

ITEM 2

DRAFT PLANNING PROPOSAL - FORMER CORRIMAL COKE WORKS SITE, 27 RAILWAY STREET CORRIMAL

In October 2017, Council received a draft Planning Proposal request for 27 Railway Street, Corrimal, the former Corrimal Coke Works site. The draft Planning Proposal request sought to rezone the site from IN3 Heavy Industrial and RE2 Private Recreation to R3 Medium Density Residential and RE1 Public Recreation to facilitate medium density residential development.

On 3 April 2018, Council considered a report on the preliminary assessment of the rezoning request and resolved to commence the preparation of a draft Planning Proposal, subject to a number of recommendations. The draft Planning Proposal was subsequently referred to the (then) NSW Department of Planning and Environment and a Gateway Determination was received 20 August 2018 requiring a number of studies to be completed and Ministerial Directions relating to heritage and flooding to be satisfied, prior to the draft Planning Proposal being formally exhibited. The studies have now been completed, and a revised draft Planning Proposal and updated draft Master Plan submitted, supported by draft Development Control Plan provisions and a Letter of Offer to enter into a Planning Agreement.

It is recommended that Council resolve to exhibit a revised draft Planning Proposal, a draft Development Control Plan chapter, a draft Planning Agreement Letter of Offer and associated supporting documentation for community feedback for a minimum period of 60 days.

## RECOMMENDATION

- 1 A revised draft Planning Proposal be prepared and exhibited for Lot 1 DP 795791, Lot 5 DP 749492, Lot 11 DP 749492 and Lot 126 DP 598190 known as the former Corrimal Coke Works, to amend Wollongong Local Environmental Plan 2009 as follows:
  - a Amend the Zoning Map (Attachment 7):
    - i Rezone Lot 1 DP 795579 from IN3 Heavy Industrial to R3 Medium Density Residential
    - ii Rezone Lot 5 DP 749492 to part R3 Medium Density Residential and part RE1 Public Recreation
    - iii Rezone Lot 11 DP 749492 from SP2 Infrastructure (Road) to RE1 Public Recreation
    - iv Retain Lot 126 DP 598190 as SP2 Infrastructure (Road).
  - b Amend the Height of Buildings Map (Attachment 7) to introduce heights between nine (9) metres and 22 metres.
  - c Amend the Floor Space Ratio Map (Attachment 7) to introduce FSRs between 0.75:1 and 2:1.
  - d Amend the Minimum Lot Size Map (Attachment 7) to introduce a minimum lot size of 450m<sup>2</sup> for the area proposed R3 Medium Density Residential zoning.
  - e Amend the Riparian Lands Map (Attachment 7) to identify the realigned riparian corridor.
  - f Amend the Natural Resource Sensitivity – Biodiversity Map (Attachment 7) to identify significant native vegetation communities.
  - g Amend the Key Site Map (Attachment 7) to identify the site as a Key Site under clause 7.18 Design Excellence.
  - h Amend the Urban Release Area Map (Attachment 7) to identify the site as requiring the provisions of Part 6 Urban Release Areas, clauses 6.1 and 6.2.
  - i Include the following new Part 7 Local Provisions:
    - i A “Sun Plane Protection” clause to protect the public open space identified in the Master Plan as “Heritage Plaza” and “Central Park” from excessive overshadowing by restricting the height of buildings.
    - ii A clause to allow increased heights beyond the maximum height control for certain heritage items: C1 North Stack (37m); C1 Brick Chimney Stack (29m) and the C1 Fine Coal Bin (25m), in the event that they need to be rebuilt.
    - iii A clause to grant development consent to development for the purpose of rooftop plant, lift towers, lift motor rooms and or communal open space and access to any structures associated with such space, that would exceed or causes a building to exceed, the height limits set.
  - j Amend Schedule 1 to incorporate the following additional permitted use provision:

Development at ground level for the following purposes within the mapped area:

    - business premises
    - neighbourhood shops with a maximum gross floor area of 150m<sup>2</sup>
    - food and drink premises with a maximum gross floor area of 250m<sup>2</sup>
    - neighbourhood supermarket with a maximum gross floor area of 1,000m<sup>2</sup>

The combined total gross floor area (GFA) for the above uses cannot exceed 2,000m<sup>2</sup>. The objective of the clause is to limit the size of shops to ensure that the Corrimal Town Centre remains the principal retail area.

- 2 The draft site-specific Development Control Plan chapter with the revisions outlined in Section 3.8 of this report and supporting documentation/technical studies be exhibited with the draft Planning Proposal.
- 3 The draft Planning Agreement Letter of Offer (including details of the arrangements for inclusion of 5% affordable rental housing) be exhibited with the draft Planning Proposal.
- 4 The draft Planning Proposal also make a housekeeping amendment to rezone the Cross Street Road reserve and part of the former Lot 12 DP 749492 Cross Street from SP2 Infrastructure (Road) and RE2 Private Recreation to R2 Low density Residential with a Minimum Lot size of 449m, Floor Space Ratio of 0.5:1 and Height of Building limit of 9m, consistent with the adjoining Cross Street residential properties.
- 5 The draft Planning Proposal, draft Development Control Plan chapter, draft Planning Agreement Letter of Offer and supporting documentation be exhibited for a minimum period of 60 days, in accordance with Council's resolution 3 April 2018, noting a community information session may not be possible given COVID-19 restrictions and hence alternative methods of community engagement will be utilised. The exhibition period may be extended due to the Christmas – New Year period.
- 6 During the exhibition period, consultation be undertaken with the following agencies -
  - a NSW Department of Industry – Crown Lands and Water Division
  - b NSW Environment Protection Authority
  - c NSW DPIE - Environment, Energy and Science
  - d Heritage NSW
  - e Endeavour Energy
  - f Transport for NSW (includes former RMS and Sydney Trains)
  - g Sydney Water.
  - h Emergency response organisations (SES, RFS, NSW Fire and Rescue etc)
- 7 A post exhibition report be prepared for Council to consider. The report shall outline any proposed revisions to the draft Planning Proposal, Master Plan, draft DCP chapter and Letter of Offer.
- 8 Council note that the NSW Department of Planning, Industry and Environment will retain the authority and exercise plan making delegations.

## REPORT AUTHORISATIONS

Report of: Chris Stewart, Manager City Strategy

Authorised by: Linda Davis, Director Planning + Environment - Future City + Neighbourhoods

## ATTACHMENTS

- 1 Location Map
- 2 Current Zoning and Height of Buildings Map
- 3 Council Resolution (8 April 2018)
- 4 Updated Planning Proposal and Masterplan (May 2019)
- 5 2020 Planning Proposal, Masterplan, Site Specific DCP and VPA Letter of Offer
- 6 Housing Trust MOU Letter 7 June 2020
- 7 Proposed WLEP 2009 Maps: Zoning; Height of Buildings; Floor Space Ratio; Minimum Lot Size; Riparian Lands; Natural Resource Sensitivity
- 8 Design Review Panel Report 19 July 2019
- 9 Key View and Shadow Analysis
- 10 Department of Planning, Industry and Environment Letter Ministerial Directions 5 August 2020
- 11 Overview of Challenges in Managing GHFF Camps

## BACKGROUND

### Subject Site

In October 2017, a draft Planning Proposal request was lodged for 27 Railway Street, Corrimal, formerly known as the Corrimal Coke Works. The site consists of 4 lots and has an area of approximately 18.167 hectares. The site is bounded by the main southern railway line on the east, Memorial Drive and residential buildings on the west, Railway Street to the north and Towradgi Creek and residential buildings to the south (Attachment 1). The site is traversed by Towradgi Creek along the southern extent and North Corrimal Creek through the site.

The site was utilised as the Corrimal Coke Works which operated for over 100 years, ceasing operations in 2014. The site comprises coking ovens, stacks, two constructed dams for coke quenching, associated administration buildings, and coal and coke stockpiling areas in the central part of the site. Since the closure of the coke works in 2014 the site has been vacant with limited maintenance. Established vegetation is present across parts of the site.

The area and zoning of the site is summarised in the following table and is shown on Attachment 2.

Lot	Area	Zoning
Lot 1 DP 795579	7.807 ha	IN3 Heavy Industrial
Lot 5 DP 749492	10.11 ha	RE2 Private Recreation
Lot 11 DP 749492 (located at the end of Cross Street)	30.1m <sup>2</sup>	SP2 Infrastructure (Road)
Lot 126 DP 598190	0.2467 ha	SP2 Infrastructure (Road)
<b>Total</b>	<b>18.167 ha</b>	

The site is surrounded by low and medium density residential zoning to the north, north-east and east, with some light industrial uses immediately to the north. Open space adjoins the site to the south. The maximum height limit for the site is currently nine (9) metres and the maximum height limit of the adjoining residential areas ranges from nine (9) metres to 13 metres (Attachment 2). The site is located within a Low, Medium and High Flood Risk precinct, and includes a notation that the site may be contaminated due to past industrial land uses.

### Regional and Local Context

Corrimal is located 6.5km north of Wollongong City Centre, providing access to a diverse range of services and employment opportunities. The site is adjacent Corrimal Railway Station and is positioned in close proximity to education, recreation and community facilities, including the Corrimal District Community Library, Corrimal Pool and Robert Ziems Park. The site is located within one kilometre of the Corrimal Town Centre (Attachment 1).

Corrimal is identified in the Illawarra Shoalhaven Regional Plan 2036, Community Strategic Plan 2028 and Corrimal Town Centre Plan 2015 as the major urban hub of the northern suburbs, capable of infill development given its location and supporting infrastructure and services.

### Council Resolution (3 April 2018) and Gateway Determinations (20 August 2018)

The draft Planning Proposal request submitted in 2017 was accompanied by an indicative design concept report prepared by E8 Urban illustrating a range of lot sizes and the intent to deliver a diverse housing product outcome. It identified the potential provision of 190 lots, achieving 736 dwellings made up of 80 rear loaded terraces, 90 front loaded semi-detached dwellings, three front loaded detached dwellings, six manor homes in two manor house lots, and 556 apartments of between two to six storeys in height. The Concept Plan also proposed the inclusion of limited retail uses within a town square

adjacent the Corrimal Railway Station. The Urban Design Study was indicative only, with further design development required to formalise applicable built form controls across the site.

On 3 April 2018, Council considered a report on the preliminary assessment of the draft Planning Proposal request and resolved to commence the preparation of a draft Planning Proposal, subject to a number of recommendations (Attachment 3).

The draft Planning Proposal was referred to the (then) NSW Department of Planning and Environment and a Gateway Determination was received 20 August 2018, requiring a number of studies to be completed and Ministerial Directions relating to heritage and flooding to be satisfied, prior to the Planning Proposal being formally exhibited for community comment and feedback. An alteration of the Gateway Determination was issued 17 February 2020 to allow more time for the draft Planning Proposal to be completed.

The additional studies required from the Gateway Determination included -

- An Aboriginal cultural heritage assessment.
- A conservation management plan that provides for the long-term conservation of significant coke work heritage components.
- Revised flood study (including flood modelling).
- Geomorphological report.
- A revised ecological assessment.
- A revised traffic impact assessment.
- A revised remediation action plan.

On 3 April 2018, Council also resolved that a site specific Development Control Plan (DCP) be prepared prior to public exhibition, addressing building heights; floor space ratios; lot sizes; building envelopes; road widths; public spaces; streetscapes; housing types; connectivity and access; views and vistas; urban form design; and design excellence. Council also resolved to publicly exhibit the proposal for 60 days and to hold a community information session in Corrimal during the exhibition period.

The Design Review Panel attended a site visit on 16 July 2019 and provided independent feedback on a draft Master Plan and the draft DCP submitted post Gateway Determination in May 2019.

On 29 June 2020, Council resolved to progress a heritage amendment to Wollongong LEP 2009 as a separate process to the rezoning Planning Proposal. The heritage amendment was notified on 11 September 2020, listing part of the site as a Local Heritage Item in Wollongong LEP 2009.

## PROPOSAL

### Updated Planning Proposal Request

The studies required from the Gateway Determination were completed and submitted to Council on 23 May 2019 with a revised draft Planning Proposal request, incorporating an updated 2019 Master Plan (Attachment 4). The proponent supplied additional information between June 2019 and September 2020 in response to Council Officer, Public Authority and Design Review Panel feedback and information requests. The additional studies, including urban design and view analysis, have resulted in revisions being made to the 2019 Master Plan. A number of technical reports have been prepared for the site in support of the draft Planning Proposal as a requirement of the Gateway Determination and are referenced in this report.

A Final 2020 Masterplan and draft Planning Proposal, accompanying draft Development Control Plan (DCP) and updated draft Planning Agreement (VPA) Letter of Offer were subsequently submitted to Council during August/September 2020 (Attachment 5).

### **1 Key Aspects of the Final 2020 Master Plan and draft Planning Proposal request (August 2020)**

The key aspects of the 2020 Master Plan and draft Planning Proposal request (August 2020) are summarised below, with detailed discussion of each point included in later sections of the report -

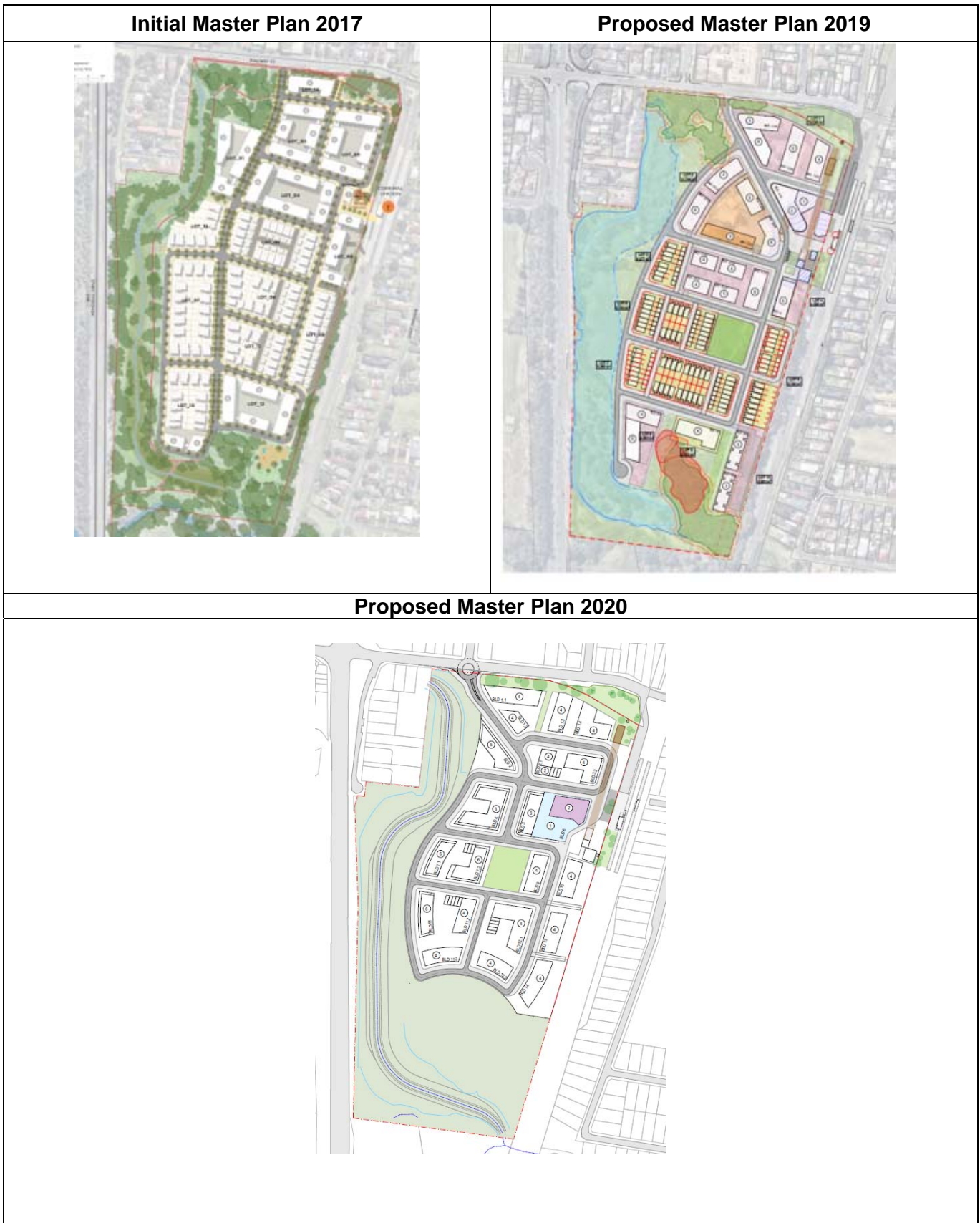
- Regional and Council strategies have identified Corrimal as a major urban hub in the northern suburbs, capable of infill development given its location and supporting infrastructure.
- Site specific and strategic merit/well positioned for residential development – proximity to public transport, town centre, jobs, schools, recreational facilities and related infrastructure.
- Economic studies have concluded there is sufficient supply of well-located industrial land in the local government area and new industrial uses are not deemed viable on this site.
- Remediation Action Plan – site can be made suitable for proposed mixed use redevelopment.
- Medium density housing typologies are under-represented in the Illawarra – R3 zoning provides opportunity for a mix of medium density residential products in response to market demand, which may include apartments, terraces/semi-detached dwellings, seniors living/aged care and affordable housing. The proponent's target of 735-760 dwellings for the site remains unchanged.
- Provision for 35 affordable rental dwelling units, provided and managed by a registered Community Housing Provider.
- The site is now heritage listed as an item of local significance, and Heritage NSW is undertaking further assessments to determine if the site satisfies the criteria for a State Heritage listing.
- Heritage Studies have concluded that rezoning the site is the most viable option to ensure the enhancement of heritage values, making the history accessible to the community through adaptive re-use of heritage buildings and interpretation.
- A station heritage plaza adjacent Corrimal Railway Station – commuter and resident convenience focus (small scale retail) and opportunity to celebrate the heritage of the site with the intention to retain some key heritage elements and others repurposed/interpreted.
- Ownership and ongoing responsibility for the maintenance of heritage structures (including funding) to be tied to the retail component.
- Vision for the inclusion of neighbourhood shops, cafes, restaurants, and possibly business start-ups/flexible work spaces in the heritage plaza up to a maximum total GFA of 2,000m<sup>2</sup>, comprising one neighbourhood supermarket of no more than 1000m<sup>2</sup> in size, and other retail/non retail outlets of no more than 250m<sup>2</sup> in size, located within 100-150 metres of Corrimal Railway Station.
- Opportunity to improve the streetscape, services and experience of commuters, encouraging active transport and public transit usage, including a street network that facilitates bus, bicycle and pedestrian access to Corrimal Railway Station.
- Traffic modelling identifies the need for intersection improvements/upgrade at Memorial Drive and Railway Street, to be designed to comply with TfNSW specifications. A roundabout at Railway and Harbinger Streets has been proposed as the safest access/egress point for the site
- Vehicular access boulevard entry at Railway Street with views to the retained heritage brick chimney.
- Approximately 52% of the site proposed as open space (originally proposed 43%) to provide a range of recreational settings, including the riparian corridor, the addition of a central neighbourhood park, southern recreation park and a heritage plaza.
- A realigned creek corridor to the western part of the site will be designed to provide a flood free area for development and improve flood, stormwater and drainage on site and at Railway Street/Cross Street. The riparian corridor design demonstrates stability of structure during storm events, will not negatively impact Memorial Drive and will be revegetated to provide an improved environmental outcome to the current highly modified creek on site.
- A bicycle/walking shared path is proposed linking Railway Street through the site to the Council owned open space south of the site.
- A pedestrian and cycle route upgrade along Railway Street and an internal cycling/pedestrian network, to provide enhanced linkage opportunities between Corrimal Railway Station and the town

centre and community facilities, assisting with Council's vision for cycling to be a preferred transport option by 2030 (note the proposed cycleway route connection under Memorial Drive in the original 2017 Master Plan is not featured in the updated 2020 Master Plan).

- Protection of identified threatened species communities in the south of the site.
- An adjustment of proposed R3/RE1 boundary to reflect the 2020 Master Plan to provide a 100-metre buffer between the core mapped habitat of the endangered Grey-headed Flying-fox (GHFF) and proposed residential development.
- Street alignment, urban design and distribution of proposed building heights to ensure key views are created/retained to the heritage chimney stack and escarpment. Central view/boulevard to proposed parks.
- Increased and varying height limits and FSRs requested across the site, with indicative building envelopes supported by a view analysis/modelling.
- Letter of Offer for a Planning Agreement and Schedule of Public Benefits, detailing items to be provided as part of the development, some of which will offset local development contributions.
- Site specific draft Development Control Plan (DCP) Chapter.
- The Department of Planning, Industry and Environment (DPIE) advised in a letter dated 5 August 2020 that, based on a review of the updated flood information provided, the Planning Proposal is now consistent with Ministerial Direction 4.3 – Flood Prone Land.
- DPIE also advised in the letter dated 5 August 2020 that, given a separate Local Heritage Listing amendment to Wollongong LEP 2009 is being finalised and will facilitate heritage protection for the site, any inconsistency with Direction 2.3 Heritage Conservation is therefore considered justified and no further approval is required in relation to this Direction.

Figure 1 below, illustrates the evolution of the master planning for the site.

**Figure 1: Master Plan Evolution**





The original 2017 and updated 2019 Master Plans proposed a mix of medium density residential products, including seniors living/aged care and affordable housing, and a small convenience retail space adjacent Corrimal Railway Station (see Table 1 below).

The proposed R3 Medium Density Residential zone permits a variety of housing typologies (including single detached, terraces/semi-detached, apartments, seniors/aged care, shop top housing). The 2020 Master Plan represents the maximum development outcome by way of apartment buildings. The final housing product will be developed in response to future market demand and maintain the proponent's desired yield of 760 dwellings.

The 2016 Census highlighted that the present housing stock across the Wollongong LGA is dominated by detached dwellings (67%), with 21% a medium density product and 10% high density.

The proposed redevelopment of the Coke Works site for housing, adjacent the Corrimal Railway Station, represents an opportunity to supply medium density housing typologies (low scale residential flat buildings, townhouses and semi-detached and seniors housing) and higher density apartments which are under-represented in the Illawarra housing market.

Included in the 2018 Council resolution was a requirement to provide at least 5% Affordable Rental Housing within the development, and information on the proposed management arrangements of the dwellings and housing needs sector to be targeted. The updated draft Planning Proposal includes provision for approximately 35 affordable rental dwelling units, provided and managed by a registered Community Housing Provider.

In a letter dated 7 June 2020 the Illawarra Housing Trust informed Council that they had entered into a Memorandum of Understanding (MOU) with Legacy Property to progress commercial discussions about the delivery of Affordable Rental Housing (Attachment 6). The intent of the MOU is that the Illawarra Housing Trust would acquire a freehold parcel within the development and design, build and manage an Affordable Rental Housing facility. The letter refers to the NSW Ministerial Guidelines for a definition of tenant eligibility for Affordable Rental Housing – an income range of approximately \$52,000-\$72,000 for households without children and \$89,000-\$124,000 for households with one or more children, this cohort is often referred to as “key workers”.

Council's DCP Chapter B1 Residential Development also requires 10% of all dwellings within a residential apartment building, and 10% of all dwellings within a multi dwelling development incorporating more than six dwellings, to be adaptable and universally designed (i.e. capable of adaptation for disabled or elderly residents).

### **Heritage Civic Plaza**

The 2020 Master Plan incorporates a Heritage Civic Plaza designed to -

- Create a safe and accessible public domain providing connectivity to Corrimal Railway Station.
- Provide a community meeting space activated by neighbourhood scale retail uses (shop, café, restaurant, etc).
- Celebrate the history of the site through retention, repurposing and interpretation of heritage features.

The updated draft Planning Proposal includes the original request for neighbourhood scale retail uses to contribute to the activation of the Corrimal Railway Station and new heritage plaza to provide convenience retail for residents. It also raises the possibility of flexible commercial spaces to support tele-working and local business start-ups, a shared community space and child-care centre.

The Heritage Conservation Management Strategy and accompanying Heritage Interpretation Strategy provides for retention of the two chimney elements that “bookend” the C1 coke oven battery (designed to retain key iconic skyline elements of the coke works in the most visible locations) and partial retention of the C1 coke oven battery and the powerhouse building, combined with interpretation of other elements. It is the intention to establish a key view axis to the Brick Chimney from the Railway Street entry.

### **Riparian Corridor, Central and Southern Park Concepts**

The 2020 Master Plan proposes the realignment of North Corrimal Creek to create a new green corridor with improved ecological and flooding outcomes, and the opportunity to provide a shared walking/cycling path through the site from Railway Street to Council's public reserve south of the site.

A small central village park is proposed, incorporating a defined playground area, to encourage community interaction. An informal southern recreation area is also proposed, which will also provide a buffer area between the GHFF core mapped camp and the residential areas in the south.

**Figure 2: 2020 Master Plan Public Domain**



## 2 Key Changes to Wollongong LEP 2009 Amendments Sought from Council Resolution and Gateway Determination

A Final updated 2020 Master Plan and draft Planning Proposal was submitted to Council in August 2020 which included a number of proposed Wollongong LEP 2009 amendments being sought that differ to those currently endorsed by Council (3 April 2018) and the Gateway Determinations (20 August 2018 and 17 February 2020) for exhibition. These are discussed below -

### 2.1 Land Use Zoning

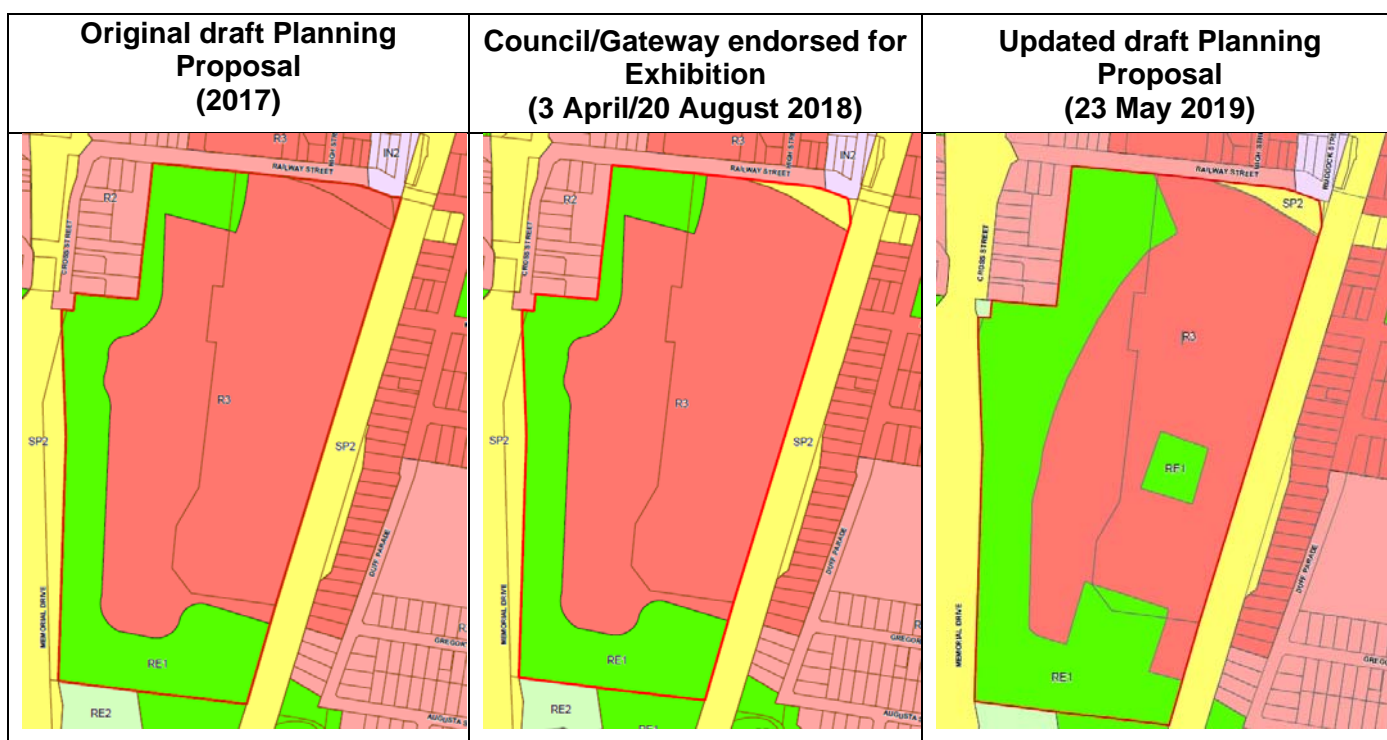
The proposed Zoning amendment endorsed by Council (3 April 2018) and the Gateway Determination (20 August 2018) for exhibition (subject to a number of recommendations) is stated as follows -

- Amend the Zoning map as follows – rezone from IN3 Heavy Industrial to R3 Medium Density zoning for part of the site to permit a range of medium density housing products (terraces, semi-detached dwellings, apartments) and RE1 Public Recreation zoning for the realigned riparian corridor.

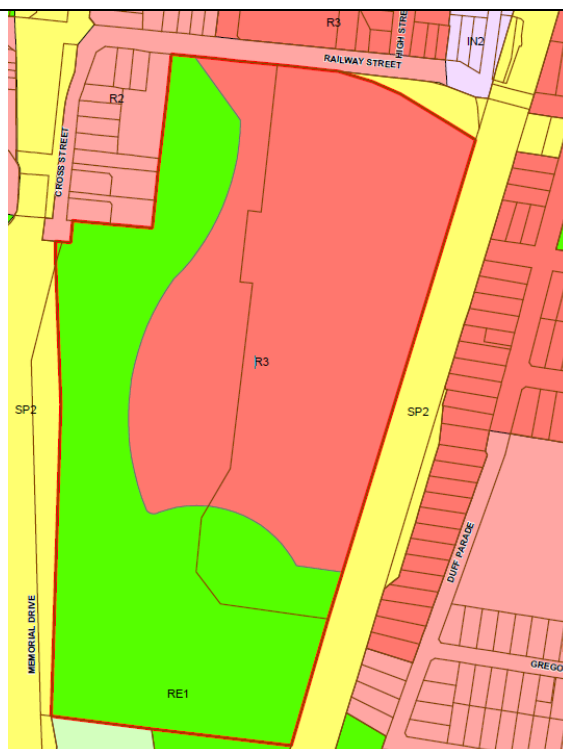
The proposed zoning map has changed a number of times in response to various issues (Attachment 7). The key zoning changes now requested in the 2020 Master Plan include -

- Adjustment of proposed R3/RE1 boundary to reflect the outcomes and recommendations of the updated studies, site constraints (including provision of a 100-metre buffer between the GHFF core camp and proposed development in the south), and resultant revised Master Plan.
- The area of proposed R3 Medium Density Residential zoned land has been reduced in size from 12.9 hectares to 9.8 hectares.
- The Master Plan includes provision for the addition of a central park. It is proposed to zone the location R3 to enable the exact configuration to be resolved at the development application phase. The requirement for the central park to have a minimum area of 3,000m<sup>2</sup> is included in the site-specific draft DCP Chapter and in the draft Planning Agreement offer.

**Figure 3: Proposed Zoning Amendment**



**Updated draft  
Planning Proposal  
(August 2020)**



The proposed zoning of RE1 Public Recreation and transfer of this area into Council ownership will ensure ongoing maintenance and protection from future development following a suitable Vegetation Management Plan (VMP) restoration and management period by the proponent. The proposed RE1 zoning is consistent with the zoning of Towradgi Creek upstream and downstream of the site. The incorporation of a minimum 100 metre buffer between the GHFF core camp and future development will also assist with environmental protection.

**2.2 Maximum Height of Buildings**

**2.2.1 Existing Height Limits and Context**

The Coke Works site currently has two height limits aligned with the existing zoning. The RE2 zoned land has a 9 metre height limit, and the IN3 zoned land has an unrestricted height limit. Surrounding the site is a variety of height limits. The R2 Low Density Residential zone has a height limit of 9 metres and the R3 Medium Density Residential zone opposite the site and adjoining the railway station has a 13 metre height limit. The taller height controls in Corrimal are concentrated in the town centre (15 metres). If rezoned for residential uses, the close proximity of the site to the 13 metre and 15 metre permissible areas presents a good contextual argument to support this site having a similar height limit permitted at the boundary areas (Attachment 2).

The existing structures on the IN3 zoned land vary in height. The tallest structure on site is the C1N stack which is approximately 42 metres tall. The items noted as having high historic significance on site have the following heights -

- 1912 Brick Stack~32.6m.
- C1 Coke Oven Battery 2m high and 3m wide.
- Remnant Powerhouse Wall~8m.

The height and shape of the existing structures, including the C1N stack (~42 metres) and grinding plant building, form a well-known part of the area's skyline. The towers particularly provide a significant landmark, marking out the extent of the Coke Works facilities across the site.

Much of the site, the riparian corridor and the adjacent rail and road reserves are covered by tree canopy. This canopy forms a height datum across the site which is visible from surrounding areas,

particularly from the two rail bridges to the north and south. No site survey has been provided showing the heights of the trees within or around the site. It is estimated that the tree canopy generally sits at a height of around 12 metres with several taller trees extending above this in areas to around 25 metres.

Beyond the site to the west, the Illawarra Escarpment State Conservation Area sits as the prominent landscape feature. The escarpment is a unique visual feature of great scenic, cultural and economic importance to the Illawarra, providing a spectacular backdrop that enhances the amenity of the urban areas. It is listed as a 'Scenic Landscape of Statewide Significance' on the Register of the National Trust of Australia (NSW). Broker's Nose, or 'Kurimal', is the name given to the high mountain peak (part of the escarpment ridgeline) in Corrimal. This site has significance for the local community and is a place of deep cultural value for the traditional custodians of Dharawal Country.

Currently, the ridgeline and a significant proportion of the lower areas of the escarpment are visible as a backdrop to the existing built form and tree canopy of the site as viewed from the east. It is important that any rezoning of the site maintains a reasonable degree of visual access to this unique feature.

### **2.2.2 Requested Height of Buildings Changes**

The proposed Height of Building amendment endorsed by Council (3 April 2018) and the Gateway Determination (20 August 2018) for exhibition is stated as follows -

- *Amend the Height of Buildings Map to introduce a varying maximum height limit of 13m and 24m throughout the site (as per map below).*

The original draft Planning Proposal request submitted in 2017 sought a mix of 24 metre and 15 metre height limits across the site. As discussed above, whilst the 15 metre height is reflected in the town centre, there is currently no precedent for height above this in Corrimal. The 24 metre height limit in the northern part of the site was justified by the proponent in terms of the opportunity for public transport use, being adjacent Corrimal Railway Station.

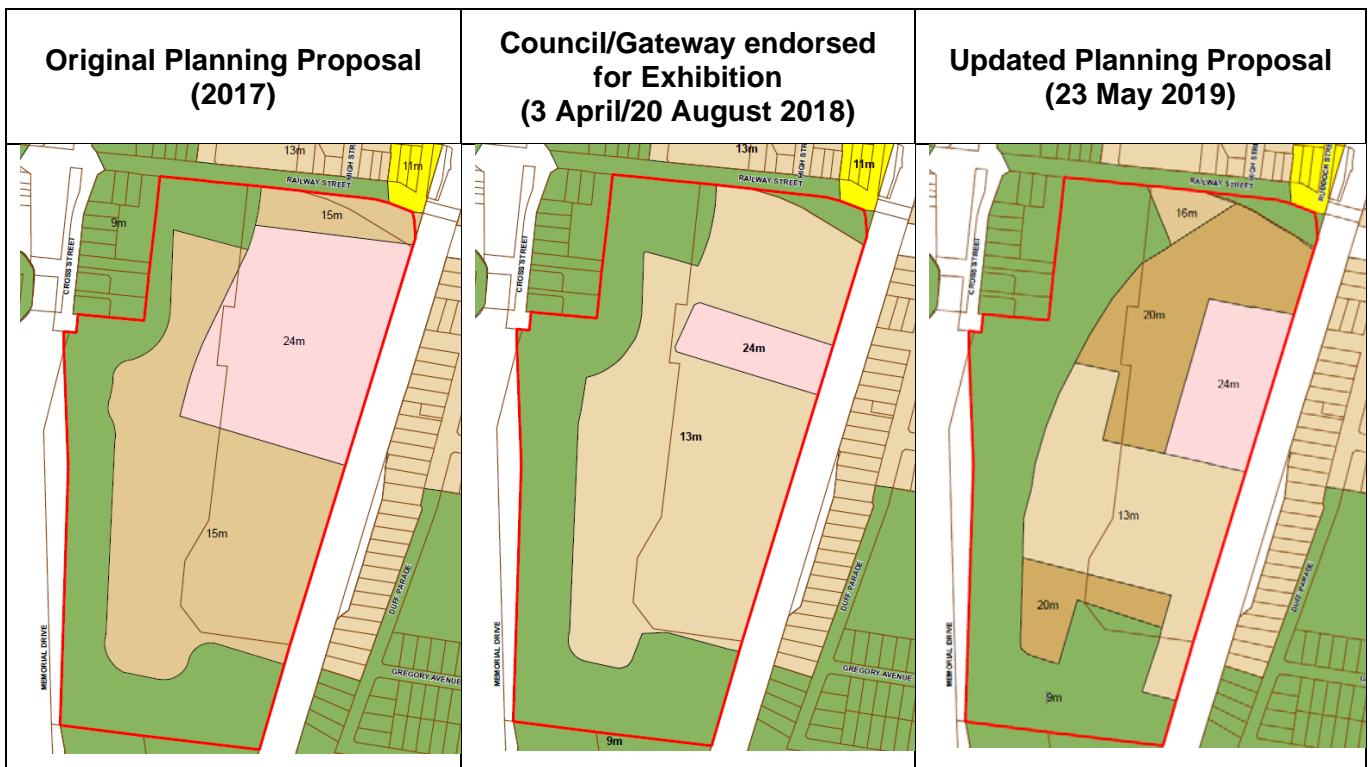
The Council report (3 April 2018) recommended the reduction of the proposed 24 metre built form to a smaller part of the site, reflecting the concentrated area of height of the existing coke works structures. The remainder of the site was limited to a maximum height limit of 13 metres in line with the surrounding development.

The report to Council envisaged a 24-metre height limit or six storeys within the centre of the site to provide some flexibility of offer (e.g. affordable housing) and also encourage Council's future growth for Corrimal as the northern suburbs' housing hub. The proposed surrounding mix of two and three storey diverse housing developments was intended to integrate into the current low density surrounding residential environment. The Council report stated that further design detail was required to ensure appropriate height levels will apply throughout the site and recommended that the detail be incorporated within the design guidelines of a site-specific Development Control Plan (DCP) Chapter. Council specifically asked for a 3D model of the site proposal and associated contextual view analysis to demonstrate its impact.

### **Updated Planning Proposal (2019)**

The proponent submitted a revised draft Planning Proposal and draft DCP chapter to Council on 23 May 2019. The proposal included a new Master Plan with a reduced development area and revised height limits. These limits included 13 metre, 16 metre, 20 metre and 24 metre areas and represented a significant increase to the height of the built form envelope overall from that endorsed for Gateway.

**Figure 4: Proposed Height of Buildings Amendment: 2017/2018/2019**



Concerns were raised by Council officers as to the appropriateness of these proposed height limits in the context of the surrounding lower built form and as they relate to the heritage elements of the site, and view corridors from the wider area. The proposed development must be compatible with the surrounding built form and scale, social and economic activities, natural and landscape context and heritage significance. The Design Review Panel also expressed this sentiment, providing feedback on the revised Planning Proposal and DCP “with the aim of achieving the expected levels of excellence for a site of this importance and significance”.

It is noted that the Conservation Management Strategy (CMS - Urbis July 2019) submitted in support of the Planning Proposal identified significant views to the site and indicates that these views should be retained. The Biosis Assessment identified the stacks and chimneys as prominent visual landmarks within the surrounding area and recommended the adoption of open spaces and street configurations which mimic the current configuration of the Coke Works. Although there was clear intent in the 2019 Master Plan to retain views to some heritage elements within the site. Additional information was required to demonstrate how views from further afield would be affected under the revised heights.

**View Analysis, Modelling & Shadowing Analysis**

The proponent was asked to prepare a 3D model to illustrate the proposed built form in context and a view analysis to demonstrate its impact on views to the heritage elements on site and towards the escarpment. The 3D model and view analysis was to respond to a set of Design Principles as outlined below, in order to demonstrate that this unique site could accommodate the height and scale of development being proposed -

**Table 2: Design Principles**

Views	<ul style="list-style-type: none"> <li>• Create and/or protect key views to retained/interpreted heritage elements both on the site and from surrounding areas.</li> <li>• Protect key views to the escarpment from surrounding areas and from within the site.</li> </ul>
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**Table 2: Design Principles (continued)**

Heritage	<ul style="list-style-type: none"> <li>• Provide an appropriate buffer between proposed development and heritage items including a transition in height.</li> <li>• Organise building massing to assist in way-finding to the heritage plaza and station.</li> <li>• Ensure heritage is protected, including significant buildings, and important heritage fabric is retained/reused. Retention and adaptation of heritage buildings through innovative design and re-use is sought.</li> <li>• Ensure new buildings which adjoin heritage places have regard to their height, scale, character and proportions.</li> </ul>
Scale	<ul style="list-style-type: none"> <li>• Ensure heights and bulk of built forms allow important views to be retained (see above).</li> <li>• Provide a sensitive transition down in height to lower scale established neighbouring areas.</li> <li>• Distribute height and FSR to provide for a diverse housing mix.</li> <li>• Ensure that development provides for equitable development outcomes through building separation.</li> </ul>
Amenity	<ul style="list-style-type: none"> <li>• Maintain solar access to public open spaces.</li> <li>• Establish mid-block links through larger blocks to achieve permeability and increase accessibility.</li> <li>• Promote and encourage pedestrian activity through street activation and the protection of footpaths and public open spaces from loss of amenity caused by overshadowing and wind effects.</li> </ul>

With particular reference to the proposed height amendments, the proponent has submitted the following to guide the location and orientation of streets and buildings, and height distribution across the site -

- Master Plan and Site Visual Analysis.
- 3D modelling of proposed built form in the context of surrounding development and landforms.
- Shadow analysis.
- Draft site specific DCP controls to ensure key views are created/maintained, no overshadowing of public spaces etc (noting that SEPP 65 contains amenity controls for residential flat building developments).

**Revised Master Plan (2020)**

Subsequent to the 2019 revised Planning Proposal, the draft Master Plan has been through a number of positive iterations in order to respond to key Council and Community concerns and deliver an improved design outcome that responds to the abovementioned Design Principles. A Final 2020 Master Plan and draft Planning Proposal was submitted in August 2020.

The site is a unique location adjacent Corrimal Railway Station, within close proximity to Corrimal Town Centre, employment, recreational, cultural and educational facilities, and hence well positioned for medium density residential development. The location and size of the site, combined with the vision to incorporate green link corridors, open space areas, and walking and cycle linkages, suggest it can accommodate some additional height.

The Design Review Panel (DRP) in their report dated 19 July 2019 (Attachment 8) noted that the site's proximity to the railway station and its significant size creates the potential for some taller building forms on this site, however requested further view analysis be undertaken to determine appropriate height and

the placement/extent of taller buildings on the site. The DRP identified the heritage chimneys as prominent landmarks in the area that should remain as the dominant forms and silhouettes in the skyline in views across the site.

The current 2020 Master Plan has responded as follows -

- Aligns a key east west internal road with Murray Road to the east. This allows a view corridor to be maintained down Murray Road (which extends to the foreshore), through the site and towards the escarpment.
- Aligns the entry road to create views towards the 1912 Brick Stack. As the road does not extend all the way to the stack, views to the stack are proposed to be maintained through two blocks including 22, 20 and 13 metre height controls.
- Reduces the proposed maximum permitted height from 24 metres to 22 metres (six storeys).
- Locates the tallest height zone (22 metres) in a central area of the site and provides a transition in height down (15m) towards the site boundaries and heritage precinct, designed to have the least impact on existing residential areas surrounding the site and respect heritage elements on site.
- Provides a significant green buffer between the proposed tallest height zone and Cross Street residents, through rehabilitation of the riparian corridor.
- Optimises passive surveillance of the riparian corridor by retaining views from adjoining residential dwellings.
- Maintains a height limit to the majority of the north and eastern boundaries of 15 metres, which is 2 metres higher than the adjacent height zones.
- Maintains a height limit of 13 – 15 metres across the reduced heritage curtilage area.
- Provides some variation of building height and design across the site.
- Reduces the overall development area to apply a 100 metre buffer to the core mapped area of the Grey-headed Flying-fox colony.
- Does not reduce the expected dwelling yield in response to the reduction in development area.
- Increases the lots with higher height limits and appears to reduce the likelihood of seeing a range of dwelling type outcomes across the site (in order to maintain yield numbers).

The draft Planning Proposal states that the calculation of building heights is intended to provide some flexibility to accommodate -

- Half in/half out basement car parking (up to 1.2m above ground), and
- New sustainable construction methods that require increased floor to floor heights due to insulation requirements for BCA compliance.

Hence, a 22 metre maximum height limit is being requested to accommodate the above design requirements within a six-storey building. It is proposed that a specific Part 7 Local Provision be included to cater for the site for lift overruns, roof top communal space and parapets. The requested maximum building heights in the 2020 draft Planning Proposal include 13 metre, 15 metre, 18 metre and 22 metre areas (Attachment 7).



**Figure 5: Proposed Height of Building Amendment: 2020**

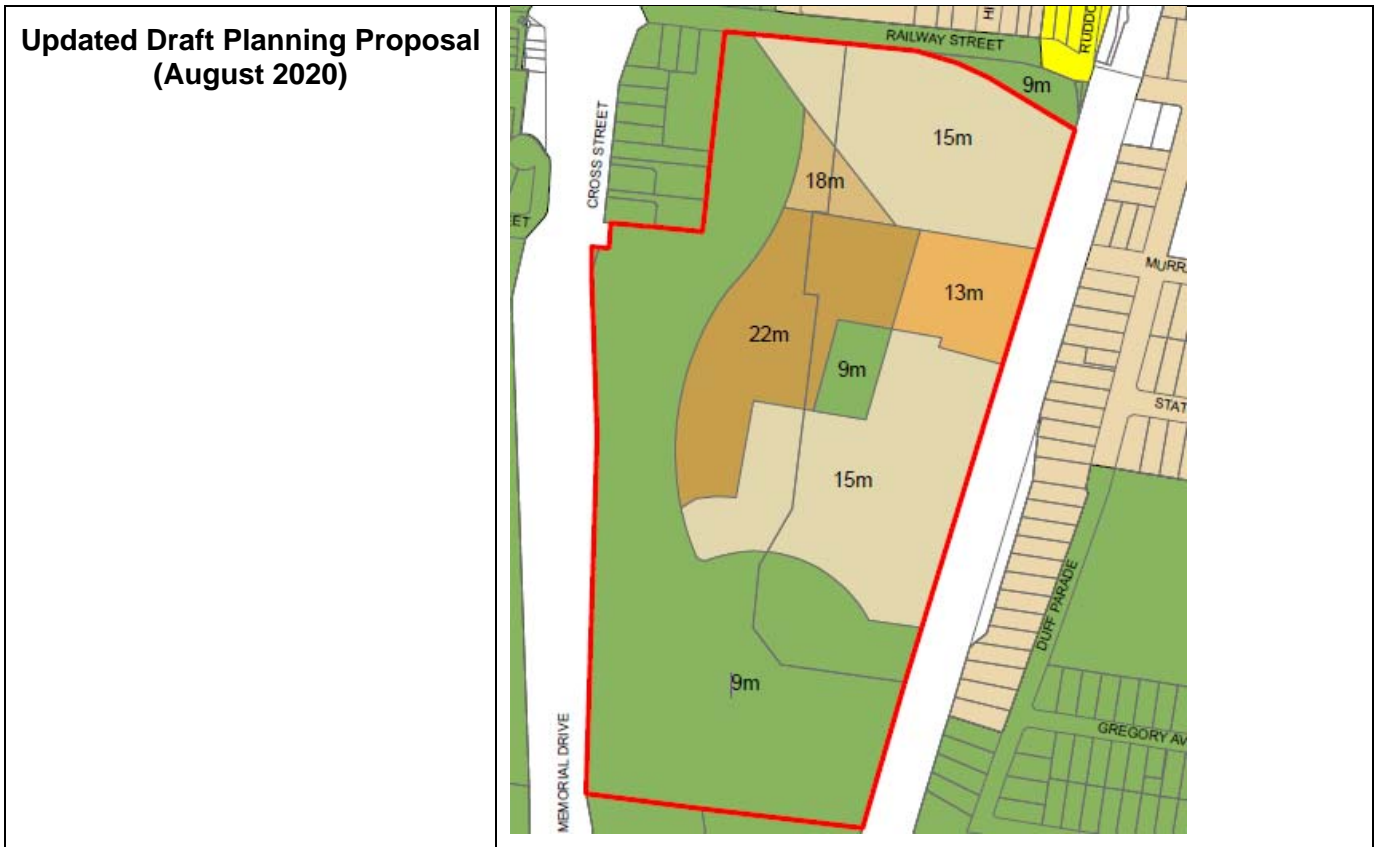


Figure 6 below illustrates the key views the updated 2020 Master Plan will create/protect. A summary of the key view and shadow analysis is included as Attachment 9.

**Figure 6: Key View Map**



**MAINTAINED VIEW CORRIDORS**

**Legend**

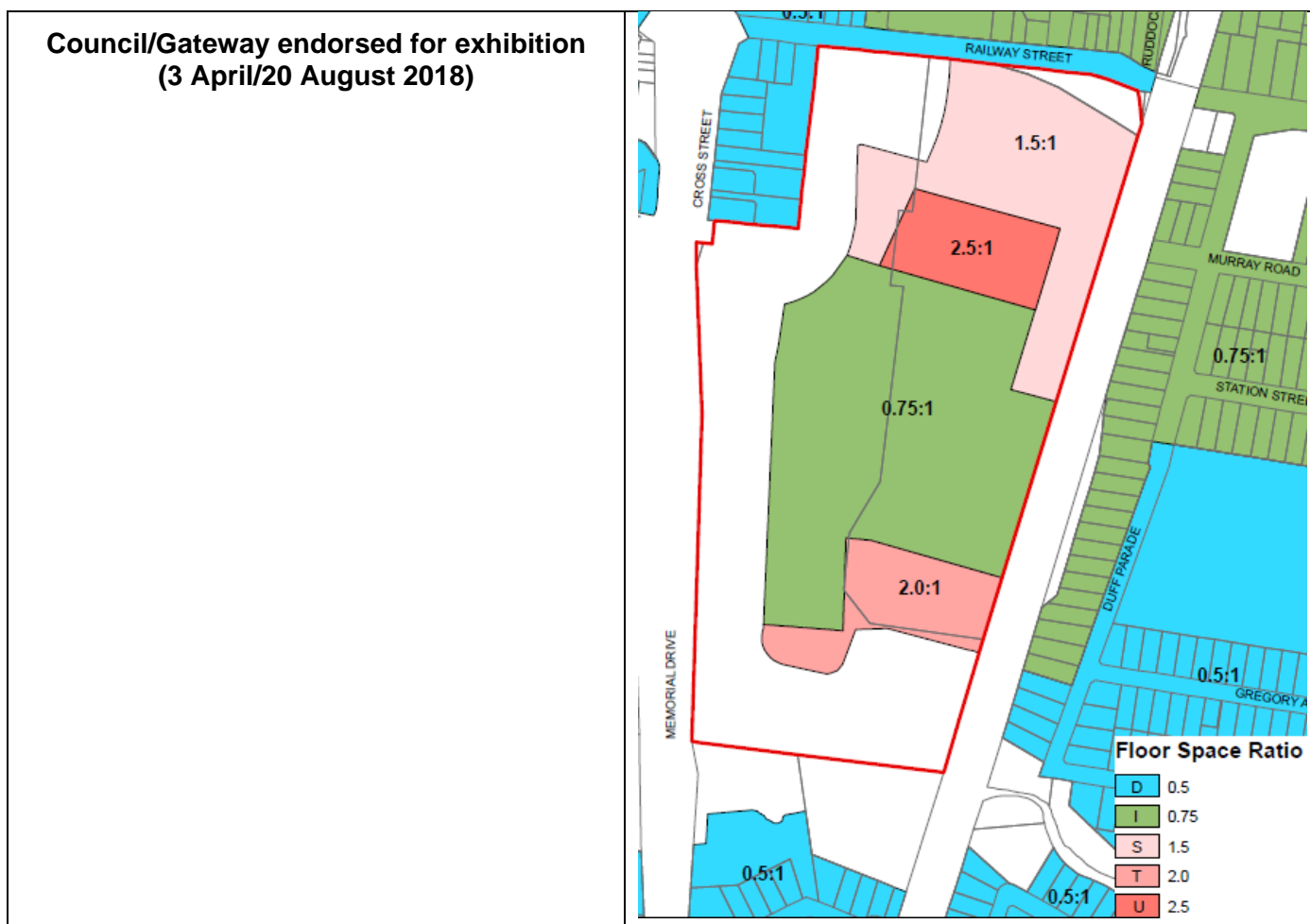
-  The Site
-  View Corridor to Heritage
-  Murry Road New Corridor
-  Western View Corridors to Riparian Corridor and Escarpment
-  Central View Axis

### 2.3 Requested Floor Space Ratio Changes:

The proposed Floor Space Ratio amendment endorsed by Council (3 April 2018) and the Gateway Determination (20 August 2018) for exhibition is stated as follows -

- Amend the Floor Space Ratio Map to introduce a varying floor space ratio of between 0.75:1 and 2.5:1 (as per map below).

**Figure 7: Proposed Floor Space Ratio Map 2018**



Floor space ratio (FSR) is the ratio of the gross floor area (of a building or development) to the site area. FSR helps to guide built form outcomes and regulate the scale and character of development. The desired development outcome is facilitated through the development assessment process.

The applicable FSR is shown on the Floor Space Ratio Map. The FSR can vary across a zone or on a large development site. The FSR for the R3 Medium Density Residential zone on the other side of Railway Street, is 0.75:1. Elsewhere in the LGA the FSR for R3 Medium Density Residential zoned land can be as high as 1.2:1 (i.e. Dapto Town Centre).

The original 2017 draft Planning Proposal requested that no FSR apply to the site. Council Officers consider that it is appropriate for an FSR to guide future development outcomes. The proponent has prepared a draft Floor Space Ratio Map reflecting the 2020 Concept Master Plan, showing FSRs of 0.75:1, 1.2:1, 1.5:1, 2:1 and 2.5:1 for different parts of the site within the development area. The proponent has stated that this equates to an average FSR of 0.92:1 across the development footprint (essentially the R3 zoned area).

The table below shows the heights and corresponding FSRs proposed for the Corrimal Coke Works site and compares this to the FSR controls for relevant areas with the same height controls. The table also

references the FSR controls for the Ashmore precinct in Erskineville, which the proponent sights as an example of the development outcome being sought at the Coke Works site.

**Table 3: Height/FSR Comparisons**

Corrimal Coke Works Site		Wollongong LGA comparison	Ashmore (Erskineville) comparison
Height limits	FSR	FSR	FSR
9m (open space)	1.5:1	0.5:1 Fairy Meadow Town Centre	1:1
11m	-	2:1 B4 zone - Dapto Town Centre  1.2:1 R3 zone - Adjacent Dapto Town Centre	
13m	0.75:1	0.75:1 B2 zone - Fairy Meadow Town Centre	(12) 1.5:1
15m	1.2:1 – 1.5:1	1.5:1 B2 zone - Fairy Meadow Town Centre  1.5:1 B2 zone - Corrimal Town Centre	1.5:1
18m	2:1		1.5:1
20m	-	2.5:1 B2 zone - Dapto Town Centre  2:1 B2 zone - Huntley Town Centre	
22m	1.5:1 – 2.5:1		1.75:1
24m	-	1.5:1 R1 zone - North Wollongong	1.75:1
30m	-	2.5:1 B3 zone - Dapto Town Centre	
32m	-	1.5:1 R1 zone - North Wollongong	1.75:1

A FSR of 2:1 and above tends to be suited to mixed use development with a large podium base, a continuous street-wall and heights 20m or higher, where the dwelling density is typically 120-160 dwellings per hectare. These developments tend to suit locations along busy streets, where the units

tend to be elevated above a commercial use at ground. They also have larger building footprints and less area for open space and deep soil landscaping.

The proponent provided a 'yield testing examples' document demonstrating the yields possible on two lots under the proposed FSR. These tests demonstrated that in order to achieve the proposed FSR the building envelope would need to maximise the building footprint and height. For Lot 4 particularly, this would result in a number of poor outcomes including -

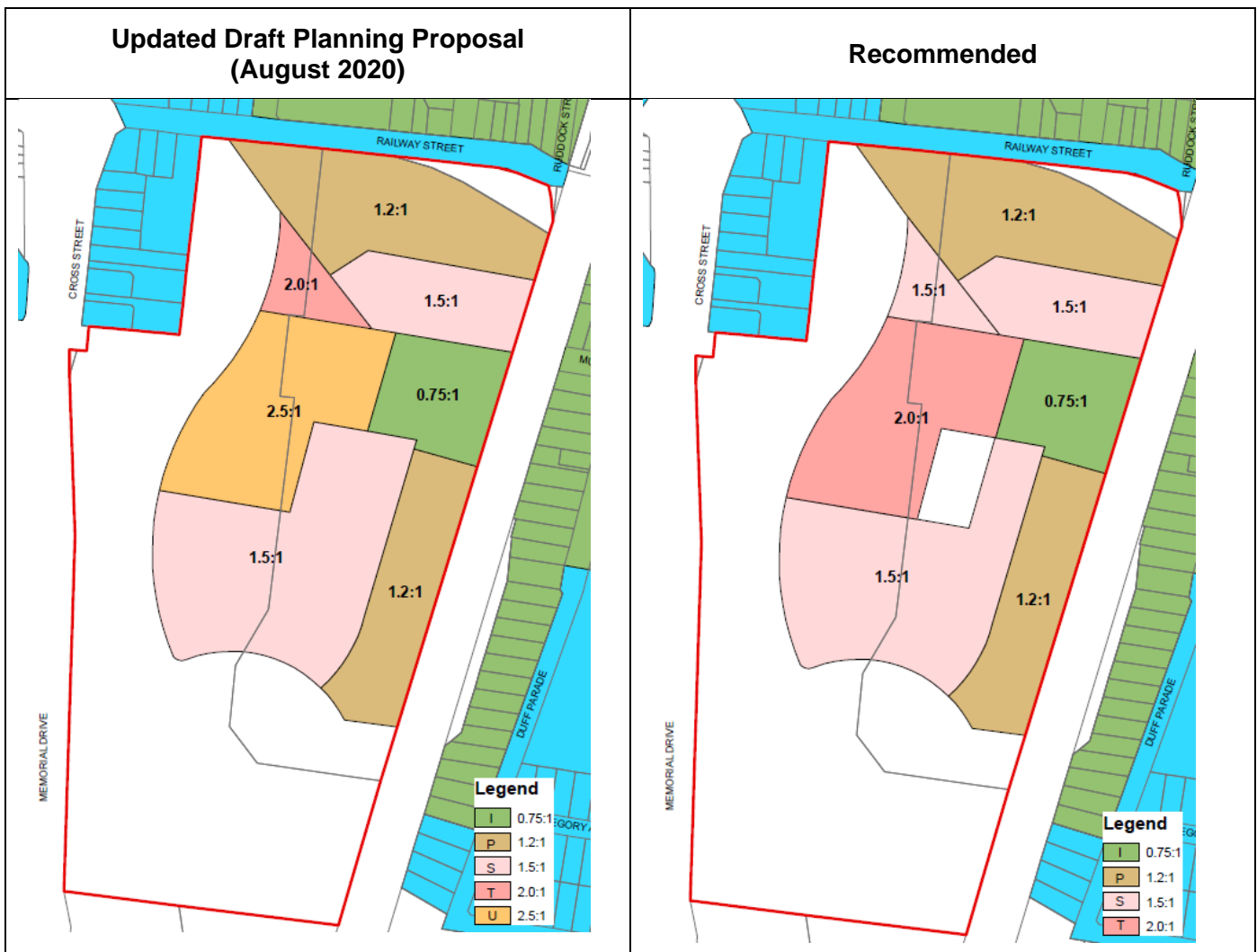
- Problematic overshadowing of the building's own communal space.
- No ability to modulate the height of the building across the expansive footprint.
- An unbroken street wall/podium with no views through the site across its entire area.

These outcomes are common when FSRs are high in relation to the permitted height limit. It is recommended that the FSR be amended to better align with a medium density outcome that anticipates a number of different building typologies in a landscaped setting and doesn't leave the site open to the risk of over-development.

It is recommended that the FSR range not extend beyond 2:1. The area proposed for a height limit of 22 metres is recommended to have a FSR of 2:1 (not 2.5:1 as requested) and the area proposed for a height of 18 metres is recommended to have a FSR of 1.5:1 (not 2:1 as requested). It is also recommended that no FSR be applied to the central park area (Attachment 7).

The proponent's analysis indicates that the proposed FSR reductions will result in an approximately 7% reduction in floor space / yield across the site. This reduction may result in a corresponding reduction in the affordable housing offer, noting the previous Council resolution to provide at least 5% of affordable rental housing as part of the development.

**Figure 8: Proposed FSR Amendment 2020 and Recommended FSR Amendment**



**2.4 Requested Minimum Lot Size Changes:**

The proposed Minimum Lot Size amendment endorsed by Council (3 April 2018) and the Gateway Determination (20 August 2018) for exhibition is stated as follows -

- Amend the Minimum Lot Size Map to introduce a minimum lot size of 149m<sup>2</sup> for the R3 Medium Density zone

The 2018 report to Council outlined potential merit and support for this reduced lot size as an incentive to develop a diverse housing product (terrace/townhouse and attached/detached development), the recommendation to include further design guidelines for the proposed housing typology within the nominated DCP Chapter.

The updated 2020 Master Plan and draft Planning Proposal is seeking a minimum lot size of 449m<sup>2</sup> for the areas proposed for R3 Medium Density Residential zoning, consistent with the surrounding R2 Low Density Residential and R3 Medium Density Residential zones (Attachment 7). Any compact housing typologies, such as townhouses, can be delivered under strata title or through an integrated housing approval.

**2.5 Requested Schedule 1 Changes: Additional Permitted Uses**

The proposed Schedule 1 amendment endorsed by Council (3 April 2018) and the Gateway Determination (20 August 2018) for exhibition is stated as follows -

- *Amend Schedule 1 Additional Uses to incorporate additional uses for “food and drink premises” and “shop”, limiting the size of the premises to a maximum of 150m<sup>2</sup>, identifying a site-specific location within a 100m radius of the train station.*

A Retail Market Demand and Economic Impact Assessment prepared by Urbis July 2019 was submitted in support of the integration of neighbourhood scale retail and commuter services within the Heritage Plaza adjacent Corrimal Railway Station.

Under the 2020 draft Planning Proposal, the proponent is now seeking the following additional permitted uses to be included as an amendment to Schedule 1 –

- Development for the purposes of food and drink premises, shops, business premises and neighbourhood supermarket (1,000m<sup>2</sup>) is permitted with consent, but only if at ground floor level and within 150m of the train station.
- Development for purposes of food and drink premises, shops, business premises and neighbourhood supermarket is permitted up to a maximum of a total GFA of 2,000m<sup>2</sup>, with no one shop (except for the neighbourhood supermarket) to be more than 250m<sup>2</sup> in size.

The updated draft Planning Proposal includes the original request for neighbourhood scale retail uses to contribute to the activation of the Corrimal Railway Station and new heritage plaza and provide convenience retail for residents. The inclusion of “Business premises” would facilitate services on site such as a hair salon and possibly local business start-ups or tele-working arrangements.

It should be noted that “community facilities”, “childcare facilities” and “neighbourhood shops” are permitted with consent in the R3 Medium Density Residential zone.

“Neighbourhood shop” means premises used for the purposes of selling general merchandise such as foodstuffs, personal care products, newspapers and the like to provide for the day-to-day needs of people who live or work in the local area, and may include ancillary services such as a post office, bank or dry cleaning, but does not include neighbourhood supermarkets or restricted premises.

The additional land uses requested that are not currently permitted in the R3 zone are defined below -

- “Food and Drink Premises”: premises that are used for the preparation and retail sale of food or drink (or both) for immediate consumption on or off the premises, and includes any of the following -
  - A restaurant or café.
  - Take away food and drink premises.
  - A pub.
  - A small bar.
- “Shop”: premises that sell merchandise such as groceries, personal care products, clothing, music, homewares, stationery, electrical goods or the like or that hire any such merchandise, and includes a neighbourhood shop, but does not include food and drink premises or restricted premises.
- “Business premises”: a building or place at or on which –
  - An occupation, profession or trade (other than an industry) is carried on for the provision of services directly to members of the public on a regular basis, or
- A service is provided directly to members of the public on a regular basis, and includes a funeral home and, without limitation, premises such as banks, post offices, hairdressers, dry cleaners, travel agencies, internet access facilities, betting agencies and the like, but does not include an entertainment facility, home business, home occupation, home occupation (sex services), medical centre, restricted premises, sex services premises or veterinary hospital.
- “Neighbourhood supermarket”: premises the principal purpose of which is the sale of groceries and foodstuffs to provide for the needs of people who live or work in the local area.

It should be noted that the request to include “Shop” as an additional permitted use may already be catered for by the land use “neighbourhood shops”, which as noted above are already permitted with consent in the R3 Medium Density Residential zone.

The Retail Market Demand and Economic Impact Assessment (Retail Assessment) provided the following indicative composition of the 2,000m<sup>2</sup> retail area (noting that the updated 2020 draft Planning Proposal now includes a request for a neighbourhood supermarket to be 1,000m<sup>2</sup>, and development for the purposes of business premises to also be permitted with consent):

**Table 4: Indicative Retail Offer**

Small scale independent local supermarket	750m <sup>2</sup>
Total food specialty retail (2-3 cafes/restaurants)	600m <sup>2</sup>
Total non-food specialty retail (e.g. newsagent, pharmacy, hair salon)	450m <sup>2</sup>
Total non-retail shopfront (e.g. real estate, dental, physio)	200m <sup>2</sup>
<b>TOTAL (GLA)</b>	<b>2,000m<sup>2</sup></b>

In Corrimal Town Centre the current estimated supermarket Gross Lettable Area Retail (GLAR) is 7,600m<sup>2</sup> (spread across three supermarkets). At East Corrimal village is a Food Works supermarket which has a GLAR of approximately 300m<sup>2</sup>.

The Retail Assessment describes the proposed retail for the Coke Works site as modest in scale, positioned to provide dining options and convenience-based shopping for onsite residents, visitors and people in the immediate locality. The Concept Plan envisages this retail element to be developed within a well-designed public realm and streetscape within the heritage civic plaza, serving a convenience retail role for onsite residents and commuters, with onsite amenities creating a focal point for activity.

The Retail Assessment states that the proposed small convenience-based retail offer is supportable from an economic perspective, while not adversely impacting the existing retail hierarchy in the area. The proposed small-scale retail offering is forecast to achieve turnover in 2024 that reflects a minor market share of retail spending (3% of main trade and 11% of primary trade area).

Introduction of additional permitted uses to facilitate a small convenience-based retail offer is supported in principle, with consideration given to location, extent and scale of these uses. It is critical that land uses allowed on the site do not erode the viability of the Corrimal Town Centre. Clause 5.4 of Wollongong LEP 2009 assists in ensuring Corrimal Town Centre remains the principal retail area, by limiting neighbourhood supermarkets to a GFA of 1,000m<sup>2</sup> (approximately 3 times the size of the East Corrimal Village Food Works) and neighbourhood shops retail floor area to 100m<sup>2</sup>.

The recommendation is to limit the size of individual neighbourhood shops to 150m<sup>2</sup> in accordance with Council’s previous resolution, and also to limit the total commercial offering on site to a maximum of 2,000m<sup>2</sup>. The intention is to repurpose the heritage Powerhouse building on site to accommodate food and drink premises, with the request for outlets to be 250m<sup>2</sup> to match the building footprint. It should be noted in this regard that the site also potentially benefits from the Heritage Incentives provisions in Wollongong LEP 2009 (Clause 5.10 (10)) which allows flexibility around certain planning controls where a development will allow for the conservation of a heritage site. These provisions align with the development scheme which relies upon the commercial activation to support heritage conservation outcomes.

The 2018, Council resolution proposed to limit retail uses within a 100m radius of the train station. The 2020 draft Planning Proposal is requesting a location within 150m of the station to ensure the heritage Powerhouse building intended for adaptive re-use is included in the designated area. It is recommended that a map of the proposed convenience focused retail area be included in the DCP.



### 3 Other Key Planning Proposal Considerations

#### 3.1 Loss of industrial lands

The draft Planning Proposal request seeks to transition the heavy industrial site to medium density residential development and open space. Consideration needs to be given to the loss of industrial lands in this location, and the potential impact on the provision of industrial lands in the region.

The proponent submitted an Economic Impact Assessment prepared by Hill PDA September 2017 detailing the viability of the ongoing industrial use of the site. The report concluded -

- There is sufficient supply of well-located industrial land in the Wollongong LGA without the subject site.
- Increased demand in transport, storage and warehousing sectors growing but the subject site is unsuitable.
- Conversion to new industrial uses has been identified to be not viable.

The heavy industrial use ceased in 2014 and the site is not currently providing active employment. A land use conflict exists between the heavy industrial zoning and surrounding residential land uses. The site is not noted to be strategically important industrial land as the majority of industrial land in the Wollongong LGA is found in Unanderra, Kembla Grange and Port Kembla, offering lower cost and better access than the subject site.

There is strategic merit for residential redevelopment of the site given its proximity to the station, retail/commercial hub and open space/community facilities. There is potential for good urban design outcomes and interpretation of identified heritage items, whilst being capable of meeting Council's objectives for the R3 Medium Density Residential zone.

Council resolved (3 April 2018) that the draft Planning Proposal for exhibition include identification of the site as a Key Site under clause 7.18 Wollongong LEP 2009 Design Excellence to deliver the highest standard of architectural and urban design for any redevelopment, and the preparation of a site specific Development Control Plan (DCP) Chapter to guide future development.

In granting the Gateway Determination, the (then) Department of Planning and Environment agreed that the loss of employment land is justified in relation to the relevant section 9.1 Ministerial Direction 1.1 Business and Industrial Zones.

#### 3.2 Heritage

The proposed Heritage amendment endorsed by Council (3 April 2018) and the Gateway Determination (20 August 2018) for exhibition is stated as follows -

- *Amend the Heritage Map and Heritage Schedule to include identified significant fabric (coke ovens, chimney, stacks) as listed items of Local Significance.*
- *The following additional information be submitted before or during the exhibition period to enable Council to consider the information prior to determining whether to finalise the Planning Proposal -*
  - *Advice from the NSW Heritage Council for comment in relation to: the Archaeological significance of the site and the potential requirements and implications of archaeological impacts from future development under Section 140 of the NSW Heritage Act 1977 and the potential for the site to be listed on the State Heritage Register (in light of the findings of the Biosis Report)*
  - *An Aboriginal Cultural Heritage Assessment be prepared*
  - *A Conservation Management Plan for providing for the long-term conservation of significant Coke Works heritage components to be prepared.*

The Gateway Determination (20 August 2018) additionally stipulated that Section 9.1 Ministerial Direction heritage be satisfied prior to exhibition.

A number of Heritage reports have been prepared for the site in support of the draft Planning Proposal request, and as a requirement of the Gateway Determination, as follows -

- Historical Heritage Assessment (Biosis, August 2017).
- Aboriginal Archaeological Survey Report (Biosis, October 2015).
- Heritage Interpretation Strategy (Urbis, May 2019).
- Structural Assessment of Existing Structures (BG&E 2019).
- Conservation Management Strategy (Urbis May 2019).
- Updated Conservation Management Strategy (Urbis July 2019).
- Conservation Management Strategy Peer Review (Weir Phillips July 2019).
- Aboriginal Cultural Heritage Assessment (Kelleher Nightingale Consulting P/L May 2019).
- Historical Archaeological Test Excavation Report (Austral Archaeology March 2020).

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### Key Heritage Findings and Recommendations

Heritage in NSW is principally protected by the *Heritage Act 1977* and is designed to protect both known heritage items (such as standing structures) and items that may not be immediately obvious (such as potential archaeological remains or “relics”). Heritage items are listed as either local or state significant.

The original Historical Heritage Assessment undertaken by Biosis (2017) indicated that the site met the criteria for consideration of a State Significant listing, while the updated reports prepared by Urbis (2019) and Weir Phillips (2019) concluded that the site does not meet the criteria for State Heritage listing, however provides recommendations in relation to a local listing. Ultimately the decision making in relation to the State Significance is a question for the NSW Heritage Branch/Council.

The Heritage Interpretation Strategy prepared by Urbis (2019) concluded that the former Coke Works site holds heritage significance, demonstrated through its contribution to the growth of the coke and steel manufacturing industry and industrial expansion in the Illawarra area, the connection of the site to local collieries, the site’s electricity generation and the historic connections of a major employer for over a century to the local community. The long continual use of the site (over one hundred years) has created multiple layers of industrial fabric and social history.

The Biosis (2017) assessment concludes that the proposal to rezone the site for residential and commercial use represents the most viable option in terms of enhancing the heritage values, by making the history of the Coke Works accessible to the local community and the Illawarra through adaptive re-use and interpretation.

The elements which comprise the Coke Works contribute to varying degrees to this significance, the most important components being the C1 coke battery and the powerhouse chimney which have been assessed as having a high level of significance.

The Conservation Management Strategy and accompanying Heritage Interpretation Strategy provides for retention of the two chimney elements that “bookend” the C1 coke oven battery, designed to retain key iconic skyline elements of the coke works in the most visible locations, and partial retention of the C1 coke oven battery and the powerhouse building, combined with interpretation of other elements. It is the intention to establish a key view axis to the Brick Chimney. A key heritage strategy is fixing the Brick Chimney as the overall height limit (32.6 metres), while ensuring that significant retained and interpreted elements remain prominent for understanding and celebrating the history of the site.

The retained heritage structures in the civic plaza are proposed to be managed in future private ownership as part of the retail offer, with Council not intending to take on ownership of this asset.

The potential for archaeological deposits associated with the intensive use of the waterway for Aboriginal fishing and food gathering activities in the former filled in creek corridor was identified and the request made for further extensive Aboriginal community consultation in progressing the Planning Proposal.

An Interim Heritage Order (IHO) was issued in May 2019 to provide interim protection against demolition works, following advice that a Complying Development Certificate (CDC) for demolition works had been issued.

Heritage Amendment Planning Proposal progressed separately. Listing the site as a local heritage item in Wollongong LEP 2009 was endorsed by Council 29 June 2020 and the Heritage Amendment was notified on 11 September 2020. The CDC for demolition works has since been surrendered.

Potential for listing on the State Heritage Register is under assessment by Heritage NSW.

The DPIE advised in a letter dated 5 August 2020 that, given a separate Local Heritage Listing amendment to Wollongong LEP 2009 is being finalised and will facilitate heritage protection for the site, any inconsistency with Direction 2.3 Heritage Conservation is therefore considered justified and no further approval is required in relation to this Direction (Attachment 10).

Council's Heritage Officers have identified potential for the site to meet the criteria for State significance in relation to associative significance; aesthetic significance; technical achievement; rarity; and representative significance. On 19 August 2019, in accordance with the Council resolution and the Gateway Determination, the advice of the NSW Heritage Council was sought. Based upon their advice, Council Heritage Officers prepared a nomination accompanied by a Heritage Inventory Sheet and submitted it to Heritage NSW in December 2019.

On 5 February 2020 the nomination was considered by the State Heritage Register (SHR) Committee of the Heritage Council of NSW where it was resolved to progress the State Heritage nomination to the next stage of review and prioritisation. On 5 May 2020 the SHR Committee agreed the item is likely to meet the threshold for State Heritage significance and advised Heritage NSW to proceed with an assessment. The assessment will involve research and further consultation with the owners, Council and other key stakeholders. It is unclear how long this assessment will take.

