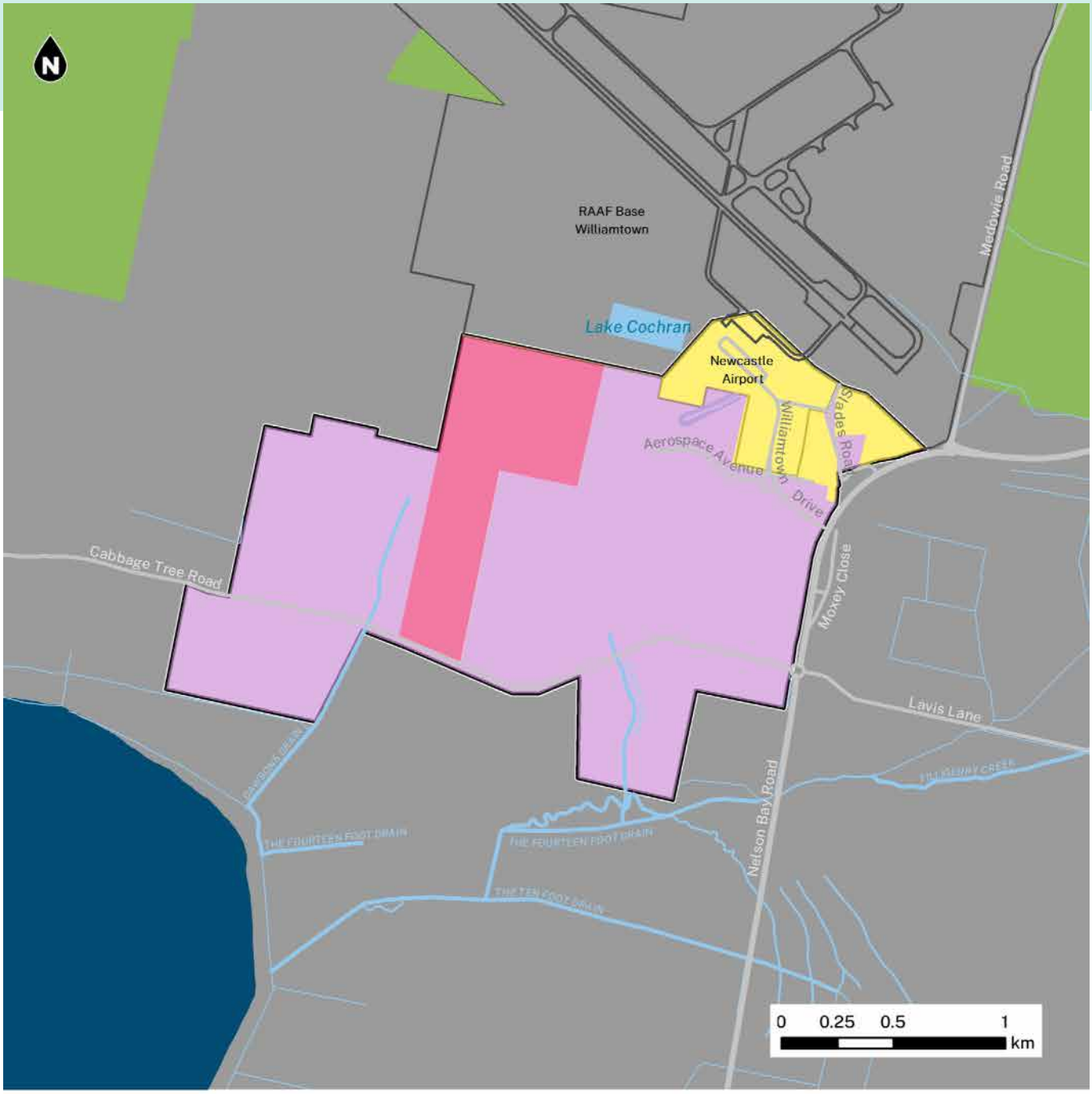


Figure 13: Obstacle limitation surface

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Height Trigger

- Commonwealth (Defence) Owned Land
- Refer all structures
- Refer structures higher than 7.5m
- Refer structures higher than 15m*

**Note: The scale of the Figure does not allow for representation of the 15m height trigger - located in the South Western corner of the Precinct with an area of approximately 0.03 m2*

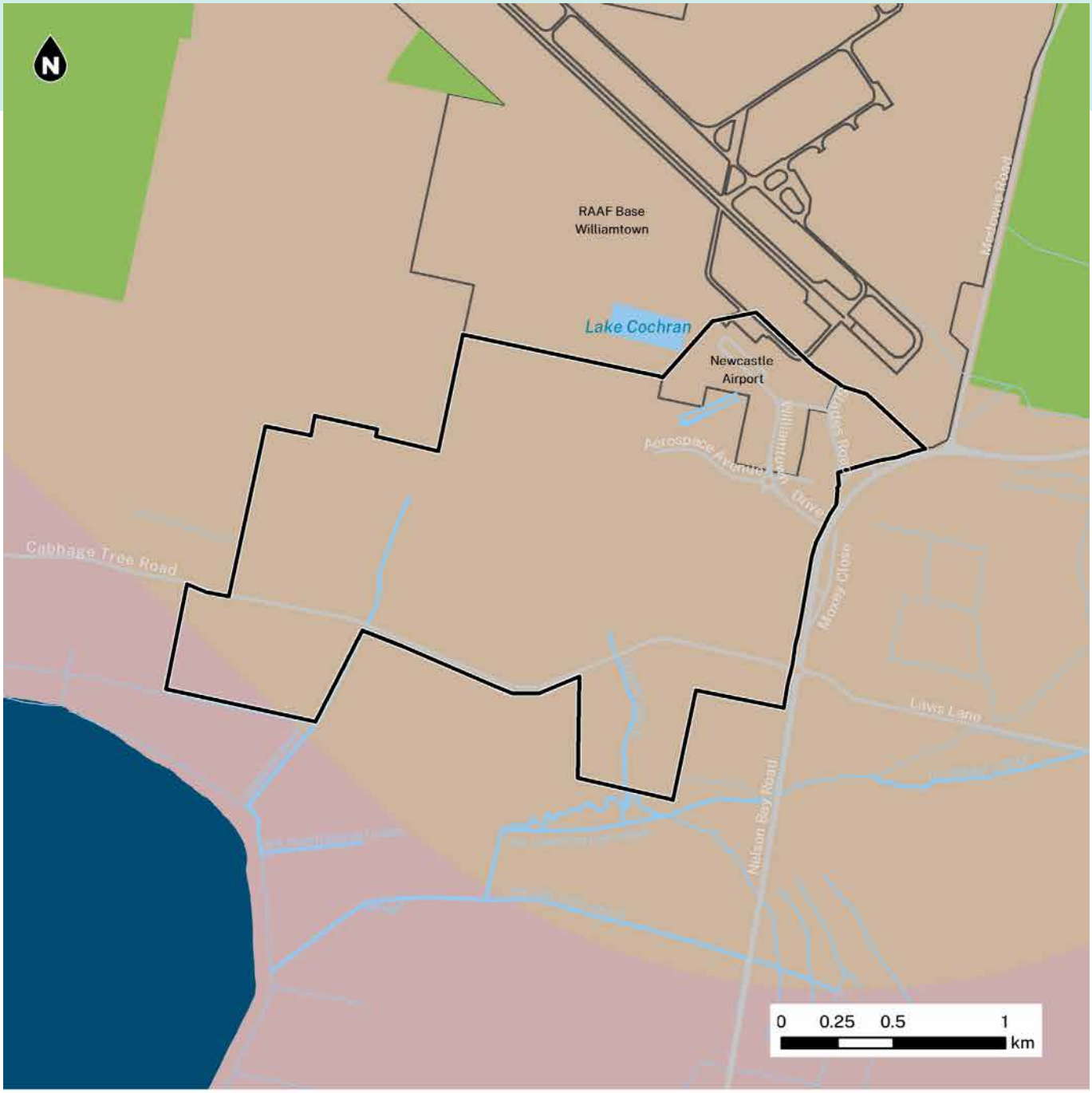


Figure 14: Wildlife hazards

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

National Airports Safeguarding Framework

- Bird Strike Group A
- Bird Strike Group B

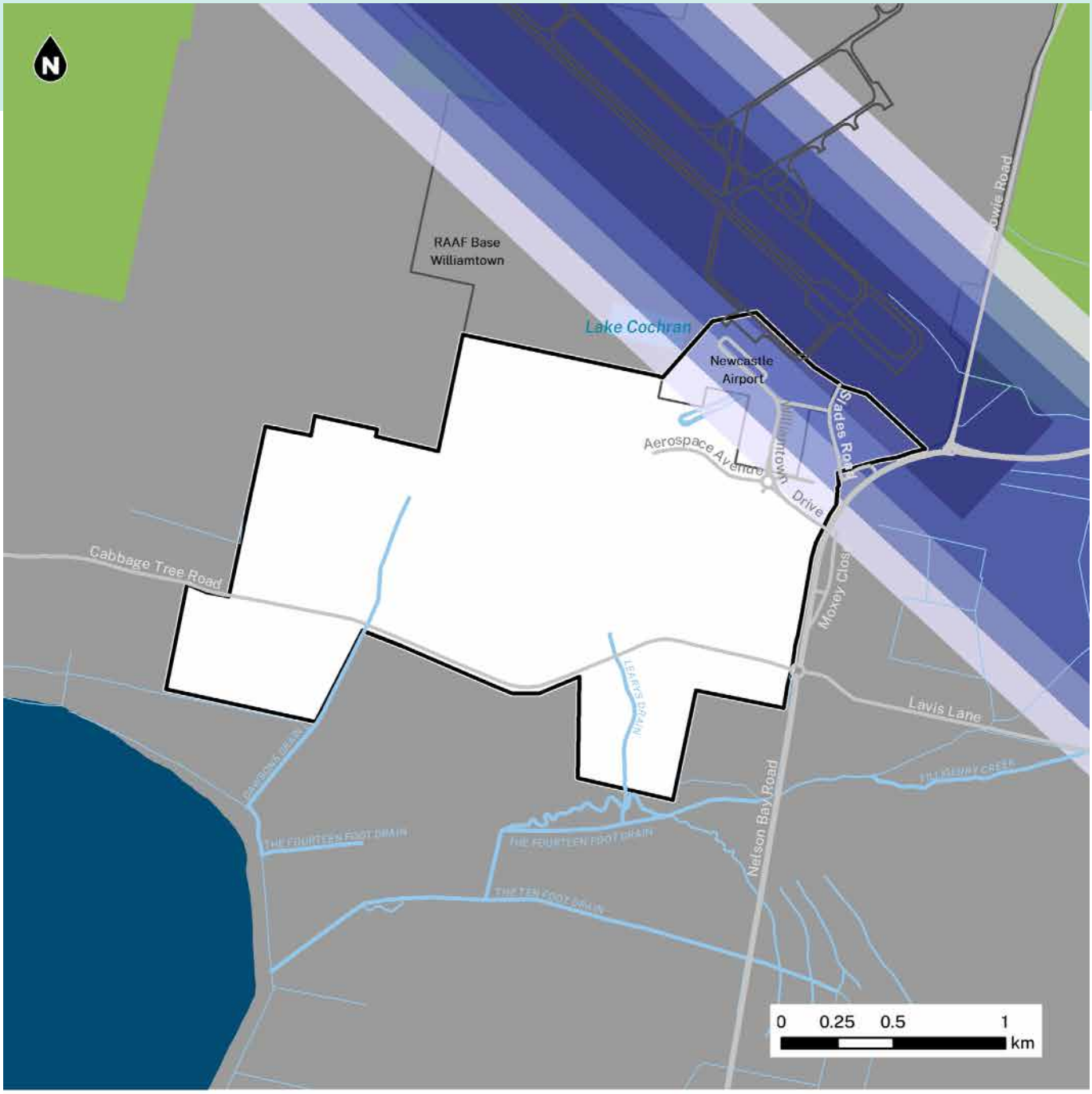


Figure 15: Extraneous lighting

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Civil Aviation Safety Authority (CASA)

- Zone 'A' 0 cd
- Zone 'B' 50 cd
- Zone 'C' 150 cd
- Zone 'D' 450 cd

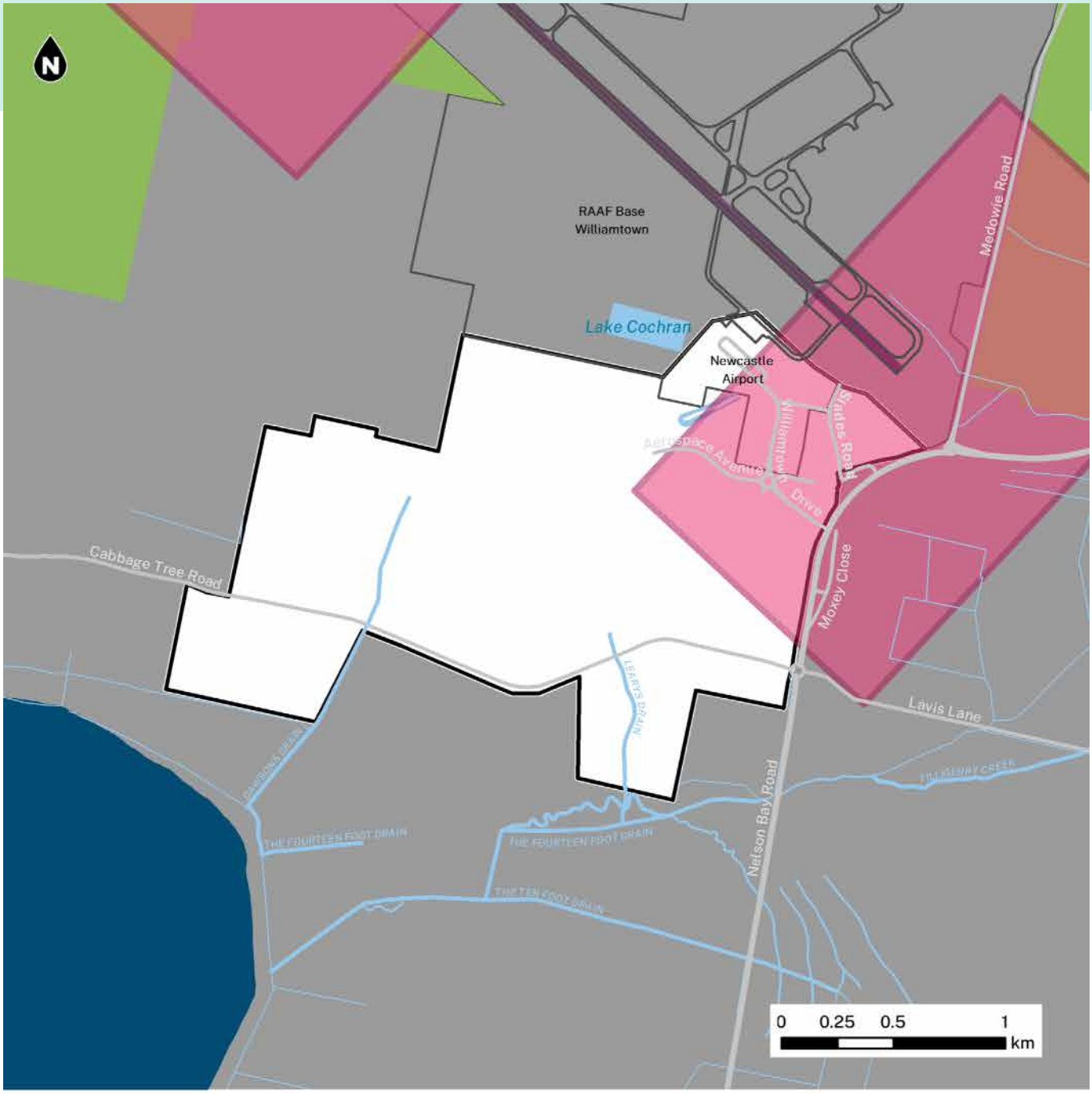


Figure 16: Airport windshear assessment trigger

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Runway
- Trigger area

5.4 Arrangements for secure airside access

The Precinct offers a unique opportunity to provide secure direct airside access to the airfield and potential new taxiway. It is noted that the proposed taxiway is located on land owned by the Department of Defence and is unapproved and subject to relevant approvals. Airside access is a response to market demand for direct airside access for maintenance operations, hangar facilities relating to defence programs and freight and logistics opportunities (including warehousing) capitalising on the upgrade of the runway.

Airside access is appealing for potential investors and in particular defence primes and SMEs that require off-base locations with direct access to RAAF Base Williamtown or Newcastle Airport. Due to both the high commercial value of airside areas, safety and defence and aviation security risks, a coordinated approach is required for uses within the airside access area to ensure the appropriate uses are in these locations.

Any use within the secure airside access area would need to comply with the Department of Defence's requirements in relation to access to the airfield via the proposed taxiway, if approved.

Aims

- To protect the operation of RAAF Base Williamtown and Newcastle Airport whilst meeting the market demand for industries that are located off-base but require direct airside access.
- To leverage opportunities associated with the upgrade of the runway, significant defence investment and a potential new taxiway extension (subject to relevant approval process).
- Ensure only appropriate uses that meet the relevant security requirements and approved by Department of Defence are located within airside access sites.
- To safeguard two access points to the secure airside access area for optimal traffic circulation and for emergency access purposes.

Performance criteria

A. Development on land adjoining to or with proposed access to RAAF Base Williamtown and Newcastle Airport must ensure that relevant Department of Defence and aviation security requirements are met.

B. Ensure appropriate delivery and emergency vehicle access is provided to airside access in the secured area. It is noted that the secure area is not yet defined and will form part of the Delivery Plan.

C. To ensure any future secure access area directly adjoining the boundary of Newcastle Airport integrates with the Precinct, including connection of internal access roads and drainage and flooding strategies.

D. Ensure only appropriate uses are included within the Northern Catchment and in accordance with the preferred location for uses in Figure 17: Airside access and preferred uses in Northern Catchment air quality and odour.

Consideration for future stages of development

The development of any airside access area within the Precinct is subject to the agreement of Department of Defence. Consultation with Department of Defence should commence early in the delivery phase.

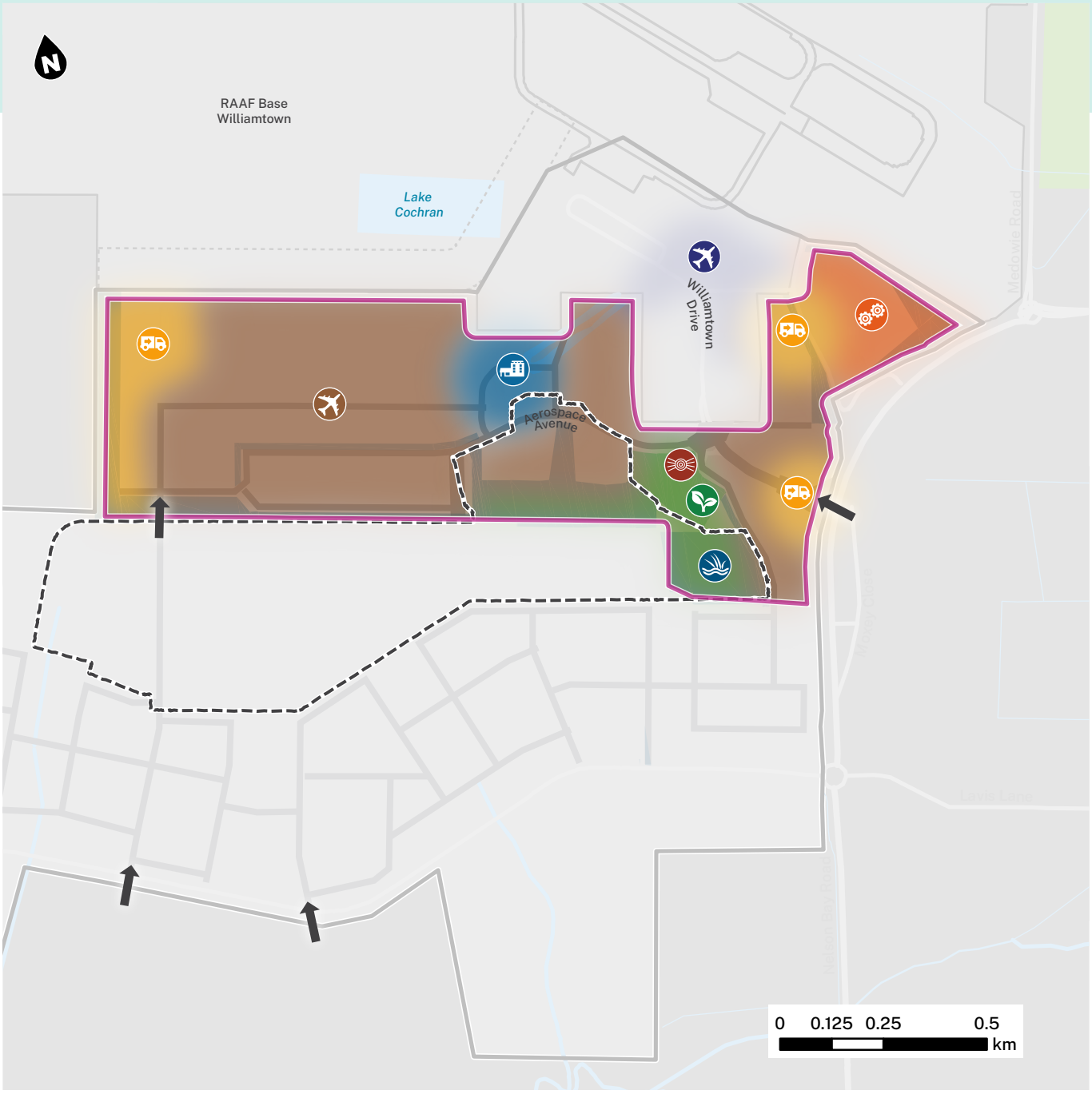


Figure 17: Airside access and preferred uses in Northern Catchment

- Williamtown SAP boundary (395 hectares)
- Northern catchment
- RAAF Base Williamtown and Newcastle Airport
- Health loop (shared path)
- Newcastle Airport
- Defence and aerospace
- Commercial core
- Heritage and open space
- Research and development
- Aboriginal keeping place
- Freight and logistics
- Drainage and wetlands
- Roads
- Waterway
- Runway and taxiway
- Proposed road
- Proposed unapproved taxiway
- Access points

5.5 Air quality and odour

RAAF Base Williamtown and Newcastle Airport, and future industrial uses are the main emission sources that will impact air quality and odour in the Precinct. The proposed expansion of the airport has been considered as part of the Master Plan including additional aircraft movements and larger aircraft in 2036, however ongoing monitoring at the airport will remain the responsibility of Newcastle Airport.

To mitigate and manage air quality and odour impacts from existing sources and proposed uses within the Precinct, site-specific controls have been developed as well as a cumulative precinct performance measure. This approach provides certainty, and may avoid the need for individual modelling for each development and will aid in monitoring emissions and accounts for cumulative impacts. The Master Plan aims to identify areas where higher impact development be concentrated at the centre of the Precinct. This will safeguard any sensitive uses at the periphery of the Precinct and provide greater protection from unacceptable impacts.

Aims

- To maintain air quality and odour and amenity for people who work in the Precinct and live near the Precinct and its surrounds.
- To ensure that development within the Precinct minimises impacts on air quality and odour.
- To ensure appropriately scaled uses that do not adversely impact the RAAF Base Williamtown and Newcastle Airport operations.
- To ensure the ongoing monitoring of the air quality and odour for development within the Precinct.

