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## 1 INTRODUCTION

The purpose of this Area Plan is to guide the development of the Cockle Creek Precinct. The Cockle Creek Precinct is located in the North West Lake Macquarie Catalyst Area at the northern end of Lake Macquarie between Cockle Creek and Munibung Hill. The site was formerly the Pasmenco Cockle Creek Smelter and the Incitec Pivot Fertilizer site.

### 1.1 EXTENT OF AREA PLAN

This Area Plan applies to land shown in Figure 1.



Figure 1 - Extent of Area Plan

### 1.2 DESIRED FUTURE CHARACTER

The desired future for the Cockle Creek Precinct is to establish an iconic City landmark that will generate excitement, attract visitors, residents, workers and customers from outside of the City, create employment opportunities, contribute to the economic diversification and development of the City and promote Lake Macquarie's leading role in the region and state.

### **Objectives**

- Provide a diversity of employment opportunities within commercial and employment precincts such as retail tourism, innovative and knowledge-based industries
- Create people-oriented places, that are inviting, entertaining, safe, convenient and integrated with movement networks
- Support a diverse range of low to medium density housing close to public transport and services
- Develop a safe, convenient and comfortable road, pedestrian and cycle network that connects to Munibung Hill, Cockle Creek Station, Argenton and Boolaroo
- Consider long term opportunities for a road link across Cockle Creek to future development areas on the western edge of the North West Catalyst Area
- Maintain scenic views and enhance landscape features, surrounding ridgelines, Munibung Hill and landscape features to the west
- Respect the cultural value of Munibung Hill to the Awabakal people, while recognising the history of the industrial activity of the area
- Integrate future development into the existing urban and natural environment
- Complement the role of the Boolaroo Local Centre
- Identify areas for future investigation to provide flexibility to achieve the desired future vision and character for the Cockle Creek Precinct.

### **Urban Structure Map**

An urban structure and movement network map outlining the desired future character is presented in Figure 2.

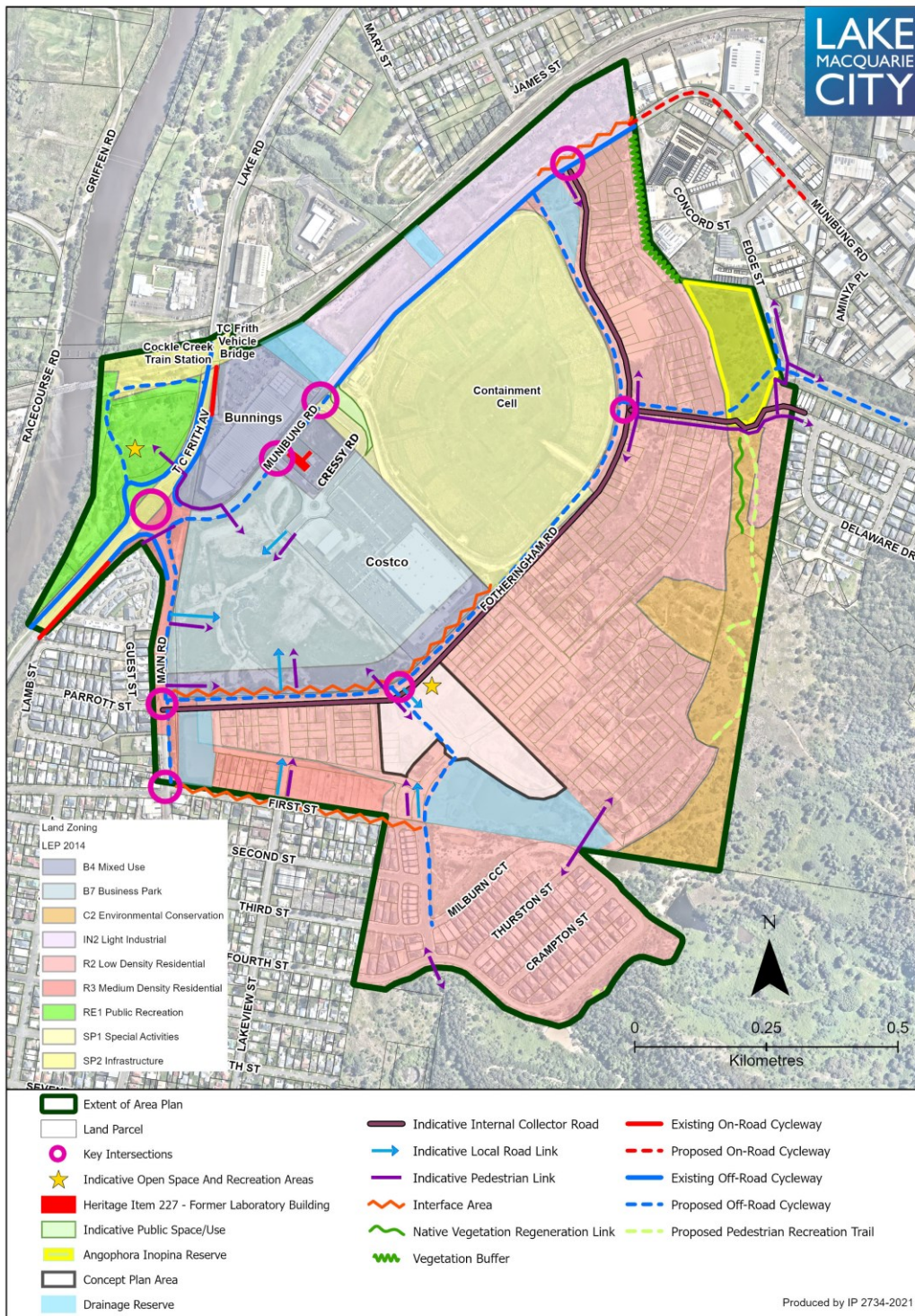


Figure 2 - Urban Structure and Movement Network Map

### 1.3 HISTORY AND EXISTING CHARACTER

The Cockle Creek Precinct is within the traditional country of the Awabakal people, where both Cockle Creek and Munibung Hill are culturally important landscapes. Munibung Hill also has high scenic values due to the topography variation between 1.5m to 160m above sea level and includes low-lying land adjacent to Cockle Creek and ridgelines associated with Munibung Hill. European agricultural settlement began in the 1830-40s with industrial activities occurring in the 1890s establishing the Pasmaenco Cockle Creek lead smelter and Incitec fertiliser production site. These industrial activities ceased between 2003 and 2009, with the industrial sites being cleared and remediated for commercial, industrial and residential development.