The Design Review Panel in their report dated 19 July 2019 noted the site has a high proportion of heritage significant buildings and artefacts intrinsic to the character of the site and history of the area, and that the site is currently undergoing assessment as a State Significant item which may potentially have a significant impact on the placement of built form, retention of existing structures and curtilage around areas of significance. The DRP also acknowledged the laudable principles and statements in the Master Plan and associated documents which should be incorporated in the site specific DCP, cataloguing all heritage items on the site and indicating the level of retention/interpretation allowed and expected for each.

### **3.3 Flood Planning and Proposed Riparian Realignment**

The site is located within the lower reaches of the Towradgi Creek catchment and is traversed by both Towradgi Creek along the southern extent and North Corrimal Creek which runs roughly north-west to south-east through the site. An unnamed drainage line also enters the site on the western boundary from under Memorial Drive and discharges into North Corrimal Creek. A significant area of the site and surrounding locality is subject to flooding, with areas of high and medium flood risk mapped on the site.

Council resolved (3 April 2018) that the draft Planning Proposal for exhibition include -

- *An amended Riparian Map identifying the modified riparian corridor reflecting the proposed creek re-alignment integrating with open space resources including pedestrian and cycle paths potentially linking with the broader green link network;*
- *A Geomorphological report be prepared to appraise the proposed watercourse realignment and verify that the proposed design (including alignment and channel dimensions) will enable a sustainable channel pattern and form and long-term channel stability;*
- *An updated flood study to include further pre and post development flood modelling, showing Manning's roughness values used, details of the MBNM modelling, Risk Management blockage factors for the 1:100 ARI flood event and mapping of the Flood Planning Area, and a comparison*

*between flood levels predicted by Cardno model and those predicted by Council's adopted model demonstrating parity between the models;*

- *Review of the local stormwater system ensuring there is adequate capacity to transfer runoff during heavy wet weather events which result in local flooding;*
- *Hydrological review in relation to the rail corridor bridge to the south east of the site.*

The Gateway Determination (20 August 2018) stipulated that Section 9.1 Ministerial Direction flooding be satisfied prior to exhibition. Under the Section 9.1 Direction 4.3 – Flood Prone Land a Planning Proposal may not permit development that will result in significant flood impacts to other properties or is likely to result in increased government spending on flood mitigation.

A number of Flood reports have been prepared for the site in support of the draft Planning Proposal request, and as a requirement of the Gateway Determination, as follows -

- Corrimal Flood Study (Cardno, June 2017).
- Preliminary Development Footprint Review and Advice (Ecological June 2017).
- Geomorphology Assessment (Soil Conservation Service, March 2018).
- Corrimal Coke Works Flood Study (Cardno, May 2019).
- Supplementary Riparian Corridor Information (Clouston Associates, August 2019).
- Supplementary Information Regarding Creek Realignment (BG&E, August 2019).
- Corrimal Coke Works Creek Realignment Stability Assessment (BG&E, March 2020).

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### **Key Flood Planning & Riparian Corridor Findings and Recommendations**

The form and alignment of the existing North Corrimal Creek on site has been substantially modified in the past as a result of site filling and construction of online dams associated with previous industrial uses.

A key component of the Planning Proposal request is the proposed realignment of the existing 2nd order stream (North Corrimal Creek) to the western boundary of the site to alleviate local flooding issues and to provide a suitable flood free area to support the intended medium density residential development outcomes.

Significant modelling of a conceptual flood way has been undertaken. The updated Flood and Geomorphological studies incorporate modelling of future flood events and conclude that a realigned riparian corridor can be provided along the western edge of the site such that flood risk levels currently present on site can be significantly mitigated to enable a Probable Maximum Flood (PMF) event free area suitable for residential development, and adjoining lands up and downstream will have an improved or neutral impact.

The current Coke Works proposal is consistent with the Towradgi Creek Flood Study, and as the Towradgi Creek Floodplain Risk Management process continues, the Coke Works site will be included in future Council modelling.

The riparian corridor is proposed for RE1 Public Recreation zoning and future Council ownership. The proponent would be responsible for the preparation of a Vegetation Management Plan (VMP) for environmental restoration works to be undertaken for a period of 5 years prior to hand over of the asset to Council.

On 5 August 2020, DPIE advised that, based on a review of the updated flood information provided, the Planning Proposal is now consistent with Ministerial Direction 4.3 – Flood Prone Land (Attachment 10).

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The form and alignment of the existing North Corrimal Creek has been substantially modified in the past as a result of site filling and construction of online dams associated with previous industrial uses. These

past impacts have been more pronounced in the upstream and central sections of the site. Downstream of the dams the creek flows more or less along the original alignment evident in the historic 1948 aerial image (Geomorphology Assessment, Soil Conservation Service 2018). The riparian zone upstream of the dam is dominated by exotic weed species, while downstream a mixture of native and exotic species is evident.

The North Corrimal Creek flowing generally north to south through the middle of the site was dammed to provide make-up water for production. Two lagoons were formed – a Recycle Dam for collection and recycling of process water and a South Dam for provision of make-up water to the Recycle Dam. Stormwater and other surface water accumulation on active areas of the site was directed to the Recycle Dam via sumps and surface drains. The Coke Works was licenced to extract 140ML per year of water from North Corrimal Creek (via South Dam). A dam was present at the current location as early as 1951. Site personnel reported that during periods of heavy rain, North Corrimal Creek over topped the South Dam wall.

The proposed realignment to the western and southern most portions of the site will involve substantial civil works (to accommodate a main channel averaging 11 metres wide, at depths between 5-8 metres) that will include diversion of the sewer trunk main and cut to fill bulk excavation works on the site. As part of any development, riparian corridor buffer zones will be required along the creek lines. Stormwater quality improvement devices and stormwater detention facilities will also be required and may be separate or incorporated within the riparian corridor.

A Corrimal Flood Study prepared by Cardno June 2017 assessed that the flood risk levels currently present on site can be significantly mitigated to enable a Probable Maximum Flood (PMF) event free area of approximately 12.85 hectares. The PMF is the largest flood that could conceivably occur at a particular location. The realignment proposes to divert 550m of channel from the residential neighbourhood alongside the western boundary (Memorial Drive) and return it to the existing creek downstream of the dam.

The Flood Study outlined the potential advantages of adopting the watercourse realignment as follows -

- Significantly improves flooding conditions/drainage within the existing Cross Street and Railway Street residential areas located upstream of the ICC site.
- Improve water quality regimes on site, also benefitting water quality downstream in Towradgi Creek.
- Easy connection of existing drainage on Memorial Drive to the proposed North Corrimal Creek without large culverts or pipe network.
- Opportunity to rehabilitate degraded areas of the ICC site. Realigning the channel could potentially improve environmental conditions by way of rehabilitating the riparian corridor and removing artificial fill introduced on the ICC site and planting native vegetation in the newly proposed Vegetated Riparian Zone.
- Increase developable area in the north-east of the ICC site. The north-eastern site area is generally flood-free and therefore offers an ideal opportunity for development. Realigning the channel to the western ICC site boundary may further increase this flood-free area in the central site area, thereby increasing development opportunities and reducing existing flood hazards.

On 9 December 2019, Council adopted the Towradgi Creek Flood Study to define the existing flood behaviour in the Towradgi Creek study area and consider the influence of potential climate change on future flood behaviour. Using the latest computer flood modelling technology, a wide range of catchment characteristics can be modelled, including calculation of peak flows and critical storm durations via simulation of complex catchment behaviour. The current Coke Works proposal is consistent with the Towradgi Creek Flood Study, and as the Towradgi Creek Floodplain Risk Management process continues, the Coke Works site will be included in future Council modelling.

Any proposed creek realignment will require a controlled activity approval under the *Water Management Act 2000*. EcoLogical Australia (June 2017) prepared a development footprint review identifying that the current creek has been heavily modified and degraded with 490m of waterway historically/previously

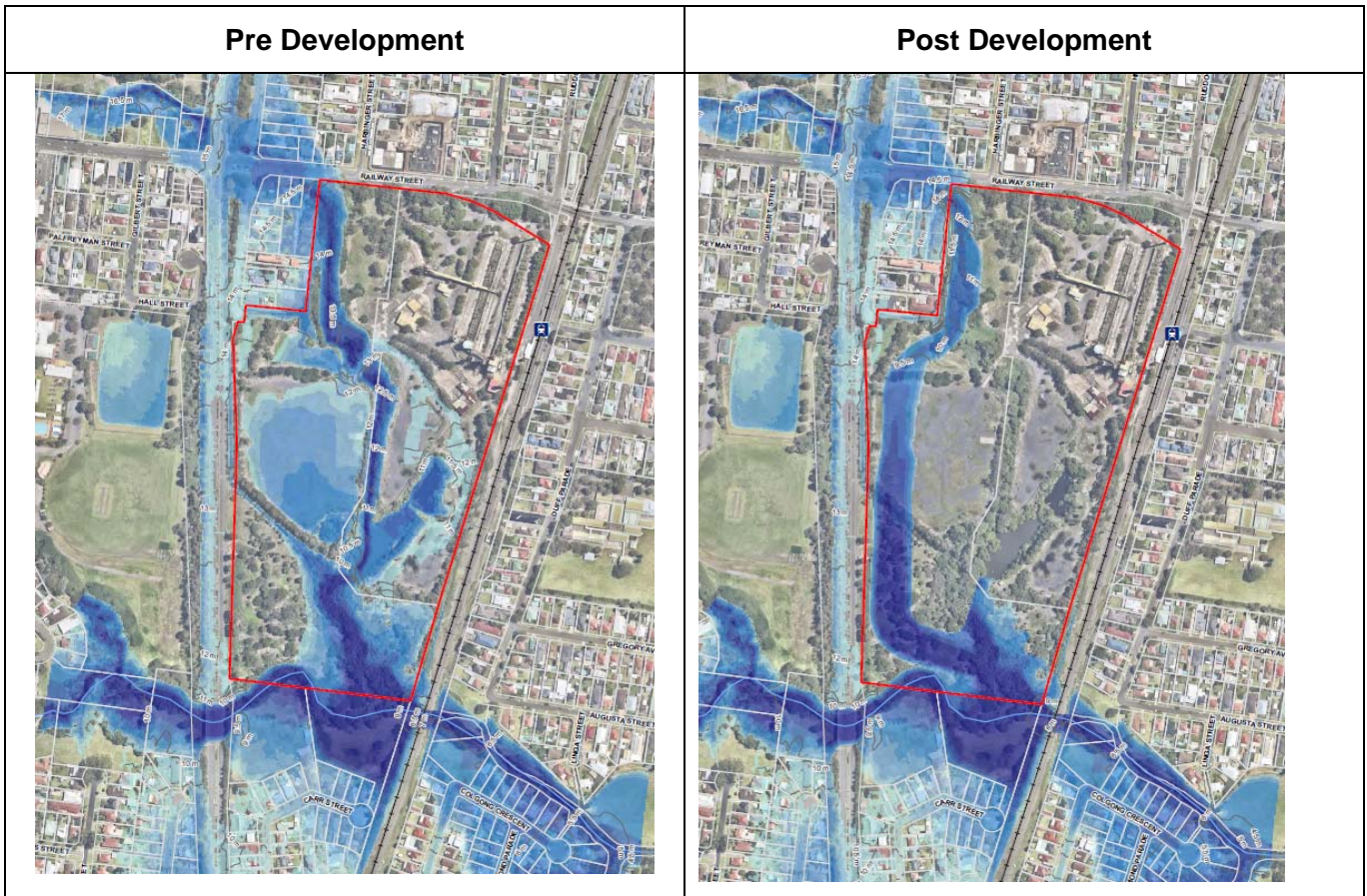
realigned within the site. Preliminary consultation with Department of Industry - Crown Lands and Water Division (CL&W), formerly DPI Water, indicated general agreement with the EcoLogical report in terms of water courses within the site and the recommended riparian outcomes. The CL&W will undertake further assessment at development application stage, however recommended further detailed design be undertaken with consideration of the DPI Water 2012 Guidelines for riparian corridors on waterfront land, as well as the following key points -

- Realigned and reconstructed watercourses within the site are to be designed as natural functioning streams including emulation of natural geomorphic units and meander.
- Detention requirements must be designed in accordance with CL&W Guidelines.
- The riparian corridor is to be established using fully structured provenance native vegetation.
- The proposed bike track must be constructed in the outer 50% of the Vegetated Riparian Zone in accordance with the DPI Water Guidelines.
- All non-riparian uses within the required 20m Vegetated Riparian Zone are to be offset in accordance with the Guidelines for riparian corridors on waterfront land.

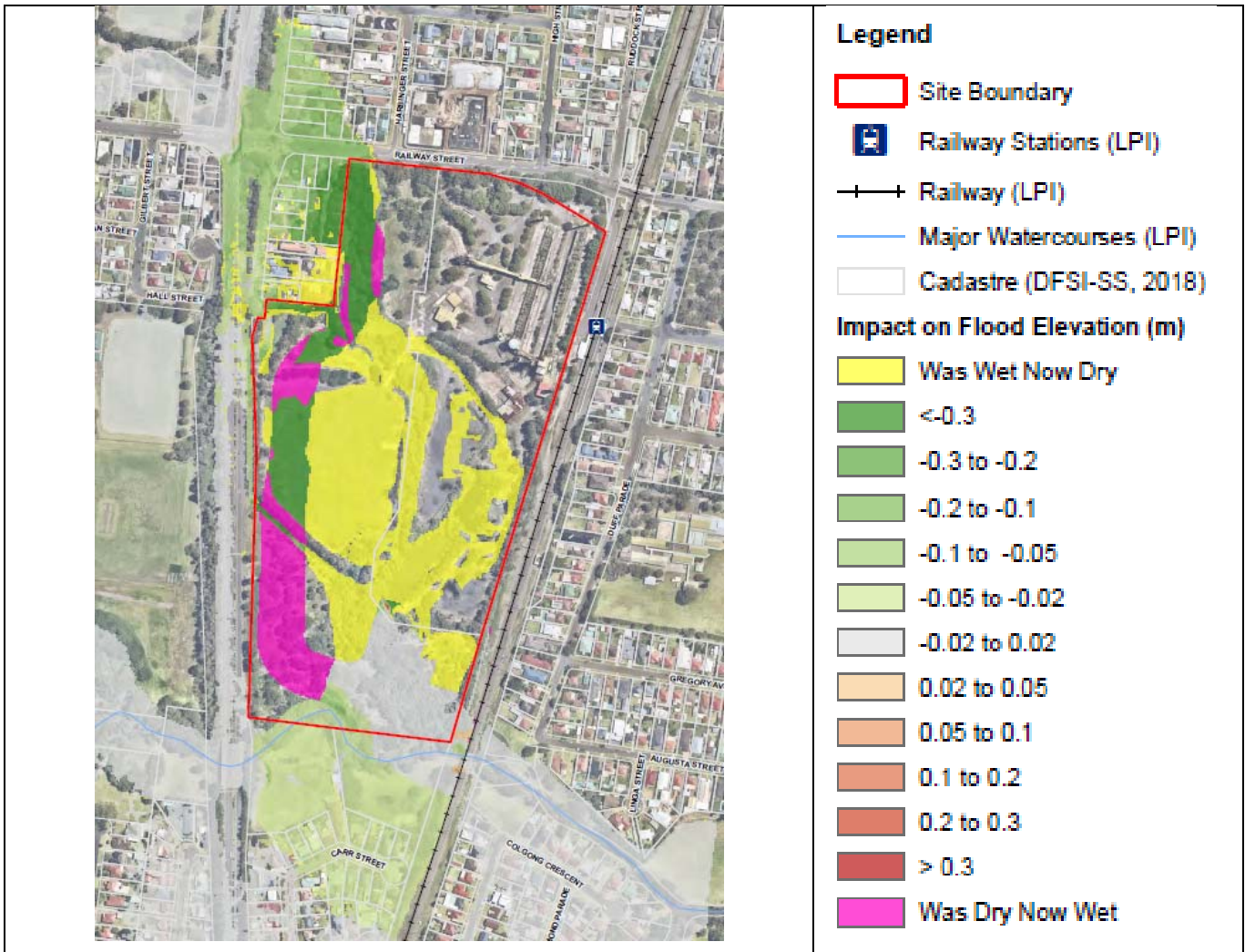
Preliminary consultation with the (then) Office of Environment and Heritage (OEH) indicated support for the revitalisation of this former industrial site in principle, including a long-term conservation outcome for the riparian corridor and retained areas of remnant native vegetation. The retention of Illawarra Lowlands Grassy Woodland Endangered Ecological Community (EEC), rehabilitation of the existing degraded watercourse and creek realignment works to mitigate flood risk are considered to be environmental priorities.

The updated Flood Study, Geomorphological assessment and Geotechnical assessment incorporate modelling of future flood events. In the post development scenario, one of the key improvements is a decrease in flood levels on Railway Street (see Figures 7 and 8 below).

Figure 9: Probable Maximum Flood (PMF) Extent



**Figure 10: Probable Maximum Flood (PMF) - Post Development Flood Impacts**



Preliminary geotechnical assessment and hydraulic modelling indicate the potential to achieve stable bank batters with the proposed realignment, subject to further geotechnical design, and indicates that flow velocities along the bulk of the realignment do not exceed erosion thresholds. The Geomorphological assessment prepared by SCS (2018) indicates the need for stabilisation and energy dissipation measures such as rock protection, pools, rock steps and benches. The assessment concludes that, provided design and construction is undertaken in accordance with geotechnical, civil and structural engineering accepted practice, the realigned channel can withstand flood velocities and perform in events, with both the 1% AEP and PMF events wholly contained.

The Master Plan and updated draft Planning Proposal indicate the intention to zone the realigned riparian corridor RE1 Public Recreation for dedication to Council as a public space. The Wollongong DCP 2009 Chapter 23 Riparian Land Management requires the preparation of a Vegetation Management Plan (VMP) for all riparian lands intended to be transferred to Council ownership via dedication. The VMP will outline the proposed environmental rehabilitation program tasks and detailed costings designed to revegetate and provide long term bank stabilisation and will reference relevant flood modelling studies to ensure that proposed works do not increase the flood affectation upon surrounding properties. All necessary revegetation or other works are to be completed in accordance with the approved VMP to the satisfaction of Council prior to the transfer of land being accepted. The VMP would be subject to a five-year restoration works and maintenance period to ensure the riparian corridor is functioning and in stream works stabilised to the satisfaction of Council prior to hand over of the asset.



To be considered as a future Council asset for the safe recreational use of the wider community there are other key considerations centring on usability and safety of the space created, the desire to create a natural vegetated riparian corridor offering a diversity of habitat opportunities, and ability of Council to maintain that asset. The establishment of viable riparian vegetation is critical to the successful construction of waterways in urban developments, playing an essential role in maintaining a healthy waterway. These considerations have implications for the width of the proposed corridor, for example a natural form waterway will require a larger cross-sectional area (i.e. sufficient width) than a straight-lined channel to convey the same flow.

While the submitted studies conclude that the proposed riparian design concept results in a channel profile capable of containing flood events, it is envisaged that the design will only result in limited passive recreation opportunities for the public, restricted to the eastern embankment. The western embankment is proposed to be heavily vegetated and with no intended public access, designed to minimise maintenance, support long term stability of the steep slope, and provide an improved environmental outcome. Council Officers have expressed concern that the steepness of proposed batters and near vertical sections (up to 1m high) at the creek edge (and hence the need for engineered solutions such as retaining walls and stairs on the eastern embankment) may result in an area not suitable for public recreational use in terms of access problems, CPTED issues due to changing levels making surveillance difficult, and the possibility of a dangerous environment should a flash flood occur. Clarification of the resultant look and feel of the riparian space that will be created through the proposed design, including the precise location of the shared walking/bicycle path proposed to run through the site along the eastern embankment, will require further consultation.

Council Officers carefully considered accepting Council ownership of the realigned riparian corridor as an asset in terms of the large and steep batters and channel depths proposed, proximity to Memorial Drive and the potential risk of impact to stability, function and safety of the freeway, as well as public access and maintenance constraints. Meetings and a design workshop were organised between the proponent and Council engineers to improve the design of the proposed riparian zone through a greater understanding of the following -

- The maintenance requirements and ability for Council to manage the area.
- The rationale on batter slope requirements.
- The critical issues of maintenance and asset burden.
- The risk associated with geomorphological changes during extreme flood events, and reduced setbacks to Memorial Drive and internal roads.

The table below illustrates the key issues raised and the discussion of options.

**Table 5: Key Riparian Issues**

Concern	Council Officer Comment
<p>The proposed batter with a maximum one in two grade is too steep – a maximum batter slope of one (vertical) in four (horizontal) is considered necessary to enable safe access/maintenance, reduce the risk of scour/erosion and embankment instability, and avoid the need for engineered stability measures (such as terracing, retaining walls and other engineered treatments).</p>	<p>Steeper batters, and engineered structures could be utilised within the design provided the Vegetation Management Plan was one that required little or no maintenance (i.e. to replicate a natural system as close as possible). A design workshop demonstrated sufficient space for Council maintenance vehicles to access the western and lower sections of the creek</p>
<p>Batter slopes at 1:5 or greater provide safe public access to the waterway and allow for mowing. Any batters steeper than 1:3 require bank stabilisation works, particular vegetation designs and consideration of cross-sectional compensation on the opposite bank.</p>	<p>The result is an engineered drainage channel of 5 to 8 metres in depth, with steep slopes on both the eastern and western sides (1:2 and 1:3), requiring retaining walls for stabilisation. This will serve a flooding and drainage function.</p>

	For recreational uses to be incorporated into the riparian corridor area a wider RE1 zone would be required (in order to achieve less steep slopes of 1:4 or 1:5 for safe public access).
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Concern	Council Officer Comment
<p>Proximity to Memorial Drive: concern not to undermine the road due to scour/slumping in an extreme flood event given Wollongong’s flash flood history, and RMS advice that provision for maintenance (or other) access will not be provided from Memorial Drive.</p> <p>Council officers have clarified that any setback is to be measured from the road reserve boundary and not the edge of pavement, and have noted RMS advice that a minimum 10 metre set back is required from the road reserve boundary to the top of the channel plus an additional five metres to accommodate earth berms (where necessary), and would require a maximum batter slope of 1V:4H (which are in line with Council requirements). Council advised design needs to manage worst-case scenario for slumping and failure and what is the best setback to reflect this</p>	<p>TfNSW confirmed need to ensure the top of bank would be setback 10m from Memorial Drive road reserve.</p> <p>The applicant provided an amended design that increased the creek bank setback from 5m to 10m from the road reserve, and also provided an updated study “Corrimal Cokeworks Creek Realignment Stability Assessment 19 March 2020” which analysed the geomorphic and geotechnical constraints of the re-engineered creek. This information was reviewed by TfNSW who agreed that the creek setback was appropriate.</p>
<p>A suitable meander design may not be able to be accommodated within the confines of the proposed channel width. If a channel is to be rehabilitated, it is often desirable to introduce some channel meanders to improve aesthetics, habitat and channel diversity and also increase the effective channel length. Increasing channel length is one of the most effective ways of reducing the bankfull flow velocity. Potential for scouring and blow out at the southern corner/end where a sharp change in direction of flow is proposed.</p>	<p>While the creek itself was defined in its width and geometry, the applicant contended that the detailed engineering design at the DA stage would include a natural meander at the invert of the creek.</p> <p>While the additional geomorphic investigations indicate that due to the natural subsoil conditions for the creek’s proposed location will be suitable to manage the velocity thresholds identified in the flood study, this will need to be carefully managed through any future development application</p>
<p>Ecological report requirement noted for a body of water to be included in the design at the southern end as a “dipping pond” for the GHFF.</p>	<p>The current creek work design does not include detail of a proposed open body of water; however, it is considered that there should be sufficient space to provide this in a future detailed design.</p>

A controlled activity approval under the *Water Management Act 2000* is required for any proposed creek realignment, to ensure that proposed modifications are designed and constructed to protect and enhance water flow, water quality, stream ecology and riparian vegetation. Asset protection zones and all ancillary infrastructure such as utility easements, detention basins, water quality control structures, roads and paths/cycle ways should be located outside the riparian corridor. Some works may be allowed to be located within the outer 50 percent of the vegetated riparian zone. Updated studies will be provided to CL&W during the public exhibition to establish they are satisfied with the proposed riparian design. Specifically, we will seek comment on whether the proposed design meets the DPI Water 2012 Guidelines for riparian corridors on waterfront land in terms of the ability to -

- Meet the requirements for riparian corridor width.
- Accommodate fully structured native vegetation.
- Accommodate natural watercourse functions.
- Establish natural bed and bank profiles (e.g. meanders, riffles etc).
- Allow for the movement of sediment and woody debris.
- Prevent scour and erosion of the watercourse bed or banks in storm events.
- Accommodate site hydrological conditions (e.g. maintain low flows).
- Ensure no increase in velocities that result from the constriction of flows.
- Protect against scour by designing and providing scour protection.
- Treat stormwater runoff before discharging it into the riparian corridor.
- Stabilise and rehabilitate disturbed areas to establish the environmental integrity of the realigned corridor.

### 3.4 Ecological Considerations

Council resolved (3 April 2018) that the draft Planning Proposal for exhibition include -

- *A revised Ecological Impact Assessment to address the potential impacts to micro bats roosting on the site and potential for Green and Golden Bell Frog habitat to be present on the site.*

The Gateway Determination (20 August 2018) additionally required the completion of a revised ecological assessment to consider the potential consequence of rezoning on environmental values prior to exhibition.

A number of Ecological reports have been prepared for the site in support of the draft Planning Proposal request, and as a requirement of the Gateway Determination, as follows -

- Flora and Fauna Assessment (EcoLogical, September 2017).
- Flora and Fauna Assessment (EcoLogical, May 2019).
- Letter 22 July 2019 EcoLogical “*Microchiropteran* bat habitat assessment”.
- Letter 5 August 2019 EcoLogical “Management and monitoring of the *Pteropus poliocephalus* (Grey-headed Flying-fox)”.
- Grey-headed Flying-fox Camp Proposed Management Actions (EcoLogical March 2020).
- Letter 26 March 2020 Ecosure “Corrimal Flying-fox Strategy Peer Review”.

In support of the draft Planning Proposal a Flora and Fauna report was prepared (EcoLogical 2017), with a second report submitted as a Gateway requirement (EcoLogical 2019). The assessment included a review of relevant data and background literature and a site inspection focusing on validating/refining previous vegetation community mapping, compiling a list of flora observed, identifying flora and fauna habitats, and identifying other features of conservation significance.

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### Key Ecological Findings and Recommendations

There is potential for threatened microbats to utilise the site, and any future demolition will be subject to further assessment.

The site does not contain habitat for the Green and Golden Bell Frog.

One threatened fauna species, *Pteropus poliocephalus* (Grey-headed Flying-fox) occupies the site. A minimum 100 metres is recommended between the mapped core camp area and future residential development. There are financial and staff resourcing liabilities to consider in the decision to accept

dedication of land into future Council ownership and stewardship of a State and Nationally listed threatened fauna species and its habitat. Should Council resolve to accept dedication of the EEC and GHFF camp, a funding mechanism will be required.

Two patches of Illawarra Lowlands Grassy Woodland (listed as EEC under the *NSW Biodiversity Conservation Act 2016*) have been identified on the site – one in the north and one in the south.

The DRP in their report recommended that wherever possible existing remnant native vegetation should be retained and protected. The OEH submission (2017) also stressed the need to demonstrate avoidance of impacts upon threatened species and ecological communities and noted that clearing thresholds under the *NSW Biodiversity Conservation Act 2016* relate to the clearing of all native vegetation, not just EECs.

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### 3.4.1 Fauna

#### ***Microchiropteran bats (microbats)***

Targeted survey for threatened *microchiropteran* bats (microbats) was conducted throughout the study area, with seven buildings and two rows of coke ovens assessed for potential habitat. The survey stated that no threatened microbats were detected and concluded that they are unlikely to utilise the resources of the subject site.

Following the Council resolution (8 April 2018), a further site inspection of all buildings was undertaken by EcoLogical to determine their use by microbats or suitability as microbat habitat. In a letter dated 22 July 2019, the conclusion drawn was there is a lack of suitable habitat, absence of signs of use or occupation and lack of records from previous ultrasonic detection surveys, indicating “*that microbats rarely if ever use the structures, and if they ever do, it is only very occasionally and in small numbers*”. The letter did acknowledge that it is possible that there may be occasional use of buildings by individual microbats in other seasons of the year, and hence recommended that an ecologist with demonstrated experience in locating microbats inspect structures prior to any demolition and be present during demolition to respond to the presence of any microbats.

Council Officer assessment is that there is potential for threatened microbats to utilise the subject site for roosting and foraging, and hence any demolition applied for will be subject to further assessment in this regard.

#### **Green and Golden Bell Frog**

The potential for Green and Golden Bell Frog was investigated in the updated Flora and Fauna Assessment (EcoLogical 2019) in relation to the two dams on site and the riparian corridor, given that there are recorded sightings approximately 1km to the east associated with Bellambi Lagoon. The assessment indicated that the preferred habitat for the Green and Golden Bell Frog are small and shallow ephemeral pools containing sedges or rushes which form fringing vegetation, sunny bank areas, and refuge and basking habitat in the form of rocks and woody debris. The study concluded that the site does not contain potential habitat for the Green and Golden Bell Frog.

#### ***Pteropus poliocephalus (Grey-headed Flying-fox)***

One threatened fauna species, *Pteropus poliocephalus* (Grey-headed Flying-fox) was found occupying a small patch of Forest Red Gum Thin-leaved Stringybark Grassy Woodland adjacent the dam and existing riparian corridor area at the southern extent of the study area in the EcoLogical 2017 study. The GHFF is listed as vulnerable under both the *Biodiversity Conservation Act 2016* and *Environment Protection and Biodiversity Conservation Act 1999*. It is listed as a threatened species because their numbers have rapidly declined over a relatively short period of time and in recognition of their essential ecological role in pollination and seed dispersal.

The Gateway determination required a revised ecological assessment to consider the potential consequence of rezoning on environmental values. The updated Flora and Fauna report (EcoLogical May 2019) confirmed the presence of the GHFF during the survey at the southern extent of the study area. The Study stated that the GHFF were likely to be using the native vegetation and riparian corridors

on site for roosting and foraging purposes, and that the camp had fluctuated in numbers since May 2017, with the inspection at the time of the report estimating the camp was supporting 150-250 individuals.

The recommendations from the report were as follows -

- Future development of the site will require careful planning and consideration of the interface between the GHFF and humans, and that consideration should be given to the Flying-Fox Camp Management Policy (OEH 2015) including the preparation of a Camp Management Plan consistent with the Camp Management Policy.
- Land currently occupied by the species should be zoned appropriately to ensure the retention of habitat and prevention of conflicting land uses.
- The remainder of the site is considered a low ecological constraint due to the presence of cleared lands, existing derelict infrastructure and Urban Native and Exotic Cover – the areas mapped as low ecological constraint are preferable locations for development.
- Future detailed assessments at the Development Application stage will be required to determine the extent of the area utilised by the GHFF and how the camp is used.

Since May 2017, the camp numbers have fluctuated between no evidence of any individuals in July 2019 to numbers in excess of 6,000 recorded in January 2020, including nursing females. Research has confirmed that fluctuation of numbers is not unusual, with camps emptying over cooler months and then individuals returning in the warmer months.

The Design Review Panel in their report dated 19 July 2019 noted concern that the 2019 Master Plan depicted the ecologically sensitive area to the south of the site flanked by four to five storey building forms on three sides. The DRP concluded that existing wildlife habitats on site should be preserved and incorporated in such a way as to ensure they can co-exist in harmony with the proposed development, noting that the GHFF camp will create a significant level of disturbance to people living in close proximity.

Council Officers have undertaken due diligence extensive research of publications and consultation with State Agencies, Flying-fox specialists including OEH/ESS Conservation Planning and Threatened Species officers, other Councils and the OEH facilitated NSW Flying-fox Land Manager Network in an effort to understand the environmental and management implications of rezoning land for residential use in close proximity to a GHFF colony. This has identified a range of challenges other Councils Australia wide currently face in the management of GHFF camps (Attachment 11). As part of the evidence based assessment, Council officers have attended a number of site visits and used GPS technology to map distances from the edge of camps to monitor noise and smell impacts and have reviewed the DPIE “Working with communities living with Flying-foxes” web page and Flying-fox Management Plans commissioned by a number of Councils.

The Flying-fox Camp Management Policy 2015 (OEH Policy 2015) outlines planning options when considering the location of development near a GHFF camp. The Policy suggests the identification of GHFF camps as a development constraint to prevent future conflicts arising over proposed development, and zone the camps “environmental protection” to ensure the long-term security of GHFF camps, including those used irregularly. The Policy also identifies the need for appropriate zoning of land adjacent GHFF camps, particularly when this land is undeveloped or redevelopment is planned, in the context that camps expand or move locally. The Policy further states that certain land uses are inherently more compatible in the vicinity of a GHFF camp than others, for example light industrial or rural compared with high density urban residential.

The OEH Policy 2015 recommends that landowners consider the location of historically and currently occupied camps or potential GHFF camps early in strategic planning processes, particularly when planning future residential areas, schools or other sensitive infrastructure. This is in recognition that most camps are not occupied continuously. In addition to recognising the presence of existing camps through appropriate land use zoning and development control plans, it is also stated that new development proposals give consideration to appropriate buffers such that any additional hazard reduction activities that become necessary will be able to occur without being unduly impacted on by the existing camp

locations. Sites that have the potential to function as GHFF maternity camps should be a priority for conservation.

The Department of Environment, Energy and Science (EES, formerly OEH) was consulted as to appropriate buffers between the proposed development and the camp. The OEH response recommended the integration of buffers between the camp and residential development “as wide as reasonably practicable with guidance of up to 300m in width, but determined on a case by case basis having regard to land use conflict and level of impact from Flying-foxes”. The response acknowledged that a camp of 2,000 individuals may significantly increase impacts where the camp is in such close proximity to houses – “there exists the potential for significant issues with the co-location of the camp and proposed medium density residential use”. The letter stated that the dispersal of Flying-foxes is not preferred and should be considered as a last resort only, as dispersal is likely to be costly, ongoing and unlikely to succeed. The submission additionally acknowledged ongoing management issues for Council, given that the draft Planning Proposal includes the proposed dedication to Council of the realigned riparian corridor, including the vegetation patch supporting the GHFF camp.

The original 2017 draft Planning Proposal proposed the removal of 0.06ha of the GHFF habitat, with additional habitat to be provided through the proposed revegetation of the realigned riparian corridor along the western extent of the boundary. The Forest Red Gum – Thin-leaved Stringybark Grassy Woodland which forms part Illawarra Lowlands Grassy Woodland is an Endangered Ecological Community (EEC) and as such Council Officers and the ESS have indicated they would not support any removal of this vegetation community.

The proponent has responded to Council officers’ concerns about the need to maintain a suitable buffer by undertaking fortnightly monitoring of camp use and targeted surveys and commissioning a number of additional reports to provide advice on a suitable buffer. The survey and monitoring report (EcoLogical March 2020) concluded that the camp size fluctuates over time as does the area of occupation and the camp is expected to hold between 100-7,300 bats depending on resource availability, weather and seasonability. The report identifies a core camp estimated to be approximately 100-500 individuals and referenced a camp size fluctuation in January 2020 which may be the result of the unprecedented bushfires over the 2019/2020 summer.

The commissioned reports recommended buffers ranging from 20 metres to 50 metres to minimise the potential conflicts between future residents and the bats. Based on Council due diligence extensive research, the proponent was advised that a minimum 100 metre buffer would be required between the GHFF camp and any future proposed residential development. The 2020 Master Plan now incorporates a 100 metre buffer between the core mapped camp area and planned future development, noting that the total mapped GHFF area is more extensive. The proponent has requested that the Site-specific Development Control Plan include a +/- 10 metre provision to that 100-metre buffer.

The proponent intends to dedicate the land containing the GHFF camp into Council ownership. Implementation of Flying-fox Management Plans require substantial ongoing funds. The draft Planning Proposal, while outlining the need for a Management Plan, remains silent on the issue of how the proposed ongoing management actions would be funded.

Should Council resolve to accept dedication of the EEC and GHFF camp, a funding mechanism will be required for ongoing maintenance. A Biodiversity Stewardship Agreement, which would be established prior to finalising the Planning Proposal, is a possible funding mechanism for further investigation. If the proponent is not agreeable to entering into such a funding agreement, Council may decide not to accept dedication of the land. Possible options include -

- Zone the core habitat an environmental zoning (e.g. E2 Environmental Conservation) rather than RE1 Public Recreation and not accept the transfer of the land; or
- Seek a Planning Agreement contribution for ongoing maintenance of the camp and accept dedication of the land; or
- Seek a Planning Agreement contribution to cover the cost of establishing the camp as a Biodiversity Stewardship site and accept dedication of the land.

This matter will be further explored prior to finalisation of the Planning Proposal.

### 3.4.2 Vegetation Communities

The Flora and Fauna reports undertaken by EcoLogical in 2017 and 2019 identified that the vast majority of the site supported areas of cleared land (roads, infrastructure, water bodies) or weeds/exotics. The site has a long history of disturbance associated with its use as a Coke Works and it was noted that the vegetation communities across the site have been subjected to moderate to high levels of disturbance including vegetation clearing/thinning of canopy layer, infestation of exotic species and modification of landform and soil profiles.

Three vegetation communities were mapped within the study areas -

- Forest Red Gum Thin-leaved Stringybark Grassy Woodlands.
- Acacia Scrub.
- Urban Native and Exotic.

Forest Red Gum Thin-leaved Stringybark Grassy Woodlands and Acacia Scrub are both native vegetation communities. The Forest Red Gum Thin-leaved Stringybark Grassy Woodlands vegetation community forms part of the Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion, an endangered ecological community (EEC) listed under the *NSW Biodiversity Conservation Act 2016* (BC Act). Two patches of Illawarra Lowlands Grassy Woodland have been identified on the site – one in the north and one in the south. Although the patches are identified as EEC and considered a high ecological constraint, the Forest Red Gum Thin-leaved Stringybark Grassy Woodlands was identified as being in a highly modified and disturbed condition with high levels of exotic species, planted non-local native species present and modified landforms within the area of this community. The report concluded that neither of the patches present met the Environment Protection and Biodiversity Conservation Act 1999 definition of the community because the groundcover was <30% native. Although the vegetation in the north of the site has high conservation status (EEC), its conservation significance is low to moderate based on patch size, current and proposed future surrounding land use and the ongoing impacts that are likely to prevail.

It should be noted that the initial ecological report submitted with the draft Planning Proposal request (EcoLogical 2017) included the mapping of Moist Blue Gum Blackbutt Forest in the south of the site. Council received submissions from community members in response to this initial vegetation mapping, speculating about the presence of a patch of 'rare rainforest'. To respond to community concerns Council agreed to follow up and inspect the patch of vegetation in question. Prior to Council's site inspection, EcoLogical undertook more detailed vegetation surveys according to the Biodiversity Assessment Method including plot based floristic, structure and condition assessments and subsequently revised the initial vegetation mapping. Following the joint site inspection with the EcoLogical ecologists, including discussion on the rationale for the revised assessment, it was agreed that the area should be mapped Forest Red Gum Thin-leaved Stringybark Grassy Woodland.

Planted individuals of *Eucalyptus scoparia* which is listed as endangered under the BC Act and vulnerable under the EPBC Act, were identified on site, although these planted individuals were outside their natural range and do not represent constraints to the proposed rezoning. The study area was also considered to represent potential habitat for highly mobile threatened fauna including bats and migratory birds. It is noted that a small area in the south east corner of the site sits within the SEPP mapped coastal environment area layer and thus the aims and objectives of the policy will need to be considered when planning for the site.

Within and surrounding the most disturbed parts of the study area stands of vegetation were comprised of exclusively exotic species or consisted of rows of non-local native planted trees with disturbed predominantly exotic understory. An area of approximately 8.28ha of urban native and exotic was mapped within the study area.

## Proposal

The proposed rezoning would result in the realignment and revegetation of the riparian corridor along the western extent of the study area, with the following result for vegetation communities:

**Table 6: Ecological Community Outcomes**

Ecological Community	Total (ha)	Retained (h)	Impacted/Removed (ha)
Forest Red Gum Thin-leaved Stringybark Grassy Woodland	1.28	0.69	0.59 (in north)
Acacia Scrub	1.29	0.17	1.12
Cleared land	7.29	0	7.29
Urban Native and Exotic	8.28	0	8.28
<b>Total</b>	<b>18.14</b>	<b>0.86</b>	<b>17.28</b>

The updated EcoLogical report (2019) states that any future Development Application stage will require the submission of a Biodiversity Development Assessment Report (BDAR), due to the proposed impacts (clearing) to native vegetation. The BDAR would be prepared consistent with the Biodiversity Assessment Methodology and outline the offset requirements associated with the proposal. The EcoLogical report recommends at DA stage the preparation of a Vegetation Management Plan for the patches of vegetation to be retained and for the riparian corridor to be revegetated. The Vegetation Management Plan would be prepared consistent with DPI Water “Guidelines for vegetation management plans on waterfront land”, including consideration of bushfire risks, Council requirements and proposed landscaping. The proposed rezoning would retain and restore the EEC in the south of the site.

The Design Review Panel in their report recommended that wherever possible existing remnant native vegetation should be retained and protected. The OEH submission (2017) also stressed avoidance of impacts upon threatened species and ecological communities and noted that clearing thresholds under the Biodiversity Conservation Act relate to the clearing of all native vegetation, not just EECs. Where development proposals affect remnant vegetation, the framework identifies a three-step process to ensure an overall increase in the extent and quality of native vegetation -

- Avoid adverse impact resulting in vegetation clearance.
- Where impact cannot be avoided, minimise impact through careful planning, design and management.
- Offset any vegetation loss through appropriate offsets.

Council Officers have reviewed the submitted reports and attended site visits and have concluded that the level of flora and fauna survey effort, vegetation mapping and classification is satisfactory for the purposes of the planning proposal.

The Corrimal Community Action Group (CCAG) has requested consideration of an environmental protection zoning for the EEC to ensure retention of habitat and the conservation outcome for the GHFF camp. Preliminary consultation with the (then) Office of Environment and Heritage also raised the potential for the riparian corridor to be zoned a suitable environmental zoning.

### 3.5 Contamination & Geotechnical

Council resolved (3 April 2018) that the draft Planning Proposal for exhibition include -

- *A revised Remediation Action Plan addressing further sampling under the structures on the site; for PCBs associated with the powerhouse building and transformers; address exceedances of ecological investigation levels; and address materials containing SMF and Crystalline Silica associated with the coke ovens.*



A number of reports have been prepared for the site in support of the draft Planning Proposal request, and as a requirement of the Gateway Determination, as follows -

- Corrimal Coke Works Asbestos Register (September 2013).
- Preliminary Site Investigation (Environmental Strategies, March 2014).
- Phase 2 Detailed Site Investigation (Environmental Strategies, July 2014).
- Site Audit (C.M. Jewell & Associates P/L, November 2014).
- Corrimal Coke Ovens Assessment (Arcadis 2017).
- Phase 1 Preliminary Site Investigation (PSI) (Environmental Strategies P/L).
- Additional Environmental Assessment (Arcadis April 2017).
- Geotechnical Assessment (Douglas Partners, May 2017).
- Remediation Action Plan (Arcadis, May 2017).
- Environmental Noise and Vibration Assessment (Renzo Tonin & Associates, May 2019).
- Remediation Action Plan (Arcadis, May 2019) and Endorsement of Remediation Action Plan (ZOIC Environmental P/L, May 2019).
- Letter Arcadis 8 May 2019: Remediation of Land.

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### Key Contamination and Geotechnical Findings and Recommendations

State Environmental Planning Policy 55 – Remediation of Land (SEPP 55), requires Council to consider whether land is contaminated and is required to be remediated before permitting sensitive land uses such as residential and recreation. The proposed remediation works are considered to be classified as Category 1 remediation works, which require development consent.

The Remediation Action Plan (RAP) for the site (Arcadis May 2019) concludes that “although concentrations of contaminants of concern were detected above environmental assessment criteria, they are isolated and minimal compared to the wider site footprint”. The RAP outlines a Remediation Strategy for the site, with the expectation that the site can be made suitable for the proposed mixed-use redevelopment.

The RAP confirms the site is subject to a statutory Site Audit. A Non-Statutory Audit has been completed by Zoic Environmental P/L, a NSW EPA Auditor accredited (No. 0802) under the *Contaminated Land Management Act 1997*. The site audit statement (SAS) and associated site audit report (SAR) will confirm the suitability of the site for the proposed mixed residential land use development and open space associated with a creek alignment. The Audit is being staged, with Stage 1 signed off in an Interim Advice letter endorsing the Remediation Action Plan (RAP).

The Auditor considers the Arcadis RAP (May 2019) is practical and technically robust for the contamination identified on site and that, if implemented, the site is capable of being made suitable for the proposed redevelopment, subject to a number of conditions.

The proponent has been advised that any on site containment would need to be placed under commercial buildings held in private ownership with appropriate section 88B (restriction on the use of land) wording and section 10.7 (Planning Certificate) notation and Environmental Management Plan. It is not proposed to allow emplacement in the riparian or parkland areas, or under roadways due to potential future problems when these areas may need to be disturbed/dug up for maintenance etc.

The Geotechnical Report (Douglas Partners 2017) stated that their findings / analysis must be considered as being preliminary in nature and that additional geotechnical investigations and assessment will be required as the design of the development proceeds – particularly in areas of proposed creek alignments and where excavation into the natural soil profile will be required to construct deep service trenches.

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### 3.5.1 Contamination

Coke manufacturing (the production of metallurgical and foundry coke) has occurred at the site since 1912. ICC made the decision to cease coke manufacturing and close the Corrimal facility in 2014. A Phase 1 Preliminary Site Investigation (PSI) was commissioned as a due diligence exercise to determine the contamination status of the facility in preparation for closure. This PSI included a detailed description of the former site uses and operations:

**Table 7: Former Site Uses**

Site Area	Description
A – Production Facility	Area comprised coal storage, coke oven batteries and ancillary operations, including car parking, workshops, plant storage sheds, office space, loading areas and weigh bridge
B- Waste Storage Area	These areas were used for the stockpiling of redundant machinery and equipment
C- Coke Stockpile Area	These areas were used for stockpiling of coke. Stockpile areas were fitted with irrigation sprays for dust suppression. The area was also used to store refractory bricks and as a quench ash stockpile for a short time
D- Vacant Land	These were areas of vacant land that had no or minimal history of production activity. The areas generally served as screening and vegetated areas
E- Waterways	The creek line of North Corrimal Creek. This includes the South Dam that flows into Towradgi Creek, immediately beyond the site’s southern boundary.

With the intended change of use to residential and open space, a number of studies have been commissioned to identify the areas of the site requiring remedial activities to make the site suitable for the proposed land uses.

The most recent RAP for the site (Arcadis May 2019) included a summary of previous contamination investigations and reports dating back to 1996. The assessment included collection of soil (test pits), sediment samples, sampling of surface water and groundwater and ground gas monitoring from locations across the site. Soil, sediment and water samples were submitted to a National Association of Testing Authorities (NATA) accredited laboratory for the analysis of contaminants of potential concern.

The RAP (2019) concludes that *“although concentrations of contaminants of concern were detected above environmental assessment criteria, they are isolated and minimal compared to the wider site footprint”*. The RAP (2019) outlines a Remediation Strategy for the site, with the expectation that the site can be made suitable for the proposed mixed-use redevelopment.

The RAP (2019) states that the impacted soil must be appropriately re-used, encapsulated or disposed such that it is not readily accessible to proposed site users and any potential ongoing risk to human health and/or ecological receptors is appropriately managed. The RAP notes that in addition to the known site impacts there are data gaps that currently exist within the sample set, primarily relating to areas beneath structures that were not accessible for sampling at the time of previous investigations. The RAP concludes that although additional delineation and potential data gaps exist, there is currently a robust data set on the site with the results indicating the current extent of remediation required is not prohibitive to redevelopment from either a cost or practical perspective.

The RAP (2019) classifies existing coal wash reject as clean fill material, with a proposed DCP control *“the coal washery reject (CWR) can be considered as fill material at the site and addressed as part of the remediation and proposed bulk civil earthworks plan”*. Council Environmental Officers have noted that existing coal wash reject on the site cannot be considered “clean fill” – this was confirmed through consultation with the Environment Protection Authority and further discussions with the Site Auditor. Wollongong DCP Chapter E19 Earthworks states that *“any pre-existing CWR fill is assumed to be uncontrolled fill (as defined in AS3798) and not compliant with this Chapter of the Wollongong DCP”*. As

such, this uncontrolled fill in its current condition constitutes a constraint to development. Further assessment will be required as part of the design process to categorise the fill and to determine its geotechnical suitability for reuse on the site.

Given the proposed remediation will treat and store more than 30,000m<sup>3</sup> of contaminated soil or disturb more than three hectares of contaminated soil, Council will treat the remediation as “Designated Development” under Schedule 3 of the *Environmental Planning and Assessment Regulation 2000*, which will require an Environmental Protection Licence (EPL) under the *Protection of the Environment Operations Act 1997*. The Geotechnical Assessment (Douglas Partners 2017) also considers that the reuse of existing filling (particularly that dominated by coalwash and coke products) or new coalwash filling which may be proposed for importation to raise site levels, will be governed by the requirements of the EPA Resource Recovery Order and Wollongong City Council Coal Washery Refuse in Subdivisions Policy. Any proposed remedial works and civil engineering design will need to comply with the Wollongong City Council Combustibility Policy and Wollongong DCP 2009 Chapter E19: Earthworks (Land Reshaping).

The draft DCP provisions propose on-site containment cells to be located within the central park and riparian areas, provided they do not pose an unacceptable risk to human health and ecological receptors. It is noted in the RAP (2019) that a long-term Site Management Plan (SMP) is required to be notified on the Planning Certificate for on site management of encapsulated contamination, promoting awareness of the contamination management and the requirements to avoid disturbance. The proponent has been advised that any on site containment would need to be placed under commercial buildings in private ownership with appropriate section 88B restrictions on the title of the land. Placement in the riparian or parkland areas, or under roadways is not appropriate due to potential future problems when these areas may need to be disturbed/dug up for maintenance etc.

Council’s Officers have raised concerns about any proposal to blend CWR with contaminated soil during civil works for finished levels, in terms of the potential to further impact groundwater and therefore surface waters of Towradgi Creek (noting that local ground water is shallow). It is noted that the nearby lower reach of Towradgi Creek is mapped as Coastal SEPP Coastal Wetland, Biodiversity Value on the OEH Biodiversity Values map and is classed as a Sensitive Estuary in the Illawarra Shoalhaven Regional Plan 2015.

The RAP confirms the site is subject to a Statutory Site Audit. A Non-Statutory Audit has been completed by Zoic Environmental, a NSW EPA Auditor accredited (No. 0802) under the *Contaminated Land Management Act 1997*. The ultimate aim is to enable a site audit statement (SAS) and associated site audit report (SAR) to be prepared that confirms the suitability of the site for the proposed mixed residential land use development and open space associated with a creek alignment. The Audit is being staged, with Stage 1 signed off in an Interim Advice letter endorsing the Remediation Action Plan (RAP). The Auditor considers the RAP (2019) is practical and technically robust for the contamination identified on site and that, if implemented, the site is capable of being made suitable for the proposed redevelopment, subject to conditions.

### 3.5.2 Acid Sulfate Soils

Wollongong LEP 2009 maps the majority of the site (approximately 97%) as Acid Sulfate Soils Class 5. Approximately 3% is mapped as Class 3 land.

The RAP states that proposed bulk earthworks will disturb soils deeper than 1m below current natural ground surface and has the potential to generate acid sulfate soils (if present). It recommends that prior to commencement of the bulk earthworks a targeted acid sulfate soils investigation should be carried out in general accordance with the NSW ASSMAC (1998) Acid Sulfate Soils Assessment Guidelines – details of this assessment will be included within a Sampling Analysis and Quality Plan (SAQP). The findings of the assessment should be used to determine the requirement for any treatment of soil prior to onsite re-use, in accordance with an acid sulfate soil management plan prepared for the site.

### 3.5.3 EPA Licence

The Environment Protection Authority (EPA) has advised that they have been regulating the Corrimal Coke Works site under an Environment Protection Licence (EPL) No. 125 (first issued 1 March 2000) for the purpose of coke production. Coke production ceased in April 2014 and since that time the land has been dormant.

With the end of production and the proposed change in land use, ICC applied to surrender this licence. In January 2018 NSW EPA formerly provided notice to Council of the surrender on the license. Wollongong Council is now the environmental regulator of the site. It should be noted that the EPA will continue to assist Council to appropriately manage any environmental matters as the land transitions to a new use.

### 3.5.4 Acoustic and Vibration

The Environmental Noise and Vibration Assessment (Renzo Tonin & Associates, May 2019) regarding acoustic and vibration impact due to rail and road noise was reviewed by Council Environmental Officers who concluded that noise and vibration issues do not present any constraint to rezoning the site for residential use.

Noise impacts can be suitably mitigated to achieve compliance through standard treatments to future residential developments (e.g. attenuation methods for buildings, mechanical plants and ventilations, or s88 restrictions) which will be stipulated at the development application stage. Acoustic barriers along the railway line that blend with the landscape will be encouraged and Council Officers have noted that the recommended Category 1 and 2 acoustic attenuation measures will most likely have to be upgraded to meet the Infrastructure SEPP criteria for internal living. The proponent has indicated the 2020 Master Plan includes a 25-metre buffer between proposed residential buildings and the rail corridor, consistent with the Infrastructure SEPP.

### 3.6 Traffic and Access

Council resolved (3 April 2018) that the draft Planning Proposal for exhibition include -

- *An amended Traffic Impact Assessment to address the likely impacts of the development on the surrounding roads, including the rail level crossing and addressing the requirements of Table 2.1 of the RTA Guide to Traffic Generating Development.*

A number of traffic and transport reports have been prepared for the site in support of the draft Planning Proposal request, as a requirement of the Gateway Determination and in response to further information requests from Council staff and State Agencies. The studies are as follows -

- Traffic and Parking Impact Assessment (McLaren Traffic Engineering & Road Safety Consultants, September 2017).
- Traffic and Transport Assessment (Bitzios, April 2019).
- Corrimal Station Residential Development Roundabout Access Intersection Proposal (Bitzios, May 2019).

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### Key Traffic and Access Findings and Recommendations

Extensive modelling was undertaken to better understand the likely impacts of the proposed development on the surrounding roads, including the rail level crossing. The VISSIM microsimulation traffic model was developed using traffic signal timing and phasing at signalised intersections data provided by the RMS and video footage of peak period operations cross referenced with boom gate opening and closing data provided by Sydney Trains. RMS traffic generation rates were applied to each land use, to calculate the site's expected traffic generation. The impact assessment methodology/modelling was based on a "no worsening approach",

Overall, the modelling revealed that the current intersection and link configurations will accommodate the additional traffic generated between 2018 and 2026 with most of the key intersections expected to retain a similar level of service in 2026 with or without the additional development. However, during the AM peak, the Memorial Drive/Railway Street intersection is the location most affected by the development's traffic, operating with a Level of service (LoS) D and average delay of 55.7 seconds (i.e. "operating at near capacity"). The proposed access to the development site operates with a LoS C and delay of 42 seconds. During the PM peak, the Memorial Drive/Railway Street intersection is expected to operate at a LoS E and an average delay of 62.9 seconds (i.e. "at capacity").

TfNSW has completed an assessment from a State road network perspective, has reviewed the Traffic Impact Assessment (TIA) and notes that the Planning Proposal would generate a significant number of vehicle movements. TfNSW has concluded that major upgrades will be required at a number of intersections on Memorial Drive in the future to accommodate the high traffic demands and has proposed a way forward involving a monetary contribution and other commitments from the proponent.

It should be noted that the original concept included two access points to Railway Street however, with the proposed transfer of Lot 126 DP 598190 to Council for the future rail bridge the number of intersections in the concept plan have been reduced to one.

The recommendation is for a consolidated single-lane roundabout at the intersection of Railway and Harbinger Streets as the preferred approach to access the site. Should a Harbinger Street roundabout be deemed the most suitable access point for the development, then all of the EEC in the north would be unable to be retained due to direct and indirect impacts during construction and then over time, and hence an offset policy/arrangement would be required. It should be noted that although the vegetation in the north of the site in the vicinity of this proposed access point has high conservation status (EEC), its conservation significance is low to moderate based on patch size, current and proposed future surrounding land use and the ongoing impacts that are likely to prevail. There is a mechanism by which Biodiversity loss can be offset (NSW Biodiversity Offset Scheme) whereby the entire 0.59 ha would be considered as lost to development through direct and indirect impacts.

A proposal for an additional left in/left out access off Memorial Drive approximately 480 metres south of its intersection with Railway Street was investigated however not deemed appropriate.

A key vision for the site is the provision of shared paths to increase the attractiveness of walking and cycling to key locations including the railway station, bus stops, the Town Centre, schools and recreation areas. Reduced on-site parking rates apply under Council's DCP in recognition of the proximity to public transport and the Town Centre.

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The Traffic and Parking Impact Assessment (McLaren 2017) was reviewed by key stakeholders including Transport for NSW, RMS, Sydney Trains and Wollongong City Council, with additional information requested to address a range of comments regarding traffic, transport and road/rail safety related issues. The supplementary Traffic Impact Assessment (Bitzios 2019) was commissioned to address these concerns, which included -

- Use of a VISSIM microsimulation traffic model to understand the traffic queuing and delay effects of increasing traffic on Railway Street – particularly the queuing and release effects associated with the boom gates at the rail level crossing and the congestion issues at Memorial Drive/Railway Street intersection.
- Analysis of historical crash data.
- Safety risk assessment of the railway crossing area.
- Investigation of pedestrian/cycle links between Short Street and Corrimal Station.

### 3.6.1 Modelling Traffic Generation

Extensive modelling was undertaken to better understand the likely impacts of the proposed development on the surrounding roads, including the rail level crossing. The VISSIM Model was developed for the 2018 AM and 2018 PM peak traffic conditions, calibrated and validated. The 2018

base model was then used to create the year 2026 base models, which is the estimated year of full development of the site. The 2026 traffic demands base model was created by adding the expected growth in background traffic to the traffic expected to be generated by the development (DA-2010/1562) opposite at 54-62 Railway Street and 10 Harbinger St, comprising 60 residential units and six villa homes. The Coke Works site expected development was then added into the model to arrive at the “2026 Base with Development” traffic demands for the area. Traffic signal timing and phasing at signalised intersections was replicated in the modelling from SCATS data provided by the RMS. The effects of the rail level crossing were also replicated in the model through video footage of peak period operations cross referenced with boom gate opening and closing data provided by Sydney Trains.

In line with the Council resolution, RMS traffic generation rates were applied to each land use, to calculate the site’s expected traffic generation. The impact assessment methodology/modelling was based on a “no worsening approach”, which involved ensuring that the “2026 with development” case impacts were sufficiently mitigated by upgrade works such that the “2026 with development + upgrades” case intersection was no worse than the “2026 Base” case.

Intersection levels of service (LoS) were modelled in line with the following criteria:

**Table 9: Intersection Levels of Service**

LoS Level	Delay Range (seconds)	Typical Intersection Operations
A	<14	Good operation
B	15 to 28	Good with acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Operating near capacity
E	57 to 70	At capacity
F	70 and above	Unsatisfactory

The additional traffic introduced into Railway Street by the development was found to equate to one vehicle every 10 seconds (two-way) in the peak hour, which is deemed insignificant on a distributor road such as Railway Street. The study showed an approximate 17% increase in daily traffic on Railway Street. The Traffic Impact Assessment (TIA) predicts 373 vehicle trips in the AM peak time and 456 trips in the PM peak.

Overall, the modelling revealed that the current intersection and link configurations will accommodate the additional traffic generated between 2018 and 2026 with most of the key intersections expected to retain a similar level of service in 2026 with or without the additional development. However, during the AM peak, the Memorial Drive/Railway Street intersection is the location most affected by the development’s traffic, operating with a LoS D and average delay of 55.7 seconds (i.e. “operating at near capacity”). The proposed access to the development site operates with a LoS C and delay of 42 seconds. During the PM peak, the Memorial Drive/Railway Street intersection is expected to operate at a LoS E and an average delay of 62.9 seconds (i.e. “at capacity”). The TIA proposes a traffic capacity upgrade at the Memorial Drive/Railway Street intersection to address the abovementioned congestion/queuing impacts anticipated to be generated by the development.

TfNSW has completed an assessment of the Planning Proposal from a State road network perspective and has indicated they are comfortable with the methodology used in the TIA. TfNSW notes -

- Memorial Drive and the surrounding local roads currently experience high traffic demands in the AM, PM and weekend peaks, particularly around the intersections of Memorial Drive with Towradgi Road, Railway Street and Rothery Street.
- The Planning Proposal would facilitate development which would generate a significant number of vehicle movements (373 vehicle trips in the AM peak and 456 PM peak).

- Traffic modelling has been undertaken to inform the Planning Proposal, with minor upgrades proposed at the Memorial Drive/Railway Street intersection to offset traffic impacts.

TfNSW has concluded, based on the wider review from a State road network perspective, that major upgrades will be required at a number of intersections on Memorial Drive in the future to accommodate existing high traffic demands and continuing growth in the area. TfNSW has proposed the following way forward -

- 1 A monetary contribution, through a Planning Agreement or other mechanism, from the proponent towards major upgrades to Memorial Drive at three intersections (i.e. Towradgi Road, Railway Street and Rothery Street).
- 2 Consideration to local road connections around the broader precinct to reduce the number of movements and/or conflicts at intersections along Memorial Drive and, where appropriate and reasonable, delivery of these connections or planning to preserve these connections as options for the future. For example, consideration to a local road connection between the site and Cross Street. Such a connection could enable the existing junction of Railway Street and Cross Street to be closed, thereby reducing conflicts at the intersection of Memorial Drive and Railway Street and removing a significant constraint to a major upgrade at this location. TfNSW would support the cost of any such connection being offset from the above monetary contribution. TfNSW believes a working group consisting of Council, the proponent and TfNSW be formed to examine local road connections.
- 3 Planning controls (i.e. as part of the DCP) to minimise residential parking on the site, consistent with the provisions of Section 7.4 of the existing Council DCP, recognising the close proximity of the site to public transport.
- 4 The early provision (by the proponent) of shared paths internal and external to the site to increase the attractiveness of walking and cycling for future residents of this site and existing residents in the surrounding area. The design of the network needs to promote walking and cycling to key locations above driving a car. Key locations include the railway station, the bus stops, the town centre, schools, other existing residential catchments, existing shared paths etc. The provision of broader network paths/active transport will reduce the vehicle trip demand on Memorial Drive.
- 5 Appropriate arrangements in and around the site to increase the attractiveness of public transport (both rail and buses).
- 6 Noise mitigation measures (as required) within the site to mitigate traffic noise from Memorial Drive.

TfNSW has no objections to the planning proposal going on public exhibition.

### 3.6.2 Access

It should be noted that the original 2017 Concept included two access points to Railway Street however, with the proposed transfer of Lot 126 DP 598190 to Council for the future rail bridge the number of intersections in the concept plan have been reduced to one. The proposed second access point would interfere with the location of a future overpass.

The Traffic Impact Assessment (Bitzios 2019) proposed access to the site via a single intersection off Railway Street, approximately 60 metres east of Harbinger Street and approximately 210 metres west of the rail line level crossing. The area has a posted speed limit of 50 km/h. Traffic Modelling confirms that the access intersection can operate efficiently as a channelised "T" intersection with a right turn-in pocket and separate left turn-out and right turn-out lanes, sufficiently catering for entry and exit queues without interrupting through traffic on Railway Street and without queuing back to Harbinger Street intersection. Safe intersection sight distance can be achieved in accordance with Austroads requirements.

Council Officers requested an additional access point be investigated (e.g. Memorial Drive), and the Design Review Panel also raised concern about the single point of vehicle access – *"the single point of vehicle access may create safety issues on a development of this scale. If this entry point is blocked (road works, traffic accident, fire) there should be an alternative point of access and egress"*. The DRP

also noted the importance of ensuring that the vehicular access point connecting to the railway carpark is operational.

Council Officers have recommended one consolidated access point on Railway Street from a traffic safety and capacity perspective – this will result in less vehicle friction and turning movements and hence fewer delays and reduce the number of conflict points where accidents could occur. The fewer access points also assist in providing pedestrian/cyclist priority on the Railway Street shared path. To address the DRP concerns, the Council Traffic Officer recommendation is the consideration of a wide green/pedestrian/cyclist link into the site, which could double as an emergency access (emergency services can mount the kerb if needed to access the development).

Council Officers have raised concerns over the proposed access location on Railway Street, with offset/staggered intersections identified as a sub-optimal outcome. Following further discussion with the TfNSW Roads and Maritime Services, the recommendation was that a consolidated single-lane roundabout at the intersection of Railway and Harbinger Streets would be the preferred approach to access the site, subject to traffic modelling demonstrating no negative traffic impact on the Memorial Drive/Railway Street intersection. A consolidated single lane roundabout at that location would offer a number of safety outcomes as per the Safe System Approach (National Road Safety Strategy) and avoid potential problems inherent in the offset/staggered intersection proposal -

- Calm traffic.
- Provide a more convenient/shorter pedestrian crossing distance.
- The offset/staggered intersection arrangement would require the removal of substantial amounts of residential and visitor parking on Railway Street.
- The offset/staggered intersection arrangement would result in difficulties for drivers attempting to make a right hand turn out of Harbinger Street, as well as the proposed off set development road, resulting in traffic inefficiencies and safety concerns.

Subsequent traffic modelling (Bitzios 2019) has confirmed that a single-lane roundabout at the intersection of Railway and Harbinger Streets performs at a LoS A with an average delay of 7 seconds for both morning and afternoon peak periods and has no negative queuing impact to the Memorial Drive intersection with Railway Street or the railway level crossing. The RMS is supportive of a roundabout at this location.

Should a Harbinger Street roundabout be deemed the most suitable access point for the development, then all of the EEC in the north would be unable to be retained due to direct and indirect impacts during construction and then over time, and hence an offset policy/arrangement would be required. It should be noted that although the vegetation in the north of the site in the vicinity of this proposed access point has high conservation status (EEC), its conservation significance is low to moderate based on patch size, current and proposed surrounding land use and the ongoing impacts that are likely to prevail. There is a mechanism by which Biodiversity loss can be offset (NSW Biodiversity Offset Scheme) whereby the entire 0.59 ha would be considered as lost to development through direct and indirect impacts.

A proposal for an additional left in/left out access off Memorial Drive approximately 480 metres south of its intersection with Railway Street was investigated however not deemed appropriate for the following reasons -

- It would introduce another intersection onto a road which has limited access, impacting its primary through-traffic carrying function and potentially traffic safety.
- It would require long deceleration and acceleration lanes in an 80 km/h speed environment.
- It may introduce weave conflicts associated with movements into turn pockets at the Towradgi Road intersection.
- It was not supported by RMS.



### 3.6.3 Railway Crossing Risk Assessment

Sydney Trains was consulted over the methodology to assess potential changes in risk at the Railway Street Open Level Crossing (OLC) due to the additional traffic and pedestrians generated by the adjacent development. Sydney Trains ran the development's additional trips through its Australian Level Crossing Assessment Model (ALCAM) to understand potential changes in crash risk associated with the development. The ALCAM is an assessment tool used to identify potential risks at level crossings and to assist in the prioritisation of crossings for upgrades.

Based on the ALCAM model results the development's impacts on the Railway Street level crossing due to additional traffic and pedestrian movement are insignificant. State Rail's ALCAM model calculated a probability of one fatality every 104 years, which is the same risk as without the development. No risk mitigation works at the level crossing are required to facilitate the development.

### 3.6.4 Land Reservation Acquisition

Lot 126 DP 598190 located on Railway Street adjacent to the level crossing is zoned SP2 Infrastructure (Road) and has been earmarked for Council acquisition since 1974 to enable a bridge to replace the level crossing. The original submitted draft Planning Proposal and concept plan proposed the rezoning of this area and residential development. Following discussions with Council officers, the Planning Proposal was amended to retain the SP2 Infrastructure (Road) zone and the concept plan was amended to remove the residential development. The lot is also identified in the Wollongong LEP 2009 Land Reservation Acquisition Map for Council acquisition. It is envisaged that the acquisition will occur as part of the Development Application process, and the cost will be off set from the development contribution. There is no timeframe or budget for the construction of the bridge and there has been no discussion with State Transport agencies on funding. It is likely that the 1974 design will need to be updated. Securing the corridor is an important step in providing for the future bridge.

### 3.6.5 Cycle Way/Connectivity and Linkages

The Traffic Impact Assessment (TIA) (Bitzios 2019) concluded that there are few formal bikeways located in close proximity to the development site – the cycling network in and around the site is not very well connected with a number of gaps and missing links. Cycling along Railway Street is not well catered for with narrow kerbside lanes and relatively narrow footpaths.

Several options were considered in the TIA in relation to facilitation of a connection between the existing cycle way link at Short Street west of Memorial Drive through to Corrimal Station. The TIA presents a preferred option being a shared path for pedestrians and cyclists between Short Street (the existing community facilities and pool) and Murray Road via Gilbert Street, Railway Street, and Pioneer Road, thereby providing a missing link between the existing off-road cycleway paths. The preferred option is as follows -

- Widening of the existing path/link between Short Street and Gilbert Street.
- A new shared path on Gilbert Street.
- Widening of the existing footpaths on the southern side of Railway Street and also Pioneer Road to cater for the new proposed shared path.
- Implementation of directional signage along the route.

The preferred route is along the southern side of Railway Street, which is consistent with the Wollongong City Council Bike Plan 2014-2018. The applicant has proposed to construct a shared path along Railway Street from Cross Street to the Railway commuter car parking entrance as part of a Voluntary Planning Agreement (VPA) with Council.

A grade separated crossing (overpass/underpass) of Memorial Drive was deemed not warranted in the TIA – a grade separated crossing would be considered in circumstances such as where there is a history of crashes involving pedestrians or the number of pedestrians using a crossing would significantly reduce the overall performance of the road.

### 3.7 Development Contributions / Voluntary Planning Agreement

Council resolved (3 April 2018) that the draft Planning Proposal for exhibition include -

- *Advice on the proposed facilities and/or infrastructure, including costings, that are proposed to be incorporated into a draft planning agreement.*

A development contribution levy is a fee to be paid by any person undertaking a new development. The money is used to provide improved or increased public infrastructure and facilities in accordance with the *Environmental Planning & Assessment Act 1979 and Regulation*.

Based on a 1% Section 7.12 (formerly S94A) levy, the proposed \$250 - \$270 million development cost could contribute \$2.5 - \$2.7 million in development contributions. Voluntary Planning Agreements (VPAs) may be accepted as an alternative to development contributions in line with Council's adopted Planning Agreement Policy, involving the provision of a material public benefit such as a monetary contribution, works and/or land dedication. A VPA is an agreement entered into by Council and a developer during Council's consideration of a rezoning application (planning proposal) or a development application and can be either in lieu of or in addition to a development contribution payment.

The proponent has indicated the intention to enter into a Voluntary Planning Agreement (VPA) with Council, submitting a Letter of Offer for a VPA and Schedule of Public Benefits (19 August 2020), detailing a range of public benefits to be provided as part of the development, some of which will offset local contribution payments, wholly or partially (Attachment 5).

The key items identified as a public benefit and therefore consideration for a contribution offset include -

- Provision of a pedestrian/cycling connection along Railway Street from Cross Street to the Railway commuter car parking entrance and from Railway Street to the Council reserve south of Towradgi Creek.
- Road widening land dedication (Lot 126 DP 598190 on Railway Street) to facilitate a future rail overpass bridge.
- Railway Street/Harbinger Street roundabout.
- Station Plaza public access.

The following public benefit items are also proposed with no offset of contributions -

- Provision of two neighbourhood scale parks (3,000m<sup>2</sup> and 5,000m<sup>2</sup>).
- Establish riparian corridor with passive recreational, active transport and ecological functions.
- 35 Affordable Rental Housing Dwellings.

### 3.8 Draft DCP Controls

Council resolved (3 April 2018) that the draft Planning Proposal for exhibition include the following additional information -

- *A site specific DCP Chapter be developed and submitted in conjunction with the amended Urban Design Concept Plan addressing the following -*
  - *Building Heights.*
  - *Floor Space Ratios.*
  - *Lot Size.*
  - *Building envelopes.*
  - *Road widths.*
  - *Public spaces.*
  - *Streetscapes.*

- *Housing types.*
- *Connectivity and Access.*
- *Views and Vistas.*
- *Urban Form Design development.*
- *Clause 7.18 Design Excellence of the Wollongong LEP 2009 (Key Site requirements).*

Independent advice on the draft Master Plan and draft DCP was sought from the Design Review Panel to assist in the evaluation of the updated Planning Proposal request submitted in May 2019. The Design Review Panel attended a site visit on 17 July 2019 and provided independent feedback on the draft Master Plan and draft DCP (Attachment 8). The DRP noted the importance of a site specific DCP to provide the community with a level of certainty that the proposed Master Plan can be delivered and provide guidance and a tool for Council and the Panel in the assessment of future Development Applications for the site.

An updated Master Plan was subsequently submitted (August 2020), with an accompanying site-specific Development Control Plan (DCP) (Attachment 5). The site-specific draft DCP is intended to supplement the land use planning controls contained in Wollongong Development Control Plan (WDGP) 2009, to achieve the vision for this unique site. Where the Master Plan is proposing planning controls that vary significantly to the surrounding area (e.g. proposed heights and FSR), then there is a role for the DCP in providing detailed planning and design guidelines (including diagrams) to ensure the resultant built form can deliver on the vision, respecting heritage elements and key views etc.

It should be noted that SEPP 65 and the NSW Apartment Design Guide (ADG) are the key design controls for residential apartment buildings, and the Low Rise Housing Diversity Code may be applicable for any dual occupancy or multi dwelling houses (terraces, townhouses and villas) proposed for the site. Additionally, Chapter B2 - Residential Subdivision of Councils DCP has recently been updated to include best practice road cross sections that represent new development expectations.

The draft site-specific DCP submitted includes the following provisions -

- Key objectives for the site to achieve the vision.
- Key planning and design principles.
- Elements of the Master Plan.
- Desired future character statements, identifying 5 character precincts.
- Subdivision and built form objectives.
- Views and vistas controls.
- Mapping of key view corridors and key public domain spaces to guide future development - preservation/creation of key view corridors to respect heritage elements/key district views.
- View Map includes -
  - Murray Road corridor.
  - Entry view from Railway St to the Brick chimney.
  - Views to the ridgelines of the escarpment and the brick chimney.
  - Central view corridor.
- Residential building setback controls.
- Architectural diversity and design controls.
- Non-residential development controls, including mapped location of types of non-residential uses proposed and indicative active frontages and loading zones.
- Site specific reduced parking rates are proposed, taking into consideration the site's location adjacent Corrimal Railway Station and in close proximity to the Corrimal Town Centre, including proposed one hour and four hour on street parking limits to discourage all day commuter parking on site.
- Key heritage objectives and controls specific to the site, for example maintaining and establishing views to the Brick Chimney.

- Overall public domain objectives and controls, and specific controls for the 4 public domain areas.
- Flying Fox Management controls.
- Streetscape character, street design and road width controls.
- Flood management and riparian corridor geomorphology / stability objectives and controls to reflect flood studies and engineering design work submitted .
- Contamination and Earthworks controls.