Performance criteria

A. Air emissions resulting from development, including the siting of vents and stacks, do not cause environmental harm or nuisance, and surrounding land uses are not exposed to concentrated levels of air contaminants or unreasonably affect the amenity and environmental quality of the locality.

B. Proposed sensitive land uses are adequately separated from existing land uses (RAAF Base Williamtown and Newcastle Airport) that produce air and odour emissions.

C. Development is to be in accordance with *Protection of the Environment Operations Act 1997* (POEO Act) and other EPA guidelines for air quality and odour and *Technical framework: Assessment and management of odour from stationary sources in NSW*.

D. Any proposals involving new technology or emerging industries must be accompanied by an air quality assessment and odour modelling to demonstrate compliance can be achieved. Assessment should be performed in accordance with the relevant regulatory guidelines, inclusive of *The Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016) as updated.

E. Any development that will require an Environment Protection Licence (EPL) under the *Protection of the Environment Operations Act 1997,* applicants must consult with the EPA to determine whether the existing technical assessments prepared for the Master Plan and Delivery Plan are sufficient to meet assessment requirements, or if additional assessment is required.

Consideration for future stages of development

- Mitigation criteria and management measures that will be adopted to minimise air quality and odour impacts of the Precinct must be outlined including the monitoring and reporting process.
- A single stack source is suitable in the Western Catchment. Where an additional stack location is proposed within the Precinct, cumulative air quality and odour modelling is required to be submitted to the Corporation.

5.6 Water resources (groundwater and stormwater)

5.6.1 Groundwater

The groundwater setting associated with the Precinct is complex and interdependent with drainage, flooding, geotechnical parameters and contamination. The Precinct is underlain by the Tomago Sandbeds, which is managed by Hunter Water Corporation, with all activities in the area regulated by the HW Act.

The Tomago Sandbeds are a critical water source for the Hunter Region and provide 20% of drinking water in the Lower Hunter and are strategically important for both ongoing and backup water supply (Hunter Water, 2020). Groundwater within the Precinct is managed under three water sharing plans including:

- Lower North Coast Unregulated and Alluvial Sources (2009),
- North Coast Coastal Sands Groundwater Sources (2016), and
- Hunter Unregulated and Alluvial Sources (2009).

Key variables and interactions associated with the hydrogeological conceptualisation within the Precinct include groundwater recharge and the evolution of groundwater chemistry, presence of groundwater-dependent ecosystems (GDEs) and abstraction points, groundwater level variations and flow paths, groundwater quality and contamination, aquifer vulnerability and discharge to local waterways. A design challenge is not exacerbating the migration of the existing PFAS contamination plume. The Master Plan seeks to ensure that any future development should result in a neutral or beneficial impact on groundwater recharge, quality, and flows.

5.6.2 Stormwater

The existing catchment for the Precinct is predominantly rural with open drains providing stormwater drainage for frequent storm events. These existing drains are mostly located to the southeast of the RAAF Base Williamtown and Newcastle Airport and have limited capacity and overbank flooding occurs in events as frequent as the 50% AEP (1 in 2-year AEP event) during local storm events. The flat terrain of the floodplain within the Precinct also results in significant long periods of inundation (up to 6-8 days). Coincidental flooding in the Hunter River and Port Stephens can cause long periods of flooding. Drainage of stormwater within the Precinct is a significant design challenge for the Master Plan that also needs to balance challenges posed by existing PFAS impacted groundwater, sediment, soil, and surface water, downstream sensitive RAMSAR wetlands, sea level rise (and associated hydraulic impacts on drainage), flat terrain and drinking water catchment constraints. The proposed stormwater strategy for the Precinct adopts a distributed approach with Precinct scale stormwater detention, gross pollutant traps, wetlands and drainage conveyance swales. The water quality system is designed to capture and treat runoff from new development prior to entering the existing waterways ensuring there is no impact to surrounding sensitive ecosystems and drinking water catchments.

Aims

- Development within the Tomago Sandbeds drinking water catchment is to have a Neutral or Beneficial Effect (NorBE) impact on drinking water quality (see Figure 18: Groundwater resources).
- Preserve recharge where feasible and minimise impact to the drinking water catchment.
- Minimise water quality and quantity impacts from surface water runoff to sensitive receiving environments including (GDEs) and sensitive RAMSAR wetlands and tidal waterways.
- Replicate existing groundwater recharge where possible (with consideration of NorBE requirements) to avoid influencing local groundwater conditions which may impact the existing PFAS plume.
- Manage the impacts of additional runoff volumes to drains located within sandy soils and any potential increased exfiltration from drains that may influence the PFAS plume and any influx of PFAS contaminated groundwater into the drainage system.
- Ensure water sensitive urban design (WSUD) practices are implemented to achieve urban water cycle management objectives.
- Ensure that the design and location of drainage infrastructure does not result in a heightened risk of bird strike risk.

- Best proactive construction phase sediment and erosion control measures are implemented to protect downstream sensitive receptors.

Performance criteria

A. Development located on sandy soils (as defined by Council's hydrological soil mapping) to recharge a minimum of 80% of pre-development mean annual recharge.

B. To achieve groundwater quality targets within the Drinking Water Catchment (see Figure 18: Groundwater resources) the adopted sensitive catchment targets for mean annual pollutant load reduction (TSS – 90%, TP – 65%, TN – 50%, Gross pollutants - 90%).

C. Development within the drinking water catchment will have a NorBE impact on drinking water quality. *Guidelines for Development in the Drinking Water Catchments* (HWC, 2017) apply to all development within the drinking water catchment including:

   i. all drainage systems will be lined;

   ii. no infiltration will be allowed from the WSUD devices for the Northern Catchment; and

   iii. treated stormwater will be released to the receiving drainage lines downstream of the Drinking Water Catchment.

D. Ensure that stormwater management measures appropriately respond to the potential for these measures to mobilise PFAS impacted groundwater, sediment, soil and surface water.

E. Protect high priority GDEs in accordance with the *Aquifer Interference Policy* (Department of Primary Industries, 2012).

F. WSUD practices are to be implemented to minimise hydrological impacts to downstream sensitive receptors.

G. Ensure that the WSUD features that function as wetlands do not present an unacceptable risk of increased bird strike for airport operations including minimisation of open water zone lengths and steepening banks where appropriate to reduce foraging habitat for animals.

H. WSUD measures must be designed to treat frequent storm events (generally up to around the 3-month Annual Recurrence Interval event).

I. Construction phase sediment and erosion controls are to be implemented in accordance with the 'Blue Book' *Managing Stormwater Soils and Construction, Volume 1* (Landcom, 2004). Design criteria for sensitive catchments are to be adopted.

Consideration for future stages of development

In addition to the performance criteria stipulated above, opportunities will be sought to incorporate other good practice to protect water resources:

- Development controls should prescribe on lot rainwater harvesting and on lot perviousness limits equivalent to the adopted assumptions in the *Flooding and Water Cycle Management Technical Report* (Appendix 8) to minimise increases in freshwater runoff volume to downstream sensitive wetlands. Where these requirements are unable to be achieved, additional on-lot treatment measures would be required to mimic the pollutant loads and runoff volumes.
- Development controls should prescribe streetscape biofiltration and/or passively irrigated street trees to deliver greening and cooling benefits throughout the precinct streetscape while achieving the adopted pollutant load reduction targets.
- Gross pollutant traps are to be provided on all development allotments to manage litter at the source.
- Consideration for intervention measures e.g. geosynthetic clay liners (GCL) to be used along drains conveying untreated stormwater runoff from the Precinct to mitigate potential infiltration of poor-quality water into Tomago aquifer.
- Development of a groundwater model to simulate potential impacts of development on groundwater levels and flow pathways.

- Development of a groundwater management plan for both the construction and ongoing use of the Precinct to mitigate against the potential degradation of groundwater resource in the Tomago Sandbeds. The groundwater management plan should include measures for:
  - Construction:
    - Managing groundwater inflows to excavations during construction,
    - Dewatering and discharge of groundwater during construction,
    - Management of acid sulfate soils during construction, and
    - Minimising impacts to GDEs during construction.
  - Ongoing use:
    - Mitigating impacts to groundwater quality during ongoing use of the Precinct,
    - Mitigating impacts to GDEs during ongoing use of the Precinct,
    - Managing groundwater levels during ongoing use of the Precinct, and
    - Consideration of adoption of a risk-based approach to managing water quality in accordance with the *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* and the *NSW Water Quality and River Flow Objectives* framework.

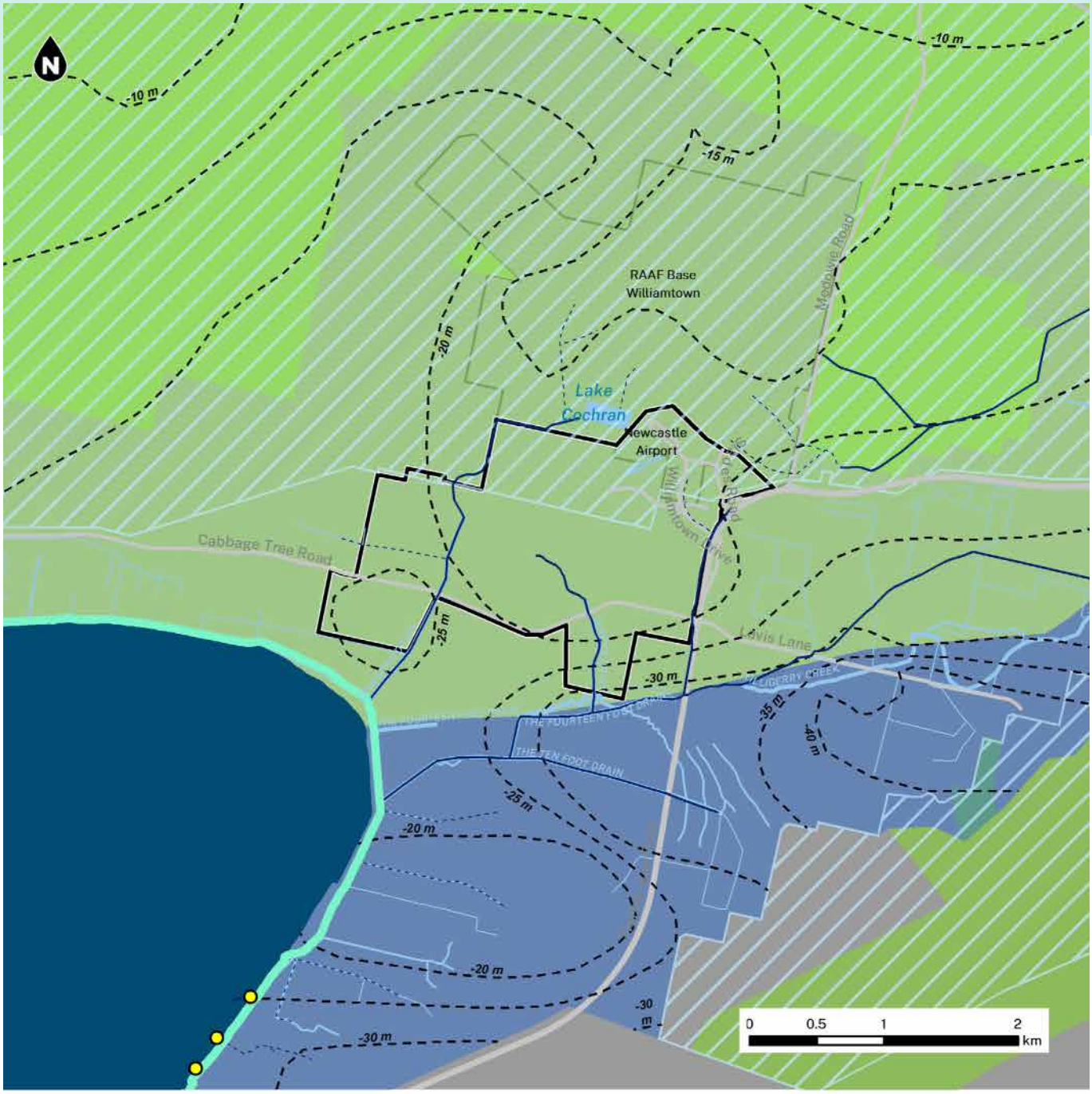


Figure 18: Groundwater resources

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Flood gates
- Fullerton Cove Levees
- Major Drainage System
- Minor Drainage System
- Aquifer thickness (m)
- Drinking Water Catchments
- Stockton Aquifer
- Tomago Aquifer

5.7 Land use safety, biosecurity and assessing hazardous and offensive development

5.7.1 Land Use Safety

To support the streamlined planning objective of the Precinct, and to minimise the potential for land use safety concerns as the Precinct develops, careful consideration and detailed land use safety assessment has guided the Master Plan. This includes identifying preferred locations for certain higher-impact developments, identifying development types that are not appropriate and incorporating features such as buffer zones, where appropriate, into the configuration of the Precinct.

5.7.2 Biosecurity

Ensuring the Precinct is a safe place for workers and the community and preventing the introduction and spread of diseases or pests of animals and plants given the proximity to Newcastle Airport and freight and logistics uses are key outcomes for the Precinct.

5.7.3 Potentially Hazardous and Offensive Development

For any potentially hazardous and offensive development *State Environmental Planning Policy No 33—Hazardous and Offensive Development* (SEPP 33) applies and provides the framework for assessing and managing risks. For any potentially hazardous and offensive development that is proposed to be undertaken as complying development, the development must meet the requirements that are set out in the Precincts–Regional SEPP and the Master Plan.

Any development that is determined to be hazardous or offensive, is prohibited in the Precinct.

Aims

- Identify potential land use safety conflicts in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 10* (HIPAP), risk criteria and case studies specific to the Precinct.
- Ensure that potentially hazardous developments are appropriately located, managed and buffer zones implemented to existing residences are provided within the Precinct.
- All development must consider Fire and Rescue NSW's Fire Safety Guideline - *Access for Fire Brigade Vehicles and Firefighters* and development that receive combustible waste material must additionally consider Fire and Rescue NSW's *Fire Safety Guideline – Fire Safety in Waste Facilities.*
- The storage or processing of any agricultural produce must consider biosecurity risks.

Performance criteria

A. The preferred location for potentially hazardous and/or offensive industries is the Western Catchment.

B. To manage land use safety conflict with existing residences outside the Precinct, a buffer zone of 150m around these existing residences would limit the potential for land use safety conflict for all but the largest toxic releases (Figure 19: Potentially hazardous industry buffer zone within the Precinct).

Consideration for future stages of development

- The Delivery Plan must detail how hazard audits and compliance reports for potentially hazardous developments will be conducted. A high-pressure gas pipeline runs along the eastern boundary of the Precinct.
- Prior to the issue of an Activation Precinct Certificate for development in the Eastern Catchment (Leary's East and South) and the eastern portion of the Northern Catchment, the Corporation must notify the pipeline operator (Jemena) and ensure the safety risks from the pipeline or safety risks to the pipeline during construction and operation are taken into consideration.
- Development for the purposes of a potentially hazardous industry must complete a preliminary hazard analysis in accordance with the current circulars or guidelines published by the Department of Planning and Environment as required under clause 12 and 13 of *State Environmental Planning Policy No 33 – Hazardous and Offensive Development.*

Fire and Safety

The Delivery Plan must detail:

- How fire safety both on and off site will be managed for the Precinct including site selection, asset protection zones, design and operation.
- Requirements for safe storage and stockpiling of combustible material.
- Fire safety planning procedures including a Precinct wide emergency and evacuation plan and access requirements for emergency service vehicles.
- Requirements for utilities and services to ensure the needs of firefighters are met.
- Requirements for consultation with Safe Work NSW, Fire and Rescue NSW and Rural Fire Service for developments that include solar energy generating facilities, waste and resource recovery facilities, dangerous goods and large isolated buildings to ensure these agencies are able to implement effective and appropriate risk control measures

Biosecurity

- How biosecurity will be managed for resource recovery facilities.
- How to appropriately address biosecurity risks such as the introduction, presence, spread or increase of a pest animal, pest or disease of animals, weed and animals or animal products becoming chemically affected and provide strategies to prevent, eliminate or minimise these risks for relevant developments.

Human Health Risk Assessment

- The human health impacts of chemical, physical, microbiological hazards on workers in the precinct and sensitive receptors and detail how these impacts will be managed.

Figure 19: Potentially hazardous industry buffer zone within the Precinct

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Residence
- 150m Buffer to Existing Residence

Note: The point location of a residence is based on the northern extent of the existing residence and is not indicative of the whole extent of the residence. All buffer distances are based off this single point.

5.8 Managing development on contaminated land – PFAS and non-PFAS related contamination

5.8.1 Per-and poly-fluoroalkyl substances (PFAS)

Soil, sediments, surface water and groundwater within the Precinct are impacted with per-and poly-fluoroalkyl substances (PFAS).

In 2017, the Williamtown PFAS Management Area Map was issued by the EPA and divided the PFAS impacted region into three 'Management Areas' where certain activities were prescribed or not recommended (see Figure 20: NSW EPA PFAS Management Area).

PFAS impacted environmental media including soil, sediment, groundwater and surface water will need to be managed within the Precinct during the staged development. Mitigation measures are to be implemented in conjunction with the flooding water cycle management and geotechnical mitigation strategies and serve as a comprehensive approach to these Precinct constraints. The objective of the management measures is to minimise the potential that PFAS impacted environmental media is not mobilised to areas where it is not currently located during development and operation of the Precinct. The development of the Precinct is not intended to fully remediate the Precinct as this is the responsibility of the Department of Defence.

Note: PFAS contamination within the RAAF Base Williamtown is not regulated by NSW State or local government agencies as it is Commonwealth property.

5.8.2 Non-PFAS contamination

Non-PFAS contamination within the Precinct is managed and monitored by the EPA and planning authorities, including the Department and Port Stephens Council. The EPA regulates the investigation, remediation, and ongoing monitoring of contaminated land to protect human health and the environment where there is a significant risk to human health and the environment.

Aims

- Ensure PFAS and non-PFAS contamination is managed to prevent harm and avoid unnecessary restrictions on land use by implementing a precautionary approach to dealing with contaminated land.
- To ensure that potential risks from the PFAS and non-PFAS impacted environmental media are appropriately managed.
- To ensure that access to ongoing PFAS monitoring by the Department of Defence including the existing groundwater monitoring network is supported and maintained.
- Where required, development in the Precinct is staged in a manner that enables any Department of Defence PFAS ongoing management and remediation to proceed unimpeded.
- Ensure all land is suitable for the proposed development in accordance with legislative requirements.

Performance criteria

A. Sensitive uses are not permitted to be located on contaminated lands unless the issuing authority is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out.

B. Identified non-PFAS contamination is assessed and managed in accordance with SEPP 55, *Managing Land Contamination: Planning Guidelines*, Minister's Section 9.1 Direction under the *Environmental Planning and Assessment Act 1979*, *Guidelines for the Duty to Report Contamination* and *Contaminated Land Management Act 1997*. Assessment should be conducted through the collection of environmental media samples to inform the extent of remediation or management that may be required to ensure land is suitable for one or more land uses.

C. With the risk of encountering PFAS high, passive treatment options will need to be considered downstream of Dawsons Drain and Leary's Drain or the wetlands outlet to treat any trace levels of PFAS that have entered the drainage system prior to release to local waterways.

D. Mitigation measures are to be implemented consistent with the flooding, drainage and geotechnical strategies for the Precinct.

E. Protection and access to existing Department of Defence monitoring wells should be integrated into the bulk filling plan and not be impacted.

F. Methods for separating PFAS contaminated groundwater from the clean fill material that will be imported are evaluated and integrated into the design. This may include the installation of a GCL and drainage layer to segregate PFAS contaminated groundwater from clean fill material required for flood protection.

Consideration for future stages of development

- The Delivery Plan must detail how development within the Precinct on contaminated lands will be monitored.
- The delivery stage to consider passive treatments (including associated maintenance schedule) to be installed downstream of Dawsons Drain and Leary's Drain or the wetlands outlet to treat any trace levels of PFAS that have entered the drainage system prior to release to local waterways.
- The delivery stage must consider and provide details on soil excavation and transportation within the Precinct. Consideration is to be given to excavated natural material (ENM)/virgin excavated natural material (VENM) requirements for PFAS soil reuse and PFAS addendum landfill/waste acceptance criteria.
- Consideration of, but not limited to the following mitigation measures in the delivery of the Precinct:
  - GCL – in areas of bulk filling to separate clean material from potentially PFAS impacted groundwater and soil (particularly in the Eastern Catchment where the PFAS plume is concentrated),
  - groundwater pumping – where groundwater could be pumped, treated and reinjected into the aquifer, to maintain current recharge levels and off-set additional impermeable surfaces proposed development,
  - Powdered activated carbon (PAC) – mixing at the bottom of the clean fill material to complement other mitigation measures,
  - Pit and pipe drainage network – where drains require upgrading or expansion consideration of a pit and pipe network with appropriate management of PFAS impacted soil and sediment and sealing to prevent groundwater intrusion, and
  - Resource Recovery Order (RRO) and Resource Recovery Exemption (RRE) under the *Protection of the Environment Operations (Waste) Regulation 2014*, could be considered for the Precinct which may provide a sustainable option to reuse PFAS impacted soil.
- These mitigation measures will require ongoing operation, maintenance and monitoring, the requirements of which will be developed in future stages of the project and detailed in a long term environmental management plan.
- Investigation of soil and groundwater should be undertaken as part of, or prior to, concept design to confirm the extent and significance of non-PFAS contamination in the identified areas of potential environmental concern (APEC). The data collected will inform the likelihood of remediation required under the SEPP 55 process.