Development activity is occurring throughout the Cockle Creek Precinct. Commercial development such as the Costco and Bunnings sites are located to the west. Weemala at the Lake provides for infill residential development to the east. A portion of commercial and industrial land remains currently undeveloped to the west and north-west and will complement and enhance employment generation for the Precinct. The north-east of the Precinct includes remnant native vegetation with significant biodiversity values.

The area is served by the Cockle Creek railway station to the north-west. Cockle Creek railway station is a short platform station located on the main Sydney Hunter line with approximate services times to Sydney Central being 2hrs 30minutes and Newcastle Interchange 22min. Bus services also provide access to the Precinct and surrounding suburbs. Main Road, T.C. Frith Avenue and Munibung Road provide primary road vehicle and service access to the west and north of the Precinct. Fotheringham Road (to be constructed) will provide a mixture of residential and visitor vehicle, cycle and pedestrian access to the centre of the Precinct. First Street provides local road vehicle access to the east of the Precinct.

The regional off-road shared pathway from Speers Point to Newcastle provides pedestrian and cycleway linkage along the west of T.C. Frith Avenue and provides pedestrian connection along the west of Main Road towards Boolaroo. This cycleway link also provides access to a shared pathway on the east of Munibung Road allowing access to the Cardiff Advanced Industry Precinct. Pedestrian access from Main Road, T.C. Frith Avenue and Munibung Hill is difficult due to high traffic volumes.

### 1.4 ENVIRONMENTAL CONSIDERATIONS

#### Land Contamination

The Pasmaenco Cockle Creek Smelter site and Incitec Pivot Fertilizer site were declared 'remediation sites' under the Contaminated Land Management Act 1997. The declaration has been lifted over much of the site based on the remediation that has occurred. Remediation included excavation of contaminated material and placement into the containment cell (hazardous waste storage facility) located on the Pasmaenco site. The containment cell stores the contaminated material indefinitely and requires long-term management and maintenance. Bushland and cleared areas (*Angophora inopina* Reserve and Munibung Hill) are not completely remediated as this would require removal of threatened vegetation, so therefore these areas also require long-term management and maintenance. Restrictions on the use of ground water also apply in parts of the site.

The Lake Macquarie Smelter Site (Perpetual Care of Land Act 2019) transferred ownership of the Pasmaenco Cockle Creek Smelter site and Incitec Pivot Fertilizer site to the NSW Government. Remediated sites are to be divested in order to fund the perpetual management of the containment cell, *Angophora inopina* Reserve and parts of Munibung Hill. Implementation of long-term management plans for the containment cell, *Angophora inopina* Reserve and Munibung Hill are necessary to ensure that these areas do not re-contaminate surrounding lands.

Note: Proposed development on contaminated or potentially contaminated sites need to take into consideration the requirements of Council's Policy for Managing Contaminated or Potentially Contaminated Land within the City of Lake Macquarie and the requirements of State Environmental Planning Policy (Resilience and Hazards) 2021. Information about sites within the Council Database is available from enquiries to the Council Administration Office in Main Road, Speers Point or from applying for a section 10.7 Planning Certificate for the land in question.

- Council will not accept ownership or management responsibility for the containment cell, or any land that is contaminated, including roads or stormwater infrastructure. Council will not consider accepting

ownership or management responsibility of the *Angophora inopina* Reserve or Munibung Hill unless management plans have been prepared and implemented to the satisfaction of Council.

### **Urban Heat**

In the summary paper *Lake Macquarie City Council Urban Heat Strategy Summary Report* (August 2020) Boolaroo is identified as a suburb with a higher risk of vulnerability to heat. The report recommends considering green cover and vegetation as well as a selection of building materials to mitigate heat impacts on new/future development and communities in the area.

Developing appropriate tree canopy is a preferred method of addressing long term amenity and infrastructure impacts associated with urban heat. Tree canopy will support resilient urban development and communities as well as the character and quality of the urban environment.

This area plan encourages future developers to consider the following documents as a guide to developing greener and cooler places:

- New South Wales Government Architect Greener Places – An urban green infrastructure design framework
- Urban Heat Planning Toolkit 2020-2021
- Turn Down the Heat Strategy and Action Plan (2018) (WSROC)
- City of Sydney Urban Forest Strategy

## 2 COCKLE CREEK SUB PRECINCT OBJECTIVES AND CONTROLS

Additional objectives and development controls apply to Cockle Creek Sub-Precincts 1 to 4 shown in Figure 3, and provide guidance to ensure the desired character and role of each is achieved.