In order to align the draft DCP provisions with the intended vision for the site and recommendations in this report, it is proposed to further develop the draft DCP document prior to public exhibition. The key amendments proposed are tabled below -

Draft DCP inclusion	Officer Recommendation
Table 1: Lists a number of WDCP 2009 Chapters (or part Chapters) that are not applicable to this site.	Delete table – WDCP 2009 applies to the site. The site - specific chapter should only include (and provide justification for) controls to supplement WDCP 2009, where departures to WDCP 2009 are sought.
Draft DCP inclusion	Officer Recommendation
Desired Future Precinct Character expressed as a statement.	<p>Further work required to develop Desired Future Character Objectives, and the development controls intended to deliver the distinct character of each precinct, ensuring the proposed height and FSR combinations deliver the intended character.</p> <p>Precinct controls to consider scale, material, landscaped area, setbacks, articulation zones and streetscape as well as key interfaces, views and connections. Required are images, cross sections, street sections and diagrams of built form typology, setbacks and maximum building length controls etc to support/deliver the diverse precincts envisaged.</p>
5.4 Proposed basement controls contrary to the Apartment Design Guidelines (ADG).	ADG control to be included – “protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites”.
New controls proposed under the following heading: 7.3.3 Street Design and Road Widths	The B2 Residential Subdivision Chapter has recently been updated to include best practice road cross sections involving extensive consultation across Council divisions – these represent new development expectations and should be relied upon.
New controls proposed under the following heading: 8.2 Stormwater Management	Section 8.2 Stormwater Management be removed from the draft site-specific DCP and Council’s current DCP Chapter (E14 Stormwater Management) be relied on to guide future development.
New controls proposed under the following heading: 8.3 Riparian corridor geomorphology and stability Flood management and riparian corridor geomorphology/stability objectives and controls to reflect flood studies and	<p>The riparian design and geomorphology studies were required to provide confidence that a design solution could be achieved. These are not final designs. Further design work will be required at the DA stage in line with Council’s current policies.</p> <p>Section 8.3 Riparian corridor geomorphology and stability be removed from the draft site-specific DCP and Council’s current DCP Chapters (E13 Floodplain</p>

engineering design work submitted	Management and E23 Riparian Land Management) be relied on to guide future development.
New controls proposed under the following two headings: 8.4 Contamination and remediation 8.5 Earthworks	Sections 8.4 Contamination and Remediation and 8.5 Earthworks be removed from the draft site-specific DCP and Council's current DCP Chapters (E19 Earthworks – Land Reshaping and E20 Contaminated Land Management) be relied on to guide future development.

In addition, Council Officers have recommended that the following should be further explored, while recognising there may be other issues raised through the exhibition -

- Additional site objectives to guide the future development (e.g. protection of the GHFF camp).
- Further development of appropriate active frontages and loading zones in the heritage precinct, and articulation zone and basement car parking/podium controls in relation to residential development.
- Further consideration of the alternative parking rates proposed for specific land uses.
- Consideration of the DRP recommendation to include a Public Artwork section in the DCP, including objectives and controls involving the re-use of suitable heritage elements, salvage of heritage materials for integration into art works on site etc.
- Include residential development controls (as per the DRP recommendation) to reduce the level of disturbance to future residential buildings in the vicinity of the GHFF camp – measures such as orientation of buildings, material selection, noise attenuation etc.
- Clarification that a Vegetation Management Plan (VMP) is required for the ecological restoration of the entire length of the realigned corridor (not just the ecological area in the southern part of the site as referenced in the draft DCP) and that landscaping and vegetation species within the realigned corridor must be designed to prevent the expansion of the GHFF camp further north near future planned residential development.
- Clarification that the solar access controls for the Village Park and Southern Park are to include “at least 4 hours of *continuous* solar access to at least 70% of its area all year round”.

## CONSULTATION AND COMMUNICATION

Preliminary agency and internal specialist staff consultation was undertaken as part of the assessment of the original 2017 draft Planning Proposal request in October 2017. Feedback from this consultation was provided to the proponent to inform the preparation of the more detailed studies required as part of the Gateway Determination, further consultation with relevant State agencies, and subsequently the updated draft Planning Proposal and Master Plan.

The Gateway Determination stipulates a number of State agencies to be consulted during public exhibition of the draft Planning Proposal.

### State Agency Consultation

Preliminary notification consultation in relation to the original draft Planning Proposal occurred in 2017. The following comments were received -

Department of Primary Industries - Water	Generally in agreement with assessment of water courses and recommended riparian outcomes.  Crown Lands and Water Division (CL&W) will undertake further assessment of the proposal at the development application stage. Future detailed design of the development is to be undertaken with consideration of the DPI Water 2012 Guidelines for riparian corridors on waterfront land, as well as the following key points –
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	<ul style="list-style-type: none"> <li>• Realigned and reconstructed watercourses are to be designed as natural functioning streams including emulation of natural geomorphic units and meander.</li> <li>• Detention requirements must be designed in accordance with CL&amp;W Guidelines.</li> <li>• The riparian corridor is to be established using fully structured provenance native vegetation.</li> <li>• The proposed bike track must be constructed in the outer 50% of the Vegetated Riparian Zone in accordance with the DPI Water Guidelines.</li> <li>• All non-riparian uses within the required 20m Vegetated Riparian Zone are to be offset in accordance with the Guidelines for riparian corridors on waterfront land.</li> </ul>
<p>Office of Environment and Heritage</p>	<p>Support revitalisation of former industrial site in principle, including a long term conservation outcome for the riparian corridor and retained areas of remnant native vegetation. Support zoning to either RE1 or a suitable environmental zoning.</p> <p>Under the BC Act, biodiversity offsetting is mandated where native vegetation clearing thresholds are exceeded – applies to all native vegetation, not just EECs.</p> <p>Parts of the site are high hazard floodways and flood storage areas. Proposed realignment of riparian corridor should consider the geomorphic stability of the resultant watercourse. It is important that both flooding impacts on the stream and impacts of stream rehabilitation on flood behaviour are considered to ensure a suitable outcome.</p> <p>Support measures to enhance items of heritage and avoid impacts upon heritage. Aboriginal community consultation is required. Aboriginal objects are protected under the NPW Act – an AHIP may be required.</p>
<p>Sydney Water</p>	<p>Trunk water system in the area has adequate capacity to service the proposed redevelopment of the site.</p> <p>Sydney Water cannot provide any wastewater capacity – the existing wastewater system is already experiencing a capacity related issue. If the proponent can provide sufficient on-site storage to ensure that pumped flows would only be discharged to our system under dry weather conditions, and flows limited to 2L/s or less, then may be potential to accommodate the proposed redevelopment servicing. Sydney Water would be willing to work with the developer in developing a wastewater servicing scheme that woks within the limitations of the system (i.e. with no wet weather discharge and with limited 2L/s dry weather discharge).</p> <p>The Developer may consider onsite recycling and reuse (including stormwater harvesting) as part of water cycle management/wastewater services in their development site.</p> <p>The proponent should ensure they consider stormwater management as part of their site work/design – the local stormwater system does not appear to have adequate capacity to transfer runoff during heavy wet weather events resulting in local flooding.</p>
<p>National Trust of Australia</p>	<p>The site includes a number of significant industrial heritage items. Note recommendation for need of a Statement of Heritage Impacts – supported.</p> <p>The following aspects should be considered when redeveloping the site -</p>

	<ul style="list-style-type: none"> <li>• Industrial history/archaeology/industrial architecture.</li> <li>• Significant heritage elements to be preserved. In addition to eastern brick chimney, the steel chimney should also be retained.</li> <li>• Commitment to thorough recording of items needed.</li> <li>• Pollutants on site – plan for treatment/disposal.</li> <li>• Fuller impact analysis expected for natural habitats and riparian space.</li> <li>• Notes SEPP Infrastructure applies to site.</li> <li>• Need indication of targeted demographics and affordable housing.</li> <li>• Suggest on site commercial uses (small supermarket, cafes etc).</li> <li>• Prefer maximum height of 5 storeys.</li> </ul>
<p>Rural Fire Service</p>	<p>No objections.</p> <p>The bush fire risk that can be posed by the riparian corridor and biodiversity conservation communities proposed to be retained needs to be addressed in subsequent stages. Future DA for subdivision and higher density residential development needs to comply with Planning for Bush Fire guidelines (provision of APZs, access etc).</p> <p>Recommend inclusion of a continuous perimeter road along the bush land interface along the vegetation/open space associated with the riparian corridor.</p>

Post Gateway, and following the completion of additional studies and submission of an updated Master Plan and draft Planning Proposal for the site, the following comments have been received -

<p>TfNSW</p>	<p>Noted that the development proposes to realign North Corrimal Creek. TfNSW concurrence under Section 138 of the Roads Act 1993 is required for structures and disturbances to or under the road reserve. TfNSW will not object to the proposed creek realignment subject to following the DA process and achieving Section 138 approval.</p> <p>Noted that Council is proposing a 15m offset to Memorial Drive – RMS would accept a minimum 10m offset from the Memorial Drive boundary to the top of the channel, provided the batter slope is 1:4.</p> <p>Provision will not be provided for maintenance (or other) access from Memorial Drive – Council needs to be satisfied that an alternative access for maintenance can be provided.</p> <p>If any structures are to be placed between the road boundary and the channel, such as existing earth berms, then sufficient offset (5m) from the base of that structure to the top of the channel must also be provided.</p> <p>Based on the wider review from a State road network perspective, major upgrades will be required at a number of intersections on Memorial Drive in the future to accommodate existing high traffic demands and continuing growth in the area. TfNSW has proposed the following way forward -</p> <ul style="list-style-type: none"> <li>• A monetary contribution, through a Planning Agreement or other mechanism, from the proponent towards major</li> </ul>
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	<p>upgrades to Memorial Drive at three intersections (i.e. Towradgi Road, Railway Street and Rothery Street).</p> <ul style="list-style-type: none"> <li>• Consideration to local road connections around the broader precinct to reduce the number of movements and/or conflicts at intersections along Memorial Drive and, where appropriate and reasonable, delivery of these connections or planning to preserve these connections as options for the future. TfNSW would support the cost of any such connection being offset from the above monetary contribution.</li> <li>• Planning controls (i.e. as part of the DCP) to minimise residential parking on the site, consistent with the provisions of Section 7.4 of the existing Council DCP, recognising the close proximity of the site to public transport.</li> </ul>
<p>TfNSW (continued)</p>	<ul style="list-style-type: none"> <li>• The early provision (by the proponent) of shared paths internal and external to the site to increase the attractiveness of walking and cycling for future residents of this site and existing residents in the surrounding area. The provision of broader network paths/active transport will reduce the vehicle trip demand on Memorial Drive.</li> <li>• Appropriate arrangements in and around the site to increase the attractiveness of public transport (both rail and buses).</li> <li>• Noise mitigation measures (as required) within the site to mitigate traffic noise from Memorial Drive.</li> </ul> <p>TfNSW has no objections to the planning proposal going on public exhibition.</p>
<p>Department of Environment Energy &amp; Science</p>	<p>Stream realignment: an appropriately designed and constructed natural stream corridor with meander is preferred over a hard engineered and straightened stream which are steeper and more vulnerable to erosion and can result in adverse downstream hydraulic impacts (as identified in the geomorphic assessment). A natural stream profile supported by appropriate riparian vegetation widths would reduce the erosion potential, enable more natural stream treatments and provide ecologically sustainable benefits and provide lower longer-term maintenance costs to future landowners.</p> <p>The final proposed land use zoning should have regard to flood affectation and appropriate vegetated riparian zone requirements as a result of the watercourse realignment.</p> <p>The requirements for emergency services agencies including the SES need to be ascertained, particularly regarding any access and evacuation needs.</p> <p>Recommend Council consider measures to integrate buffers to the flying-fox camp into the Planning Proposal and/or future development applications.</p> <p>Buffers between the camp and residential development should be created as wide as reasonably practicable with guidance of up to</p>

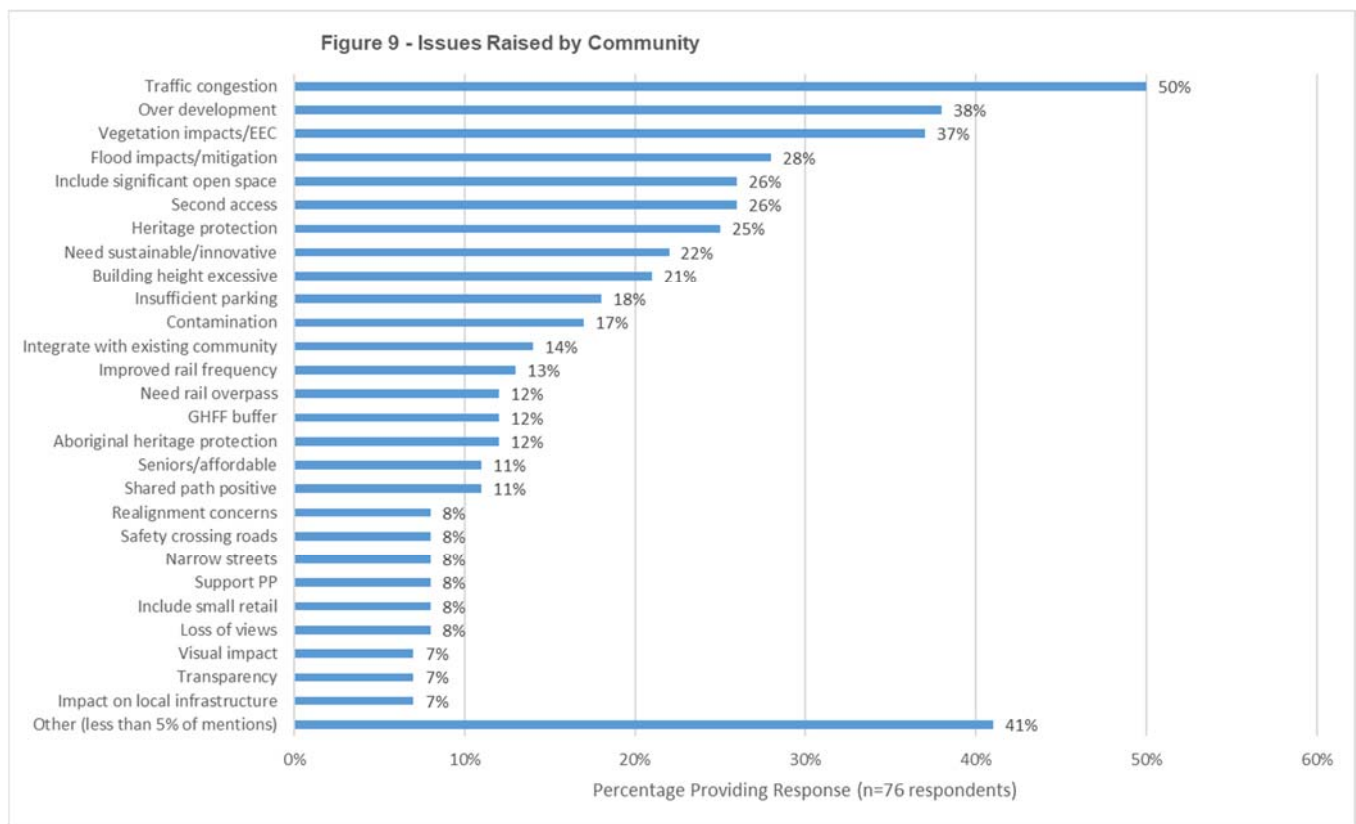


	<p>300m in width, but determined on a case by case basis – opportunity for strategic planning to incorporate suitable buffers.</p> <p>Vegetation modification undertaken to support creation of buffers should avoid areas of Illawarra Lowlands Grassy Woodland EEC and undertaken during the winter window outside of GHFF breeding season.</p> <p>Buffers should be replanted with species not suitable for flying-foxes, comprise trees less than 3m in height and/or managed open space and riparian land.</p> <p>Planning mechanisms including zoning amendments, building setback and building envelope controls should be investigated to support and enable the creation of buffers through vegetation modification.</p> <p>Community awareness of the camp is critical and future nearby residents should be notified about the camp by s. 10.7 planning certificate notifications.</p>
<p>Department of Environment Energy &amp; Science (continued)</p>	<p>Housing residents next a known GHFF camp will necessarily generate conflict, as experienced many times over with the increasing establishment of camps in urban areas. This will lead to increased workload for Council staff in terms of community engagement/education and responding to community requests to remove the flying-foxes.</p> <p>Dispersal of flying-foxes is not preferred – likely to be costly, ongoing and unlikely to succeed. Requires threatened species licence under the Biodiversity Conservation Act 2016.</p>
<p>Heritage NSW</p>	<p>On 5 February 2020 the nomination was considered by the State Heritage Register (SHR) Committee of the Heritage Council of NSW where it was resolved to progress the State Heritage nomination to the next stage of review and prioritisation.</p> <p>On 5 May 2020 the SHR Committee agreed the item is likely to meet the threshold for State Heritage significance and advised Heritage NSW to proceed with an assessment. The assessment will involve research and further consultation with the owners, Council and other key stakeholders.</p>
<p>National Trust of Australia</p>	<p>Opposition to proposed rezoning – support continuing as industrial area (focus on 21<sup>st</sup> century lean green options).</p> <p>Oppose additional 700 dwellings on site – significant negative impacts surrounding locality.</p> <p>Supports ongoing rehabilitation/maintenance of wetlands/native vegetation communities on site.</p> <p>Site added to National Trust Register in October 2019.</p>
<p>Housing Trust</p>	<p>Entered a Memorandum of Understanding (MOU) with Legacy Property to progress commercial discussions about the delivery of Affordable Rental Housing.</p> <p>The intent of the MOU is that the Housing Trust would acquire a freehold parcel within the development and design, build and manage the Affordable Rental Housing proposed.</p>

NSW Ministerial Guidelines for a definition of tenant eligibility for Affordable Rental Housing – an income range of approximately \$52,000-\$72,000 for households without children and \$89,000-\$124,000 for households with one or more children, this cohort often “key workers”. Housing will be provided at below the market rate

### Community Consultation

Preliminary community consultation (non-statutory) was undertaken from 23 October to 24 November 2017 based upon the 2017 Planning Proposal and Masterplan. A total of 18 submissions were received. Council has continued to receive correspondence from the community which at the time of this report included letters/emails from 76 individuals/groups expressing concerns and hopes for the site. The following graph illustrates the key issues raised -



The Heritage Amendment Planning Proposal was placed on public exhibition between 9 March and 8 April 2020. A total of 27 submissions were received and reported to Council on 29 June 2020, where Council resolved to finalise the Planning Proposal (Attachment 10). A Local Heritage Listing Amendment was notified for the site on 11 September 2020.

A public meeting organised by a local community group was held on Sunday 18 February 2018, and reportedly attended by approximately 50 persons. The Illawarra Coke Company (ICC) advised that speakers stated that they are not against the development but want it to be done in such a way that it becomes an asset for Corrimal. Concerns that were raised included traffic and pedestrian road crossing issues, preservation of industrial heritage, damage to local wildlife habitat, flooding issues (including downstream of the site), pressure on local schools and services and a desire that this be a truly sustainable and quality development.

The proponent undertook a number of visioning workshops in December 2018 and March 2019 during the completion of the final technical studies required from the Gateway Determination.

Council at its meeting 3 April 2018 resolved that any public exhibition should be for a minimum 60 days and include a public information session to be held in Corrimal in the first half of the exhibition period. Restrictions due to COVID-19 will mean the resolution to hold a public information session may not be possible, and an Engagement Strategy has been developed in response to these restrictions.

The directive from the State Government in response to COVID-19 is that it is important for all in the planning system to continue to do the work needed to keep the economy moving, including the progression of planning proposals. The Department of Planning has been instigating a number of measures in response to COVID-19, including introducing the *COVID-19 Legislation Amendment (Emergency Measures) Bill 2020* which has removed the requirement for planning decision makers including Councils to display physical copies of documents. These documents will now be available online via the NSW Planning Portal and local Council websites. Until further notice there will be no opportunities for community meetings, face to face consultation or library/customer service centre access to documents.

The focus of the Engagement Strategy is to incorporate some flexibility in the exhibition arrangements to work with community groups and individuals to ensure the community continue to be able to access the documentation and be able to provide their feedback. The Engagement Strategy includes the following options for Council to consider -

- Ensure the exhibition is widely advertised through the media, social media, posters in key locations and in mail outs to surrounding residents and people who have made a submission/sent in correspondence on the Planning Proposal to date
- Include the whole package of information, including technical studies, on Council's website and the Department's planning portal
- Include in the mail outs and on the website, FAQ sheets that provide information on questions that have arisen from feedback to date
- Assistance at libraries for people to make a booking to access the website documentation on exhibition
- Make hard copies of some information available to the community to be managed by a nominated person acting as a librarian
- Development of an interactive engagement hub on Council's website providing the opportunity to -
  - view the site on a map in the context of surrounding development, landforms and infrastructure.
  - use an interactive map to drag a "topic" to a specific location on the map and provide a comment. Visitors to the web page will be able to view these comments and add to the conversation, including the option to upload photos.
  - opportunity to leave comments/requests for further information on the web page that will be monitored and responded to by Council Officers.

The exhibition will commence as soon as possible following finalisation of the package of documents. If the exhibition period coincides with the holiday period, it will be extended as required under Council's adopted Community Participation Plan.

### **Illawarra Shoalhaven Regional Plan 2036**

The Planning Proposal is consistent with the objectives and targets of the Illawarra Shoalhaven Regional Plan 2036, specifically –

Goal 2 – a variety of housing choices with homes that meet the needs and lifestyles.

Direction 2.1: provide sufficient housing to suit the changing demands of the region.

Direction 2.2: support housing opportunities close to existing services, jobs and infrastructure in the region's centres.

The Regional Plan identifies the provision of housing in existing urban areas as a sustainable option, in that it takes advantage of existing job markets, infrastructure, commercial and retail opportunities, public transport and facilities for pedestrians and cyclists. A number of centres have been identified in the Regional Plan for the focus of increased housing activity, including the northern corridor – Thirroul,

Corrimal and Fairy meadow. The subject site has the potential to provide a range of housing choice close to existing services offered by Corrimal Town Centre, providing connectivity and direct linkages to public transport and existing public facilities.

Goal 3 – a region with communities that are strong, healthy and connected.

Direction 3.1: grow the opportunities for investment and activity in the region's network of centres.

### **Community Strategic Plan – Wollongong 2028**

The Planning Proposal is consistent with the delivery of the following Wollongong 2028 Community Strategic Plan objectives:

#### **Objective 1.1 Our natural environment, waterways and terrestrial areas are protected, managed and improved:**

1.1.3 The potential impacts of natural disasters, such as those related to...flood...are managed and risks reduced to protect life, property and the environment.

#### **Objective 1.3 The sustainability of our urban environment is improved:**

1.3.1 manage land use to strengthen urban areas and improve connectivity close to train stations and key transport routes.

#### **Objective 5.3 Residents have improved access to a range of affordable housing options:**

5.3.1 housing choice in the Wollongong Local Government area is improved, taking account population growth, community needs and affordability.

#### **Objective 6.1 Wollongong is supported by an integrated transport system:**

6.1.4 integrated communities close to public transport and local services and facilities focused around existing trains stations and town and village centres are planned for and encouraged.

### **Local Strategic Planning Statement**

Council has adopted the Wollongong Local Strategic Planning Statement (LSPS) 2020 to provide a 20 year land use planning vision for the City. It has drawn on the many existing strategies and plans developed, exhibited and adopted by Council.

The LSPS acknowledges that -

- The key employment lands for Wollongong will continue to be at Port Kembla, Unanderra, West Dapto, south of Wollongong, Fairy Meadow, Tallawarra, Helensburgh and Bellambi.
- An additional 23,800 dwellings will be required to house the forecast population growth to 2041.
- An increase in housing stock diversity is required to accommodate changing demographics, including a greater provision of 1-2 bedroom dwellings.
- An increase in the supply of affordable housing stock is required, and as part of residential up-zonings an Affordable Housing Contribution will be expected or a proportion of Affordable Rental dwellings to be provided on-site.
- Corrimal has been identified as the main shopping centre and commercial precinct for the northern suburbs, and an ideal location for increased housing.

### **Corrimal Town Centre Plan 2015-2025**

The Corrimal Town Centre Plan 2015-2025 provides strategic guidance on the future of Corrimal Town Centre, noting that Corrimal is strategically placed to grow. The Plan identifies a number of large sites in proximity to the Town Centre for future development potential, including the former Coke Works site adjacent the Corrimal Railway Station and within walking distance to centre services. The Planning

Proposal is consistent with the “Smart Growth” vision, “*redevelopment in and around the Town Centre provides housing choice and supports the local economy*”.

### **Wollongong Council Draft Housing and Affordable Housing Options Paper (2020)**

An Options Paper was prepared to inform the development of a new Housing Strategy for the Wollongong LGA which has highlighted the need to increase the supply of smaller dwellings (1-2 bedrooms) to meet increasing demand due to an ageing population, increased numbers of lone person households and to better cater for low to moderate income households. The Paper also identifies centres, including Corrimal, as having capacity for additional dwellings through higher densities and appropriate zonings.

### **Planning Proposal Policy (Wollongong City Council 2018)**

In May 2018, Council adopted a Planning Proposal Policy which seeks to guide the preparation and submission of Planning Proposal requests, as well as assist in determining the priority for Planning Proposals and identify the circumstances in which Council would be unlikely to support progression of a proposal. The Policy identifies that planning proposals aiming to implement endorsed Council Strategies or Concepts Plans would be given priority in assessment.

The Planning Proposal is aligned with the Illawarra Shoalhaven Regional Plan which identifies the provision of housing in existing urban areas as a sustainable option and identifies Corrimal for a focus on increased housing activity. The Planning Proposal is also consistent with Council's Community Strategic Plan, Corrimal Town Centre Plan and Wollongong Council Housing Options Paper, as outlined above.

## **CONCLUSION**

The draft Planning Proposal has been evaluated and deemed to have site and strategic merit.

Key planning considerations and outcomes are summarised as follows -

- Corrimal is identified in the Regional Strategy and Council's Strategic Plan as the major hub of the northern suburbs, capable of infill development given its location and supporting infrastructure and services.
- Site and strategic merit in this proposal to rezone for residential use – proximity to public transport, town centre, jobs, schools, recreational facilities and related infrastructure.
- The proposal to rezone the site for residential and commercial use represents the most viable option in terms of enhancing the heritage values, by making the history of the site accessible to the wider community through adaptive reuse and interpretation.
- Sufficient supply of well located industrial land in the LGA and new industrial uses are not deemed viable on this site (land use conflict given surrounding residential development).
- Medium density housing typologies are under-represented in the Illawarra and opportunity to provide Affordable Rental dwellings.
- Areas of increased height are being proposed given the unique position of the site adjacent Corrimal Railway Station, within close proximity to the Corrimal Town Centre and related services and infrastructure, and size of the site.
- The proposed built form is appropriate and has been guided by extensive view analysis to ensure key views are created/preserved in relation to heritage items and the escarpment.
- Opportunity to deliver a number of distinct housing precincts to respond to market demand, supported by a neighbourhood scale retail offer and possible business start-ups, and a central and southern park.
- The modest convenience-based retail offer is supportable from an economic perspective, while not adversely impacting the existing retail hierarchy in the area.

- Traffic impacts have been modelled and can be managed to provide appropriate levels of service.
- Opportunity to make a financial contribution to area wide upgrades that TfNSW has identified are required at a number of intersections along Memorial Drive.
- Flooding outcomes on site and up/downstream are improved.
- The Grey-headed Flying-fox colony is provided with protection and habitat/EEC is enhanced.
- Contamination on site can be remediated to make the land suitable for urban use.

Issues that will continue to be refined and considered in more detail prior to exhibition and/or finalisation of the proposal include –

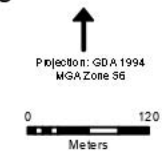
- The site-specific Development Control Plan.
- The Planning Agreement based on the Letter of Offer.
- The Funding mechanism for maintenance of the Grey-headed Flying-fox habitat.
- The Dual use opportunities of the proposed riparian corridor.

It is recommended that Council resolve to exhibit a revised draft Planning Proposal and associated supporting documentation for community feedback.



Planning Proposal Corrimal Coke Works  
Location Map

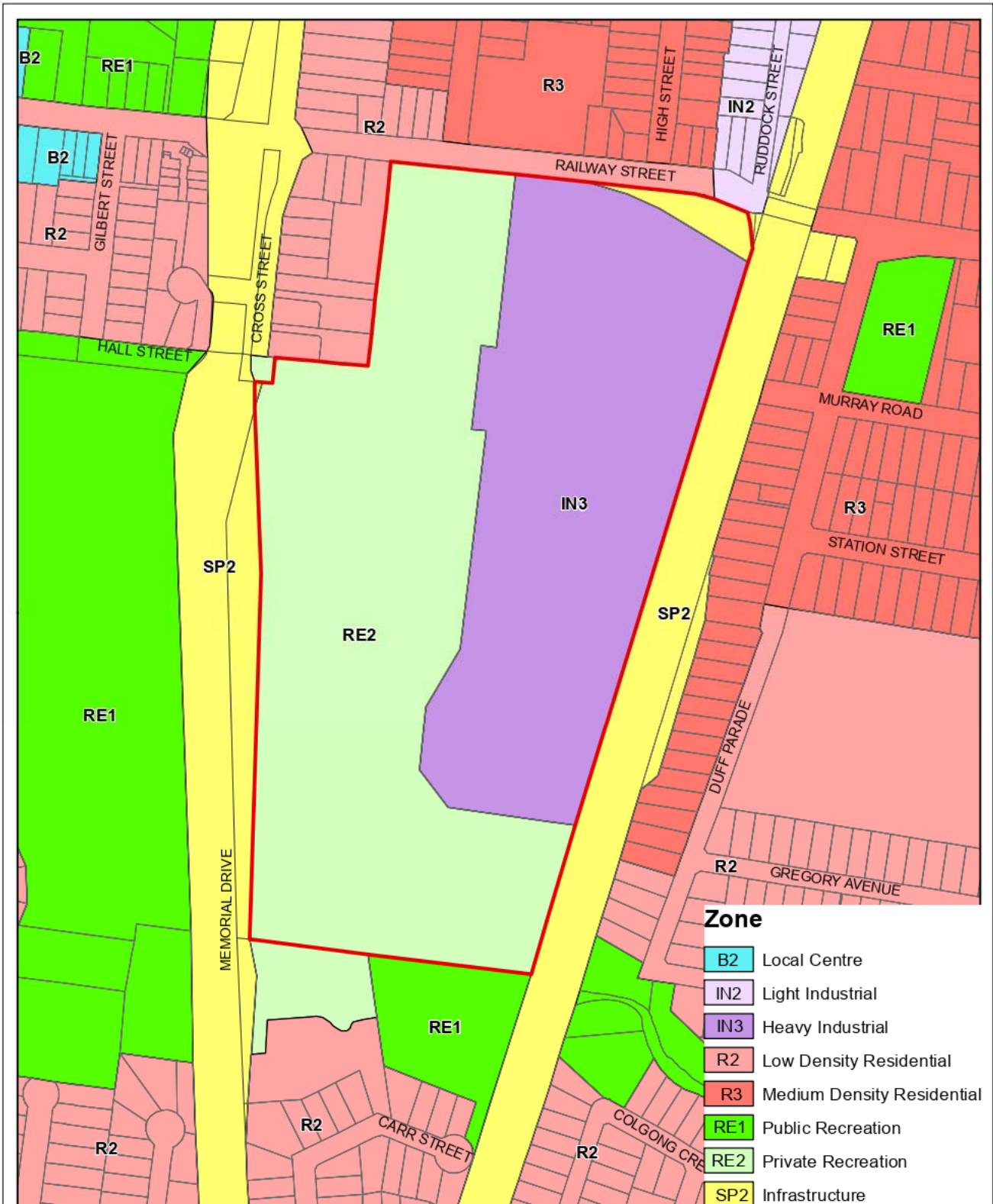
Subject\_Site



Scale 1:3000 @ A4



Map identification number  
Corrimal Coke Works Aephido.mxd



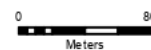
**Zone**

- B2 Local Centre
- IN2 Light Industrial
- IN3 Heavy Industrial
- R2 Low Density Residential
- R3 Medium Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- SP2 Infrastructure



Planning Proposal  
Former Corrimal Coke Works  
Existing Zoning Map - LEP 2009

Subject\_Site



Scale 1:4000 @ A4



Map identification number  
Corrimal Coke Works Existing LEP.mxd



## DEPARTURE OF COUNCILLORS

Due to a prior disclosure of interest, Councillor Cox departed the Chamber and was not present during debate and voting on Item 2.

During debate and prior to voting on Item 2, Councillor Walters departed and returned to the meeting, the time being from 6.51 pm to 6.53 pm.

## ITEM 2 - DRAFT PLANNING PROPOSAL: FORMER CORRIMAL COKE WORKS, 27 RAILWAY STREET, CORRIMAL

A PROCEDURAL MOTION was MOVED by Councillor King seconded Councillor Walters that an additional one minute be granted to Councillor Kershaw to address the meeting in relation to Item 2.

**36 COUNCIL'S RESOLUTION** – RESOLVED UNANIMOUSLY on the motion of Councillor Kershaw seconded Councillor Colacino that –

- 1 A draft Planning Proposal be prepared for Lot 1 DP 795791, Lot 5 DP 749492, Lot 11 DP 749492 and Lot 126 DP 598190 known as the former Corrimal Coke Works including part of former Lot 12 DP 749492 Cross Street to amend Wollongong Local Environmental Plan 2009 as follows:
  - a Amend the Zoning Map as follows:
    - i Rezone Lot 1 DP 795791 from IN3 Heavy Industrial to R3 Medium Density.
    - ii Rezone Lot 5 DP 749492 to part R3 Medium Density Residential and part RE1 Public Recreation.
    - iii Rezone Lot 11 DP 749492 from SP2 Road Infrastructure to RE1 Public Recreation.
    - iv Rezone part of former Lot 12 DP 749492 from RE2 Private Recreation to R2 Low Density Residential.
    - vi Rezone the Cross Street Road Reserve from SP2 Infrastructure (Road) to R2 Low Density Residential.
    - vii Retain Lot 126 DP 598190 as SP2 Infrastructure (Road) (Attachment 4).
  - b Amend the Floor Space Ratio map to introduce a varying floor space ratio of between 0.75:1 and 2.5:1 (Attachment 4).
  - c Amend the Height of Buildings Map to introduce a varying maximum height of 13m and 24m, throughout the site (Attachment 4).
  - d Amend the Minimum Lot size Map to introduce a minimum lot size of 149m<sup>2</sup> for the R3 Medium Density zone.
  - e Amend the Heritage Map and Heritage Schedule to include identified significant fabric (coke ovens, chimney, stacks) as listed items of Local significance.
  - f Amend the Natural Resource Sensitivity – Biodiversity Map to identify the two significant native vegetation communities.
  - g Amend the Riparian Map to identifying the modified riparian corridor reflecting the proposed creek re-alignment and its integrating with open space resources including pedestrian and cycle paths potentially linking with the broader green link network.
  - h Amend the Key Site Map to identify the site as a Key Site under clause 7.18 Design Excellence.
  - i Amend Schedule 1 Additional Uses to incorporate additional uses for 'food and

- drink premises', and 'shop', limiting the size of the premises to a maximum of 150sqm, identifying a site specific location within a 100m radius of the train station.
- j Incorporate a 5% Affordable Rental Housing target.
- 2 The draft Planning Proposal be forwarded to the NSW Department of Planning and Environment for a conditional Gateway determination, requesting that the following additional studies and information that will inform the proposed planning controls, be submitted prior to public exhibition:
- a A Geomorphological report from a suitably qualified geomorphological expert to appraise the proposed watercourse realignment and verify that the proposed design (including alignment and channel dimensions) will enable a sustainable channel pattern and form and long term channel stability, and to provide advice on measures required to be incorporated into the design of the re-alignment in order to ensure these outcomes.
- b The following details are required in relation to the flood modelling:
- i Plans showing manning's roughness values used in the pre and post development flood modelling;
- ii Details of the WBNM modelling including catchment plan, input data, catchment routing, structures, IFD data, and results;
- iii Plan showing 2D flood model domain and boundary condition locations, including method, type and location of each model inflow;
- iv Details of the hydrograph used at each inflow location; and
- v Plan showing comparison between flood levels predicted by Cardno model and those predicted by Council's adopted model, demonstrating parity between the two models as stated in Section 4.2.1 of the report by Cardno.
- c The submitted flood study shall be amended to include modelling of 'Risk Management' blockage factors for the 1:100 ARI flood event, and mapping of the Flood Planning Area (FPA), i.e. the area of land below the Flood Planning Level (FPL), being the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metres freeboard as defined in the Wollongong LEP2009 and is to include the correct blockage factors for Structures 48 (North Corrimal Creek, D/S Railway Street) and 1 (Carr Creek, Memorial Drive). Structure 48 is a Class 3 structure and requires a design blockage factor of 40%, and Structure 1 is a Class 1 structure and requires a design blockage factor of 70%. The flood modelling and Table 4-2 of the Flood Study report shall be updated accordingly.
- 3 Should a Gateway determination be issued, consultation be undertaken with the following agencies and stakeholders during public exhibition:
- a Crown Lands and Water Division;
- b EPA;
- c NSW Office of Environment and Heritage;
- d NSW Heritage Council;
- e NSW Rural Fire Service;
- f Department of Education and Communities;
- g Endeavour Energy;
- h Transport for NSW – Roads and Maritime Services;
- i Sydney Water;
- j Sydney Trains;

- k RailCorp;
  - l Department of Fisheries;
  - m Illawarra Local Aboriginal Land Council;
  - n SES; and
  - o National Trust of Australia – Illawarra Shoalhaven Regional Branch.
- 4 The draft Planning Proposal be exhibited for a minimum period of 60 days and a community information session be held in Corrimal within the first 30 days of the exhibition period.
- 5 The NSW Department of Planning and Environment be requested to issue authority to the General Manager to exercise plan making delegations, in accordance with Council's resolution of 26 November 2012.
- 6 The following additional information be submitted before or during the exhibition period, to enable Council to consider the information prior to determining whether to finalise the Planning Proposal:
- a A site specific DCP Chapter be developed and submitted in conjunction with the amended Urban Design Concept Plan addressing the following:
    - i Building Heights;
    - ii Floor Space Ratios;
    - iii Lot Size;
    - iv Building envelopes;
    - v Road widths;
    - vi Public spaces;
    - vii Streetscapes;
    - viii Housing types;
    - ix Connectivity and Access;
    - x Views and Vistas;
    - xi Urban Form Design development
  - x Clause 7.18 Design Excellence of the Wollongong LEP 2009 (key Site requirements).
  - b Advice from the NSW Heritage Council for comment in relation to:
    - i The Archaeological significance of the site and the potential requirements and implications of archaeological impacts from future development under Section 140 of the NSW Heritage Act 1977.
    - ii The potential for the site to be listed on the State Heritage Register (in light of the findings of the Biosis Report).
  - c Further investigation of the relevant wastewater system capacity identifying that the local system is able to accommodate the additional development, including the consideration of onsite recycling and reuse as part of water cycle management/water services in the development site.
  - d Review of the local stormwater system ensuring there is adequate capacity to transfer runoff during heavy wet weather events which result in local flooding.
  - e Hydrological review in relation to the rail corridor bridge to the south east of the site.
  - f An amended Traffic Impact Assessment is to be prepared to better address the likely impacts of the development on the surrounding roads, including the rail level

crossing and addressing the requirements of Table 2.1 of the RTA Guide to Traffic Generating Development.

- g Review of Sydney Trains 33kV Aerial Line asset on the western side of the rail corridor and the proximity/impact of proposed development.
- h A Rail and Road Acoustic and Vibration Assessment be prepared.
- i An Aboriginal Cultural Heritage Assessment be prepared.
- j A Conservation Management Plan for providing for the long term conservation of significant Coke Works heritage components be prepared.
- k Agreement to provide at least 5% Affordable Rental Housing within the development, and advice on the proposed management arrangements of the dwellings and the proposed housing needs sectors to be targeted.
- l A Revised Ecological Impact Assessment be prepared addressing the following:
  - i Potential impacts to micro bats roosting on the site; and
  - ii Potential for Green and Golden Bell Frog habitat on the site.
- m A revised Remediation Action Plan be prepared addressing:
  - i including further sampling under the structures on the site;
  - ii for PCB's associated with the powerhouse building and transformers;
  - iii address exceedance of ecological investigation levels; and
  - iv address materials containing SMF and Crystalline Silica associated with the coke ovens.
- n Advice on the proposed facilities and/or infrastructure, including costings, that are proposed to be incorporated into a draft planning agreement.

#### **DISCLOSURE OF INTEREST**

At this stage, Councillor Figliomeni disclosed a conflict of interest in relation to Item 5 as he owns a property in Pine Crescent, Coniston. Item 5 relates to the reclassification, rezoning and sale of four surplus Council properties, one of which is located in Pine Crescent.

#### **ITEM 1 - OUR WOLLONGONG 2028 STRATEGIC PLANNING DOCUMENTS**

**37** **COUNCIL'S RESOLUTION** – RESOLVED UNANIMOUSLY on the motion of Councillor D Brown seconded Councillor King that -

- 1 The draft Our Wollongong 2028 Strategic Planning documents suite be placed on public exhibition from 9 April to 7 May 2018.
- 2 Following the public exhibition period, a revised Draft Our Wollongong 2028 Strategic Planning documents suite be presented to Council for adoption.
- 3 The following internal restrictions be consolidated -
  - a The Future Programs restricted asset be absorbed into the Strategic Projects restricted assets.
  - b The Telecommunications Revenue restricted asset be absorbed into Sports Priority Program restricted asset.
  - c The Property and West Dapto Rates restricted assets be combined into a renamed West Dapto restricted asset.



# Planning Proposal

Former Corrimal Coke Works

**Client:** Legacy Property & Illawarra Coke Company

**Date:** 23 May 2019

A Veris Company

**veris**



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# 1 Executive Summary

The Planning Proposal (PP) has been prepared on behalf of Legacy Property (Legacy) and the Illawarra Coke Company (ICC), for the rezoning of the 18.18 hectare (ha) former Corrimal Coke Works site, located at 27 Railway Street, Corrimal in the Wollongong Local Government Area (LGA). The former Coke Works ceased its operations in 2014, and now offers a substantial rezoning and redevelopment opportunity to provide much needed additional housing within Wollongong.

The original draft PP was prepared and submitted to Council in October 2017. The PP was then placed on public exhibition from 23rd October to 24th November 2017. Council prepared a preliminary assessment, which was supported by Council (subject to further technical and design studies) and forwarded to the Department of Planning and Environment (DP&E) for a Gateway determination on 23rd April 2018. The Gateway determination was issued by the DP&E on 20th August 2018, allowing the rezoning proposal for the Corrimal Coke Works site to proceed subject to conditions. This PP addresses and responds to Council's resolution as well as the Gateway determination.

## 1.1 The Proposal

At present the rezoning area is zoned IN3 Heavy Industrial and RE2 Private Recreation under Wollongong Local Environmental Plan (WLEP) 2009 and has been utilised for industrial works. This application proposes to rezone the site from IN3 and RE2 to R3 Medium Density Residential and RE1 Public Recreation, as well as providing appropriate controls relating to additional permissible uses, minimum lot size, height, Floor Space Ratio (FSR) and heritage. A small portion of the site (0.25ha) to the north east, is currently zoned SP2 Infrastructure - Road, for potential future acquisition. This land has been incorporated into the concept plan and will be retained as SP2.

The rezoning of Corrimal will provide approximately 700 – 750 new residences. It is expected that the site will provide a broad mix of housing types ranging from medium density terraces and townhouses to low and mid rise apartments, as well providing affordable housing and the potential for seniors living accommodation. The proposed central plaza will provide approximately 2,000m<sup>2</sup> of retail space adjacent to the existing Corrimal Station. The site will be connected to the wider area and Corrimal town centre via a number of cycle and pedestrian links. Approximately 8.6ha will be provided as open space, bushland and riparian corridors.

Legacy Property is also committed to providing a diverse range of housing choices including 5% affordable housing, which is proposed for inclusion within a Voluntary Planning Agreement (VPA). The proposed redevelopment of the site offers an opportunity to deliver a whole-of-life community.

## 1.2 Strategic Context

Under Wollongong City Council's Corrimal Town Centre Plan 2015-2025 and Implementation Plan, the former Corrimal Coke Works was nominated as a key site to support reshaping the town centre. The Town Centre Plan and Implementation Plan states "*Residential development may be suitable, where it offers housing diversity and improved connectivity*". R3 Medium Density Residential zoning would be a logical extension of the same zoning to the north, north-east and east of the site, and would enable the delivery of apartments, semi-detached housing and some single dwellings at an affordable price while creating a high-quality urban environment adjacent to recreation space and facilities.

## 1.3 Site Specific Context

An analysis supported by extensive technical studies has identified the site as being suitable for development due to the following site-specific opportunities:

- » Existing rail connection linking the site to the Wollongong CBD and Sydney
- » 350m walk to Corrimal town centre
- » 1.2km walk to Corrimal beach
- » Encouragement of active transport and public transport usage
- » Integration via pedestrian and cycle links with the surrounding community
- » Retention and enhancement of Towradgi Creek
- » Retention of biodiversity areas
- » Protection of important sightlines to the Illawarra Escarpment
- » Creation of a new neighbourhood retail centre adjacent to the existing Corrimal train station
- » Opportunities for a diverse mix of housing types
- » Resolution of key flooding issues
- » Nearby community and recreational resources including Robert Ziems Park playing fields, Corrimal library, Corrimal swimming pool, East Corrimal Primary School, Corrimal High School
- » Provision of infill development, minimising conversion of rural land for housing

The Concept Master Plan for the rezoning area is shown in **Figure 1**.

## 1.4 Design Values and Principles

The Master Plan for Corrimal has been based on the following place principles:

- » *Place Principle 1 Made for Friendship: We help people to meet, share and connect, building on and contributing to Corrimal's already genuinely friendly and supportive community. We're creating a safe and supportive place where people grow together, look out for each other and share special moments and events.*
- » *Place Principle 2 Designed for difference: We're building a community of many different ages, shapes and sizes. We champion difference and are designed to attract people at different stages of life. Our place is made up of a wide variety of landscapes, precincts, features, housing types and experiences, creating a vibrant and distinctive destination.*
- » *Place Principle 3 Bringing more to life: We invest in making people and places the best they can be, breathing new life into heritage and green space and helping people reach their potential. We make everyday life easier, so that people have more time and energy to enjoy what's important.*
- » *Place Principle 4 United through stories: We cherish our unique story. From our history, to our unique ecology, we're a place like no other. Together we will celebrate the stories of the past and build new stories, forging a strong sense of character and identity.*

Figure 1 Corrimal Coke Works Master Plan



Source: DKO

The Master Plan and supporting studies have informed the rezoning of the site.

The vision for the site is to integrate diverse housing and deliver a public plaza adjoining Corrimal train station, to promote public-transit usage for residents and the broader community. The key features of the Concept Plan include:

- » Realignment of the riparian corridor to deliver 12.5ha of PMF-free contiguous developable land that maximises avoidance of significant ecological resources where practical.
- » Delivering local open space resources and facilities along the realigned riparian corridor, connected with the coast and community and recreational resources, as well as a new local park for the enjoyment of the local residents.
- » Retention of substantial ecological environmental areas within the northern and southern section of the site and integrated with the riparian corridor
- » Maximising access to Corrimal train station and delivery of a public plaza adjacent to the station with retention of key heritage buildings and also interpretive heritage elements.
- » Enabling neighbourhood and commuter services at the plaza such as child care, neighbourhood shops and services. However, ensuring limitations that prevent any undermining of the Corrimal town centre.
- » Delivering a diversity of housing, particularly affordable housing typologies such as attached and semi-detached dwellings and low-scale residential flat buildings capitalising on connectivity.
- » Providing a suitable buffer distance from the rail and state road corridors adjacent to the site for noise attenuation.
- » Outlining a potential green link to East Corrimal Beach to the east, Robert Ziems Park and community facilities to the west, and through to the north of the subject site.

## 1.5 Addressing and Achieving Council's requirements

In Council's resolution of 3 April 2018, it was resolved that the below additional information be submitted before or during the exhibition period, to enable Council to consider the information prior to determining the Planning Proposal.

Below is a table outlining a summary of Council's resolution/requirements and a response to the issues raised in the right hand column.

Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
a) A site specific DCP Chapter be developed and submitted in conjunction with the amended Urban Design Concept Plan	A Site Specific DCP has been prepared to support this Planning Proposal.
b) Advice from the NSW Heritage Council for comment in relation to: <ul style="list-style-type: none"> <li>i. The Archaeological significance of the site</li> <li>ii. The potential for the site to be listed on the State Heritage Register</li> </ul>	Three heritage reports have been prepared (refer to <b>Appendices A, I and J</b> ) which determine that the site has no archaeological significance, nor does the site have the potential to be listed on the State Heritage Register. However, four items will be retained on site, listed as items of local heritage significance under WLEP 2009.
c) Further investigation of the relevant wastewater system capacity, including water cycle management/water services in the development site.	The Servicing Strategy Report prepared by BG&E ( <b>Appendix S</b> ) confirms that the wastewater system is capable of accommodating the proposed development.
d) Review of the local stormwater system	The Servicing Strategy Report prepared by BG&E ( <b>Appendix S</b> ) confirms that the stormwater system is capable of accommodating the proposed development.

Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
e) Hydrological review in relation to the rail corridor bridge to the south east of the site.	A Flood Study has been prepared and is included at <b>Appendix F</b> .
f) An amended Traffic Impact Assessment	An amended Traffic Impact Assessment has been prepared ( <b>Appendix T</b> ), which assesses the impacts of the development on the surrounding road network. The Railway Street/Memorial Drive intersection is proposed to be upgraded as part of the development.
g) Review of Sydney Trains 33kV Aerial Line asset on the western side of the rail corridor	A review of the Sydney Trains 33kV Aerial Line was undertaken as part of the Servicing Strategy Report Summary by BG&E ( <b>Appendix S</b> ). Sydney Trains confirmed that feeder 787 does not currently have an easement as the station carpark and access road is owned by Railcorp.
h) A Rail and Road Acoustic and Vibration Assessment be prepared	A noise and vibration assessment was undertaken by Renzo Tonin & Associates ( <b>Appendix O</b> ). The study found that noise and vibration issues do not present any constraint to rezoning the site for primarily residential uses.
i) An Aboriginal Cultural Heritage Assessment be prepared.	An Aboriginal Cultural Heritage Assessment was undertaken by Kelleher Nightingale Consulting Pty Ltd ( <b>Appendix A</b> ). The parts of the study area used for the former cokeworks operations exhibited significant levels of disturbance that would have removed/displaced Aboriginal archaeological objects.  One Aboriginal archaeological site comprising Aboriginal objects is located within the study area: low density artefact scatter FCCW AFT 1 (AHIMS 52-2-4505).
j) A Conservation Management Plan for providing for the long-term conservation of significant Coke Works heritage components be prepared.	A Conservation Management Strategy has been prepared for the site. Refer to <b>Appendix C</b> .
k) Agreement to provide at least 5% Affordable Rental Housing within the development, and advice on the proposed management arrangements of the dwellings and the proposed housing needs sectors to be targeted.	Legacy is committed to providing 5%/35 Affordable Rental Housing units, as identified in the VPA.
l) A Revised Ecological Impact Assessment be prepared addressing the following: <ul style="list-style-type: none"> <li>i. Potential impacts to micro bats roosting on the site; and</li> <li>ii. Potential for Green and Golden Bell Frog habitat on the site.</li> </ul>	A revised Ecological Assessment has been prepared by EcoLogical ( <b>Appendix G</b> ). The survey did not identify any signs of occupation or individual microbats, nor did the echolocation survey return any positive or potential microbat calls. The report also found that the study area was not considered to provide habitat for the Green and Golden Bell Frog.
m) A revised Remediation Action Plan	A revised Remediation Action Plan ( <b>Appendix P</b> ) has been prepared by Arcadis to provide the information required.
n) Advice on the proposed facilities and / or infrastructure, including costings, that are	Proposed facilities and infrastructure are included as part of the VPA.



**Required additional information (shortened in this executive summary)****Response (shortened in this executive summary)**

proposed to be incorporated into a draft planning agreement.

---

## 1.6 Conclusion

This PP provides the justification for achieving the broader strategic planning framework that will support the delivery of the broader objectives for redevelopment of the rezoning area, focused on providing new housing in close proximity to Corrimal station and Corrimal town centre, approximately 5km from Wollongong city centre.

The PP provides the evidence that the site is developable, responds to the surrounding built and natural environment and seeks to retain elements of the sites past industrial history. The outcome from the review of the sites strategic context as well as the site-specific analysis and merit, provides confidence that the site has the capacity and suitability to be supported for a rezoning.

## 2 Introduction

### 2.1 Purpose of the Planning Proposal

This Planning Proposal (PP) has been prepared on behalf of Legacy Property (Legacy) and the Illawarra Coke Company Pty Ltd (ICC). The PP seeks to amend the Wollongong Local Environmental Plan (WLEP) 2009 to rezone the 18.18 hectare (ha) Corrimal Coke Works site (the site) located at 27 Railway Street, Corrimal, within the Wollongong Local Government Area (LGA). The site has frontages to Memorial Drive, Railway Street and Corrimal train station and the railway line, which connects Wollongong to Port Kembla, Waterfall and Bondi Junction.

Corrimal is well located, being adjacent to the railway line and Memorial Drive, which provides a direct road link towards south Wollongong and north to the Princes Highway, linking to Sydney. The site is located approximately 4km north of the University of Wollongong and approximately 5.5km north of the Wollongong CBD and 63.5km south of the Sydney CBD.

Corrimal town centre is a 350m walk from the site, enabling easy access to service stations, major supermarkets, speciality retail, Corrimal Hotel, banks, dentists, pharmacy's, gyms, community centre, restaurants, cafes and a number of other retail uses. Land uses directly surrounding the site consist predominantly of low to medium density residential development.

The site, in its regional context, is shown in **Figure 2** below.

Figure 2 Aerial view of the rezoning area



Source: Sixmaps

An amendment to WLEP 2009 is proposed in order to rezone the existing 18.18ha Corrimal Coke Works site, to accommodate approximately 700 – 750 new dwellings. The site comprises Lot 1 in Deposited Plan (DP) 795791, Lot 5 in DP 749492, Lot 126 DP 598190 and Lot 11 DP 749492.

## 2.2 Background

The Corrimal site was in operation as a Coke Works from 1912 to 2014. The site was decommissioned in 2014 and since this time the site has been locked up and vacant.

In considering the future of the site, ICC engaged expert consultants to understand the opportunities and constraints of the site. Original concept planning identified the potential for a mix of single and multi-unit dwellings and residential flat buildings under a R3 Medium Density Residential zoning. The remainder of the site was proposed to be rezoned to RE1 Public Recreation.

The original draft PP was prepared and submitted to Council in October 2017. The PP was then placed on public exhibition from 23rd October to 24th November 2017. Council prepared a preliminary assessment, which was supported by Council (subject to further technical and design studies) and forwarded to the Department of Planning and Environment (DP&E) for a Gateway determination on 23rd April 2018. The Gateway determination was issued by the DP&E on 20th August 2018, allowing the rezoning proposal for the Corrimal Coke Works site to proceed subject to conditions. This PP addresses and responds to Council's resolution as well as the Gateway determination.

In December 2018 ICC and Legacy held a series of visioning workshops with key stakeholders from Council, Neighbourhood Forum 4, Corrimal Community Action Group (CCAG), Corrimal Region Action Group (CRAG) and the Corrimal Chamber of Commerce. These workshop outcomes informed the vision and principles included as part of the project development and concept plan for the PP. Once an updated concept plan and further detailed technical studies were undertaken further consultation was held in late March 2019.

The PP has since been amended and updated in accordance with the findings from the community consultation, subconsultant studies and advice provided by Council and the DP&E. This PP is now final and is submitted to Council for approval and subsequent amendments to the WLEP 2009 by the DP&E.

## 2.3 Summary of the Planning Proposal

The site is well placed to provide 'in-fill' land redevelopment, given its adjacency to existing residential development in Corrimal, the location next to Corrimal train station and its proximity to the Corrimal town centre.

As part of the PP, consultation has been undertaken with the DP&E, other state agencies and Wollongong Council in order to inform the proposed planning controls on the site. A summary table identifying the proposed outcomes of this PP are identified in **Table 1** below.

**Table 1 Summary of the Proposal**

<b>Property Details</b>	The total site comprises 4 existing lots: <ul style="list-style-type: none"> <li>» Lot 1 in DP 795791</li> <li>» Lot 5 in DP 749492</li> <li>» Lot 126 DP 598190</li> <li>» Lot 11 DP 749492</li> </ul>
<b>Area</b>	18.18ha (181,754m <sup>2</sup> )
<b>Proposal</b>	Amend WLEP 2009 as follows: <b>Land Zoning Map 024</b> Remove the RE2 Private Recreation and IN3 Heavy Industrial zoning from the site and replace with: <ul style="list-style-type: none"> <li>» R3 Medium Density Residential</li> <li>» RE1 Public Recreation</li> </ul>

**Minimum Lot Size (MLS) Map 024**

Remove the 1.99ha MLS from the part of the site zoned IN3 and introduce a new MLS of part 135m<sup>2</sup> and part 149m<sup>2</sup> for land zoned R3 Medium Density Residential.

**Height of Building (HOB) Map 024**

Remove the 9m height control from part of the site zoned RE2.

Insert a height control of 9m over all RE1 zoned land.

Insert the following height controls over R3 zoned land; 9m, 11m, 13m, 16m, 20m and 24m

**Floor Space Ratio (FSR) Map 024**

No FSR control currently exists for the site.

Insert the following FSRs over all R3 zoned land; 0.5:1, 0.75:1, 1.2:1, 1.5:1, 2:1 and 2.5:1

No FSR control is proposed for RE1 land

**Heritage Map 024**

The heritage map will be amended to include 'the Corrimal Coke Works Site' with a curtilage, which consists of four new local heritage items and associated curtilage. These items will also be included in Schedule 5 of the WLEP 2009, as follows:

- » The Corrimal Coke Works Site:
  - > C1 North Stack
  - > C1 coke oven battery
  - > Old Power House
  - > C1 Brick Chimney stack

**Riparian Land Map 024**

Amend the location of the riparian corridor to reflect the creek re-alignment

Remove the foreshore building line from the map

Remove any land located below the foreshore building line from the map

**Natural Resource Sensitivity Map 024**

Amend the Natural Resource Sensitivity map to include 2 new areas of biodiversity sensitivity to the north and south of the site.

**Part 7 Local Provisions – General**

The following clause will be included in Part 7 to allow increased heights, beyond the maximum height control of 24m, for C1 North Stack and C1 Brick Chimney Stack, which currently sit at heights of approximately 36.8m and 29m respectively:

**7.20 Former Corrimal Coke Works****Height of Development**

- (1) *The height of any development on the former Corrimal Coke Works site is not to exceed the height limit shown on the Height of Buildings Map, with the exception of the following heritage items:*
  - a) C1 North Stack
  - b) C1 Brick Chimney Stack
- (2) *The following height limits are permissible for the heritage items:*
  - a) C1 North Stack: 37m

b) C1 Brick Chimney Stack: 29m

### **Affordable Housing**

(1) *The consent authority may permit a variation to the Maximum Height of Buildings Control of up to 3.5m and the associated increase in FSR for any Residential Flat Buildings, where the additional Gross Floor Area is utilised for the provision of Affordable Housing*

### **Schedule 1 Additional permitted uses**

The following clause will be included in Schedule 1 Additional Permitted Uses to ensure that a full complement of neighbourhood and commuter services near Corrimal train station can be provided:

*Use of certain land at the former Corrimal coke works site:*

- (3) *This applies to land at the former Corrimal coke works site*
- (4) *Development for the purposes of Food and Drink Premises, and neighbourhood supermarket is permitted with consent, but only if at ground floor and within 200m of the train station*
- (5) *Development for neighbourhood shops and neighbourhood supermarket is permitted up to a maximum of a total GFA of 2,000m<sup>2</sup>.*

These outcomes are explained in further detail in **Part 2** of this report. A Site Specific Development Control Plan (DCP) has also been prepared to support the proposed rezoning.

In order to support the proposed rezoning, a Concept Master Plan has been developed to identify future potential land uses. The design principles of the Concept Master Plan for the rezoning area include:

#### **Principle 1 – Community**

- » Deliver a public open space network that forms the focus and identity for the precinct, providing a range of recreational opportunities. Access to this public open space is to be maximised to enable the community to gather together

#### **Principle 2 – Innovation**

- » Provide innovation in the design of built form and public realm to ensure the character of the site reflects different character precincts.

#### **Principle 3 – Celebrating History**

- » Integrate the brick chimney, coke ovens and the powerhouse into the overall development of the public plaza, in order to celebrate the history of the site

#### **Principle 4 – Great streets**

- » Design a safe and functional road network with increased walkability to Corrimal station, as this will be a direct link to the heart of the community
- » Traffic control and circulation within the community is a primary consideration to provide connectivity with the surrounding Corrimal community

#### **Principle 5 – Improved access for all**

- » Deliver a site that is highly permeable to pedestrians and cyclists, linking the precinct to surrounding amenities, services and facilities, public transport, recreational opportunities and beach and broader regional pedestrian/cycle path network

#### **Principle 6 – A diverse community**

- » Create a residential community with housing diversity and neighbourhood and commuter services creating some employment opportunities, capitalising on the excellent public-transit advantages of the site. Housing

types to include detached dwellings, semi-detached dwellings, attached dwellings, apartments and seniors living.

**Principle 7** – Compliment the town centre

- » Improve linkages between the Corrimal town centre and the train station by offering attractive streetscapes
- » Offer neighbourhood and commuter services near the train station for added convenience but at a scale that does not detract from the efficacy of the Corrimal town centre

**Principle 8** – Ecological Enhancement

- » Conserve, manage and improve native vegetation and biodiversity located to the south and north-west of the site, as well as the new riparian corridors
- » Allow for earthworks to improve and manage the drainage across the site in order to reform and rehabilitate a riparian corridor to improve water management and ultimately enhance the biodiversity values on the site

**Principle 9** – Design Excellence

- » deliver serviced development with quality infrastructure services and diverse architectural elements

**Principle 10** – Unique Character

- » Create view lines and linkages to the heritage significant core

Figure 3 Concept Master Plan



Source: DKO



## 2.4 Objective of this report

The PP has been prepared on behalf of Legacy Property and ICC to support the amendment to WLEP 2009 for the site at Corrimal. The proposed amendment to the WLEP 2009 for the rezoning of the site will facilitate redevelopment to accommodate residential land uses, intended to assist in meeting housing targets for the Wollongong LGA and the suburb of Corrimal.

The PP is consistent with the requirements of Section 55 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in particular the guidelines issued under Section 55(3) of the EP&A Act and has been prepared having regard to the DP&E's 'A guide to preparing planning proposals' (2016) and 'A guide to preparing local environmental plans'.

The PP provides:

- » comprehensive details on the subject site and its surrounds;
- » responses to the Council resolution and the Gateway requirements (refer to **Section 2.5** below).
- » identification of the Environmental Planning Instruments (EPIs), non-statutory planning documents (such as Development Control Plan (DCPs)) and other strategies (planning or otherwise) applying to the subject site and/or the PP, as well as identification of the relevant controls and requirements contained within those EPIs, non-statutory planning documents and strategies;
- » a statement of the objectives and intended outcomes of the PP;
- » explanation of the provisions that are to be included in the proposed instrument;
- » thorough justification of the PP against the questions set out in the above-mentioned guidelines, demonstrating that the proposal is in the public interest, and is worthy of approval;
- » identification of the WLEP 2009 maps which would be amended under the PP;
- » details of the community consultation that has been/will be undertaken on the PP;
- » a project timeline detailing anticipated timeframe for the plan-making process.

The preparation of this report and supporting technical studies has involved the collaboration of a multi-disciplinary team to ensure all relevant issues have been addressed. The documentation submitted in support of the PP is identified in **Table 2** below. This PP should be read in conjunction with these technical reports.

**Table 2 Supporting Technical Reports**

Report	Prepared by/author	Date	Appendices
Aboriginal Cultural Heritage Assessment	Kelleher Nightingale Consulting Pty Ltd	May 2019	Appendix A
Additional Environmental Assessment	Arcadis	12 April 2017	Appendix B
Conservation Management Strategy	Urbis	2019	Appendix C
Consultation Outcomes Report	Elton Consulting	1 May 2019	Appendix D
Economic Impact Assessment	Hill PDA	September 2017	Appendix E
Flood Study	Cardno	2 May 2019	Appendix F
Flora and Fauna Assessment	EcoLogical	May 2019	Appendix G

Report	Prepared by/author	Date	Appendices
Geomorphology Assessment	Soil Conservation Service	March 2018	Appendix H
Geotechnical Assessment	Douglas Partners	May 2017	Appendix I
Heritage Interpretation Strategy	Urbis	7 May 2019	Appendix J
Historical Heritage Assessment	Biosis	1 August 2017	Appendix K
Illawarra – Shoalhaven: Housing Market Report for Corrimal Coke Works	Macro Plan Dimasi	February 2019	Appendix L
Landscape Master Plan Report	Clouston Associates	15 May 2019	Appendix M
Master Plan Report	DKO	17 May 2019	Appendix N
Noise and Vibration Assessment	Renzo Tonin & Associates	13 May 2019	Appendix O
Remediation Action Plan	Arcadis	13 May 2019	Appendix P
Remediation Action Plan Endorsement	Zoic Environmental Pty Ltd	17 May 2019	Appendix Q
Retail Market Demand and Economic Impact Assessment	Urbis	February 2019	Appendix R
Servicing Strategy Report Summary	BG&E	15 April 2019	Appendix S
Traffic Impact Assessment	Bitzios Consulting	29 April 2019	Appendix T
VPA Schedule	Legacy Property	May 2019	Appendix U

## 2.5 Wollongong Council resolution

In Council's resolution of 3 April 2018, it was resolved that the below additional information be submitted before or during the exhibition period, to enable Council to consider the information prior to determining the Planning Proposal.

Below is a table outlining Council's resolution/requirements and a response to the issues raised in the right-hand column.

**Table 3 Response to Council's Resolution**

Required additional information	Response
o) A site specific DCP Chapter be developed and submitted in conjunction with the amended Urban Design Concept Plan addressing the following: <ul style="list-style-type: none"> <li>i. Building Heights;</li> </ul>	A Site Specific DCP has been prepared to support this Planning Proposal.

Required additional information	Response
<ul style="list-style-type: none"> <li>ii. Floor Space Ratios;</li> <li>iii. Lot Size;</li> <li>iv. Building envelopes;</li> <li>v. Road widths;</li> <li>vi. Public spaces;</li> <li>vii. Streetscapes;</li> <li>viii. Housing types;</li> <li>ix. Connectivity and Access;</li> <li>x. Views and Vistas;</li> <li>xi. Urban Form Design development</li> <li>xii. clause 7.18 Design Excellence of the Wollongong LEP 2009 (key Site requirements).</li> </ul>	
<p>p) Advice from the NSW Heritage Council for comment in relation to:</p> <ul style="list-style-type: none"> <li>iii. The Archaeological significance of the site and the potential requirements and implications of archaeological impacts from future development under Section 140 of the NSW Heritage Act 1977.</li> <li>iv. The potential for the site to be listed on the State Heritage Register (in light of the findings of the Biosis Report).</li> </ul>	<p>Three heritage reports have been prepared (refer to <b>Appendices A, J and K</b>) which determine that the site has no archaeological significance, nor does the site have the potential to be listed on the State Heritage Register. However, four items will be retained on site, listed as items of local heritage significance under WLEP 2009. These items will collectively be known as 'former Corrimal Cokeworks'.</p>
<p>q) Further investigation of the relevant wastewater system capacity identifying that the local system is able to accommodate the additional development, including the consideration of onsite recycling and reuse as part of water cycle management/water services in the development site.</p>	<p>The Servicing Strategy Report prepared by BG&amp;E (<b>Appendix S</b>) confirms that the wastewater system is capable of accommodating the proposed development.</p>
<p>r) Review of the local stormwater system ensuring there is adequate capacity to transfer runoff during heavy wet weather events which result in local flooding.</p>	<p>The Servicing Strategy Report prepared by BG&amp;E (<b>Appendix S</b>) confirms that the stormwater system is capable of accommodating the proposed development.</p>
<p>s) Hydrological review in relation to the rail corridor bridge to the south east of the site.</p>	<p>A Flood Study has been prepared and is included at <b>Appendix F</b>.</p>
<p>t) An amended Traffic Impact Assessment is to be prepared to better address the likely impacts of the development on the surrounding roads, including the rail level crossing and addressing the requirements of Table 2.1 of the RTA Guide to Traffic Generating Development.</p>	<p>An amended Traffic Impact Assessment has been prepared (<b>Appendix T</b>), which assesses the impacts of the development on the surrounding road network. The report concludes that the only impacts would be to the Memorial Drive/Railway Street intersection. This intersection is proposed to be upgraded as part of the development.</p>
<p>u) Review of Sydney Trains 33kV Aerial Line asset on the western side of the rail corridor and the proximity/impact of proposed development.</p>	<p>A review of the Sydney Trains 33kV Aerial Line was undertaken as part of the Servicing Strategy Report Summary by BG&amp;E (<b>Appendix S</b>). Sydney Trains confirmed that feeder 787 does not currently have an easement as the station carpark and access road is owned</p>

Required additional information	Response
	by Railcorp. It is not envisaged that this electrical feeder will pose any significant constraint to rezoning and development of the site.
v) A Rail and Road Acoustic and Vibration Assessment be prepared	<p>A noise and vibration assessment was undertaken by Renzo Tonin &amp; Associates (<b>Appendix O</b>). The study found that noise and vibration issues do not present any constraint to rezoning the site for primarily residential uses.</p> <p>Any noise impacts can be suitably mitigated to achieve compliance through standard treatments to future residential development that can be detailed at the development application stage.</p>
w) An Aboriginal Cultural Heritage Assessment be prepared.	<p>An Aboriginal Cultural Heritage Assessment was undertaken by Kelleher Nightingale Consulting Pty Ltd (<b>Appendix A</b>). The report confirmed that extensive previous modifications and disturbance associated with former industrial land use have diminished or negated the archaeological potential of the majority of the study area. The parts of the study area used for the former cokeworks operations exhibited significant levels of disturbance that would have removed/displaced Aboriginal archaeological objects.</p> <p>One Aboriginal archaeological site comprising Aboriginal objects is located within the study area: low density artefact scatter FCCW AFT 1 (AHIMS 52-2-4505). FCCW AFT 1 is located on an elevated floodplain landform in association with Towradgi Creek, in the southern portion of the study area. The entirety of the site area would be impacted by the proposed redevelopment works. An AHIP issued by the Office of Environment and Heritage under section 90(1) of the National Parks and Wildlife Act 1974 is required prior to any activity which may harm an Aboriginal object.</p>
x) A Conservation Management Plan for providing for the long-term conservation of significant Coke Works heritage components be prepared.	A Conservation Management Strategy has been prepared for the site. Refer to <b>Appendix C</b> .
y) Agreement to provide at least 5% Affordable Rental Housing within the development, and advice on the proposed management arrangements of the dwellings and the proposed housing needs sectors to be targeted.	Legacy and ICC are committed to providing 5%/35 Affordable Rental Housing units, as identified in the VPA.
<p>z) A Revised Ecological Impact Assessment be prepared addressing the following:</p> <ul style="list-style-type: none"> <li>iii. Potential impacts to micro bats roosting on the site; and</li> <li>iv. Potential for Green and Golden Bell Frog habitat on the site.</li> </ul>	<p>A revised Flora and Fauna Assessment has been prepared by EcoLogical (<b>Appendix G</b>). The survey undertaken as part of the assessment did not identify any signs of occupation or individual microbats, nor did the echolocation survey return any positive or potential microbat calls. No microbats were witnessed during the survey and it is considered that the built structures were unlikely to provide habitat for the species.</p> <p>The report also found that the study area was not considered to provide habitat for the Green and Golden</p>

Required additional information	Response
	Bell Frog. In addition, the presence of the Plague Minnow in both the water bodies on site would have inhibited the reproductive capacity of any Green and Golden Bell Frogs as the minnow excludes native species through aggressive behaviour towards other species and amphibians.
aa) A revised Remediation Action Plan be prepared addressing: <ol style="list-style-type: none"> <li>i. including further sampling under the structures on the site;</li> <li>ii. for PCB's associated with the powerhouse building and transformers;</li> <li>iii. address exceedance of ecological investigation levels; and</li> <li>iv. address materials containing SMF and Crystalline Silica associated with the coke ovens.</li> </ol>	A revised Remediation Action Plan ( <b>Appendix P</b> ) has been prepared by Arcadis to provide the information required.  The revised Remediation Action Plan has been endorsed by a NSW accredited, independent site auditor ( <b>Appendix Q</b> )
bb) Advice on the proposed facilities and / or infrastructure, including costings, that are proposed to be incorporated into a draft planning agreement.	Proposed facilities and infrastructure are included as part of the VPA.

## 2.6 Gateway Determination

Gateway approval was received on 20<sup>th</sup> August 2018 by the DP&E. The approval was granted subject to conditions. These conditions, along with our responses, are identified in the table below.

**Table 4 Response to the DP&Es conditions**

Condition	Response
1. To ensure consistency with 9.1 Directions 2.3 Heritage Conservation and 4.3 Flood Prone Land, the following studies are to be completed prior to public exhibition: <ul style="list-style-type: none"> <li>• An Aboriginal Cultural Heritage Assessment</li> <li>• A Conservation Management Plan that provides for the long-term conservation of significant coke work heritage components</li> <li>• Revised flood study (including flood modelling); and</li> <li>• Geomorphological report</li> </ul>	These required reports have all been provided. Refer to Tables 2 and 3 above.
2. The following studies are also to be completed prior to public exhibition: <ul style="list-style-type: none"> <li>• A revised ecological assessment</li> <li>• A revised traffic impact assessment; and</li> <li>• A revised remediation plan</li> </ul>	These required reports have all been provided. Refer to Tables 2 and 3 above.
3. Public Exhibition is required under section 3.34(2)(c) and schedule 1 clause 4 of the Act as follows: <ol style="list-style-type: none"> <li>a) The planning proposal must be made publicly available for a minimum of 28 days; and</li> </ol>	The Planning Proposal will be exhibited in accordance with these requirements.

Condition	Response
<p>b) The planning proposal authority must comply with the notice requirement for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals as identified in section 5.5.2 of A guide to preparing local environmental plans (Department of Planning and Environment 2016).</p>	
<p>4. Consultation is required with the following public authorities/organisations under section 3.34(2)(d) of the Act and/or comply with the requirements of relevant section 9.1 Directions:</p> <ul style="list-style-type: none"> <li>• Roads and Maritime Services;</li> <li>• Department of Primary Industries – Water;</li> <li>• Environment Protection Authority;</li> <li>• Office of Environment and Heritage;</li> <li>• Sydney Water;</li> <li>• RailCorp;</li> <li>• Department of Education;</li> <li>• Heritage Council;</li> <li>• National Trust of Australia (Illawarra Shoalhaven Regional Branch);</li> <li>• Endeavor Energy;</li> <li>• Transport for NSW;</li> <li>• Department of Primary Industries – Fisheries NSW;</li> <li>• Catchment Management Authority; and</li> <li>• State Emergency Service</li> </ul> <p>Each public authority is to be provided with a copy of the planning proposal and any relevant supporting material, and given at least 21 days to comment on the proposal.</p>	<p>Consultation with the specified authorities/organisations will be carried out in accordance with the DP&amp;E's requirements.</p>
<p>5. A public hearing is not required to be held into this matter by any person or body under section 3.34(2)(e) of the Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).</p>	<p>Noted.</p>
<p>6. The timeframe for completing the LEP is to be 18 months following the date of the Gateway determination.</p>	<p>Noted.</p>

A review of the table above demonstrates that this PP has addressed the Gateway study requirements.

## 3 Site Analysis

Legacy and ICC have undertaken extensive research and assessment to form the suitability and capacity of the site for redevelopment. This section contains a summary analysis of the rezoning area, including ecology, flooding and hydrology, land contamination, traffic and transport, infrastructure utilities and services and heritage.