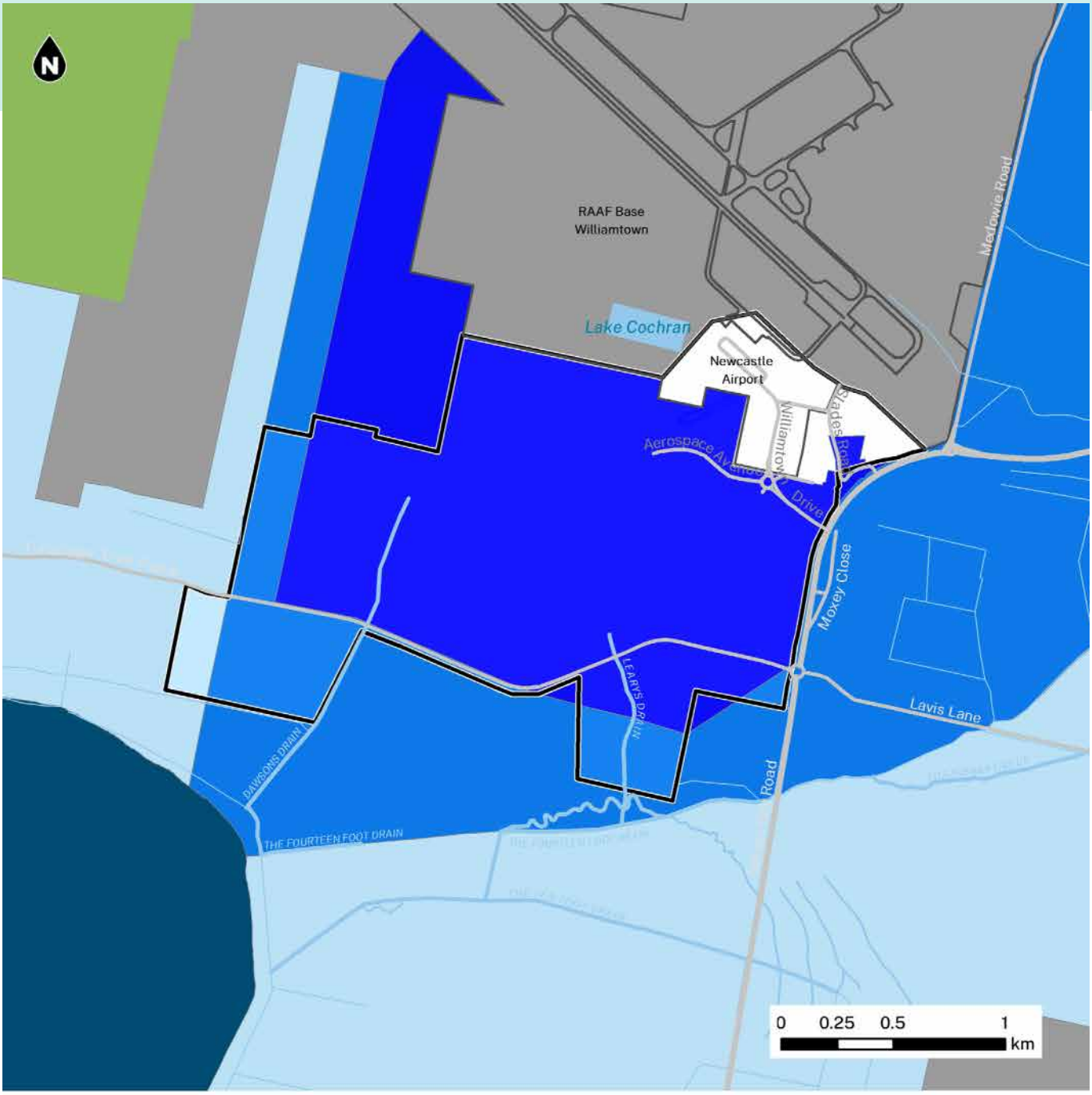


Figure 20: NSW EPA PFAS Management Area

Williamtown SAP Boundary

Waterway

Roads

Hunter Wetlands National Park

Tilligery State Conservation Area

Waterbody

RAAF Base Williamtown and Newcastle Airport

Runway and Taxiways

NSW EPA PFAS Management Area

Primary Management Zone

Secondary Management Zone

Broader Management Zone

Source: NSW EPA

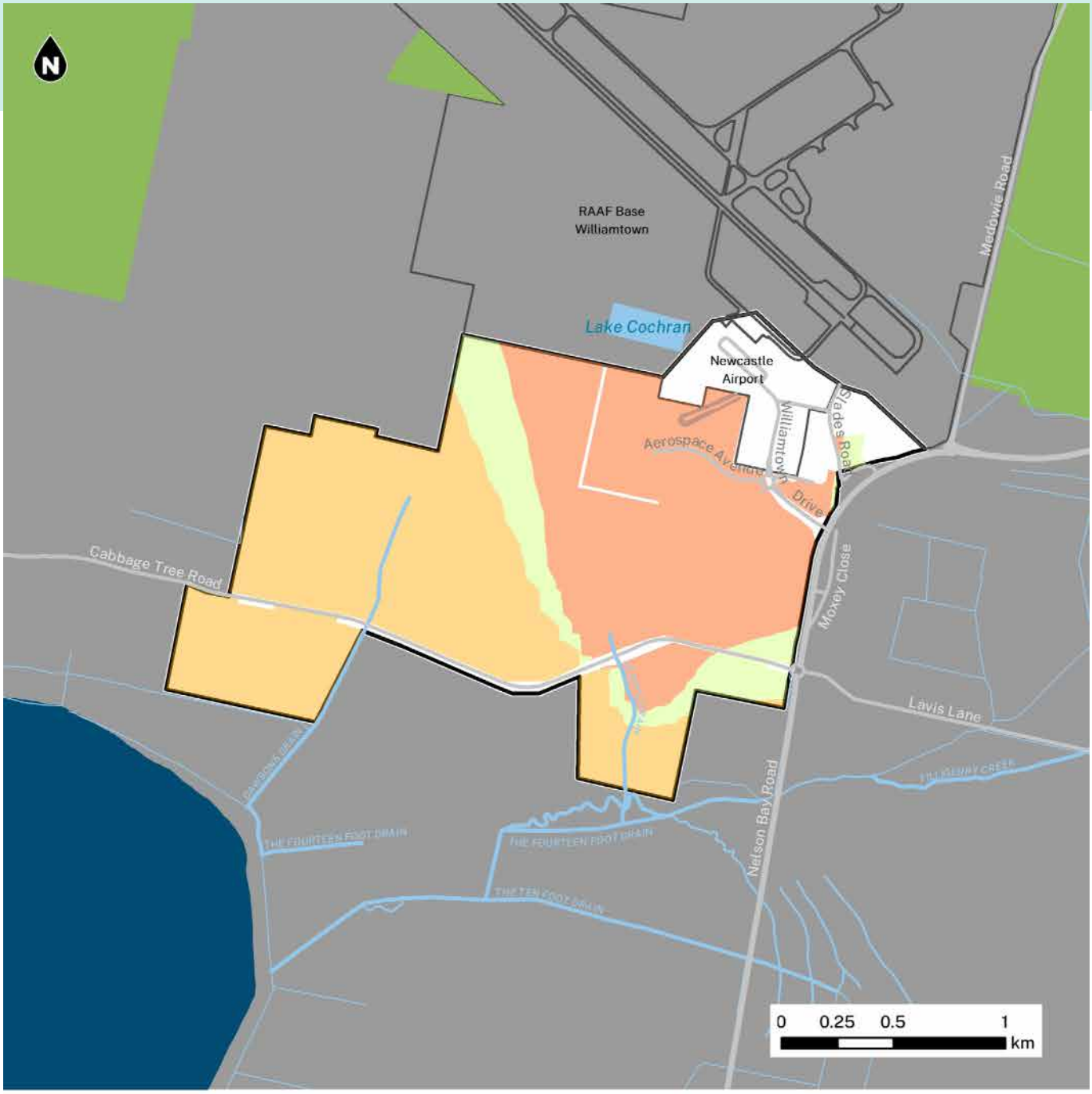


Figure 21: PFAS constrained areas

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

PFAS Constraints

- Highly constrained
- Minimally constrained
- Moderately constrained

Figure 22: Non-PFAS constrained areas

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Non-PFAS Contamination Constraints

- Highly constrained
- Moderately constrained

5.9 Geotechnical and earthworks

The geological setting of the Precinct presents numerous challenges to overcome when planning or designing land formation activities and infrastructure delivery. The geological profile and soil landscape of the Precinct are likely to present a moderate to high risk to development. Acid sulfate soils will likely present a high risk for development in the south-eastern portion of the Precinct, while the areas in the north present a lower risk. Figure 23: Geotechnical constraints provides an overall representation of the geological constraints ranking for the Precinct.

A considered approach will be required to balance geological constraints with the inherent environmental challenges including proposed filling, PFAS management, flood impacts, high groundwater levels, foundational depths, utility construction, pavements and roads and acid sulfate soils.

Aims

- Prioritise the use of VENM in filling where available and appropriate.
- All land forming activities are to be carried out in a staged manner to minimise site disturbance during the construction phase and allow early placement of fill to allow settlements. Geotechnical studies will cover settlements, monitoring requirements and potential ground treatment options to accelerate construction schedules.
- Ensure that all land forming activities and staging do not result in any additional flood impacts on other lands during the full range of flood events.
- Ensure no additional PFAS migration in soil, groundwater or surface water because of land forming activities.
- Enhance the aesthetic quality and amenity of the area by controlling the form, bulk and scale of land forming operations to appropriate levels and providing landscaping.
- Dust and erosion and sediment controls are implemented to avoid environmental harm and nuisance.
- Geotechnical studies must inform issues associated with earthworks and fill staging, ground improvement and settlement, acid sulphate solid, constructability, drainage and basin design and pavement and should utilise existing data available within the Precinct.

Performance Criteria

A. All land forming works must, where practical:
   i. prioritise the use of VENM where possible and use fill the subject of a resource recovery order or exemption as necessary,
   ii. be carried out in a staged manner and in accordance with the catchment-based approach for the Precinct to ensure a holistic response to flood mitigation,
   iii. prioritise shallow foundations as far as possible (due to shallow groundwater), which will reduce geotechnical challenges including the need for temporary excavations, dewatering associated with PFAS management, and
   iv. protect newly placed fill from PFAS migration through an impermeable layer.

B. Heavy buildings that require deep foundations should consider use of methods that minimise the amount of excavated soil and groundwater material treatment required compared to bored piles.

C. Underground utilities must be designed to respond to groundwater, PFAS and Acid Sulfate Soils in accordance with the risk profile applicable in each catchment.

D. Environmental and amenity impacts associated with the transportation, placement, formation and stabilisation are to be managed in accordance with industry best practice i.e. the requirements of *Managing Urban Stormwater Soils and Construction Volume 1* (Landcom, 2004) and *Volume 2* (DECC, 2008).

Consideration for future stages of development

- Bulk land forming/filling staging plan.
- Erosion and sediment control plan
- Construction Traffic Management Plan to consider the source, routes and impacts of transportation and deposition of fill materials within, to and from the site.
- Comprehensive ground database and 3D model to support all stages of design and construction decision making.
- Prior to the use of any fill material within the Precinct, the fill material is to be validated by suitably qualified independent person to demonstrate that it is VENM, ENM or meets the requirements of the relevant resource recovery order/exemption and is fit for its intended purpose.
- Geotechnical engineering studies will consider a range of fill types to cover for potential sources and treatment approaches.

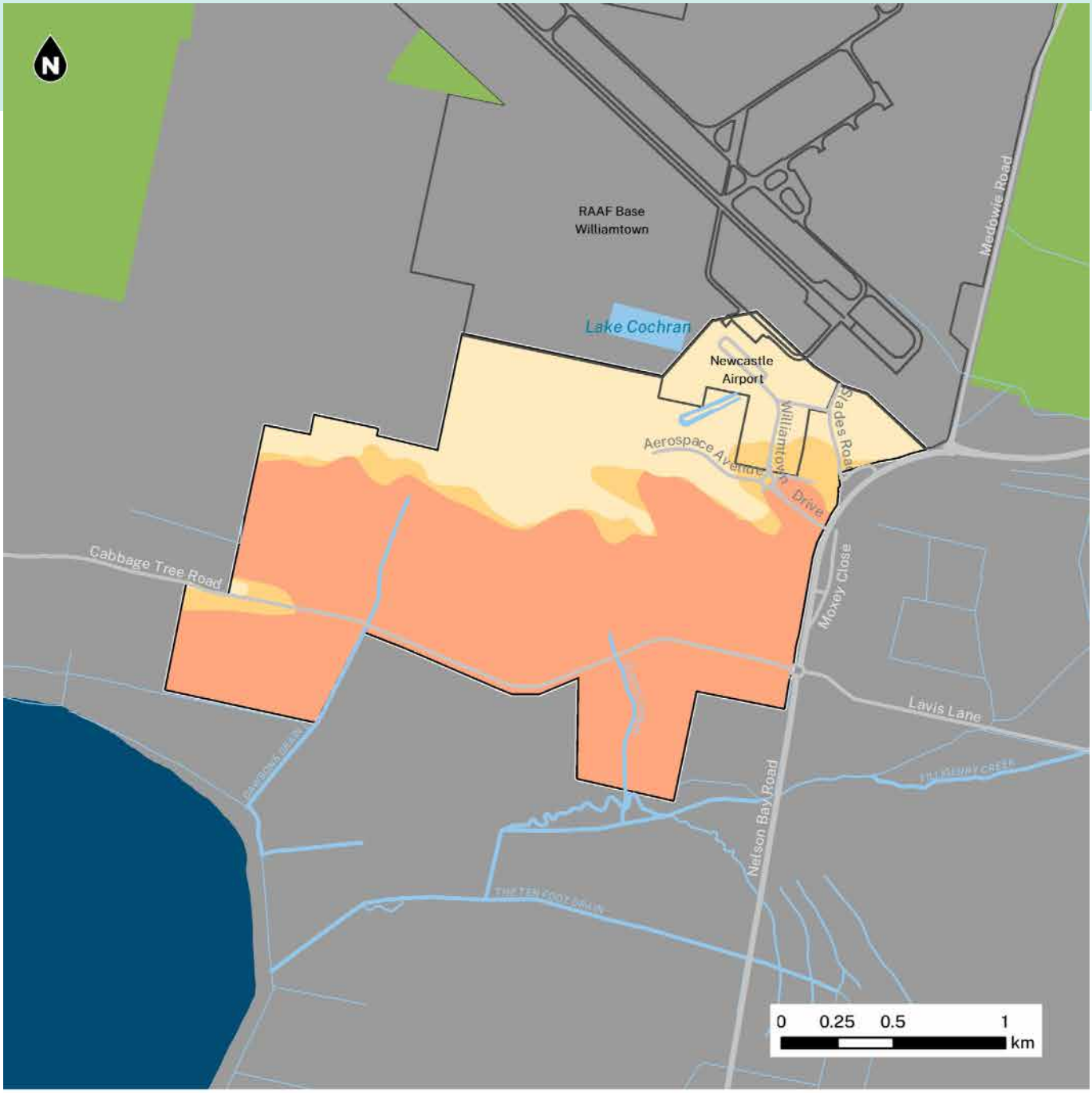


Figure 23: Geotechnical constraints

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Overall Constraints Rating

- 2 Moderate
- 2.5
- 3 High

5.10 Acid sulfate soils

Acid sulfate soils (ASS) are natural sediments that contain iron sulphides and are common along the NSW coast. When disturbed or exposed to air these soils can release acid, damaging built structures and harming animals and plants.

This can potentially impact the durability of buried concrete and other foundations types. In addition, the costs associated with safe management of excavations and removal of construction spoil is significantly increased if ASS are present. The majority of the Precinct is located in a high risk ASS area.

Aims

- Ensure that development minimises the disturbance or exposure of ASS that may cause environmental damage.

Performance Criteria

A. Works on land shown in Figure 24: Acid sulfate soils must ensure that they are managed so as to not disturb, expose or drain ASS and cause environmental damage.

Consideration for future stages of development

- An acid sulfate soil management plan must be prepared for each catchment.

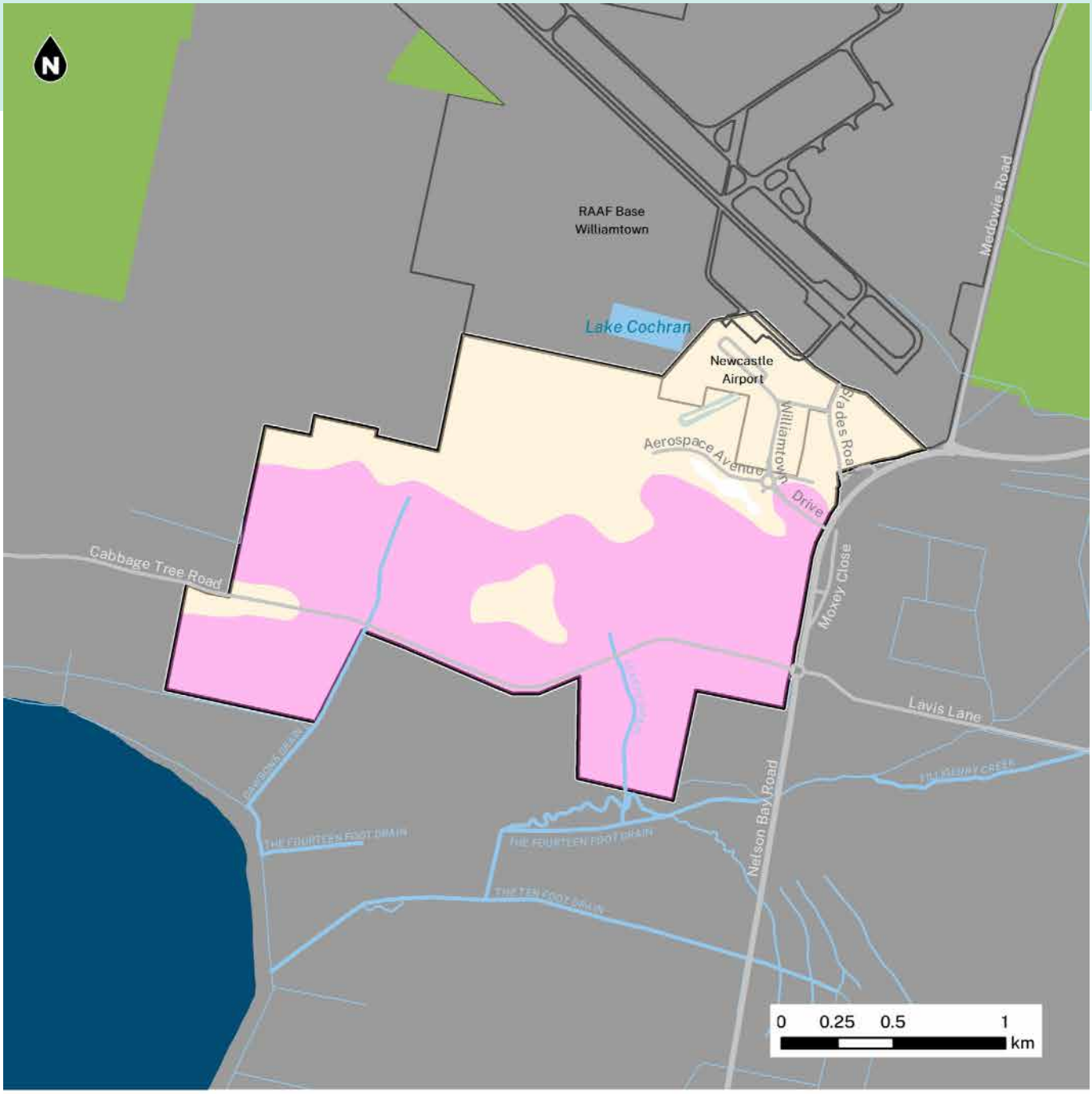


Figure 24: Acid sulfate soils

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Acid Sulfate Soil Risk

- High Risk 2-4m
- Low Risk above 4m

5.11 Flood risk management

The Precinct experiences flooding via three different mechanisms, broadly defined as local flooding (rain within the site or conveyed into the site from higher lands to the north or backing up from lower lands to the south), regional flooding (rain falling in the Upper Hunter, conveyed to the site via the Hunter River) and tidal inundation (tides in Fullerton Cove and Port Stephens).

Flooding is a major constraint to development within the Precinct. To facilitate development within the floodplain, bulk filling to above the regional 1% Annual Exceedance Probability (AEP) plus year 2100 climate change additional flood level (varying between 2-4 metres within the Precinct) will be required. The filling must strike a balance with not creating flood impacts whilst not mobilising PFAS. This will require the design of floodplain management measures to mitigate and offset flood impacts.

A catchment-based approach to responding to flooding and drainage has been developed to enable development within the Northern, Western and Eastern catchments, minimising the need for substantive drainage infrastructure outside of the relevant catchment. In addition, the Structure Plan has been configured to facilitate a flood detention function, where floodwaters north of the development are discharged across Cabbage Tree Road via internal road crossings on Dawsons and Leary's drain in a controlled manner. This allows for attenuation of peak flows and flood volumes within the Precinct boundary prior to discharge downstream. This concept forms the key component of the flood management strategy for the Precinct.

Aims

- To minimise the flood risk to life, property and the environment associated with the use of the land in the Precinct.
- To allow development on land that is compatible with the flood hazard and flood function of that land considering projected changes as a result of climate change.
- To limit post-development peak flood levels flows to pre-development conditions beyond the Precinct boundary (refer to Figure 6: Structure Plan).
- To maintain or improve the existing flood behaviour and flood function.
- To create safe and appropriate uses of land in the Precinct and enable safe evacuation from land in a flood event.

Performance Criteria

A. The Flood Planning Area (FPA) is the 1 in 100 AEP with climate change flood 2100 extent to ensure land is set aside for the managing of the existing and future flood risk associated with climate change. The FPA is shown in Figure 24: Acid sulfate soils.

B. Post-development flood levels match the pre-development peak flood levels, in flood events up to and including the 1 in 100 AEP flood event with climate change.

C. The development must adhere to the flood management strategy as proposed in the *Flooding and Water Cycle Management Report* (Appendix 8). If an alternative strategy is proposed, conformance with all relevant performance criteria is required.

D. Development must generally, occur outside of the FPA (see Figure 25: Flood prone land), unless it can be demonstrated that risks can be suitably managed. This allows for the maintenance of flood function and to avoid adverse effects on flood behaviour to the detriment of other properties or the environment of the floodplain.

E. Development must be sited, designed and located to avoid or mitigate the flood risk to people, property and infrastructure such that:

   i. Precinct-wide infrastructure will generally use regional detention basins to manage flooding events up to the 1 in 100 AEP with climate change,

   ii. Flood risks are managed through site specific built form and design, and

   iii. Sensitive, vulnerable and critical uses are avoided in the flood plain.

F. Development and uses which involve the storage or disposal of hazardous materials must not be located in theFPA unless sufficient information can be submitted to demonstrate that materials are totally isolated from floodwaters.

Consideration for future stages of development

- Prepare a flood risk management strategy that outlines the evacuation and emergency strategies in flood events up to and including the Probable Maximum Flood. The strategy must be in accordance with the Australian Disaster Resilience Handbook Collection as recommended by *Australian Disaster Resilience Guideline* 7-3 Flood Hazard (as modified) to determine the design for any buildings that are to be used for shelter in place provisions located within the floodplain.
- A stormwater management strategy that demonstrates:
  - The strategy for precinct-wide infrastructure, such as detention basins.
  - Site level controls for stormwater harvesting and reuse.
  - The flood planning levels and design requirements (including emergency response) for development within the FPA area (shown in Figure 25: Flood prone land).
  - The monitoring and reporting process for ensuring that the stormwater will not have an adverse impact on the environment, including the health of the waterways and groundwater.
  - How engineering solutions may modify flood prone land enabling development opportunities through stormwater mitigation.