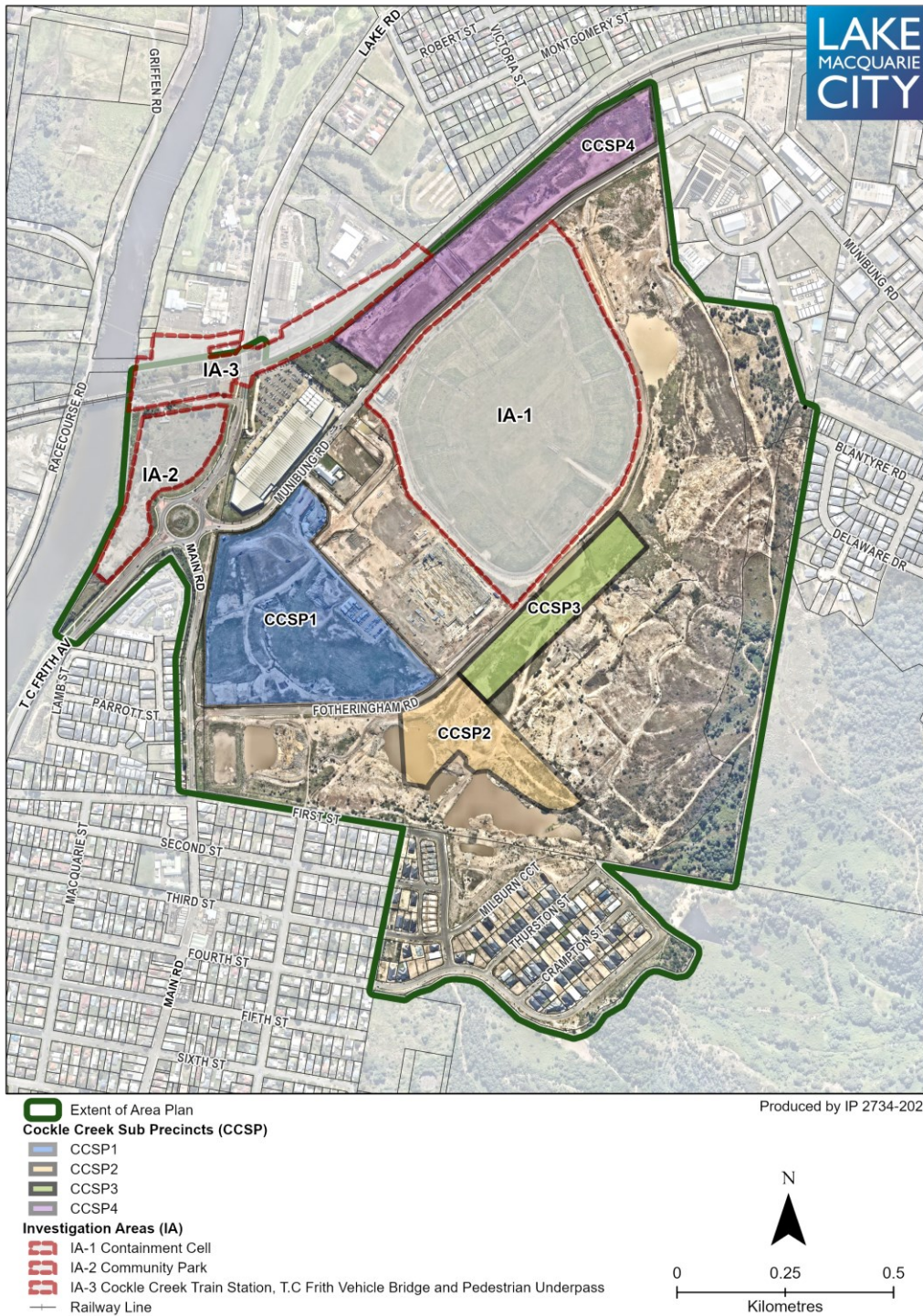


Figure 3 - Cockle Creek Sub Precinct and Investigation Areas Map

### 2.1 COCKLE CREEK SUB PRECINCT 1 (CCSP1)

CCSP1 is envisioned to be a City landmark. This will be achieved by its prominent location within the precinct, offering significant diversity of employment opportunities and attracting local and regional visitors and residents. Its function is supported by efficient and multimodal transport networks, while high quality unique urban design creates vibrant and engaging public and private spaces that are people-oriented. Council would consider proposals to amend the Lake Macquarie Local Environmental Plan 2014 or its successor that facilitate achievement of the CCSP1 vision. This may include proposals to amend land use zones and/or maximum building heights in the precinct.

### **Objectives**

- a. To encourage diverse land uses that support the regional significance of the North West Lake Macquarie Catalyst Area, such as retail tourism, events, innovation, and knowledge-based industries.
- b. To create high quality people oriented public and private spaces with road, pedestrian and cycle networks that connect key locations.
- c. To ensure building height and scale complements the unique character of the site, the surrounding urban landscape and the CCSP1 vision.
- d. To ensure high quality and unique building design and landscaping enhances the area as a City landmark.
- e. To attract and generate uses that provide excitement, for residents, visitors, workers and customers day and night.

### **Controls**

1. Development must demonstrate how it supports some or all of the envisaged land uses for the sub precinct, such as retail tourism, events, innovation and knowledge based industries and regional character.
2. Development provides pedestrian and cycleway connections as indicatively shown on the urban structure map in Figure 2.
3. Open space should be provided as part of development of CCSP1 that is engaging and vibrant. The type, size and location of open space should complement the character of the precinct and have potential to facilitate events/activities.
4. Development located close to or adjacent to active open space areas should be designed to enhance and facilitate vibrant and engaging spaces
5. Development addressing a public road must:
  - i. be designed with clear entries that provide active frontages and comfort for pedestrians e.g. awnings, landscaping and tree planting.
  - ii. provide appropriate landscaping to limit adverse impacts on amenity to adjacent residential areas.
  - iii. establish appropriate building height and design that complements adjacent residential development.
  - iv. have shared vehicle access points.
6. Development requiring ongoing delivery, freight and logistics services must provide a Traffic Impact Statement that clearly identifies:
  - i travel routes on internal road network.
  - ii location of loading docks.

## **2.2 COCKLE CREEK SUB-PRECINCT 2 (CCSP2)**

CCSP2 is covered by an approved residential subdivision proposal that identifies super lots to establish additional development opportunities. It is envisioned that development will provide denser residential outcomes and establish a neighbourhood core to foster place making, neighbourhood services and residential identity. Council would consider proposals to amend the Lake Macquarie Local Environmental Plan 2014 or its successor that facilitate achievement of the CCSP2 vision. This may include proposals to amend land use zones and/or maximum building heights in the precinct.



### **Objectives**

- a. To establish a core neighbourhood centre that supports the Cockle Creek residential area and complements the role of the Boolaroo Local Centre.
- b. To increase residential density close to public transport.
- c. To establish a coordinated, convenient and comfortable pedestrian network that links potential future recreation trails on Munibung Hill, public transport facilities and open space areas.
- d. To ensure high quality and unique building design enhances the area as a city landmark.