This section of the report also provides an overview of the social infrastructure in the area, an analysis of the demographics as well as housing need. Further details of the analysis can be found in the supporting documentation accompanying this rezoning, outlined in **Table 2**.

### 3.1 Topography

The topography of the site is relatively flat. There is a minor fall in the landscape from north to south, with the low point of the site being associated with Towradgi Creek at the southern extent. **Figure 4** shows the existing topography of the site based on 2m GIS contours. Topography does not present a significant constraint to development.

**Figure 4 Site Topography**



Source: E8urban

## 3.2 Soil

In accordance with the Acid Sulfate Soils (ASS) Assessment Guidelines, there is typically a requirement for assessment of the potential for estuarine ASS where the ground surface levels across the site are below RL 5.

Most of the site is classified as no known occurrence of Acid Sulphate Soils – Class 5 with a small portion classified as Low Probability Class 3. As part of future investigation, it is recommended that additional testing of soils be carried out in areas proposed for creek realignment or deep trench excavation for services.

Douglas Partners indicate that even if acid sulfate soils or acid soil conditions are encountered, they can be mitigated through engineering solutions.

## 3.3 Geology

The Wollongong – Port Hacking 1:100 000 Geological Series Sheet indicates that the site is underlain by the Erin Vale Formation (comprising fine to medium grained lithic sandstone) and Pheasants Nest Formation (comprising interbedded lithic sandstone, coal, carbonaceous claystone, siltstone and claystone). Almost all of the site is mantled by alluvium (comprising quartz and lithic “fluvial” sand, silt and clay) associated with North Corrimal Creek and Towradgi Creek.

Geological investigations undertaken by Douglas Partners inferred the following geological model for the site:

- » bedrock comprising weathering-prone shales, siltstone and sandstone with minor included coalbands, possibly representing the Unanderra Coal Member
- » a highly variable thickness of clay-rich residual and alluvial soils underlying filling within areas previously affected by coke production and storage and directly underlying the surface within the mostly undisturbed, south-western section of the site. These natural soils range from very soft to hard condition. The natural soils have been locally removed to provide foundation surfaces for sections of the coke works. Soils and weathered rock underlying or adjacent to the coke ovens have significantly reduced moisture contents and may have been “baked”.
- » a capping layer ranging from 0.2 m to in excess of 3.5 m of mostly uncontrolled filling within areas previously affected by coke production and storage. The predominant filling materials are coke (from fines to cobble size), coal, coalwash and clay
- » a probably modified course of North Corrimal Creek underlying sections of former coke stockpile areas.

## 3.4 Geotechnical

Douglas Partners undertook a geotechnical assessment of the site, which indicates that the site can be made suitable for residential development from a geotechnical perspective. While no geotechnical conditions present a constraint to rezoning and development of the site, the following considerations will need to be incorporated into the design of earthworks to facilitate urban development:

- » existing uncontrolled filling (particularly that comprising coal and coke waste and associated waste fines). The degree of modification (if any) that will be required to provide a suitable fill material will be determined by future investigation;
- » minor constraints relate to erosion potential of disturbed materials, localised waterlogging, localised abnormal moisture content within the coke production area, sodicity and soil aggressively, which can be effectively handled during the earthworks design; and
- » as part of future investigations, an earthworks methodology will need to be prepared to ensure the reuse of existing site soils and optimised procedures for the site.

Regarding specific issues, Douglas Partners outlined the key considerations to take into account, as shown in **Table 5**. These factors can be addressed through earthworks design.



**Table 5 Geotechnical conditions and mitigations**

Geotechnical condition	Mitigation
<p>Erosion Potential - The geological mapping identified the development of minor erosion rills within existing filling of the previous stockpile areas. No bank erosion has been observed along the creek alignments nor is there any WCC record of major scour events within the subject sections of North Corrimal Creek or Towradgi Creek.</p>	<p>The potential for erosion of exposed fill materials (particularly silt and sand size fractions) by concentrated flow is assessed as a minor constraint to development which can be addressed with good engineering practice. To minimise the constraint imposed by erosion potential, earthworks within the site should be undertaken in stages, with adequate erosion and sedimentation controls in place.</p> <p>Treatment of batters constructed as part of the future earthworks should include:</p> <ul style="list-style-type: none"> <li>» filling using select materials (i.e. non-dispersive or erodible) placed under controlled conditions;</li> <li>» provision of temporary surface cover (e.g. pegged matting) during the period of stream floor or batter revegetation.</li> <li>» channel lining or piping of drainage paths where appropriate.</li> </ul>
<p>Waterlogging - waterlogging and softening of alluvial soils and underlying residual soils are expected within creek floors, areas of new batters, areas adjacent to current water ponds and areas requiring removal of deeper sections of existing filling prior to placement of engineered filling.</p>	<p>Precautionary and remedial works for site preparation for residential development should include:</p> <ul style="list-style-type: none"> <li>» improvement of surface drainage including the interception of overland flow.</li> <li>» installation of subsurface drainage to protect road subgrades.</li> <li>» allowance for placement of a granular bridging layer over stripped alluvial or residual soils where trafficability or placement of engineered filling is affected by soft surface conditions.</li> </ul>
<p>Uncontrolled Filling and Reuse particularly that dominated by coalwash and coke products, or new coalwash filling which may be proposed for importation to raise site levels, will be governed by the requirements of the EPA Resource Recovery Order and WCC Coal Washery Refuse in Subdivisions Policy. It should be noted that coke products are not specifically included in the EPA Resource Recovery Order. However, as a combustible material with associated waste derived from coal, it is considered appropriate to include this material for assessment similar to coal washery reuse, in accordance with Council guidelines.</p>	<p>Further assessment will be required as part of the design process to categorise the fill and to determine its geotechnical suitability for reuse on the site. Earthworks design will need to consider WCC Coal Washery Refuse in Subdivisions Policy whereby:</p> <ul style="list-style-type: none"> <li>» very coarse materials (&gt;150 mm) or fine slurry materials (tailings) are to be rejected.</li> <li>» structures are to be slab on ground design. Other footing designs by a Structural/Geotechnical Engineer may be considered.</li> <li>» combustible contents to be determined from site sampling at specified regular frequency.</li> <li>» compaction to be in layers under full engineering control to at least 100% standard density.</li> <li>» combustible contents to be at a mean value not greater than 30% with the upper value not exceeding 40%.</li> <li>» inert fill should be used to backfill services trenches.</li> <li>» coalwash is to be covered by at least 300 mm of inert cover.</li> <li>» proper site control to prevent run-off or dust nuisance.</li> </ul> <p>This is achievable to ensure that the site can be developed.</p>
<p>Abnormal Soil Moisture Content - Below the kiln flue, and likely the coke kilns, as well as the extensive concrete paving</p>	<p>Following removal of the existing structures, it is anticipated that exposure to cyclic wetting and drying will result in greater soil swelling than nearby natural soils. Subject to inspection and testing following removal of structures, over-excavation and moisture re-</p>

Geotechnical condition	Mitigation
about the production area is likely to preserve low moisture contents.	conditioning of materials may be required. This is not expected to be a constraint to development.
Aggressivity - The pH, chloride, Sulfate and resistivity of soil and groundwater samples were compared to the requirements of the AS 2159 – 2009 for exposure classification of concrete and steel piles in soil. Most of the results indicated non-aggressive exposure classification, with only two of seven pH results for soils indicating a “Mild” exposure classification for concrete piles.	Aggressivity of soils is not considered to be a constraint to development.

## 3.5 Geomorphology

The site is traversed by Towradgi Creek, which runs along the southern extent and North Corrimal Creek, which runs roughly North-west to South-east through the site. In addition, an unnamed drainage line enters the site on the western boundary from under Memorial Drive and discharges into North Corrimal Creek.

Based on topographic datasets, North Corrimal Creek is considered a 2nd order stream (Strahler) with an approximate catchment area of 1.6km<sup>2</sup> upstream of the site. The steep headwaters drain the escarpment through well vegetated bushland before joining at the boundary of developed urban areas near Cox Avenue.

The form and alignment of the existing North Corrimal Creek has been substantially modified in the past through site filling and construction of online dams. These past impacts have been more pronounced in the upstream and central sections of the site. Downstream of the dams, the creek flows more or less along the original alignment.

The existing channel form through the site largely consists of a continuous low flow channel typically 3 – 5m wide inset within a broader macro channel, approximately 30m wide and 4 - 6m deep. Bounding sediments of the low flow channel consists of mud and silt and there are no significant accumulations of mobile bed load deposits.

The riparian zone upstream of the dam is dominated by exotic weed species, while downstream a mixture of native and exotic species is evident. The riparian corridor is proposed to be realigned as part of the development. The current design of the realignment consists of a concept level design of the macro-channel and involves:

- » Channel reshaping and enlargement along the initial approximate 170m of the existing creek line at the upstream extent of the site.
- » Realigning the channel to the western boundary of the site over a distance of approximately 560m.
- » Maintaining the downstream 70m of the existing creek up to the confluence with Towradgi Creek.

The limited evidence of bedload transport through the existing North Corrimal Creek system means that the realignment design does not need to account for the transport of bedload sediment in any significant quantity. As a result, further progression of the realignment design will need to focus on the identified areas of potential channel instability while also providing for a complex assemblage of potential habitats and community amenity.

## 3.6 Hydrology

The site is located within the lower reaches of the Towradgi Creek catchment, which is characterised by an extensively developed floodplain, with relatively underdeveloped steep upper slopes. Located approximately 5km north of the Wollongong CBD, the Towradgi Creek catchment has a total area of approximately 7.3km<sup>2</sup>. The drainage network of Towradgi Creek catchment is comprised of the following tributaries:

- » Towradgi Creek
- » South Angels Creek
- » North Angels Creek
- » South Corrimal Creek
- » North Corrimal Creek
- » Carr Creek
- » Parker Creek

Towradgi Creek and North Corrimal Creek traverse the site. The majority of the site drains directly into the North Corrimal Creek, with the main production area generally draining south into a small on-site dam.

Being relatively low lying and located within the Towradgi Creek floodplain and its tributaries, there is potential for flooding of the site to occur. A significant area of the site surrounding the creeks is considered flood prone land.

### 3.6.1 Hydrogeology

Groundwater is likely to be present within the deeper bedrock that consists of the Illawarra Coal Measures. The depth to the bedrock has been mapped at greater than 10m. Groundwater storage within the bedrock sequence would be dominated by fractures. The intensity, connectivity and orientation of the fracture network would determine the groundwater flow direction and velocity. The anticipated regional groundwater flow direction would be east towards the coast. The hydrogeology is summarised below (ES PSI (2013) and ES DSI (2014):

*"The standing water level within the existing wells onsite ranged between 3.03m to 4.69m below top of casing. The inferred local groundwater flow direction on the site is to the south to south east. This opinion is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the Site and the easterly flow direction of Towradgi Creek towards the coastline."*

### 3.6.2 Flooding

The Corrimal Flood Study by Cardno found that significant flooding currently occurs on the low point of Railway Street, located to the north-west of the site. In the 100-year Average Recurrence Interval (ARI) event, flooding extends to the south, inundating the existing residential development at 29, 31 and 33 Railway Street. In the Probable Maximum Flood (PMF) event, areas of the existing Cross Street residential development are also inundated.

The proposed creek realignment has been designed to convey major flows up to Probable Maximum Flood (PMF) event within North Corrimal Creek through the site. This results in a total flood free developable area of 12.5ha. The proposed creek works would significantly improve existing flood conditions in the vicinity of Railway Street and within existing residential development on Cross Street and would provide an opportunity to improve drainage of the existing Cross Street residential area.

Maintaining flood plain storage in the 100-year ARI event is the main floodplain management constraint for the site. To compensate for the loss of existing floodplain storage, the realigned creek channel requires widening below the 100-year ARI flood level, with new areas of compensatory earthworks proposed in the southern site extent.

## 3.7 Contamination

The land is not listed on the Environmental Protection Agency's (EPA) Contaminated Land Register. However, considering the former uses of land, comprehensive contamination assessments have been undertaken in order to

understand the potential environmental liabilities associated with the historical uses of the site. These previous assessments include the following:

- » ADI Limited Stage 1 Site Investigation Report, Station Street, Corrimal (1996) Phase 1 and Phase 2 Contamination Reports
- » EnviroRisk Phase 1 Environmental Assessment, (2005)
- » EnviroRisk, Phase 2 Environmental Assessment, (2006)
- » ES Preliminary Site Investigation, 27 Station Street, Corrimal, March 2014
- » ES Detailed Site Investigation, 27 Station Street, Corrimal, July 2014
- » Arcadis Additional Environmental Assessment Works, 27 Station Street, Corrimal, April 2017
- » Arcadis Additional Environmental Assessment – Production Area, 27 Station Street, January 2018
- » Arcadis Flue, Stack and Powerhouse Assessment, 27 Station Street, March 2018
- » Arcadis, Remediation Action Plan (RAP) 13 May 2019

Previous environmental assessments have identified isolated areas of hydrocarbon impacted soil that have the potential to pose a risk to human health under the proposed land use. Hydrocarbon, copper and zinc are also present in soil and have the potential to pose a risk to ecological receptors. Asbestos fibres and fragments were identified in soil at isolated portions of the site.

There were minor exceedances of dissolved heavy metals and ammonia detected in shallow groundwater. These exceedances are considered typical of regional shallow groundwater conditions and are unlikely to pose a risk to human or local ecological receptors.

Although concentrations of contaminants of concern were detected above environmental assessment criteria, they were isolated and minimal compared to the wider site footprint. It is anticipated that through integration of the remedial strategies outlined in the RAP by Arcadis (refer to **Appendix P**) into the bulk earthworks civil design and construction stages of the project, the site can be suitable for the proposed use.

It is considered that the objectives of the onsite remediation will be achieved subject to the successful implementation of the actions contained in the RAP, which will enable the site to be made suitable for the proposed residential, commercial and open space uses.

### 3.8 Industrial suitability

An assessment of the viability of on-going industrial use of the site was undertaken by Hill PDA as part of the original PP. The report has concluded:

- » There is sufficient supply of well-located industrial land in the Wollongong LGA without the subject site
  - > The Industrial Lands Audit in 2014 found that the Illawarra Region contained 3,110ha of industrial land. Of the total area of industrial land, 603ha was vacant (19%). The Wollongong LGA contains the highest proportion of vacant industrial land supply in the region, totalling 321 hectares (53% of the region). An examination of the take up of industrial land since the 2014 revealed that 45ha of land has been developed, however, 42ha of this was for the Prixcar processing, storage and transport facility.
  - > The majority of industrial land in the Wollongong LGA is in Unanderra, Kembla Grange and Port Kembla and offers lower cost and better access than Corrimal.
- » Increased demand in transport, storage and warehousing sectors, but the subject site is unsuitable
  - > Large-scale transport, storage and warehousing sector (or logistics) have locational needs that are determined by efficient supply chains, access to customers and suppliers, land availability and main road access. This describes firms that have specific land and infrastructure needs and potentially buffer distance requirements from residential or other sensitive land uses. Consequently, the site is not as

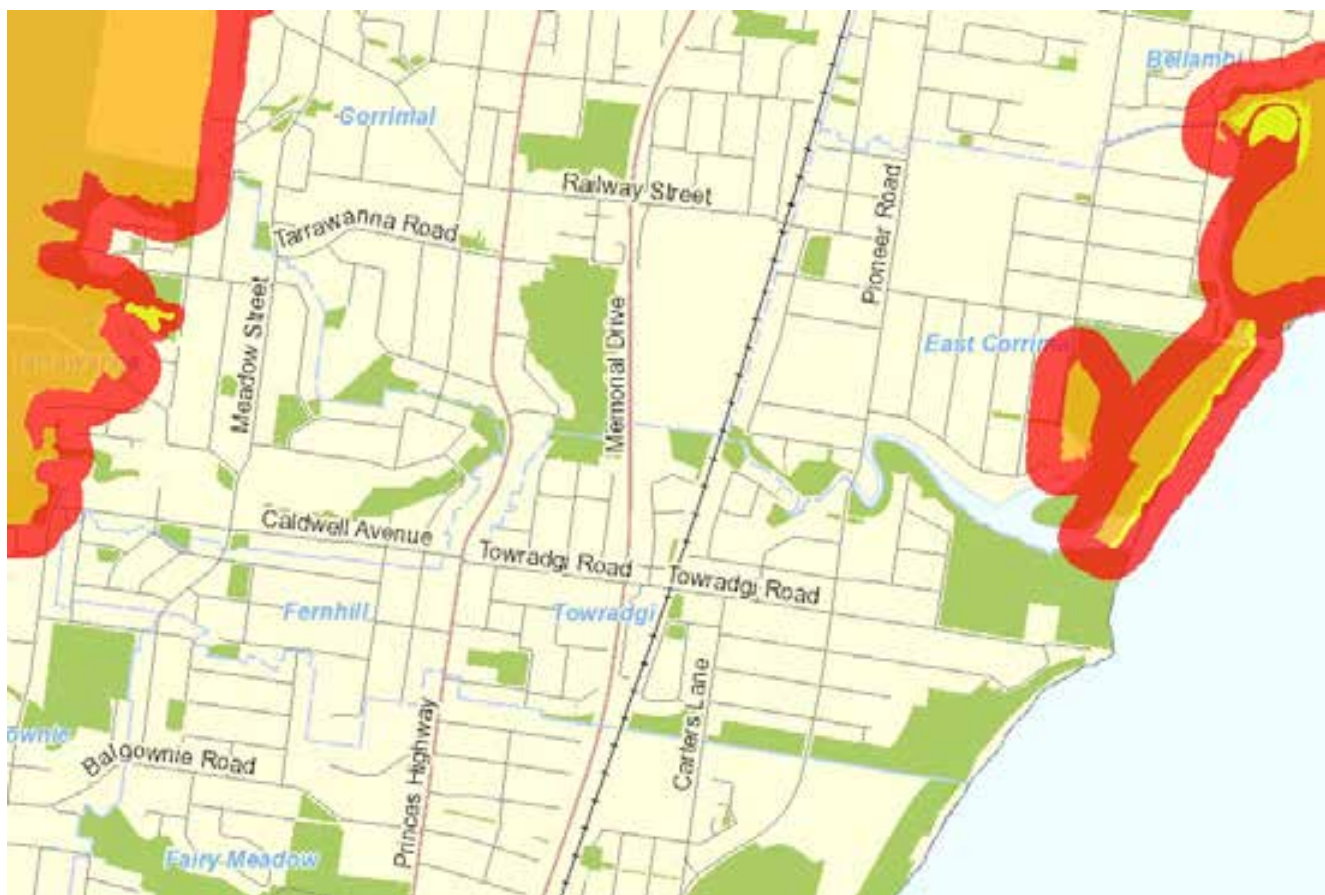
attractive as locations such as Unanderra, in the Illawarra, for these industrial uses due to land use conflict issues due to the proximity of residential dwellings.

- » Conversion to new industrial uses is not viable
  - > The costs in demolition, remediation, land development, subdivision, external works and open space embellishments (around \$25m) would exceed the end value of the industrial parcels (around \$20m to \$22m based on an end sale value of \$200 to \$250/m<sup>2</sup>). Therefore, this option is not financially viable and would not be realised in the current climate or in the foreseeable future.

### 3.9 Bushfire

The site is not identified as being Bushfire prone on the bushfire prone land map.

**Figure 5 Bushfire Prone Land**



Source: Wollongong Council

### 3.10 Ecological

An assessment of the environmental impacts of the proposal was undertaken by EcoLogical (refer to **Appendix G**). The assessment determined that the proposed rezoning would result in the following:

- » realignment and revegetation of the riparian corridor along the western extent of the study area
- » removal of 8.28 ha of Urban Native and Exotic vegetation
- » removal of 0.18 ha of Forest Red Gum – Thin-leaved Stringybark Grassy Woodland
- » removal of 1.12 ha of Acacia Scrub

» removal of 0.06 ha of *Pteropus poliocephalus* (Grey-headed Flying-fox) habitat

The proposed rezoning would retain 1.10 ha of Forest Red Gum – Thin-leaved Stringybark Grassy Woodland.

Figure 6 Rezoning area



Source: Ecological

## 3.10.1 Flora

### Vegetation Communities

The vast majority of the study area accommodates areas of cleared land (including roads, infrastructure, water bodies) or weeds/exotics. Three native vegetation communities were identified within the study area:

- » Forest Red Gum Thin-leaved Stringybark Grassy Woodlands - occurred as two patches, comprising approximately 1.28ha.

The Forest Red Gum Thin-leaved Stringybark Grassy Woodland was identified as being in a highly modified and disturbed condition with high levels of exotic species, with planted non-local native species and modified landforms present. This vegetation community forms part of the 'Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion' Endangered Ecological Community (EEC) listed under the NSW Biodiversity Conservation Act 2016 (BC Act). Neither of the patches present met the Commonwealth Environment Protection and Biodiversity Conservation Act (EPBC) requirements. The proposed rezoning would retain and restore the majority of this endangered ecological community.

- » Acacia Scrub – A total of 1.30ha occurred within the south of the study area in association with the tributary of Towradgi Creek which runs through the southern portion of the site.

This vegetation community occurred as a tall dense shrubland to low closed forest with the height and density of the canopy increasing in proximity to the tributary of Towradgi Creek. It is unclear whether these species were part of the original vegetation type within this area, or if they have colonised this area following the formation of a dense canopy of Acacias and exotic species.

- » Urban Native and Exotic - an area of approximately 8.28 ha was mapped within the study area

Within and surrounding the most disturbed parts of the study area, stands of vegetation were comprised of exclusively exotic species or consisted of rows of non-local native planted trees with a disturbed predominately exotic understorey.

All vegetation communities across the site were identified as having been subjected to moderate to high levels of disturbance including vegetation clearing/thinning of the canopy layer, infestation of exotic species and modification to the landform and soil profiles.

The only areas of vegetation, beyond the areas which have previously been disturbed, which will be impacted as a result of the proposal is 0.18ha of Forest Red Gum Thin-leaved Stringybark Grassy Woodland and 1.12ha of Acacia Scrub. All efforts have been made during the Master Planning process to ensure the majority of the native vegetation communities are not impacted. The removal of these small areas of vegetation would not impact on the health of the overall community.



Figure 7 Threatened Ecological Communities



Source: Ecological

## Flora

One species listed under the EPBC Act and BC Act, *Eucalyptus scoparia* (Wallangarra White Gum), was identified within the study area. Within the study area, approximately eight individuals of this species were observed in a row adjacent to an internal road.

No other threatened flora species were recorded during the site inspections. Given the limited habitat available and its highly degraded condition, no other threatened flora species are considered likely to occur. A total of 108 species were identified during the field survey, including 53 exotic species, 48 endemic (locally native) species and five non-local planted natives.

Seven exotic flora species recorded within the study area are listed as requiring management consistent with the South East Regional Strategic Weed Management Plan (SERWMP) 2017.

### 3.10.2 Fauna

One threatened fauna species, *Pteropus poliocephalus* (Grey-headed Flying-fox) was identified in the study area during surveys. The Grey-headed Flying-fox is listed as vulnerable under the BC Act and EPBC Act and was identified as occupying the patch of Forest Red-gum Thin-leaved Stringy Bark Grassy Woodlands at the southern extent of the study area, adjacent to the dam and existing riparian corridor. The camp was estimated to support 150-250 individuals.

The proposed rezoning will retain the majority of the Grey-headed Flying Fox habitat (refer to **Figure 7**). However, the Ecological Assessment recommends that future assessments for development consider Grey-headed Flying-fox habitat. The proposed revegetation of the riparian corridor along the western extent of the study area would provide additional habitat for this species.

The remainder of the site is considered a low ecological constraint due to the presence of cleared lands, existing derelict infrastructure and Urban Native and Exotic Cover. The study area was not found to provide potential habitat for the Green and Golden Bell Frog (*Litoria aurea*) or Threatened microchiropteran bats.

## 3.11 Noise and vibration

Renzo Tonin & Associates conducted an environmental noise assessment of rail noise and vibration on the Corrimal site (refer to **Appendix O**) in order to assist in understanding any potential constraints to rezoning. The assessment was undertaken in accordance with NSW State Environment Planning Policy (Infrastructure) 2007 (ISEPP), the associated Development in Rail Corridors and Busy Roads – Interim Guideline, and other relevant vibration standards.

The findings of this study are:

- » Some facades of proposed residential buildings with exposure to road and rail noise will require acoustic facade treatments to meet the ISEPP criteria. The potentially affected building locations have been identified and indicative facade treatment recommendations provided.
- » Vibration impacts from the rail line have been found to be compliant with human comfort vibration criteria.
- » Ground borne rail noise during train pass-bys is marginally compliant, but should be confirmed during the design development of the residential buildings closest to the rail line.

In summary, noise and vibration issues do not present any constraint to rezoning the site for primarily residential uses. Any noise impacts can be suitably mitigated to achieve compliance through standard treatments to future residential development. These can be detailed at the development application stage.

## 3.12 Heritage

The Corrimal Coke Works site is not listed on any statutory or non-statutory heritage lists. However, the heritage significance of the Corrimal Coke Works site was assessed by Urbis (refer to **Appendix J**). Overall, the site holds heritage significance to the local area, through its contribution to the growth of the steel industry in the Illawarra Region, the connection of the site to local collieries, the sites previous electricity generation and the historic connections of a major employer for over a century to the local community.

The former coke works operated from 1911 to 2014 and is closely associated with the nearby Corrimal Colliery, which fed the coke ovens coal from 1912 until 1985. Over its operational life, the site underwent substantial changes and upgrades, creating a layered industrial history.

The former Corrimal Coke Works provide an industrial landscape within the context of a residential suburb. The site as a whole, demonstrates an industrial aesthetic, a number of elements within the site portray the industrial heritage in an aesthetic sense. These elements include:

- » C.1912 Brick Chimney – a handsome and historic landmark within the area.
- » Cokeoven batteries, in particular C1 Coke Oven Battery. It is noted that the aesthetic of these ovens has been reduced due to decay.

Later added industrial elements including steel stacks, coke oven hoods, uptakes and ductwork do have aesthetic qualities, however, do not reach the threshold required to attain Aesthetic Heritage Significance.

The assessment by Urbis graded four elements of the site as having high significance in relation to the overall heritage significance of the site. These elements are:

- » Brick Chimney Stack
- » C1 Coke Oven Battery (including load tracks)
- » C1 Coke Oven Ram Tracks
- » Remnant Power House – west elevation

These four items are proposed to be retained within a curtilage and classified as local heritage items under WLEP 2009.

### 3.12.1 Curtilage

The subject site is proposed to have a reduced heritage curtilage as outlined below. A reduced heritage curtilage is reserved for places where the heritage curtilage is defined as larger than the allotment. This classification is particularly relevant where views to and/or from a site are significant.

The proposed reduced curtilage takes into account the history of the site, the key industrial heritage and machinery involved in the processing of coke at Corrimal, the scale of the plant and balances this with the proposed adaptive re-use of the site. Historic elements within the recommended reduced heritage curtilage which will provide an understanding and interpretation of the above process include:

- » Remnant railway tracks (from earlier coal transportation to the site).
- » Retention, reconstruction of a portion of the c.1912 C1 Coke Oven Battery and C1 Coke Over Battery Ram Car tracks. The C1 Coke Oven Battery was constructed and operational in c.1912. Due to this early construction, it has a higher grade of heritage significance than the later added C2 Coke Oven Battery.
- » The c1912 brick chimney stack and section of the underground flue connecting to the brick chimney stack.
- » The post-1960 C1N steel stack.
- » An interpretation of the quenching towers.
- » The c1912 remnant wall of the former powerhouse.

The reduced heritage curtilage allows structures associated with the industrial heritage of the site to be retained and interpreted through a combination of key in-situ elements. The proposed reduced heritage curtilage provides for the industrial centre of the former coke works to be retained and interpreted. The proposed reduced heritage curtilage will retain, conserve and interpret the brick chimney stack, underground flue and alignment, the remnant powerhouse, associated rail tracks and alignments, quenching towers and coke ovens and incorporates the spatial length and width of the C1 Coke Battery, associated ram car tracks and C1N steel stack.

### 3.12.2 Heritage retention

While new built forms may be included in any development of the site, the retention of tall, landmark elements will ensure the former industrial site is conserved and interpreted as an industrial element. Any internal access routes, road layouts, built envelopes and landscape elements should provide views and vistas to the reduced heritage curtilage. This could be achieved through view lines and interpretation of the existing railway/roadway and transportation in coke production. The elements to be retained and/or interpreted are detailed below.

#### Remnant Railway Tracks

The site contains a number of remnant railway tracks, these include to the south of the Quench Towers and near the Coke Screen House. These tracks are remnants only and originally provided access to the South Coast mainline, prior to the use of trucks for transportation. The remnant tracks are in fair condition.

#### C1 Coke Oven Battery

The C1 Coke Oven Battery consists of two 'banks' of Coke Ovens. The original southern 'bank' was constructed in c.1912 and contains 40 ovens. An additional 10 ovens were built in 1930. These were sited in line with, but separate, from the original ovens, creating a northern 'bank'.

The rectangular coke oven battery is constructed of brick with the ovens themselves being arched. The ovens have flues running under them, which connect to stacks. Steel doors are located on either side of each of the ovens. The east door being used by the ram car (on rails) to push the coke out of the oven through the west doors and onto cars for quenching. Each oven has three holes above, for charging. Charging was done by electric charge cannisters, running on rails along the length of the coke oven battery. Each oven is identified by metal numbers located above the oven.

The C1 Coke Oven Battery has been assessed by structural engineers and requires substantial intervention. The visible oven structures have significant cracking, flagging and structural deformities. Established wild vegetation on the battery has grown into the masonry hastening the structural decay. Some elements of the structures are in fair to good condition, including metal identifier numbers and metal doors.

#### Brick Chimney Stack

The Brick Stack was constructed in c.1912. The stack is visible from outside the site due to its height and distinctive form. The stack lies on the eastern boundary and adjacent to the Corrimal Railway Station. The stack is constructed of brick and is fed by an underground flue which connects it to the C1 Coke Ovens. The brick stack is the remaining one of two, which were originally on the site (the other was located to the north of the C1 Coke Battery and was replaced with a steel stack in 1985).

The Brick Stack has been assessed by structural engineers who have identified that it requires remediation. Steel bracing bands are currently supporting the masonry structure.

#### Steel Stacks

The site contains three steel stacks. C1N replaced the former brick stack at the north end of the C1 Coke Battery in 1985. C2N and C2S were constructed in the 1960's, with C2S completed in 1962 along with the C2 Coke Battery.

All steel stacks show surface rusting and have graffiti. C2N stack has had additional bracing applied to its base. The stacks have been assessed by structural engineers and additional assessment is currently being undertaken.

C1N has been identified for retention, subject to further structural assessment, or alternatively interpretation as it provides a visual 'bookend' to C1 Coke Oven Battery and counterpoint to the brick chimney.

### Remnant wall of former Power House

The remnant wall of the former Power House was constructed in c.1912. The remnant wall includes the original west elevation of the power house and an adjoining section of the north elevation. The remnant wall features three windows. A portion of the lower section of the wall has been reconstructed with modern fabric in the latter 20th century.

### 3.12.3 Aboriginal Cultural Heritage

Archaeological assessment by Kelleher Nightingale determined that one Aboriginal archaeological site comprising Aboriginal objects is located within the study area: low density artefact scatter FCCW AFT 1 (AHIMS 52-2-4505). FCCW AFT 1 is located on an elevated floodplain landform in association with Towradgi Creek, in the southern portion of the study area. The entirety of the site area would be impacted by the proposed redevelopment works. An Aboriginal Heritage Impact Permit (AHIP) issued by the Office of Environment and Heritage (OEH) under section 90(1) of the National Parks and Wildlife Act 1974 is therefore required prior to any activity.

Extensive previous modifications and disturbance associated with former industrial land use have diminished or negated the archaeological potential of the majority of the study area. The parts of the study area used for the former cokeworks operations exhibited significant levels of disturbance that would have removed/displaced Aboriginal archaeological objects.

Detailed Aboriginal community consultation did not identify specific Aboriginal cultural value at the one Aboriginal archaeological site identified within the study area, however, consultation has identified that the creeklines and adjacent areas have intangible Aboriginal cultural value associated with the use of these areas by past Aboriginal people for acquiring aquatic and terrestrial resources. The intangible Aboriginal cultural value of these areas can be conserved and enhanced through the remediation of disturbance from past land use and the establishment of a green-space corridor with native vegetation which would be more representative of the past resource gathering environment.

## 3.13 Services infrastructure

BG&E were engaged to update the previous Services Summary Report by ADW Johnson (**Appendix S**). It has been confirmed that all utility services are available to the site, noting the following:

- » Potable Water, Gas and Telecommunication networks require no augmentation to service the overall development;
- » No funding or construction of extensive feeder infrastructure will be required for electrical servicing, with only minor augmentations to the existing Endeavour Energy network envisaged; and
- » After further consultation with Sydney Water and a comprehensive MOUSE Modelling process, it has been confirmed that the wastewater network will be able to accommodate the full development yield.
- » The wastewater servicing strategy involves the provision of additional storage capacity by upsizing the existing trunk main through the site, which will be undertaken in conjunction with a realignment of that trunk main during the bulk earthworks phase.

### 3.13.1 Potable Water Servicing

Sydney Water Corporation (SWC) was consulted regarding servicing the proposed development with potable water and the associated impacts on existing SWC potable water infrastructure as a result of the increased potable water network demand imposed by the proposed development. SWC confirmed that the existing DN200

CICL potable water main fronting the development along Railway Street has sufficient capacity to accommodate the proposed development.

### 3.13.2 Wastewater servicing

Results and findings from modelling and associated consultation with SWC has determined the existing Sydney Water wastewater network will be able to accommodate the proposed Former Corrimal Cokeworks development upon implementation of planned network upgrades and adjustment and upsize of the on-site wastewater trunk main.

### 3.13.3 Electrical servicing

Review of the existing electrical network shows that there are two 11kV feeders (CR1228 and CR1280) located opposite the development site along Railway Street, however both of these feeders have been estimated to have a total available capacity of approximately only 0.5MVA, which is not sufficient to accommodate the development site. However, Endeavor Energy (EE) noted that the overall development can potentially be serviced by Feeder RV1206 from Russell Vale Zone Substation (ZS) which is deemed to have the required available capacity to accommodate the mature load of the development.

EE confirmed that the development would not expect to fund or construct extensive feeder works in order to utilize the available capacity from Feeder V1206 and required augmentations would be limited to network switching and minor augmentation of the existing HV distribution network by linking existing HV networks in various locations. It is envisaged that HV linkage points will be Underground to Overhead (UGOH) terminations on feeder CR1280, with one in both Railway Street and High Street. Details surrounding HV linkages and network configuration will be confirmed when a firm application for load is submitted to EE.

### 3.13.4 Telecommunications servicing

Design It Telco Pty Ltd was consulted about the capacity of existing NBN and Telstra networks. It was confirmed that:

- » Current NBN and Telstra infrastructure could handle the overall development
- » As the development is over 100 lots it will automatically qualify for fibre to the premises (FTTP); and
- » NBN Co will supply a backhaul cable to cater for future lots.

It has been confirmed that the future development does not require any upgrades to telecommunications networks.

### 3.13.5 Gas servicing

A Technical Review Request was submitted to Jemena Limited, to assess the impacts of the proposed development and to confirm the gas network has adequate capacity to service the overall development. It was confirmed that Jemena has suitable gas mains located on Railway Street within the vicinity of this proposal which currently have adequate capacity to service the overall development at this time.

## 3.14 Traffic and transport

Existing transport infrastructure in the study area includes:

- » Memorial Drive (state road) which is a key strategic route through Corrimal carrying high volumes of north-south through traffic. Memorial Drive connects Corrimal to the Princes Highway at Bulli and the M1 Princes Motorway at Gwynneville via North Wollongong;

- » Railway Street between Memorial Drive and Pioneer Road, with intersections at Cross Street, Harbinger Street, High Street, Ruddock Street, Duff Parade and Park Road (all local roads);
- » signalised intersections at Railway Street/Memorial Drive and Railway Street/Pioneer Road;
- » a level crossing on Railway Street with boom gates and flashing lights across the Illawarra Railway Line, which carries both passenger trains (all stop and express services) and freight trains;
- » Corrimal Railway Station (located adjacent to the site), serviced by the South Coast Line between Kiama, Port Kembla and Sydney via Wollongong. Passenger trains generally run every 15-30 minutes during peak hour directly servicing Wollongong with 'all stop' services towards Sydney CBD; and
- » Bus stops along Railway Street in both directions, serviced by:
  - > Route 4: Bulli to Wollongong
  - > Route 92: Bulli to Wollongong
  - > Route 93: Bulli to Wollongong University
- » The site provides direct access to the existing pathway network on Railway Street. There are very few formal bikeways located in close proximity to the development site.

Bitzios Consulting were engaged to provide a supplementary Traffic Impact Assessment (refer to **Appendix T**). Key conclusions drawn from the assessment of the traffic and transport impacts and needs associated with the redevelopment of the site into a mixed-use development includes:

- » The most appropriate location for development access is via Railway Street, approximately 60m east of Harbinger Street. A channelised T intersection with a right turn-in pocket and separate left turn-out and right turn-out lanes is sufficient to provide a safe and efficient access although the access could be signalised to cater for controlled pedestrian crossing movements as well.
- » A left in/out access off Memorial Drive is inconsistent with the function of Memorial Drive and may introduce a safety risk in the high speed, high volume environment in closed proximity to the Towradgi Road intersection
- » The development will introduce 373 vph into the network in the morning peak and 456 vph into the network in the evening peak with almost three-quarters of this traffic orientated towards the Memorial Drive intersection and the remainder orientated towards the Pioneer Road intersection with Railway Street. This increase in vehicles per hour can be catered for through the introduction of a channelised 'T' intersection at the sole site access intersection on Railway Street, approximately 60m east of Harbinger Street.
- » The development's traffic impacts of significance are isolated to the intersection of Memorial Drive / Railway Street
- » The additional traffic introduced into Railway Street by the development equates to one vehicle every 10 seconds (two-way) in the peak hour, which is insignificant on a distributor road such as Railway Street.
- » Railway Street will experience an approximate 17% increase in daily traffic. Its forecast volume of approximately 8,700 vehicles per day at the level crossing is well within the capacity of a single lane each way distributor road.
- » The development's impacts on the Railway Street level crossing due to additional traffic and pedestrian movement are insignificant. State Rail's ALCAM model calculated a probability of one fatality every 104 years, which is the same risk as without the development. No works are required at the level crossing by the development on this basis.
- » The preferred route is along the southern side of Railway Street, which is consistent with the Wollongong City Council Bike Plan 2014-2018. The applicant has proposed to construct a shared path from Cross Street to the commuter car parking entrance as part of a Voluntary Planning Agreement (VPA) with Council.
- » Site specific parking rates are proposed taking into consideration the site is located adjacent to the Corrimal railway station and the localised catchment for retail, food and drink and restaurant uses.

- » The proposed site configuration provides a direct line of site from the primary access street to Corrimal Station for traffic, bus (potentially), Kiss and Ride (KnR), pedestrians and cyclists. It also allows for KnR traffic circulation and the potential for direct connection to the roadway within State Rail land immediately west of the rail line should State Rail see the benefits in such a connection. No Park and Ride (PnR) facilities are being allowed for and no on street parking management measures would be necessary unless Corrimal Station was serviced by express trains to Sydney in the future.

## 3.15 Economic

### 3.15.1 Existing centres and supermarkets

Within the main trade area, in the Corrimal Town Centre (Secondary West), there is a Woolworths and Coles supermarket. A 1,500m<sup>2</sup> ALDI supermarket is also currently under construction. There is also a small shopping village in East Corrimal with a Food Works (approximately 300m<sup>2</sup>)

Fairy Meadow represents the key competition from south of the trade area. From the north, retail competition comes from Woonona, Bulli and Thirroul town centres. The current number of supermarkets and their floor space in surrounding town centres, is shown in **Table 6** below.

**Table 6 Supermarket provision**

Town Centre	Supermarkets	Estimated supermarket Gross Lettable Area Retail (GLAR)
Corrimal	3	7,600m <sup>2</sup>
Fairy Meadow	3	7,800m <sup>2</sup>
Woonona	1	1,000m <sup>2</sup>
Bulli	1	3,200m <sup>2</sup>
Thirroul	2	2,200m <sup>2</sup>

The Corrimal town centre is the largest and closest retail offer to the subject site, located around 350m to the west. Key retail includes:

- » Lederer Shopping Centre Corrimal is a single-level centre with undercroft and at-grade car parking. The centre has multiples pedestrian access points from Railway Street and Princes Highway. The centre comprises:
  - > Woolworths (~3,500m<sup>2</sup>)
  - > Specialty retail (~3,100m<sup>2</sup>) comprising a mix of convenience retail, retail services, and fast casual dining and cafes
  - > Dan Murphy's mini major
- » Corrimal Park Mall is a dated single-level centre at the northern end of the Corrimal town centre, comprising:
  - > Coles supermarket (~2,600m<sup>2</sup>)
  - > Nine specialty retail tenants (~1,200m<sup>2</sup>), orientated towards convenience retail
- » Strip retail along Princes Hwy and Railway St:
  - > Around 60 retail specialty tenants (estimated 5,800m<sup>2</sup>), including strong provision of hair and beauty tenants (14), takeaway food (6), cafes (6), and massage (5)
  - > Some 36 non-retail tenants, including banks (5), employment and financial services (10), and real estate agents (4)



- > An ALDI supermarket (~1,500m<sup>2</sup>) is currently under construction in a mixed-use development on Russel St, expected to be complete in late 2019.

### 3.15.2 Retail demand

Urbis has undertaken an analysis (refer to **Appendix R**) based on an assessment of key opportunities relating to the subject site and its competitive context, which demonstrate:

- » Retail at the subject site should target on-site residents first and foremost. Residents need on-site amenities to create a focal point for activity.
- » A small-scale independent local supermarket could serve a convenience retail role for on-site residents.
- » The critical mass of new residents on site could support a small convenience-based retail offer, potentially including the likes of a pharmacy, newsagent, and beautician, despite good provision of these in Corrimal town centre.
- » There is a noticeable gap in the local market for higher-quality sit-down dining venues and contemporary cafes. Such an offer at the subject site could draw weekend visitors from beyond the subject site.
- » Retail should be integrated with a strong public realm to establish the precinct as a small neighbourhood centre; a vital selling point for future residents of the development.
- » The new retail can leverage its location next to the train station and the historical reputation of the Corrimal Coke Works, well known throughout the region, to serve commuters and visitors to the Wollongong area.

### 3.15.3 Conclusion

- » A small supermarket on site could be supported by some cafes and restaurants and a limited convenience offer.
- » The indicative composition that could support a small format supermarket on site, based on Urbis' understanding of key retail and design principles, includes:
  - > 2-3 cafes/restaurants, that also serve a takeaway role, and a specialty food store
  - > A newsagency or small pharmacy
  - > Personal services such as a hair salon, beautician, massage etc.
- » The above mix could occupy around 800m<sup>2</sup>, taking total floorspace to around 1,550m<sup>2</sup>. To provide some flexibility, Legacy and ICC are considering up to 2,000m<sup>2</sup>.
- » Total retail sales are estimated at \$10.1 million in 2024, growing to \$12.1 million in 2026. These sales reflect an overall retail sales performance of \$6,500 per m<sup>2</sup> in 2024 and \$7,800 per m<sup>2</sup> in 2026.
- » Retail specialties are estimated to trade at around \$7,344 per m<sup>2</sup> by 2026, assuming an optimised tenancy mix

This aggregate sales potential could support a store is in the range of 500 –1,000m<sup>2</sup> (assumed 750m<sup>2</sup>), this translates to an average trading level of around \$6,900 per m<sup>2</sup> initially, stabilising at around \$8,300 per m<sup>2</sup> in 2026.

The proposed retail on site would generate an estimated 79 ongoing jobs during the operational period. Up to an additional 16 indirect jobs in supporting and supplying industries could also be provided, indicating that the development could support up to 95 total jobs in the region.

## 3.16 Population

In 2016, the Illawarra-Shoalhaven region had a population of 404,650. Wollongong LGA had the largest population, accounting for 52% of the region's total, followed by Shoalhaven LGA (25%), Shellharbour LGA

(18%) and Kiama LGA (5%). Between 2001 and 2011 the Illawarra-Shoalhaven region grew at compound annual growth rate of 0.8%, 0.4% slower than Greater Sydney's growth of 1.2%, but faster than growth in regional NSW of 0.7%.

Growth in the Illawarra-Shoalhaven region between 2016 and 2036 will lift its population by 67,000, to 471,700 people in 2036. Within the Illawarra-Shoalhaven region, Shellharbour has experienced the fastest growth, in part reflecting supply with the presence of more greenfield options (vs Wollongong). The projections have this trend continuing, with Shellharbour growing at 1.3%, compared with 0.8% for Wollongong.

## 3.17 Housing

The projected growth in population will translate to demand for a net addition to the dwelling stock of 45,000 dwellings or 2,250p.a in the period 2016 – 2036. Historically, detached housing has been the dominant form of housing in the Illawarra-Shoalhaven region, accounting for 76.4% of the housing stock in 2016. More recently, particularly in Wollongong but also in Shellharbour, there has been a higher share of growth in dwellings accommodated by in-fill developments, and by medium- and high-density housing types. This in part reflects a long-term trend towards higher density.

The D&PE's projections for 2015/16-2019/20 and 2020/21-2024/25 assume that detached housing will account for 50% of growth in the housing stock, with medium and high-density housing accounting for the other 50%. The DP&E notes that 60-70% of demand might be met from greenfield developments and 30-40% from in-fill. In the past ten years to 2015, there has been 7,634 dwelling completions from in-fill (in the Illawarra-Shoalhaven region).

In 2016, the most common households within the Illawarra-Shoalhaven region were couples with children which accounted for 28.7% of all households in 2016. This was followed by couple only households (26.7%) and lone person households (24.1%). Heading into the future the fastest growth is expected to be in couple only households (1.4%) and lone person households (1.4%) which include older households.

In order to cater to the region's changing household structures, diversification of dwelling structures is required. The downsizer market and single young professionals are likely to want smaller and more compact housing. While there has been growth in medium and higher density development, particularly in Wollongong CBD, provision of these housing types is still relatively under-serviced in relation to potential demand. Housing diversity will also be important in maintaining housing affordability through the provision of a range of more compact dwelling types.

## 3.18 Social Infrastructure

### 3.18.1 Recreational/Community Infrastructure

Recreational/Community Infrastructure in the vicinity of the site includes:

- » Corrimal Memorial Swimming Pool (250m west from the western boundary)
- » Corrimal District Library & Community Centre (250m from the western boundary of the site)
- » Robert Ziems Park featuring multiple playing fields (66m west of the site)
- » Towradgi sporting fields, tennis courts and bowling greens at Moray Road, Towradgi (850m south-east of the site)

There is an opportunity to link all of these community recreational resources, the coast and the site via a green link aligning with the Towradgi Creek corridor. This would also effectively link with the Grand Pacific Walk currently being developed in stages by the Wollongong City Council, that will ultimately provide a continuous shared pathway from the Royal National Park to Lake Illawarra.

In addition, significant walking and cycling facilities are proposed as part of the concept plan for the site to promote an active transport and public-transit lifestyle.

### 3.18.2 Educational Infrastructure

Educational institutions surrounding the sites include:

- » Corrimal High School (375m to the east)
- » Corrimal East Public School (350m to the east)
- » Corrimal Public School (750m to the north-west)
- » Bellambi Public School (1,000m to the north-east)
- » Wollongong High School of the Performing Arts & Keira High School (3.5km to the south-west)
- » TAFE NSW Wollongong (3.5km to the south-west)
- » University of Wollongong (4km to the south-west)
- » Saint Columbkille's School (822m to the north-west)
- » Towradgi Public School (1.2km to the south)
- » Specialist schools such as the Autism Association of NSW - South Coast School (850m to the north-west).

An assessment of likely capacity for schools has been performed by reviewing information on the My Schools website. This is provided in **Table 7** below.

Childcare facilities are available surrounding the site, but there is also an excellent opportunity to provide childcare facilities on site, servicing both residents and commuters in particular.

**Table 7 Maximum enrolment and current enrolments for relevant schools near the subject site**

School	Enrolments		Estimated spare capacity
	Maximum	2016	
Corrimal High School (375m to the east)	496 (2008)	345	151+
Corrimal East Public School (350m to the east)	295 (2008)	202	93+
Corrimal Public School (750m to the north-west)	184 (2016)	184	Additional capacity unknown
Bellambi Public School (1,000m to the north-east)	256 (2008)	164	92+
Wollongong High School of the Performing Arts (3.5km to the south-west)	Additional capacity unknown		
Keira High School (3.5km to the south-west)	949 (2015)	938	9
Saint Columbkille's School (822m to the north-west)	422 (2016)	422	Additional capacity unknown
Towradgi Public School (1.2km to the south)	164 (2014)	160	4+
Fairy Meadow Public School (3.5km south)	421 (2008)	374	47+

School	Enrolments		Estimated spare capacity
Woonona High School (3.5km north)	787 (2008)	599	188+
Woonona Public School (3.5km north)	342	512	Additional capacity unknown
Woonona East Public School (3.5km north)	310 (2008)	222	88+

Source: [www.myschool.edu.au](http://www.myschool.edu.au)

### 3.18.3 Health Infrastructure

A brief assessment of health infrastructure would indicate that the subject site is well serviced. In Wollongong, (approximately 5.5km from the subject site) this includes:

- » Wollongong Hospital which is currently undergoing \$100 million worth of capital works enhancements which include the construction of the Illawarra Elective Surgical Services Centre
- » South Coast Private Mental Health Hospital
- » Wollongong Day Surgery
- » Wollongong Private Hospital
- » Numerous specialist centres.

In the local area surrounding the subject site, numerous primary care facilities are available with at least four medical centres and a community health centre.

Significant community, health, educational and recreational resources are available surrounding the site.

## 3.19 Suitability of the site

It is estimated that development of the site for residential land uses has the opportunity to provide for a diversity of housing in order to cater for the changing demographics of the Wollongong LGA. Importantly, the key factors that make the site suitable for residential development include:

- » Not viable for industrial use
  - > The coke works ceased operation in 2014
  - > A financial feasibility assessment has found that it would not be viable to redevelop the site for industrial purposes (considering the cost of redevelopment versus return)
  - > Significant industrial land resources are available in the Wollongong LGA that provide better access and less land use conflict than the subject site.
- » Planning
  - > The 18.18ha site is able to offer a mix of residential and recreational resources where site constraints have been investigated and effective mitigation measures or other strategies have been developed
  - > 12.5 hectares of flat, readily developable land adjacent to Corrimal train station offering the opportunity for transit-oriented development
  - > Logical extension of the R3 Medium Density Residential zoning to the north, north-east and east of the site

- > The capacity to deliver a diverse range of housing within an R3 Medium Density Residential zone, from single dwellings through to residential flat buildings, delivering housing typologies that are in short supply in the Illawarra region.
- > An R3 Medium Density Residential rezoning could also support small-scale neighbourhood and commuter services to deliver convenience for residents and the broader community
- » Connectivity
  - > Rail and major arterial road access connect the site to the Wollongong CBD (5.5kms) and Sydney CBD (63.5km)
  - > Ideally located within 350m of the Corrimal town centre
  - > 8-minute bus ride to Wollongong University and the broader innovation employment zone, with a stop on Railway Street adjacent to the site
  - > 500m or less from primary and secondary schools with over 10 schools within an 8km radius of the site.
- » Amenity
  - > 500m to recreational facilities including sporting fields, Corrimal pool, library and community centre
  - > 1.2 km to patrolled beaches
  - > Proposed green link, cycle way/pathway to Corrimal Beach and adjacent sporting fields
  - > Superb views to the Illawarra Escarpment
  - > Potential views to the Wollongong coastline.

## 4 Statutory Planning Context

The rezoning has been prepared having regard to the existing planning framework in context of the WLEP 2009 and other applicable Environmental Planning Instruments.

### 4.1 Wollongong Local Environmental Plan 2009

The aims of WLEP 2009, which guide the preparation of the PP for the site at Corrimal are as follows:

- a) *to provide a framework for land use management,*
- b) *to encourage economic and business development to increase employment opportunities,*
- c) *to encourage a range of housing choices consistent with the capacity of the land,*
- d) *to improve the quality of life and the social well-being and amenity of residents, business operators, workers and visitors,*
- e) *to conserve and enhance remnant terrestrial, aquatic and riparian habitats, native vegetation and fauna species,*
- f) *to conserve and enhance heritage,*
- g) *to ensure that development is consistent with the constraints of the land and can be appropriately serviced by infrastructure,*
- h) *to ensure that significant landscapes are conserved, including the Illawarra Escarpment, Lake Illawarra, the drinking water catchment and the coastline.*

The PP gives effect to these objectives, as outlined in **Part 1**.

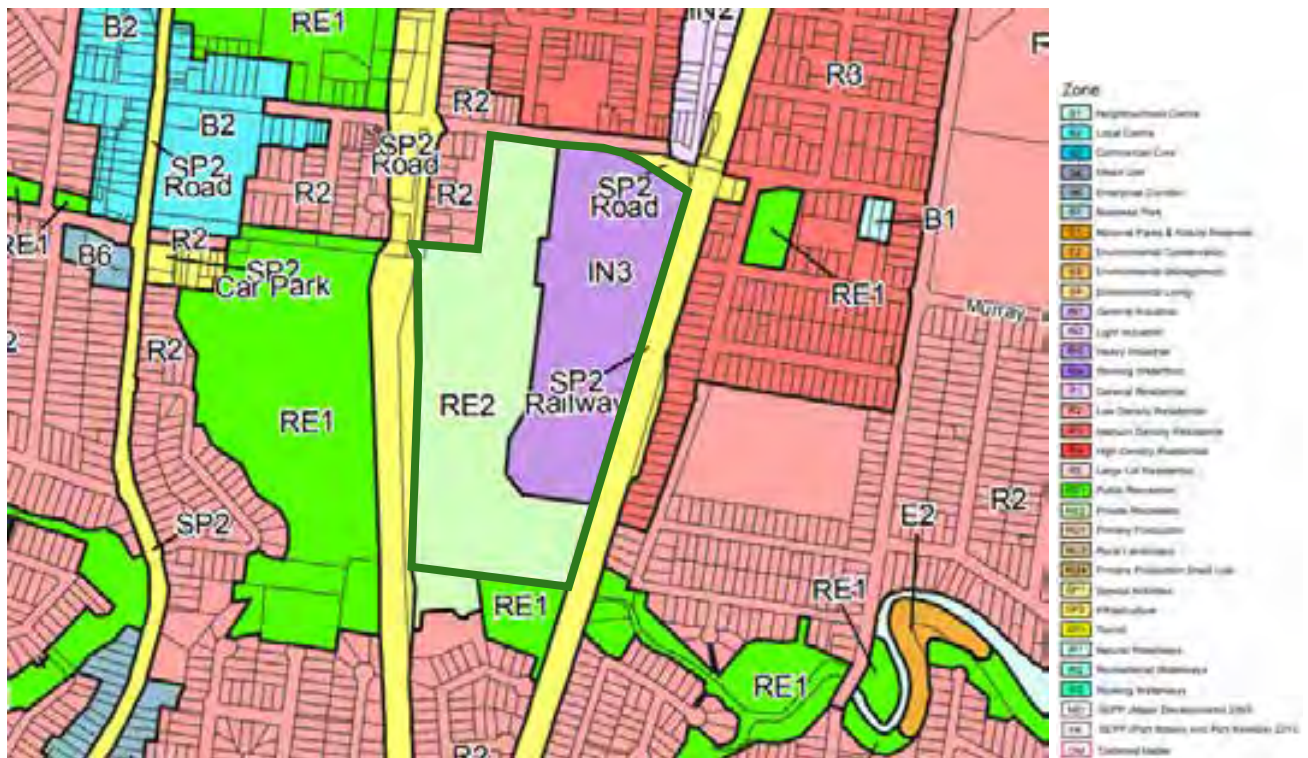
#### 4.1.1 Zoning

Under the WLEP 2009 the subject site is zoned IN3 Heavily Industrial and RE2 Private Recreation. The objectives of these zones are as follows:

- » **IN3:**
  - > *To provide suitable areas for those industries that need to be separated from other land uses.*
  - > *To encourage employment opportunities.*
  - > *To minimise any adverse effect of heavy industry on other land uses.*
  - > *To support and protect industrial land for industrial uses.*
  - > *To facilitate the ongoing sustainability of steel making and steel product manufacturing that will contribute to the economic and employment growth of Wollongong.*
- » **RE2:**
  - > *To enable land to be used for private open space or recreational purposes.*
  - > *To provide a range of recreational settings and activities and compatible land uses.*
  - > *To protect and enhance the natural environment for recreational purposes.*

The zoning of the site is identified in **Figure 8** below.

Figure 8 Current zoning map – WLEP 2009



Source: WLEP 2009 Land Zoning Map LZN\_024

### 4.1.2 Minimum lot size

Clause 4.1 of WLEP 2009 sets a Minimum Subdivision Lot Size, as indicated in the associated MLS map. Half of the site has an MLS of 1.99ha, while the other half of the site is not subject to a MLS, as shown in **Figure 9** below.

Figure 9 Current MLS map – WLEP 2009



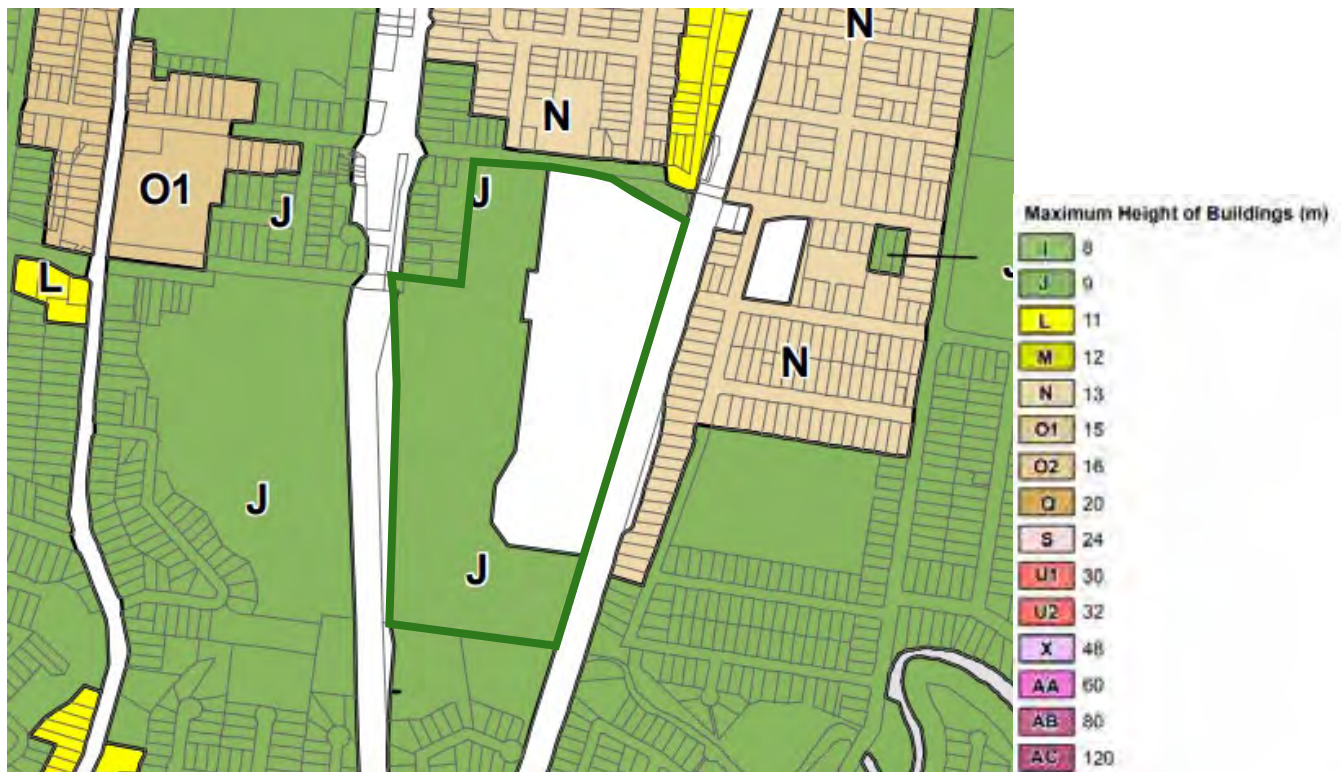
Source: WLEP 2009 Minimum Lot Size Map LSZ\_024

### 4.1.3 Height of Buildings

Clause 4.3 of the WLEP 2009 sets a maximum height limit for buildings, with heights shown on an associated Height of Buildings Map. One half of the site is not subject to a height control, while the other half has a 9m height control, as shown in **Figure 10** below.



Figure 10 Current height of buildings map – WLEP 2009



Source: WLEP 2009 Height of Buildings Map HOB\_024

#### 4.1.4 Floor Space Ratio

Clause 4.4 of the WLEP 2009 sets a maximum Floor Space Ratio (FSR), with FSRs shown on an associated FSR map. The subject site has no FSR control.

#### 4.1.5 Land Reservation Acquisition

Clause 5.1A of WLEP 2009 aims to limit development on certain land intended to be acquired for a public purpose. The site contains Lot 126 DP 598190, which is intended to be utilised for the expansion of Railway Street, as shown in **Figure 11** below.

As per Clause 5.1 if there is an owner-initiated acquisition process the following applies:

##### 5.1 Relevant acquisition authority

1. *The objective of this clause is to identify, for the purposes of section 27 of the Act, the authority of the State that will be the relevant authority to acquire land reserved for certain public purposes if the land is required to be acquired under Division 3 of Part 2 of the Land Acquisition (Just Terms Compensation) Act 1991 (the owner-initiated acquisition provisions).*

*Note.*

*If the landholder will suffer hardship if there is any delay in the land being acquired by the relevant authority, section 23 of the Land Acquisition (Just Terms Compensation) Act 1991 requires the authority to acquire the land.*

2. *The authority of the State that will be the relevant authority to acquire land, if the land is required to be acquired under the owner-initiated acquisition provisions, is the authority of the State specified below in relation to the land shown on the Land Reservation Acquisition Map (or, if an authority of the State is not specified in relation to land required to be so acquired, the authority designated or determined under those provisions).*

Type of land shown on Map

Authority of the State

Zone SP2 Infrastructure and marked "Local road"

Council

- Development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

**Figure 11 Land Reservation Acquisition**



Source: WLEP 2009 Land Reservation Acquisition Map LRA\_024B

### 4.1.6 Heritage

Clause 5.10 of the WLEP 2009 sets controls for heritage items, heritage conservation areas, archaeological sites and Aboriginal objects or places. There are no heritage listed items of Commonwealth, State or local heritage significance within the site nor is the site located within a heritage conservation area.

### 4.1.7 Bushfire Hazard Reduction

Clause 5.11 of the WLEP 2009 relates to bushfire hazard reduction. The site is not identified as being bushfire prone.

### 4.1.8 Natural Resource Sensitivity

Clause 7.2 of the WLEP 2009 identifies controls for areas of natural resources sensitivity – biodiversity. As shown in **Figure 12** below, the site contains areas of natural resource sensitivity.

Extensive investigation into the biodiversity values of the site have been undertaken to ascertain the biodiversity values of the site. The areas of greatest significance are contrary to those provided on the LEP mapping.

The concept planning process has ensured the development is designed, sited and managed to avoid potential adverse environmental impacts and incorporates measures to minimise the environmental impact.

**Figure 12 Natural Resource Sensitivity – Biodiversity Map – WLEP 2009**



Source: WLEP 2009 Natural Resource sensitivity – biodiversity Map NRB\_010

#### 4.1.9 Flood Planning

Clause 7.3 of WLEP 2009 is designed to ensure that:

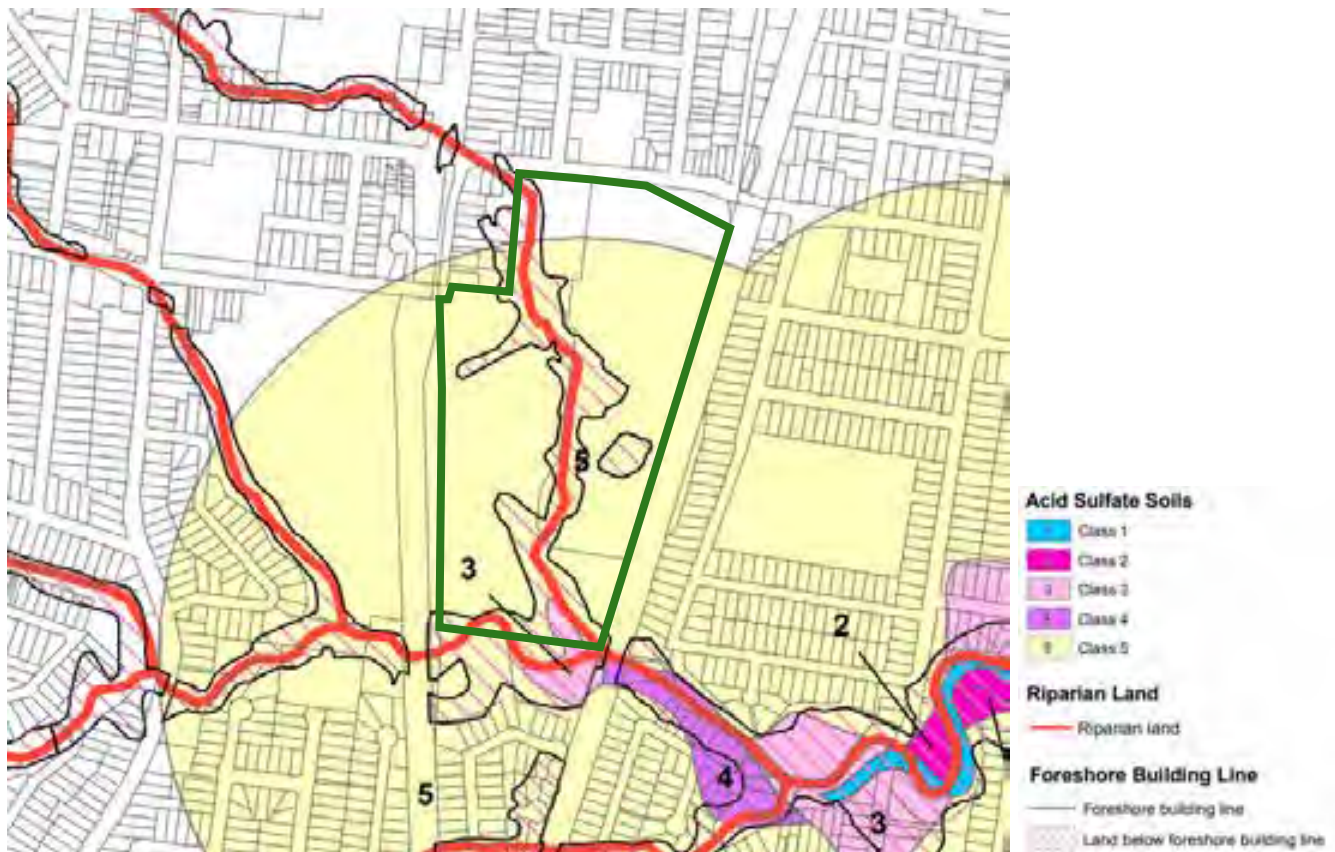
- a. to maintain the existing flood regime and flow conveyance capacity,
- b. to enable evacuation from land to which this clause applies,
- c. to avoid significant adverse impacts on flood behaviour,
- d. to avoid significant effects on the environment that would cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses,
- e. to limit uses to those compatible with flow conveyance function and flood hazard.

The subject site is identified on the accompanying Flood Planning Mapping as part of the Wollongong Development Control Plan 2009 Part E13 Towradgi Creek Flood Plain as shown opposite.

### 4.1.10 Acid Sulfate Soils

Clause 7.3 sets out controls for flood planning, Clause 7.4 identifies controls for Riparian Lands, while clauses 7.5 and 7.7 identify controls for Acid Sulfate Soils (ASS) and the Foreshore Building Line. The site contains Class 5 ASS and areas of riparian land and land below the foreshore building line, as shown in **Figure 13** below.

**Figure 13 Acid Sulfate Soils, Riparian Land, Foreshore Building Line and Flood Planning Map – WLEP 2009**



Source: WLEP 2009 Acid Sulfate Soils, Riparian Land and Foreshore Building line Map CL1\_024

Clause 7.3 states that development consent must not be granted for land to which this clause applies unless the consent authority is satisfied in relation to all the following matters:

- all habitable floor levels of the development will be above the flood planning level,*
- the development will not adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties,*
- the development will not significantly alter flow distributions and velocities to the detriment of other properties or the environment of the floodplain,*
- the development will not affect evacuation from the land,*
- the development will not significantly detrimentally affect the floodplain environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses,*
- the development will not result in unsustainable social and economic costs to the community as a consequence of flooding,*
- if located in a floodway area—the development will not be incompatible with the flow conveyance function of, or increase a flood hazard in, the floodway area.*

Clause 7.4 aims to ensure that development does not adversely impact upon riparian lands. However, it should be noted that the existing riparian corridor is significantly degraded as a result of the previous industrial use of the land.

Clause 7.5 aims to ensure that development does not disturb, expose or drain ASS and cause environmental damage. The majority of the site is class 5 ASS. Under Clause 7.5 Class 5 ASS permits "*works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.*" The ASS map also indicates a small section of the south-eastern corner of the site which is Class 3 ASS, however, this area of the site is not proposed to be developed.

Clause 7.7. provides foreshore building line controls. The clause aims to ensure that development in the foreshore area will not impact on natural foreshore processes or affect the significance and amenity of the area. However, as previously stated the riparian land and adjacent foreshore area is extremely degraded.

## 4.2 Wollongong Development Control Plan

The site is also subject to the Wollongong Development Control Plan (WDCP) 2009. The WDCP 2009 applies to the entire Wollongong LGA and includes general development guidelines. The main objective of the WDCP 2009 is to assist in the realisation of the aims of the WLEP 2009.

Details of the relevant provisions of the WDCP 2009 have not been undertaken as part of this PP due to the fact a site specific DCP has been prepared for the Corrimal site and is submitted with this PP (refer to **Appendix A**).

## 5 Proposed rezoning concept

### 5.1 Planning Proposal Description

The aim of the PP is to rezone the previous Corrimal Coke Works site to integrate a diversity of housing with a focus on delivering a public plaza adjoining Corrimal train station whilst retaining the sites industrial heritage.

### 5.2 Urban Design Principles

In order to support the proposed rezoning, a Concept Master Plan has been developed to identify future potential land uses. The key design principles of the Concept Master Plan for the rezoning area include:

- » Deliver a public open space network that forms the focus and identity for the precinct, providing a range of recreational opportunities.
- » Provide innovation in the type of built form and public realms to ensure the character of the site reflects a cohesive yet diverse group of design elements and different character precincts.
- » Integrate the brick chimney, coke ovens and the powerhouse into the overall development of the public plaza, in order to celebrate the history of the site
- » Design a safe and functional road network with increased walkability to Corrimal station, as this will be a direct link to the heart of the community
- » Ensure traffic control and circulation within the site to Railway Street to connect with the surrounding Corrimal community and provide adequate street parking.
- » Deliver a site that is highly permeable to pedestrians and cyclists, linking the precinct to surrounding amenities, services and facilities, public transport, recreational opportunities and beach and broader regional pedestrian/cycle path network
- » Create a residential community with housing diversity, neighbourhood hub and commuter services near the train station for added convenience but at a scale that does not detract from the efficacy of the Corrimal town centre
- » Conserve, manage and improve native vegetation and biodiversity located to the south and north-west of the site, as well as the new riparian corridors
- » Allow for earthworks to improve and manage the drainage across the site in order to reform and rehabilitate a riparian corridor to improve water management and ultimately enhance the biodiversity values on the site
- » Deliver serviced development with quality infrastructure services and diverse architectural elements
- » Create view lines to the creek and linkages to the heritage significant core

### 5.3 Place principles and values

The Master Plan for Corrimal has also been based on the following place principles:

- » Place Principle 1 Made for Friendship: We help people to meet, share and connect, building on and contributing to Corrimal's already genuinely friendly and supportive community. We're creating a safe and supportive place where people grow together, look out for each other and share special moments and events.
- » Place Principle 2 Designed for difference: We're building a community of many different ages, shapes and sizes. We champion difference and are designed to attract people at different stages of life. Our place is

made up of a wide variety of landscapes, precincts, features, housing types and experiences, creating a vibrant and distinctive destination.

- » Place Principle 3 Bringing more to life: We invest in making people and places the best they can be, breathing new life into heritage and green space and helping people reach their potential. We make everyday life easier, so that people have more time and energy to enjoy what's important.
- » Place Principle 4 United through stories: We cherish our unique story. From our history to our unique ecology, we're a place like no other. Together we will celebrate the stories of the past and build new stories, forging a strong sense of character and identity.

## 5.4 Master Plan and rezoning area

The Master Plan is a progression of the 2017 Concept Plan which established the potential for the site to be rezoned from predominantly industrial uses to residential zoning. The 2017 Concept Plan established key design drivers including:

- » A Strategy to retain some former industrial elements of the Site including the 1912 Brick Chimney Stack.
- » The identification of ecological communities in the north and south of the Site.
- » The opportunity to position local services around Corrimal Station.
- » The opportunity to access the Site from Railway Street in the north.
- » The realignment of Corrimal Creek to the west of the Site to establish an enhanced green corridor, managing flooding and consolidate the developable area

Taking into account the above factors, it is proposed to rezone the site from IN3 Heavy Industrial and RE2 Private Recreation, under WLEP 2009, to R3 Medium Density Residential and RE1 Public Recreation. A small portion (0.25ha) of the subject site, currently zoned SP2 Infrastructure - Road, is also proposed to be retained. Appropriate controls relating to Floor Space Ratio (FSR), minimum lot size, height, biodiversity and Acid Sulfate Soils are also proposed.

The rezoning of the site would accommodate approximately 700 – 750 dwellings, providing for more diversity of housing through the provision of a mix of residential flat building development, attached and semi-detached housing. The proposed civic place will provide for small scale retail space in close proximity to Corrimal Station. The site will be connected to the wider Corrimal area through cycling and pedestrian links.

The riparian corridor, which is currently severely degraded, is proposed to be realigned to reduce flood risks, offer a mix of passive and active recreational uses and handle water quality management. The riparian corridor will link existing public open space at the south of the site. Two ecological communities have been identified on the site, which are proposed to be preserved.

The indicative concept Master Plan for the suite is shown in **Figure 14**.

Figure 14 Proposed Master Plan



Source: DKO

Key features of the Master Plan include:

- » An expanded plaza adjacent to Corrimal Station.



- » Increased retention of former Coke Works Structures.
- » Refinement of the realigned North Corrimal Creek corridor to provide opportunities for active and passive recreation.
- » Measures to enhance stormwater quality.
- » A refined street network that facilitates bus access to Corrimal Station.
- » An expanded area for local services around Corrimal station.
- » A new local 'park in the heart' of the Site.
- » The identification of a number of character precincts within the Site that respond to local conditions and the project vision.
- » Further development of the built form strategy to allow for a diverse mix of innovative housing.
- » An identification of locations for seniors housing and affordable housing.
- » An extensive network of active transport and pedestrian links to key destinations within and around the Site.
- » Updated staging and implementation planning.

## 5.5 Proposed Land Use Strategy

### 5.5.1 Housing Delivery

The new community will support approximately 700 – 750 new dwellings. The site offers ideal development potential for infill housing, adjacent to Corrimal train station and within walking distance of Corrimal town centre. The proposed R3 Medium Density Residential zoning permits the following housing typologies under WLEP 2009:

***Attached dwellings; Dual occupancies; Dwelling houses; Multi dwelling housing; Residential flat buildings; Shop top housing; Semi-detached dwellings; Seniors housing; Serviced apartments***

The proposed R3 zoning is a natural extension of the existing R3 zoned areas located directly to the north and east of the site. The intended built form is a mix of housing products; attached and detached housing and residential flat buildings, increasing the housing choice and affordability in the area. It is intended to locate the residential flat buildings closest to the train station and the entrance to the site, to ensure maximum accessibility to public transit and reduce any amenity impacts on surrounding lower scale residences.