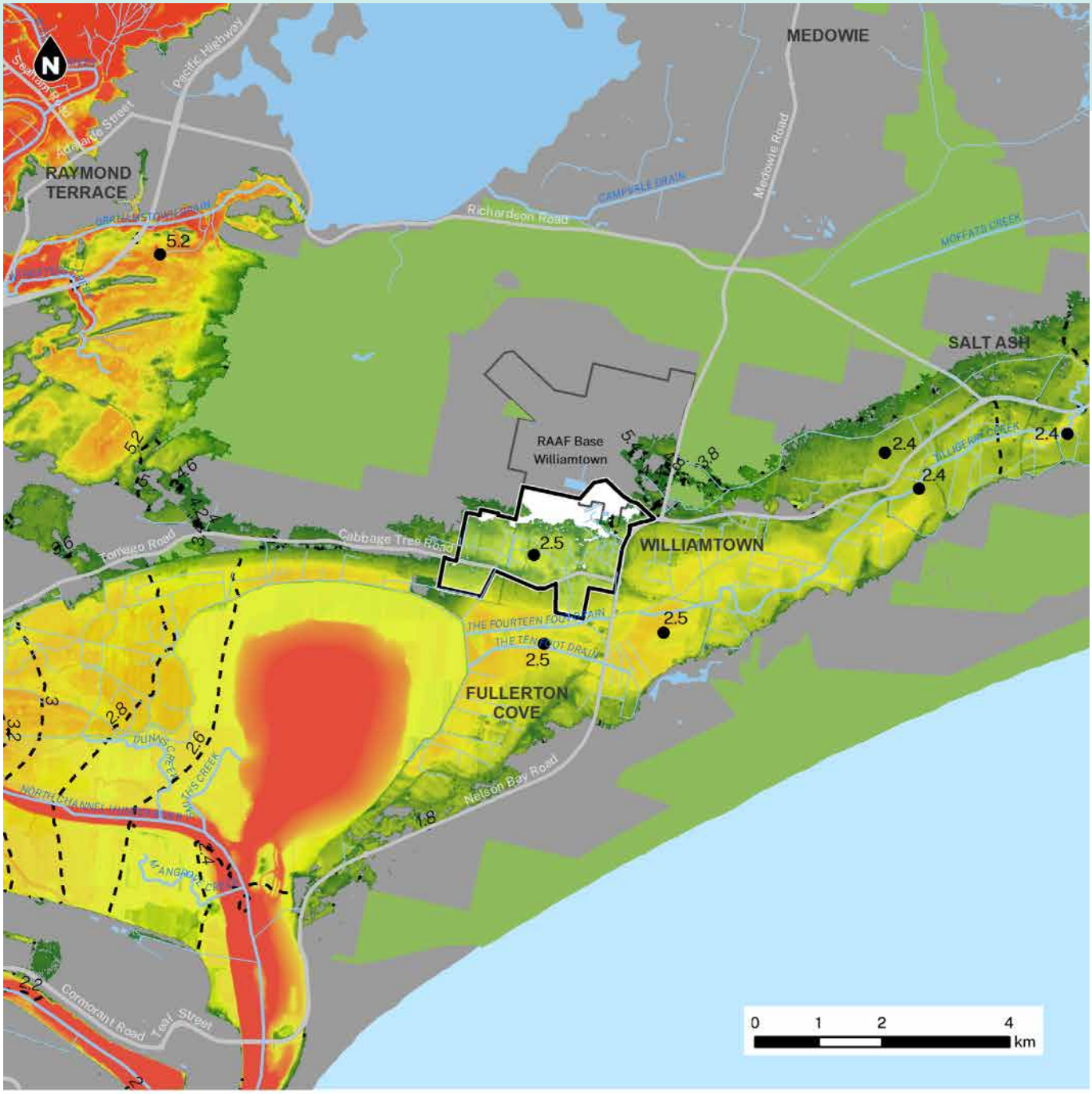


Figure 25: Flood prone land

- Williamtown SAP Boundary
- Waterway
- Roads
- NPWS Reserves
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Water Level Spot height
- Water Level Contour (mAHD)
- Peak Flood Depth (m)
  - High : 4
  - Low : 0.2

5.12 Bushfire

The Precinct is mapped as wholly bushfire prone land (excluding the Newcastle Airport), containing category 1, 2 and 3 vegetation (Figure 26: Bushfire prone lands) or their associated buffer zones (Figure 27: Bushfire protection measures (indicative APZs). The bushfire prone land map is the trigger for consideration of bushfire protection measures for all development. It is acknowledged that existing bushfire prone land mapping certified by the Commissioner of NSW RFS will be required to be updated as the Precinct develops.

The vegetation that will have the greatest influence on bushfire behaviour are the areas of retained Coastal Swamp Forest within the central environmental protection area and the large areas of Forested Wetlands within the Hunter Water owned lands (and Tilligerry State Conservation Area) to the north and west of the boundary of the Precinct. They are characterised as being generally continuous and highly combustible. The regional climatic conditions may support crown fires.

Vegetation at the centre of and in the northern portion of the Precinct is identified as Category 1 whilst the remainder of the Precinct is primarily identified as Category 3 under the Port Stephens Council Bushfire Prone Land Map. Cleared lands to the east, south and west are similarly identified as Category 3.

Aims

- Protect life, property and community assets from bushfires.
- Minimise the impacts of development in relation to bushfires.
- Development must conform to the specifications and requirements of *Planning for Bushfire Protection* (NSW RFS 2019).
- Consideration of cultural land management practices including traditional cultural burning practices where considered appropriate.

Note: The *Rural Fires Act 1997* will prevail over the Precincts–Regional SEPP which means that special fire protection purpose (SFPP) developments such as childcare facilities cannot be complying development in bushfire prone lands.

Performance Criteria

A. Asset protection zones (APZ) are managed and maintained to result in a Bush fire Attack Level (BAL) of BAL 29 or lower (not BAL 40 or BAL FZ) to all future building envelopes that are being assessed as complying development.

B. All landscaping is to comply with Appendix 4 of *Planning for Bushfire Protection 2019* (NSW RFS 2019) and relevant environmental approvals required under the *BC Act* and/or *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

C. All new construction within the Precinct that directly adjoins bushfire prone areas (including areas of staged development) is to be a minimum of BAL12.5 under AS3959:2018 as required by *Planning for Bushfire Protection 2019 (NSW RFS, 2019).*

D. Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as provide a safe operational environment for emergency service personnel during firefighting and emergency management on the interface. The requirements for access identified in *Planning for Bushfire Protection 2019* (NSW RFS, 2019) must be met for all stages of development within the Precinct.

E. Drainage channels, wetlands and landscaped areas are designed and managed in perpetuity to meet the requirements of an APZ.

F. Hydrants are to be installed to achieve compliance with AS 2419.1–2005 Fire Hydrant Installations - System Design, Installation and Commissioning.

G. Any gas services are to be installed and maintained in accordance with AS/NZS 1596-2008 The storage and handling of LP gas (Standards Australia, 2008).

H. Electrical services must comply with the requirements of Chapter 5 of by *Planning for Bushfire Protection* (NSW RFS, 2019).

Consideration for future stages of development

- The Delivery Plan must address the performance criteria required by *Planning for Bushfire Protection 2019* (NSW RFS, 2019) set out in Section 5.3 and Section 5.4 to achieve statutory compliance.
- The Delivery Plan must require that a bush fire emergency plan for the site be reviewed annually and is updated in consultation with NSW RFS as new stages of development occur within the Precinct.
- A staging plan prepared in accordance with *Bushfire Protection 2019* (NSW RFS, 2019).

Note: Where referral to NSW RFS is required (SFPP, hazardous development and/or places of public worship), Asset Protection Zones should be managed and maintained to result in a Bushfire Attack Level of BAL 12.5 or lower (not BAL 29, BAL 40 or BAL FZ). These developments will not be assessed as complying development.

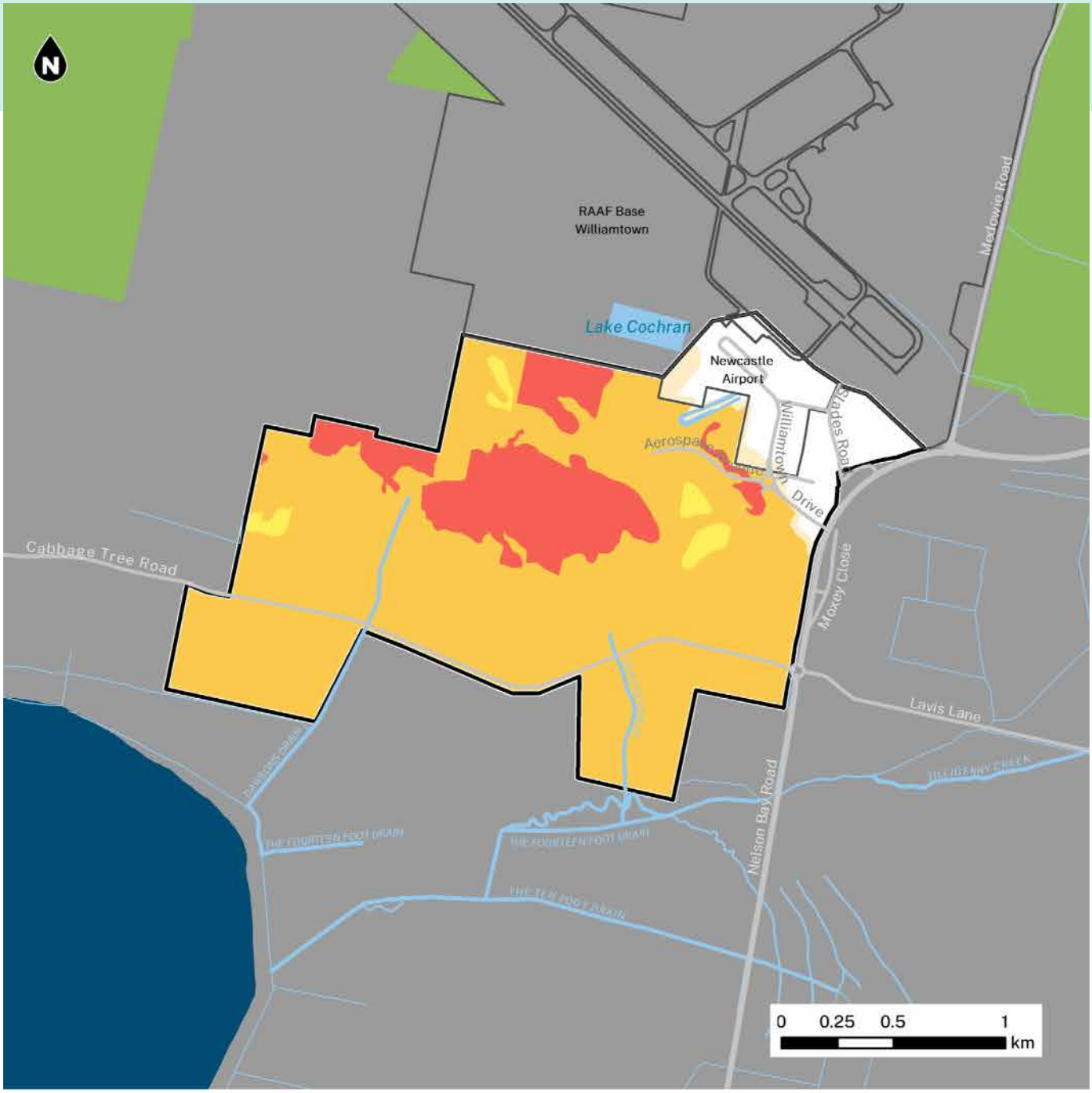


Figure 26: Bushfire prone lands

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Bushfire Prone Land

- Vegetation Buffer
- Vegetation Category 1
- Vegetation Category 2
- Vegetation Category 3

Note: The bushfire Prone Land is prepared as a visual presentation of land that can support a bush fire or is subject to to bush fire attack and is not bushfire prone land map certified by the Commissioner of the NSW RFS for Section 10.3(2A) of the Environmental Planning and Assessment Act 1979

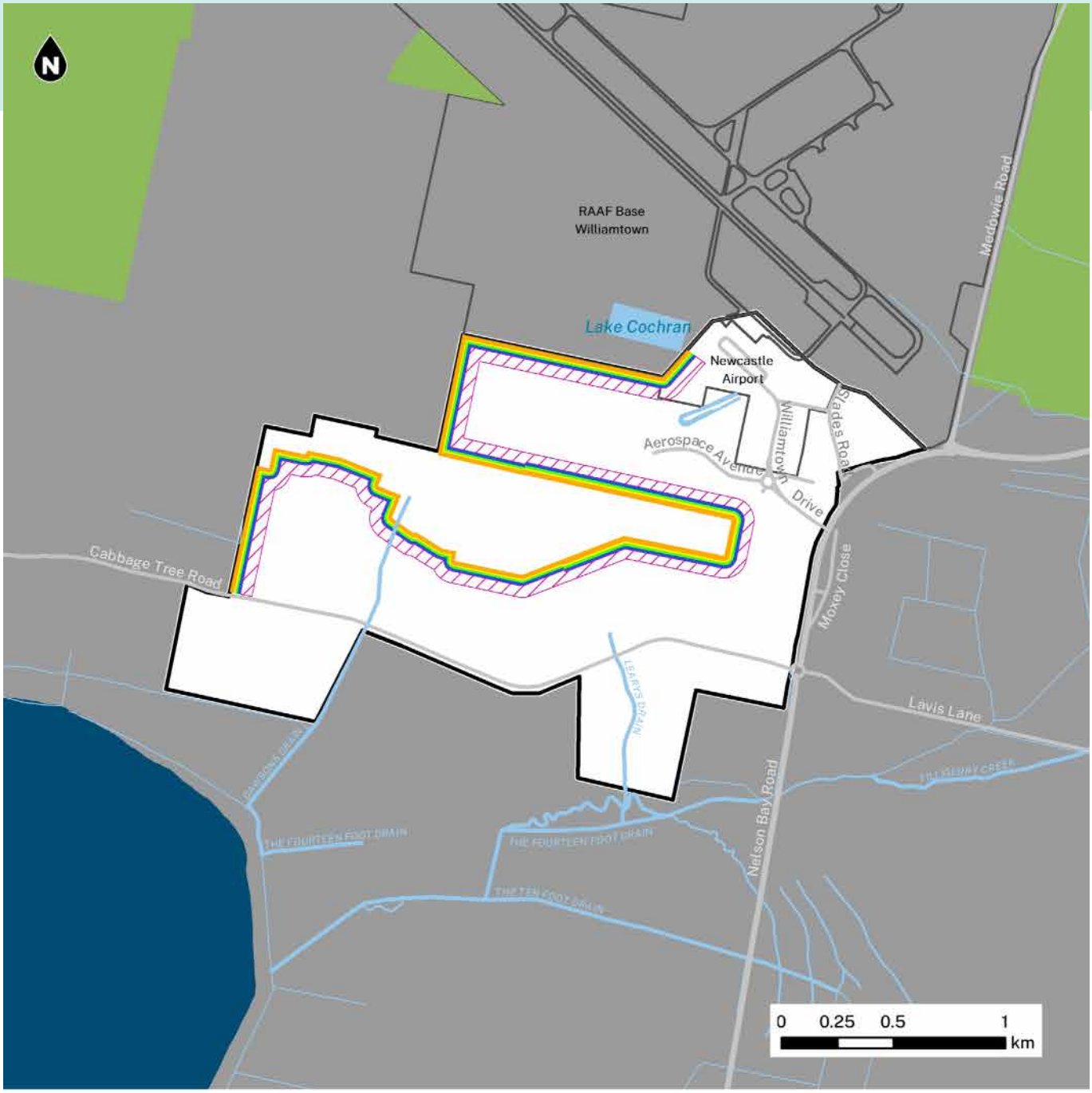


Figure 27: Bushfire protection measures (indicative APZs)

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Asset Protection Zones

- BAL 12.5
- BAL 19
- BAL 29
- BAL 40
- Flame Zone

5.13 Sustainability and climate change

5.13.1 Sustainability

The Precinct maximises sustainability opportunities to operate as an Eco-Industrial Precinct in accordance with performance requirements set out in the *International Framework for Eco-Industrial Parks* (The World Bank, 2021). An Eco-Industrial Park is a place where businesses work together to achieve enhanced environmental, economic and social performance through collaboration. This collaboration could involve the physical exchange of materials, energy, water and by-products, creating a circular economy where one business' 'waste' becomes another's input.

5.13.2 Climate Change

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle. But since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels like coal, oil and gas.

Climate change has the potential to have a significant impact on the Precinct, including temperature increases and increased hot days, increased rainfall intensity, sea-level rise, increased bushfire risk/ intensity and loss of biodiversity unless adequate mitigation measures are implemented.

Aims

- The design and operation of the Precinct should showcase leading practice in the application of sustainability concepts.
- To establish the Precinct as an Eco-Industrial Park and adhere to the performance requirements set out *International Framework for Eco-Industrial Parks* (The World Bank, 2021).
- To establish a robust framework for ongoing monitoring and reporting.
- To ensure industries maximise efficiencies, reduce emissions and target a net-zero emissions Precinct.
- To encourage a circular economy framework with closed looped systems that maximise resource efficiency where practical and that are in accordance with the *Circular Economy Policy Statement* and *NSW Waste and Sustainable Materials Strategy 2041.*
- To integrate blue and green infrastructure in a way that supports ecological function and provides amenity.
- Maximise active transport participation across the Precinct through landscape and asset design (e.g. active transport corridors) and cycle sharing schemes.
- To ensure climate risks are considered and managed.
- Ongoing consultation with the Worimi LALC regarding the integration of cultural land management practices.

Performance criteria

A. Development must be inclusive and sustainable and demonstrate alignment with the principles in the UNIDO Eco-Industrial Park framework that are relevant to the Precinct.

B. Green and blue infrastructure must be embedded into the Precinct wherever possible to create circular economy opportunities where practical.

C. Consideration of the following climate change adaption measures:

   i. infrastructure and the public realm is designed to ensure they are resilient to increasing temperatures, including smart and integrated utility infrastructure that captures, stores and shares excess energy and water (e.g. rainwater/ stormwater harvesting and reuse and energy storage), increased landscaping, vegetation and tree canopy cover, and areas of respite for employees, the community and visitors.

   ii. reduce stormwater flow, erosion and pollution including WSUD, onsite rainwater/stormwater harvesting and reuse and increased permeable surfaces and landscaping, while ensuring any onsite reuse is cognisant of PFAS contamination. This should be incorporated into an integrated water cycle management with onsite systems interconnected with precinct stormwater management systems and drainage.

   iii. incorporate sea level rise projections in the planning of infrastructure, with critical and major infrastructure and emergency access roads located outside of or raised above tidal

inundation levels. Due to coastal adaptation and existing levees falling outside of the Precinct and responsibility, this should be developed cognisant of any improvements that may be implemented outside of the Precinct to reduce this risk.

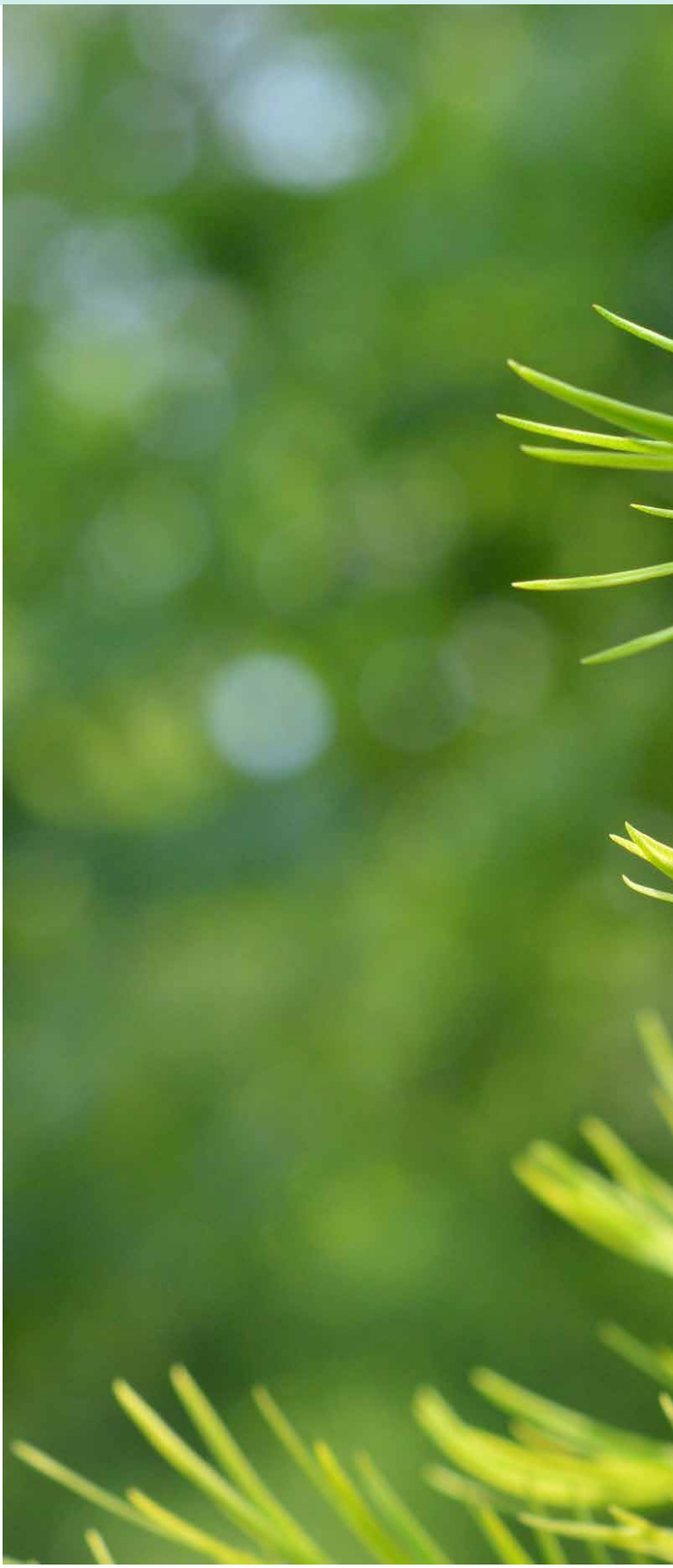
iv. Adequate bushfire buffer zones and emergency access and evacuation routes, and ensures critical infrastructure (e.g. utility infrastructure) is located in lower bushfire risk areas.

v. Maintains and support existing biodiversity in the environmental protection area and wildlife corridors, and incorporates quality landscaped outdoor areas that support increased vegetation and biodiversity, cognisant of bushfire risk.

D. The Precinct is to be net zero emissions consistent with the *Climate Active Carbon Neutral Standard for Precincts* (Commonwealth Government, 2019) for Precincts.

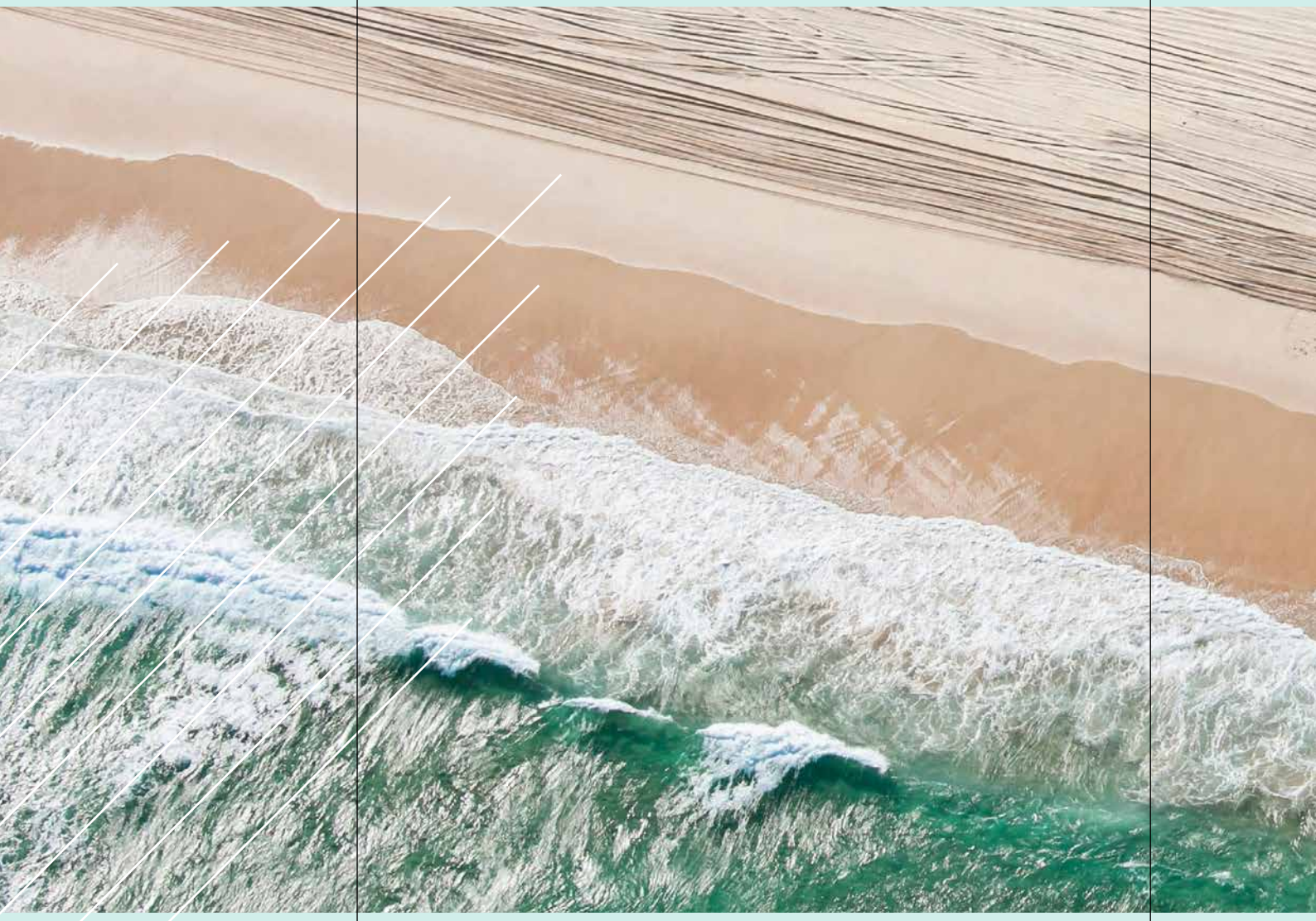
Consideration for future stages of development

- Building design should demonstrate how it aligns with Align with Infrastructure Sustainability Council of Australia (ISCA) and Green Star rating schemes to ensure infrastructure and building embed a range of sustainability and circular economy across the lifecycle of assets.
- Implement the recommendations of the *Climate Change Adaptation Plan* (Appendix 8) at a catchment level where applicable to the Precinct.
- Ongoing consultation with Worimi LALC regarding cultural practices relating to climate change.
- Development is generally consistent with ISO 14001 Environmental Management System (EMS) with the UNIDO Eco-Industrial Park (EIP) Framework.