### **Controls**

1. Submission of a concept plan that considers:
  - i residential flat buildings with frontages that activate and provide comfort for pedestrian and public spaces e.g. awnings, landscaping and tree planting.
  - ii balconies and stepped building setbacks that support passive surveillance and appropriate human scale.
  - iii key scenic views to the south west, Munibung Hill and surrounding ridgelines.
  - iv landscaping and tree planting that establishes mature tree canopy cover and contributes to urban character (refer to page 9 urban heat).
  - v pedestrian links that connect open space, recreation areas and key public transport locations.
  - vi the relationship of stormwater basins with development and open space areas.
2. Development provides basement and/or above ground level car parking, and must consider the following requirements:
  - i. basement parking should be provided on all sites that have sufficient area for access and circulation at a basement level.
  - ii. basement parking facilities to comply to previous remediation plans and ongoing associated works.
  - iii. car parks above ground level must be screened from the street with landscape planting or with high quality façade screening that allows natural lighting and ventilation.

**Note:** Ground level 'at grade' car parking is discouraged.

## **2.3 COCKLE CREEK SUB PRECINCT 3 (CCSP3)**

### **Objectives**

- a. To encourage residential density and diversity that is consistent with urban infill development close to public transport and Local Centres.
- b. To establish a safe, convenient and comfortable pedestrian and cycling network that connects public transport and open space areas.
- c. To consider acoustic and scenic impacts associated with surrounding development and use of Fotheringham Road.

### **Controls**

1. Development is to provide for a mixture of residential densities adhering to the *Low-Rise Housing Diversity Design Guide of the State Environmental Planning Policy Exempt and Complying Development Codes 2008*.
2. Development addressing Fotheringham Road must:
  - i minimise driveways crossing pedestrian paths.
  - ii consider passive surveillance of pedestrian areas.
  - iii utilise building materials and landscaping to reduce visual and acoustic impacts of adjacent development.

## **2.4 COCKLE CREEK SUB PRECINCT 4 (CCSP4)**

### **Objectives**

- a. To ensure development on employment land zoned E4 General Industrial does not result in unacceptable amenity impacts on surrounding residential areas.
- b. To ensure development on employment lands is of high-quality architectural design that contributes positively to the streetscape amenity.
- c. To ensure development achieves acceptable levels of amenity in relation to road and rail noise and vibration.

### ***Controls***

1. Any development within the E4 General Industrial zone adjacent to residential areas must comply with the following requirements:
  - i. development be designed to not have an unacceptable adverse impact on the amenity of surrounding residential areas relating to scenic views, noise, vibration, air / odour pollution, traffic generation and/or hours of operation.
  - ii. development applications must be accompanied by an acoustic and vibration study establishing that noise criteria for residential amenity and intrusive industrial noise specified in the NSW Industrial Noise Policy (INP) will be achieved at the boundary of the nearest residential property.
  - iii. development should be designed and sited to minimise the noise impact on nearby sensitive receivers.
2. Development within the E4 General Industrial zone must consider the following design outcomes:
  - i. development located at the northern interface area to incorporate landscaping that mitigates potential conflict with adjacent residential development
  - ii. development located south of the interface area to incorporate landscaping that supports activation of Munibung Road.
  - iii. be of a high architectural standard. In particular, ancillary uses (such as offices or showrooms) are to use high quality materials.

### 3 CONTAMINATION

#### 3.1 CONTAMINATED LAND

##### **Objectives**

- a. To ensure land surrounding the containment cell is not impacted by the migration of contamination from the containment cell, the *Angophora inopina* Reserve or Munibung Hill and is suitable for development in accordance with s4.15 of the *EP&A Act 1979*.

##### **Controls**

1. Development on land surrounding the containment cell, *Angophora inopina* Reserve and Munibung Hill must be consistent with relevant Environmental Management Plans and site auditor statements.
2. Future development and ongoing management of the containment cell, *Angophora inopina* Reserve and Munibung Hill must be consistent with relevant Environmental Management Plans and site auditor statements.

**Note:** Relevant Environmental Management Plans include:

- Lot 610 *Munibung Hill Environmental Management Protocol Pasmenco Cockle Creek Smelter, Boolaroo February 2014*
- Lot 1004 *Site Audit Statement no. GN416-24* (contains analysis of: *Lot 1004 Munibung Hill, Environmental Management Protocol, Pasmenco Cockle Creek Smelter, Boolaroo, June 2017 RCA*)
- *Angophora inopina Reserve Site Audit Report Angophora Reserve Pasmenco Cockle Creek (November 2011)*. Audit Number: GN 416-3B. (contains analysis of: *Revised Management Plan for Angophora inopina Reserve at the Former Pasmenco Cockle Creek Smelter Site, Boolaroo, December 2009*)
- *Lot 1002 Site Audit Report Lot 1002, Pasmenco Cockle Creek, Boolaroo, NSW 2017*. (contains analysis of: *Environmental Management Protocol, Lot 1002, Former Pasmenco Cockle Creek Smelter, Boolaroo, 26 June 2017, RCA*)
- *Containment Cell Site Audit Statement no. FR 049R* (contains analysis of: *Pasmenco Cockle Creek Smelter Site, Boolaroo, NSW Containment Cell Environmental Management Plan, April 2019, Golder*).

**Note:** Copies of these plans are available on request from Council.

#### 3.2 CONTAINMENT CELL

##### **Objectives**

- a. To provide passive surveillance of the containment cell.
- b. To ensure the Containment Cell operates in accordance with relevant management plans and site audit statements.
- c. To ensure development surrounding the Containment Cell is consistent with relevant management plans and site audit statements.

##### **Controls**

1. Roads around the containment cell are in accordance with the urban structure plan in Figure 2.
2. Buildings adjacent to the Containment Cell must be oriented and designed to provide passive surveillance of the containment cell.
3. Development surrounding the Containment Cell must adhere to relevant management plans and site audit statements.

### 3.3 ANGOPHORA INOPINA RESERVE AND MUNIBUNG HILL RESERVE

#### **Objectives**

- a. To ensure biodiversity values are protected and enhanced.
- b. To enhance the existing landscape and scenic qualities of Environmental Reserves including the *Angophora inopina* Reserve, Munibung Hill and ridgelines.
- c. To ensure residential development is separated from land with bushfire risk, land contamination and biodiversity values.