These housing typologies are significantly under-represented in the Illawarra housing market, and respond to the changing demographics of the area. The Illawarra-Shoalhaven area has an increasing number of 1-2 person households due to an aging population. A more diverse housing mix is also required to respond to an increasing need for more affordable housing. The exact mix of the built form will be guided by market demand.

### 5.5.2 Affordable Housing

Legacy and ICC are committed to ensuring that the site is rezoned and developed with the provision of 5% affordable housing, which is around 35 dwelling units. The affordable rental housing will be provided and managed by a registered Community Housing Provider. This is to ensure that a wide range of housing choice, based on the belief that housing affordability is underpinned by providing a high level of housing diversity, including appropriate compact housing types and noting that the present housing stock of Corrimal is dominated by detached dwellings.

Further, although Legacy Property and ICC are committing to 35 dwellings on a parcel of land, there could be opportunities for affordable housing "salt and peppered" within other parts of the site. For this reason it is proposed to permit a variation to the Maximum Height of Buildings Control of up to 3.5m and the associated increase in FSR for any Residential Flat Buildings, where the additional Gross Floor Area is utilised for the provision of Affordable Housing over and above the 35 units of affordable housing.

### 5.5.3 Open Space

Landscape design has been integrated into the built form and introduced landscape objectives derived from the following design principles:

- » Create a new public parkland along the realigned North Corrimal Creek
- » Incorporate landscape edge vegetation to preserve key interfaces for surrounding residents
- » Retain and enhance structures associated with the former uses on the Site
- » Enhance proposed Civic Hub adjacent to Corrimal station
- » Define a fine grain network of streets, lanes and pedestrian links
- » Frame internal views and vistas
- » Create a system of cycle paths that link to key destinations and connect into wider network.

### 5.5.4 Riparian Corridor

Surrounding the proposed re-alignment of the creek, an RE1 Public Recreation zone will provide excellent accessibility to open space resources for residents and improve green links for the entire Corrimal community.

### 5.5.5 Proposed non- residential uses

It is proposed to accommodate a small supermarket on site, supported by some cafes and restaurants and a limited convenience offer (such as newsagency or small pharmacy, personal services such as a hair salon, beautician etc.) with a gross floor area of around 2,000m<sup>2</sup>, all within 200m of the railway station.

In the future, some community uses can also be accommodated on the site.

As the site is close to the railway station and in proximity to Corrimal town centre, it is considered that the small commercial/retail neighbourhood uses should not be rezoned to a B1 zoning, but rather to retain propose the whole site as a R3 zoning and allow additional permissible uses to specifically apply to that part of the site which is within 200m of the railway station.

### 5.5.6 Land Use Character

The Master Plan for the rezoning area would result in a diverse range of building forms which respond to their individual location and context. The Master Plan encompasses five character areas; Civic Hub, Treetop Escarpment, Creek Edge, Village Park and Riparian Corridor.

#### Civic Hub

The new Civic Hub forms a central element in the larger scheme and is positioned close to the existing Corrimal train station. A plaza where the community can experience the old heritage items either retained, reinterpreted or re-purposed as outlined below:

- » The Brick Chimney will be retained and made safe
- » The site of the C1 Coke Ovens will be re-interpreted with a steel frame
- » Quench Tower will also have a re-interpretational element
- » Power House will be re-purposed
- » A section of the existing paving will be retained and re-interpreted
- » C2 Crusher House interpreted in the paving to help inform and educate

A bus stop will be introduced to stop at the plaza to make access and travel time to the train station more efficient. New shops and cafes will line the plaza activating the space with multiple functions. Surrounding the plaza will also be residential housing of a higher density and built form due to its proximity to the railway station and the non-residential uses adjacent to the plaza. Importantly the heritage items of the Brick Chimney and C1 Chimney will retain their heights to provide for a reflection of the site's history and built form.

A place where people can relax and enjoy the different spaces provided throughout the plaza landscape. This will also be a gathering area where the local community can enjoy and experience the sites history through unique, vibrant and exceptional landscape design with heritage interpretation.

## **Treetop Escarpment**

This sub-precinct forms an important interface with Railway Street and the wider urban area. It references the mature trees on the sites northern boundary and the dynamic form of the escarpment to the west. This precinct will be predominantly residential uses, providing a general housing diversity of apartments and retirement living.

## **Creek Edge**

Along the North Corrimal Creek public open space, development will have high quality-built form fronting open spaces, with a clear delineation of the public and private domain. The residential development will provide for multiple dwellings, townhouses and single dwellings in the western and central area. In the southern area, adjoining the creek and biodiversity area, higher apartment building are proposed to ensure surveillance of the creek and open spaces, and for people to enjoy the parkland surrounding the apartment buildings.

Landscape setbacks from the built form would reflect and contribute to the green landscape character and the built form would be designed to address the green outlook.

## **Village Park**

A local park will be sited in the heart of the new development. This location ensures that all residences will have access to the park within 400 meters (10 min walk). The park will provide for day-to-day passive recreational needs of the community.

The local park will have a road edge on three sides of the park maximising passive surveillance. The residential development will predominantly be multiple dwellings, townhouses and single dwellings. Entry courtyards of residences will front the park on the fourth side. Landscape is used to create a visual buffer between these units and the open space for privacy.

An open lawn area will be incorporated inside this local park with shade trees for the residents to enjoy a picnic setting or children kicking a ball around.

Clear access pathways will cut through the local park and connect the community with the open space. A cyclist stopping and resting zone will be introduced inside the local park for local or regional cyclists passing through the site. This will also help with passive surveillance and increase the number of users.

This sub-precinct is focused around the central local public open space. Development will address the local park and provide a clear urban edge.

## **Riparian Corridor**

The riparian corridor brings people closer to nature with clear accessible walkways linking to the creek and down to the water edge. The significant biodiversity areas in the north and southern areas will be retained within the corridor precinct.

Cycle ways will also be introduced connecting into the local network. The varied path alignment, seating and rest places, varied planting palette and the opportunity to introduce artwork from salvaged material will all add ample variety within the Riparian Corridor.

There will also be a strong emphasis and focus on views towards the escarpment by positioning of new trees and designing around existing tree locations to open up viewpoints. This in turn will allow connection to the open space and to enjoy picnic areas under the existing mature tree canopies.

Provision has also been made for a small amphitheatre space positioned in the natural slope of the creek embankment to be used for outdoor events, concerts and markets.

### 5.5.7 Lot mix

The majority of the site is proposed to be subject to a 135m<sup>2</sup> minimum lot size, with some areas being subject to a 149m<sup>2</sup> MLS. There is no proposed MLS for open space or riparian areas.

The minimum lot size allows for:

- » Smaller housing typologies, such as townhouses, to be developed on Torrens titled lots to support the housing need.
- » Dwellings on varying lot sizes, including on one side a zero-lot boundary, to provide for housing for families
- » Providing for a minimum lot size, however allowing larger lot sizes to be developed where necessary with apartments, affordable housing or retirement living.

## 5.6 Proposed road and public realm strategy

### 5.6.1 Road networks

A new hierarchy of streets is proposed within the site to ensure easy and adequate access for residents and visitors. The key access point to the site will be from Railway Street.

The traffic assessment has indicated that the development's traffic impacts of significance are isolated to the intersection of Memorial Drive/Railway Street, therefore an upgrade to this intersection is required to mitigate the development's impacts. The upgrade will involve:

- » one of the two departure lanes on the eastern and western legs of Railway Street reassigned a third approach lane (i.e. three approach lanes in each direction, one right turn pocket, one through lane and one left turn lane);
- » extending the right turn pocket length in the southern approach from 95m to 150m; and
- » changing the signal phase times of the intersection to better flows and align with the geometrical changes.
- » The additional traffic introduced into Railway Street by the development equates to one vehicle every 10 seconds (two-way) in the peak hour, which is insignificant on a distributor road such as Railway Street.

### 5.6.2 Pedestrian cycle network

Pedestrian and cycling connections are proposed throughout the site, linking Corrimal town centre to Corrimal train station, and further south along a shareway across the Towradgi Creek to the Council's sport fields. It is also proposed to enhance the shareway along the section of railway Street on the northern side of the site for cyclists and pedestrians, so to link to the broader cycle network.

### 5.6.3 Streetscapes

The concept masterplan integrates a street hierarchy that meets vehicle, pedestrian and cycle circulation needs and enhances intuitive way-finding. To develop a clear identity for all streets and to maximise environmental and amenity benefits of tree canopy, a palette of tree species has been selected.

To best integrate the urban fabric with its surrounding landscape the selected species draw on native species, many being locally endemic. The species selection includes those recommended by the WDCP 2009.

# Planning Proposal

This section of the report provides justification and clarity in terms of the intended outcomes and the strategic merit of the proposal to enable the determining authority to issue a Gateway determination consistent with s3.33 of the EP&A Act.

In accordance with s3.33 of the EP&A Act and 'A Guide to Preparing Planning Proposal' (the guidelines), this section contains the basis of a PP for the WLEP 2009 amendment. It is comprised of:

- » Part 1 – objectives and intended outcomes
- » Part 2 – explanation of provisions
- » Part 3 – justification
- » Part 4 – mapping
- » Part 5 – community consultation
- » Part 6 – project timeline

# Part 1 – Objectives or intended outcomes

The primary objective of this PP is to amend WLEP 2009 to facilitate the development of the site to deliver a residential development at the former Corrimal Coke Works site. The intended outcomes of the PP are:

- » create a residential site for approximately 700 - 750 dwellings
- » provide opportunities for a mix of housing types
- » create a new civic hub adjacent to Corrimal train station
- » retain key heritage elements of the site
- » realign and regenerate the riparian corridor
- » deliver an open space network, providing a range of recreational opportunities
- » reform and rehabilitate the riparian corridor to improve water management and ultimately enhance the biodiversity values on the site
- » provide quality traffic circulation within the residential community and improve the performance of the surrounding traffic network
- » deliver a serviceable road network with improved walkability to the station.

# Part 2 – Explanation of Provisions

Part 2 of the PP is an explicit statement of how the objectives outlined in Part 1 are to be achieved through an LEP amendment.

The current RE2 Private Recreation and IN3 Heavy Industrial zoning on the site inhibits redevelopment. A rezoning of the site is necessary in order to create a high-quality residential development.

Viable development of the site can only be realised by amending WLEP 2009 to enable the type of development envisaged by the Master Plan.

## 5.7 Amendments to WLEP 2009 Mapping

The proposed outcomes will be achieved by an amendment to WLEP 2009 as follows:

- » **Amend the Land Zoning Map**
  - > Rezone the site from **RE2** Private Recreation and **IN3** Heavy Industrial to **R3** Medium Density Residential and **RE1** Public Recreation.
- » **Amend the Minimum Lot Size Map**
  - > On land zoned **R3** specify a minimum lot size of 135m<sup>2</sup> and 149m<sup>2</sup>
  - > On all other land there will be no minimum lot size control
- » **Amend the Height of Buildings Map**
  - > On land zoned **R3** specify a height of 9m, 11m, 13m, 15m, 16m, 20m and 24m
  - > On land zoned **RE1** specify a height of 9m
- » **Amend the Floor Space Ratio Map**
  - > On land zoned R3 specify FSRs of 0.5:1, 0.75:1, 1.2:1, 1.5:1, 2:1 and 2.5:1
  - > On all other land there will be no FSR control
- » **Amend the Heritage map**
  - > Include the following 4 heritage items and associated heritage curtilage:
    - C1 North Stack
    - C1 Coke Oven Battery (including load tracks)
    - Old Power House
    - C1 Brick Chimney Stack
- » **Amend the Acid Sulfate Soils, Riparian Land, Foreshore Building Line Map, Flood Planning Map**
  - > Amend the location of riparian land to reflect the corridor realignment.
  - > Delete the foreshore building line.
  - > Delete land below foreshore building line.
- » **Amend the Natural Resource Sensitivity – Biodiversity Map**
  - > Include two additional areas of natural resource sensitivity in the north and south of the site



### 5.7.1 Land use zones

The proposed **R3** Medium Density Residential zoning facilitates a mix of higher density residential development on the site. This is consistent with the requirement for increased density housing within Wollongong LGA and the vision for increased density housing surrounding train stations within the northern corridor of Wollongong (from Thirroul to Fairy Meadow).

It is envisaged that the development will include semi-detached and terraced housing, as well as residential flat buildings, located closer to Corrimal train station and the entrance of the site. Surrounding the civic hub (within 200m of Corrimal train station) there is the potential to provide shop-top housing, integrated with small scale retail development at the ground floor level.

The **RE1** Public Recreation zoning is proposed for the passive and active open spaces provided within the development in order to ensure that there are designated areas for public recreation. The **RE1** land can be identified on a land acquisition map if necessary, to enable the land to be transferred to public ownership in the future.

### 5.7.2 Minimum lot size

The principle development standards for the Minimum Lot Size (MLS) is proposed to be amended. At present half of the site has a 1.99ha MLS. As part of the proposed amendments, the part of the site zoned **R3** will have a 135m<sup>2</sup> and 149m<sup>2</sup> MLS. The part of the site zoned **RE1** will have no MLS.

The designated MLSs have been established to ensure that there is sufficient area to accommodate the proposed typologies of built development and to establish a character suitable to offer a diversity of housing choice.

### 5.7.3 Height of Buildings

The proposed instrument will amend the principle development standards for the Height of Buildings (HOB) with an amended HOB map. At present the site has a HOB control of 9m over the part of the site zoned RE2 Private Recreation.

Building heights will range from 9m, over the part of the site zoned **RE1** to heights of 11m- 24m over the part of the site zoned **R3**. The 24m height control will be reserved for the area surrounding Corrimal station. The 13m HOB control is intended to be a continuation of the HOB control for surrounding R3 areas.

### 5.7.4 FSR

No Floor Space Ratio (FSR) control currently exists for the site. The proposed instrument will amend the principle development standards for the FSR with an amended FSR map. As part of the proposed amendments, the area to be zoned R3 will accommodate a variation of FSRs from 0.5:1 – 2.5:1 in order to permit the diversity of development typologies and built form character envisaged for the site.

### 5.7.5 Heritage

The site currently does not include any items of state or local heritage significance. The PP proposes to classify the following four items, and their associated curtilage, which will be grouped as 'former Corrimal Coke Works', as heritage items:

- » C1 North Stack
- » C1 Coke Oven Battery (including load tracks)
- » Old Power House
- » C1 Brick Chimney Stack

## 5.7.6 Acid Sulfate Soils, Riparian Land, Foreshore Building Line Map, Flood Planning

The proposed realignment of the riparian corridor will be reflected in the amended Acid Sulfate Soils, Riparian Land, Foreshore Building Line, Flood Planning map. The Foreshore Building Line and Land below the foreshore building land will also be deleted to reflect the fact that realignment will remove the probability of flooding on the site.

## 5.7.7 Natural Resource Sensitivity – Biodiversity Map

The Natural Resources Sensitivity Map will be amended to include two new areas of natural resource sensitivity, in response to the biodiversity assessment undertaken by EcoLogical.

## 5.8 Amendments to Part 7 Local Provisions – General

### 5.8.1 Former Corrimal Coke Works

The following clause will be included in Part 7 to allow increased heights, beyond the maximum height control of 24m, for C1 North Stack and C1 Brick Chimney Stack, which currently sit at heights of approximately 36.8m and 29m respectively:

#### *7.20 Former Corrimal Coke Works*

#### *Height of Development*

- 1) *The height of any development on the former Corrimal Coke Works site is not to exceed the height limit shown on the Height of Buildings Map, with the exception of the following heritage items:*
  - a. *C1 North Stack*
  - b. *C1 Brick Chimney Stack*
- 2) *The following height limits are permissible for the heritage items:*
  - a. *C1 North Stack: 37m*
  - b. *C1 Brick Chimney Stack: 29m*

### 5.8.2 Affordable Housing

The following clause will be included in Part 7 to permit increased heights for Affordable Housing Developments.

#### *Affordable Housing*

- 1) *The consent authority may permit a variation to the Maximum Height of Buildings Control of up to 3.5m and the associated increase in FSR for any Residential Flat Buildings, where the additional Gross Floor Area is utilised for the provision of Affordable Housing*

## 5.9 Amendments to Schedule 1 Additional permitted uses

The following clause will be included in Schedule 1 Additional Permitted Uses to ensure that a full complement of neighbourhood and commuter services near Corrimal train station can be provided:

#### *Use of certain land at the former Corrimal coke works site:*

- 1) *This applies to land at the former Corrimal coke works site*
- 2) *Development for the purposes of Food and Drink Premises, and neighbourhood supermarket is permitted with consent, but only if at ground floor and within 200m of the train station*
- 3) *Development for neighbourhood shops and neighbourhood supermarket is permitted up to a maximum of a total GFA of 2,000m<sup>2</sup>.*

## 5.10 Corrimal Development Control Plan

A Site-Specific Development Control Plan (DCP) has been created for the Corrimal site.

## 5.11 Voluntary Planning Agreement/ Section 7.11 Contributions

Discussions regarding a VPA are currently ongoing. A preliminary schedule of public benefits is provided at **Appendix U**. The proposed VPA will provide for offsets to local contributions due to the extent of work and public benefit being proposed.

## Part 3 - Justification

Part 3 sets out the justification for the PP, against its strategic planning context, considering the environmental, social and economic impacts of the proposal and the interests of the State and Commonwealth Governments.

In accordance with the guidelines, the level of justification is to be commensurate to the stage in the LEP making process. The potential impacts of the proposal have been identified in sufficient detail to confirm the suitability of the rezoning.

### Section A – Need for the Planning Proposal

#### *Q1 Is the Planning Proposal a result of any strategic study or report?*

The PP was not prepared as a result of any specific strategic study for utilisation for an urban development purpose.

#### *Q2 Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?*

In order to achieve the intended development outcomes and consistency with State Government strategic directions, the site requires rezoning. This is the only alternative to achieve the objectives of the strategic directions. The current controls allow for industrial development only.

### Section B – Relationship to Strategic Planning Framework

#### *Q3 Is the Planning Proposal consistent with the objectives and actions of the applicable regional, sub-regional or district plan or strategy (including any exhibited draft plans or strategies)?*

This section of the report supplements the PP by addressing the provisions of the relevant regional and subregional plans and strategies.

### Building Momentum: State Infrastructure Strategy 2018-2038 (2018)

Economic activity is growing around Wollongong, where the focus is on providing jobs and housing, growing the capacity of Port Kembla and driving greater economic diversity in priority sectors. Wollongong is recognised as a major city, key international gateway and significant economic activity centre.

By 2036 the Wollongong and Shellharbour area is likely to be home to more than half a million people. The area will drive the economic growth, employment and diversification of the broader Illawarra-Shoalhaven region, while also contributing to Greater Sydney's economy and labour force.

Wollongong will become increasingly connected to Greater Sydney by 2056, enabled by its proximity to Greater Sydney's jobs and services and improved road and rail connections. Improved connectivity between Wollongong and Port Kembla, the National Land Transport Network, the Western Sydney Airport and intermodal terminals in the Western Parkland City will also be important for the city's ongoing economic growth.

The NSW Government has committed to upgrading the Princes Highway at Albion Park Rail and the section between Berry to Bombaderry. This investment will improve access between the Shoalhaven and Wollongong and Sydney. Various other NSW Government and private investments will enhance Wollongong over the coming years, including an expansion of the Wollongong Hospital. Future investments should be focused on:

- » growing the amenity of Wollongong by providing good transport connections and local services
- » growing the capacity of the port at Port Kembla as an international trade gateway, enabled by dedicated rail connections

- » strengthening links between Wollongong, Port Kembla and Greater Sydney, with extra capacity for rail services and improved road connections across the Illawarra Escarpment and to the Western Parkland City
- » building on existing strengths and supporting economic diversity through growth in priority sectors including tourism, health, disability and aged care, ICT/knowledge services, education and training, and freight and logistics.

### Future Transport Strategy 2056 (2018)

By 2056, economic and housing growth around Greater Sydney will drive integration across the city’s hinterland, establishing areas such as Gosford and Wollongong as ‘satellite cities’. As part of the strategy, the following infrastructure upgrades are intended:

- » Regional NSW Initiatives for investigation (0-10 years):
  - > Sydney-Wollongong faster rail improvement
  - > Wollongong Rapid Bus Package
  - > Wollongong Place Plans
  - > Bus headstart for Wollongong

### Illawarra – Shoalhaven Regional Plan (2015)

The Illawarra-Shoalhaven Regional Plan, applies to the LGAs of Kiama, Shellharbour, Shoalhaven and Wollongong. By 2036, the population of the Illawarra-Shoalhaven is forecast to grow to 463,150, an increase of 60,400 from 2016. Population growth will result from natural increases as well as the sustained migration of young families and retirees.

The make-up of the population will change over the next 20 years. Growth will be moderate in most age groups, except in the 65-and-over group, particularly in Kiama and Shoalhaven. There will also be more one- and two-person households. Growth will necessitate at least 35,400 new homes.

This Regional Plan for the Illawarra-Shoalhaven provides the strategic policy, planning and decision-making framework to guide the region to sustainable growth over the next 20 years.

Within the Plan, Corrimal is marked as an urban centre, as shown in **Figure 15** below.

**Figure 15 Corrimal Urban Centre**



Source: Illawarra-Shoalhaven Regional Plan

The following key principles underline the planning framework for the plan:

- » identify and protect land with high environmental value and recognise cultural heritage values
- » support the sustainable use of land and water resources and build resilience to natural hazards and climate
- » support a strong, resilient and diversified economy that will enable the community to respond to environmental, economic and social challenges change
- » integrate transport and land use planning, and support improvements in active transport (walking and cycling), public transport and transport infrastructure (including freight)
- » take a balanced approach to housing that provides choice, affordability, and supports the orderly supply of land for development
- » increase housing density around centres that have access to jobs and transport and are already appealing to residents
- » encourage urban design that reduces car dependency, improves the public domain, promotes energy efficiency and supports healthier environments
- » improve infrastructure coordination

To achieve the vision for the Illawarra-Shoalhaven, a number of goals have been identified, as shown in **Table 8** below.

**Table 8 Key Goals, Directions and Actions in the Illawarra-Shoalhaven Regional Plan 2015**

Goals and Directions	Justification and response
<b>Goal 1 – A prosperous Illawarra Shoalhaven</b>	
<b>DIRECTION 1.3</b> Grow regional strategic assets to support economic growth across the region	The subject site is not listed as being of strategic economic importance for continued industrial development in the plan. The Corrimal Centre is identified as an important Urban Centre servicing the needs of residents in the northern portion of the Wollongong LGA.
<b>DIRECTION 1.4</b> Support new and expanded industrial activity by providing well-located and serviced supplies of industrial land	There is a ready availability of better located heavy industrial land in the Wollongong LGA. In addition, the conversion of the land to light industrial is likely unfeasible due to remediation and other costs likely to exceed return on investment.  The location of the site within a residential area also marks it as a less than ideal location to continue industrial activities due to land use conflict issues.
<b>Goal 2 – A variety of housing choices, with homes that meet needs and lifestyles</b>	
<b>DIRECTION 2.1</b> Provide sufficient housing supply to suit the changing demands of the region.	Within the Wollongong LGA, the projected housing need from 2016-2036 is 14,600 dwellings. The combined demands from tourism and the housing market, particularly in coastal towns, will require new housing developments. The changing demographics and market demand of the LGA will require a mix of housing.
<b>DIRECTION 2.2</b> Support housing opportunities close to existing services, jobs and infrastructure in the region’s centres.	Ensuring additional housing development in existing urban areas is a sustainable option in terms of housing supply as it takes advantage of existing job markets infrastructure, commercial and retail opportunities, public transport and facilities for pedestrians and cyclists.  Corrimal has been identified as a focus for increased housing activity within the Northern Corridor. An analysis of current planning controls in the region shows capacity for 24,100 new homes in existing urban areas, including townhouses and multi-unit dwellings.

Goals and Directions	Justification and response
	<p>The plan notes that additional residential development in locations such as Corrimal could also act as a catalyst to enhance their existing recreational and environmental features.</p> <p>The subject site presents an opportunity to provide a diversity of housing types adjacent to public transit, in close proximity to an existing urban centre. It offers strong recreational opportunities nearby and, in the Wollongong LGA, Northern Corridor generally.</p>
<p><b>GOAL 3 – A region with communities that are strong, healthy and well-connected</b></p>	
<p><b>DIRECTION 3.2</b> Enhance community access to jobs, goods and services by improving connections between centres and growth areas.</p>	<p>The proximity of the northern corridor (which encompasses Corrimal) to Sydney means that there is considerable scope to support commuters and also attract business to the region relocating from Sydney. Over 21% of the workforce in the northern corridor commutes to Sydney for work.</p>
<p><b>ACTION 3.2.2</b> Improve access to centres, particularly in the northern corridor, to encourage development</p>	<p>In order to capitalise on improved public transport, new housing should be focused in and around centres in the rail corridor. The location of the site adjoining the Corrimal train station, linked with the Sydney and Wollongong CBDs, provides an excellent commuter location.</p> <p>The site also offers an opportunity to create local jobs in servicing the population such as childcare, seniors living and small-scale neighbourhood shops servicing local residents and commuters (all permissible under the proposed R3 zoning).</p> <p>A key objective in the concept plan is to make public transit more convenient and attractive for both residents of the development and the wider Corrimal community.</p>
<p><b>DIRECTION 3.2</b> Build socially inclusive, safe and healthy communities</p>	<p>New neighbourhoods and centres should be designed to offer a high-quality lifestyle and to be environmentally sustainable, socially inclusive, easy to get to, healthy and safe and opportunities should be taken to connect neighbourhood communities with the surrounding landscape.</p>
<p><b>ACTION 3.3.2</b> Support Council-led revitalisation of centres</p>	<p>A key aim of the Corrimal redevelopment is to connect the site with the wider community through the establishment of a number of green links providing pedestrian and cycling tracks.</p> <p>The Corrimal urban centre has been subject to investigation by Wollongong City Council through the Corrimal Town Centre Revitalisation Strategy, which has been exhibited. The proposed development is in line with the vision for the revitalisation of Corrimal.</p>
<p><b>ACTION 3.4.1</b> Conserve heritage sites when preparing local planning controls</p>	<p>Although the site contains no heritage items at present, it is proposed to retain some of the features of the Corrimal Coke Works as heritage items, in order to ensure the history of the site is incorporated into future development.</p>
<p><b>GOAL 5 – A region that protects and enhances the natural environment</b></p>	
<p><b>DIRECTION 5.1</b> Protect the region’s environmental values by focusing development in locations with the capacity to absorb development</p>	<p>The regions ‘high environmental value’ land have been mapped. These include the Illawarra Escarpment. Due to the high value of this landscape, a key element of the proposed redevelopment of Corrimal has been to maintain viewlines west towards the escarpment.</p>
<p><b>ACTION 5.1.1</b> Avoid, minimise and mitigate the impact of development on significant environmental assets</p>	<p>Through the remediation and re-use of an existing industrial site, with high levels of accessibility to public transit and Corrimal town centre, will result in a positive impact on Corrimal as a whole.</p> <p>Portions of the subject site have been identified as being of high biodiversity value. Redevelopment of the site will ensure the</p>

Goals and Directions	Justification and response
<b>ACTION 5.1.4</b> Create a consistent approach to protect important riparian areas in planning and development controls	management and maintenance of these assets, adding value to residents and the broader community alike. The majority of the biodiversity areas have been avoided in the development footprint. The proposal also includes re-alignment of the riparian corridor due to the fact it is currently significantly degraded and in light of the potential benefits realignment will have in terms of alleviating flooding on the site.
<b>DIRECTION 5.3</b> Improve the environmental outcomes for waste management and air quality	The site presents an opportunity to support sustainable development given its public-transit access and proximity to the Corrimal town centre and recreational resources. The street network has been designed to deliver efficient waste management to work with the current regime in place in Wollongong.
<b>ACTION 5.4.1</b> Protect sensitive estuaries and coastal lakes	Investigations have been made as to the impact of the creek re-alignment on Towradgi Creek. These considerations and controls are expected to guide conditions to ensure the on-going health of the estuary.

## Illawarra Regional Transport Plan (2014)

Population and employment in the Illawarra region are focused on the Wollongong metropolitan area and identified key urban centres, one of which is Corrimal.

Wollongong metropolitan area has a population of around 250,000 and is the focus for employment and residence in the Illawarra region, as well as for education and health care within the region. The following actions for Wollongong are identified within the Plan:

- » Action: Improve public and active transport access to Wollongong
  - > Deliver actions to increase the public transport share of commuter trips to and from Wollongong in peak hours to and from the CBD to 15% by 2016.
  - > Strengthen the role of rail in connecting local communities to Wollongong city centre.
  - > A network of bus services will provide local access with peak period frequencies supporting convenient access to work and education
  - > Local rail services integrated with high quality bus services, and supported by pedestrian and cycle networks
- » Action: Improve opportunities for walking and cycling
  - > Support the implementation of better facilities for walking and cycling, including the provision of cycle parking facilities at transport interchanges, centres, schools and hospitals.
- » Action: Invest in public transport infrastructure
  - > Identify opportunities to improve the infrastructure that supports public transport services, such as bus stops and shelters, terminal facilities and customer information.
- » Action: Deliver road upgrades
  - > Continue to improve the Princes Motorway (M1), Princes Highway (A1) and Mount Ousley Road to boost capacity, improve travel time, support public transport operations and provide efficient freight connections to Port Kembla

## Draft Regional Growth and Infrastructure Plan (2014)

The draft Plan states that to meet the demands of this growing population, the Region will need 45,000 new homes and 32,150 new jobs. It will need upgrades to existing infrastructure and investment in new infrastructure



to deliver the services for a community that is not only growing but also changing, by 2031 there will be an increasing ageing population, and there will be more one and two-person households.

One of the aims of the plan is to provide well located, more diverse and more affordable housing in order to provide for people at all stages of life, and is close to jobs and services, affordable and well designed. The urban corridor between Fairy Meadow and Thirroul has been identified as being able to provide housing opportunities. Corrimal is included within this area. This corridor, can play a significant role in transforming the Illawarra by capitalising on its access to job opportunities in Sydney.

The plan identifies six transformative places that:

- » Play a role beyond their local area and are important contributors to the regional, and in some cases, State economy
- » Have good prospects for additional investment
- » Are in a strategic location and have a key economic function
- » Have the potential to drive additional economic growth through collaboration across all levels of government and industry

One of these places is the Northern Growth Corridor. The northern growth corridor runs from Fairy Meadow to Thirroul and has two key transport corridors which act as a 'spine' for the area: the South Coast Railway Line and the Princes Highway – both provide relatively high volume transport access to the Wollongong Centre or northwards to Sydney.

The northern growth corridor can play a significant role in transforming the Illawarra by capitalising on its access to global jobs in Sydney and the opportunities for new housing in key centres. The opportunities for growth in the corridor will come from the development of multi-dwelling housing (townhouses and villas) close to town centres. The plan states that in Corrimal there are also opportunities for higher density apartments.

The proximity of the corridor to Sydney means that there is considerable scope to support commuters and also attract business to the Region relocating from Sydney. Over 21% of the workforce in the northern growth corridor commutes to Sydney for work. Therefore, the rail network and the M1 motorway are a particular focus for the corridor as they play an important role in connecting residents to employment, education, recreation and social opportunities.

Multi-dwelling housing is already occurring in the corridor, with 40% of new multi-dwelling housing and apartment completions over the last five years in the Wollongong LGA, being within the northern growth corridor.

## Housing

At least 45,000 new homes will be required between now and 2031 to cater for an additional 65,000 residents. With one in four residents aged 65 years and older (115,000 people) and more one and two person households the location of new housing and the mix of available housing will be an important consideration. Housing targets for the Wollongong LGA are included below:

**Table 9 Housing Targets to 2031**

LGA	Single dwelling housing	Multi dwelling housing	Apartments	Total
Wollongong	6,850	8,650	2,950	18,450

The northern growth corridor is considered an appropriate area to accommodate the majority of new multi dwelling housing and apartments in the region and could feasibly contribute 5,000 dwellings. The redevelopment of Corrimal would contribute up to 750 of these dwellings.

## NSW Long Term Transport Master Plan (2012)

Specific actions for the Illawarra (Wollongong), as outlined in the NSW Long Term Transport Master Plan are as follows:

- » Short term:
  - > The Growth Centres Roads Program will continue to deliver a road network that supports strong growth. We will continue to improve the Princes Motorway (M1), Princes Highway (A1) and Mount Ousley Road to boost capacity, improve travel time, support public transport operations and provide efficient freight connections to Port Kembla.
  - > Strengthen bus operations in major centres, as well as connections between these centres. This will occur through the development of the Regional Transport Plan and the Outer Metropolitan Bus Service Planning Guidelines. This will reflect emerging customer needs in all our bus contracts.
  - > The timetable changes being investigated for Sydney’s Rail Future, the creation of NSW TrainLink and modern signalling technology will deliver faster travel times and greater travel reliability between Wollongong and Sydney. Our goal is to reduce public transport travel time between Wollongong and Sydney. We will support these rail services with an integrated bus service.
  - > Deliver the Port Kembla Growth Plan to plan for Port Kembla’s future trade requirements and ensure its long-term access (see Chapter Seven).
  - > Work with Wollongong City Council on a plan for achieving the NSW 2021 public transport mode share target by 15 percent (by 2016) for Wollongong CBD and on a transport strategy for key precincts such as West Dapto, as part of the Illawarra Regional Transport Plan.
- » Medium to longer term:
  - > Continue to enhance and expand bus services and strategic bus corridors to reflect developing demand and land use changes.
  - > Future intercity train services will focus on the needs of longer distance customers rather than modifying short distance trains.

***Q4 Is the Planning Proposal consistent with a Council’s local strategy or other local strategic plan?***

The PP is considered to be consistent with the aims and objectives of Council’s local planning strategies, as discussed below.

**Wollongong 2028 Community Strategic Plan (2018)**

The Wollongong 2028 Community Strategic Plan outlines the Wollongong community’s priorities and aspirations, providing directions for the provision of key projects and services. Relevant directions are included in **Table 10** with an outline of how the PP for the site responds to these directions.

**Table 10 Relevant Strategic Plan directions and justifications and response**

Strategic Plan Directions	Justifications and response
Goal 1: We value and protect our environment	
Objective 1.1 Our natural environment, waterways and terrestrial areas are protected, managed and improved	
1.1.1 The community is actively involved in the expansion and improvement of our green corridors and other natural areas connecting the escarpment to the sea.	The proposed redevelopment of the site will include green pedestrian and cycling connections linking Corrimal town centre to Corrimal train station. In the future this could form part of a wider green link corridor connecting the site to the coast.
1.1.2 Manage and effectively improve the cleanliness, health and biodiversity of creeks, lakes, waterways and oceans.	The riparian corridor on the site is proposed to be realigned. At present the corridor is severely degraded. It is considered that realignment of the corridor would improve it’s health while also reducing the potential of flooding on the site.

Strategic Plan Directions	Justifications and response
1.1.3 The potential impacts of natural disasters, such as those related to bushfires, flood and landslips are managed and risks reduced to protect life, property and the environment.	Realignment of the riparian corridor would significantly reduce the potential of flooding on the site and improve drainage outcomes for adjacent neighbours. The site is not bushfire prone land.
Objective 1.2 We practice sustainable living and reduce our ecological footprint	
1.2.1 Reduce our ecological footprint, working together to mitigate the impacts of climate change and reduce waste going to landfill.	The development footprint of the PP has been designed so as to avoid all areas of site considered to have high biodiversity values.
Objective 1.3 The sustainability of our urban environment is improved	
1.3.1 Manage land uses to strengthen urban areas and improve connectivity close to train stations and key transport routes.	The proposed development has incorporated a number of pedestrian and cycling green links into the overall concept in order to allow connectivity between Corrimal train station and Corrimal town centre. The aim is to incorporate the development into the wider residential area.
Objective 1.4 We recognise and celebrate our heritage	
1.4.1 Programs and projects that achieve proactive heritage management, education and promotion are developed and implemented.	Celebration of the heritage of the site is included in the proposed Civic hub, where four elements of the sites previous industrial history are proposed to be retained and included within the WLEP 2009 as local heritage items.
Goal 5 We have a healthy community in a liveable city	
Objective 5.1 There is an increase in the health and well-being of our community	
5.1.4 Urban areas are created to provide a healthy and safe living environment for our community.	The urban area, public open spaces and green link connections have been designed so as to promote active transport and increase public transport usage.
Objective 5.2 Participation in recreational and lifestyle activities is increased	
5.2.1 Provide a variety of quality public spaces and opportunities for sport, leisure, recreation, learning and cultural activities in the community.	The proposed development incorporates a large riparian corridor and several public recreation spaces including an amphitheatre as well as green links through the site, enabling active and passive recreation. Interpretation/learning installations will be integrated referencing the sites history and ecology. The site is not of the size to accommodate sporting facilities, however, Robert Ziems Oval is located immediately to the west of the site.
Objective 5.3 Residents have improved access to a range of affordable housing options	
5.3.1 Housing choice in the Wollongong Local Government Area is improved, taking into account population growth, community needs and affordability.	Development of the site would provide an opportunity to increase the amount and variety of housing in the LGA from townhouses, to residential flat buildings. The LGA is currently in need of higher density housing to accommodate for the increasing number of 1 -2 person households. The diversity of housing proposed will also increase affordability options.
Goal 6 We have sustainable, accessible and affordable transport	
Objective 6.1 Wollongong is supported by an integrated transport system	

Strategic Plan Directions	Justifications and response
6.1.2 Work with partners to decrease car dependency and facilitate sustainable transport to provide convenient movement throughout the city, with sustainable transport modes such as walking and cycling.	The proposed development has been centred around decreasing car usage of future residents and increasing the patronage of train services from Corrimal station, as well as promoting active transport through pedestrian and cycling connections from the station to Corrimal town centre.
6.1.4 Integrated communities close to public transport and local services and facilities focused around existing train stations and town and village centres are planned for and encouraged.	The site is located adjacent to the Corrimal train station and 350m from the Corrimal Town Centre representing an opportunity to develop a diverse integrated community close to a major transport link and significant urban centre.

## Places for People: Wollongong Social Infrastructure Planning Framework 2018 – 2028 (2018)

Places for People, Wollongong's Social Infrastructure Planning Framework is a blueprint for long term strategic planning and management of Council's social infrastructure. It is the vision of Wollongong Council that all residents, workers and visitors will have access to quality, sustainable social infrastructure that meets their needs and reflects Wollongong's role as a leading regional city.

Wollongong is divided into ten planning areas, based on population size, common topography, historical and affiliative perceptions of 'place' and patterns of people movement along road and rail systems. Corrimal is located within Area 2/3 of the Northern Catchment. It is expected that the Northern Catchment will continue to grow, but the overall share of the population will drop from 37% to 33% by 2036. However, the population of the Northern Corridor is still expected to expand from 78,425 people in 2016 to 81,811 people in 2036.

Within the planning framework Corrimal is identified as a key urban centre within the Northern catchment. The current social infrastructure provision by catchment area indicates that the northern catchment has a total foundation GFA of 9,183m<sup>2</sup>, a total of 15 foundation facilities, 14,482m<sup>2</sup> of total supporting GFA and a total of 40 supporting facilities.

Key outcomes for the Northern catchment are:

- » Consider the role of Social Infrastructure in Council's town centre planning for Corrimal – possible impact of proposed higher density residential developments for social infrastructure.
- » Recognise availability of two, existing 'District level multi-purpose community centre and library facilities at Thirroul and Corrimal
- » Recognise limited availability of dedicated, creative, cultural social infrastructure within the Northern catchment, while noting that Thirroul and Corrimal community centres and libraries offer spaces that can be used for exhibition and performance.

### Discussion

No council social infrastructure is proposed to be developed onsite. However, provision for social infrastructure within the region will be provided generally through Section 7.11 contributions.

## Corrimal Town Centre Plan (including Memorial Park) 2015 – 2025 (2015)

The plan provides a strategic direction for the Corrimal town centre. The plan identifies the former Corrimal Coke Works site as being a 'key site', adjacent to the railway station and in walking distance to the Corrimal Town Centre services. However, the following issues were identified:

1. Investigations into flooding and contamination constraints would be required in order to inform the development capacity of the site

2. A quality east-west linkage from the town centre to the site and the railway station and the beach would need to be established and any development would need to have an active street frontage with Railway Street
3. Any future development would need to be complementary to the town centre
4. Investigations would be required into the archaeological and cultural significance of the site
5. Future works would need to be cognisant of flood impacts and in accordance with the existing Vegetation Management Plan.

A PP is necessary to address the above considerations.

### **Discussion**

In response to the above:

1. Investigations into the contamination constraints of the site have revealed that there are a limited number of locations that require remediation on the site and these can be made suitable for residential and recreational uses.
2. The concept plan will deliver a significant improvement to the streetscape connecting the Corrimal town centre and Corrimal train station. Both road edge and through site routes will be created, particularly concentrating on pedestrian and cycling links in order to increase active transport. Pedestrian and cycling links will connect with a potential green link along the Towradgi Creek corridor to Corrimal Beach. This would also link with the Grand Pacific Walk and the community and recreational resources west of Memorial Drive.
3. The proposed development would be complementary to the town centre in that it would result in an increased population, subsequently increasing economic activity in Corrimal. A R3 Medium Density zoning is proposed for the developable area of the site. This is consistent with surrounding zoning to the north, north-east and east of the site and will result in the delivery of housing diversity.

Some retail and commercial development is intended to be located adjacent to Corrimal station. However, the low-scale nature of these will not undermine the efficacy or further fragment to the core retail area of the Corrimal town centre.

4. Archaeological investigations have been undertaken on the site. No Aboriginal Archaeological values have been identified. However, four significant items associated with the former Coke Works have been identified as having local heritage significance and will be retained on the site and incorporated into the overall development.
5. Extensive investigations have revealed that creek re-alignment to the Western boundary of the site delivers the best option for the following reasons:
  - Improves the overall flood risk of the site, neighbouring sites and Corrimal generally
  - The current riparian corridor is significantly degraded
  - The re-aligned corridor would provide a good noise buffer between Memorial Drive and residential development
  - Assists in rationalising traffic movement in and out of the site
  - Avoids as much as possible of the high biodiversity on the site.

### ***Q5 Is the Planning Proposal consistent with the applicable State Environmental Planning Policies?***

The PP considers the State Environmental Planning Policies (SEPPs) which are applicable for the proposed urban development of the site, as identified in **Table 11** below.

**Table 11 Applicable SEPPs**

SEPP	Applicable	Consistency
SEPP No 1 – Development Standards	No	N/A
SEPP No 14 – Coastal Wetlands	No	N/A
SEPP No 19 – Bushland in Urban Areas	No	N/A
SEPP No 21 – Caravan Park	No	N/A
SEPP No 26 – Littoral Rainforests	No	N/A
SEPP No 30 – Intensive Agriculture	No	N/A
SEPP No 33 – Hazardous and Offensive Development	The site has previously been utilised for industrial uses, however operations ceased 5 years ago.	N/A
SEPP No 36 – Manufactured Home Estates	No	N/A
SEPP No 44 – Koala Habitat Protection	The site does not represent 'potential koala habitat' or 'core koala habitat' as defined in SEPP 44. Accordingly, there is no requirement to prepare a Koala Plan of Management.	Consistent
SEPP No 50 – Canal Estate Development	No	N/A
SEPP No 55 – Remediation of Land	A Contamination Assessment has been prepared for the site in accordance with the SEPP requirement. A Remediation Action Plan has been prepared for the subject site.	Consistent
SEPP No 62 – Sustainable Aquaculture	No	N/A
SEPP No 64 – Advertising and Signage	This proposal allows future development to meet the requirements of the SEPP	Consistent
SEPP No 65 – Design Quality of Residential Flat Development	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP No 70 – Affordable Housing (Revised Schemes)	No	N/A
SEPP (Building Sustainability Index: BASIX) 2004	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Housing for Seniors or People with a Disability) 2004	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Infrastructure) 2007	The proposal is supportive of planned and required upgrades to services, facilities and infrastructure which will support the development of the site.	Consistent

SEPP	Applicable	Consistency
SEPP (Mining, Petroleum and Extractive Industries) 2007	No	N/A
SEPP (Miscellaneous Consent Provisions) 2007	No	N/A
SEPP (Exempt and Complying Development Codes) 2008	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Affordable Rental Housing) 2009	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Coastal Management) 2018	All the subject site fits within the Coastal Area Use Area Mapping associated with the Coastal Management SEPP. Division 4 applies to this area and the most relevant provision is that development <i>has taken into account the type and location of the proposed development, and the bulk, scale and size of the proposed development.</i> The proposal can comply with the requirements of the SEPP.	Consistent

### ***Q6 Is the Planning Proposal consistent with applicable Ministerial Directions?***

The PP gives consideration to the relevant Ministerial Directions issued under Section 117 (now 9.1) of the EP&A Act. The Minister for Planning and Environment issues Local Planning Directions that councils must follow when preparing a PP. The directions cover the following broad categories:

- » employment and resources,
- » environment and heritage,
- » housing, infrastructure, and urban development,
- » hazard and risk.

**Table 12** provides information for consideration with regard to the consistency of the PP with regard to the relevant ministerial directions.

**Table 12 Section 9.1 Directions**

Section 9.1 Direction	Comment
<b>Employment and Resources</b>	
<p><b>1.1 Business and Industrial Zones</b> This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).</p>	A key objective of this ministerial direction is to protect business and industrial zones. The site is not considered suitable for the use of any further heavy or light industrial land uses.
<p><b>1.2 Rural Zones</b> This direction applies when a relevant planning authority prepares a planning</p>	Does not apply as the land is not zoned rural and does not apply in the Wollongong LGA.

Section 9.1 Direction	Comment
<p>proposal that will affect land within an existing or proposed rural zone (including the alteration of any existing rural zone boundary).</p>	
<p><b>1.3 Mining, Petroleum Production and Extractive Industries</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that would have the effect of:</p> <p>(a) prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or</p> <p>(b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.</p>	<p>To date no mining activity has been approved or undertaken below the site.</p>
<p><b>1.4 Rural Lands</b></p> <p>This direction applies when:</p> <p>(a) a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural or environment protection zone (including the alteration of any existing rural or environment protection zone boundary) or</p> <p>(b) a relevant planning authority prepares a planning proposal that changes the existing minimum lot size on land within a rural or environment protection zone.</p>	<p>Not applicable as the land has not been used for rural purposes and does not apply in Wollongong City Council LGA.</p>
<p><b>Environment and Heritage</b></p>	
<p><b>2.1 Environmental Protection Zones</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal.</p>	<p>It is noted that this Ministerial Direction applies when a relevant planning authority prepares a PP.</p> <p>The PP does not seek to reduce the environmental protection standards affecting the site.</p>
<p><b>2.3 Heritage Conservation</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal.</p> <p>The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance.</p>	<p>There are no items of Commonwealth or State heritage listing within the site. However, the following four items are proposed to be retained as local heritage items as part of the PP</p> <ul style="list-style-type: none"> <li>» Brick Chimney Stack</li> <li>» C1 Coke Oven Battery (including load tracks)</li> <li>» C1 Coke Oven Ram Tracks</li> <li>» Remnant Power House – west elevation</li> </ul>
<p><b>Housing, Infrastructure and Urban Development</b></p>	
<p><b>3.1 Residential Zones</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect land within:</p>	<p>The proposal will provide diverse housing choices with a mix of medium density housing typologies in close proximity to public transit infrastructure. The proposed provision of approximately 700 - 750 new dwellings will help ensure that Wollongong City</p>



Section 9.1 Direction	Comment
<p>(a) an existing or proposed residential zone (including the alteration of any existing residential zone boundary),</p> <p>(b) any other zone in which significant residential development is permitted or proposed to be permitted.</p>	<p>Council deliver a diverse range of housing options as an infill project.</p> <p>The proposed development will make efficient use of existing and proposed infrastructure, promote active living and seek to minimise the potential impacts of housing on the environment.</p>
<p><b>3.3 Home Occupations</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal.</p>	<p>This Ministerial Direction requires a PP to contain 'home occupations' as a use that is permissible without consent in dwelling houses.</p> <p>However, 'Home Business' and 'Home occupation' as additional permitted uses is permitted through SEPP Exempt and Complying Development Code.</p>
<p><b>3.4 Integrating Land Use and Transport</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.</p>	<p>The PP integrates with the adjacent Corrimal train station to offer an opportunity for transit-oriented development.</p> <p>Improved pedestrian and cycling infrastructure will also reduce car dependence for the broader Corrimal community. Commuter-related services, without undermining the efficacy of the Corrimal town centre, can be offered under the PP such as neighbourhood shops, food and beverage premises and childcare to offer convenience for both residents and commuters.</p>
<p><b>4.1 Acid Sulphate Soils</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps.</p>	<p>The site is identified as having a probability of acid sulphate soils. The majority of the site is Class 5 with a small portion Class 3 (however, this is not proposed to be developed).</p> <p>Assessment has shown it is not a constraint to development but further investigation and management of acid Sulfate soils will need to be undertaken.</p>
<p><b>4.2 Mine Subsidence and Unstable Land</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that permits development on land that:</p> <p>(a) is within a mine subsidence district, or</p> <p>(b) has been identified as unstable in a study, strategy or other assessment undertaken:</p> <p>(i) by or on behalf of the relevant planning authority, or</p> <p>(ii) by or on behalf of a public authority and provided to the relevant planning authority.</p>	<p>It is understood that the site is not located within a mine subsidence district.</p>
<p><b>4.3 Flood Prone Land</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that creates, removes or alters a zone or a provision that affects flood prone land.</p>	<p>The site is flood affected. Mitigations are proposed as part of this PP to ensure that all land proposed to be zoned R3 will be PMF-free and assist in alleviating flooding issues for surrounding properties. All other land that will remain flood affected will be zoned RE1.</p>
<p><b>4.4 Planning for Bushfire Protection</b></p> <p>This direction applies when a relevant planning authority prepares a planning</p>	<p>This direction applies when a relevant planning authority prepares a PP that will affect, or is in proximity to land mapped as bushfire prone land. The subject site is not classed as bushfire prone by Wollongong City Council. The proposal will</p>

Section 9.1 Direction	Comment
proposal that will affect or is in proximity to land mapped as bushfire prone land.	be delivered in accordance with this direction and Planning for Bushfire Protection 2006.
<b>Regional Planning</b>	
<b>5.1 Implementation of Regional Strategies</b> This direction applies when a relevant planning authority prepares a planning proposal.	The site is not within any areas included in the Regional Strategies listed in this Ministerial Direction.
<b>5.2 Sydney Drinking Water Catchments</b> This Direction applies when a relevant planning authority prepares a planning proposal that applies to land within the Sydney drinking water catchment.	The site is not within a Sydney drinking water catchment area as provided in mapping associated with State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011.
<b>5.8 Second Sydney Airport: Badgerys Creek</b> Planning proposals must not contain provisions that enable the carrying out of development, either with or without development consent, which at the date of this direction, could hinder the potential for development of a Second Sydney Airport.	The development of the site will not hinder the development of a second Sydney Airport.
<b>5.10 Implementation of Regional Plans</b>	The PP is consistent with the Illawarra-Shoalhaven Regional Plan 2015 as above.
<b>6.1 Approval and Referral Requirements</b>	The proposal does include provisions that will require concurrence regarding development adjacent to a state road and rail line. The creek re-alignment and development within areas designated under the draft SEPP (Coastal Management) 2016. These concurrences are likely to be required.
<b>6.2 Reserving Land for Public Purposes</b>	The proposal includes provisions and dedication of land for public services and facilities.
<b>6.3 Site Specific Provisions</b>	No site-specific provisions are proposed.

## Section C – Environmental, Social and Economic Impacts

*Q7 Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal.*

A Flora and Fauna Assessment was undertaken by Eco Logical Australia (refer to **Appendix F**) in order to provide a description of the biodiversity values of the site and the impact and proposed outcomes associated with the PP.

Forest Red Gum Thin-leaved Stringybark Grassy Woodlands was found to occur as two patches in the study area, comprising approximately 1.28ha. However, these woodlands were identified as being in a highly modified and disturbed with high levels of exotic species, planted non-local native species and modified landforms present. This vegetation community forms part of the 'Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion' which is an EEC listed under the BC Act. The proposed rezoning would retain and restore a majority of this EEC.

One flora species listed under the EPBC Act and BC Act, Eucalyptus scoparia (Wallangarra White Gum), was identified within the study area, where approximately eight individuals of this species were observed in a row

adjacent to an internal road. No other threatened flora species were recorded during either of the site inspections and given the limited habitat available and its highly degraded condition, no other threatened flora these species are considered likely to occur.

All vegetation communities across the site were identified as having been subjected to moderate to high levels of disturbance including vegetation clearing/thinning of the canopy layer, infestation of exotic species and modification to the landform and soil profiles.

In regards to fauna, one threatened fauna species, *Pteropus poliocephalus* (Grey-headed Flying-fox) was identified in the study area during surveys. The Grey-headed Flying-fox is listed as vulnerable under the BC Act and EPBC Act and was identified as occupying the patch of Forest Red-gum Thin-leaved Stringy Bark Grassy Woodlands at the southern extent of the study area, adjacent to the dam and existing riparian corridor. The camp was estimated to support 150-250 individuals. The proposed rezoning will retain the majority of the Grey-headed Flying Fox habitat. The proposed revegetation of the riparian corridor along the western extent of the study area would provide additional habitat for this species.

The proposed rezoning will result in the re-alignment of the riparian corridor to provide an improved environmental planning outcome. The corridor would be realigned along the western extent of the site and would be revegetated and restored as part of the works, providing improved riparian zones and additional habitat on site. The realignment is unlikely to significantly impact any ecological values given the following:

- » the creekline has a history of disturbance relating to the previous use of the land as a cokeworks
- » the corridor is dominated by exotic flora species
- » the corridor bed and banks are degraded

**Conclusion**

The assessment concludes that the PP would not impact any EEC, flora or fauna species. All EECs will be retained and enhanced. All areas of significant biodiversity value are proposed to be retained.

***Q8 Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?***

Additional environmental investigations were undertaken to inform the PP The following table provides a summary of the key findings of these investigations.

**Table 13 Environmental investigation area and outcome of findings**

Environmental Factor	Site Implication
Contamination and Remediation	Site investigations have revealed minimal contamination considering the former heavy industrial uses. A Remediation Action Plan by Arcadis (May 2017) was completed for the site pre-Gateway. The investigations summarised in the report revealed that only six soil samples that exceeded acceptable levels of human health assessment criteria considering future residential and open space use. Three locations are contaminated with asbestos, two with lead and one with TEQ BaP. The locations are isolated in nature and will require delineation sampling to determine the lateral extent prior to remediation.
Geotechnical	Douglas Partners concluded that all geotechnical conditions can be managed to facilitate development. As part of future investigations, an earthworks methodology will need to be prepared to ensure the reuse of existing site soils and optimised earthworks and procedures.  Considerations in redevelopment of the site will include: <ul style="list-style-type: none"> <li>» uncontrolled fill assessed and processed for suitability for redevelopment</li> <li>» further test and management of any Acid Sulphate Soils in earthworks, design and construction</li> </ul>

Environmental Factor	Site Implication
	» minor constraints relate to erosion potential of disturbed materials, localised waterlogging, localised abnormal moisture content within the coke production area, sodicity and soil aggressiveness, which can be effectively handled during the earthworks design.
Bushfire	The site is not identified as bushfire prone.
Overland flow and riparian corridors	A flood study undertaken by Cardno concludes that flooding issues can be effectively managed and that development of the site will not increase flood impacts upstream of downstream of the site.  Proposed creek realignment has been designed to convey major flows up to PMF event within North Corrimal Creek through the site. This results in total flood free developable areas of 12.5 ha.
Heritage	The Heritage Report undertaken by Urbis confirms that there are no existing statutory heritage listings on the site, nor in the vicinity of the site.  The report recommends a reduced heritage curtilage which enables significant heritage elements of the site to be retained in situ and/or interpreted. It is recommended that these individual elements and or curtilage be incorporated as items of local significance within Schedule 5 of the WLEP 2009
Visual	A visual impact analysis was performed by e8urban pre-Gateway to inform typology and building heights in the concept plan. The view to the Illawarra Escarpment from development to the east of the subject site was considered of primary importance. As a result, low building heights have been suggested for the southern extent of the R3 zone, while a more substantial building height is provided for closer to the rail station.
Traffic serviceability	The Traffic and Transport Assessment revealed that the development's traffic impacts of significance are isolated to the intersection of Memorial Drive/Railway Street and that an upgrade to this intersection is required to mitigate the development's impacts. These upgrade works are proposed to be undertaken as part of the development.
Servicing	» ADW Johnson have assessed that the site is capable of being serviced with gas, electricity, sewer and NBN telecommunications  » Re-alignment of the sewer line on the site is likely to be required to facilitate the creek re-alignment  » Consultation with various providers is underway to optimise servicing arrangements
Mining and mining subsidence	Review of available mine subsidence maps indicates that the site is not located in a mine subsidence. To date there has not been any underground mining in the area.

### *Q9 Has the planning proposal adequately addressed any social and economic effects?*

#### **Economic Effects**

The urban development of Corrimal is forecast to generate \$761M in additional economic activity (Hill PDA). Construction and indirect jobs will be supported during the delivery of the project. The relevant social and economic effects of the proposed development include:

- » The provision of contributions towards social and community infrastructure within the Wollongong LGA
- » Location in proximity to current transport services

- » Building capacity within the local community to increase housing and lifestyle diversity, employment, economic viability, social activity and opportunity.

A detailed assessment of the economic impacts of the PP was undertaken by Hill PDA pre-Gateway. Hill PDA assessed the land as not being viable for on-going industrial purposes due to the high cost of remediating the land, compared to the return of investment for industrial purposes. Hill PDA has also outlined the large supply of better located land for industrial purposes readily available in the Illawarra.

Redevelopment of the site will provide economic benefits in terms of jobs and value added. While the R3 Medium Density zoning does not specify employment-generation as a specific intended use, and the development will be primarily residential, there are a number of permitted uses and proposed additional permitted uses that are expected to generate employment within a 200m location of Corrimal train station.

Key permitted uses that are likely to generate jobs are:

- » Neighbourhood shops (but not large-scale retail which would undermine the Corrimal town centre)
- » Food and Beverage Premises
- » Child Care Centres
- » Seniors Housing

Urbis has undertaken an Economic assessment post-Gateway which concludes the following:

- » The proposed 1,550m<sup>2</sup> of retail, comprising a small supermarket and supporting dining and convenience-based retail, will be well supported by market demand, driven by strong on-site population growth
- » The modest retail offer is forecast to achieve turnover in 2024 that reflects:
  - > A minor market share of retail spending (2% of main trade area and 9% of primary trade area)
  - > Only a portion of the expected growth between 2018 and 2024 (25% of primary trade area growth and 14% of main trade area growth)
- » Residual spending and spending growth will continue to support existing and proposed retail centres.
- » The proposed retail at the subject site will also have significant benefits relating to providing valuable amenity for current and future residents of the immediate area, and employment, consumer and economic value benefits for the local region and state economy.

## Social Effects

The PP has the following intended social effects:

- » Delivery of approximately 700 - 750 dwellings with excellent access to public transit, providing quality options for people to commute either to Sydney or the Wollongong and knowledge employment areas surrounding Wollongong University
- » Provide a diversity of housing, particularly under-represented housing typologies such as semi-detached and townhouse products, to meet affordable price points for residents in the Illawarra
- » Provide neighbourhood and commuter services to deliver convenience for residents and commuters (e.g. neighbourhood shops, childcare facilities, food and beverage premises) promoting the use of public transit
- » Deliver improved connections through the site to encourage active transport to and from Corrimal train station
- » Provide a public plaza at Corrimal station to provide a forum for social activity and celebrate the heritage of the site
- » Capitalise on the proximity to health, education, recreational and community resources near the site, including Wollongong Hospital that is undergoing an upgrade, schools within walking distance that are believed to have additional capacity, and the significant community resources such as Corrimal pool and library nearby.

## Section D - State and Commonwealth Interests

### Q10 Is there adequate public infrastructure for the Planning Proposal?

A Utility Services Report was prepared by BG&E (refer to **Appendix S**). The report confirms that all utility services are available on the site, noting the following:

- » Potable Water, Gas and Telecommunication networks require no augmentation to service the overall development;
- » No funding or construction of extensive feeder infrastructure will be required for electrical servicing, with only minor augmentations to the existing Endeavour Energy network envisaged; and
- » After further consultation with Sydney Water and a comprehensive MOUSE Modelling process, it has been confirmed that the wastewater network will be able to accommodate the full development yield. The wastewater servicing strategy involves the provision of additional storage capacity by upsizing the existing trunk main through the site, which will be undertaken in conjunction with a realignment of that trunk main during the bulk earthworks phase.

The likely infrastructure upgrade requirements are summarised in **Table 14** below.

**Table 14 Infrastructure requirements**

Infrastructure requirements	
Electricity	<p>Endeavor Energy (EE) estimated that the load of the overall development is approximately 2.6MVA (Mega Volt Amp) based on 3.5kVA (Kilo-Volt-Amp)/unit Average Daily Maximum Demand (ADMD) for apartments.</p> <p>Review of the existing electrical network shows that there are two 11kV feeders (CR1228 and CR1280) located opposite the development site along Railway Street, however both of these feeders have been estimated to have a total available capacity of approximately only 0.5MVA – not sufficient to accommodate the development site. However, EE noted that the overall development can potentially be serviced by Feeder RV1206 from Russell Vale Zone Substation (ZS) which is deemed to have the required available capacity to accommodate the mature load of the development.</p> <p>It is envisaged that HV linkage points will be Underground to Overhead (UGOH) terminations on feeder CR1280, with one in both Railway Street and High Street. Details surrounding HV linkages and network configuration will be confirmed when a firm application for load is submitted to EE.</p>
Telecommunications	<p>Design It Telco Pty Ltd was consulted about the capacity of existing NBN and Telstra networks on 9 November 2018, which confirmed:</p> <ul style="list-style-type: none"> <li>» Current NBN and Telstra infrastructure could handle the overall development (750 dwellings);</li> <li>» As the development is over 100 lots it will automatically qualify for fibre to the premises (FTTP); and</li> <li>» NBN Co will supply a backhaul cable to cater for future lots.</li> </ul> <p>It has been confirmed that the future development does not require any upgrades to telecommunications networks.</p>
Gas	<p>Jemena Ltd confirmed that there are suitable gas mains located on Railway Street within the vicinity of this proposal which currently have adequate capacity to service the overall development at this time.</p>
Water	<p>Sydney Water was consulted at a meeting dated 20 December 2017, regarding servicing the proposed development with potable water and the associated impacts</p>

Infrastructure requirements	
	<p>on existing SWC potable water infrastructure as a result of the increased potable water network demand imposed by the proposed development.</p> <p>A letter from SWC dated 8 March 2018 confirmed that the existing DN200 CACL potable water main fronting the development along Railway Street has sufficient capacity to accommodate the proposed development.</p>
Sewer	<p>Results and findings from modelling and associated consultation with SWC has determined the existing Sydney Water wastewater network will be able to accommodate the proposed development upon implementation of planned network upgrades and adjustment and upsize of the on-site wastewater trunk main.</p>
Roads	<p>Modelling and impact assessment by Bitzios has revealed that the development's traffic impacts of significance are isolated to the intersection of Memorial Drive/Railway Street and that an upgrade to this intersection is required to mitigate the development's impacts. The upgrade involves:</p> <ul style="list-style-type: none"> <li>» one of the two departure lanes on the eastern and western legs of Railway Street reassigned as third approach lane (i.e. three approach lanes in each direction, one right turn pocket, one through lane and one left turn lane);</li> <li>» extending the right turn pocket length in the southern approach from 95m to 150m; and</li> <li>» changing the signal phase times of the intersection to better flows and align with the geometrical changes.</li> </ul>
Rail	<p>Sydney Trains – Transport NSW was consulted regarding the existing high voltage 33kV overhead electrical network (Feeder 787) located outside of the eastern boundary of the proposed development, traversing Corrimal Station carpark.</p> <p>It was confirmed that Feeder 787 does not currently have an easement, as the station carpark and access road is owned by Railcorp. However, it was noted that the electrical poles were previously located against the development boundary but were relocated to their current alignment many years ago, with the old easement (Y254942) being rescinded on gazette notification.</p> <p>It is not envisaged that this electrical feeder will pose any significant constraint to rezoning and development of the site.</p>

### *Q11 What are the views of state and Commonwealth public authorities consulted in accordance with the Gateway determination*

#### **Consultation with DP&E**

A meeting was held with Council and DPE to discuss and obtain comment on the planning provisions and the achievement of the studies outlined in the Gateway.

#### **Consultation with RMS, Railcorp and TfNSW**

Consultation with RMS and TfNSW was undertaken on 27<sup>th</sup> November 2018 and 6<sup>th</sup> February 2019 in order for input to be provided on the indicative concept plan, with a particular focus on vehicle access, level crossings and pedestrian/cycle connections.

## **Consultation with Council**

Consultation with Council has occurred on a regular basis, with meetings held every 2 – 4 weeks at Council's offices. The aim of these meetings has been to progress the development, obtain comments and input, and discuss and draft the new Corrimal Site Specific DCP.



## Part 4 – Mapping

Part 4 presents clear and accurate mapping depicting relevant aspects of the PP. The subject PP seeks amendments that relate to land use zoning, height of buildings, minimum lot size, natural resource sensitivity and acid sulfate soils map, riparian land map & foreshore building line mapping.

Thus, the mapping amendments of the WLEP 2009 required are listed below:

- » Land zoning
  - > Sheet LZN\_024
- » Minimum lot size
  - > Sheet LSZ\_024
- » Height of Buildings
  - > Sheet HOB\_024
- » Floor Space Ratio
  - > Sheet FSR\_024
- » Heritage
  - > Sheet HER\_024
- » Natural Resource Sensitivity - Biodiversity
  - > Sheet NRB\_010
- » Acid Sulfate Soils Map Riparian Land Map Foreshore Building Line Map
  - > Sheet CL1\_024

The proposed WLEP map amendments are identified in **Figures 16 – 22** below. The maps will be provided in the format prescribed by the technical guidelines for LEP maps published by the DP&E for exhibition purposes as required.

Figure 16 Proposed Land Zoning Map

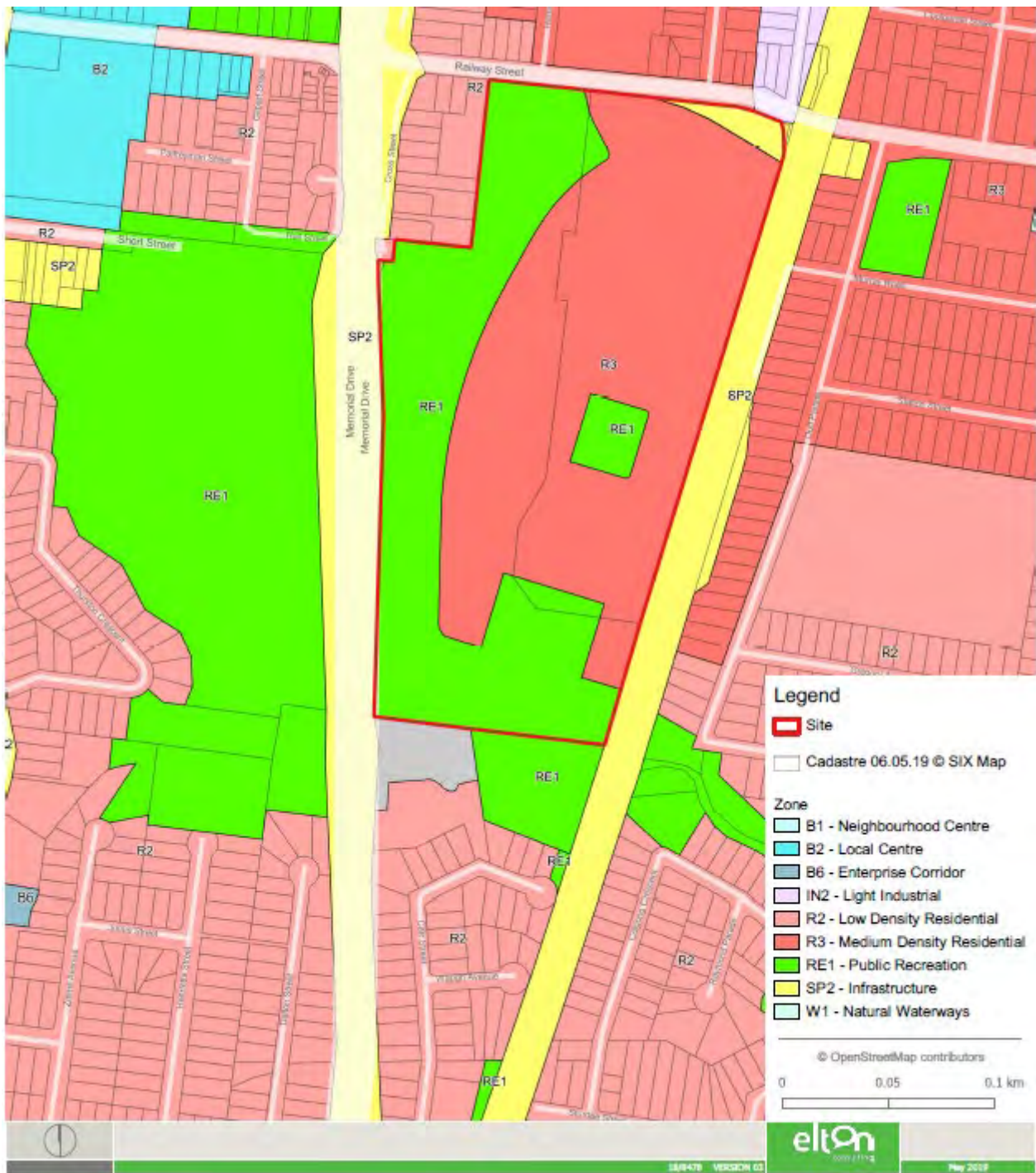


Figure 17 Proposed Minimum Lot Size Map

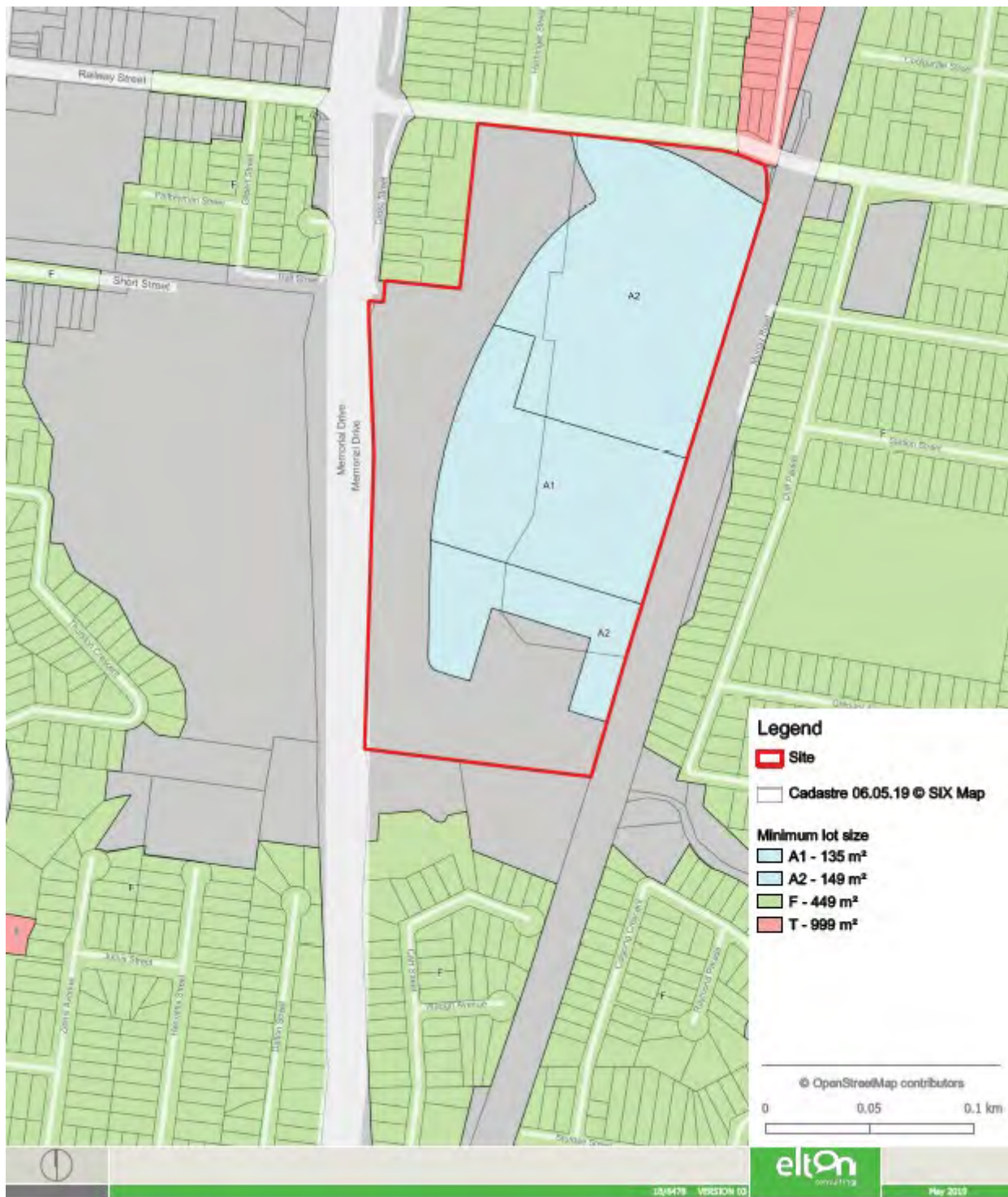


Figure 18 Proposed Height of Buildings Map

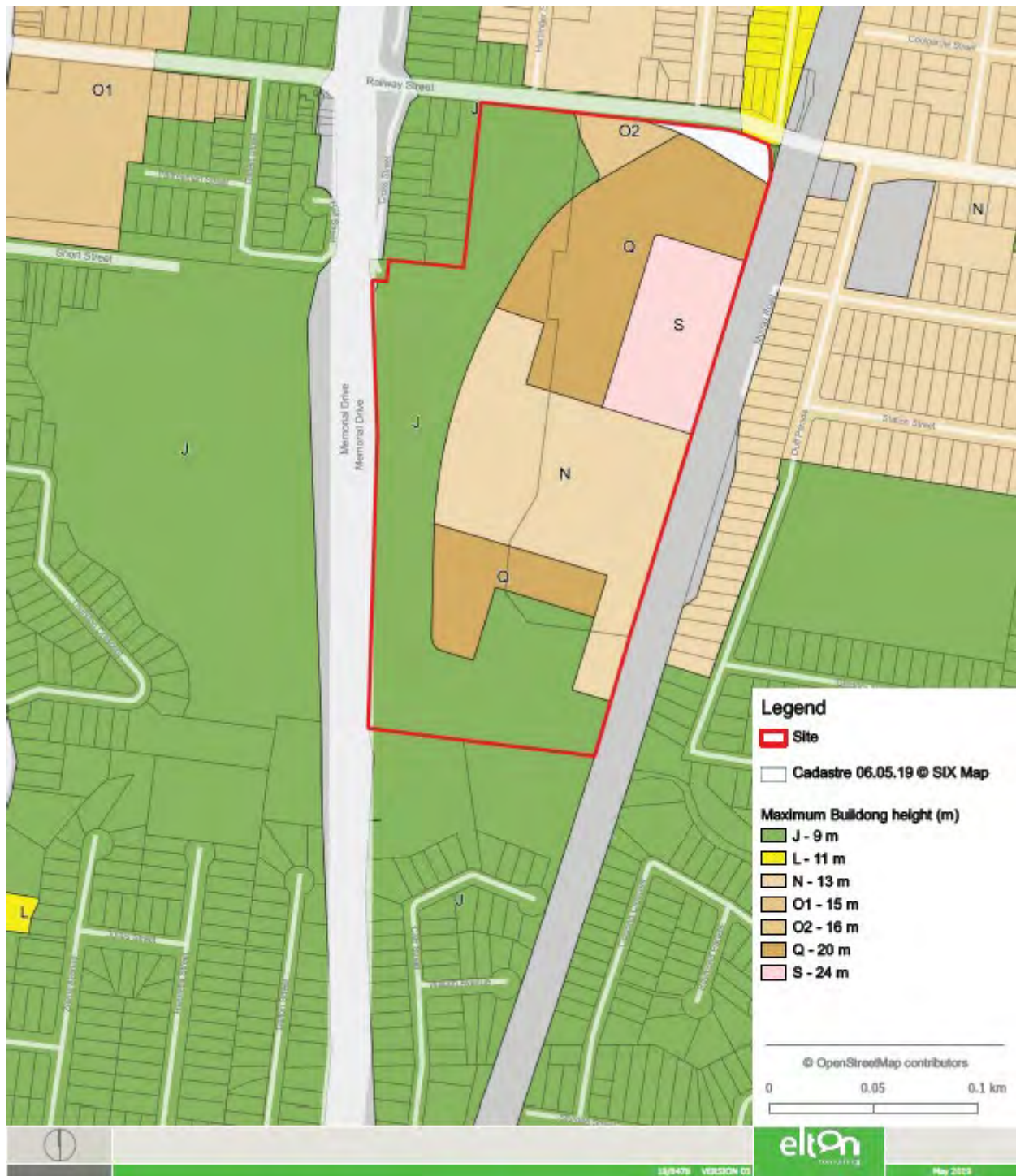


Figure 19 Proposed Floor Space Ratio Map



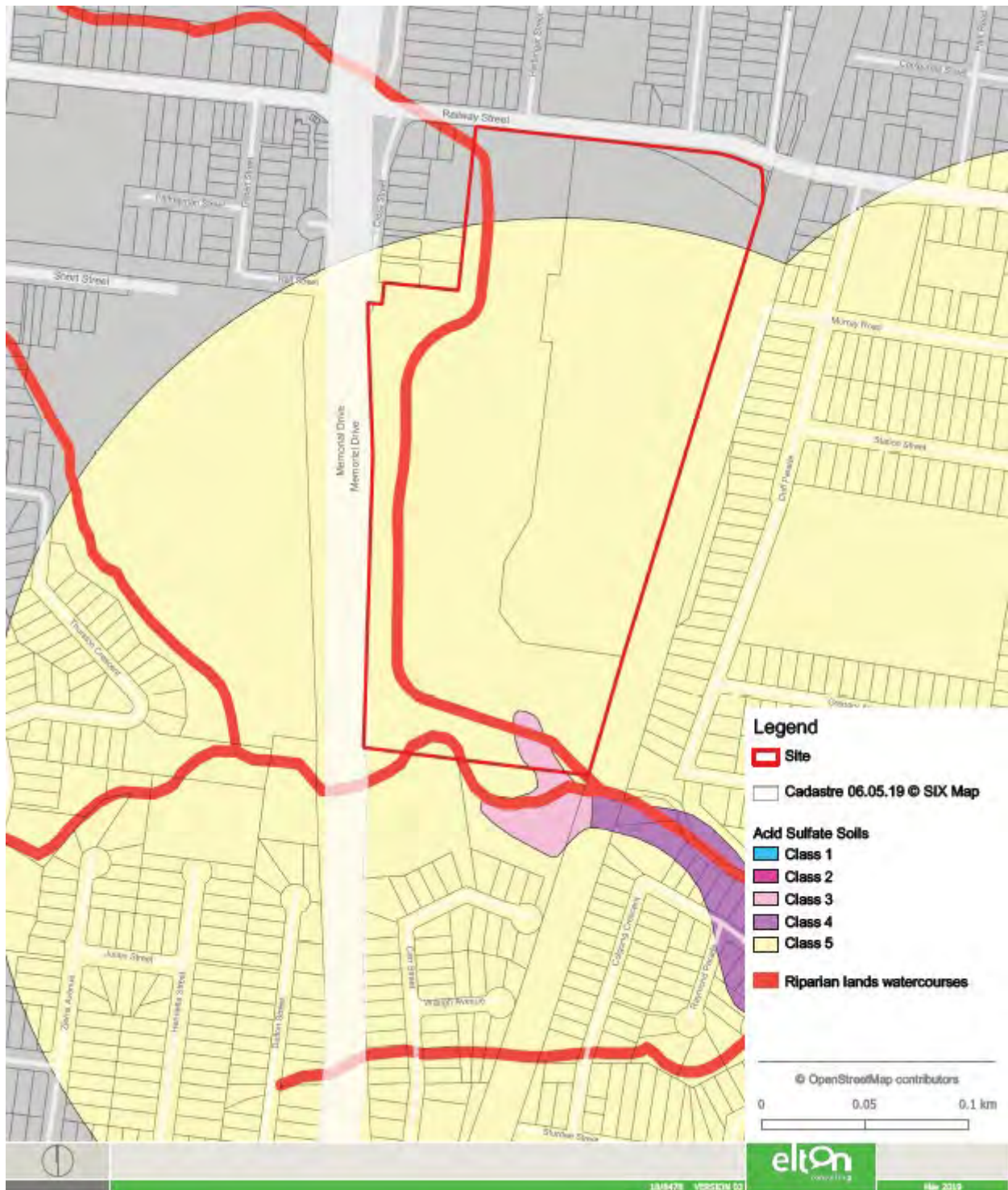
Figure 20 Proposed Heritage Map



Figure 21 Proposed Natural Resource Sensitivity – Biodiversity Map



Figure 22 Proposed Acid Sulfate Soils Map, Riparian Land Map, Foreshore Building Line Map





# Part 5 – Community Consultation

Legacy Property and ICC are committed to transparent and proactive communication with the communities in and around this project to ensure all parties are informed about the plans and have the opportunity to have their say.