6

Place and landscape



Stockton Bight sand dunes, Port Stephens. Credit: Destination NSW.

6.1 Aboriginal cultural heritage

The Worimi people are acknowledged as the custodians of the land in the Precinct. Their responsibility to care for Country is respected and accepted as a responsibility that must be upheld by all.

Whilst land comprising the Precinct has undergone significant modification since European settlement, Aboriginal cultural heritage sites have survived in the sand dunes in the north of the Precinct where four known artefacts, one artefact/potential archaeological deposit (PAD)/hearth and one artefact/burial are recorded in the Aboriginal Heritage Information Management Systems (AHIMS) database. The type of artefacts and their location is consistent with the broader Aboriginal cultural heritage of Williamtown which features numerous artefacts, PADs, hearths, shells and burials in undisturbed areas along creeks, amongst remnant vegetation and in the extensive sand dune system. Other unrecorded sites are likely to exist within the Precinct. There is an existing Aboriginal 'Keeping Place' within the Precinct that forms part of the Astra Aerolab development and is an asset and a place of importance that should be recognised.

Aims

- Retain, protect and celebrate Williamtown's proud Aboriginal culture and heritage.
- Ensure Aboriginal culturally significant places and artefacts are protected, maintained and enhanced.
- Promote development and Precinct design that recognises the connection to Country.
- Involve the local Indigenous community including empowering Indigenous people in the planning and delivery of the Precinct.
- Consideration of cultural land management practices within the Precinct.

Performance Criteria

A. The Precinct should incorporate an appreciation and show respect for Aboriginal heritage values.

B. For land mapped as a place of high potential for Aboriginal heritage significance (Figure 28: Aboriginal keeping place and Aboriginal object or place of heritage significance), the development must avoid adverse impacts to Aboriginal heritage values. Where adverse impacts to Aboriginal heritage values are unavoidable, undertake a salvage program in accordance with an Aboriginal cultural heritage management plan (ACHMP).

C. Protect and mitigate incidental harm to unrecorded Aboriginal heritage values in accordance with the *Heritage Act 1977* (NSW), *National Parks and Wildlife Act 1974* (NSW), *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) and the *Coroner's Act 2009* (NSW).

D. For development on land mapped as a place of Aboriginal heritage significance (see Figure 28: Aboriginal keeping place and Aboriginal object or place of heritage significance), the development must seek to interpret Aboriginal heritage values in collaboration with the community with the aim of enhancing significant values and creating a sense of place

E. Aboriginal culturally significant places and sites should be integrated with areas of environmental significance including either the environmental protection area or existing Keeping Place (where appropriate) across the Precinct.

F. Further Aboriginal cultural heritage assessment must be undertaken in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales* (Office of Environment and Heritage, 2011) on the land indicated as areas of high potential for items of Aboriginal significance (see Figure 28: Aboriginal keeping place and Aboriginal object or place of heritage significance).

Consideration for future stages of development

- An ACHMP must be developed as part of future stages of development with the Precinct.
- Development of the Precinct is to align with major initiatives outlined within the *Opportunity, Choice, Healing, Responsibility, Empowerment* (OCHRE) (NSW Government 2013).
- Incorporate the *Connecting with Country Draft Framework* (Government Architect NSW, 2020) into the design and delivery of the Precinct.
- The development authority should consider incorporating the following principles in the future development of the Precinct:
  - Engagement with Aboriginal people including traditional owners and elders and involvement should begin at an early stage of delivery,
  - Development should support the empowerment of the local Worimi community through jobs and business opportunities including management of areas with high biodiversity value,
  - Built form to be localised and specific in context to the connection to Country through the application of cultural signage and artwork and should ensure authentic representation of the Worimi people,
  - Maintaining the integrity and quality of high points and topographical features is important to Aboriginal communities for understanding Country and for wayfinding, and need to be considered during design,
  - Designing with Country will enhance the sense of culture and connection of values by reflecting Worimi design through the landscape (by planting weaving materials and healing gardens) and in the design of buildings,
  - Consideration of Cultural Land Management Practices (CLMP) to heal Country,
  - A deep understanding of the cycles of Country, and how seasons impact upon animals and vegetation is necessary for appropriate management, and
  - Integrate Indigenous planting into public spaces and street scapes.
- Develop an Aboriginal outcomes, culture and country plan with the involvement of the NSW Aboriginal Land Council and Worimi LALC.

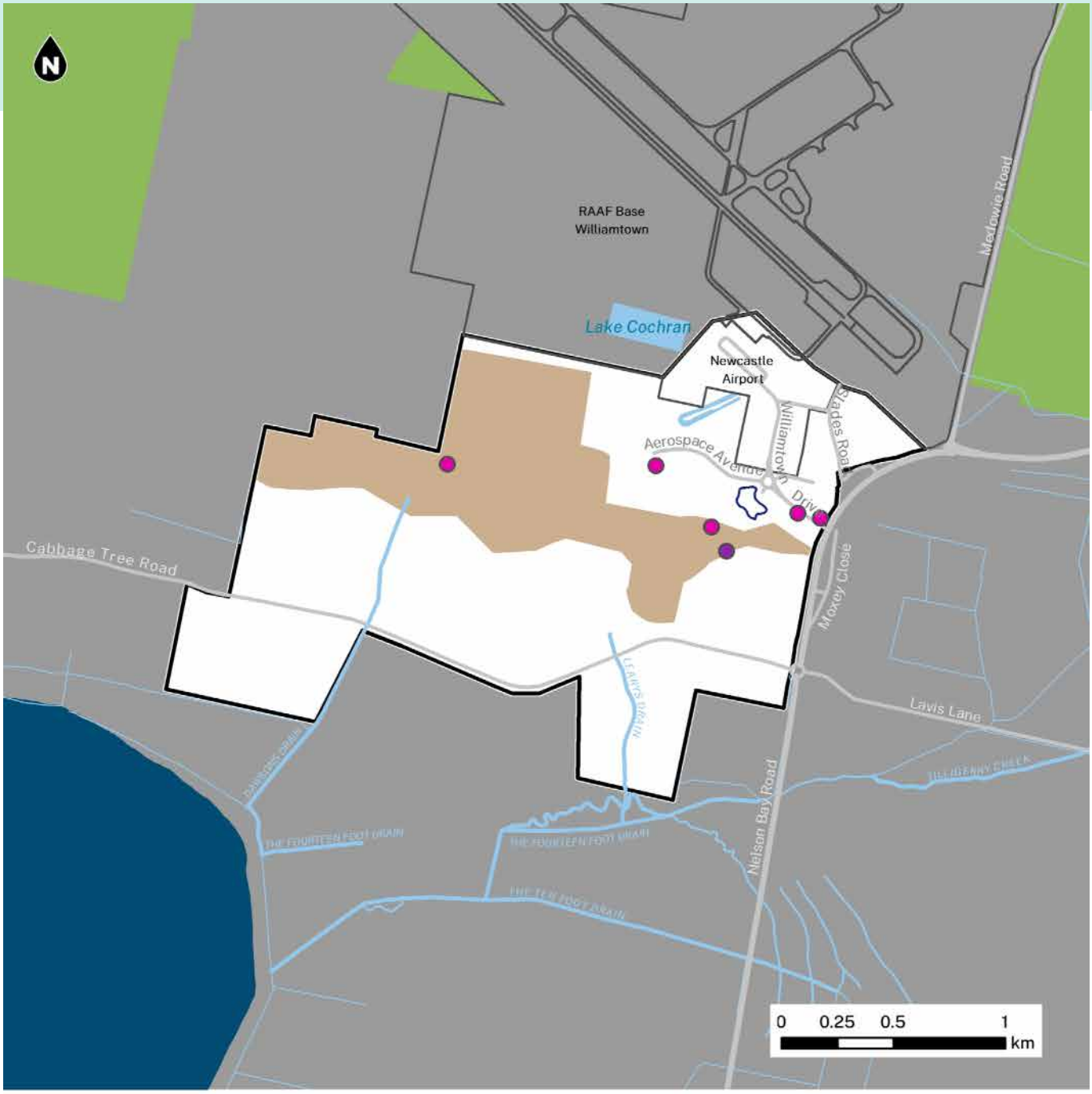


Figure 28: Aboriginal keeping place and Aboriginal object or place of heritage significance

Williamtown SAP Boundary

Waterway

Roads

Hunter Wetlands National Park

Tilligery State Conservation Area

Waterbody

RAAF Base Williamtown and Newcastle Airport

Runway and Taxiways

High Potential

Aboriginal Keeping Place

AHIMS

Artefact

Artefact / Burial

6.2 European heritage

The Precinct has been transformed considerably since colonial settlement. With early pastoral and agricultural activities reshaping the local terrain, as well as the later construction and use of RAAF Base Williamtown and Newcastle Airport.

The Precinct contains two recognised sites of local historic heritage significance; Devon House and St Saviour's Anglican Church. RAAF Base Williamtown is Commonwealth heritage listed (see Figure 29: Non-Aboriginal heritage items).

Aims

- Places of cultural significance should be conserved for present and future generations in accordance with the principle for inter-generational equity (Burra Charter 2013).
- Ensure that development in the vicinity of heritage items is designed and sited to protect the heritage significance of the item and its setting.
- Ensure that the development of land or a building in the vicinity of a heritage item is undertaken in a manner that complements the heritage significance of the site or area.
- Any changes to places of cultural significance that may impact their heritage values should consider how to both minimise those impacts and reflect on ways to enhance the significance and understanding of these places.
- The interpretation of the known places of cultural significance within the Precinct should be woven into the design principles for the Precinct.

Performance Criteria

A. For development on land on which a heritage item is located, or on land that is within the vicinity of land on which a heritage item is located:
   i. Ensure development is based on the understanding and conservation of the heritage significance of the item, being sympathetic and respectful to the value of heritage places and celebrate Country,
   ii. Encourage heritage items to be used for purposes that are appropriate to their heritage significance, including adaptive reuse where appropriate,
   iii. Maintain the setting of the heritage item including the relationship between the item and its surroundings,
   iv. Maintain a sufficient curtilage around places of cultural significance to minimise the impact of new development,
   v. Minimise the impact of new development adjacent to or within the vicinity of a heritage item,
   vi. Consider the importance of setting, views, access and the visual and landscape context during project design and execution, and
   vii. Protect and interpret non-Aboriginal heritage sites in collaboration with community with the aim of enhancing significant values and creating a sense of place.

B. Development must mitigate incidental harm to unknown sites of potential historic heritage significance through the implementation of a sound unexpected finds procedure. Where adverse impacts are unavoidable, project design and execution should involve appropriate mitigation strategies

Consideration for future stages of development

- Development on land on which a heritage item is located, or on land that is within the vicinity of land on which a heritage item is located will require a heritage impact assessment (HIA). The preparation of the HIAs should be guided by *NSW Statements of Heritage Impact Guidelines* and Part B8 of the Port Stephens Development Control Plan 2014.
- Any development (other than exempt development) in areas of identified potential non-Aboriginal heritage should be subject to an unexpected finds procedure.
- Should further heritage items be identified during later stages of the Precinct development (particularly in areas of identified potential heritage), these items should be subject to heritage assessment.
- Consider the appropriate heritage curtliage for Devon House and appropriate management measures.
- Consider land uses adjacent to St Saviour's Anglican Church are appropriate and consider set backs and buffers.

Top: St Saviour's Anglican Church. Credit: ERM
Above: Devon House. Credit: ERM

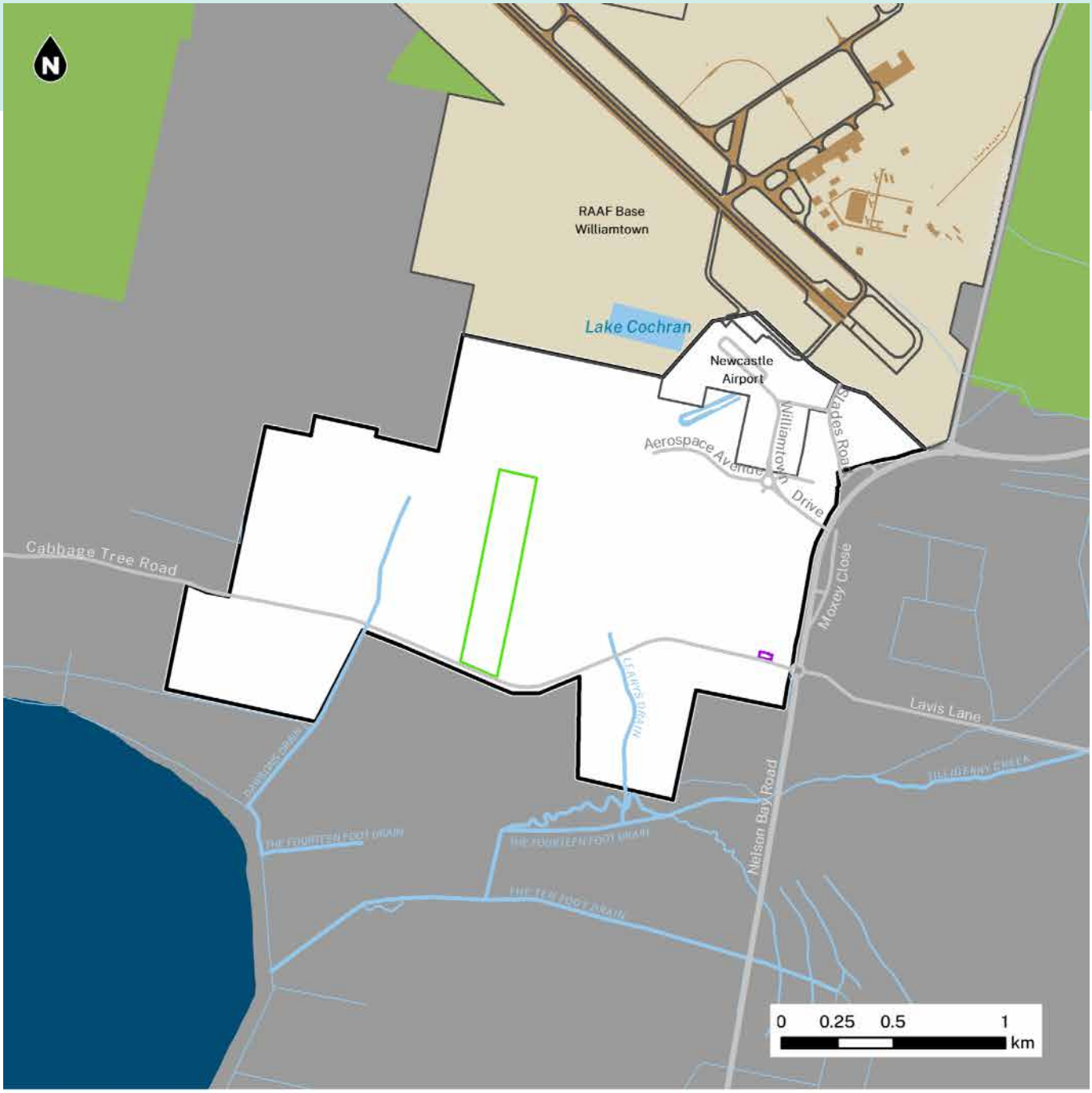


Figure 29: Non-Aboriginal heritage items

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways

Commonwealth Heritage List Place

- Area Under Assessment
- Listed Place

Local Environmental Plan Heritage (Item - General)

- Devon House - Item 1
- St Saviour's Anglican Church - Item 2

6.3 Social infrastructure

Recreation and open space together with other social and community infrastructure is the basis for place-based planning that will create places for workers, visitors and surrounding residents. It is acknowledged that additional social infrastructure is required to support the future workers, visitors and existing population in Williamtown.

Social infrastructure plays a critical role in the place based planning of the Precinct and therefore the facilities, spaces, services and networks that support the quality of life and wellbeing of the Precinct plays a central role in the overall design and function of the Precinct. Social infrastructure contributes to the social identity of a place and access to high-quality, affordable social services will have a direct impact on the social and economic wellbeing of residents in the area.

Aims

- To ensure appropriate provision of social and community infrastructure to support job creation and economic development in the Precinct.
- Provide safe and accessible social and community infrastructure to meet the needs of workers, visitors, tourists and surrounding residents.
- Create opportunities for both small and large scale and destination social infrastructure and public places that will contribute to the local government area to strengthen the local culture, place character and quality of place (i.e. events, festivals, entertainment and recreation).
- Provide for a range of integrated, functional, education, attractive and accessible open space and recreation areas (both indoor and outdoor) that are connected via walking and cycling paths to the central environmental protection area, Keeping Place and other natural and cultural assets that encourage workers and visitors to meet, connect and foster the community values.
- Create various common gathering spaces (active nodes) within the Precinct that enables workers and the community to meet and connect and collocate with employment uses to foster inclusion, amenity, health and wellbeing.
- Incorporate and celebrate Designing with Country principles from the Worimi people's local stories in the public spaces, the built environment and activities.
- Create opportunities for cultural education, eco-tourism, locally designed art and celebrate Worimi Country and its local Aboriginal people.
- Consider introducing dual signage and Aboriginal place names within the Precinct developed in consultation with the Worimi community.

Consideration for future stages of development

- The landscape and vegetation management plan should consider the delivery of visually appealing places to improve the physical and mental well-being of workers and community, including green space, trees, screening, architecturally designed buildings and inclusive signage.
- Future stages of the development must ensure:
  - the provision of amenities for employees at accessible locations for each catchment,
  - facilities and spaces encourage positive social interactions or individual experiences for all people that are accessible and socially and culturally appropriate,
  - public domain prioritises pedestrians, cycling and public transit use, with public open spaces located within walking distance of core commercial areas,
  - high-quality landscaped open space that is green, integrated, connected as part of the green grid, multi-functional, accessible and of sufficient size to enable recreational and passive activities, and
  - open space and cultural places are co-located with other community assets, educational and public facilities to enhance the local character and retain significant items of cultural or heritage significance where appropriate.

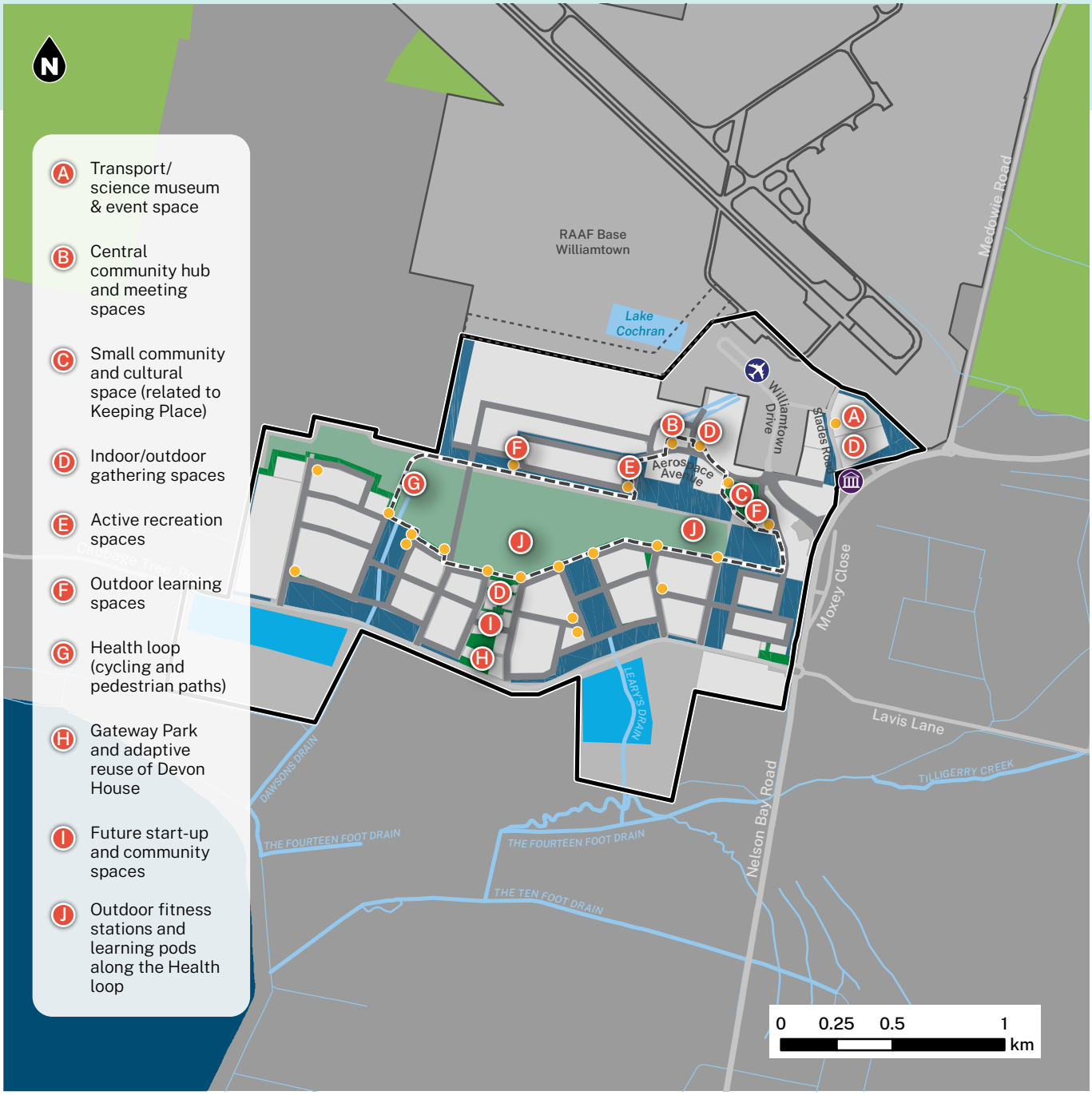


Figure 30: Social infrastructure

- Williamtown SAP boundary (395 hectares)
- Health loop (shared path)
- RAAF Base Williamtown and Newcastle Airport
- Waterbody
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Heritage or green space
- Newcastle Airport
- Williamtown Public Hall
- Activity nodes
- Regional enterprise zone
- Flood mitigation - shallow flood storage
- Drainage and wetlands
- Environmental protection area
- Roads
- Runway and taxiway
- Proposed road
- Proposed unapproved taxiway
- Waterway

6.4 Landscape, character and visual impacts

The existing landscape character of the northern portion of the Precinct is defined by the activities at RAAF Base Williamtown and Newcastle Airport which are to the north of the Precinct. The southern portion of the Precinct is characterised by its central environmental protection area (naturally vegetated land cover is estimated to cover 33% of the Precinct) connecting large areas of native vegetation to the north-west. Land to the north of Cabbage Tree Road is characterised by cleared or managed rural land that consists predominately single storey detached dwellings.