#### **Controls**

1. Management plans for the *Angophora inopina* Reserve, Munibung Hill and the land zoned C2 Environmental Conservation that connects Munibung Hill to the *Angophora inopina* Reserve (currently Lot 4001 DP 1282290), must address the following matters:
  - i. the rehabilitation and ongoing management of native vegetation areas.
  - ii. bushfire control, fire trails, weed and feral animal management measures.

**Note:** The location of fire trails should utilise the alignment of existing trails where possible, and connect to the local road network to enable emergency vehicle access.

- iii. the management and stabilisation of any contaminated soil to prevent public contact and contaminated soil leaving the site including in the event of fire or in stormwater runoff.
- iv. stormwater treatment to ensure contaminated material does not leave the site and contaminate off-site stormwater infrastructure and residential areas.

**Note:** Sub controls iii and iv do not apply to the land zoned C2 Environmental Conservation that connects Munibung Hill to the *Angophora inopina* Reserve (currently Lot 4001 DP 1282290).

- v. the identification of areas suitable for public access and passive recreation e.g. walking trails.
- vi. proposed buffers, edge treatments and management measures to reduce ongoing impacts and management costs at the interface between the reserves, and urban areas.
- vii. rehabilitation of the native vegetation corridor between the *Angophora inopina* Reserve and Munibung Hill should be 50m wide and as indicated in Figure 2.
- viii. a road must separate residential development from the *Angophora inopina* Reserve and Munibung Hill.
- ix. the road must be located on a separate road reserve in public ownership.

## 4 RIPARIAN CORRIDORS AND DETENTION BASINS

### Objectives

- a. To ensure riparian and detention basins have adequate separation from residential areas.
- b. To facilitate improved amenity and passive surveillance outcomes.

### Controls

1. Residential development must be separated from riparian linkages and detention basins by a local road as shown in Figure 4.
2. Residential buildings must be designed with windows of habitable rooms overlooking riparian linkages and detention basins as shown in Figure 4.
3. Residential lots must not be designed with rear boundaries and fences adjoining riparian linkages and detention basins.
4. Riparian linkages and detention basins should be landscaped and provide opportunities for passive recreation and vehicle access for ease of maintenance.

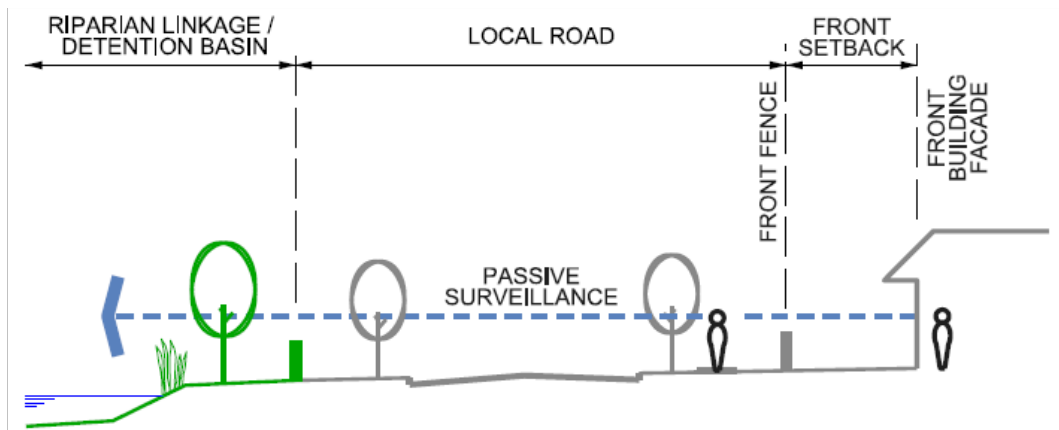


Figure 4 - Indicative residential development interface with riparian linkages and detention basins

### 5 SITE ACCESS, MOBILITY AND CONNECTIVITY WITH ADJOINING AREAS

#### **Objectives**

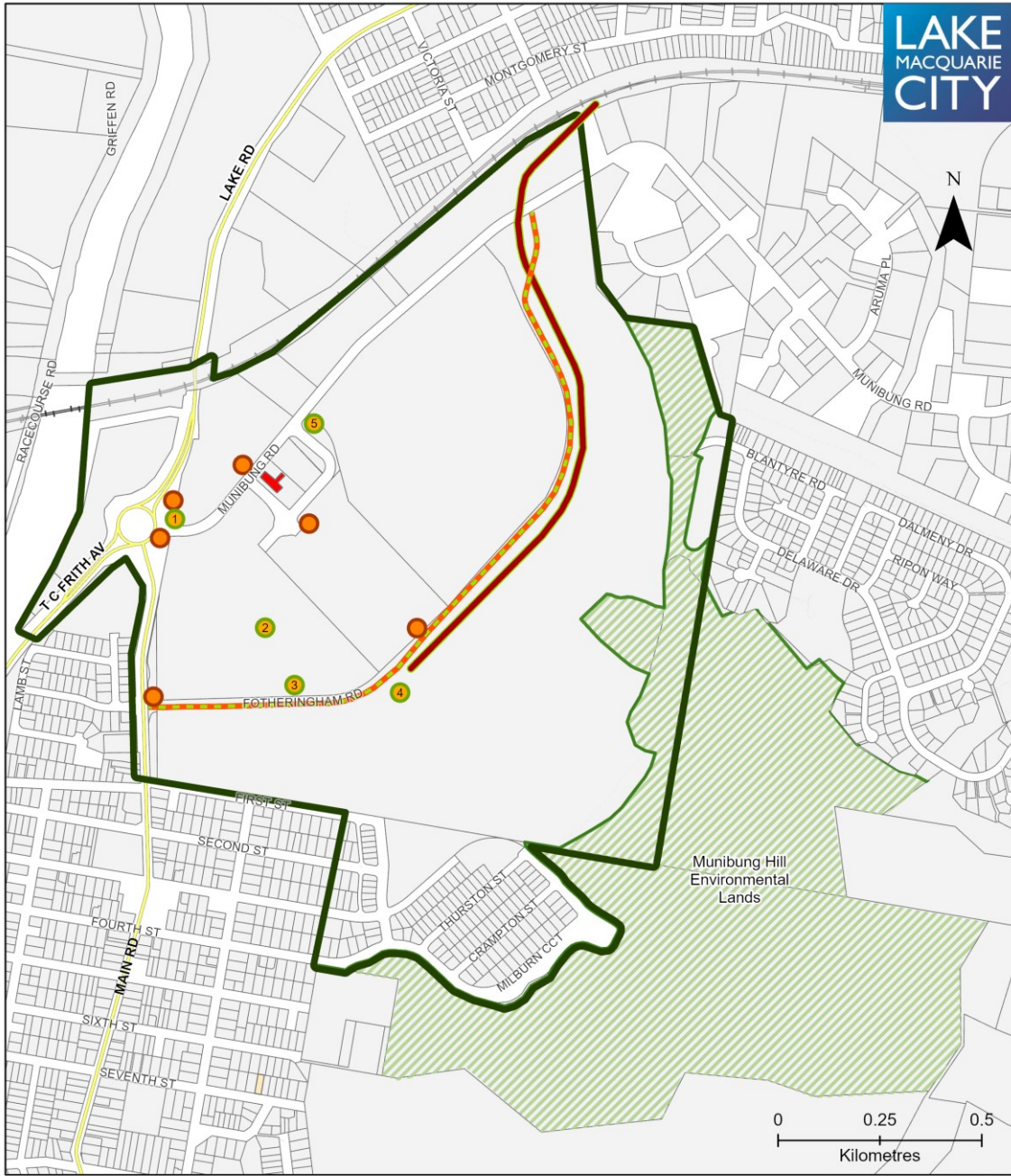
- a. To create a transport network that provides access, mobility and connectivity within the site and to adjoining areas with regard to vehicles, pedestrians and bicycles.
- b. To promote development that integrates with the existing subdivision pattern of Boolaroo, the Cardiff Industrial area and Munibung Hill.
- c. To encourage safe and effective pedestrian and cycle networks that are connected to key transport nodes, open space areas and iconic locations.