At Corrimal, this has meant:

- » Being open, clear and sensitive in all dealings with directly affected landowners, stakeholders and the community
- » Making the greatest possible effort to ensure community members are aware of the proposal
- » Providing opportunities for participation and collaboration

Initial community consultation commenced 5 years ago with ICC holding workshops with key community groups recommended by WCC including Neighbourhood Forum 4, the Corrimal Chamber of Commerce and the Corrimal Revitalisation Action Group. A booth was also set up at the Spring into Corrimal 2015 event to answer questions raised by the public. In addition a dedicated website was launched in 2017 ([www.corrimalcokeworks.com.au](http://www.corrimalcokeworks.com.au)) to provide information on the project and to answer specific questions from the public. Community newsletters were also produced and distributed to adjacent neighbours approx. 1000.

Since obtaining Gateway approval, ICC and Legacy Property have conducted a range of more formal consultation activities as outlined below with a specific focus on residents immediately adjoining the rezoning area and in surrounding areas.

Consultation has also occurred with the Registered Aboriginal Parties.

## 5.12 Statutory consultation requirements

Sections 56 and 57 of the EP&A Act sets out statutory community consultation requirements for PPs. It is envisaged that, at a minimum, this will involve the public exhibition of the PP and supporting information for a period of 28 days. Council has previously resolved to exhibit the PP for 60 days. Notification of the PP will likely occur:

- » On Wollongong City Council's website;
- » In the applicable local newspaper(s);
- » In writing to the owners of adjacent and nearby land parcels, relevant stakeholders and neighbourhood/community groups and the surrounding community in the immediate vicinity of the site; and
- » In writing to relevant Government agencies.

## 5.13 Consultation workshops

In December 2018, ICC and Legacy Property held a series of visioning workshops with key stakeholders from Council, Neighbourhood Forum 4, Corrimal Community Action Group (CCAG), Corrimal Region Action Group (CRAG) and Corrimal Chamber of Commerce. This followed the issuing of a Gateway Determination in August 2018.

ICC and Legacy Property advised participants in December 2018 that the project team would consider the feedback received and other outputs of the sessions and come back to each stakeholder group by the end of March 2019 to detail how their feedback had been incorporated into detailed development of the proposal.

These follow-up sessions, as well as information sessions for the broader community, were held in late-March 2019. The information session invitation was letterbox dropped to 1000 residences in the surrounding area of the site and was shared with key stakeholders who in turn shared with their networks. Digitally, the invitation was

emailed to all those who had registered interest in the project online and was further posted on the official website as a pop-up box as well as a static notice on the homepage.

As well as the information sessions, pop ups were held on Friday and Saturday 30/31 March 2019 in order to ensure a broad cross section of the community had the opportunity to provide their views on the proposed development.

The scale of that consultation has significantly exceeded what is mandated for a rezoning process, demonstrating a genuine commitment to an inclusive and transparent process that meaningfully engages the community and key stakeholders.

A consultation outcomes report can be found at **Appendix D**.

## 5.14 Additional consultation methods

Other methods of consultation ICC and Legacy Property have undertaken include:

- » Regular distribution of newsletters to 1,000 residences in the area. Eight newsletters were distributed between October 2017 and December 2018.
- » Developing a website for the project, which publishes key information about the project including:
  - > A basic outline of the rezoning proposal
  - > An overview of the suitability of the site for rezoning
  - > Public benefits of the rezoning including
    - Assisting to resolve flooding in the local area
    - New and improved connectivity
    - Better neighbourhood and commuter services
    - Diversity of housing
  - > A frequently asked questions page including short technical issues summary e.g. remediation etc
  - > A 'provide feedback' page.

## 5.15 Response to Submissions

A number of submissions have been received by Council (and provided to the Applicant) since the Gateway determination was made, in response to the proposed development. These submissions are summarised and responses provided in **Table 15** below.

**Table 15 Residents/stakeholder Concerns and Responses**

Concerns	Response
Road Network	
Traffic	
Increased traffic	The proposed development would result in an increase in traffic, however the traffic assessment undertaken by Bitzios indicates that any significant traffic impacts are isolated to the intersection of Memorial Drive/Railway Street and that an upgrade to this intersection is required to mitigate the development's impacts.  ICC and Legacy propose to upgrade this intersection in accordance with this recommendation.

Concerns	Response
A Master Traffic Plan is required	A Traffic Impact Assessment has been prepared for the proposed development by Bitzios Consulting.
Engagement with RMS should occur to examine mitigation strategies for the Memorial Drive/Railway Street intersection	Consultation with RMS and TfNSW has occurred on an ongoing basis. The Memorial Drive/Railway Street intersection will be upgraded in accordance with the recommendations made by the Traffic Impact Assessment.
RMS need to undertake a fully independent assessment that's available to the public	RMS has been consulted and will continue to be consulted regarding this project. Any recommendations which are made by RMS or TfNSW will be incorporated into the proposed development scheme.
Traffic generation should be calculated on dwellings types with height traffic generation	Traffic generation has been based on dwelling types, including terraced/semi-detached, 1, 2 and 3 bedroom apartments, Seniors Living apartments, affordable housing dwellings and Aged Care beds.
The intersection of Memorial Drive and Station Street data for SIDRA is from 2014 and an inaccurate baseline	The data utilised for traffic modelling is considered to be the most accurate and up to date data available.
Distribution at the junction of Harbinger Street and Railway Street should be included in traffic distribution	Traffic distributions at the intersection of Railway Street/Harbinger Street are assessed as part of the Traffic Impact Assessment
<b>Parking</b>	
Not enough parking	Adequate parking will be provided on site in accordance with the requirements of the Site Specific DCP.
Undercroft parking is unsuitable, will act as a heat sink, reduce panting area, attract vandalism, prefers basement parking.	The parking typologies included onsite will form part of the later DA stage. However, any proposed development will be supported by a Crime Prevention Through Environmental Design (CPTED) report in order to determine the crime prevention features to include in the proposed development.
<b>Access</b>	
Direct access to memorial drive should be provided	Consultation has been undertaken with RMS and TfNSW to discuss the possibility of access from Memorial Drive, however this was not supported. It was also tested in modelling and shown to have very limited benefit.
The development proposes limited road access	Road access from Memorial Drive was discussed with RMS and TFNSW but was not supported. Therefore, one access from Railway Street is proposed.
There needs to be a turning lane into the site	Traffic assessment undertaken has demonstrated the need for a proposed right-hand turn from the west to turn into the site. All proposed road upgrades are outlined in the traffic assessment report by Bitzios.
More points of ingress and egress are required	See above.
Access for emergency services will be difficult due to increase traffic	An adequate access route will be provided for emergency services.
<b>Community</b>	
Community Facilities	

Concerns	Response
Increased pressure on public services such as hospitals and schools	An assessment has been undertaken and the conclusion made, in consultation with Council, that there is no need to provide for any social infrastructure on the site. The Department of Education was contacted, with the outcome that there is likely to be adequate classrooms for the future volume of children resulting from the proposed development.
Should contain more facilities for the broader community	As stated above, Council has determined that there is no need to provide for any social infrastructure on the site. However small scale retail land uses are proposed surrounding Corrimal train station, which will be accessible to the future population of the site as well as the broader community.
<b>Demographics</b>	
The development will attract a younger demographic and this is going to have a negative effect on the current elderly demographic	The proposed development is to provide for a diversity of housing and a diversity of demographics in order to create an inclusive community linking with the existing surrounding Corrimal community.
<b>Environment</b>	
<b>Flooding</b>	
Making sure the development does not increase the risk of flooding downstream	The Flood Study demonstrates that flooding issues can be effectively managed and that development of the site will not increase flood impacts upstream or downstream of the site.
How will waterways be measured and monitored for water levels and contamination ongoing	The waterways will be monitored during creek alignment works. Refer to below regarding contamination.
Too many hard surfaces reducing rainfall absorption	See above.
Creek should remain following natural course.	<p>The existing creekline and riparian zone has been subject to high levels of modification and disturbance associated with the cokeworks operations.</p> <p>The proposed creek realignment has been designed to convey major flows up to PMF event within North Corrimal Creek through the site. This results in total flood free developable areas of 12.5 ha. The proposed creek works also provide an opportunity to improve drainage of the existing Cross Street residential area.</p>
<b>Ecology</b>	
Coke works one of the last natural areas in the suburb and should not be taken away	The site has previously been used for industrial purposes and therefore is not considered to be a natural area. All areas of the site which demonstrate biodiversity significance are proposed to be retained.
Tree canopy should remain and mature trees should be kept	As stated above, all areas which demonstrate biodiversity significance are proposed to be retained.
Lack of green space	Approximately 8.6ha of the site are proposed to be retained as public open space.
Protection of bat habitat	The proposed rezoning will retain the majority of the flying fox habitat present on the site. The proposed revegetation of the

Concerns	Response
	riparian corridor along the western extent of the site would also provide additional habitat for this species.
Riparian zone along the creek should be retained	The riparian zone to the east of the site, adjoining the realigned creek, will be retained.
Retain ponds for the ecology	The onsite dams were not found to contain any threatened species or threatened species habitat.
<b>Contamination</b>	
Concerned about contamination being properly assessed and dealt with	<p>Only 5 incidences of concentrations of contaminants of concern were detected above environmental assessment criteria, however these were isolated and minimal compared to the wider site footprint.</p> <p>Through integration of the remedial strategies outlined in the RAP by Arcadis into the bulk earthworks, civil design and construction stages of the project, the site can be suitable for the proposed use.</p> <p>Any site contamination will be dealt with through implementation of the RAP.</p>
Independent contamination report must be done	A Preliminary Site Investigation, Additional Environmental Assessment and a Remediation Action Plan have all been prepared to support this PP.
Water testing needs to be conducted	Water quality treatment will be required on site. The requirement will be fulfilled using either catchment wide 'treatment drains' or end-of-line approaches. Stormwater quality treatment measures will be incorporated into the site design, for example, on public open areas or on road reserves
<b>Heritage</b>	
There should be a museum on site for both aboriginal and industrial heritage of the site	Elements relating to the industrial heritage of the site will be retained and incorporated into the overall development, with an opportunity to have a small part of the building or place to capture the history/heritage of the site.
Need to respect aboriginal heritage	Extensive consultation with the Registered Aboriginal Parties has been undertaken, and site visits held. Any works will be undertaken in consultation with the Groups. No significant items of Aboriginal heritage have been identified on site.
<b>Built form</b>	
<b>Density</b>	
Building height and density too high compared to surrounds. Should be low density village.	<p>The proposed density has been part of ongoing discussions with Council and is considered to be acceptable. The development is not proposed to extend beyond the height of the towers already present on site.</p> <p>The development, as proposed would result in revitalisation of the site and up to 750 additional residences, contributing to the housing needs of Corrimal and the wider Wollongong area. The development of a low-density village would be a substantial underutilisation of the 18.18ha site.</p>
<b>Zoning</b>	

Concerns	Response
The zoning should remain the same and the land should be employment land	Wollongong Council supported the PP and strategic merit for rezoning in 2018. A Gateway determination by DP&E also supported the strategic merit for rezoning the site. Technical studies have been undertaken to demonstrate the suitability of the site for residential land uses. Thus, the land will not be retained for employment. Rather the key heritage items and interpretation of the employment site will be undertaken.
Need retail included	Small scale retail land uses have been included within the proposed development, surrounding Corrimal train station.
It should be a mixed used zone	See above. Although the zoning is for R3 Medium Density Residential, the site is proposed to accommodate some small-scale residential land uses surrounding Corrimal train station.
<b>Detailed Design</b>	
Development should only take place on the dumpsites and cleared areas	The proposed development will be located on areas which have been previously cleared and were previously utilised for industrial activities. Minimal clearing of areas of ecological value is proposed.
Apartment size is too small	All future apartments will be designed to be compliant with SEPP 65 and the ADG.
The artistic impressions of the housing type is not detailed enough	The development is currently only at the rezoning stage. Additional detail regarding housing typologies will be provided at the DA stage.
Should be world class design	The proposed development is intended to be of a high-quality design.
Needs to be age friendly	Seniors housing and assisted living are elements which will be incorporated into the proposed development.
<b>Green development</b>	
Needs to include bike paths and improve pedestrian pathways	The proposed development will include a wide network of pedestrian and cycling connections, linking the site with the wider Corrimal community.
Building should be a green building, solar panel and water catching	The proposed development is proposed to include sustainable elements, however these will be decided at the future DA stage.
<b>Views</b>	
Not impact on residences view of escarpment	The proposed development intends to retain views to the escarpment by proposing heights which are lower than the heights of the existing brick and steel towers.
<b>Planning process</b>	
Planning process must be transparent	The PP application has been undertaken in accordance with all legislative requirements. The proponent has conducted consultation that exceeds legislative requirements.
All documents should be made publicly available	All documents will be made publicly available during the exhibition period.
An independent assessment of all reports should be undertaken	Council and the DP&E will undertake an assessment of the PP as well as all associated documentation.

## Part 6 – Project Timeline

Milestone	Timeframe
Gateway Determination issued	20 <sup>th</sup> August 2018
Planning Proposal lodged with Council	May 2019
Public exhibition and public authority consultation	August - September 2019
Consideration of submissions	October 2019
Reporting the Planning Proposal to Council	December 2019
Submission to NSW DP&E	December 2019
Publication of WLEP 2009 amendment	March 2020

# Appendices

- A Aboriginal Cultural Heritage Assessment
- B Additional Environmental Assessment
- C Consultation Outcomes Report
- D Economic Impact Assessment
- E Flood Study
- F Flora and Fauna Assessment
- G Geomorphology Assessment
- H Geotechnical Assessment
- I Heritage Conservation Management Strategy
- J Heritage Interpretation Strategy
- K Historical Heritage Assessment
- L Illawarra – Shoalhaven: Housing Market Report for Corrimal Coke Works
- M Landscape Master Plan Report
- N Master Plan Report
- O Noise and Vibration Assessment
- P Remediation Action Plan
- Q Remediation Action Plan Endorsement
- R Retail Market Demand and Economic Impact Assessment
- S Servicing Strategy Report Summary
- T Traffic Impact Assessment
- U VPA Schedule



# A **Aboriginal Cultural Heritage Assessment**

# B Additional Environmental Assessment

# C Consultation Outcomes Report

# D Economic Impact Assessment

# E Flood Study

# F Flora and Fauna Assessment

# G Geomorphology Assessment

# H Geotechnical Assessment



# I Heritage Conservation Management Strategy

# J Heritage Interpretation Strategy

# K Historical Heritage Assessment

# L **Illawarra – Shoalhaven: Housing Market Report for Corrimal Coke Works**

# M Landscape Master Plan Report

# N Master Plan Report

# 0 Noise and Vibration Assessment

# P Remediation Action Plan



# Q Remediation Action Plan Endorsement

# R **Retail Market Demand and Economic Impact Assessment**

# S Servicing Strategy Report Summary

# T Traffic Impact Assessment

# U VPA Schedule





# Corrimal Coke Works Corrimal

POST-GATEWAY MASTER PLAN REPORT  
MAY 2019

REVISION B

**REPORT PREPARED BY**

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<b>ISSUE</b>	<b>DATE</b>	<b>PREPARED BY</b>	<b>REVIEWED BY</b>	<b>COMMENT</b>
P1	21.03.19	NT	DR	DRAFT
P2	13.05.19	NT	DR	DRAFT
P3	15.05.19	NT	DR	DRAFT
A	17.05.19	NT	DR	FINAL FOR COUNCIL SUBMISSION
B	23.05.19	NT	DR	REVISED FINAL FOR SUBMISSION



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- 08 Introduction
- 18 Key Principles and Drivers
- 22 Master Plan Development
- 28 Proposed Master Plan
- 32 Structure Plan Design Components
- 38 Movement and Access
- 50 Built Form and Architecture



# PROJECT TEAM

OWNER &  
DEVELOPER



URBAN  
DESIGN &  
ARCHITECTURE



LANDSCAPE  
& PUBLIC  
DOMAIN



TOWN  
PLANNING &  
CONSULTATION



HERITAGE &  
RETAIL



CIVIL &  
SERVICES



ECOLOGY



TRAFFIC &  
TRANSPORT



PLACE  
VISIONING



GEOMORPHOLOGY



CONTAMINATION



ABORIGINAL  
HERITAGE



FLOODING



NOISE &  
VIBRATION



GEOTECHNICAL



## INTRODUCTION

Lead master planners DKO Architects have been commissioned by Legacy Property to prepare a precinct master plan (the Master Plan) for the former Corrimal Coke Works Site (the Site) in Corrimal NSW.

The 2019 Master Plan provides a vision for an exceptional new residential community with a unique public domain, great open spaces, new local retail services and an innovative mix of housing on this former industrial site.

The Site is situated in the Wollongong City Council (WCC) Local Government Area 5.5 kms north of the Wollongong CBD and 63.5 kms south of the Sydney CBD.

The Site is approximately 18 hectares in area, located between the Corrimal Railway Station on the Sydney Wollongong line to the East and the Major Arterial Road, Memorial Drive, to the West.

The Site is also within walking distance to Corrimal town centre (350 m), local primary and secondary schools (500 m) and community recreational facilities including sporting fields, Corrimal Pool, Corrimal District library and community centre (500 m) and Corrimal Beach (1.2 km).

## PLACE AND MASTER PLAN VISION

The vision for Corrimal Coke Works is to create a strong community with diverse people and places that is built on shared stories and experience. This will be achieved by basing the development around the values of friendship, diversity, revitalising and heritage.

## METHODOLOGY

The Master Plan is a progression of the 2017 Concept Plan that was developed to support a planning proposal for the rezoning of the Site.

The 2017 Concept Plan established the potential for the site to be rezoned from predominantly industrial uses to residential zoning. The 2017 Concept Plan was supported by a number of key technical studies that established design drivers including:

- The realignment of Corrimal Creek to the west of the Site to allow for a consolidation of developable land close to Corrimal Station.
- A strategy to retain some former industrial elements of the Site including the 1912 Brick Chimney Stack.
- The identification of ecological communities in the north and south of the Site.
- The opportunity to position local services around Corrimal Station.
- The opportunity to access the Site from Railway Street in the north.

The Master Plan has built on these drivers and has further developed the spatial plan for the Site with inputs from these specialist consultants and Gateway Determination requirements.

The project methodology followed a series of steps including stakeholder and Council workshops and an intensive period of design development and testing.

The Master Plan is heavily informed by the requirements of Wollongong City Council. Further studies will be required at every subsequent stage of development.

## THE 2019 MASTER PLAN

Key features of the 2019 Master Plan include:

- An expanded plaza adjacent to Corrimal Station.
- Increased retention of former Coke Works Structures if high significance
- Refinement of the realigned North Corrimal Creek corridor to provide opportunities for active and passive recreation.
- Measures to enhance stormwater quality.
- A refined street network that facilitates bus access to Corrimal Station.
- An expanded area for local services around Corrimal station.
- A new local ‘park in the heart’ of the Site.
- The identification of a number of character precincts within the Site that respond to local conditions and the project vision.
- Further development of the built form strategy to allow for a diverse mix of innovative housing.
- An identification of the potential inclusion of seniors housing and affordable housing.
- A extensive network of active transport and pedestrian links to key destinations within and around the Site.
- Updated staging and implementation planning.

## THE NEW PLANNING FRAMEWORK

The 2019 Master Plan is supported by a Site Specific Development Control Plan (DCP) and new Local Environmental Planning (LEP) controls for the Site to ensure that the vision for the Site is delivered in a coordinated manner with a high quality public domain and a diverse built form.

## LANDSCAPE AND PUBLIC DOMAIN OBJECTIVES

### Objective 1:

— Create a new public parkland along the realigned North Corrimal Creek.

### Objective 2:

— Incorporate landscape edge vegetation to preserve key interfaces for surrounding residents

### Objective 3:

— Retain and enhance key heritage structures associated with the former uses on the Site.

### Objective 4:

— Enhance proposed Civic Plaza adjacent to Corrimal station.

### Objective 5:

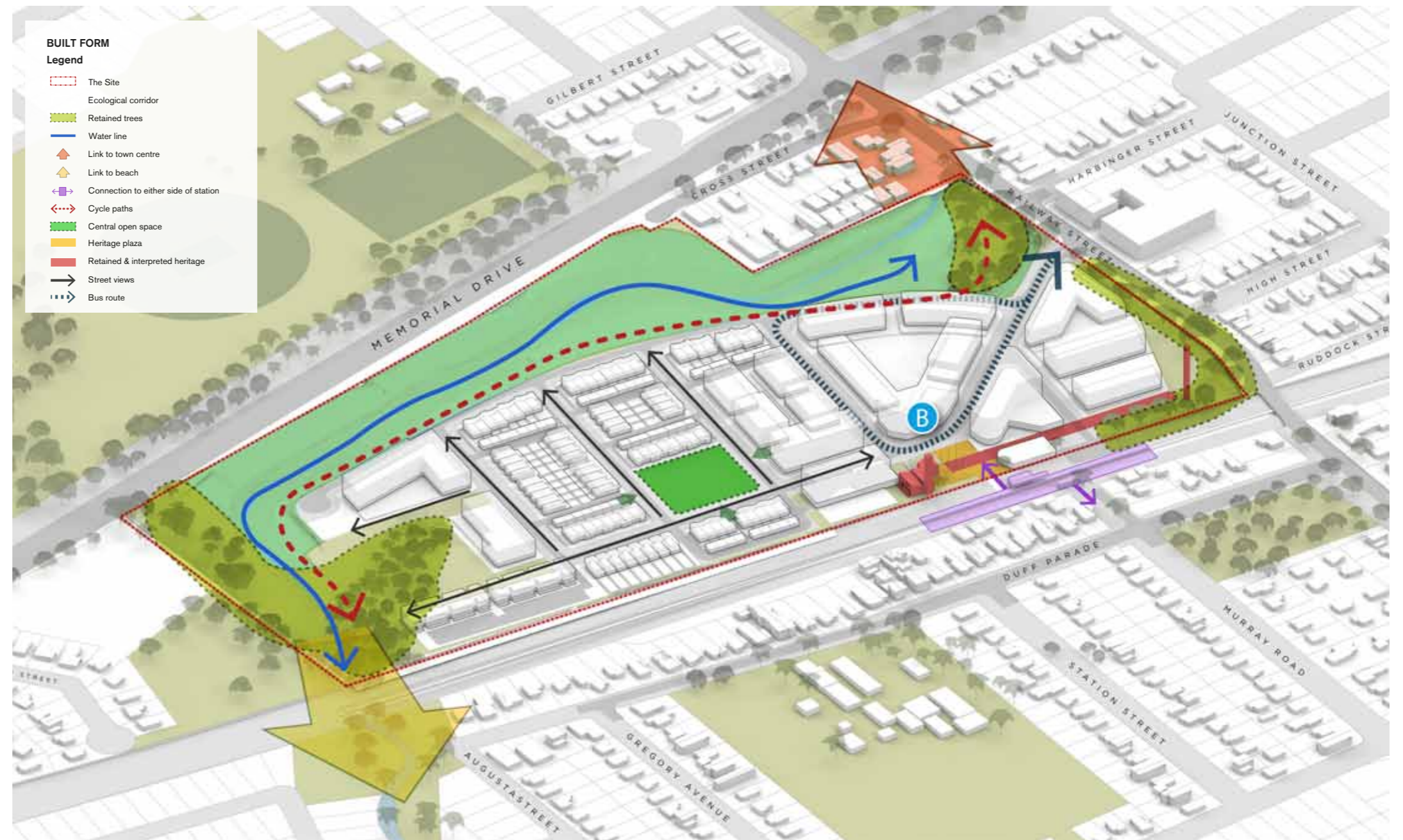
— Define a fine grain network of streets, lanes and pedestrian links

### Objective 6:

— Frame internal views and vistas along new streets that connect residents to the extensive public open space network.

### Objective 7:

— Create a system of cycle paths that link key destinations and connect to the wider network.



## LAND USE AND BUILT FORM OBJECTIVES

### Objective 1:

— Provide for a diverse range of building forms that respond to the particular location context and conditions.

### Objective 2:

— Define the main access street with clear and consistent urban edges.

### Objective 4:

— Focus the tallest buildings close to Corrimal station and plaza.

### Objective 5:

— Integrate and re-use of retained structures with new development.

### Objective 6:

— Locate new retail and services close to Corrimal Station.



A circular inset image showing an aerial view of an industrial facility, likely a coke works, with various structures, roads, and greenery. The image is in grayscale and serves as a background for the text.

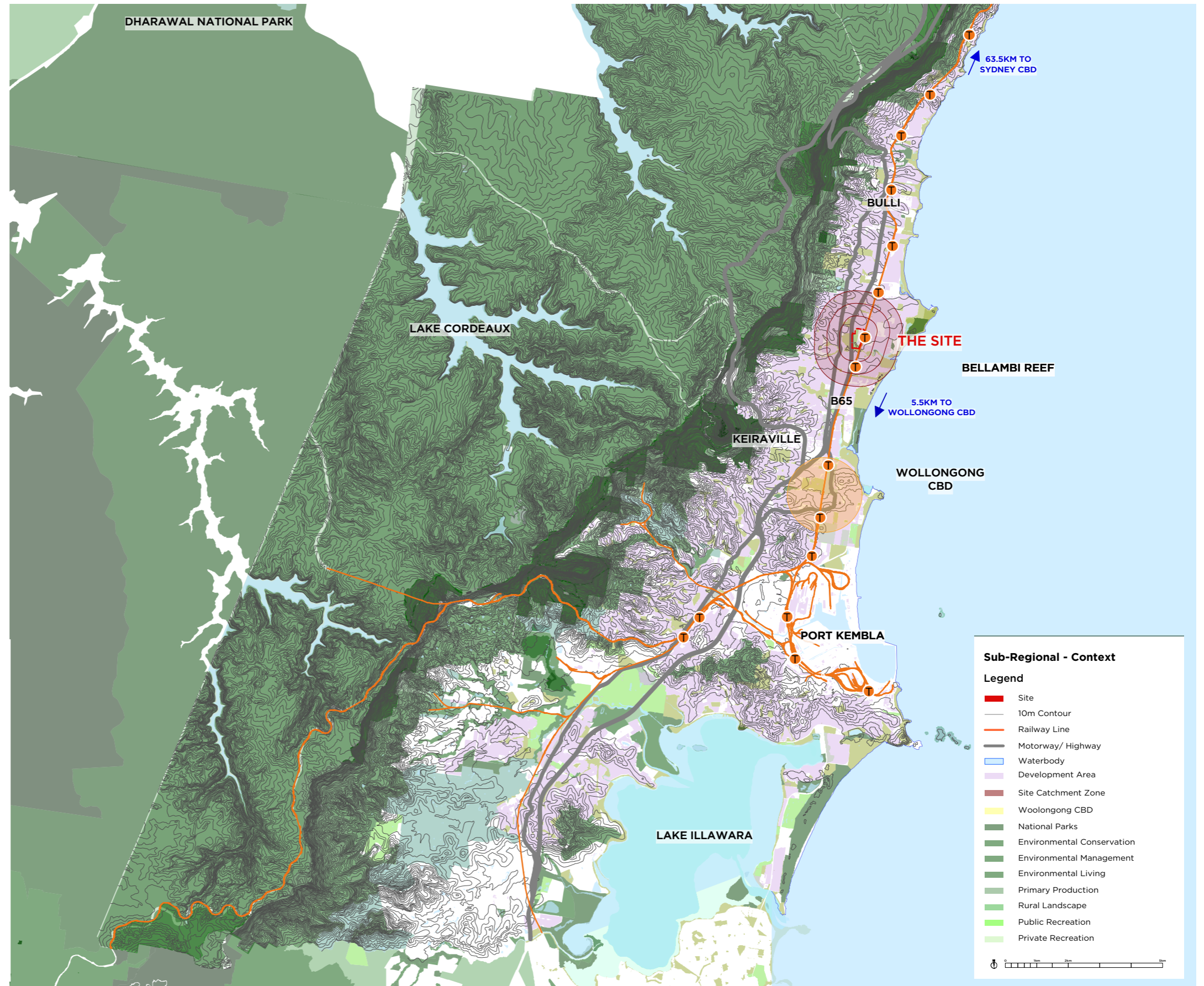
# Introduction

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CORRIMAL COKE WORKS WOLLONGONG

**THE SITE AND RELATIONSHIP TO CORRIMAL AND WOLLONGONG**

- The Site sits in the northern portion of the Wollongong City Council Local Government Area.
- Located 5.5 kms north of the Wollongong CBD and 63.5 km south of the Sydney CBD.
- Situated between Corrimal Railway Station on the Sydney Wollongong line to the East and the Major Arterial Road, Memorial Drive, to the West.
- Within walking distance to the Corrimal town centre (350 m), local primary and secondary schools (500 m) and community recreational facilities including sporting fields, Corrimal Pool, Corrimal District Library and Community centre (500 m) and Corrimal Beach 1.2 km).



The history of the Site and surrounding area is summarised below.

### INDIGENOUS

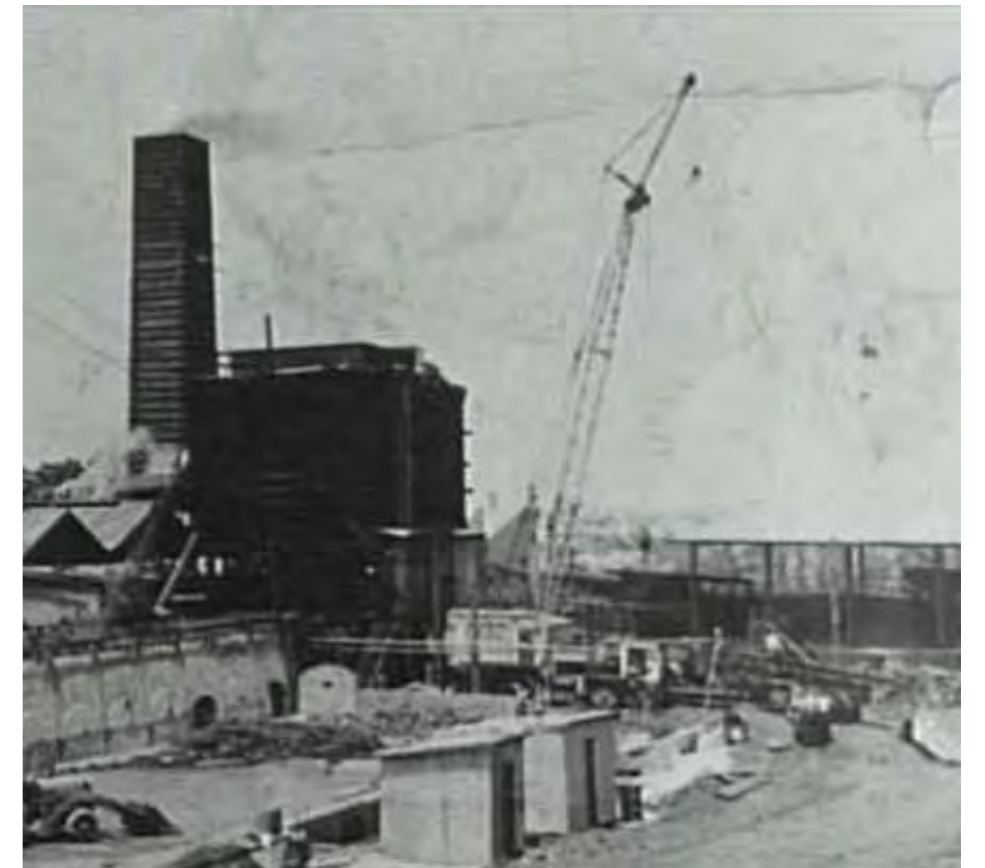
- The Wodi Wodi and the traditional people of the Illawarra area.
- The word 'Illawarra' is derived from the Aboriginal Tharawal word 'allowrie', which translates as 'pleasant place near the sea' or 'high place near the sea.'
- The Wodi Wodi made particular use of the region's rich natural resources for the creation of stone tools and other utilitarian objects.

### EUROPEAN SETTLEMENT

- The Illawarra region was settled by Europeans in the late 1700's.
- Earliest settlements in the colony were generally located in areas nearby rivers and coastlines and most early settlers focused on pastoral grazing.
- By 1830, large parcels of land were taken up as a result of the potential for coal.
- The thriving coal mining industry formed the backbone of the area's economy for over 100 years.

### TODAY

- The Illawarra region is diversifying from its industrial past as Wollongong grows, becoming a dynamic and vibrant regional city with an expanding CBD, regional services, a university and a rich natural environment.





The Site consists of two principal lots:

- Lot 5// DP749492.
- Lot 1// DP795791.

As well as two other smaller lots:

- Lot 126// DP598190 (zoned SP2)
- Lot 11// DP749492

## INTERFACES

The Site has a range of boundary conditions that will require different urban design responses.

### North

—Railway Street, along the northern boundary of the Site, serves as the main connection route between the Corrimal Town Centre and the train station. The route is in a degraded state at present however redevelopment of the Site will significantly improve the serviceability of the streetscape.

### East

—The Eastern boundary is defined by the train line. On the adjacent side of the train line is a mixture of R3 Medium Density and low density residential development, Corrimal High School and Corrimal East Public School and the Corrimal Beach Tourist Park which extends approximately 1.1km to Corrimal Beach. The most direct route from the Site to the coastline is via Railway Street and Murray Road.

### West

—West of the Site is Memorial Drive, which is a major arterial road that consists of two lanes in each direction. Opposite the Site on Memorial Drive are the major recreational resources of

Corrimal including:

- » Robert Ziems Park featuring playing fields.
- » Corrimal Pool.
- » Corrimal Library and Community Centre.

### South

—South of the Site is the Towradgi Creek riparian corridor and low density residential. The riparian corridor forms a green link between the coast and the Illawarra Escarpment and could be developed as a cycling/green link from the coast, through the Site to the Corrimal town centre.

## CHARACTER

The land around the Site is generally flat, with R3 Medium Density zoning to the north, north east and east of the Site. The Escarpment to the west is a dominant visual feature. The original chimney on the Site is also a unique local landmark.

The adjacent plan shows the extent of the Site and immediate context.



INTRODUCTION  
EXISTING SITUATION AND CHARACTER



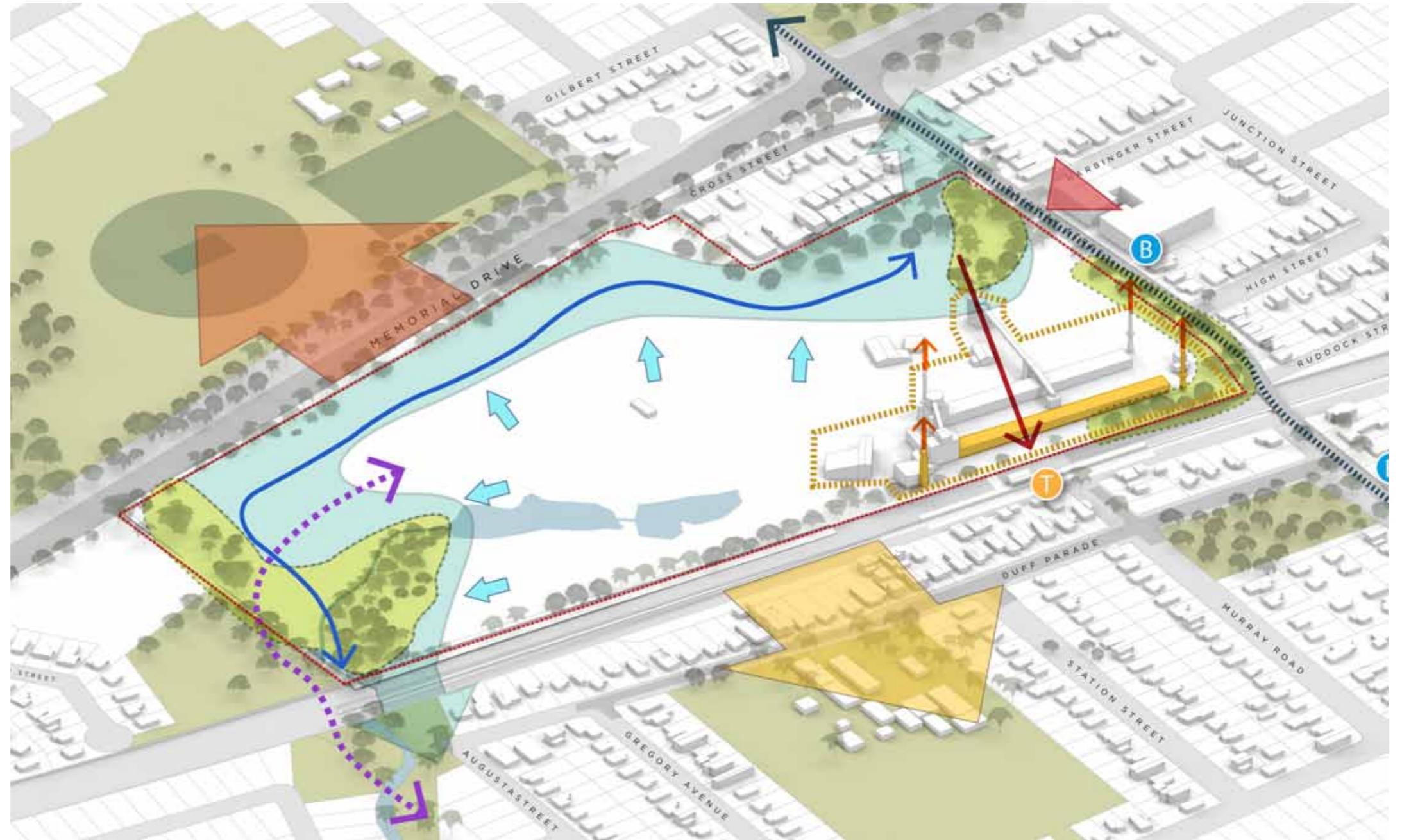


## OPPORTUNITIES

- Realignment of North Corrimal Creek to create a consolidated development area and extensive new open space.
- Retention and interpretation of on-site structures that tell the story of the Sites' history.
- Preserving and enhancing ecological communities.
- Creating a new connection to Corrimal Station.
- Green Grid connections to the local public open space network.
- Locating new homes and services close to public transport.
- Linking and connecting to the local community and Corrimal Town Centre.

### Legend

- The Site
- Open space
- Bus routes and stops
- Site access points
- Escarpment views
- Possible ocean views
- Ecological corridor
- Water ecology
- Creek views
- Ecological communities
- Key heritage elements
- Heritage interpretation
- Vertical elements
- Visual link to train station

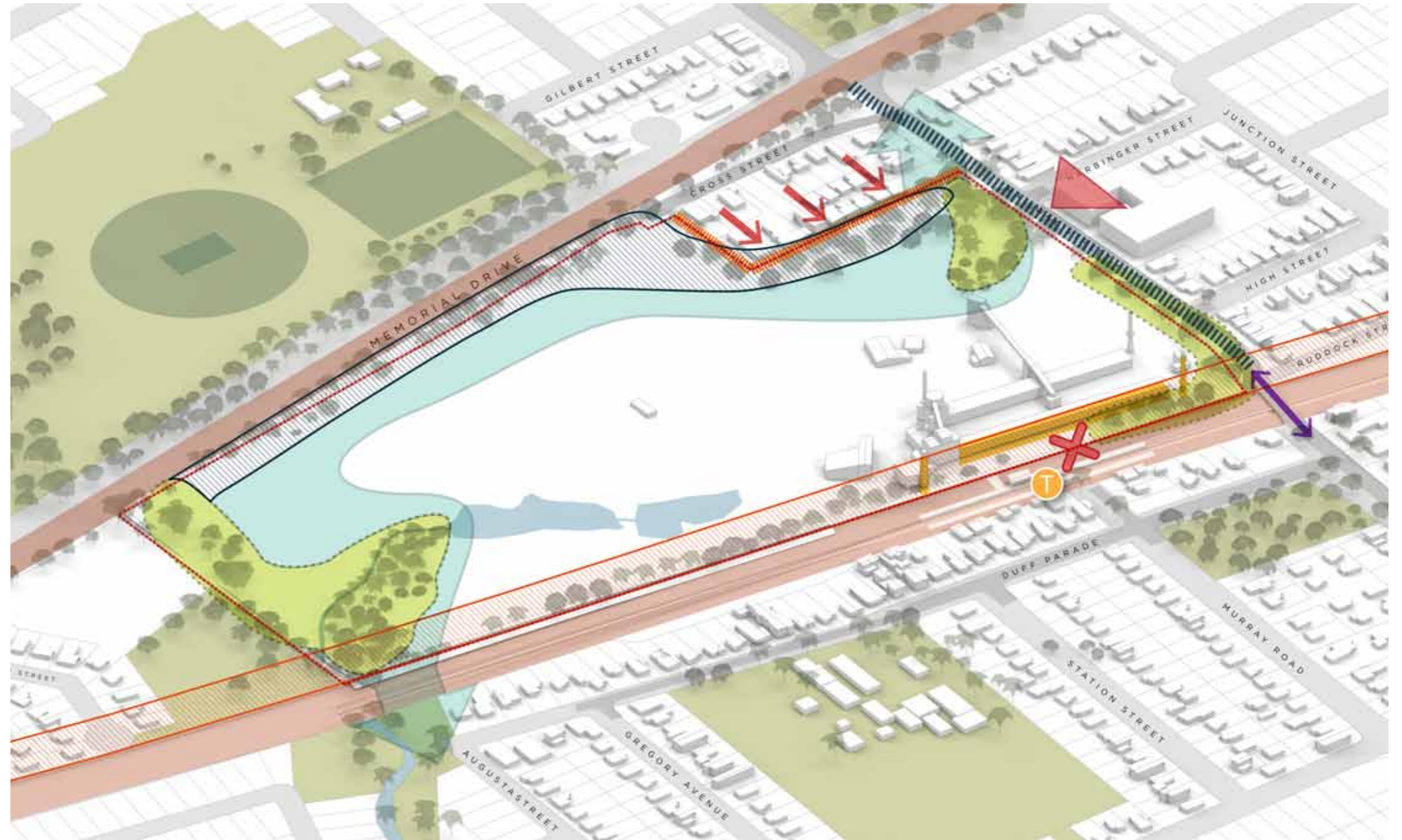


## CONSTRAINTS

- Development in Rail Corridors - 20 metre interface zone with possible restrictions on built form.
- Restrictions on access to Corrimal Station.
- Future plans for rail overpass bridge to replace the existing level crossing on Railway Street
- Restriction of access to ecological zones.
- Interfaces with neighbours - overlooking, views, privacy.
- Limited vehicular access points
- Noise from Memorial Drive and the rail corridor

### Legend

-  The Site
-  Noise source
-  20m rail corridor offset
-  Railway street bridge
-  Site access
-  Limited access
-  Cross street proximity
-  Rear fences
-  Ecological corridor
-  Existing Edge Vegetation
-  Ecological communities
-  Key heritage elements
-  Restricted access to train station



**2017 INDICATIVE CONCEPT PLAN**

The adjacent plan shows the 2017 Concept Plan for the Site. The key features of the design include:

- A new Station Plaza with local small scale retail opportunities and interpretative heritage elements.
- A naturalistic creek corridor with walking trails and play areas based on a creek re-alignment strategy developed by flood consultants.
- A pedestrian and cycle route providing linkage opportunities to the town centre to the west and beaches to the east.
- Medium density terraces and town houses designed to meet Illawarra market price-points.
- Retained vegetation on the site boundary to maintain privacy for neighbouring residents.
- Open space areas developed around pockets of

remnant vegetation.

- Apartment development of between three and six storeys close to the station and in the south of the Site utilising design that minimises construction costs to meet price-points in the market (new-style undercroft car parking arrangements).
- A cycle path to connect Railway Street to Corrimal station.
- A single vehicular access points off Railway Street

The 2017 Concept Plan and associated urban design report was developed to support the initial rezoning, submitted to WCC.

The sketches at the foot of this page were developed to highlight the possible form of development envisaged in the 2017 Concept Plan.



**KEY CHANGES**

The Master Plan provides the following enhancements to the 2017 Concept Plan:



**Greater Housing Diversity**

- Greater housing diversity on the Site to meet community needs, with affordable housing, retirement/seniors living, medium density housing, townhouses and residential apartments.



**Increased Open Space and Ecological R**

- Open spaces has increased from 39% to 43%, including the inclusion of an additional local park and community garden.
- Revised development footprint to reduce impacts on ecological areas



**Greater Heritage Retention & Interpretation**

- Significantly increased retention and interpretation of heritage elements to showcase the Site's history.



**Increased and Clear Access to Station and Plaza**

- Additional cycle and pedestrian connections through the Site.
- Opportunities for more integration with and connection to Corrimal train station.



**Diversified Retail Area**

- Provision of a small neighbourhood retail precinct to provide activity at Corrimal train station.



A circular graphic containing a grayscale aerial photograph of an industrial facility, likely a coke works, with various structures and roads visible. The text is overlaid on this image.

# Key Principles and Drivers

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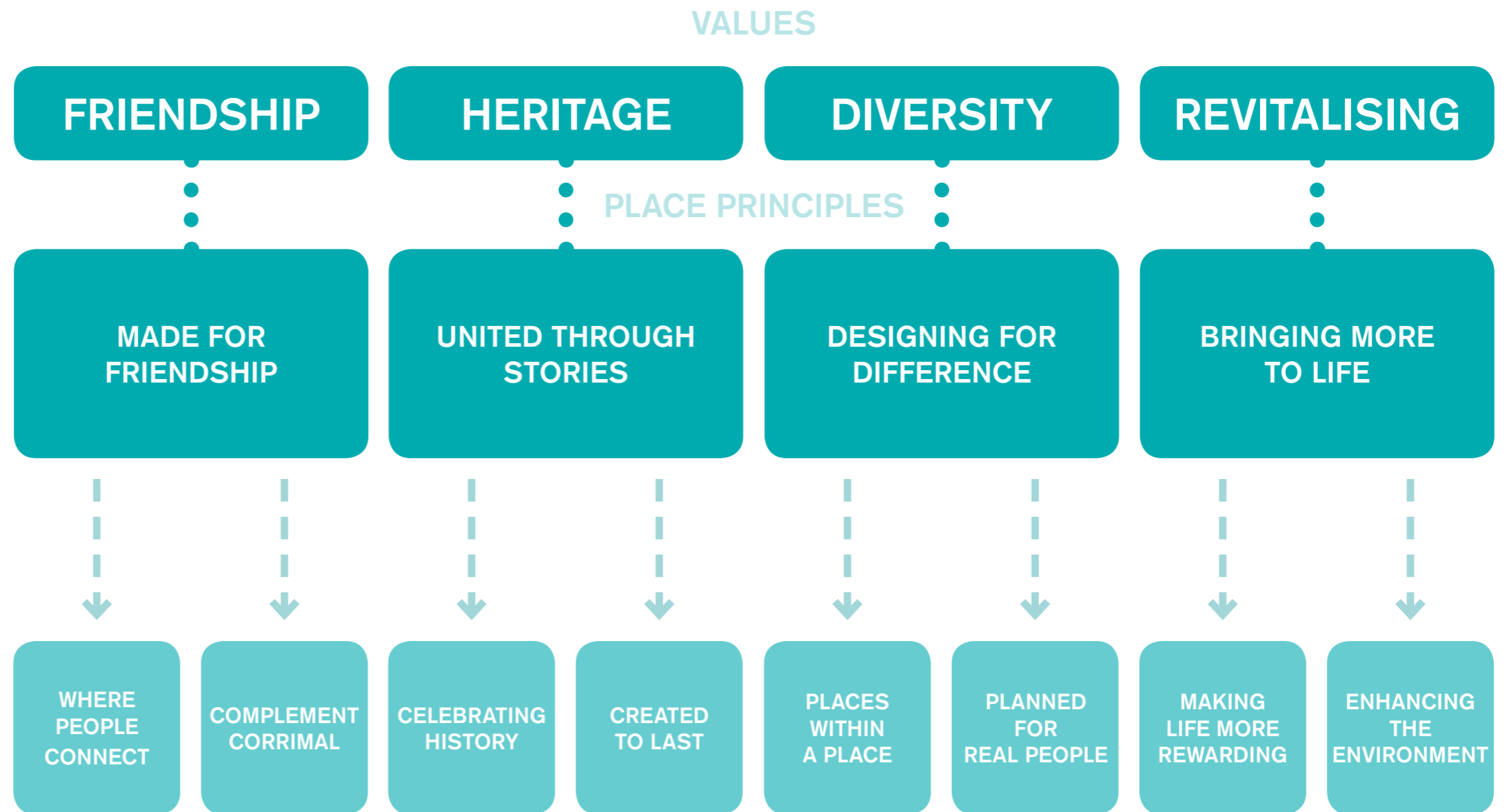
CORRIMAL COKE WORKS WOLLONGONG



**PLACE PRINCIPLES**

The Values and Place Principles have been developed following a number of vision workshops and consultation sessions with the client, design team, key stakeholders and the community, as well as in-depth market research conducted by Ruby Cha Cha to understand the needs of potential future residents.

This work has been delivered by Frost, who facilitated the workshops, commissioned the research and synthesised the feedback, insights and ideas into the set of overarching Values and Place Principles. These values and principles will guide all aspects of decision making about the development, and to create a unified approach for the design and client team.



**KEY DRIVERS**

From the contextual analysis of the wider locality and site analysis including the opportunities and constraints of the Site, a number of Key Drivers were established.

— Heritage Fabric Management

Retention, interpretation and adaptive reuse of a significant number of original elements on the Site, and incorporate the Site's historic, social and representative significance into the desired character of the Master Plan.

— Riparian Corridor Use

Use realignment of corridor to reduce flood risks, offer a mix of active and passive recreational uses and handle water quality management. Utilise the corridor to link to existing adjacent public open space and facilitate a possible town centre to beach link.

— Valuing Ecological Communities

Enhance and maximise preservation of identified ecological communities at the North and South of the Site

— Open Space and Public Domain Diversity

Open space will be high quality and provide for the needs of all ages. A distribution of a diversity of spaces will ensure equitable access for residents throughout the Site and flexible use.

— Connecting Into the Local Network

Creation of vehicular and active movement links to provide access to Corrimal Station, Corrimal town centre and local parks and open spaces. Incorporate a street network that is legible, safe and designed to add to amenity and a cool micro climate within the Site.



**HERITAGE FABRIC MANAGEMENT**



**RIPARIAN CORRIDOR USE**



**VALUING ECOLOGICAL COMMUNITIES**



**OPEN SPACE AND PUBLIC DOMAIN DIVERSITY**

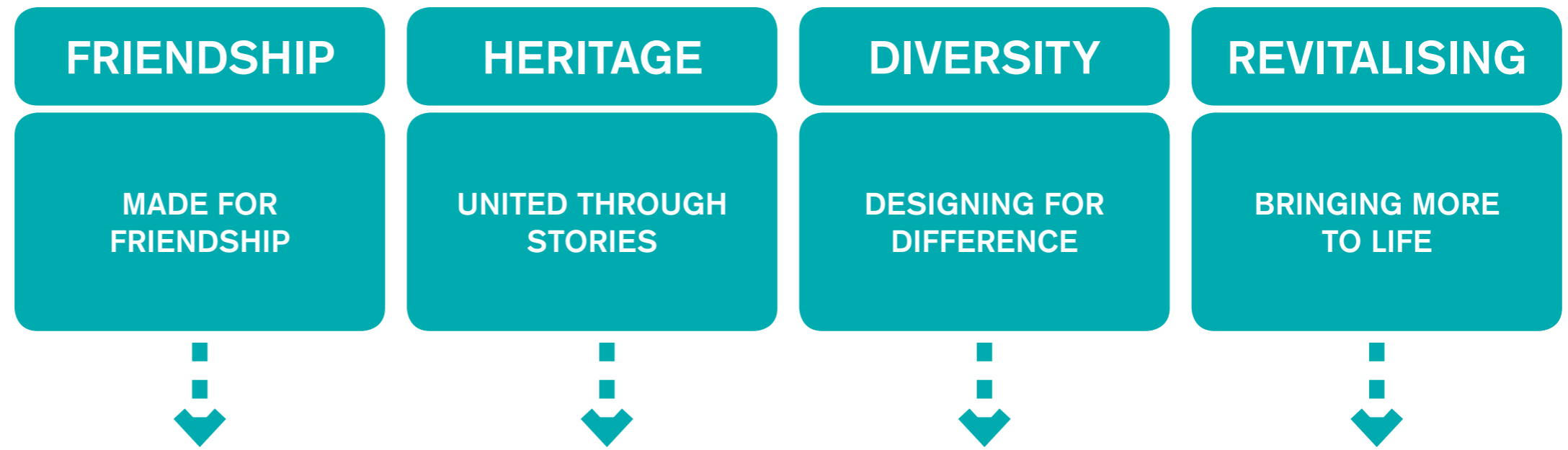


**CONNECTING INTO THE LOCAL NETWORK**

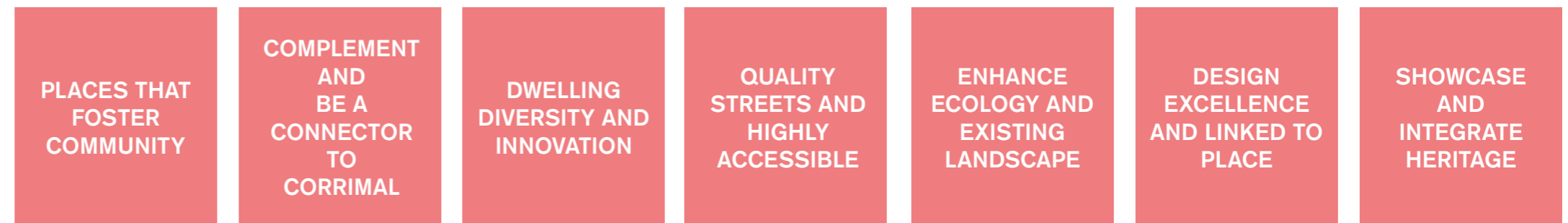
### DESIGN PRINCIPLES

The Key Drivers and the Place Values and Principles meet together and inform the Master Plan through a series of Design Principles. These Design Principles have guided the specific aspects of the proposed urban design and built form approach. The Design Principles will also continue to influence the further refinement and detailing of the Master Plan, as it progresses through to various design development stages and eventually to construction.

### GUIDING VALUES AND PLACE PRINCIPLES



### DESIGN PRINCIPLES





# Master Plan Development

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CORRIMAL COKE WORKS WOLLONGONG

## CIRCULATION AND OPEN SPACE NETWORK OPTIONS

During the refinement of the 2017 Concept Plan the design team tested a number of high level concepts that explored alternative approaches to circulation and open space location.

Four of these options are presented on the following pages with a brief summary of the advantages and disadvantage of each option. The options developed were:

- Option 1: Loop road with linear park
- Option 2: Station Hub road with central park
- Option 3: Central road with central park
- Option 4: Creek Edge road with south park

The final Master Plan combines elements from each of the options and has been developed to incorporate the findings of the additional technical studies on the Site.

### Legend

-  The Precinct
-  Main road
-  Access point
-  Creek parklands
-  Central local park
-  Development area
-  Corrimal train station
-  Plaza



### OPTION 01

#### Advantages

- Direct access to Corrimal Station
- All streets accessed by main road
- Positive arrival interface with creek
- Green north south link

#### Disadvantages

- Poor interface with rail corridor
- Low flexibility of linear park



### OPTION 02

#### Advantages

- Direct access to Corrimal Station
- Central park is highly accessible

#### Disadvantages

- Qualities of the creek are not maximised



### OPTION 03

#### Advantages

- All streets accessed by main road

#### Disadvantages

- No direct access to Corrimal Station
- Poor interface with rail corridor



### OPTION 04

#### Advantages

- All streets accessed by main road

#### Disadvantages

- No direct access to Corrimal Station
- Low accessibility of south park



## STAKEHOLDER AND COMMUNITY ENGAGEMENT

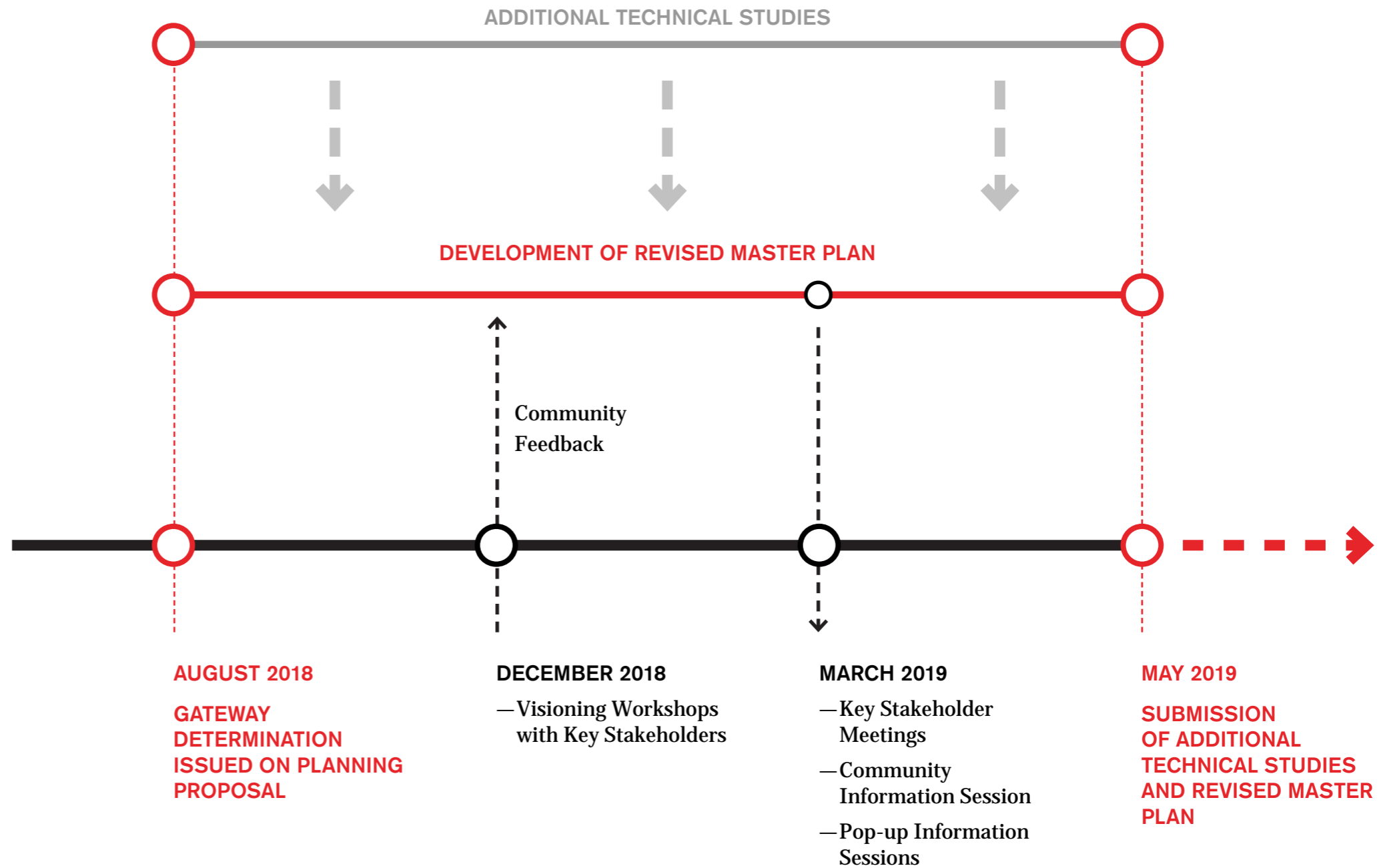
Since the Gateway approval of the 2017 Planning Proposal submission, the Illawarra Coke Company and Legacy Property have undertaken a number of stakeholder and community consultation events.

These events included Visioning Workshops, Key Stakeholder meetings, Community Information Sessions and Pop-up Information sessions. These events were facilitated by Elton Consulting, with the Vision Workshops conducted by Frost. The key stakeholder groups included members from:

- Wollongong City Council
- Corrimal Community Action Group (CCAG)
- Corrimal Region Action Group (CRAG)
- Corrimal Chamber of Commerce.

The following pages outline the time line of these events, and some of the feedback that was received.

A full summary of the outcomes from these events are detailed in the Community Consultation Outcomes Report prepared by Elton Consulting.



## DECEMBER 2018 - VISIONING WORKSHOPS

Three visioning workshops were held in December, with one being a focus group held with Wollongong City Council Staff, and two community workshops with representatives from key stakeholder groups. Out of each workshop was a primary 'vision' of the group, and a series of 'must haves' and 'must nots' relating to the public domain, built form and experience of the Master Plan.

Each workshop had slightly differing visions and concerns including:

- Connecting the Site to the wider Corrimal Community
- Preservation of and connection to the Site's industrial history and ecology
- The development should include functional private and communal spaces in addition to the public spaces
- Integrated, inclusive and vibrant spaces which in still a sense of community and provide a place to interact and gather
- Creative, high quality built form design
- Mix of active uses



## MARCH 2019 - STAKEHOLDER MEETINGS AND COMMUNITY INFORMATION SESSIONS

The number of sessions were conducted in March 2019 to present the project's progress, recent amendments to the Master Plan, project time frames and key issues on the Site.

The Key Stakeholder meetings provided feedback on how the contributions to the Visioning Workshops had been incorporated into the revised Master Plan and how identified issues and concerns had been explored by detailed technical studies.

A Community Information Session was an invited meeting for residents in the surrounding area of the site, the networks of key stakeholders and those who had registered interest online.

Pop-up informations consulted with a broad cross-section of the community and provided the opportunity to voice views on the proposed redevelopment. They were located in public spaces (Corrimal's main street, the local shopping centre, Bunnings, Robert Ziems Oval and Towradgi Beach) at busy times.

Across all the sessions a survey was undertaken. The results of the survey showed:

- 68% of respondents were generally supportive of the Corrimal Coke Works redevelopment into a residential community
- 59% of respondents believed the proposed redevelopment will have a positive impact on Corrimal
- Key elements which respondents wanted to see incorporated were walking and cycle paths and retention of existing ecological areas and heritage items



## CONSERVATION MANAGEMENT STRATEGY

Showcasing, better integrating and responding to the Site's history and former use as a coke works has been a key driver in the development of the revised Master Plan.

The proposed extent of heritage and interpretation has significantly increased from the original proposal and now provides a robust outcome for understanding and celebrating the history of the Site. This includes an expansion of the Civic Plaza adjacent to Corrimal Station (and will encompass many heritage items) and reinforcing the Brick Stack as a landmark element within the Master Plan with defined view corridors to it from within and around the Site.

In line with this and as one of the additional studies requested by council, a Conservation Management Strategy (CMS) has been prepared by Urbis to detail the future management of heritage on the Site. The CMS contains a comprehensive history for the site, an assessment of the heritage significance including a significance grading for the various elements on site, as summarised by the adjacent diagram. The CMS also provides a description of the condition of these elements, many of which are poor condition, and some are an immediate safety concern.

The CMS for the site has recommended a (approximate) reduced heritage curtilage for the site, as shown in the drawing on the right hand side of this page. This encompasses what is considered as the key elements which provide the industrial heart of the Corrimal Coke Works





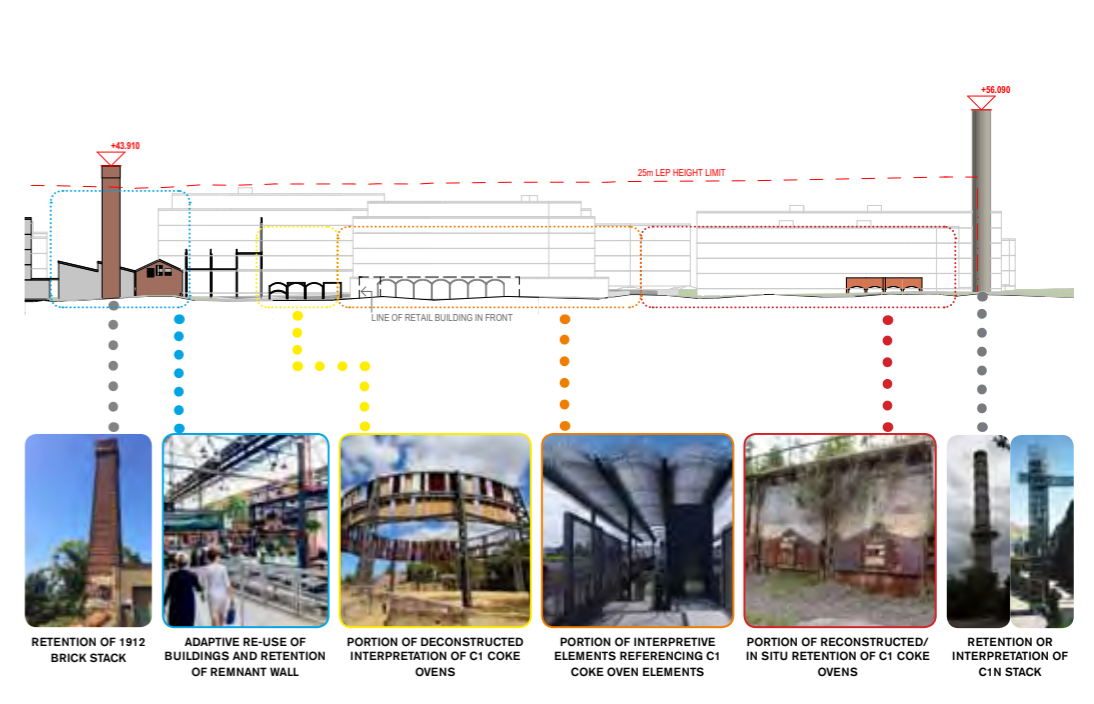
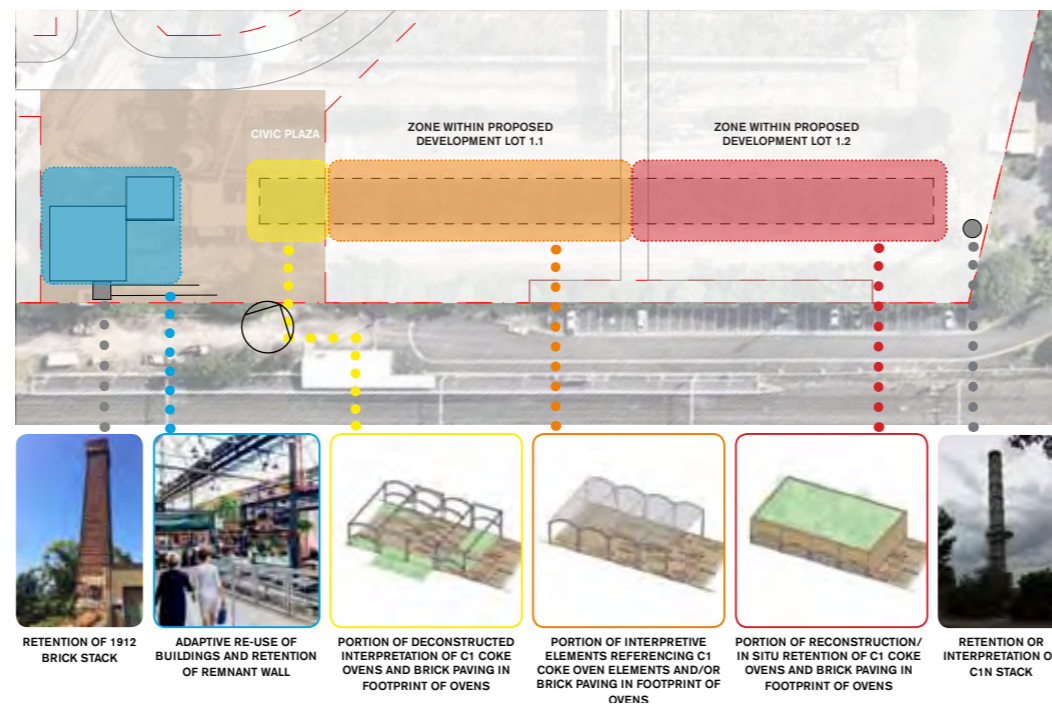
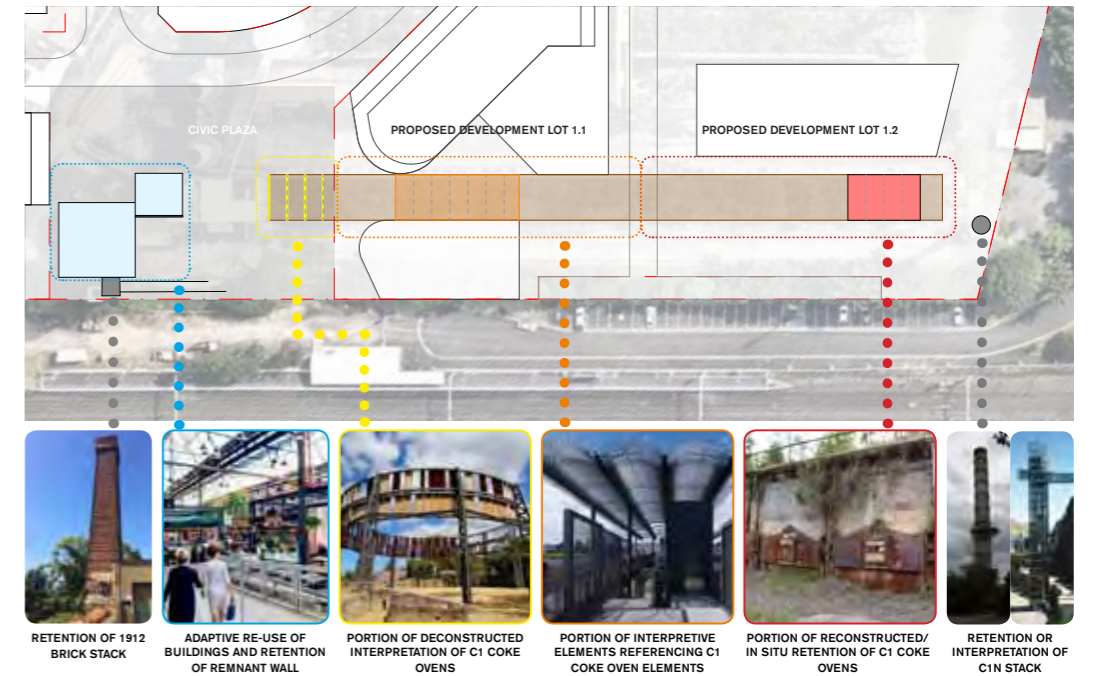
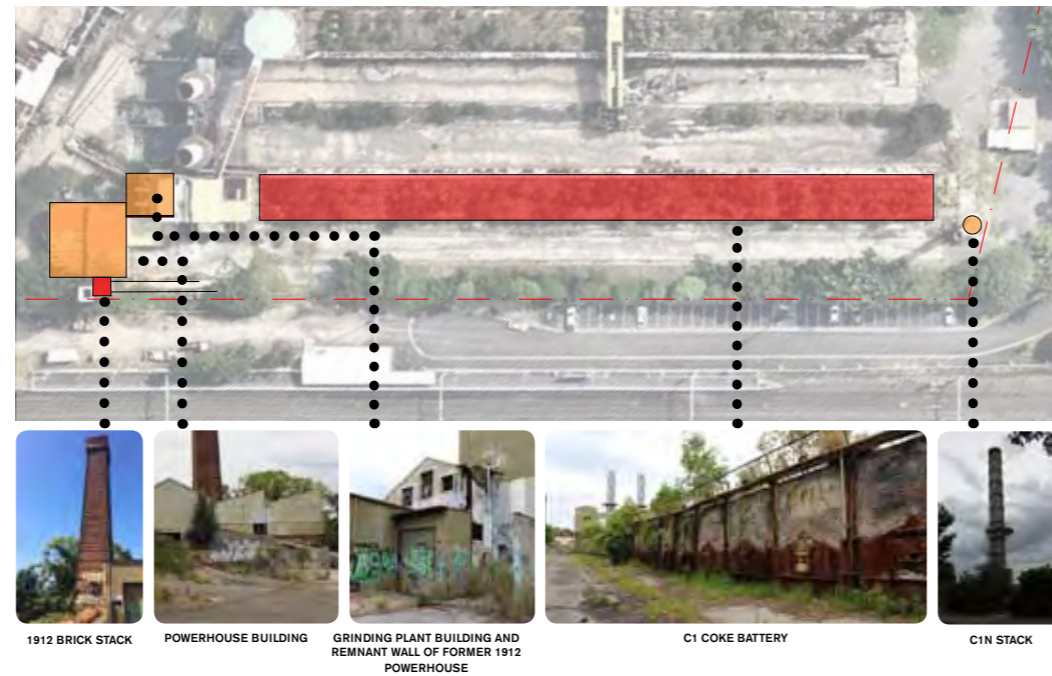
## HERITAGE INTERPRETATION STRATEGY

A Heritage Interpretation Strategy (HIS) has been produced by Urbis in parallel to the Conservation Management Strategy for the Site. Included in the document is the Proposed Statement of Significance, which states that the Site, as the former Corrimal Coke Works, is “historically significant as a contributor to the development of the coke and steel manufacturing industry, in particular, in the Illawarra Region”. The former Corrimal Coke Works site generally demonstrates an industrial aesthetic, with a number of elements identified as being of aesthetic heritage significance including:

- 1912 Brick Chimney
- C1 Coke Battery

The HIS contains a detailed description of the proposed built form interpretation, which will include a variety of interpretive devices for the identified high significance items and some moderate significance items.