The topography of the Precinct is very flat given its low-lying nature. To the north of Cabbage Tree Road, the land is characterised by elevation of generally 5m to 8m AHD with slope gradients of less than 5%. To the south of Cabbage Tree Road, the land is characterised by an elevation of 1m to 3m with slope gradients of less than 1%.

The overall lack of dramatic elevation changes within the Precinct and limited views to high-quality visual landscape features (Stockton sand dunes, Tilligerry State Conservation Area and Hunter Wetlands National Park) provide scope for appropriate transition between the existing landscaped environment and existing rural context and the desired future landscaped environment within the Precinct. Effective landscape design provides an opportunity to complement the existing natural and cultural features of the Precinct and contribute to the built form.

It is anticipated that the proposed development including the significant fill in the Precinct will have a minimal impact on existing views for surrounding residents. Views are currently limited within the Precinct due to the flat topography. Any exiting views to Stockton sand dunes will not be impacted.

The proposed built form within the Precinct is considered appropriate for its setting and will expand upon the existing built form at Newcastle Airport and existing employment areas such as the Williamtown Aerospace Centre. Future built form will be appropriately landscaped and minimise any visual impact.

Aims

- To establish a high quality and amenity employment Precinct.
- Enhance landscape connectivity through conservation and restoration of native vegetation and corridors to enable plant and animal communities to survive in the long term, whilst not conflicting with aviation safety.
- Landscaping does not compromise the systems for PFAS management.
- Landscape works support the operational and functional requirements of the RAAF Base Williamtown and Newcastle Airport movement and controlled access to facilities.
- Encourage cultural land management practices including the integration of Indigenous planting in public spaces and streetscapes.
- Showcase the importance of the natural systems throughout the Precinct to convey the unique sense of place and identity.
- Consider the place and landscape opportunities associated with the proposed earthworks.

Performance criteria

A. Landscape and urban design features complement biodiversity and cultural values and existing natural features.

B. Native vegetation is retained in open space networks and the wider green infrastructure system.

C. Trees that attain significant heights should be avoided due to the risk of penetrating the Obstacle Limitation Surface (see Figure 13: Obstacle limitation surface).

D. Aboriginal design elements are to be integrated into public spaces, and encouraged on private land including Indigenous planting, dual language signage and names and cultural education opportunities.

E. Significant planting in the front, side and rear setbacks of private lots in higher amenity, higher density areas is encouraged (refer to Figure 36: Higher amenity) to improve the quality of streets and contribute to the Precinct's landscape character.

F. Use planting and tree canopy to create favourable microclimates around developments to provide relief during hot summer weather.

G. Site earthworks must work with the topography of the Precinct and be appropriate for the intended land use.

H. New planting in the road reserves, drainage infrastructure (i.e. wetlands), in the locations indicated in Figure 36: Higher amenity, are encouraged to minimise the visual impacts of new development on existing residences and views into the Precinct from the major roads.

I. Development must ensure that on-site landscaping, careful building siting and high-quality building design makes a positive contribution to views into the Precinct.

J. Where possible, buildings will be located to minimise visual prominence above key landscape features. Any visual intrusion must be mitigated through the choice of design, colours, materials and landscaping with local native flora.

K. Landscape features are to complement the proposed drainage network Figure 35: Drainage basins design and identify opportunities for dual use of this infrastructure, where appropriate.

L. Prioritise sunken corridor streets and vegetated swales planted with species that tolerate temporary inundation, additionally beautifying streetscapes.

M. Use the topography and waterways to enhance the community and recreation offering within the Precinct.

Consideration for future stages of development

- A landscape and vegetation management plan is to be developed as part of the Delivery Plan (see 5.1 Biodiversity, wetlands and the landscape on page 42).
- Dual naming of streets, places and specific sites are encouraged to be incorporated into developments.

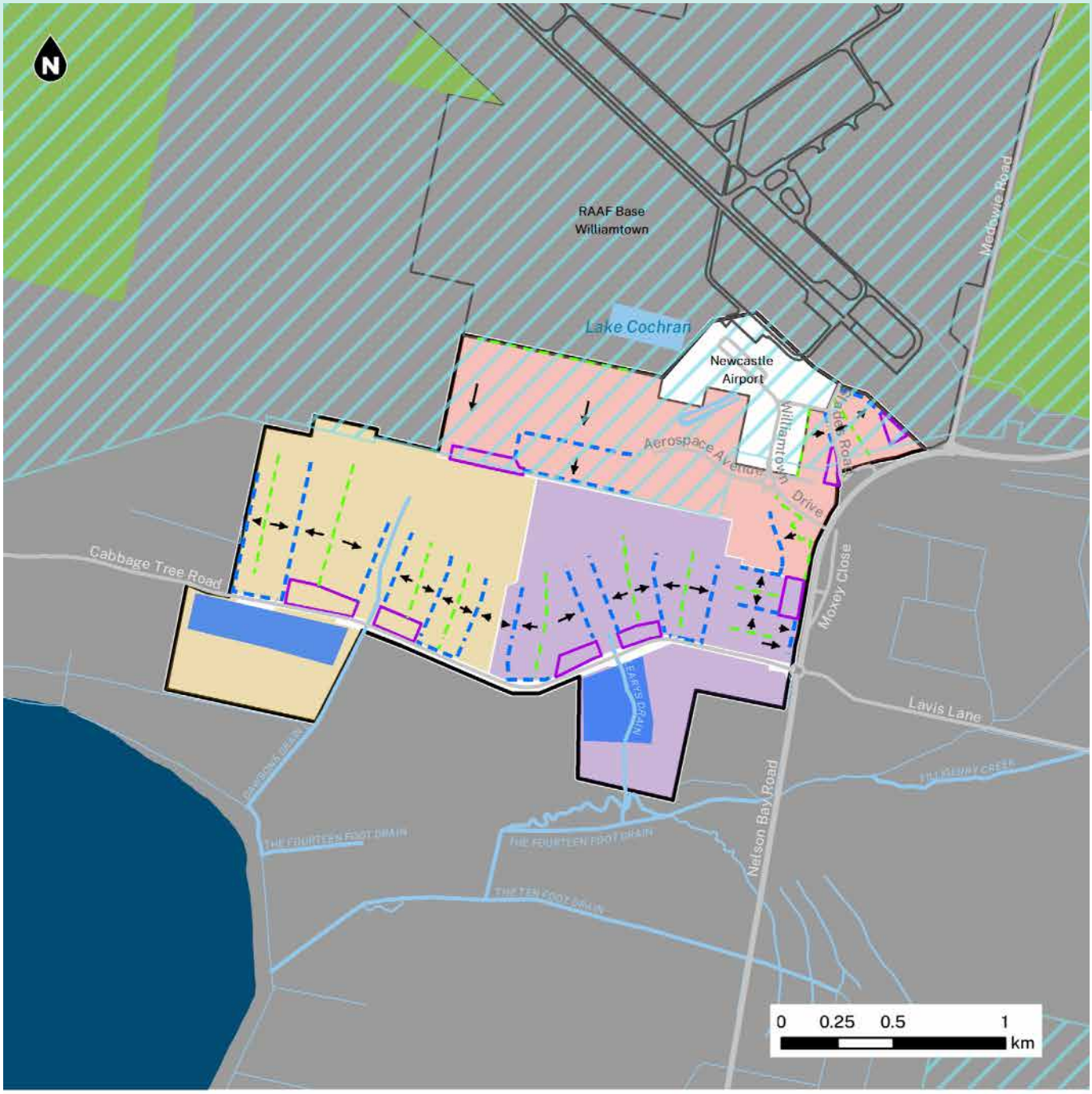


Figure 31: Proposed drainage and flooding management

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Flow path
- Crest
- Channel
- Constructed Wetlands
- Western Catchment
- Eastern Catchment
- Northern Catchment
- Drinking Water Catchments
- Flood Mitigation - Shallow Flood Storage

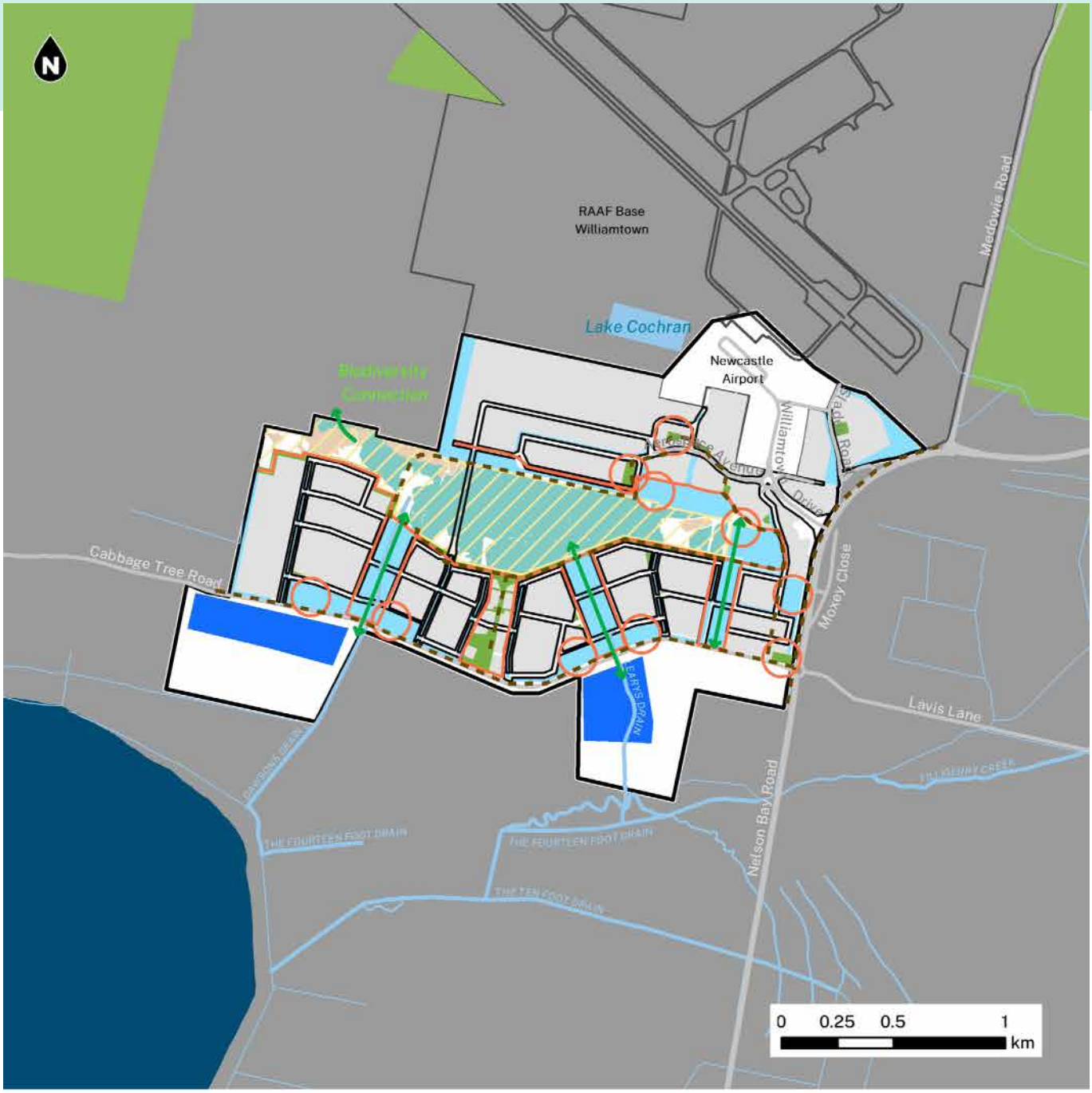


Figure 32: Higher amenity

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Environmental Corridors
- Road Network
- High Amenity Areas
- Pedestrain Connection / Nature Trail
- Developable Area
- Environmental Protection Area
- Green Space
- Drainage
- Flood Mitigation - Shallow Flood Storage
- Coastal Swamp Forest
- Coastal Dune Dry Sclerophyll Forest

Figure 33: Bird's eye view of the interface with the Environmental Protection Area

Figure 34: Lower bird's eye view looking towards the Environmental Protection Area via Dawsons Drain

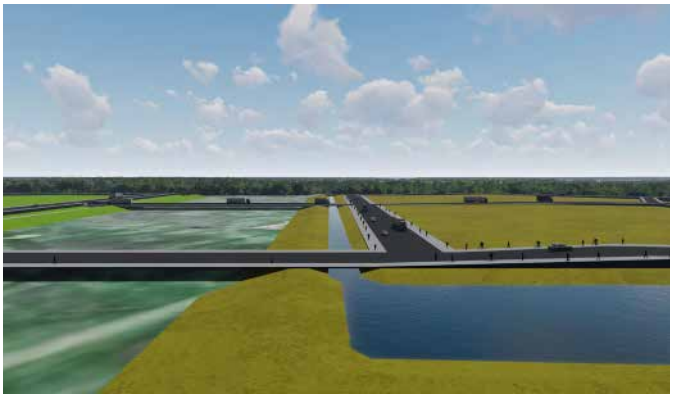


Figure 35: Bird's eye view of Environmental Protection Area

Figure 36: Indicative interface with Environmental Protection Area

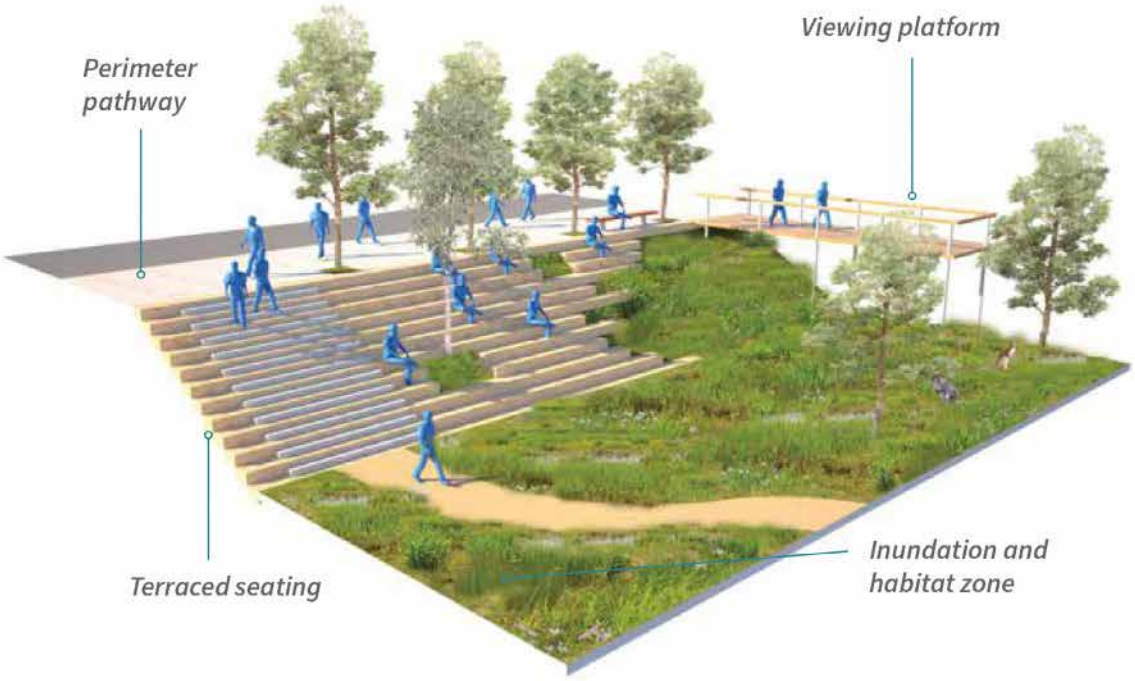


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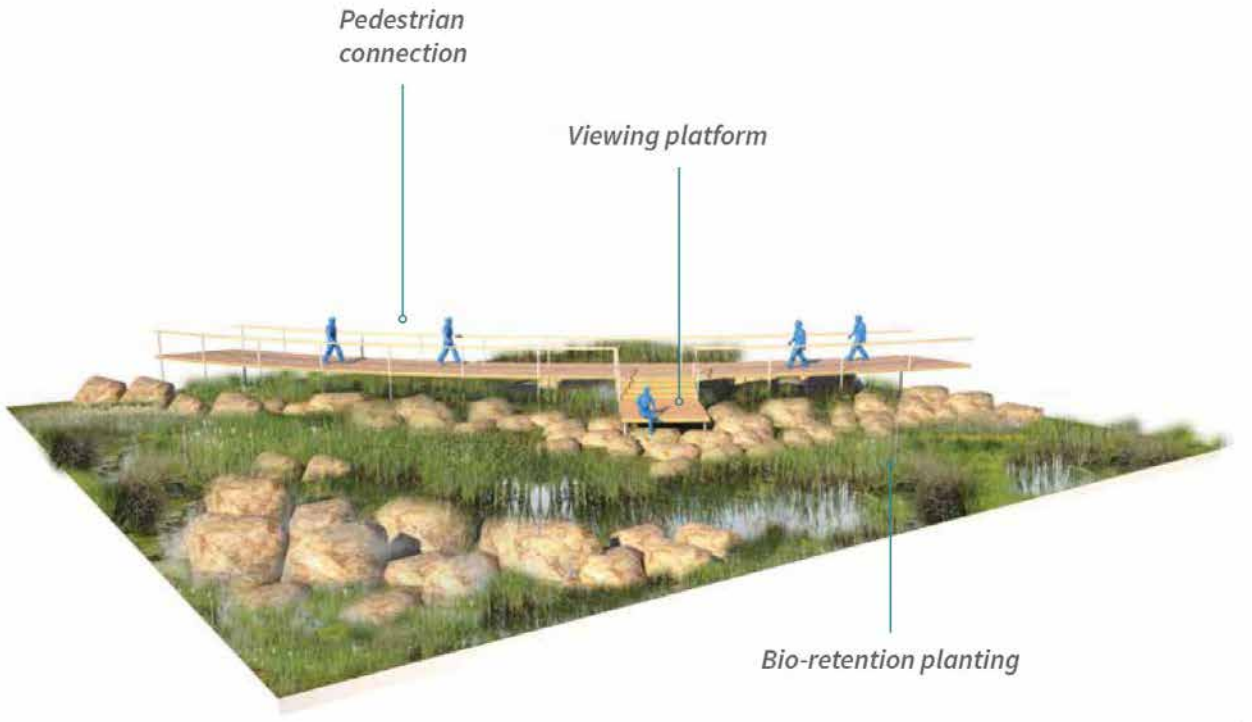
Figure 37: Indicative interface with proposed drainage network



6.5 Built form

The Precinct will build upon the success of the existing Astra Aerolab development in the Northern Catchment. Aesthetically, the built form is driven by functionality, good urban design principles must be applied to ensure buildings respond positively to their local context and environment.

The following built form controls seek to support the Precinct's ongoing development as a defence and aerospace precinct, supporting advanced manufacturing, training, innovation, research and development, commercial, freight and logistics, industry and tourism opportunities and balances the with the surrounding rural/residential landscape setting. The provisions aim to ensure the siting and presentation of buildings and infrastructure will contribute to the Precinct's character as well as performance.

Aims

- To ensure the built form has suitable bulk, scale, proportions and detailing.
- To ensure buildings and structures are resilient to the local climate and conditions.
- To retain and incorporate the two local heritage items within the design of the Precinct.
- Create appropriate interfaces between built form and infrastructure including the airport and create a well-connected, pedestrian friendly, campus-style environment.
- Any new development to consider the desired future character for the area and be responsible for providing appropriate interfaces going forward.
- To promote street activation and connection with environmental protection area to provide connection to Country, passive surveillance, and activation along these interfaces.
- To act as a catalyst and government exemplar for design excellence across the built form, landscape, sustainability and place.
- To establish gateways to the Precinct that set a high standard and promote the Precinct's commitment to sustainability, place and customer experience.

Performance criteria

General criteria for all development in the Precinct

A. Streets, particularly where pedestrian and cycling activity is planned, should be as active, and green as possible to improve human comfort, amenity and walkability. This can be achieved by considering the following design principles, particularly for development fronting active transport links:
   i. Commercial components should be oriented towards the primary street frontage and provide entries to the street where appropriate,
   ii. Front setbacks should provide generous planting, including canopy trees,
   iii. Car parking areas, hardstand areas and loading docks in the front setback should be minimised,
   iv. Multiple car entries should be avoided where possible, and
   v. Buildings should be designed to present to the street and the environmental protection area.

B. All buildings should be accessible by pedestrians via a safe, clear walkway.

C. Buildings should be efficient, well-designed and incorporate generous landscaping. This can be achieved by:
   i. Ensuring building bulk, orientation and design contribute to the energy efficiency of buildings,
   ii. Careful building siting to minimise the impact on existing vegetation, providing opportunities for landscaping on-site, minimising hardstand areas wherever possible and mitigating impacts on neighbours,
   iii. Providing vegetated side and rear boundaries, where appropriate, to connect habitat corridors, minimise visual impact and increase tree canopy,
   iv. Considering how the building could be designed to a flexible space for other uses in the future,
   v. Incorporating preparedness for natural hazards and climate change into the design,

vi. Use of low-emission building products and integrated renewable energy generation systems, and

vii. Use of building materials that minimise urban heat impacts.

D. Earth forming works must work with, as far as possible, the topography of the Precinct and be appropriate for the intended land use.

E. Building design, lighting must not impede airport operations of RAAF Base Williamtown and Newcastle Airport. Development is to be consistent with the National Airports Safeguarding Framework (NASF)

F. Consideration for employment development as an urban typology rather than a building typology including:

i. Promote active travel access through visible and legible end-of-trip facilities and infrastructure,

ii. Landscape as a method to support and enhance the attractiveness of the land use,

iii. Reduce the primary building footprint by optimising the building (i.e. mezzanines),

iv. An increased amount of pervious and green spaces directly adjacent buildings through means including utilising shared roads and access roads,

v. Centralised/ shared parking structures that can be adapted to new uses over time, and

vi. Roof areas are visually attractive and should be optimised for cooling, amenity and energy conservation.

G. Encourage the integration of water bodies and small retail precincts or spaces to create natural gathering spaces that are well connected to the green and blue grid.

Consideration for future stages of development

- Preparation of a design guide that includes details around building materials and colour selections must be provided as part of the Delivery Plan.

Len Waters Building at RAAF Base Williamtown. Credit: Department of Defence.

7

Transport and infrastructure

Stockton Bridge looking north towards Fullerton Cove. Credit: Defence Housing Australia.