#### **Controls**

1. Road links and cycleways should be provided in accordance with Figure 2.
  
2. Primary road linkages must be designed in accordance with the following requirements:
  - i. Collector roads and local roads
  - ii. Other internal roads that cater to buses must be consistent with and compliment the surrounding bus network
  - iii. any future upgrade to the intersection between Munibung Road, Main Road and T.C. Frith Avenue must be designed to accommodate safe vehicular, pedestrian and cycle movements.
3. Development of Lot 1002 DP 1270101 is to provide outcomes that:
  - i. activate the street frontage to Main Road including landscaping consistent with the relevant Site Audit Statement and Plan of Management.
  - ii. provide pedestrian and cycle infrastructure consistent with figure 2 Urban Structure and Movement Network Map.
4. The local road network in residential areas must be designed to achieve:
  - i. a subdivision pattern consistent with the existing grid subdivision pattern of Boolaroo residential lots and with good solar access.
  - ii. connections with existing local roads to Council's satisfaction.
  - iii. a low speed environment (e.g. 30 km/h or 40 km/h design speed where appropriate). and
  - iv. a walkable and permeable street network avoiding long street blocks.
5. Pedestrian links and cycleways must improve connections from Munibung Hill to Cockle Creek Station. This includes integrating the shared path network with Cockle Creek Station, regional Speers Point to Newcastle bicycle network, Main Road, T.C. Frith Avenue, Munibung Road and Fotheringham Road as shown in Figure 2. A safe pedestrian / cyclist crossing must be provided across T.C. Firth Avenue at a location and type to be determined by Transport for NSW.
6. The implications of the proposed road network on the efficiency and safety of traffic movement in Boolaroo must be investigated and mitigation measures must be included in any development application that proposes changes to the existing road network.

**Note:** To limit adverse impacts on the existing local road network, traffic management measures may be required to limit traffic volumes entering existing local roads during peak periods. The *Cockle Creek and Boolaroo Traffic Study (2023)* recommends a range of traffic management measures to assist in developing local road planning outcomes over the Cockle Creek site. This document can be made available on request.

**6 HERITAGE CONSERVATION AND INTERPRETATION**



Produced by IP 2734-2021

- |  |  |
|--|--|
| Existing Heritage Interpretation and Public Art    | Indicative Locations for Future Heritage Interpretations and Public Art  |
| Existing Heritage Interpretation and Public Art    |  |
| Heritage - Indicative Location of Former Rail Spur |  |
| Heritage Item 227 - Former Laboratory Building     |  |
| Munibung Hill Environmental Lands                  |  |
| Extent of Area Plan                                |  |
| Railway Line                                       |  |
|  | <ol style="list-style-type: none"> <li>1. Public Art</li> <li>2. Interpretation of Previous Sulphide Corporation Structures</li> <li>3. Pasmenco Interpretation Along Shared Pathway</li> <li>4. Urban Park – Themed Public Art</li> <li>5. Entry Statement Element</li> </ol> |

**Figure 5 - Heritage and public art interpretation map**

### **Objectives**

- a. To acknowledge the cultural value of Boolaroo and Munibung Hill to the Awabakal people.
- b. To conserve, interpret and incorporate industrial heritage as part of future development.
- c. To encourage development that respects the history of the site's development and former industrial use.
- d. To retain and adaptively reuse the Old Laboratory Building as a landmark within the site.
- e. To integrate interpretative material with the emerging urban form.
- f. Create people-oriented places recognising the benefit of creative interpretation and its ability to create a sense of place, identity and connection.

### **Controls**

1. Prior to lodgement of a development application within the Munibung Hill Environmental Lands in Figure 5 provide documentation to Council's satisfaction that consultation has occurred with Aboriginal traditional owners and Biraban LALC, and any other relevant Aboriginal groups in relation to:
  - i. known Aboriginal sites and the significance of ridges and valleys in the Munibung Hill Environmental Lands, as to whether the ridges and valleys should be proclaimed as an Aboriginal Place under the National Parks and Wildlife Act 1974.
  - ii. designation of the valleys as archaeologically sensitive in terms of Aboriginal cultural heritage.

**Note:** consideration must be given to the following NSW Environment, Energy and Science guidelines:

OEH Guidelines for assessment and gazettal of Aboriginal Places (2008)  
 OEH Aboriginal Cultural Heritage consultation requirements for proponents (2010).