The proposed built form interpretation strategy for the differing items is outlined in the adjacent diagrams.





# Proposed Masterplan

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CORRIMAL COKE WORKS WOLLONGONG

## VISION

The Corrimal Coke Works site vision is to integrate diverse housing and deliver a public plaza adjoining Corrimal train station to promote public-transit usage for residents and the broader community. The key principles incorporated into the indicative concept plan include:

- Realignment of the riparian corridor to deliver 11.1 ha of PMF-free contiguous developable land that maximises avoidance of significant ecological resources where practical.
- Delivering local open space resources and facilities along the realigned riparian corridor, connected with the coast and community and recreational resources.
- Maximising access to Corrimal train station and delivery of a public plaza adjacent to the station with interpretive heritage elements.
- Enabling neighbourhood and commuter services at the plaza such as child care, neighbourhood shops and services. However, ensuring limitations that prevent any undermining of the Corrimal town centre.
- Delivering apartment development at the north of the site where the greatest access to the train station is, with some further apartment development at the south of the site overlooking natural resources.
- Delivering a diversity of housing, particularly affordable under-represented housing typologies such as attached and semi-detached dwellings and low-scale residential flat buildings capitalising on connectivity.
- Providing a suitable buffer distance from the

rail and state road corridors adjacent to the site for noise attenuation.

- Outlining a potential green link to East Corrimal Beach to the east, Robert Ziems Park and community facilities to the west, and through to the north of the subject site.

## THE ILLUSTRATIVE MASTER PLAN

The Illustrative Master Plan for the Site is derived from the Structure Plan presented later in the section. It provides a vision for the public domain, built form and key land use elements within the Site.

The Master Plan is based on a principle of delivering distinct stages of development with the flexibility to change over time to meet the needs of the community.

## KEY FEATURES

Some of the key features of the Structure Plan are highlighted in the adjacent plan.

- |   |                                  |
|---|----------------------------------|
| 1 | Railway Street Landscape Gateway |
| 2 | Ecological Stringybark Forest    |
| 3 | Creek Parklands                  |
| 4 | Civic Plaza                      |
| 5 | Corrimal Station                 |
| 6 | Central Park                     |
| 7 | Blue-Gum Blackbutt Forest        |
| 8 | Beach link connection            |



PROPOSED MASTERPLAN  
RAILWAY STREET GATEWAY AND ENTRY BOULEVARDE PERSPECTIVE



## REVISED STRUCTURE PLAN

The Structure Plan illustrates the planning and design framework for development on the Site.

The Structure Plan is intended as a guide to demonstrate how the vision, urban design objectives and key outcomes for the Site may be achieved.












It is recognised that over time there may be minor deviations from the Structure Plan where the vision, principles and key outcomes are still achieved.

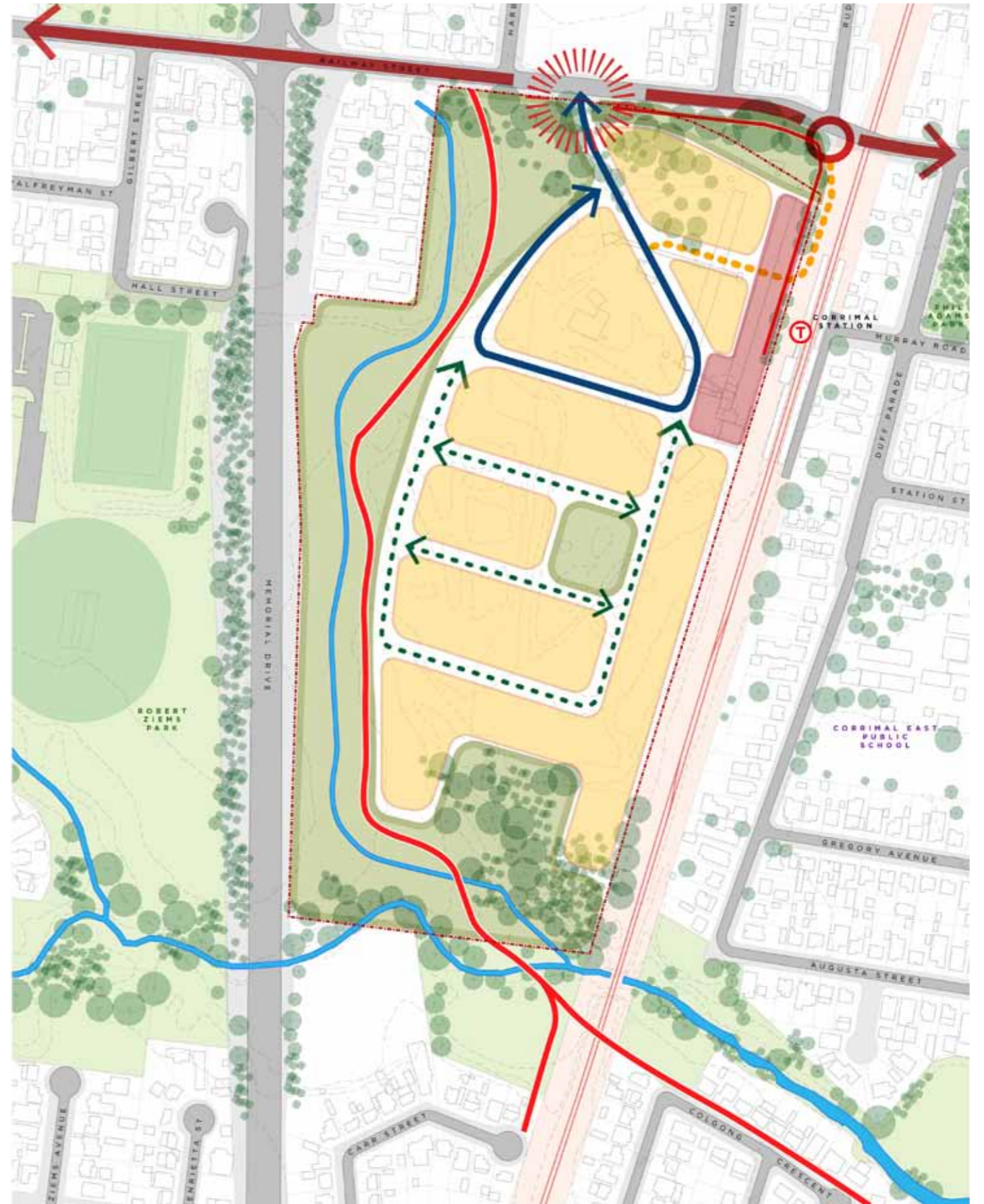
The over arching objectives of the Structure Plan are to:

- Support Corrimal as a key suburb for Wollongong as a regional city by providing a mix of housing, retail, services and open space.
- Ensure that development occurs in a coordinated manner consistent with the vision and development principles for the Site.
- Locate residential uses close to Corrimal Town Centre to optimise access to facilities and amenity.
- Provide a high quality public open space accommodating a realigned North Corrimal Creek and riparian corridor that connects to the broader public open space network.
- Develop a community hub adjacent to Corrimal Station to support the incoming population, focused around a Civic plaza with a mix retail of retail and services.
- Contribute to local active transport links consisting of connected and dedicated footpaths, shared paths and access to public transport stations and stops.

- Ensure key local infrastructure upgrades, such as the future grade separation crossing on Railway Street, can be accommodated adjacent to the Site.
- Provide high quality public domain and a range of streets.
- Provide for a range of flexible innovative housing.

### Legend

-  The Site
-  Main Gateway
-  Secondary Gateway
-  Railway Street
-  Development Area
-  Heritage Conservation and Interpretation
-  Open Space
-  Cycle Link
-  Bus Loop
-  Proposed Road Network
-  Secondary Access





# Structure Plan Design Components

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CORRIMAL COKE WORKS WOLLONGONG

## RIPARIAN CORRIDOR AND WATER SYSTEM

The realignment of North Corrimal Creek to the west is a key driver for planning and design on the Site. This change to the landform has a number of benefits including:

- The creation of a diverse 6.7 hectare public open space
- Addressing flooding.
- Providing space for stormwater treatment.
- Linking ecological communities.
- Providing a physical connection to adjacent public open space to the south.

## WATER SENSITIVE URBAN DESIGN

The stormwater management concept is based around the creation of a Water Sensitive Urban Design (WSUD) 'treatment train' that progressively treats the water within North Corrimal Creek as well as stormwater run-off from the Site.

The stormwater strategy will be designed as a visible and seasonally changing element within the Site, engaging users and adding to the amenity and appreciation of the wider natural systems.

The WSUD outcomes will be in line with the WCC requirements.

## FLOOD MITIGATION

The proposed realignment of North Corrimal Creek to run along the western site boundary consolidates the area impacted by a PMF event. The realignment maintains the two important vegetation communities as much as possible and negates the need for secondary site access points.



## LANDSCAPE NETWORK AND PUBLIC OPEN SPACE APPROACH

The public open space approach identified in the Structure Plan provides a diverse range of new accessible public open space. It incorporates active and passive recreation, overland flow and water sensitive urban design measures, pedestrian and bicycle connections and social infrastructure.

The Structure Plan proposes a number of open space typologies including:

- Creek Parklands (5.4 hectares).
- Central Community Park (0.3 hectares).
- Civic Plaza (0.3 hectares).
- Ecological Area North (0.7 hectares).
- Ecological Area South (0.6 hectares).

The approach to open space ensures a high quality public domain with a diverse series of recreational, passive and active experiences for the community to enjoy.

The Public Domain Foundations section of the Report illustrates the intended character, materials, elements and programming for the public open space of the Precinct.



## CHARACTER AREAS

The Structure Plan has a number of distinct character areas that respond to its particular location.

### —Civic Hub

Located adjacent to Corrimal Station, this area provides a mix of uses and frames the Civic Plaza in high quality built form with a character that references the former industrial uses on the Site.

### —Treetop Escarpment

This area forms an important interface with Railway Street and the wider urban area. It references the mature trees on the Site and the dynamic form of the Escarpment to the west.

### —Green Edge

Running the perimeter of the riparian corridor, this area will have high quality built form that fronts open spaces, and delineating of the public and private domain. Landscape setbacks would reflect and contribute to the green landscape character and the built form would be designed to address the green outlook.

### —Village Park

This area is focused around the central public park and contribute to an urban village feel. Development will address the local park and provide a clear urban edge that also ensures privacy.



## INDUSTRIAL CHARACTER REMNANTS

The Structure Plan retains, enhances and interprets a number of structures associated with the former use of the site as a coke works.

The majority of these elements are located in the Civic Plaza.

### 1912 BRICK CHIMNEY STACK

Graded as having high significance, and the Master Plan will retain and conserve the structure.

### COKE OVEN BATTERY

Graded as having high significance, but due to its poor condition, varying interpretation devices will be implemented:

- Retained or in situ reconstruction of portion of coke ovens
- Interpretation of coke ovens using steel structures
- Interpretation and demonstration of battery's spatial length with paving and view corridor

### POWERHOUSE, GRINDING PLANT AND REMNANT 1912 WALL

The remnant wall of the former 1912 powerhouse building has high significance, with the adjacent power house and grinding plant buildings of moderate significance.

The remnant wall will be retained and conserved with the adaptive re-use of the grinding plant and powerhouse buildings.





### INDICATIVE SUPERLOTS AND LAND USE

The Structure Plan provides for an indicative superlot layout to achieve the vision for the Site. The pattern of superlots and land use provide an indication of a possible future outcome.

Key features of the indicative superlot and land use pattern include:

- Non-residential uses focused around the Village Plaza adjacent to Corrimal station.
- Apartments and taller buildings in the north of the Site.
- Compact terraces and innovative housing forms in the centre of the Site.

The final configuration and location of land use may be subject to change to ensure that the needs of the future community develop.



**LAND USE**  
**Legend**  
▬ The Site  
▬ Residential  
▬ Mixed Use  
▬ 150m Radius

### EDGE CONDITIONS AND APPROACH

There are four approaches to the treatment on the Site edges:

1. Provide a green interface as a visual barrier - on the west and east.
2. Forming a landscaped urban interface on Railway Street.
3. Forming an extension to the local open space network in the south.
4. Linking to Corrimal Station.



### ACCESS LOOP STREET NETWORK

The future street network defined by the Structure Plan is simple and legible providing high levels of accessibility for all superlots.

The main access loop will provide a generous road reserve and meet all access and servicing requirements.

It has been designed to link the main public domain elements of the Structure Plan, the Civic Plaza, North Corrimal Creek Parklands and the Central Local Park.

The design of the streetscape, verge widths, car parking location and vegetation changes according to the specific interface. The built form setbacks also change with location providing for a diverse and responsive key organising element.



### ACTIVE TRANSPORT NETWORK

Ease of pedestrian movement and accessibility are key drivers for the proposed layout of the Structure Plan..

The Structure Plan includes a network of interconnected pedestrian and cycle paths providing links to destinations within and outside the Site.

Key features of the pedestrian and cycle network include:

- Active and passive trails along the realigned North Corrimal Creek.
- A key segment of the Corrimal Beach to each to Towradgi Creek link.
- A shared path along Railway Street frontage to Corrimal Station.
- Cycle parking in the Civic Plaza.



### INTEGRATED PUBLIC TRANSPORT

The Site is located adjacent to Corrimal station, that provides services to Wollongong and Sydney. A range of local bus serves run along Railway Street and the Structure Plan provides the opportunity to enhance local access to Public Transport and provide a direct interchange between local bus and the railway within the Site.

The benefits of the proposed public transport network include:

- Direct and clear access to Corrimal station within the Site.
- Opportunities for transport interchange at the Civic Plaza.
- A bus loop within the north of the Site.
- A 'kiss and ride' bay within the Site close to Corrimal Station.
- The opportunity to re-configure the car parking adjacent to Corrimal Station providing more spaces within a well designed landscape and public domain setting.



### ENTRY EXPERIENCE

The main access into the Site is from Railway Street in the north via the Entry Boulevard. The alignment of the Entry Boulevard has been set to form a visual axis to the iconic 1912 Brick Chimney Stack which anchors the south side of the Village Plaza. Passing through the retained vegetation in the north of the Site, with glimpses south to North Creek Parklands, the Site entry sequence commences as a green portal, transitioning to a urban street, that terminates in the Civic Plaza with retained industrial structures, framed by an active retail edge and a direct link to Corrimal station..



A circular frame containing a grayscale aerial photograph of an industrial facility, likely a coke works, with various structures, roads, and vegetation visible.

# Access and Movement

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CORRIMAL COKE WORKS WOLLONGONG

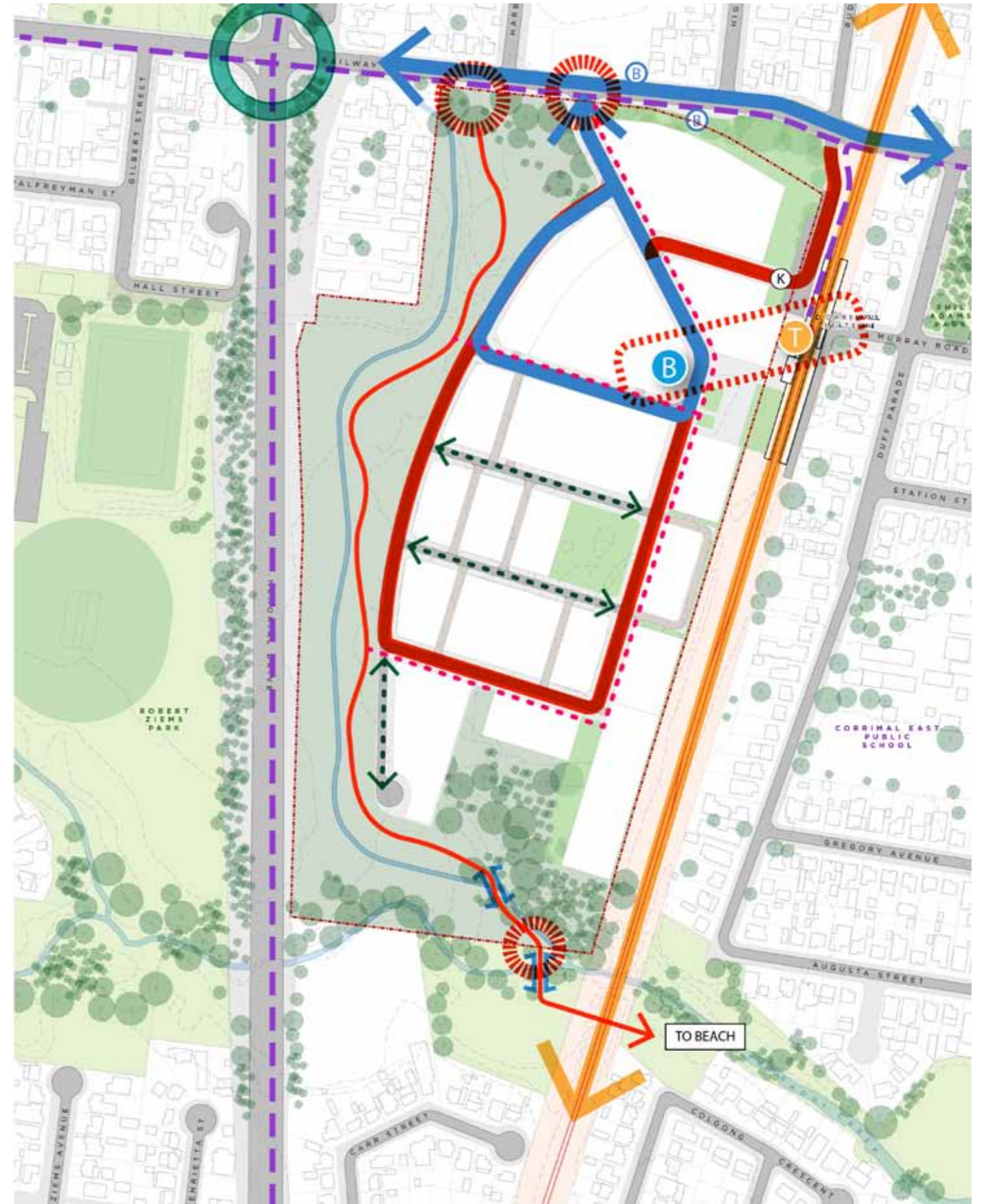
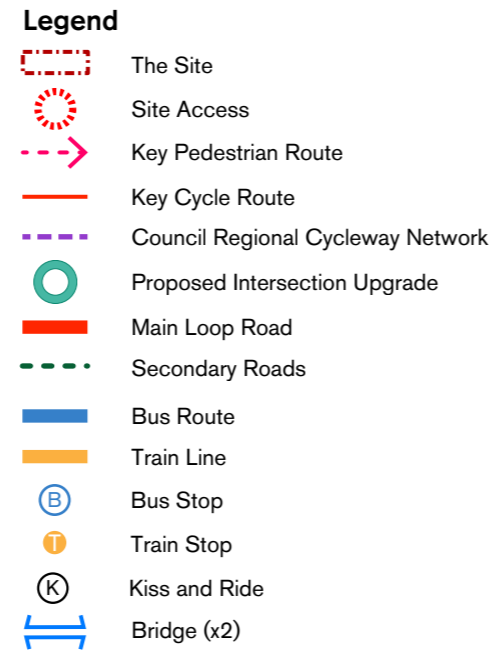
## INTEGRATED TRANSPORT NETWORK

The adjacent diagram highlights the interface between the various modes of transport that serve the Site.

The Structure Plan has been developed to balance the needs of pedestrians, cyclists, buses, service vehicle and private cars.

This approach will ensure:

- A high quality and safe pedestrian environment.
- That the Site is well integrated with the local street and pedestrian network.
- That walking and cycling should be the principle mode of travel for local trips.
- That public transport is accessible and integrated.
- That service and emergency vehicles are accommodated on all necessary streets and roadways.











## PARKING STRATEGY

Consideration of vehicle access has informed the Structure Plan, with a parking and servicing strategy developed to:

- Allow for adequate levels of parking reflective of the Site location and access to railway and road infrastructure.
- Minimise direct access to basement parking and service areas from main streets and pedestrian routes.
- Control the location of on-street parking.
- Allow for a kiss and ride area close to Corrimal Station.
- Reduce vehicular conflicts at key intersections and Site access points.
- Provide for flexibility in the types of small lot housing that are developed on the Site.

The preferred parking and servicing strategy is illustrated on the adjacent diagram

### Legend

-  The Site
-  No On-Street Parking
-  Station Parking
-  Controlled Parking on Open Space Edge
-  Vehicular Access Points to Parking
-  Bus Stop
-  Kiss and Ride Zone
-  Train Station



## STREET TYPOLOGIES AND HIERARCHY

The street typologies approach identified in the Structure Plan reflect a refinement of street typologies unidentified in the WCC DCP.

The approach addresses current requirements of for footpath widths, carriageway widths, public open space interfaces, overland flow and water sensitive urban design measures, pedestrian and bicycle connections and transport infrastructure generally, combined with the vision that has been developed for the Site.

The Structure Plan provides for a number of street typologies that have been developed to ensure a high quality public domain.

Key objectives in the development of the street typologies include:

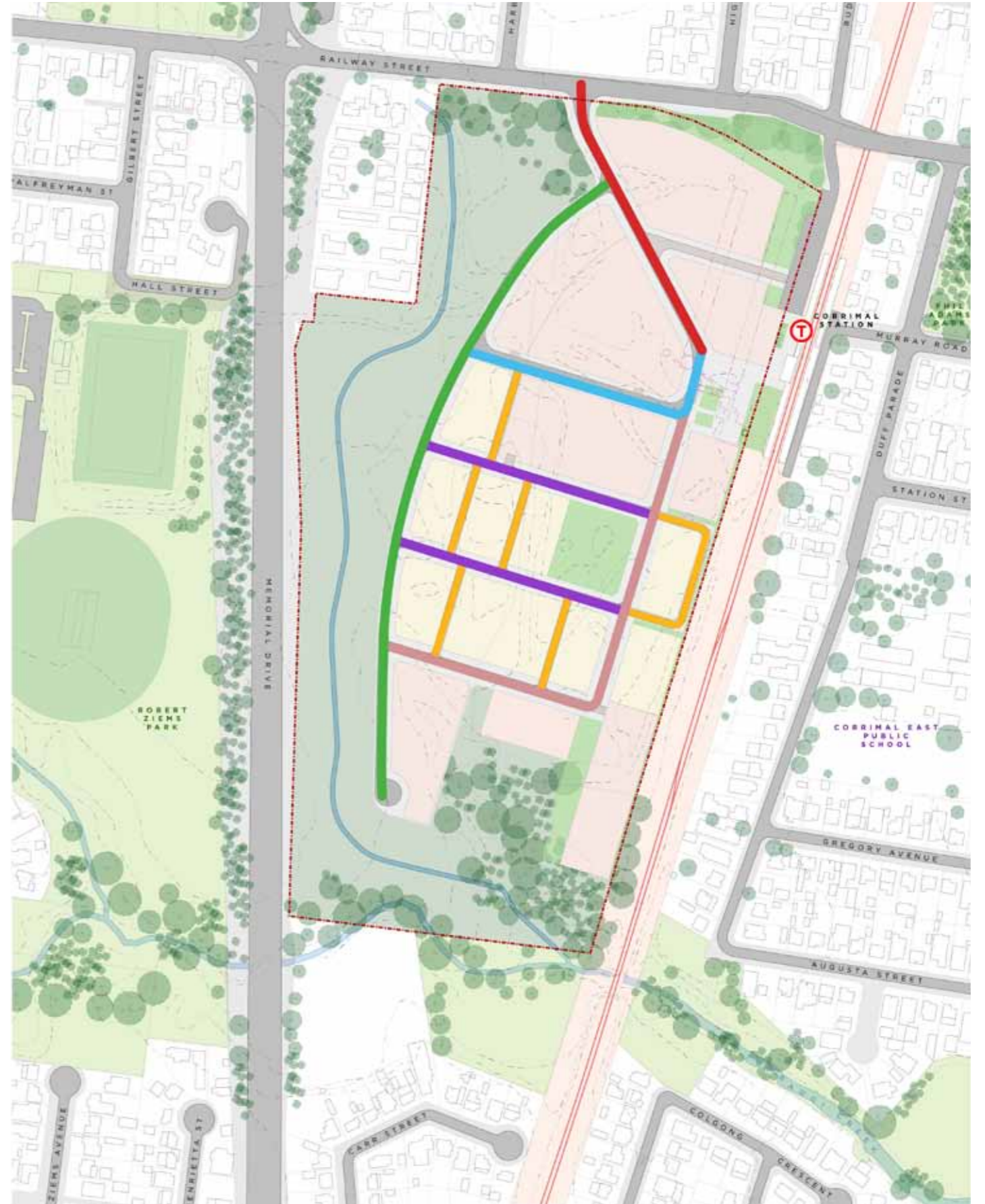
- Providing a high quality public domain.
- Integration of bus stops close to Corrimal Station.
- Providing a diverse series of experiences for the community.
- Responding to the particular conditions and features around the Site.
- Allowing for good access to the Site.
- Incorporating high quality pedestrian and active transport links into the Site.

The following section will illustrate the intended character, materials, elements and programming for the street typologies of the Site.

### Legend



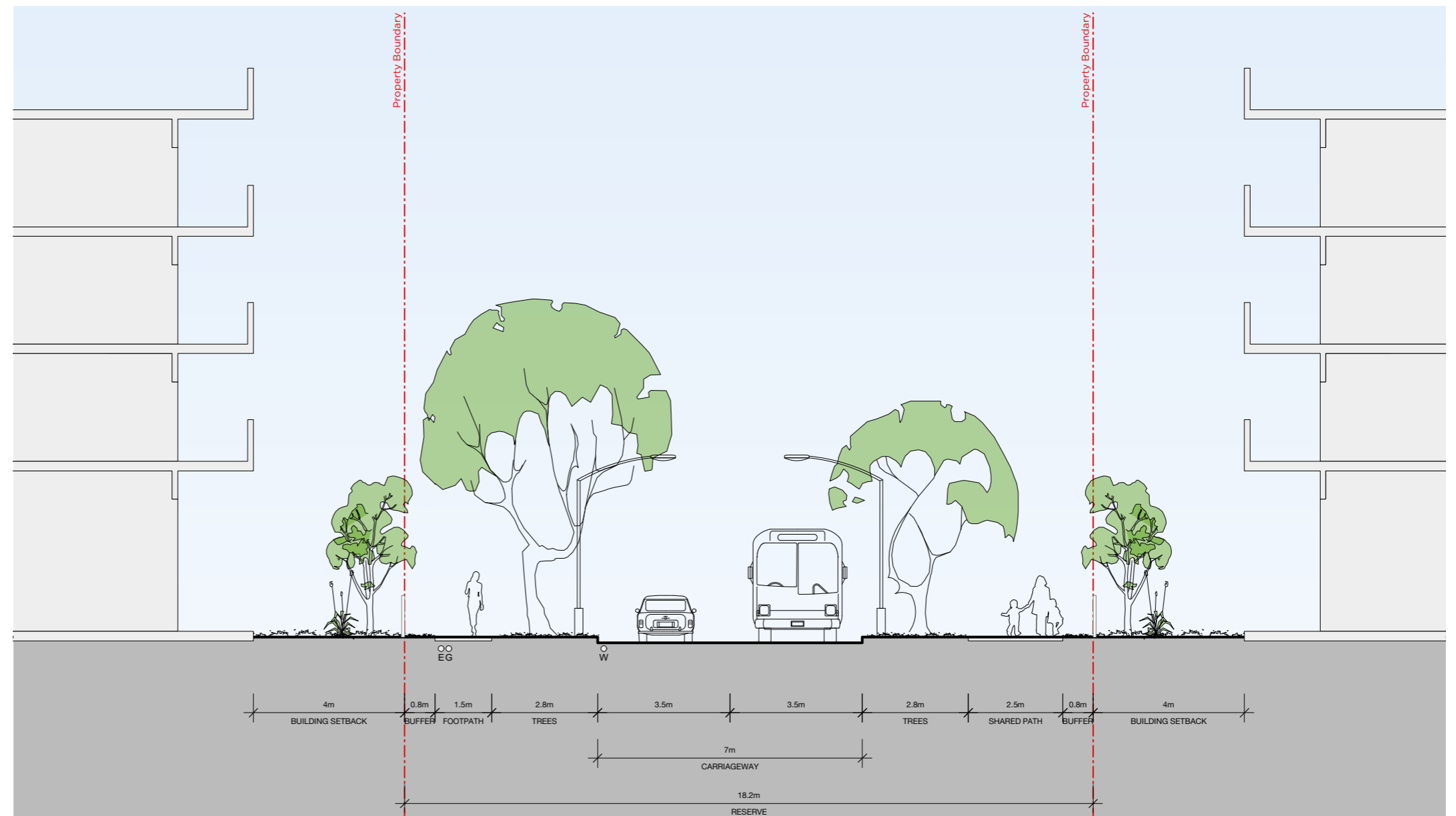
- Entry Boulevard - entrance and arrival
- Bus Loop Road - public transport access
- Main Loop Road - circulation
- Riparian Edge Road - activation of green space
- Local Street - typical street
- Laneway - private resident access



### ENTRY BOULEVARD (TYPE A)

Reinforcing the Entrance and sense of arrival to the site

RESERVE	18.2 m
CHARACTER	Grand entrance feel providing clear, direct access to the station and Civic Plaza for vehicles, pedestrians and cyclists.
LANDSCAPE	Mature trees in rows with understory planting in verge.
PARKING	No dedicated parking

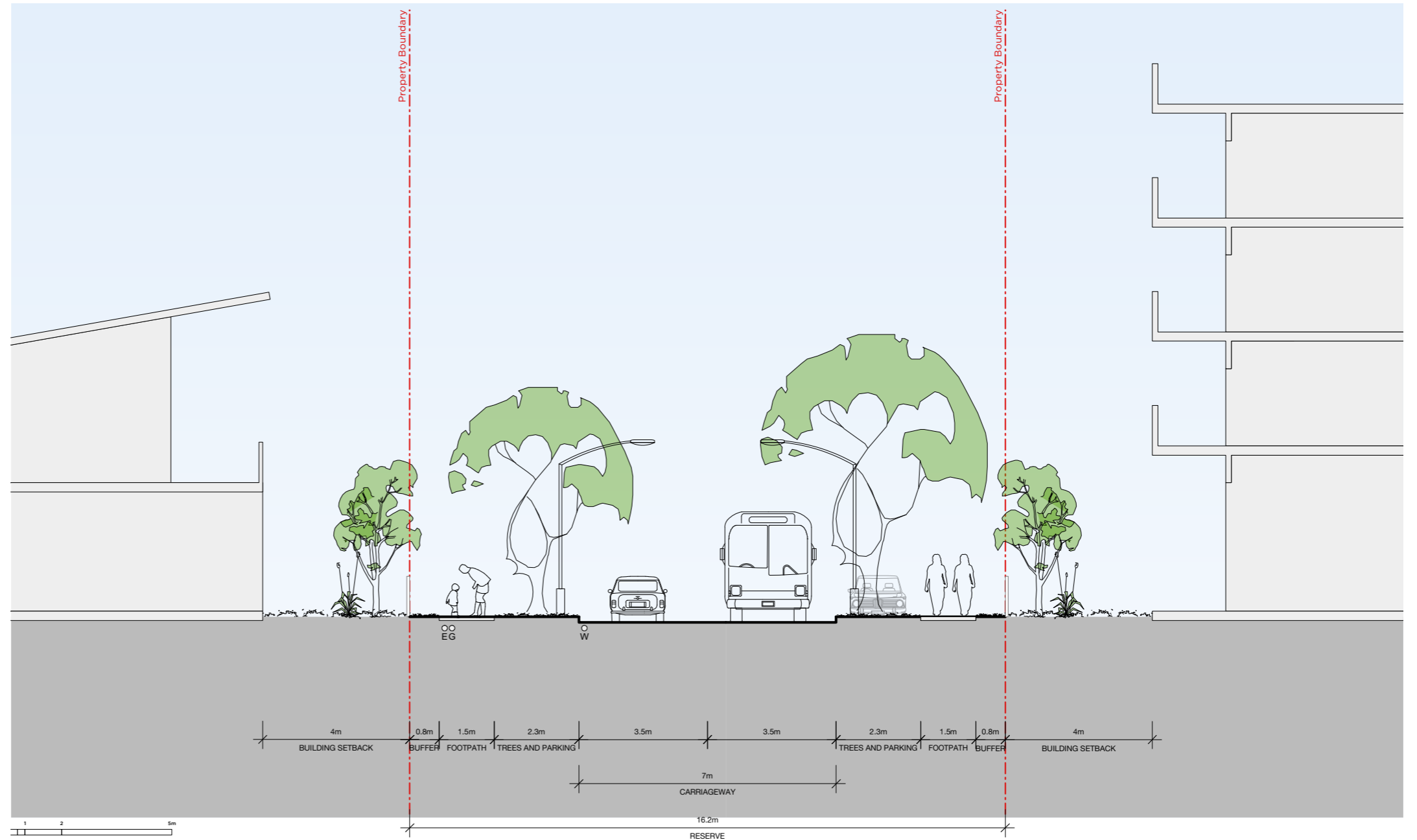




### BUS LOOP ROAD (TYPE B)

Allowing for the circulation of a public transport loop.

RESERVE	16.2 m
CHARACTER	A clearly defined route for quicker circulation in and out of the Precinct and reinforcing the link between the Civic Plaza and larger usable open space in the Riparian corridor
LANDSCAPE	Mature trees in rows with understory planting in verge.
PARKING	Dedicated parking on both sides of the carriageway



### MAIN LOOP ROAD (TYPE C)

Clearly defined main circulation loop around the precinct.

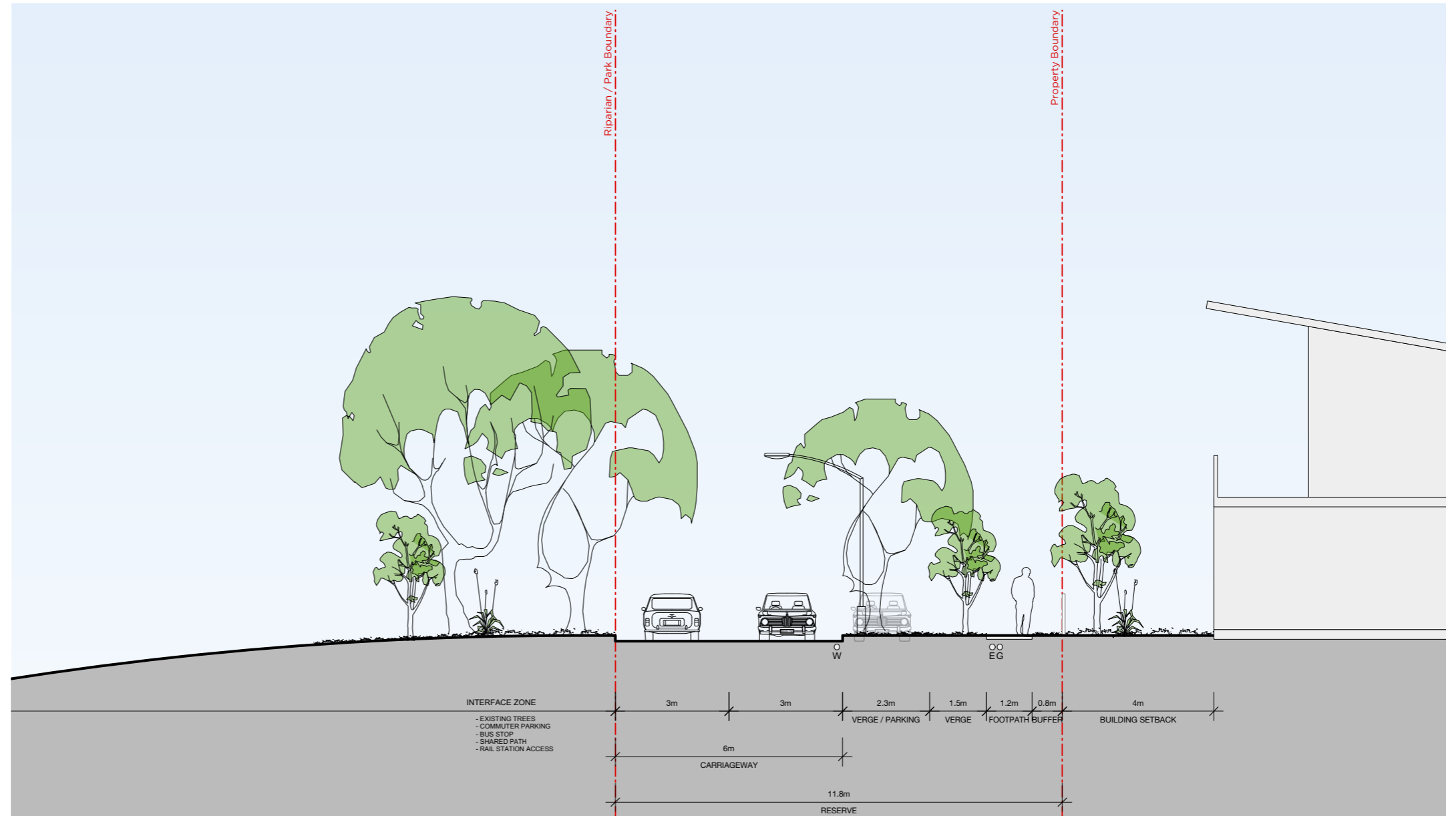
RESERVE	17.6 m
CHARACTER	Providing a clearly defined main circulation around the site for visitors and locals and flexible to accommodate differing ground level interfaces
LANDSCAPE	Mature trees in rows with understory planting in verge.
PARKING	Dedicated parking lanes on both sides of carriageway.



### RIPARIAN EDGE ROAD (TYPE D)

Addressing and activating the edge of the Riparian Corridor and adjoining public open space.

RESERVE	11.8 m
CHARACTER	Provides interface to public open spaces.
LANDSCAPE	Mature trees in rows with understory planting in verge.
PARKING	Single side of dedicated parking on the opposite side to creek edge.



### RIPARIAN EDGE ROAD (TYPE E)

Adaption of the main Riparian Edge Road at the Northern end to accommodate bus circulation loop and relating carriageway needs.

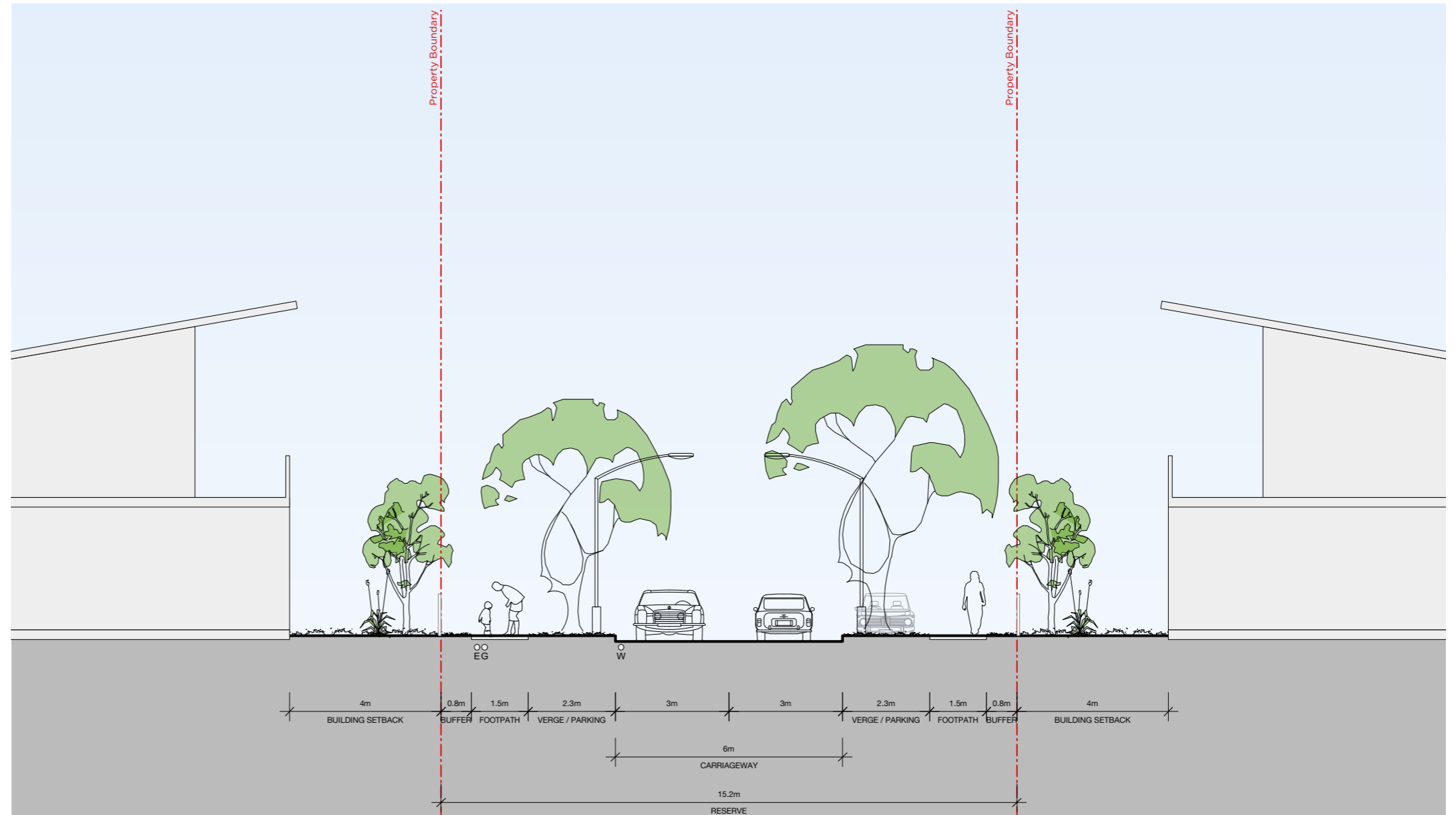
RESERVE	12.8 m
CHARACTER	Provides interface to public open spaces and bus circulation route along it
LANDSCAPE	Mature trees in rows with understory planting in verge.
PARKING	Dedicated parking on a single side of the carriageway opposite to the creek edge.



**LOCAL STREET (TYPE F)**

Catering for everyday use and providing pedestrian amenity.

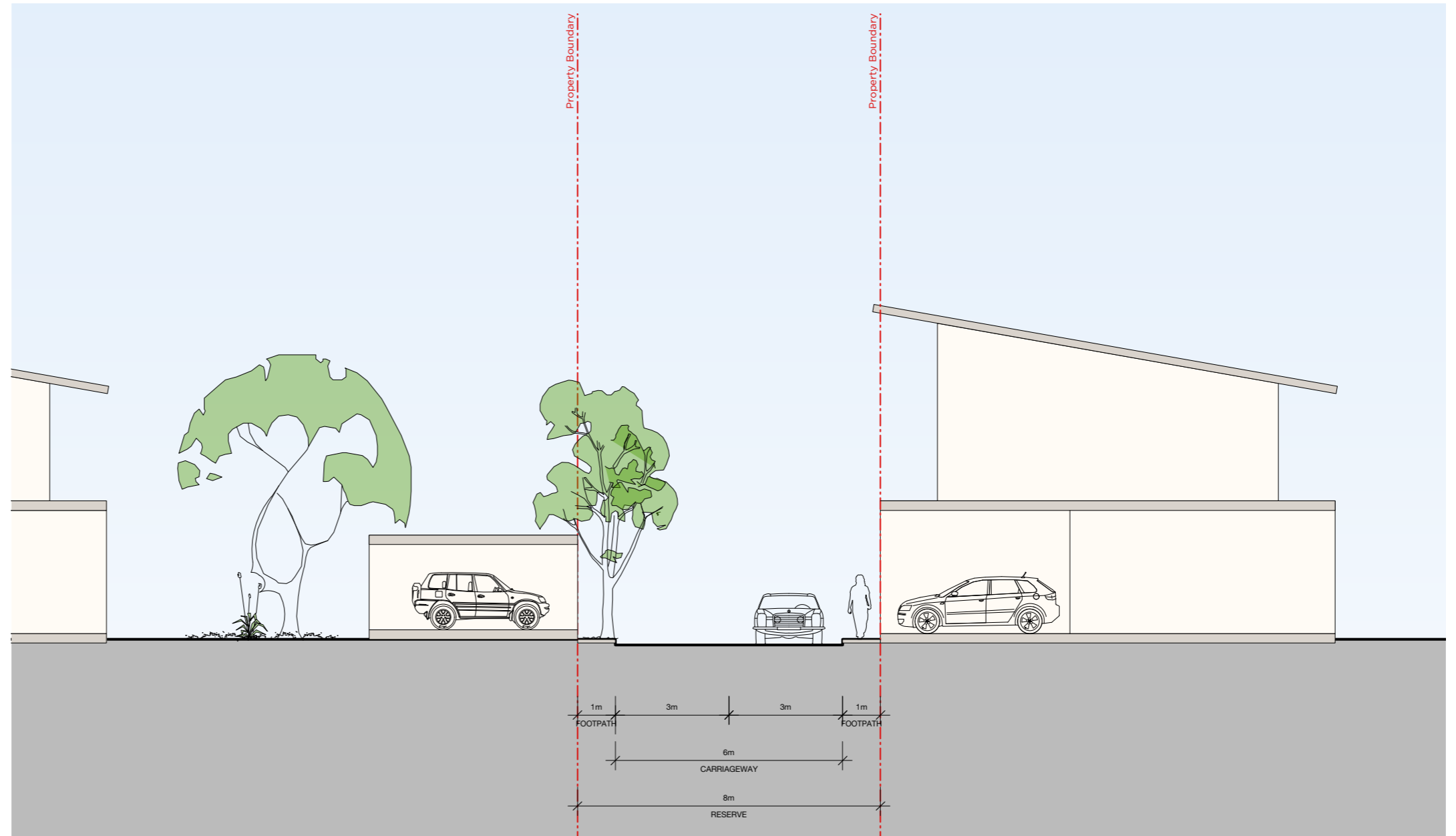
RESERVE	15.2 m
CHARACTER	Provide local connections between more major streets and public open space within the Precinct.
LANDSCAPE	Mature trees in rows with understory planting in verge.
PARKING	Dedicated parking lanes on both sides of carriageway.



**LANEWAY (TYPE G)**

Allowing for private residential access while still prioritising pedestrians.

RESERVE	8 m
CHARACTER	Highly activated mixed-use lane with pedestrian priority
LANDSCAPE	Small trees in rows with understory planting in verge
PARKING	Nil



### STREET TYPOLOGIES DESIGN METRIC AND FUNCTIONAL CRITERIA

The street typologies have been developed in accordance with the Wollongong City Council DCP and AusRoad Standards.

The streets have been developed to provide:

- A high quality pedestrian environment.
- Opportunities for active transport connectivity.
- Zones for generous street tree and verge planting to mitigate the urban heat island effect.
- Opportunities for WSUD, and sustainable management of stormwater flows.
- To allow for buses, service vehicles and emergency vehicles.
- To provide improved access to Corrimal Station.
- To provide on-street parking in suitable locations.
- To allow for the safe and efficient movement of vehicles around the Site.

The adjacent table sets out the key dimensions of the new road typologies within the Site.

Type	Road	Total Reserve	Verge			Carriageway	Verge		
			Buffer	Footpath/ shared path	Parking / Planting		Travel Lanes	Parking / Planting	Footpath/ Shared path
A	Entry Boulevard	18.2 m	0.8 m	1.5 m	2.8 m	7 m	2.8 m	2.5 m	0.8 m
B	Bus Street	16.2	0.8 m	1.5 m	2.3 m	7 m	2.3 m	1.5 m	0.8 m
C	Main Loop Road	17.6 m	0.8 m	1.2 m	2.3 m	6 m	2.3 m	3.2 m	0.8 m
D	Riparian Edge Street	11.8 m	-	-	-	6 m	3.8 m	1.2 m	0.8 m
E	Riparian Edge Street - Bus	12.8 m	-	-	-	7 m	3.8 m	1.2 m	0.8 m
F	Local Street	15.2 m	0.8 m	1.5 m	2.3 m	6 m	2.3 m	1.5 m	0.8 m
g	Lane	8.0 m	1 m	-	-	6 m	-	-	1 m

A circular frame containing a dark, high-angle aerial photograph of an industrial site, likely a coke works. The image shows various structures, roads, and vegetation. The text is overlaid on this image.

# Built Form and Architecture

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CORRIMAL COKE WORKS WOLLONGONG



The opportunity of the proposed Master Plan is that it will be delivered as a holistic, integrated community which enables full control of the built form to ensure that the key place and development principles are met.

An architectural vision for the Site has been developed in parallel with built form controls to create a place that responds to, integrates and develops the Site's existing character.

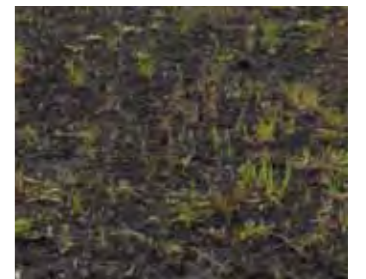
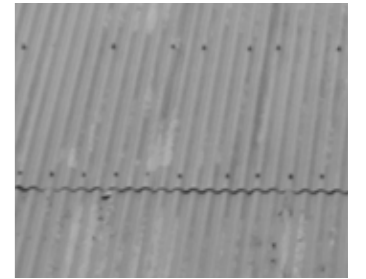
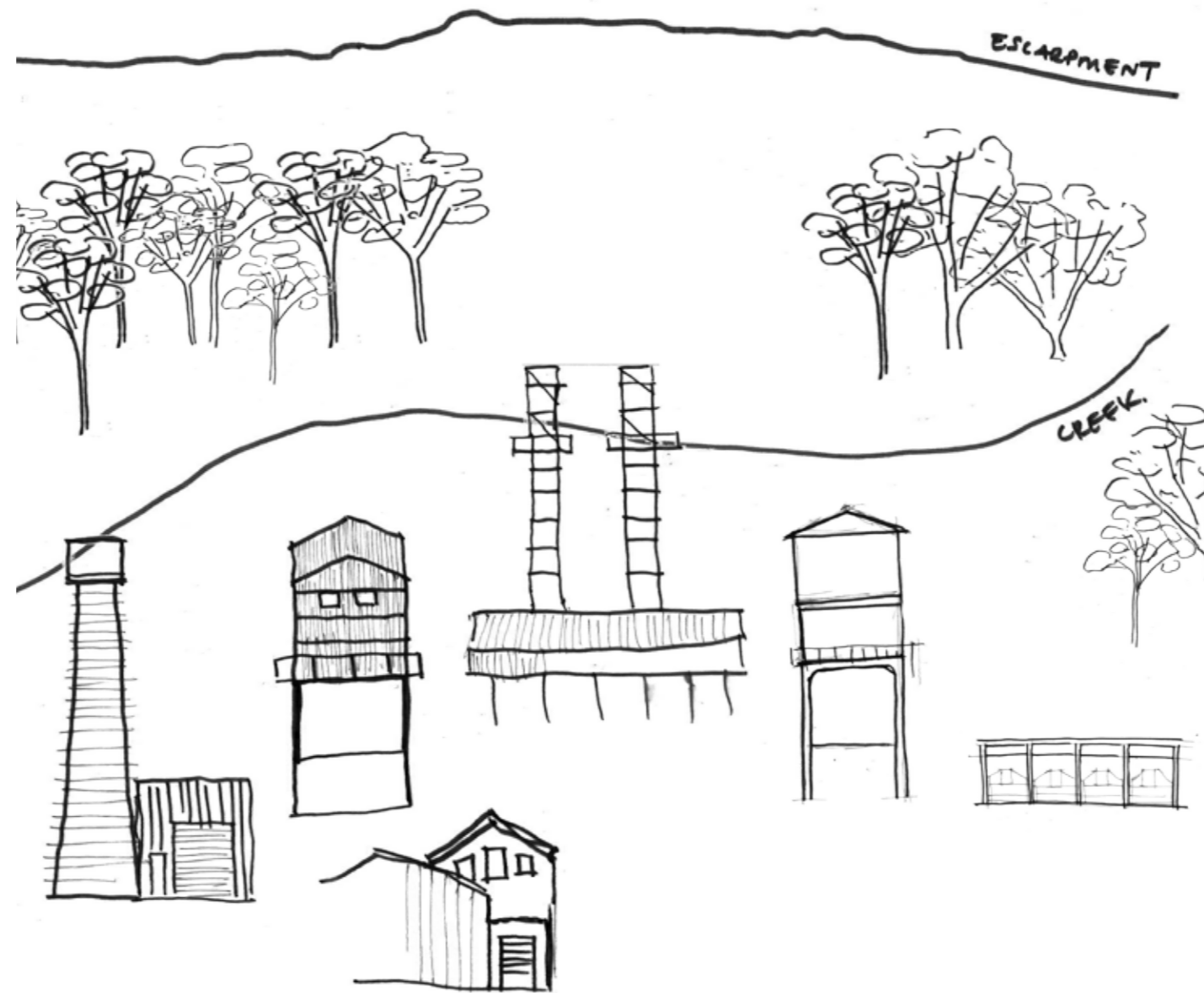
### SITE CHARACTER ELEMENTS

The existing physical character of the Site is comprised of a number of elements, both built and natural which are dispersed in different ways across the large area

These elements are clustered in different parts of the Site, creating a series of changing characters. The remnant industrial structures are contained in the north-eastern corner, which have drama vertical structures. The existing creek, dams and riparian corridor divide the site and establish a strong sense of the movement of water. The Site is frame by lush established landscape, with the Illawarra escarpment establishing a dominant skyline behind the site.

### SITE DERIVED MATERIALITY

The colours and materiality of both the natural and built environment of the site create a rich palette which the proposed architectural vision seeks to draw on. Materials and colours are proposed to be used in both a similar way but also interpreted in more modern means to ensure the Site speaks to the future and is timeless.



## DESIRED FUTURE CHARACTER

The vision of the Master Plan is for Corrimal Coke Works to become a liveable and sustainable residential precinct with a mix of housing typologies including medium density and low to mid rise apartment buildings. The site's industrial heritage will play an important role in defining the future character, with key elements such as the 1912 brick chimney, old powerhouse building and coke ovens retained or interpreted as part of the development.

A liveable and contemporary precinct will be created around Corrimal train station, with quality public realm and neighbourhood retail services. The character is marked by a main entrance road creating a view axis to the brick chimney, and filtered by the retention of wooded trees along Railway Street.

Connectivity to both the Corrimal Town Centre, local community and recreation resources will be optimised for the new neighbourhood and for the benefit of the broader community.

The creek re-alignment will provide a valuable open space resource with north-south connections, linking to the Towradgi Creek corridor. Improved streetscapes will encourage active transport to and from Corrimal Station for residents and the wider community. Green linkages through the site will have the potential to connect to the broader pedestrian and cycling network.

## CHARACTER AREAS

Development of built form in the Corrimal Coke Works will be defined by four new character areas: Civic Hub, Treetop Escarpment, Green Edge and the Village Park. Each precinct has a distinct desired character that is to be reflected in the design of built form and public domain to ensure there is no 'cookie cutter' approach with the same bland materiality, built form and public realm. All development at Corrimal Coke Works is to contribute to achieving the desired character within each precinct.

The desired character for each of the following areas are outlined in the following section of this report, and correlate with the proposed Site Specific DCP built form controls.

-  Civic Hub
-  Treetop Escarpment
-  Green Edge
-  Village Park





### CIVIC HUB AREA

**Character:**

A more urban and active environment with taller buildings and a unique built form character which relates to and is derived from the retained heritage items. This character in combination with the area tying in with the Railway station strengthens it as the focal activity hub in the site.

The built form character is contributed to by active building frontages and buildings built to boundary. It will also be characterised by buildings with strong masonry bases and fine grain metal detailing which also seeks to interpret the character of the heritage elements.

**Features:**

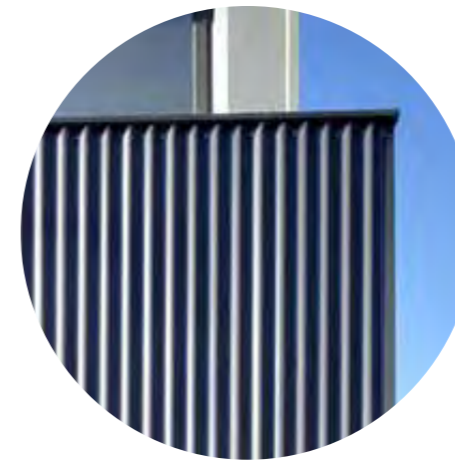
- Zero setback (G - L1) with 3m setback above
- Protected, recessed balconies
- On grade active frontages
- Awning over footpath
- Defined masonry base
- Metal cladding
- Finely detailed metal elements



Active Frontage



Metal Detailing



Metal Cladding

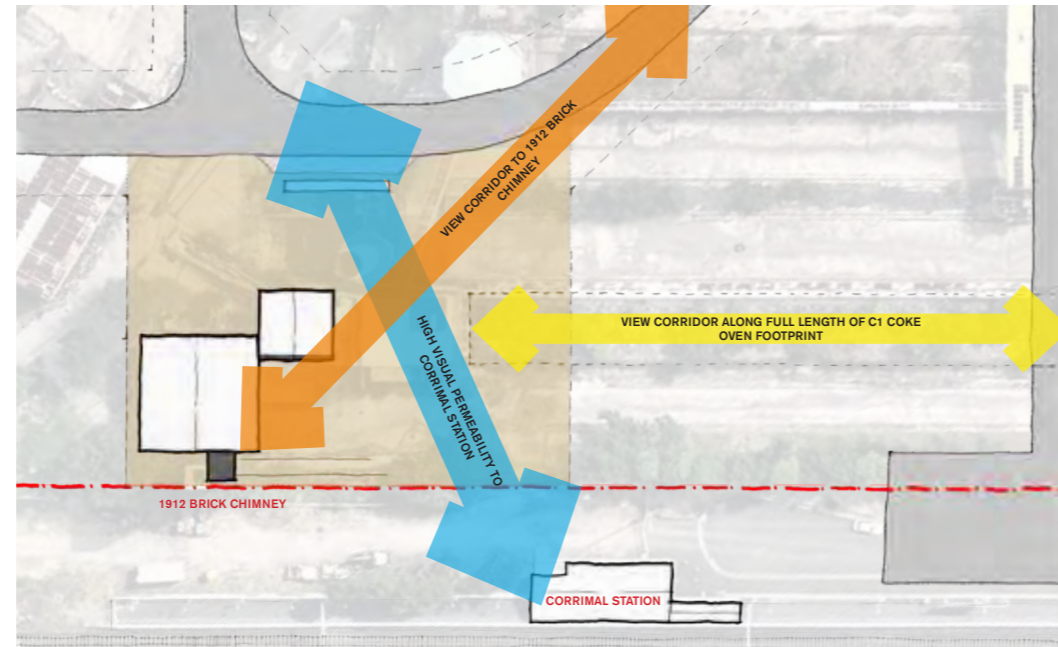


Masonry Base

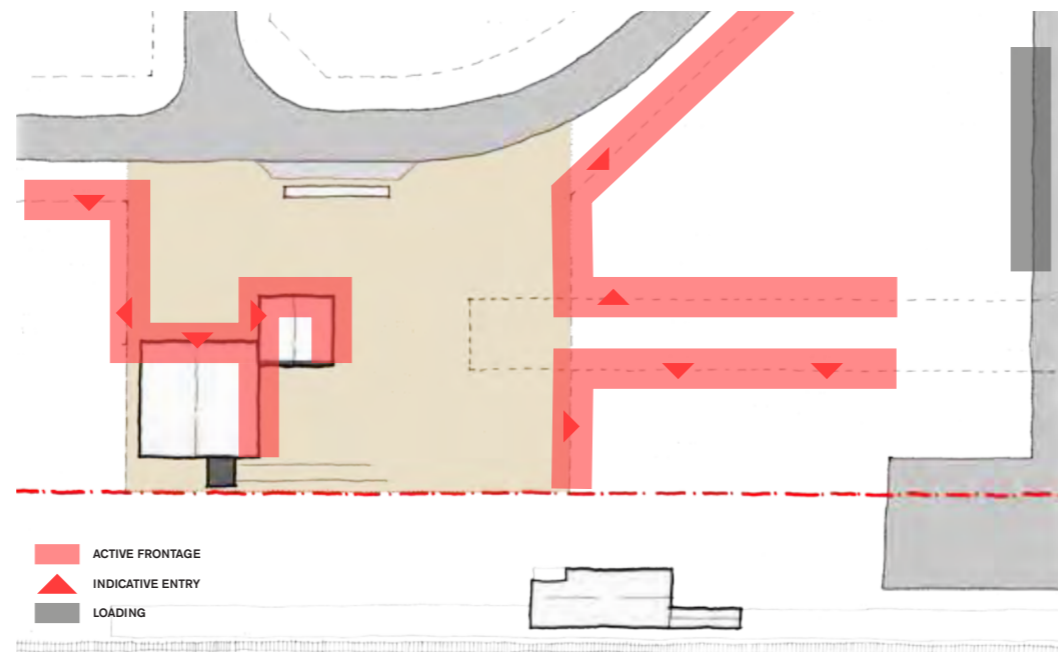
**CIVIC HUB AREA - RETAIL PLAZA BUILT FORM STRATEGY**

The Civic Plaza is the focal point of both the Civic Hub Character Area and the entire Master Plan. Specific built form controls are proposed to ensure that the heritage items and character of the space are respected and carried through, while supporting the space as an active community and retail hub. The proposed built form controls also ensure that public access to Corrimal Station is clear and direct, and that visual connections to the brick chimney are retained.

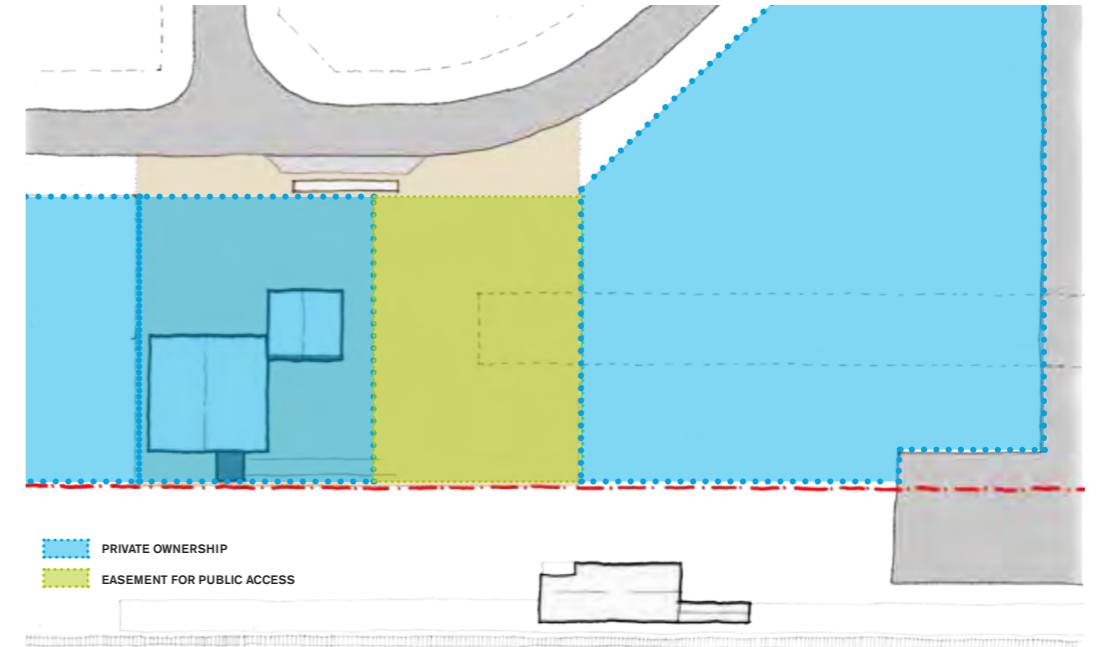
These development objectives and controls are outlined in the propose Site Specific DCP.



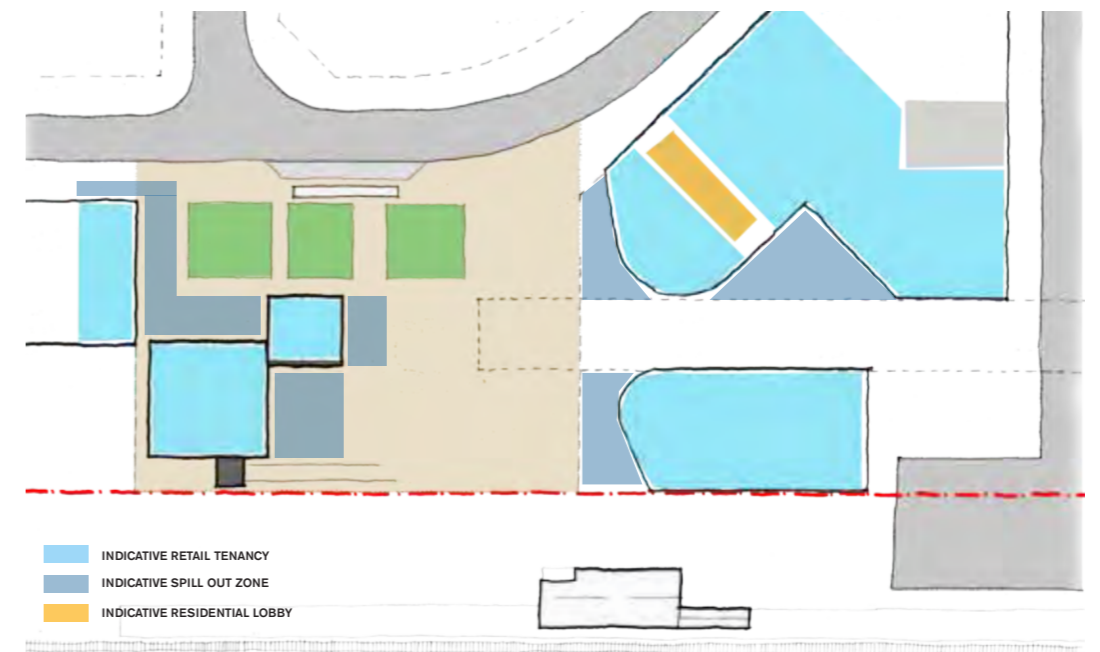
Visual Permeability and Sight Lines



Active Frontages, Access and Loading



Proposed Ownership



Indicative Plan and Spill Out Areas



BUILT FORM AND ARCHITECTURE  
CIVIC PLAZA PERSPECTIVE





### TREETOP ESCARPMENT AREA

**Character:**

Defined by built form with a refined character featuring elements strong vertical emphasis referencing the wooded interface and to break down the larger scale buildings. The area will also be marked by a dynamic roof line that “speaks to” the escarpment. Open balconies make use of the views and connection to the mature tree canopy, as well as to the escarpment and back to the coastline.

The area will also be characterised by landscape edges which assist to green the more urban street typologies and bleed into the adjacent generous setback to Railway Street and community garden. Ground floor apartments will be elevated above the street to define private space from the public domain instead of a reliance on visually dominant fencing, with the level change mediated by a stoop interface.

**Features:**

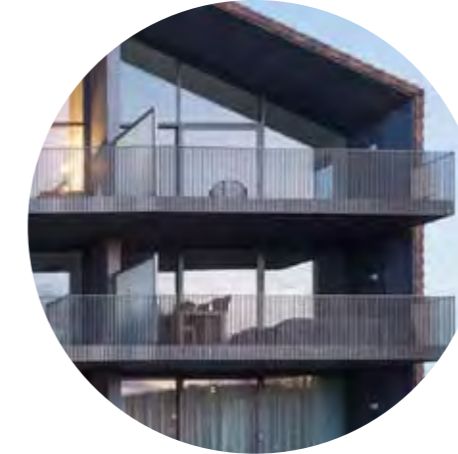
- Wide frontage balconies
- Landscaped and brick stoop ground interface
- Iconic roof form
- Architectural elements and massing providing a vertical emphasis



Stoop Interface



Dynamic Roof Form



Wide Frontage Balconies



Strong Vertical Elements

BUILT FORM AND ARCHITECTURE  
ENTRY BOULEVARD SHOWING TREETOP ESCARPMENT





### GREEN EDGE AREA

**Character:**

Comprised of a mix of built forms and scales, the character of the area seeks to engage with and reflect the lush riparian corridor which runs along its edge. Architecturally, built form will be simple with a more horizontal expression. It will be characterised by open facades and a light-weight feel featuring fine grain timber elements and screens and lightweight materiality. Generous upper level balconies make use of views of the riparian corridor and facilitating passive surveillance over the open space.

Buildings will have recessed ground floors to accentuate the sense of the upper levels of the buildings extending out to connect with the green edge. Built form setbacks are more generous to allow for an extension of the green space into front yards, with landscaping and low height, permeable fencing separating the public and private realms.

**Features:**

- Recessed lower level with protruding upper level balcony
- Low height front fence with landscaping and generous setback
- Predominantly rear-loaded product
- Simple Rectilinear form
- Lightweight materiality
- Fine grain timber look elements
- Pergolas and growing trellises



Rectilinear Form



Fine Grain Vertical Elements and Screens



Low Height Fence with Landscaping



Lightweight Materiality



BUILT FORM AND ARCHITECTURE  
RIPARIAN EDGE PERSPECTIVE





## VILLAGE PARK AREA

### Character:

An urban village feel with mix of low rise dwelling forms which focus on the central park. The dwellings generally are in the form of attached, rear-loaded terraces with some front loaded compact houses which provide an alternative to apartment living. Dwellings are orientated to address the park and provide passive surveillance.

Defined front edge conditions with more solid fence lines and formal landscaping clearly differentiating between the public and private domains and ensuring privacy. The built form of the dwellings will be characterised by solid, finely grained architectural expression, with classic village elements including pitched roof forms and defined verandah porches and entry porticos.

### Features:

- Defined entry portico/verandah
- Defined front masonry fence with landscaping
- Front-loaded and rear-loaded product
- Pitched roof element
- Masonry materiality with fine detailing
- Privacy screens



Pitched Roof Element



Defined Porches or Entry Porticos



Defined Front Fence



Masonry Materiality

BUILT FORM AND ARCHITECTURE  
CENTRAL PARK PERSPECTIVE



### SUMMARY OF BUILT FORM BUILDING TYPOLOGIES

The Structure Plan provides a framework for a number of innovative housing typologies.

The adjacent table sets out a summary of key design metrics for each typology and the anticipated location within the Site where each type would be located.

Full built form controls are set out in the proposed Site Specific DCP.

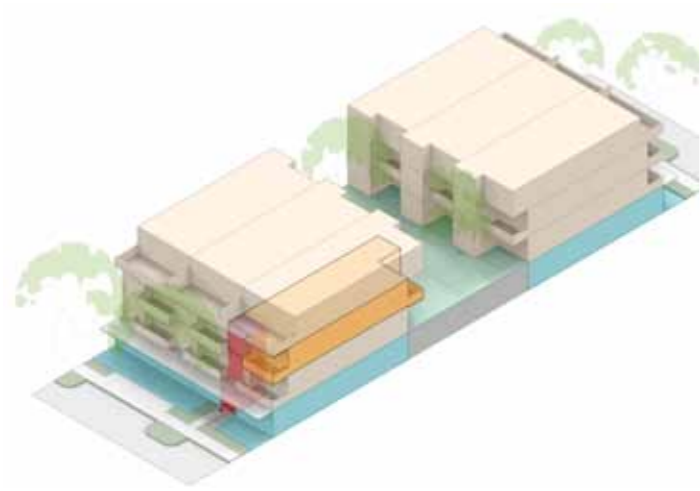
### FRONT SETBACKS AND PUBLIC DOMAIN INTERFACES

For each character are, differing front setback and public interface conditions (including secondary street setbacks) are proposed to reinforce the differing characters. This is outlined in full within the proposed Site Specific DCP.

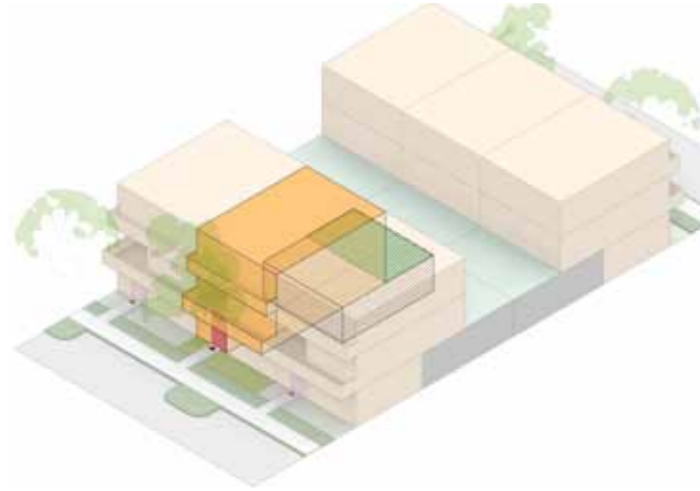
The following pages include the proposed front setback diagram for the Master Plan, as well as a selection of sections showing the different interface conditions.