7.1 Transport network

Williamtown is strategically located between Newcastle Airport, the Port of Newcastle and the M1 Pacific Motorway, the three key air, sea and road gateways to the Hunter Region, the fastest growing region in NSW. Connecting one of the most strategically located sites in the Hunter Region with ready access to regional, national and international markets creates significant investment opportunities for the Precinct and reiterates the importance of appropriate infrastructure and a well-connected transport system to facilitate this growth.

The upgrade of RAAF Base Williamtown runway to a Code E runway will enable larger aircraft with higher passenger numbers, will increase both air freight and passenger capacity, and will open up the Hunter Region to a number of new global destinations such as North Asia, the Pacific, the Middle East and North America. The Precinct seeks to capitalise on the opportunities associated with freight and logistics, new export opportunities, defence and aerospace and also increased tourism potential with Newcastle Airport being the gateway to the Hunter Region.

Should fast rail form part of the future transportation mix providing a high-speed rail connection between Sydney and Newcastle, the Precinct will benefit from the significant improvements in travel times and regional connectivity.

With private vehicle usage the predominant form of transport in the Precinct, the Master Plan seeks to encourage improvements to both public and active transport networks to better connect the Precinct to surrounding centres.

7.1.1 Enabling infrastructure

Cabbage Tree Road upgrade

- Improvements were undertaken for a 600m section of Cabbage Tree Road at Williamtown between Barrie Close and Nelson Bay Road by Port Stephens Council on behalf of Transport for NSW.
- The works improved the pavement condition and increased the design life of the road.

Williamtown Drive

- Construction of a 5-way roundabout at Williamtown Drive to enable the first stages of the Astra Aerolab development.

Nelson Bay Road upgrades

- Over the years, several sections of Nelson Bay Road corridor connecting to the Precinct have been upgraded by Transport for NSW including:
  - Bobs Farm to Anna Bay section completed in 2015,
  - Medowie Road intersection upgrade completed in 2019; and
  - Lemon Tree Passage Road intersection upgrade completed in 2020.
- An additional upgrade to Nelson Bay Road between Bobs Farm and Williamtown is detailed below and is in the planning phase.

Stockton Bridge Upgrade

- Stockton Bridge provides a critical link over the Hunter River on the main transport route between Newcastle and the RAAF Base Williamtown and Newcastle Airport.
- Stockton Bridge underwent a $6m upgrade in 2020-21 funded by NSW Government.

7.1.2 Planned Infrastructure

Nelson Bay Road upgrade (Bobs Farm to Williamtown)

- $275m Transport for NSW project that includes improvements to Nelson Bay Road corridor including duplicating the road between Williamtown and Bobs Farm.
- On 23 December 2021, the preferred alignment was announced for constructing a new 11km off-line route from Bobs Farm to the Cabbage Tree Road/Lavis Lane roundabout at Williamtown following community feedback.
- The preferred route links to the 1km stretch of Nelson Bay Road upgrade at Bobs Farm scheduled for construction in early 2022.
- The alignment will significantly reduce travel time and will reduce congestion in this stretch of Nelson Bay Road.
- Nelson Bay Road is the major connection between Newcastle and the RAAF Base Williamtown and Newcastle Airport and is used by 25,000 vehicles per day with increased peaks during holidays due.

The upgrade will provide better connectivity for residents, businesses and the community to the RAAF Base Williamtown and Newcastle Airport, improve traffic flow and journey times, improve active transport, promote freight efficiency support tourism and existing industries and improve road safety.

M1 Pacific Motorway to Raymond Terrace

- NSW Government has committed $28.1 million in 2021-22 to continue planning for the M1 Pacific Motorway Raymond Terrace and Hexham Straight (State and Federal funded) (2021-22 NSW Budget).
- The proposed upgrade includes constructing 15km of dual carriageway motorway with two lanes in each direction, bypassing Hexham and Heatherbrae.
- The changes include providing an exit ramp south of Heatherbrae to improve access to Williamtown and a free-flowing interchange at Tomago Road to replace the previously proposed roundabout design.

Nelson Bay Road at Fern Bay. Credit: Port Stephens Council.

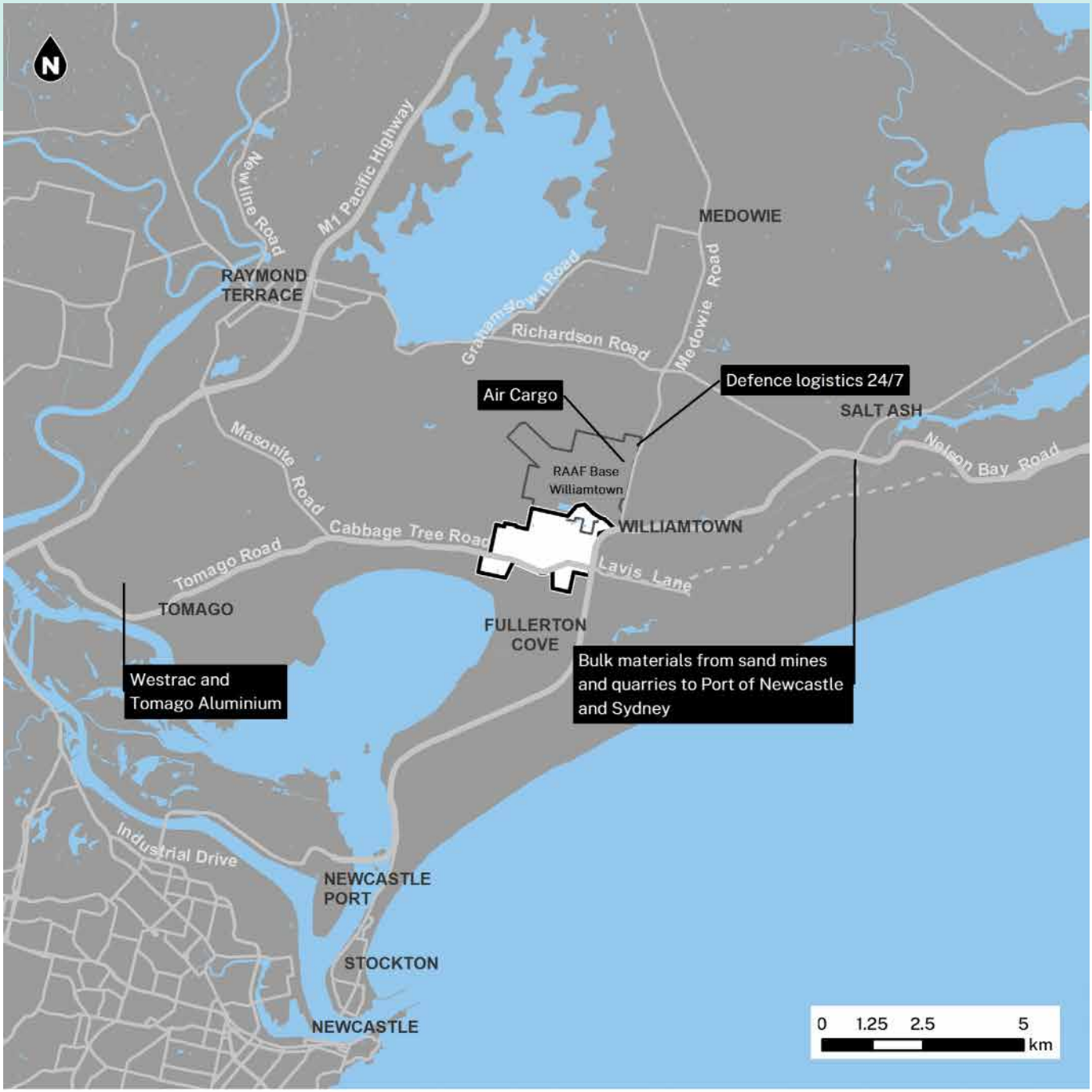


Figure 38: Transport context plan

- Williamtown SAP Boundary
- Waterway
- Road
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Preferred Nelson Bay Road Alignment

7.2 Road network performance and transport

Aims

- To maintain safe and efficient freight and transport function whilst providing a movement framework that recognises the Precinct as a gateway to the Hunter Region.
- To ensure the Precinct aligns with the relevant goals of the *Greater Newcastle Future Transport Plan* and NSW's *Heavy Vehicle Access Policy Framework.*
- To identify the transport network infrastructure components required to facilitate development over the life of the Precinct.
- To protect key transport corridors including Nelson Bay Road and Cabbage Tree Road and provide safe access for all users.
- To provide the appropriate separation of traffic and people between tourists at Newcastle Airport, freight and logistics freight movement and workers and visitors to the employment Precinct.
- To ensure secure access opportunities through separation of public access and secured access areas adjoining the Newcastle Airport.
- To provide an efficient freight network in Williamtown that supports new export opportunities associated with existing and emerging supply chains in the Hunter.
- Promote and encourage safe, sustainable, healthy and active transport movement within the Precinct, minimising internal vehicle movements.
- Improvement to public transport services particularly bus services by introducing new stops along key roads or introducing new services.

Performance criteria

A. The internal street network and connections to existing roads including Nelson Bay Road and Cabbage Tree Road are to be augmented and expanded over the life of the Precinct to ensure the effective servicing and orderly operation of the Precinct (Figure 38: Proposed road hierarchy and indicative road layout).

B. Developments must provide operational access and egress for emergency services and occupants, and ensure all roads are through roads.

C. The internal street network provides safe operation access for heavy, oversize and dangerous good vehicles and minimises introducing conflict points for pedestrians.

D. Access points to the Precinct are to be provided in accordance with *Austroads Guide to Road Design.*

E. Active transport linkages should be implemented to connect the sub-precincts.

F. All transport infrastructure should seek to avoid, minimise or offset impacts on biodiversity values.

G. Pedestrian and cycle connections should be provided as early as possible in the development of each stage of the Precinct.

H. Allow for sufficient road width to accommodate oversize mass vehicles (OSOM) along the collector roads and some of the industrial access roads.

I. The internal street network provides safe operation access for heavy, oversize and dangerous good vehicles and minimises introducing conflict points for pedestrians.

J. Allow for sufficient road width to accommodate oversize mass vehicles (OSOM) along the collector roads and some of the industrial access roads.

Consideration for future stages of development

- A street plan is to be developed as part of the Delivery Plan, and should include:
  - Street hierarchy, the roads are likely to be identified as collector roads, and local industrial roads based on their functionality within the Precinct,
  - Street types, sections and reserve widths (including future-proofing of utility services),
  - Staging,
  - Methodology/triggers for upgrades,
  - Long-term ownership and management,
  - Interface arrangements for intermodal crossing points,
  - Preferred truck routes and OSOM access,
  - A plan showing a walking and cycling network that has been refined in consultation with Council and Transport for NSW,
  - Street lighting, and
  - Concept designs for pathways.
- The Delivery Plan must provide guidance for the delivery of the following within the Precinct:
  - Ride sharing,
  - Electric vehicle charging infrastructure, and
  - Hydrogen refuelling stations for passenger vehicles.
- The Delivery Plan to detail the timing of when the following upgrades are required to support development in the Precinct:
  - Nelson Bay Road (south of Cabbage Tree Road),
  - Cabbage Tree Road/Tomago Road,
  - Nelson Bay Road – Williamtown Drive,
  - Nelson Bay Road – Cabbage Tree Road,
  - Cabbage Tree Road – new access road to Precinct, and
  - Other upgrades as required by the staging and delivery plan and in consultation with Transport for NSW.

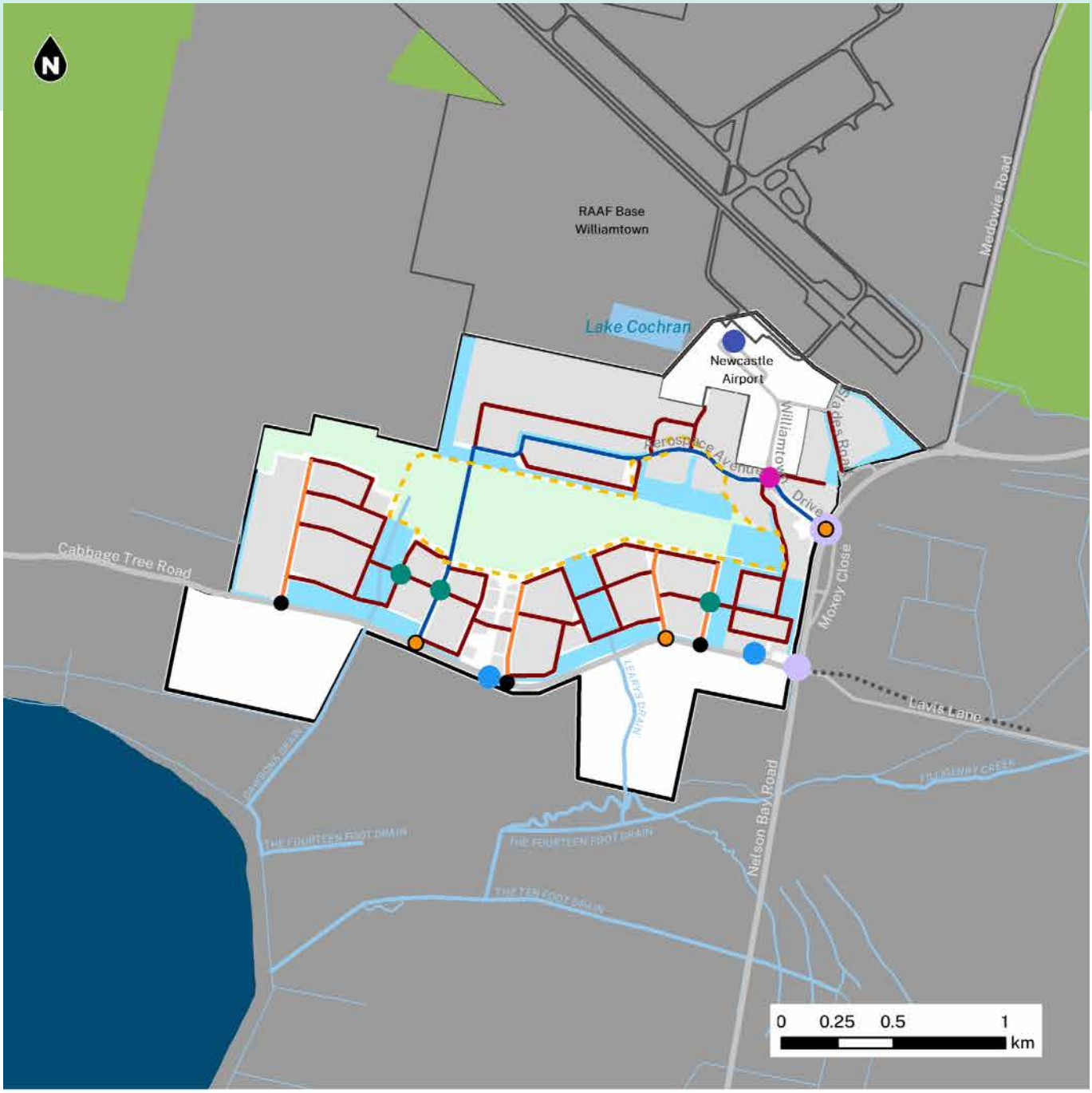


Figure 39: Proposed road hierarchy and indicative road layout

- Williamtown SAP Boundary
- Waterway
- Roads
- State Road
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Access Points
- Signalised Intersection
- Existing Roundabout
- Proposed Roundabout
- Existing Bus Stop at Newcastle Airport
- Indicative Bus Stops to be Considered
- Intersection
- Local Access Road
- Collector Road
- Local Distributor Road
- Nelson Bay Road Alignment
- Pedestrain Connection
- Developable Area
- Environmental Protection Area
- Drainage

Figure 40: Collector Road typical cross section, Phase 1 (27.2m)

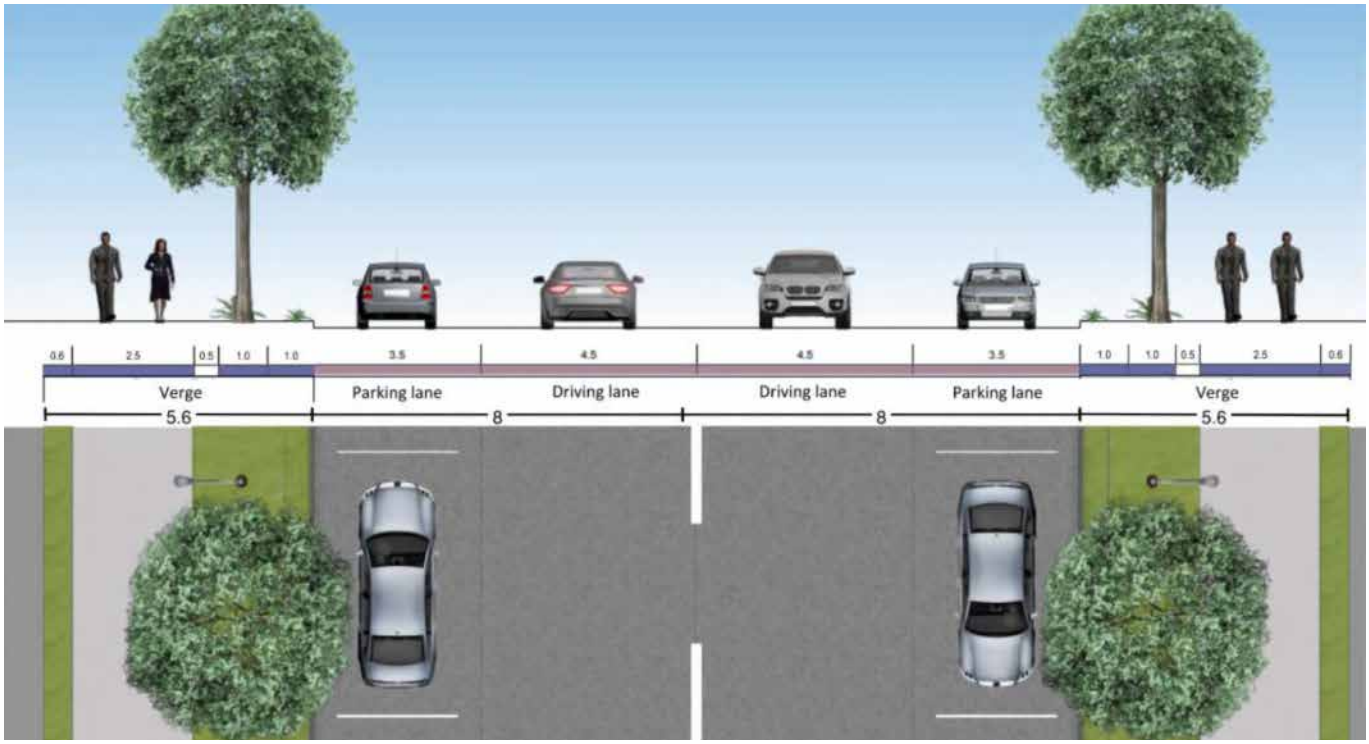


Figure 41: Collector Road with drainage swale typical cross section, Phase 1 (42.2m)

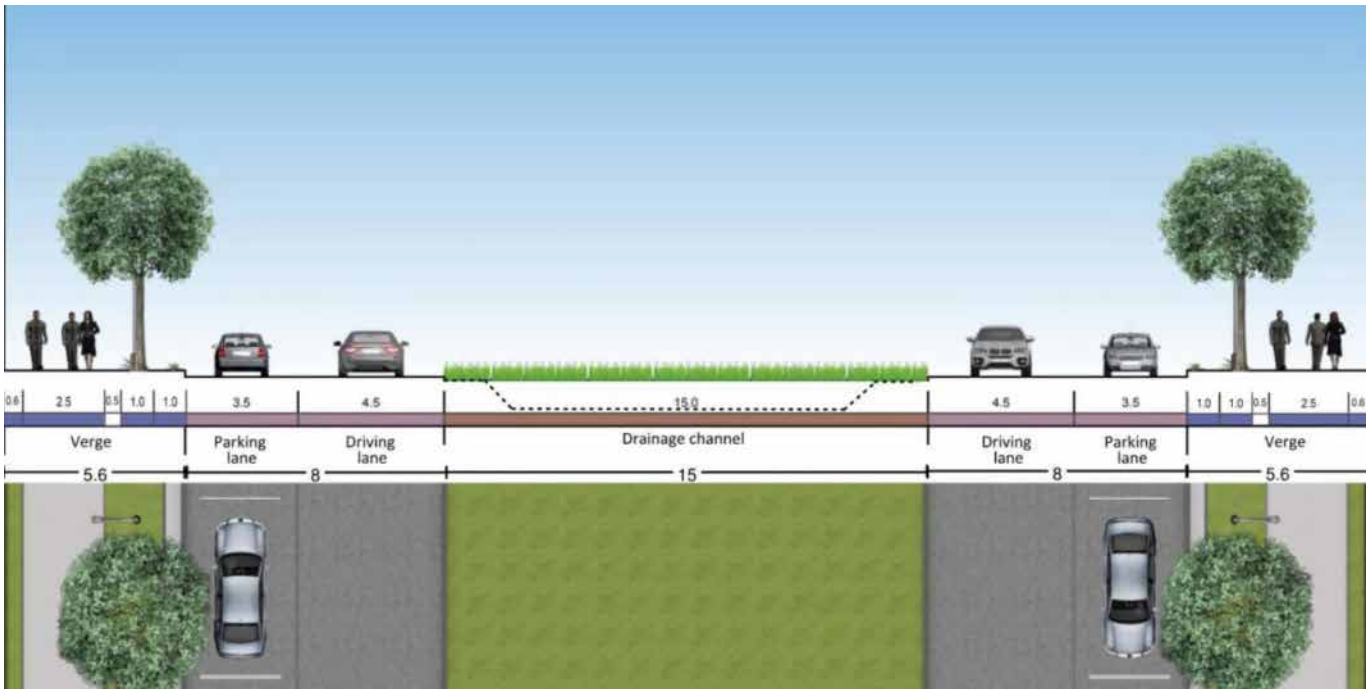


Figure 42: Local Industrial Road typical cross section (23.2m)