2. Any development within the Sensitive Aboriginal Landscape map in LMLEP 2014 must ensure the protection of any potential Aboriginal objects, and adhere to the provisions of Clause 7.7 of LMLEP 2014.
3. Development must be in accordance with the Heritage Interpretation Plan - Former Sulphide Corporation Assay Building, prepared by Graham Brooks and Associates Pty Ltd, November 2009; and the 'Heritage Interpretation Strategy - Former Pasminco Cockle Creek Smelter and Former Incitec Fertilizers Limited' by Carste Studio, 12 May 2015.

**Note:** Electronic versions are available on request from Council.

4. Heritage interpretation is required across the Cockle Creek Precinct. An indicative location of heritage interpretation devices is included in Figure 5.
5. Development applications must include heritage interpretation where identified, and the preference of elements be discussed with Council. These elements include:
  - i. a schedule of public artworks, creative interpretation and/or commemorative displays to be provided across the site.
  - ii. a list of Aboriginal names prepared in consultation with local Aboriginal stakeholders to be used in the naming of parks and reserves.
  - iii. a list of former long serving workers at the Pasminco Cockle Creek Smelter site and Incitec Pivot Fertilizer site to be used in the naming of local streets.

**Note:** The Heritage Interpretation Plan (2009) and Heritage Interpretation Strategy (2015), provide guidance for themes and content to consider, to achieve a consistent and meaningful approach across the site.



6. Development must ensure that:
  - i. the Old Laboratory building is retained in a prominent location in the site layout and with an appropriate curtilage.
  - ii. the alignment of the former Cockle Creek spur railway line is maintained over most of its length as part of the movement system of the site.
  - iii. the public domain includes salvaged items from either the Pasminco and Incitec sites or other similar sites within the LGA, in landscaping.

**Note:** Refer to Figures 2 & 5 for the location of the Old Laboratory building and former Cockle Creek spur railway line.

7. Development that includes public artworks, creative interpretation and/or commemorative displays and salvaged items must be accompanied by a schedule outlining the ongoing maintenance activities for the items, and the funding arrangements for lifecycle management of the items to the satisfaction of Council.
8. Development of the land associated with the Old Laboratory building must be accompanied by a Heritage Assessment and Statement of Heritage Impact, and must outline:
  - i. appropriate curtilage for the Old Laboratory Building site.
  - ii. appropriate setbacks and building heights for development adjacent to the Old Laboratory Building.
9. Development on Lot 601 DP 1228699 (146 Munibung Road, Boolaroo) may require:
  - i. Preparation of a Heritage Management document that:
    - a. Provides sufficient evidence to justify any potential impacts on heritage item 227 located on the adjoining Lot 600 DP 1228699
    - b. Provides evidence to support height, siting, design and landscaping that retains and enhances relevant and key heritage features
    - c. Identifies and maintains heritage curtilage and key views of and from heritage item 227
  - ii. Preparation of Heritage Management documents in accordance with Heritage NSW guidelines

## 7 PUBLIC DOMAIN, OPEN SPACE AND RECREATION

### **Objectives**

- a. To provide a diversity of open space and recreation infrastructure for future residents, workers and visitors.
- b. To ensure the location and landscaping of open space areas recognises and enhances the local character of the area.
- c. To establish a new local park that accommodates the needs of future residents
- d. To conveniently locate open space areas close to transport hubs, centres and shared movement network
- e. To facilitate and balance conservation and recreation outcomes on Munibung Hill.

### **Controls**

1. Landscaping adjacent to the *Angophora inopina* Reserve is to consist of native species grown from local seed
2. Open space and recreation areas must connect and provide wayfinding signage to shared pedestrian and cycle networks, key transport hubs and iconic locations.
3. A new local park must be established, appropriately located and developed to a size and shape that serves the needs of future residents in the Cockle Creek Precinct. The park should be provided to Council's satisfaction and standards.

**Note:** For containment cell landscaping requirements refer to Section 3.1.

**Note:** See additional information associated with open space and recreation infrastructure in sections 2.1 (CCSP1) and 9.2 (IA-2)

## 8 INTERFACE AREAS

Additional objectives and development controls apply to Interface Areas shown in Figure 2, and provide further guidance to ensure the desired character and flow of movement systems is achieved.