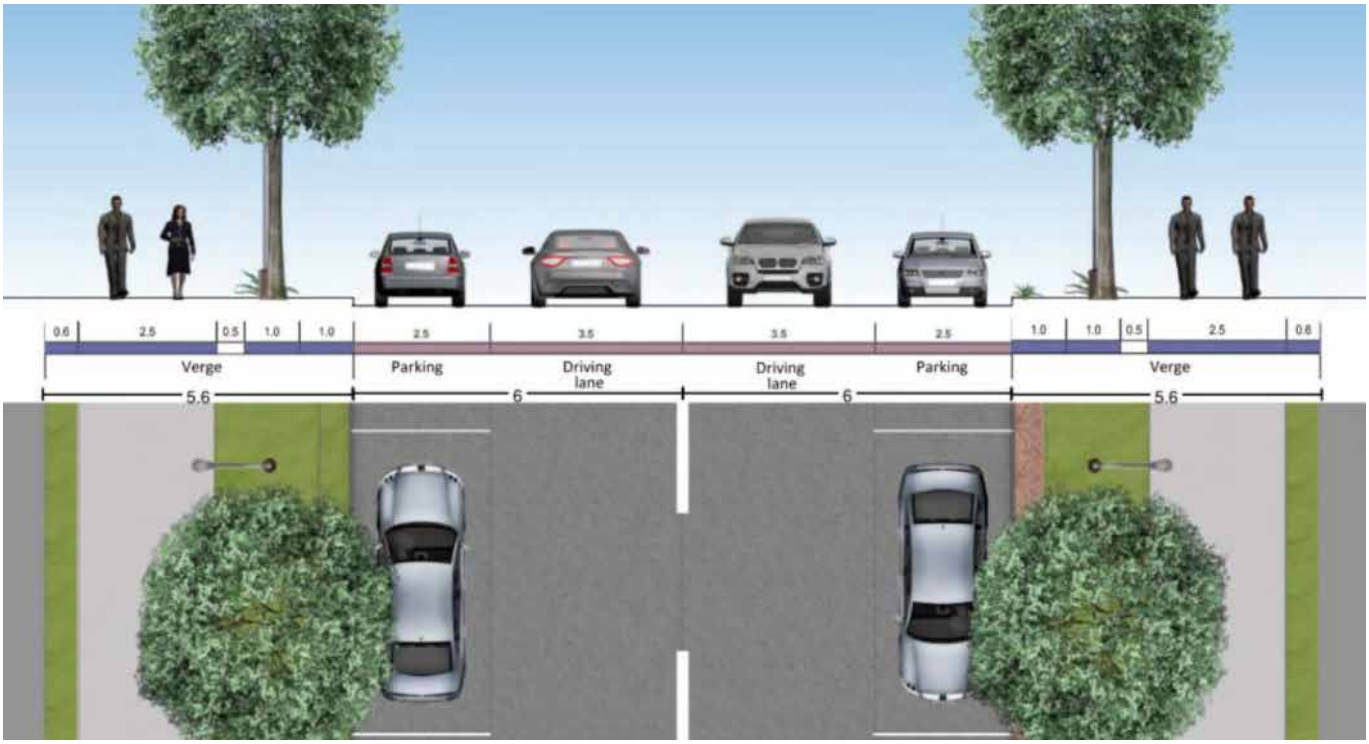
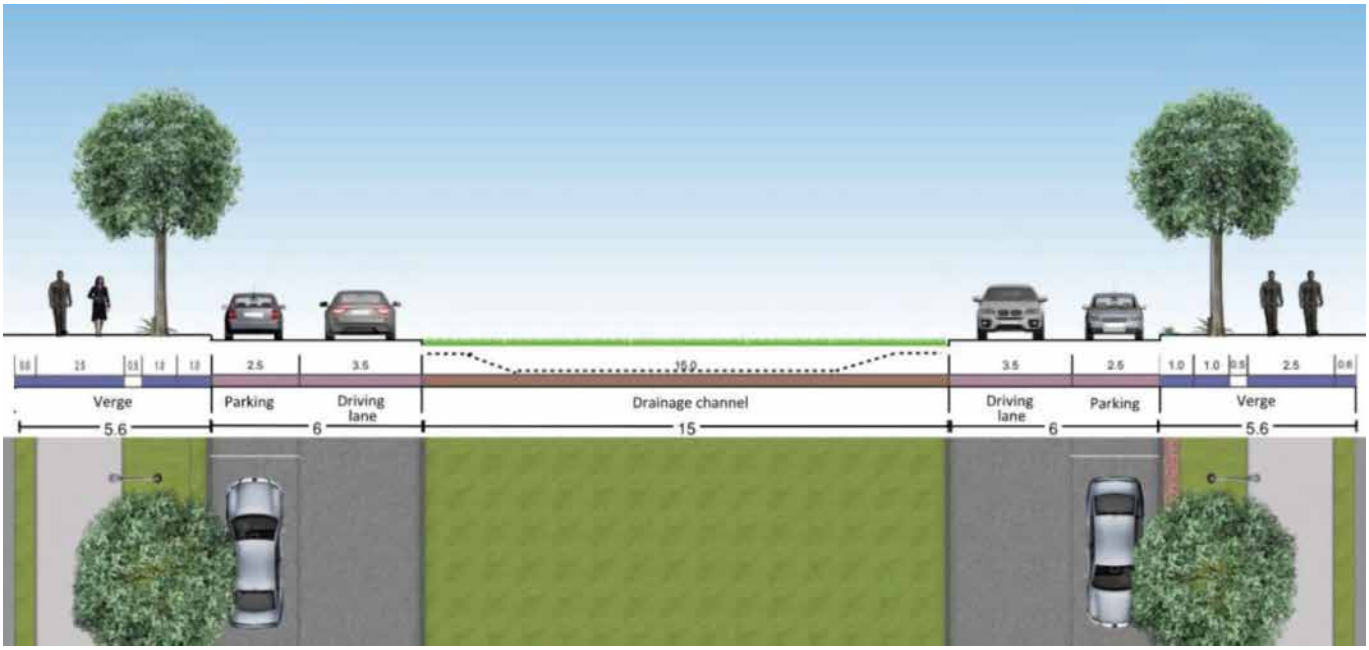


Figure 43: Local Industrial Road with drainage swale typical cross section (38.2m)



7.3 Active transport

Aims

- To provide a cohesive walking and cycling network to support active transport and local amenity
- To provide easy connections for workers and visitors to Newcastle Airport and local centres such as Raymond Terrace, Medowie and Newcastle.
- To provide safe access for all users to the Precinct including active transport measures on higher-order roads that provide the gateway to the Precinct.
- To provide long-term public transport solutions to connect the Precinct to the broader Hunter Region.
- To support multi-modal connections with a focus on integrating active transport opportunities with the central environmental protection area, the health loop and other natural assets that provide amenity for the Precinct
- To develop a place-making and wayfinding strategy for the Precinct to enhance the visitor experience.

Performance criteria

A. Active transport linkages should be implemented to connect the three catchments.

B. Pedestrian and cycle connections should be provided in the general locations shown in Figure 38: Proposed road hierarchy and indicative road layout. These connections should be provided as early as possible in the development of each stage of the Precinct.

Consideration for future stages of development

- A street plan is to be developed as part of the Delivery Plan. An active transport plan is to be developed as part of the Delivery Plan and should include:
  - Active transport routes and shared user path widths,
  - Pedestrian lighting requirements,
  - Locations and frequency of supporting facilities including rest stops, bike storage and drinking water fountains,
  - Locations and detail of pedestrian road crossing treatments; and
  - Requirements for end of trip facilities.

Node at Astra Aerolab.
Credit: Greater Newcastle Aerotropolis Pty Limited.

7.4 Utilities, services and infrastructure

The utilities infrastructure requirements are a critical component to enabling the vision and objectives of the Precinct. The Precinct is generally well serviced by enabling utilities and services. Assuming initial development commences within the Northern Catchment, the initial stages of the development can be enabled through existing infrastructure. However, development in the Eastern and Western catchment areas will require augmentations to the existing utility networks to provide reticulated sewer and water, electricity, gas, telecommunications and solid waste disposal.

7.4.1 Water Supply

Reticulated water is supplied by Hunter Water through an existing network along Cabbage Tree Road and Nelson Bay Road to the Williamtown, Medowie and Port Stephens areas. The Hunter Water network is supplied from Grahamstown water treatment plant (WTP) at Tomago and can meet the predicted future demands of the Precinct without augmentation or additional raw water supply. The ultimate projected demand from the Precinct will likely require construction of 9km of transfer main from Grahamstown water pump station (WPS).

7.4.2 Wastewater

Reticulated sewer for the Precinct is serviced by Hunter Water's network via the Williamtown wastewater pumping station 1 (WWPS) transferring flows to Raymond Terrace wastewater treatment works (WWTW). The Precinct is proposed to be serviced by a pressure sewer system that discharges to WWPS1. The initial development of the eastern portion of the Northern Catchment is capable of being serviced by the existing system with an approved servicing strategy. The ultimate projected demand of the Northern Catchment may trigger an upgrade of Williamtown 1 WWPS and Tomago 1 WWPS. An upgrade of Tomago 1 WWPS may also trigger an upgrade of Raymond Terrace WWTW.

7.4.3 Electricity

Electricity is provided by Ausgrid's local 33 kV and 11 kV distribution network, primarily from Williamtown Substation. The Ausgrid network is supplied via 33 kV feeders from TransGrid's bulk electricity supply at Tomago sub transmission substation (STS). There is limited residual capacity at Williamtown for further development and Ausgrid has identified that a new 33 kV substation south of Cabbage Tree Road would be required to service the final stages of the projected ultimate demand of the Northern Catchment. It is understood that Ausgrid are currently planning for provision of a new substation south of Cabbage Tree Road and provision to service the projected precinct demand should be incorporated into Ausgrid's regional strategy. The ultimate projected demand for the Precinct is likely to exceed the residual capacity of Tomago STS and will trigger the upgrade of the Tomago STS and existing 33 kV feeders from Tomago to Williamtown.

7.4.4 Gas

Reticulated gas is supplied by Jemena's 1,050 kPa gas main along Nelson Bay Road and Medowie Road. The expected demand of the Precinct is within the capacity of Jemena's network and augmentations to the bulk gas supply to the area are not expected. The Precinct will be serviced through a connection to the existing high-pressure gas main near the intersection of Nelson Bay Road and Williamtown Drive. Required works to enable gas supply to the Precinct will include a distribution main and district regulator set (primarily for development in the Eastern and Western Precincts).

7.4.5 Telecommunications

Several telecommunication providers including NBN, Telstra and Optus currently service the area. The Precinct will be serviced by a rollout of a NBN fibre network or suitable provider as the development incrementally expands. The ultimate projected demand of the Precinct is likely to trigger an upgrade to one of the five existing mobile facilities or the installation of a new mobile facility will be required. The adoption of 'smart poles' throughout the Precinct's road network is a key opportunity to increase the digital connectivity and security of the area and build on the initial 'smart pole' network developed at the existing Astra Aerolab development.

7.4.6 Waste

Commercial waste production from the Williamtown area is currently serviced by private waste facilities in the region. Newline Road Waste Facility (NRWF) in Raymond Terrace is located 20 kilometres to the north-west of the Precinct. The facility is an EPA licensed facility that has the infrastructure in place to process organic waste, recycle and general waste. Individual developments within the Precinct will be required to engage in commercial agreements for waste management by private providers for the collection of waste within the Precinct.

Aims

- Ensure appropriate utilities and services are planned and delivered to meet future demand.
- Protect existing utility infrastructure, including the Tomago Sandbeds, which serves as the water supply for the Lower Hunter.
- Contribute to and supports a circular economy.
- Ensure utilities and services are undertaken in a manner that is safe, efficient, cost-effective and does not negatively impact on liveability and the environment.

Performance criteria

A. Utility services/infrastructure provisioning is to occur in a logical and staged manner, and in sequence with development.

B. Encourage innovative and sustainable utility and servicing across the precinct to promote effective and efficient delivery of services.

C. Encourage the use of smart infrastructure.

D. Ensure utilities designs and locations consider space for alternative future services.

E. Design and provide utility infrastructure to integrate with, and not negatively impact, use of the public realm, liveability, and the environment.

F. Ensure that development will adequately deal with potential risks to the integrity any gas pipeline or electricity transmission and distribution networks within the Precinct.

Consideration for future stages of development

- Develop an Infrastructure servicing and staging strategy detailing servicing horizons and triggers
- As part of the delivery phase undertake consultation with the following providers:
  - Water and Wastewater
    - Consult with Hunter Water to undertake system modelling and performance assessment to confirm infrastructure requirements.
  - Electricity
    - Consult with Ausgrid to assess residual capacity of the existing system, confirm preferred approach for servicing, incorporate Precinct into the regional plan and confirm contributions and funding agreements for upfront infrastructure upgrades.
    - Consult with TransGrid to confirm the residual capacity of the bulk supply network at Tomago and planned upgrades or reconfigurations of the network and further assessment of microgrid installation.
  - Gas
    - Consult with Jemena to incorporate the Precinct into the regional plan and initiate the non-contestable design process and model dispersion radius to determine the hazardous area classification.
  - Telecommunications
    - Consult with NBN or suitable provider to undertake Feasibility Assessment and confirm backhaul requirements and telecommunication providers to confirm mobile upgrade options.
  - Waste
    - Consult with Newline Road Waste Facility (NRWF) to determine capacity to handle future developments waste production and Port Stephens Council waste management team.
- Referral of development by the Corporation, on land within the measurement length of a relevant pipeline for consideration prior to the issue of an Activation Precinct Certificate.

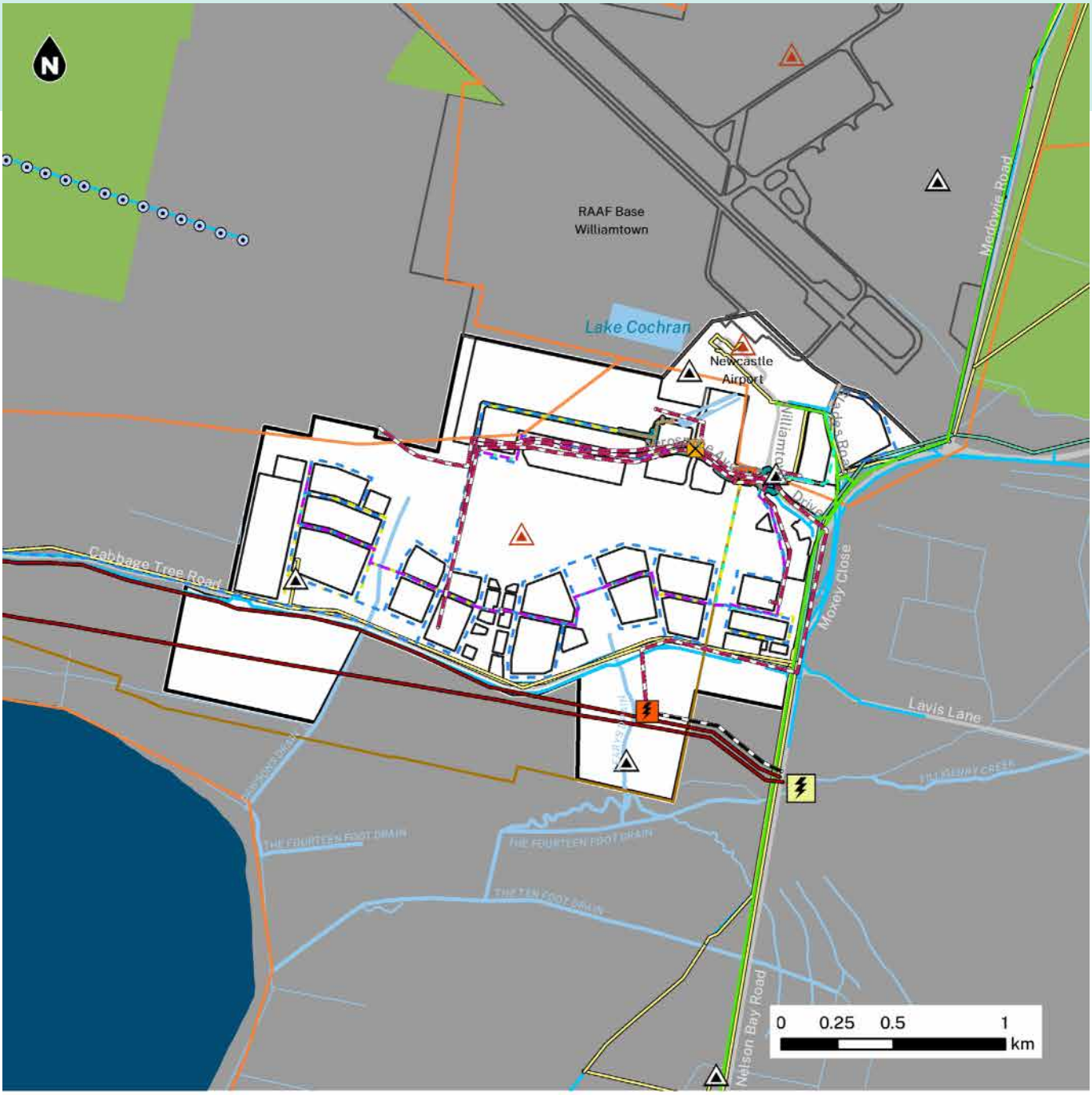


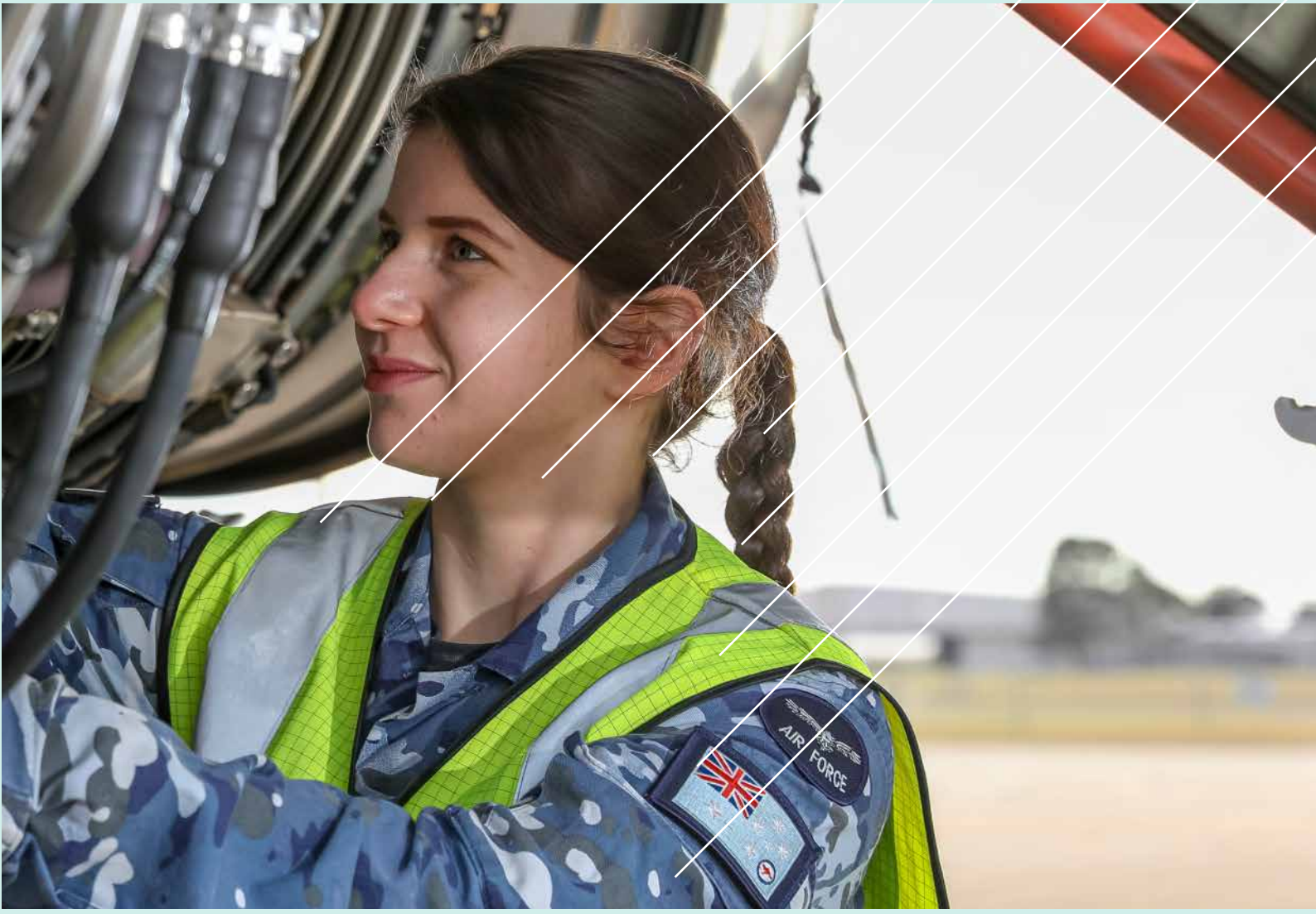
Figure 44: Water, sewer, gas, electrical and drainage infrastructure

- Williamtown SAP Boundary
- Waterway
- Roads
- Hunter Wetlands National Park
- Tilligery State Conservation Area
- Waterbody
- RAAF Base Williamtown and Newcastle Airport
- Runway and Taxiways
- Developable Block
- Hunter Water Bore Pump
- Existing Water Mains
- Existing Sewer Pump Station
- Existing Sewer Mains
- Existing Jemena Pipeline (Gas) - Main and Secondary Networks
- Exisiting Substation Locations
- Existing 33kV feeders
- Existing Telecommunication Sites - Fixed Wireless and Mobile
- Existing comms service line
- Existing Fibre
- Existing Copper
- NBN Coverage Fixed Line and Wireless
- Proposed Water Main
- Proposed Sewer Main
- Proposed Gas Network Main Extension (MP) - 210 kPA MOP
- Proposed Telecommunication Sites
- Proposed comms service line
- Proposed 11kV switchroom
- Proposed zone substation
- Proposed 33kV feeder
- Proposed Electricity 11kV Feeder

Note: for specific utilities infrastructure and servicing arrangements refer to the Utilities Infrastructure Report (Appendix 8)

8

Appendices



An aircraft technician conducting pre-flight checks on an aircraft at RAAF Base Williamtown. Credit: Department of Defence.

Supporting documents

A. Structure Plan
B. Aboriginal Cultural Heritage
C. Aeronautical Limitations and Bird Strike
D. Air Quality and Odour
E. Biodiversity
F. Bushfire
G. Climate Change Adaption
H. Contamination (PFAS and Non-PFAS)
I. Economics
J. Flooding and Water Cycle Management
K. Geotechnical
L. Historic Heritage
M. Hydrogeology
N. Land Use Safety
O. Noise
P. Renewable Energy
Q. Social Infrastructure
R. Statutory planning
S. Sustainability
T. Traffic and Transport
U. Utilities and Infrastructure

References

1 RAAF Base Williamtown | Royal Australian Air Force. <https://www.airforce.gov.au/about-us/bases/new-south-wales/raaf-base-williamtown>

9

Have your say

The Williamtown Master Plan process relied on the following technical studies to understand the environmental impact of development scenarios, and test the rigour and risk of upfront strategic environmental and planning assessment

The Department of Planning and Environment welcomes your feedback during public exhibition of the Williamtown Special Activation Precinct Discussion Paper for the *State Environmental Planning Policy* (Precincts — Regional) *2021* (Precincts–Regional SEPP) *and State Environmental Planning Policy* (Planning Systems) 2021 (Planning Systems SEPP) amendment and draft *Williamtown Special Activation Precinct Master Plan.*

Your feedback will help us better understand the views of the community, which will inform the finalisation of the Precincts–Regional SEPP and Planning Systems SEPP amendment and the Williamtown Special Activation Precinct Master Plan. The Department will publish all individual submissions and an assessment report on the submissions after the exhibition period has ended.

To make a submission online, please follow the steps below:

1. View the Discussion Paper, Williamtown Special Activation Precinct draft Master Plan and supporting documents at www.planning.nsw.gov.au/Plans-for-your-area/Special-Activation-Precincts/Williamtown-Special-Activation-Precinct
2. Read our Privacy Statement and decide whether to include your personal information in your submission.
3. Fill in the online submission form. Your submission can either be typed or uploaded as a PDF and should include:
    i. The name of the proposal (Precincts–Regional SEPP, Planning Systems SEPP Williamtown Special Activation Precinct Master Plan or a combination)
    ii. a brief statement on whether you support or object to the proposal.
    iii. the reasons why you support or object to the proposal.
4. Ensure you disclose reportable political donations. Anyone lodging submissions must declare reportable political donations (including donations of $1,000 or more) made in the previous two years.
5. Agree to our online statement and lodge your submission.

You may also lodge your submission via post by sending it to:

Executive Director
Key Sites and Regional Assessments
Department of Planning and Environment
Locked Bag 5022,
Parramatta NSW 2124

All submissions will be made public in line with our objective to promote an open and transparent planning system. If you do not want your personal details published, please state this clearly at the top of your submission.

To find out more, please visit:

planning.nsw.gov.au
Plans-for-your-area/Special-Activation-Precincts

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