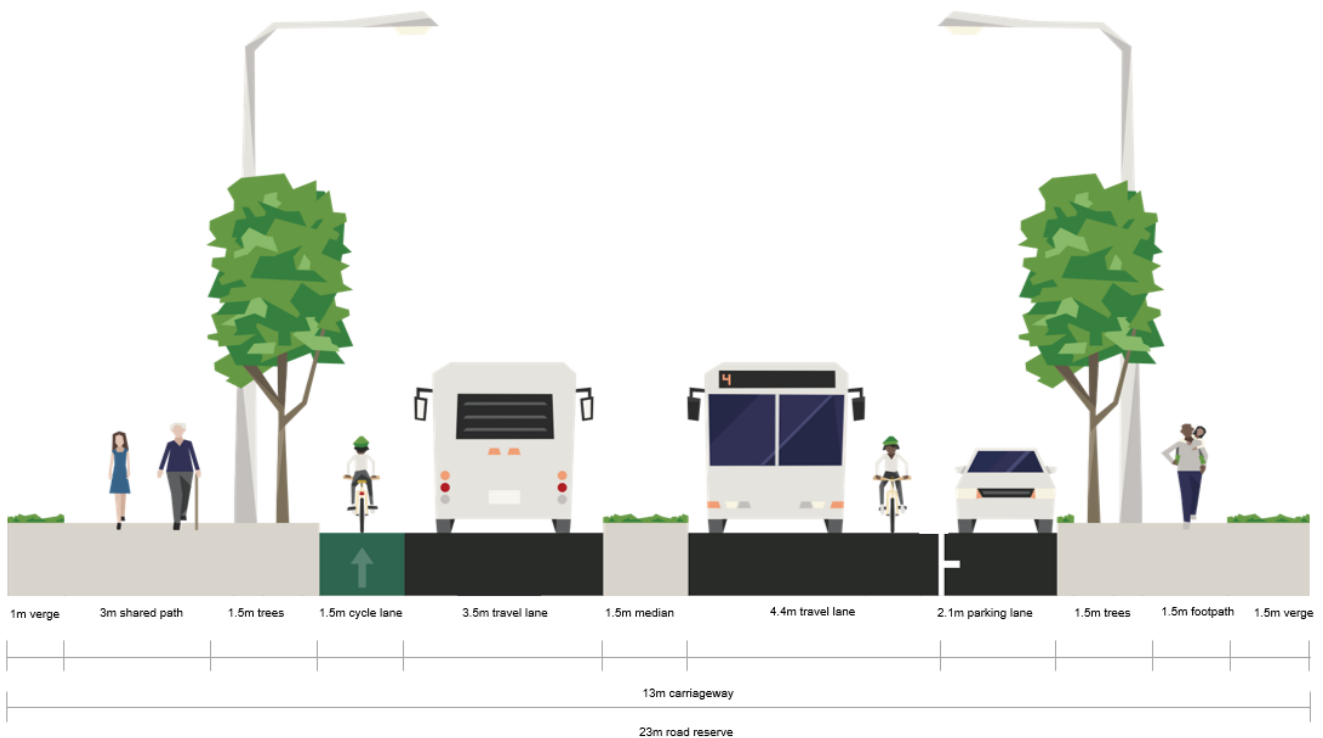
### 8.1 FOTHERINGHAM ROAD

#### *Objectives*

- a. To provide a safe, convenient and comfortable pedestrian and cycleway network.
- b. To ensure Fotheringham Road achieves efficient transportation movement and good amenity for residential areas.

#### *Controls*

1. A separated pathway must be incorporated into Fotheringham Road that links to the wider active transport network as shown in Figure 6.
2. Placement and type of street trees on Fotheringham Road should be suitably identified within development application documentation to show:
  - i. landscaping and tree planting that establishes mature tree canopy cover and contributes to urban character (refer to page 6 urban heat).
  - ii. how they support native and area specific species.



**Figure 6 - Fotheringham Road Indicative Cross Section**

### 8.2 FIRST STREET

#### *Objectives*

- a. To ensure residential development is sympathetic to the built form of the Boolaroo Heritage Precinct.

#### *Controls*

1. Residential development should be consistent with the built form and scale of existing residential development to the south of First Street.
2. Residential development should be designed with building frontages and entries clearly addressing First Street.
3. Windows of habitable rooms should overlook Street.
4. Front fencing, where proposed, should not exceed 1.2m high.

### 8.3 MUNIBUNG ROAD NORTH

#### *Objectives*

- a. To ensure light industrial development located in the north of CCSP4 does not adversely impact adjacent residential amenity

#### *Controls*






1. Development in the north of the E4 General Industrial zone must be designed, sited and provide appropriate landscaping to not have unacceptable adverse impacts on adjacent residential development directly to the east of Munibung Road

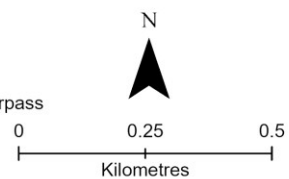
**Note:** See also controls in section 2.4 CCSP4

**9 INVESTIGATION AREAS**



Produced by IP 2734-2021

-  Extent of Area Plan
- Investigation Areas (IA)**
-  IA-1 Containment Cell
-  IA-2 Community Park
-  IA-3 Cockle Creek Train Station, T.C Frith Vehicle Bridge and Pedestrian Underpass
-  Railway Line



**Figure 7 - Investigation Areas Map**

A number of areas within the Cockle Creek Precinct have been identified for future investigation as shown in Figure 3. These Investigation Areas provide conceptual guidance to realise potential landuse and transport network opportunities and improvements.

**Note:** delivery of investigation areas is subject to a range of future factors such as landholder consent, mitigation of environmental impacts and available funding.

### 9.1 CONTAINMENT CELL (IA-1)

#### *Purpose for investigation*

The purpose of the containment cell is to store contaminated material indefinitely and will require long-term management and maintenance. Subject to the outcomes of this maintenance and monitoring, future land use opportunities may be potentially explored such as recreational uses and/or renewable energy. Any investigation is subject to the consent of NSW Government's Waste Assets Management Corporation, relevant environmental studies and legislation.

### 9.2 118 T.C FRITH AVENUE, BOOLAROO (IA-2)

#### *Purpose of investigation*

A park has been identified in the Glendale Development Contributions Plan however this land also provides commercial opportunities. In addition, the site presents a long-term opportunity to provide a road link across Cockle Creek to future development areas on the western edge of the North West Catalyst Area. Any park, commercial activity or road link would service and complement the wider Cockle Creek Precinct, the North West Catalyst Area and existing residential areas in Boolaroo. Any park, commercial activity or road link is subject to further investigation, and detailed design. Any investigation will consider the incorporation of Cockle Creek Station and make provision for multi-modal transport arrangements.

### 9.3 COCKLE CREEK TRAIN STATION, T.C FRITH AVENUE VEHICLE BRIDGE AND PEDESTRIAN UNDERPASS (IA-3)

#### *Purpose of investigation*

#### *Train Station*

There is opportunity to upgrade the existing Cockle Creek Station by extending the station platform to provide for multi-modal facilities and arrangements. This upgrade would ensure the Cockle Creek Precinct achieves its regional vision by developing a key regional transport node connecting it across Greater Newcastle and Sydney. Any upgrade is subject to further investigation, design and funding by the NSW Government. Any investigation must compliment the vision of Investigation Area 2, consider development at 118 T.C Frith Avenue, Boolaroo and the long-term opportunity to provide a road link across Cockle Creek to future development areas on the western edge of the North West Catalyst Area.

#### *TC Frith Avenue Vehicle Bridge*

There is an opportunity to widen the T.C Frith Avenue vehicle bridge to improve future capacity and access for vehicles. Any upgrade is subject to further investigation, design and funding by the NSW Government. Any future bridge upgrades should investigate the merit of a pedestrian underpass to connect Cockle Creek Station with the wider pedestrian network throughout the Cockle Creek Precinct.