Typology	Lot Width	Type				Side Setback	Rear setback	Minimum PPOS	Solar access to PPOS	Landscape Area	Location			
		Attached	Semi-Detached	Zero Lot	Detached						Civic Hub	Treetop Escarpment	Green Edge	Village Park
Shop Top Housing	N/A	N/A				SEPP 65 Applies					Y	N	N	N
Residential Flat Building	Minimum 30m	N/A				SEPP 65 Applies					Y	Y	Y	-
Multi Dwelling (Sleeved Townhouses)	N/A	N/A				3m	6m	Minimum 16m <sup>2</sup> with a minimum dimension of 3m	For 70% of dwellings, 3hrs access to 50% of PPOS between 9am and 3pm June 21	30% of lot area	N	Y	Y	Y
Torres Title Medium Density	>4.5m	Y	N	N	N	0m, 3m between continuous runs	Detached Garages: 0.5m to garage, 10m to facade line	Ground Level: minimum 16m <sup>2</sup> with a minimum dimension of 3m		15% of lot area	-	-	Y	Y
	7m-9m	Y	Y	Y	N	Attached: as above	If rear loaded: as above	Attached: as above		15% of lot area	-	-	Y	Y
						Semi-detached: 0.9m or 1.2m adjacent zero lot boundary	If front loaded: 4m to facade line (Ground Level) and 6m to facade line (Upper Level)	Semi-detached and Zero Lot: Ground level with minimum 20m <sup>2</sup> with a minimum of 4m						
Zero Lot: 0m or 1.2m														
>9m>15m	-	Y	Y	Y	Y	Semi-detached: as above	4m to facade line (Ground Level) and 6m to facade line (Upper Level)	Ground level with minimum 20m <sup>2</sup> with a minimum of 4m	25% of lot area	-	-	Y	Y	
						Zero Lot: as above								
						Detached: 0.9m or 1.2m adjacent zero lot boundary								
Secondary Dwellings and Studio Dwellings	N/A	N/A				N/A		Separate PPOS only required if Strata title: minimum 8m <sup>2</sup> with a minimum dimension of 2m	3hrs access to 50% of PPOS between 9am and 3pm June 21	N/A	-	-	Y	Y

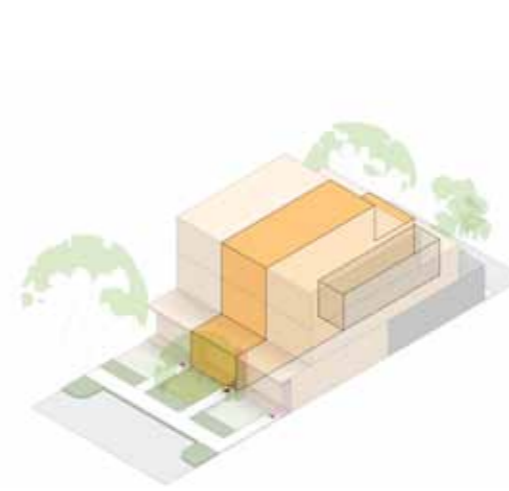
SHOP TOP HOUSING & APARTMENT  
TYPOLOGIES



MULTI-DWELLING (SLEEVED  
TOWNHOUSE) TYPOLOGY



3 & 2 STOREY REAR-LOADED TERRACE  
TYPOLOGIES



2 STOREY FRONT-LOADED DETACHED  
TYPOLOGY



**Legend**

	Living area		Carpark
	Access		Landscape buffer
	Front setback		Retail
	Rear garden/ terrace		Road

## BUILT FORM GROUND LEVEL SETBACKS

The interface between the public domain and private lots is a key consideration in the development of successful urban master planned developments.

The proposed ground level setbacks within the Site reflect the different conditions, land use and built form situations.

Key features of the proposed ground level setbacks include:

- Deep soil landscape setbacks for the predominately residential areas, with setbacks developed according to building typology, scale and form.
- Generous landscape setbacks on Railway Street.
- Active frontages and zero lot setbacks in the village centre and retail areas to reflect the higher levels of activity.
- Provision for through-site links within the village plaza to provide a diversity of public domain experiences and opportunities for street-level activation.
- A setback to the railway corridor on the eastern edge of the Site to increase amenity.
- A public path interface along lots that directly adjoin public space.

The table below further describes each setback type and typical built form sections can be found on the following page.

### Legend

- The Site
- A
  - Residential Flat Building: 5.0m
  - Multi-Dwelling: 4.5m
  - Medium Density: 4.5m with 3.5m articulation zone
- B: 0.0m (Ground Level) and 3.0m (Level 1 and above)
- C: 4.0m with 3.5m articulation zone
- D: 15.0m
- E: 3.5m with 2.5m articulation zone
- I: 3.0m with 2.0m articulation zone





### PROPOSED STREETWALL APPROACH AND UPPER LEVEL SETBACKS

The Indicative Structure Plan proposes a series of street wall conditions to define enclosure of primary streets and the Civic Plaza.

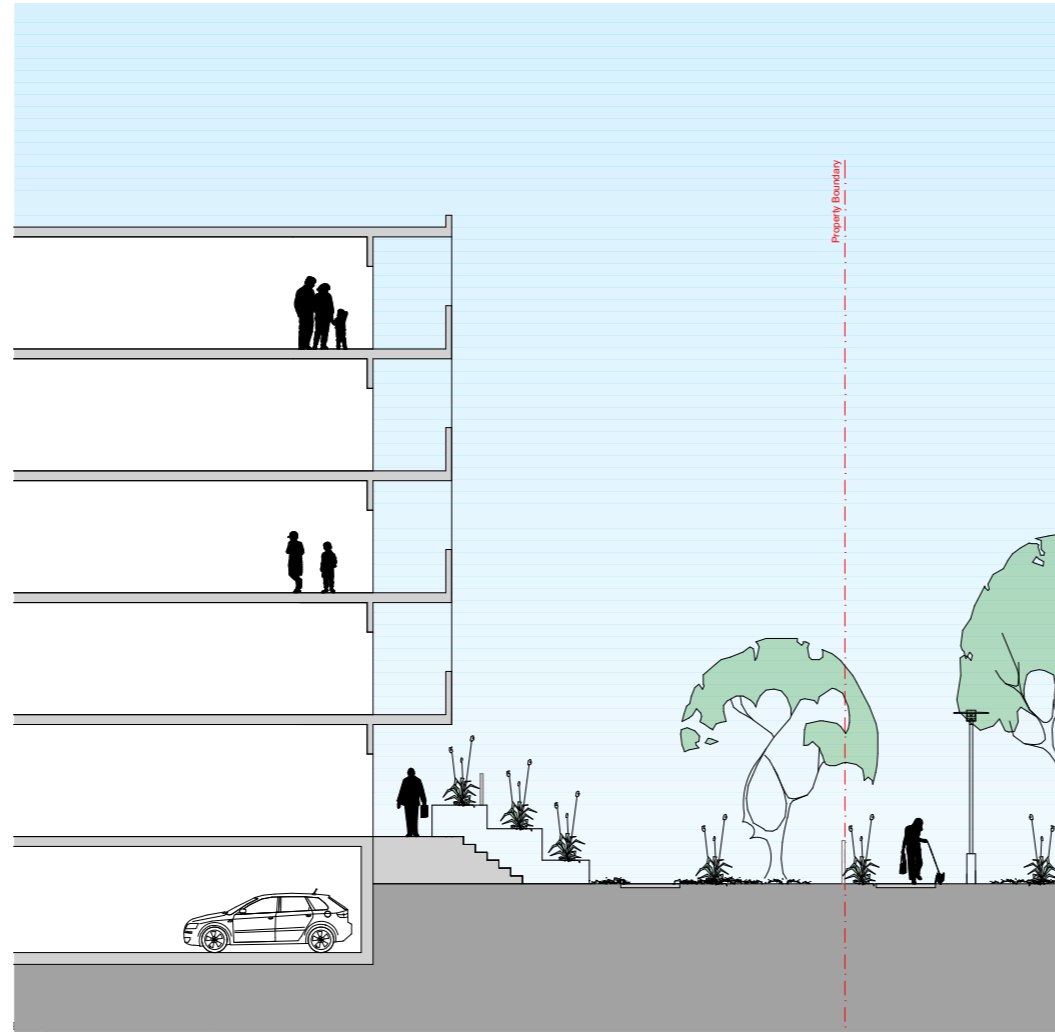
The design intent is to frame public spaces, articulate the built form and create a human scale across the Site.

The street wall approach has been developed in tandem with the character area concepts to ensure a diverse architectural language unique to the Site and locality.

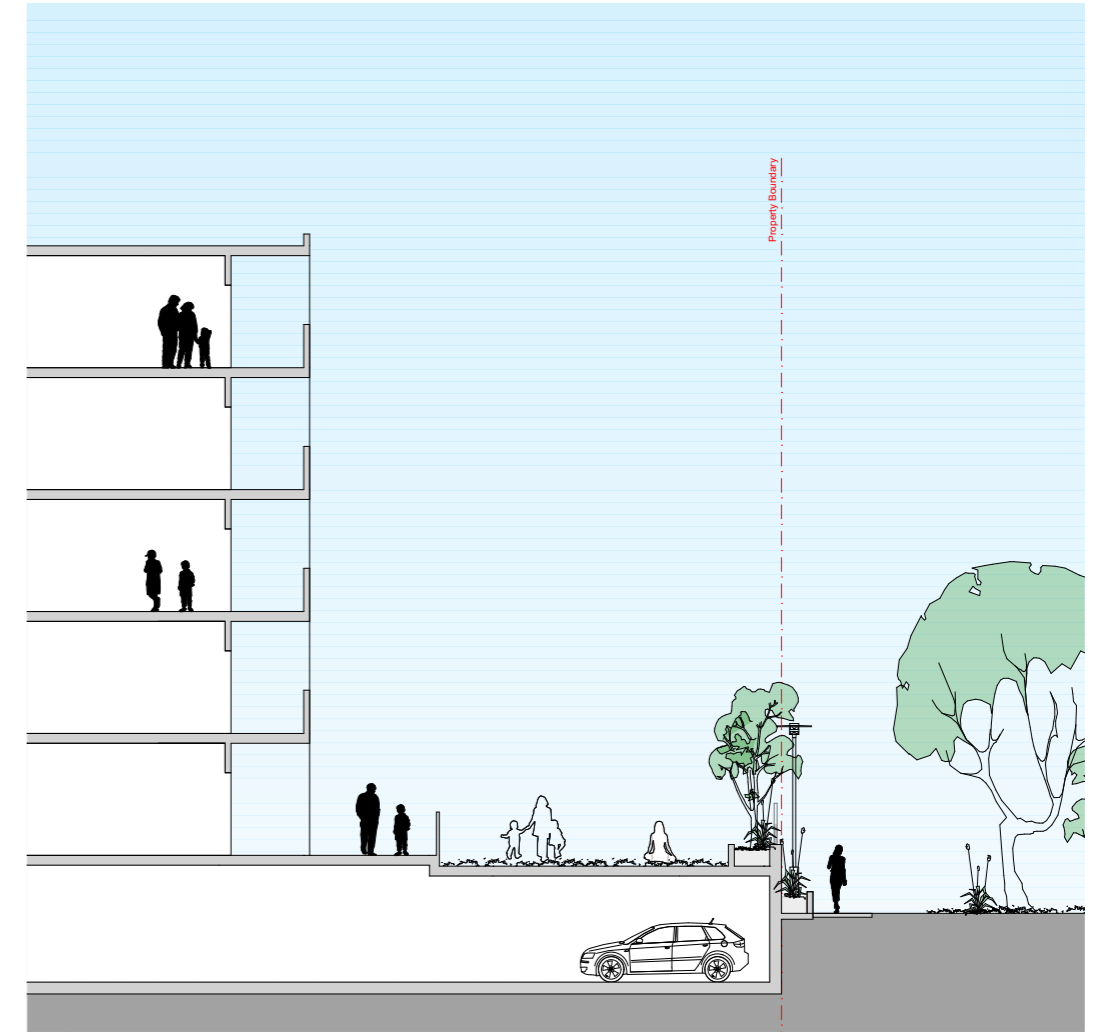
#### Legend

-  The Site
-  A: 3m from below facade line above 5 storeys



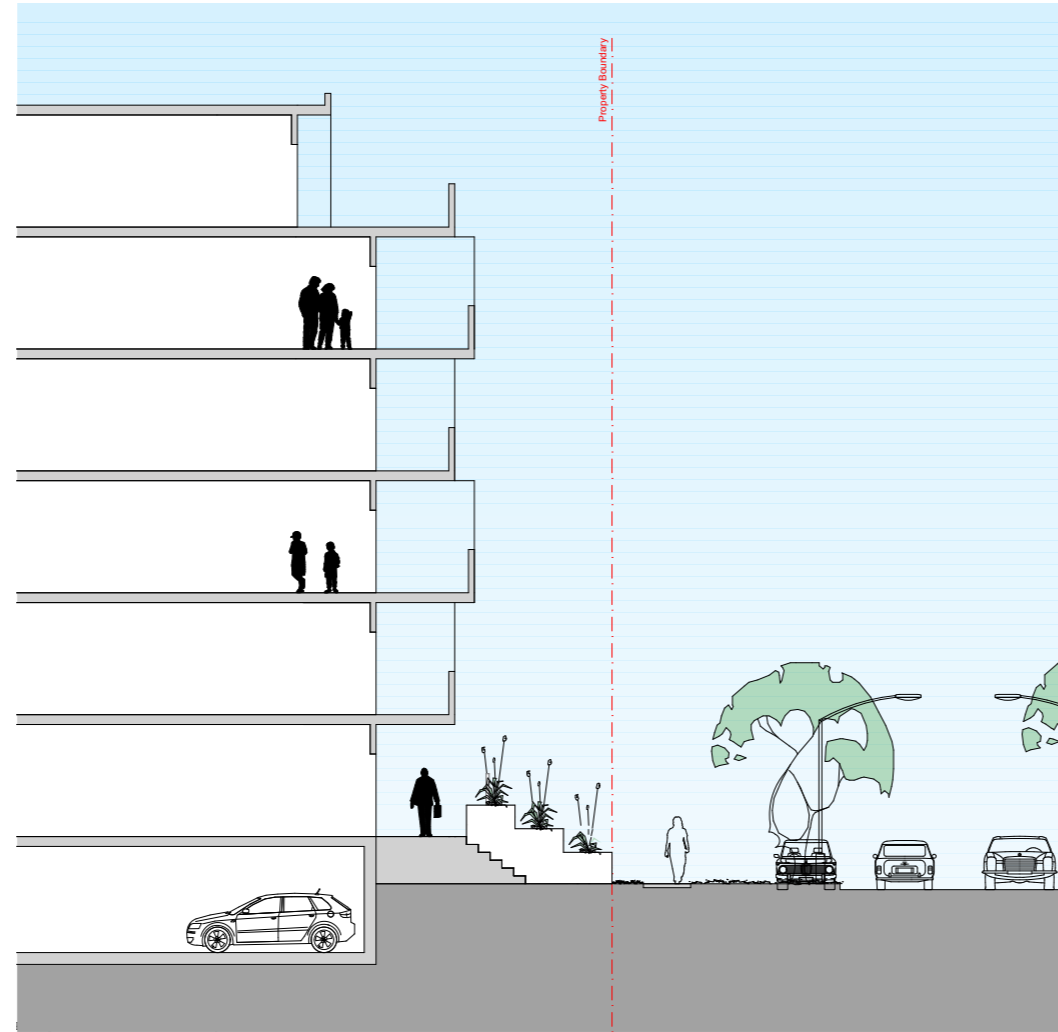


1. INDICATIVE SECTION - NORTHERN BUFFER INTERFACE

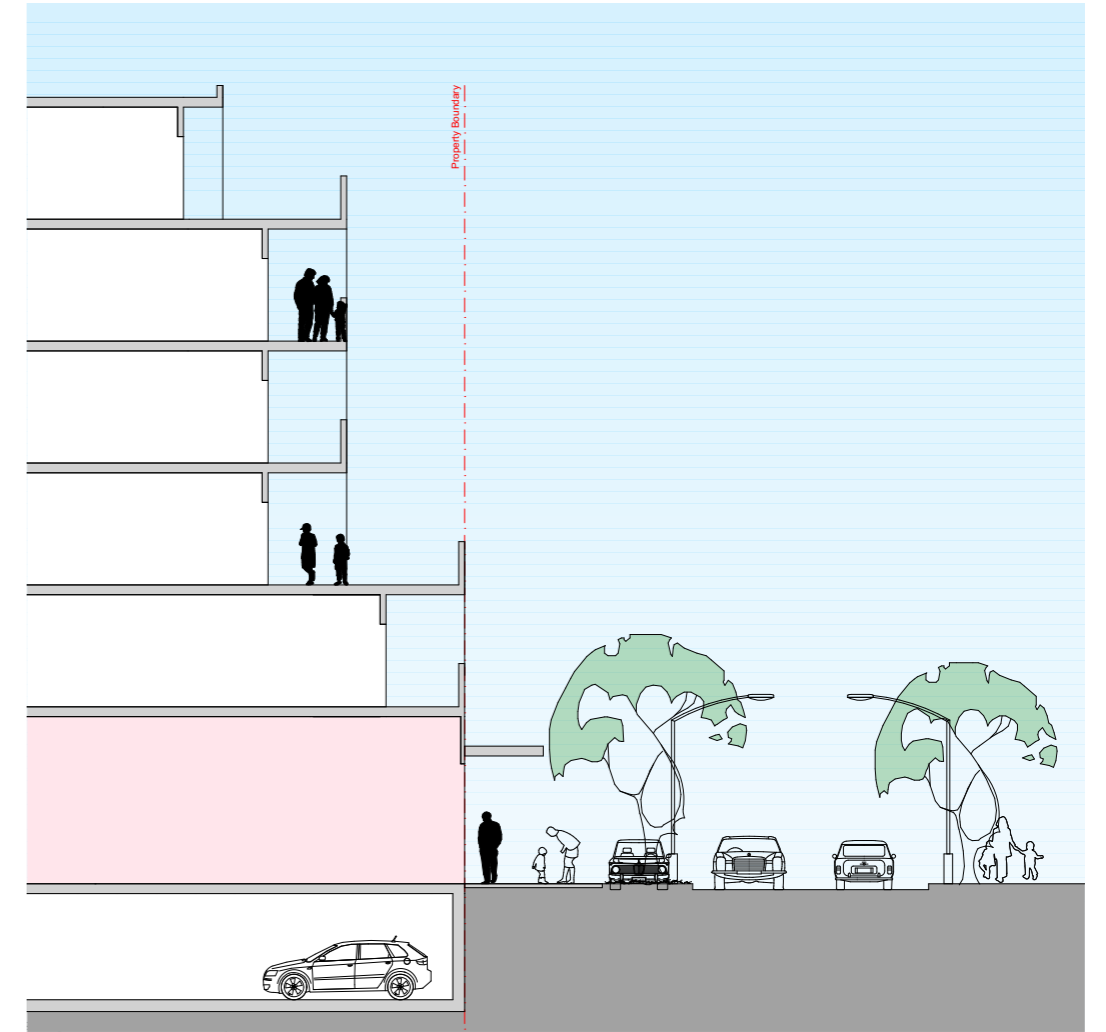


2. INDICATIVE SECTION - APARTMENT RIPARIAN REAR INTERFACE

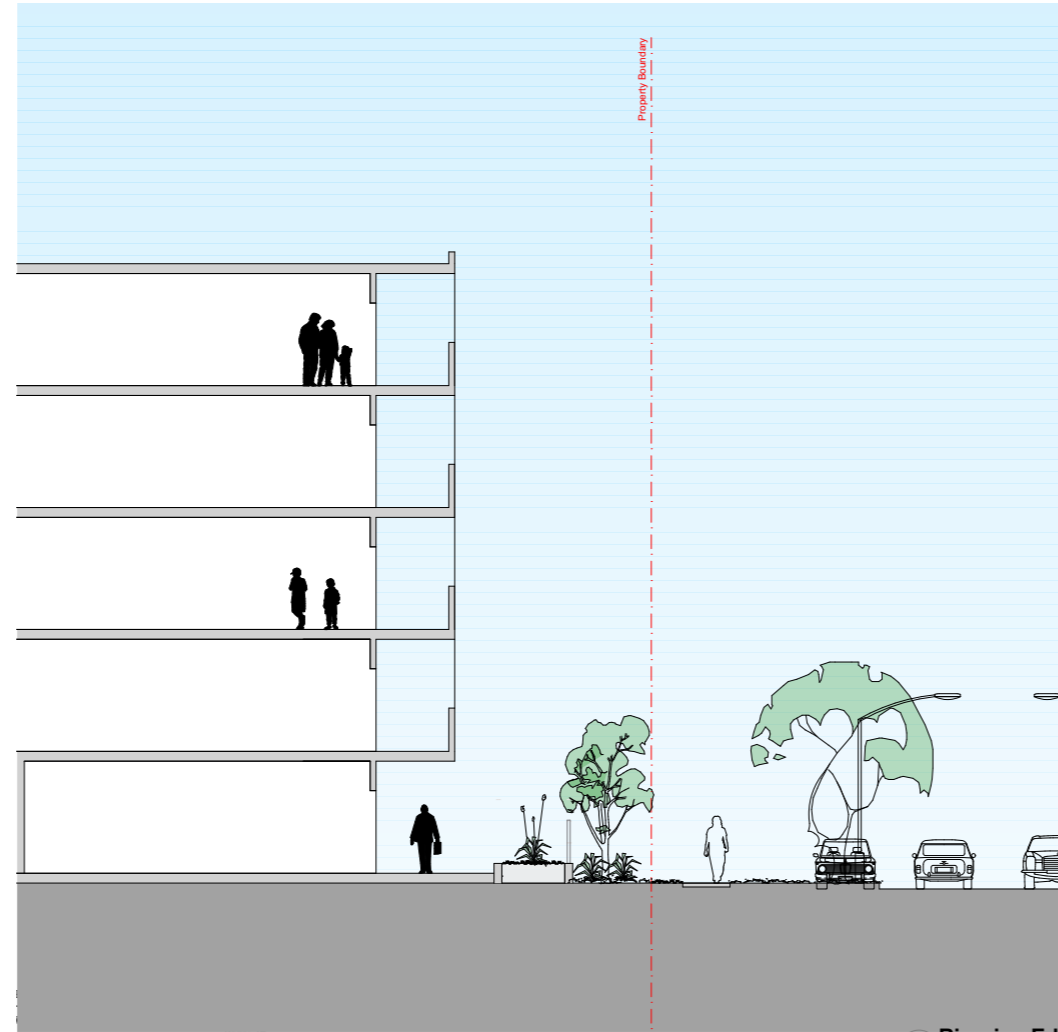




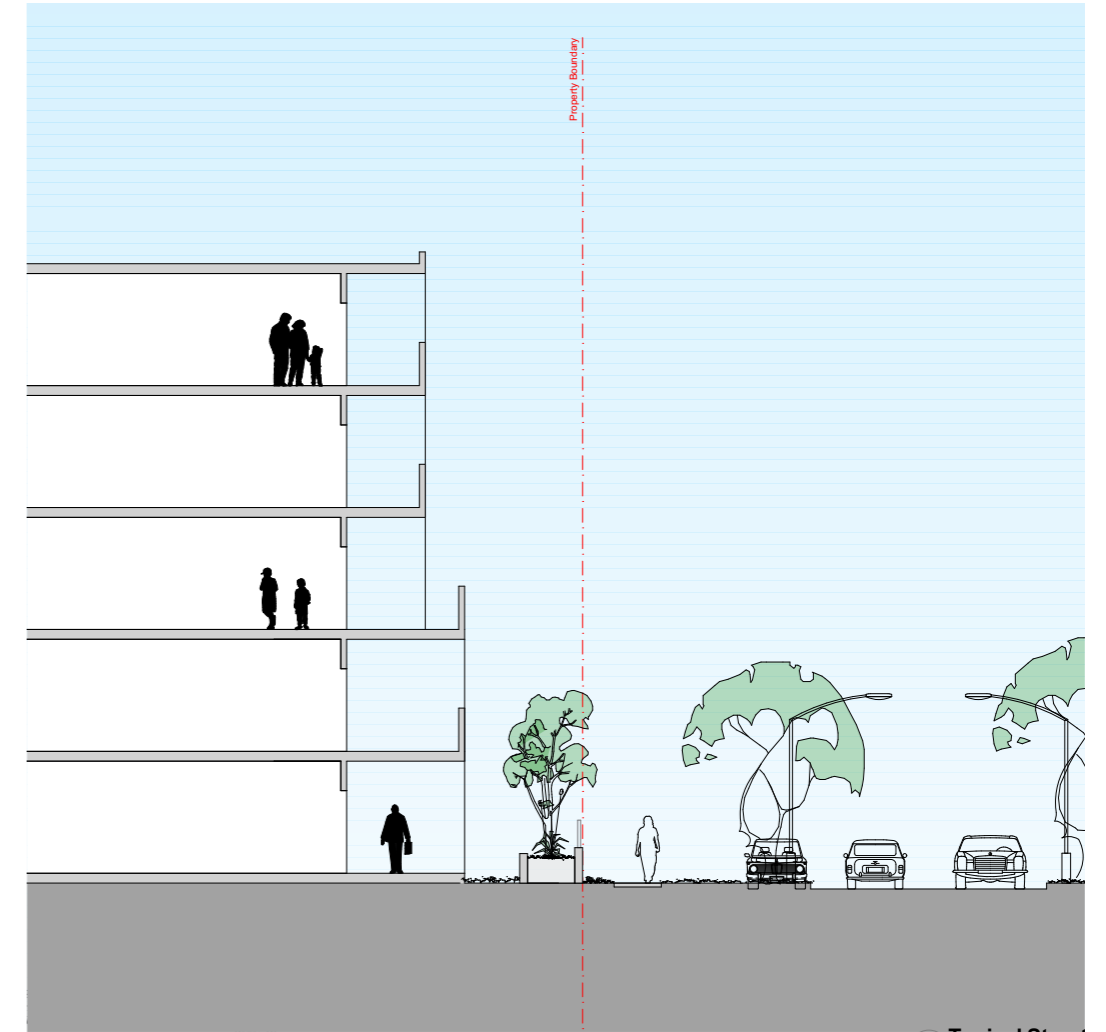
3. INDICATIVE SECTION - APARTMENT ENTRY  
BOULEVARDE EDGE (1/2-IN 1/2-OUT BASEMENT CAR  
PARK)



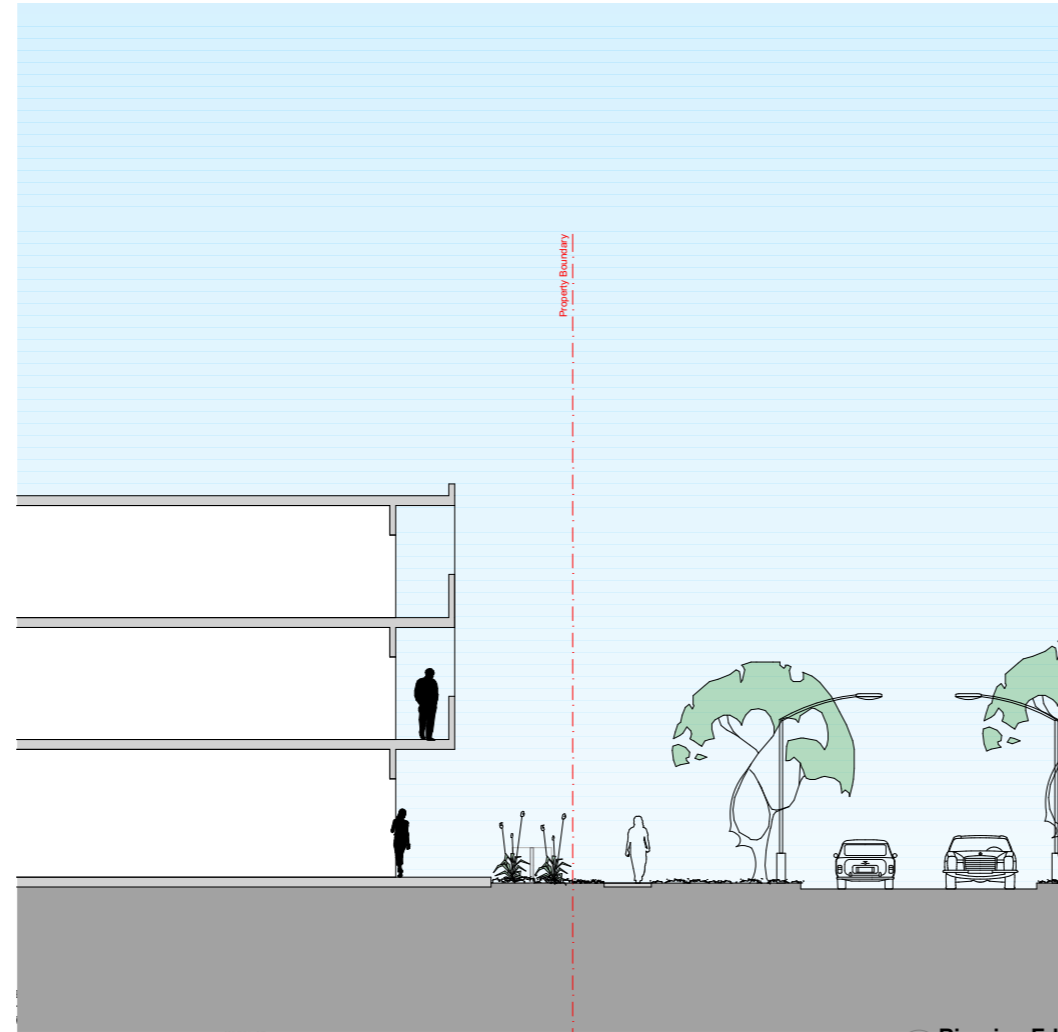
4. INDICATIVE SECTION - ZERO BOUNDARY ACTIVE  
STREET FRONTAGE (BASEMENT CAR PARK)



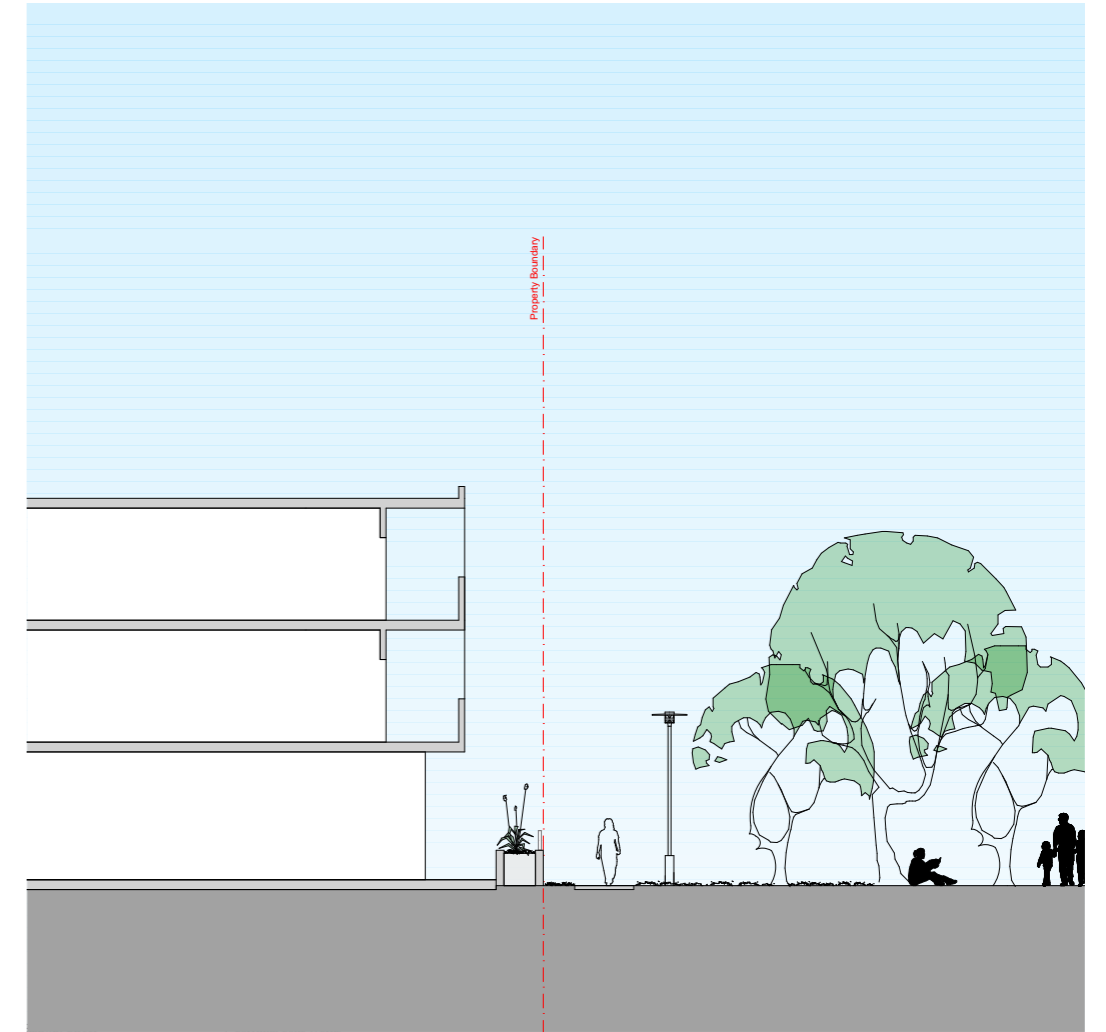
5. INDICATIVE SECTION - APARTMENT RIPARIAN INTERFACE (SLEEVED CAR PARK)



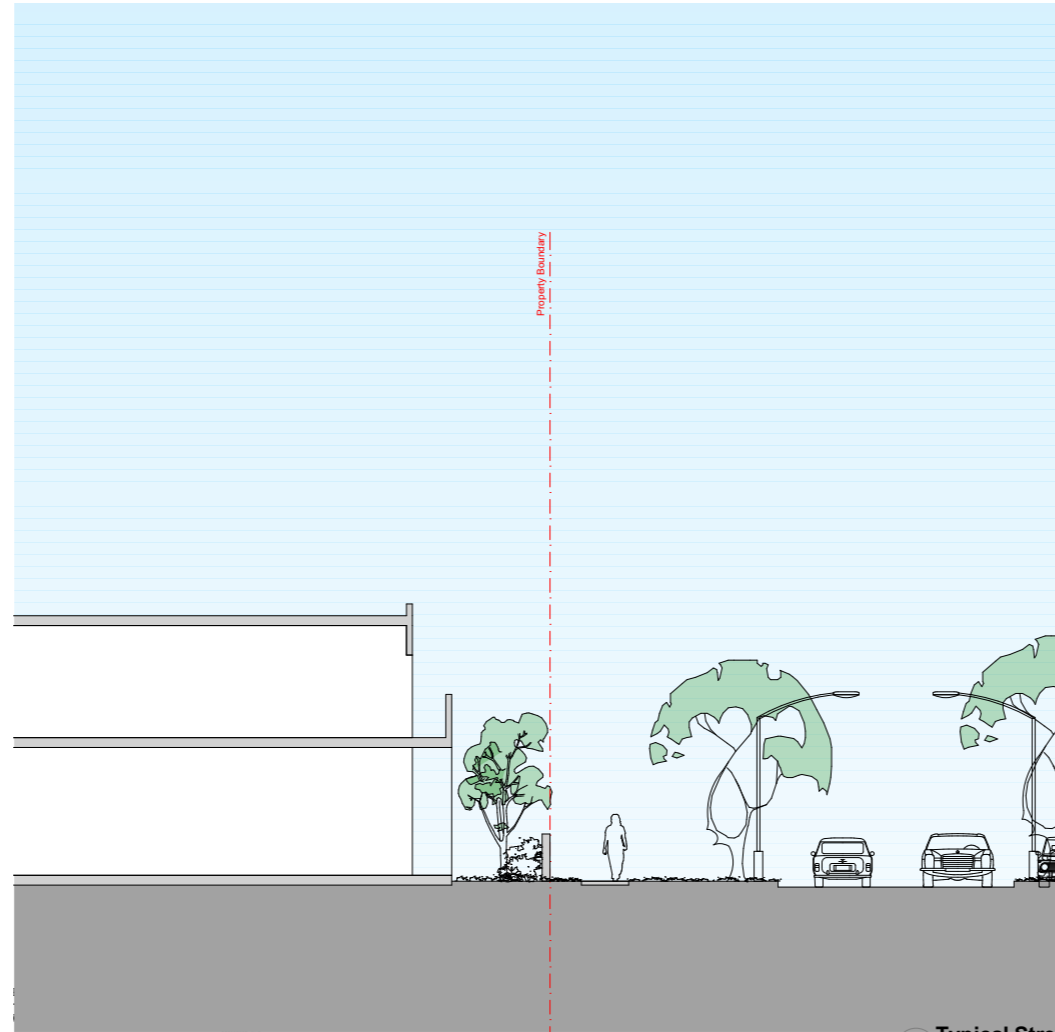
6. INDICATIVE SECTION - APARTMENT LOCAL STREET INTERFACE (SLEEVED CAR PARK)



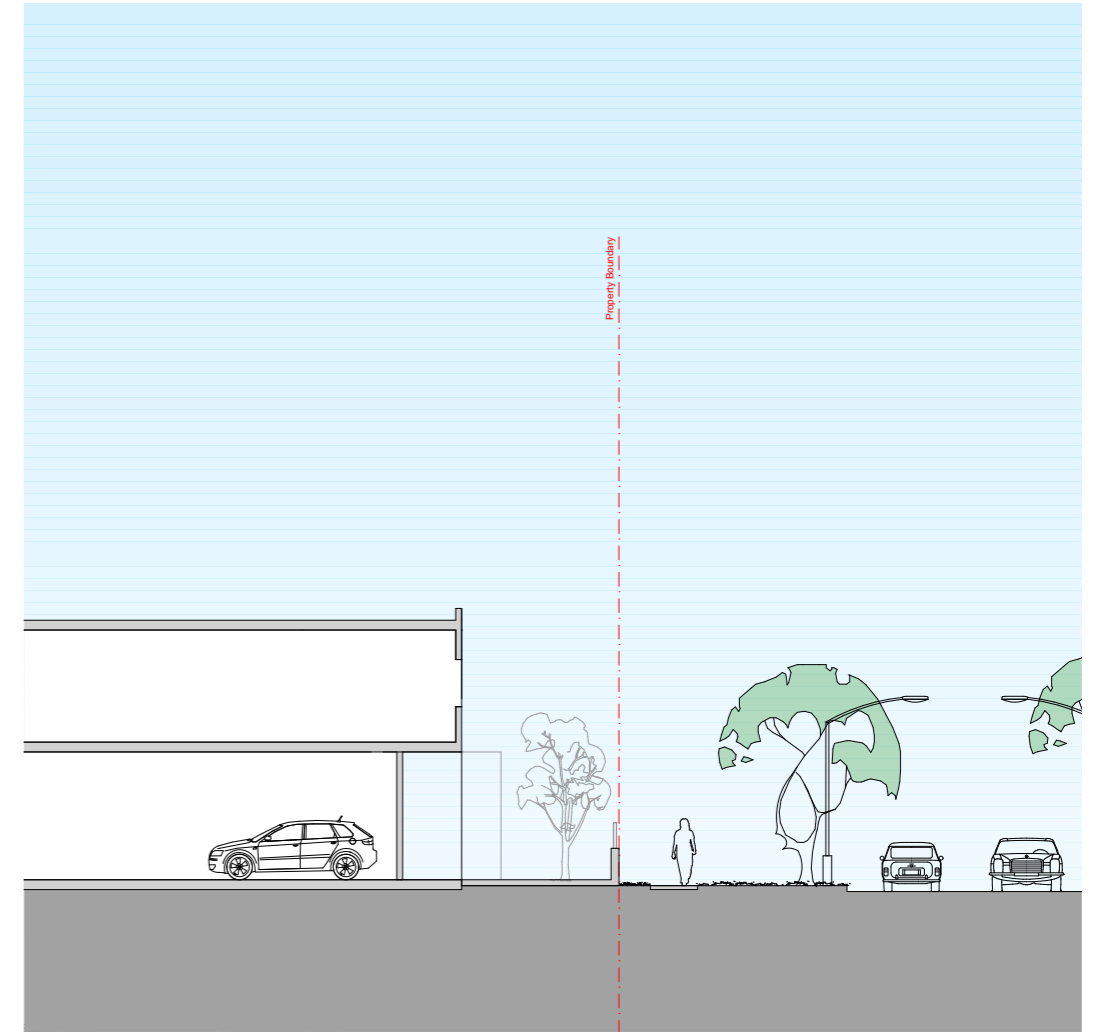
7. INDICATIVE SECTION - MEDIUM DENSITY RIPARIAN FRONT INTERFACE (REAR LOADED)



8. INDICATIVE SECTION - MEDIUM DENSITY PUBLIC PARK FRONT INTERFACE (REAR LOADED)



9. INDICATIVE SECTION - MEDIUM DENSITY MAIN LOOP INTERFACE (REAR LOADED)



10. INDICATIVE SECTION - MEDIUM DENSITY LOCAL STREET INTERFACE (FRONT LOADED)





### PROPOSED BUILDING HEIGHT

The strategy for building heights has been developed in recognition of the current skyline, and ensures that the existing Northern Stack and the Brick Chimney Stack remain the tallest structures on the Site.

The strategy also addresses the interface on the East and West of the Site by setting development back so the long range views towards the Escarpment are still visible along public streets running perpendicular to the Site.

The adjacent plan sets out the proposed height zones and identifies the relative heights of the retained stacks in the north east of the Site.

#### Legend

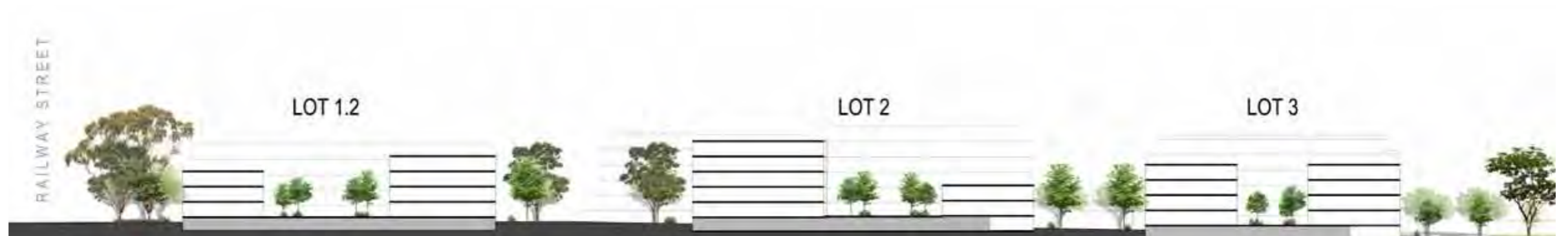
-  The Site
-  J (9m)
-  N (13m)
-  Q (20m)
-  Q2 (16m)
-  S (24m)
-  Stack (37m)
-  Brick Chimney (28m)



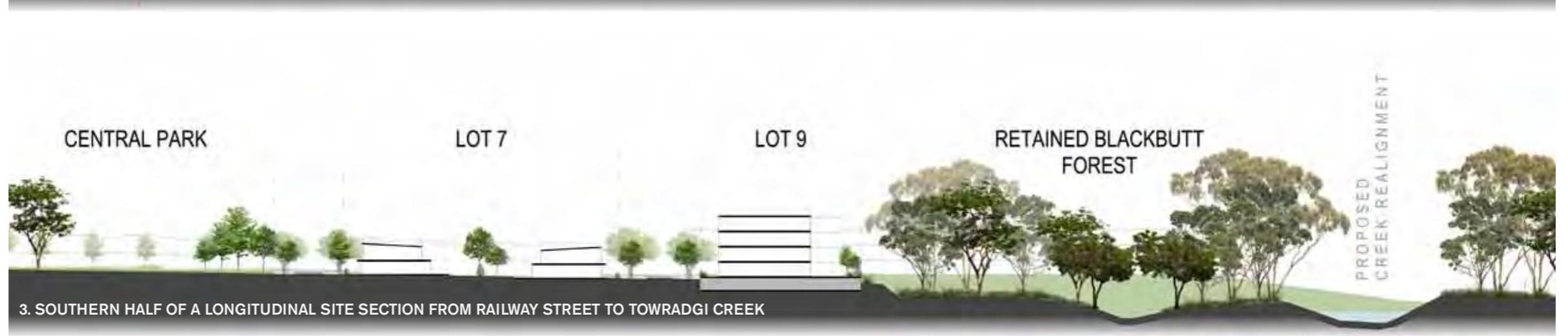
SITE SECTIONS



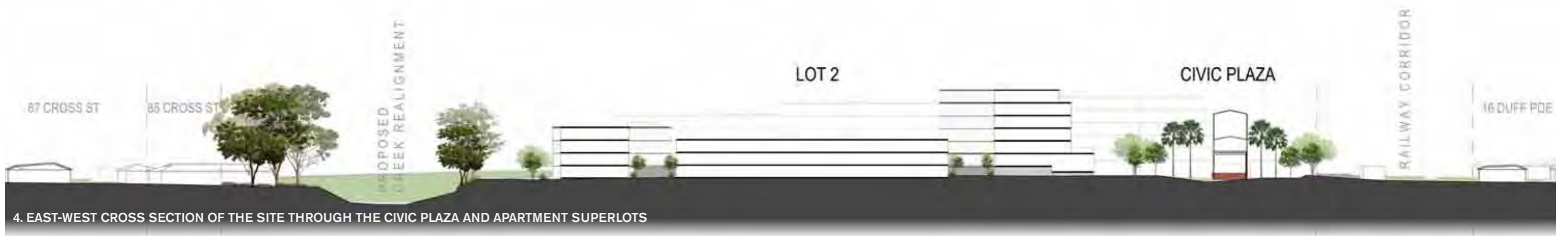
1. EASTERN ELEVATION OF CIVIC PLAZA AND SURROUNDING PROPOSED BUILDINGS



2. NORTHERN HALF OF A LONGITUDINAL SITE SECTION FROM RAILWAY STREET TO TOWRADGI CREEK



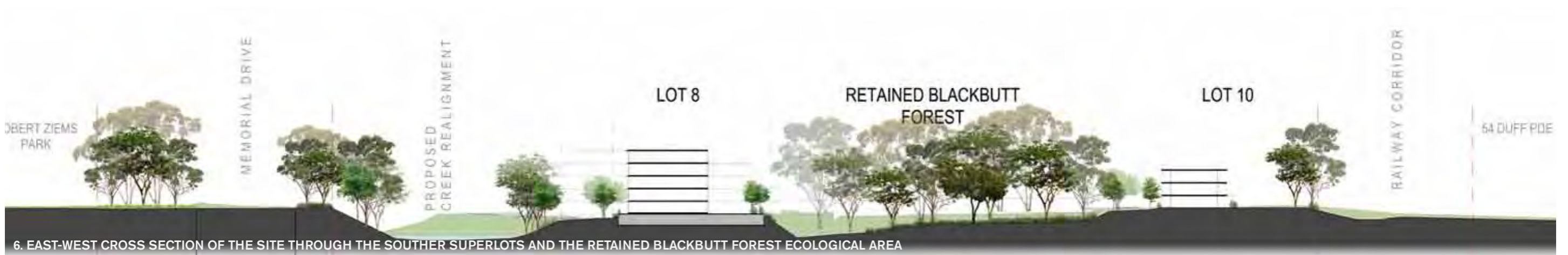
3. SOUTHERN HALF OF A LONGITUDINAL SITE SECTION FROM RAILWAY STREET TO TOWRADGI CREEK



4. EAST-WEST CROSS SECTION OF THE SITE THROUGH THE CIVIC PLAZA AND APARTMENT SUPERLOTS



5. EAST-WEST CROSS SECTION OF THE SITE THROUGH THE CENTRAL PARK AND MEDIUM DENSITY SUPERLOTS



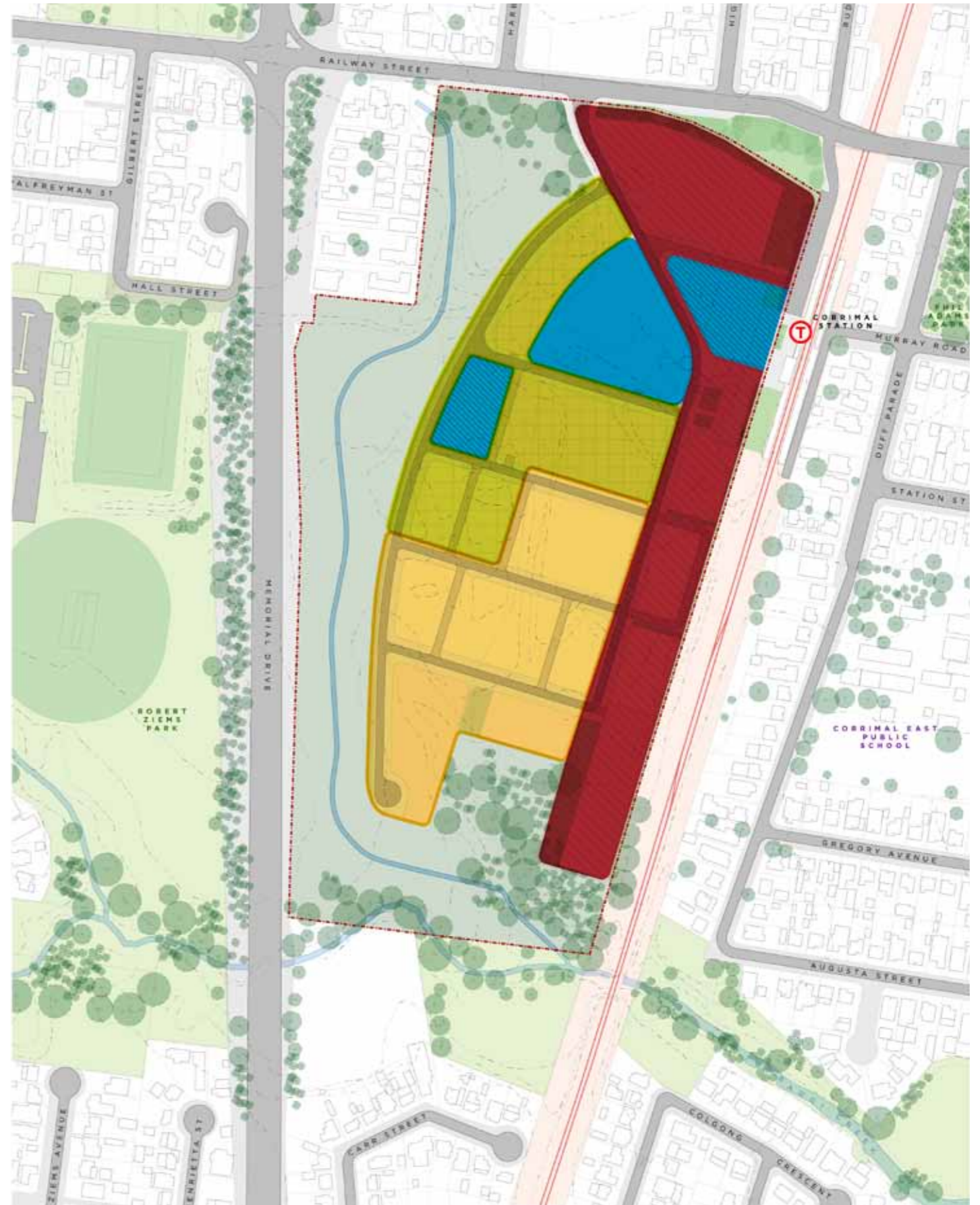
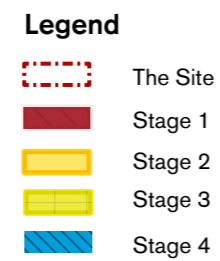
6. EAST-WEST CROSS SECTION OF THE SITE THROUGH THE SOUTHER SUPERLOTS AND THE RETAINED BLACKBUTT FOREST ECOLOGICAL AREA

## INDICATIVE STAGING PLAN

Development of the former Corrimal Coke Works will occur in stages over a number of years. The realignment of the creek and associated bulk earthworks is key to enabling development and will occur prior to delivery of built form. The indicative staging plan identifies the current approach to staging of the development and is based on the following objectives:

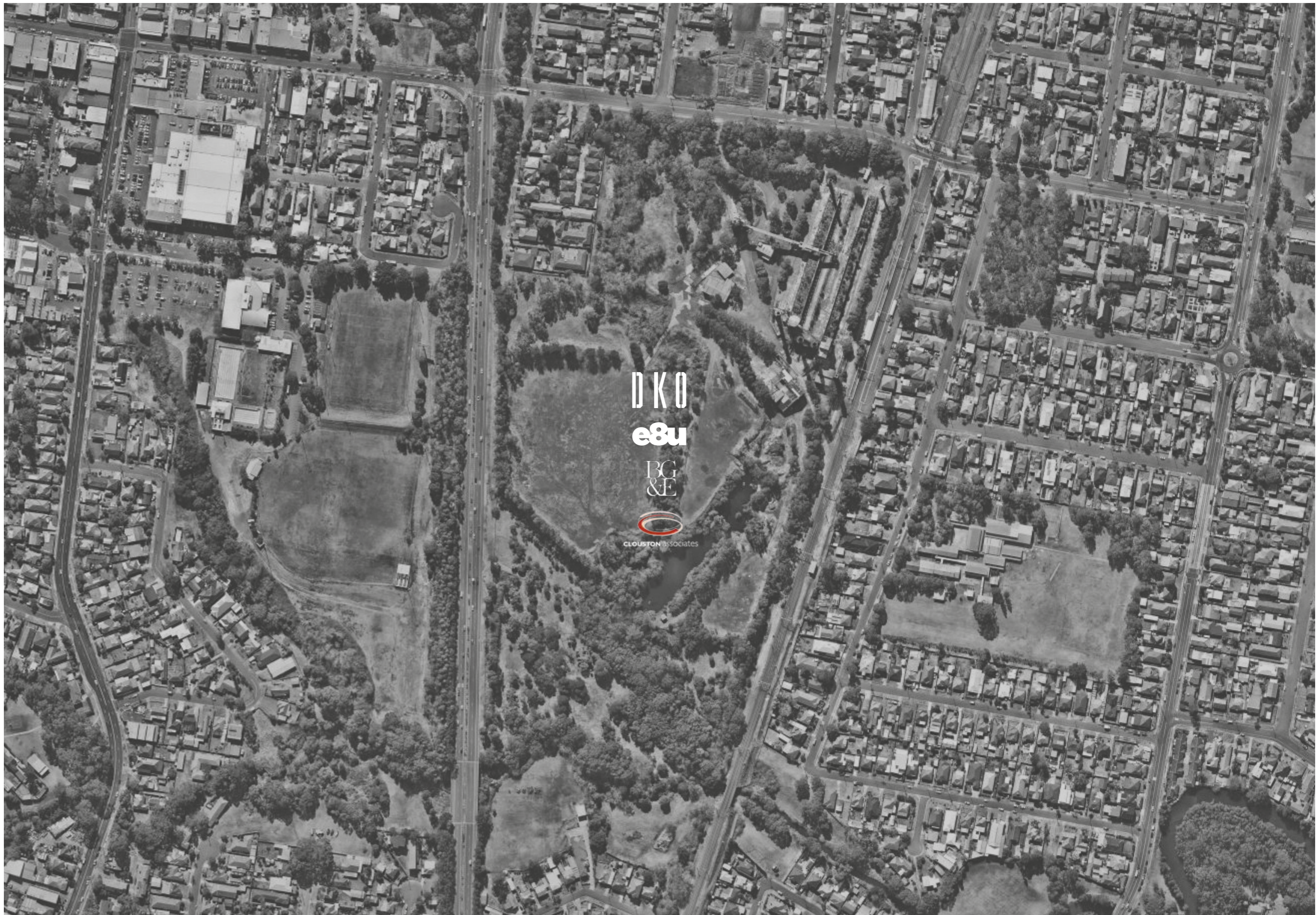
- Establish the key entry and spine road in the initial stage of the development in conjunction with the Civic Plaza, to provide early activation of Corrimal station
- Provide for development on the western/riparian edge of the site to progress from South to North in order to minimise construction impacts
- Incorporate a mix of housing typologies within each stage
- Recognition that the majority of retail uses will not be viable until there is sufficient resident population on site

Ultimately the timing and staging of the development may evolve to respond to market conditions over the life of the project.









DKO

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BG  
& E



Clouston Associates



# Planning Proposal

Former Corrimal Coke Works

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**Client:** Legacy Property & Illawarra Coke Company

**Date:** 06 August 2020

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## Executive Summary

The Planning Proposal (PP) has been prepared on behalf of Legacy Property (Legacy) and the Illawarra Coke Company (ICC), for the rezoning of the 18.18 hectare (ha) former Corrimal Coke Works site, located at 27 Railway Street, Corrimal in the Wollongong Local Government Area (LGA). The former Coke Works ceased its operations in 2014, and now offers a substantial rezoning and redevelopment opportunity to provide much needed additional housing within Wollongong while becoming an exemplar of urban renewal.

The original draft PP was prepared and submitted to Council in October 2017. The PP was then placed on preliminary public exhibition from 23 October to 24 November 2017. Council prepared a preliminary assessment, which was endorsed (subject to further technical and design studies) on 3 April 2018 and forwarded to the Department of Planning, Industry and Environment (DPI&E) for a Gateway Determination on the 23rd April 2018.

The Gateway Determination was issued by the DPI&E on 20th August 2018, allowing the rezoning proposal for the Corrimal Coke Works site to proceed subject to conditions, with an 18 month timeframe for completion. The Gateway deadline was subsequently extended by 12 months on the 17 February 2020. This PP addresses and responds to Council's resolution, consultation outcomes with the community as well as the Gateway Determination.

## The Proposal

The site is currently zoned IN3 Heavy Industrial and RE2 Private Recreation under Wollongong Local Environmental Plan (WLEP) 2009 and has previously been utilised for industrial works. This application proposes to rezone the site from IN3 and RE2 to R3 Medium Density Residential and RE1 Public Recreation, as well as providing appropriate controls relating to additional permissible uses, minimum lot size (MLS), height, and floor space ratio (FSR). The PP also request other minor amendments to the WLEP in relation to other "overlays". A small portion of the site (0.25ha) to the north east, is currently zoned SP2 Infrastructure - Road, for potential future acquisition. This land has been incorporated into the concept plan and will be retained as SP2.

The rezoning of the site will provide for a master planned community with approximately 700 – 750 dwellings, small scale local retail, business and community uses, and open space. Approximately 9.5ha, representing 52% of the site, will be provided as open space and riparian corridor.

The site provides a unique opportunity to provide a range of housing choices that meet the current and future needs of the community, including, apartments, strata titled townhouses, affordable housing and the potential for seniors living/aged care. Legacy and ICC are committed to providing 5% affordable housing, which is proposed for inclusion within a Voluntary Planning Agreement (VPA).

A heritage precinct will reflect the site's former use and contribute to the activation of Corrimal train station, with neighbourhood scale retail uses, flexible commercial space to support tele-working and local business start-ups, and a shared community space.

The site provides excellent proximity to existing services, schools and community facilities. A new pedestrian and cycling link will connect Railway Street in the north, through the site, and across Towradgi Creek to the south, forming a significant regional asset as part of the broader 'bush to beach' connection. The development will also significantly improve accessibility to Corrimal train station and support increased public transport use.

The proposed redevelopment of the site offers an exciting opportunity to deliver a new environmentally, socially and economically sustainable community that contributes to the revitalisation of Corrimal, delivering significant public benefits and represents a major investment in the Wollongong economy.

## Strategic Context

The Corrimal Coke Works is nominated as a key site under Wollongong City Council's Corrimal Town Centre Plan 2015-2025 and Implementation Plan. The Town Centre Plan and Implementation Plan states "*Residential development may be suitable, where it offers housing diversity and improved connectivity*". R3 Medium Density Residential zoning is a logical extension of the same zoning to the north, north-east and east of the site, and permits a broad range of housing types including apartments, semi-detached housing and single dwellings.

Wollongong Council's Housing Strategy Discussion paper also identifies the need for medium density housing, as a housing type for the changing demographic.

## Site Specific Context

The site is strategically well located, and suitable for rezoning, as it is:

- » directly adjacent to the Corrimal railway station, providing rail connection to Wollongong Central Business District (CBD) and Sydney
- » directly adjacent to existing bus stops on Railway Street
- » 350m walk to Corrimal town centre
- » 1.2km walk to Corrimal beach
- » In walking distance to community and recreational resources including Robert Ziems Park playing fields, Corrimal library, Corrimal swimming pool, East Corrimal Primary School and Corrimal High School

An analysis supported by extensive technical studies has identified the site as being suitable for development, due to the following site-specific opportunities:

- » Transport oriented development capitalising on existing public transport infrastructure
- » Integration via pedestrian and cycle links with the surrounding community, promoting active transport options
- » New access to the site to cater for traffic movement
- » Realignment and rehabilitation of North Corrimal Creek
- » Retention of key biodiversity areas
- » Protection of important sightlines to the Illawarra Escarpment
- » Provision of neighbourhood scale retail uses to activate Corrimal train station
- » Retention, interpretation and adaptive re-use of significant heritage items
- » Provision of a mix of housing types
- » Resolution of key flooding and drainage issues
- » Provision of infill development, minimising conversion of rural land for housing

The Concept Master Plan for the rezoning area is shown in **Figure 1**.

## Design Values, Principles and Concept for the site

Corrimal Coke Works will become a community born of diverse people, places and stories that respects the site's past while showcasing Wollongong's future as the city of innovation.

The Master Plan for Corrimal has been based on the following place principles:

- » **Place Principle 1 - Made for Friendship:** We help people to meet, share and connect, building on and contributing to Corrimal's already genuinely friendly and supportive community. We're creating a safe and

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supportive place where people grow together, look out for each other and share special moments and events.

- » **Place Principle 2** - Designed for difference: We're building a community of many different ages, shapes and sizes. We champion difference and are designed to attract people at different stages of life. Our place is made up of a wide variety of landscapes, precincts, features, housing types and experiences, creating a vibrant and distinctive destination.
- » **Place Principle 3** - Bringing more to life: We invest in making people and places the best they can be, breathing new life into heritage and green space and helping people reach their potential. We make everyday life easier, so that people have more time and energy to enjoy what's important.
- » **Place Principle 4** - United through stories: We cherish our unique story. From our history, to our unique ecology, we're a place like no other. Together we will celebrate the stories of the past and build new stories, forging a strong sense of character and identity.

The Concept Master Plan provides for the delivery of housing within a strong public domain framework while ensuring that the site will be integrated into its existing context. Key features of the Concept Master Plan include:

- » Delivering a diversity of housing with the potential for low-scale apartment buildings, including affordable housing, strata titled townhouses and seniors living/aged care.
- » Providing 9.5ha of green open space to offer a range of community and recreational resources, including a 3,000sqm village park, 5,150 sqm southern recreation space and riparian corridor promoting walking and cycling.
- » Ensuring architectural diversity that responds to the local context through creation of a range of character precincts within the site.
- » Maintaining key views to the escarpment, including a significant view corridor along Murray Street, while also establishing new views within the development to key heritage features.
- » Maximising access to Corrimal train station and delivery of a public plaza adjacent to the station with retention of key heritage structures and also interpretive heritage elements.
- » Activating Corrimal train station and the heritage precinct with neighbourhood scale retail uses at a scale that does not detract from Corrimal Town Centre and East Corrimal shops.
- » Providing flexible community and business space within the heritage precinct, including the potential for tele-working and start-ups.
- » Realignment and rehabilitation of North Corrimal Creek to establish a new riparian corridor with enhanced biodiversity outcomes, while providing a contiguous area of PMF-free developable land.
- » Providing a regional walking and cycling path through the site, connecting Railway Street in the north across Towradgi Creek to the south.
- » Retention of key ecological areas within the southern section of the site and integrated with the riparian corridor, including provision of a suitable buffer to the existing grey headed flying fox camp.
- » Providing a suitable buffer distance from the rail and state road corridors and appropriate landscaping adjacent to the site for noise attenuation.
- » New site access from Railway Street with a proposed roundabout at the intersection of Harbinger Street.

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**Figure 1 Corrimal Coke Works Master Plan**



Source: DKO

The Concept Master Plan and supporting studies have informed the rezoning of the site.

## Gateway decision

On 20 August 2018, the Executive Director, Regions at the DPI&E, delegate of the Minister for Planning, determined that that, under section 3.34(2) of the EP&A Act 1979, that an amendment to the WLEP 2009 should proceed, subject to the following conditions:

1. *To ensure consistency with 9.1 Directions 2.3 Heritage Conservation and 4.3 Flood Prone Land, the following studies are to be completed prior to public exhibition:*
  - *An Aboriginal cultural heritage assessment;*
  - *A conservation management plan that provides for the long-term conservation of significant coke work heritage components;*
  - *Revised flood study (including flood modelling); and*
  - *Geomorphological report*
2. *The following studies are also to be completed prior to public exhibition:*
  - *A revised ecological assessment;*
  - *A revised traffic impact assessment; and*
  - *A revised remediation action plan*
3. *Public exhibition is required under section 3.34(2)(c) and schedule 1 clause 4 of the Act as follows:*
  - *The planning proposal must be made publicly available for a minimum of 28 days; and*
  - *The planning proposal authority must comply with the notice requirements for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals, as identified section 5.5.2 of A guide to preparing local environmental plans (Department of Planning and Environment 2016).*
4. *Consultation is required with the following public authorities/organisations under section 3.34(2)(d) of the Act and/or to comply with the requirements of relevant Section 9.1 Directions:*
  - *Roads and Maritime Services;*
  - *Department of Primary Industries – Water;*
  - *Environment Protection Authority;*
  - *Office of Environment and Heritage;*
  - *Sydney Water;*
  - *RailCorp;*
  - *Department of Education;*
  - *Heritage Council;*
  - *National Trust of Australia (Illawarra Shoalhaven Regional Branch);*
  - *Endeavor Energy;*
  - *Transport for NSW;*
  - *Department of Primary Industries – Fisheries NSW;*
  - *Catchment Management Authority; and*
  - *State Emergency Service*

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*Each public authority is to be provided with a copy of the planning proposal and any relevant supporting material and given at least 21 days to comment on the proposal.*

5. *A public hearing is not required to be held into the matter by any person or body under section 3.34(2)(e) of the Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).*
6. *The timeframe for completing the LEP is to be 18 months following the date of the Gateway determination.*

However, on 17 February 2020, the DPI&E amended Condition 6 from '18 months' to '30 months to allow a 12-month extension of time.

The relevant conditions required prior to public exhibition have been met and are addressed in this report.

## Addressing and Achieving Council’s requirements

Council’s resolution of the 3rd April 2018 required that additional information be submitted before or during the exhibition period, to enable Council to consider the information prior to determining the Planning Proposal.

Below is a table outlining a summary of Council’s resolution/requirements and a response as part of this Planning Proposal.

Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
a. A site specific DCP Chapter be developed and submitted in conjunction with the amended Urban Design Concept Plan	A Site Specific DCP has been prepared to support this Planning Proposal.
b. Advice from the NSW Heritage Council for comment in relation to: <ol style="list-style-type: none"> <li>i. The Archaeological significance of the site</li> <li>ii. The potential for the site to be listed on the State Heritage Register</li> </ol>	<p>Heritage reports and a Conservation Management Strategy, along with subsequent peer reviews, have been prepared (refer to <b>Appendices S, J, Q, U and V</b>) which determine that the site has no archaeological significance, however does have local heritage significance.</p> <p>The archaeological investigations failed to identify widespread, <i>in situ</i> archaeological remains associated with the tramway which was known to run through the study area. As such, no heritage constraints were identified from within the area subject to historical archaeological testing (refer to <b>Appendix T</b>).</p> <p>Council has progressed a heritage listing for part of the site through a separate Planning Proposal.</p> <p>Council has also nominated the site for State Heritage Listing. This is a separate statutory process that has no direct bearing on this Planning Proposal.</p>
c. Further investigation of the relevant wastewater system capacity, including water cycle management/water services in the development site.	The Servicing Strategy Report Summary prepared by BG&E ( <b>Appendix X</b> ) confirms that the wastewater system can accommodate the proposed development.
d. Review of the local stormwater system	The Servicing Strategy Report prepared by BG&E ( <b>Appendix X</b> ) confirms that the stormwater system can accommodate the proposed development.
e. Hydrological review in relation to the rail corridor bridge to the south east of the site.	A Flood Study has been prepared and is included at <b>Appendix I</b> .

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Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
f. An amended Traffic Impact Assessment	An amended Traffic Impact Assessment has been prepared ( <b>Appendix R</b> ), which assesses the impacts of the development on the surrounding road network. The Railway Street/Memorial Drive intersection is proposed to be upgraded as part of the development. Although not strictly required, a roundabout at the intersection of Harbinger Street is proposed to provide an enhanced traffic management outcome for the development and existing residents to the north of Railway Street.
g. Review of Sydney Trains 33kV Aerial Line asset on the western side of the rail corridor	A review of the Sydney Trains 33kV Aerial Line was undertaken as part of the Servicing Strategy Report Summary by BG&E ( <b>Appendix X</b> ). Sydney Trains confirmed that feeder 787 does not currently have an easement as the station carpark and the access road is owned by RailCorp.
h. A Rail and Road Acoustic and Vibration Assessment be prepared	A noise and vibration assessment was undertaken by Renzo Tonin & Associates ( <b>Appendix R</b> ). The study found that noise and vibration issues do not present any constraint to rezoning the site for primarily residential uses.
i. An Aboriginal Cultural Heritage Assessment be prepared.	<p>An Aboriginal Cultural Heritage Assessment was undertaken by Kelleher Nightingale Consulting Pty Ltd (<b>Appendix S</b>). Aboriginal community consultation has indicated that creek lines in the area were traditional fishing grounds and retain Aboriginal cultural value for their connection to this activity, however no specific or significant Aboriginal cultural features have been identified for the site.</p> <p>The site is heavily disturbed with limited potential for Aboriginal archaeological objects.</p> <p>One Aboriginal archaeological site comprising Aboriginal objects is located within the study area: low density artefact scatter FCCW AFT 1 (AHIMS 52-2-4505). Avoidance or mitigation to impacts of this archaeological were deemed as unnecessary.</p>
j. A Conservation Management Plan for providing for the long-term conservation of significant Coke Works heritage components be prepared.	A Conservation Management Strategy has been prepared. Refer to <b>Appendix Q</b> .
k. Agreement to provide at least 5% Affordable Rental Housing within the development, and advice on the proposed management arrangements of the dwellings and the proposed housing needs sectors to be targeted.	Legacy and ICC are committed to providing 35 affordable rental housing units, representing 5% of an estimated 700 residential dwellings.

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Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
<p>i. A Revised Ecological Impact Assessment be prepared addressing the following:</p> <ul style="list-style-type: none"> <li>i. Potential impacts to micro bats roosting on the site; and</li> <li>ii. Potential for Green and Golden Bell Frog habitat on the site.</li> </ul>	<p>An updated Flora and Fauna Assessment has been prepared by EcoLogical (<b>Appendix M</b>).</p> <p>Further investigations to determine the presence of the microchiropteran bat (microbat) habitat found no evidence found of microbats using any of the structures present on the subject site. No microbats were seen, or any clear evidence found of microbats having used the buildings at any time.</p> <p>The report also found that the study area was not considered to provide habitat for the Green and Golden Bell Frog.</p> <p>Although not specifically referenced in the Council resolution, additional monitoring and proposed management measures for the existing grey-headed flying camp have been prepared.</p>
<p>m. A revised Remediation Action Plan</p>	<p>A Remediation Action Plan (<b>Appendix K</b>) and a Remediation Action Plan Endorsement (<b>Appendix L</b>) has been prepared by Arcadis to provide the information required.</p>
<p>n. Advice on the proposed facilities and / or infrastructure, including costings, that are proposed to be incorporated into a draft planning agreement.</p>	<p>Legacy has provided a letter of offer for a VPA that details a range of public benefits that will be provided as part of the development. (<b>Appendix D</b>).</p>

## Heritage Planning

The Council resolved in April 2018 to add part of the former Corrimal Coke Works site to Schedule 5 and add to the Heritage Map of the WLEP 2009, to identify the site as a heritage item of local significance and enable its conservation to be considered as part of any development proposal.

Council received a Gateway Determination from the DP&E on 26 February 2020. A draft PP was exhibited from 9th March to 8th April 2020 and on 29th June 2020 Council approved that part of the former Corrimal Coke Works site be listed as a local heritage item in the WLEP 2009. As such, this PP does not address a local heritage listing of the site.

## Conclusion

This PP provides the justification for achieving the broader strategic planning framework that will support the delivery of the broader objectives for redevelopment of the rezoning area, focused on providing new housing in close proximity to Corrimal train station and Corrimal town centre, approximately 5.5km from Wollongong CBD.

The PP provides evidence to demonstrate that the site is suitable for the proposed zoning and the proposal provides development outcomes that appropriately balances economic, environmental and social considerations. The outcome from the review of the site’s strategic context as well as the site-specific analysis and merit assessment, provides high confidence that the site has the capacity and suitability to be supported for a rezoning.



# 1 Introduction

## 1.1 Purpose of the Planning Proposal

This Planning Proposal (PP) has been prepared on behalf of Legacy Property (Legacy) and the Illawarra Coke Company Pty Ltd (ICC). The PP seeks to amend the Wollongong Local Environmental Plan (WLEP) 2009 to rezone the 18.18 hectare (ha) Corrimal Coke Works site (the site) located at 27 Railway Street, Corrimal, within the Wollongong Local Government Area (LGA). The site has frontages to Memorial Drive, Railway Street, Towradgi Creek and South Coast railway line.

Corrimal is well located, being adjacent to the railway line and Memorial Drive, which provides a direct road link south towards Wollongong and north to the Princes Highway, linking to Sydney. The site is located approximately 4 kilometre (km) north of the University of Wollongong and approximately 5.5km north of the Wollongong Central Business District (CBD) and 63.5km south of the Sydney CBD.

Corrimal town centre is a 350 metre (m) walk from the site, enabling easy access to major supermarkets, speciality retail, Corrimal Hotel, banks, dentists, pharmacy's, gyms, community centre, restaurants, cafes and a number of other retail uses. Land uses directly surrounding the site consist predominantly of low to medium density residential development, open space and transport infrastructure (road and rail corridors).

The site, in context, is shown in **Figure 2** below. An aerial image of the site is shown in **Figure 3**.

**Figure 2 The site in context**



Source: Nearmap 2020

**Figure 3 Aerial view of the rezoning area**



Source: Near Maps

The purpose of this PP is to amend the WLEP 2009 to rezone the existing 18.18ha Corrimal Coke Works site from RE2 Private Recreation, IN3 Heavy Industrial and SP2 Infrastructure to R3 Medium Density Residential and RE1 Public Recreation, to accommodate approximately 700 – 750 new dwellings. The portion of the site zoned SP2 Infrastructure will be retained. The site comprises Lot 1 in Deposited Plan (DP) 795791, Lot 5 in DP 749492, Lot 126 DP 598190 and Lot 11 DP 749492.

## 1.2 Background

The Corrimal site operated as a Coke Works from 1912 to 2014. The site was decommissioned in 2014 and since this time has been locked up and vacant. In considering its future, ICC engaged expert consultants to understand the opportunities and constraints of the site. Original concept planning identified the potential for a mix of attached or semi-attached dwellings and residential flat buildings under a R3 Medium Density Residential zoning. The remainder of the site was proposed to be rezoned to RE1 Public Recreation.

The original draft PP was prepared and submitted to Council in October 2017. The PP was then placed on preliminary public exhibition from 23rd October to 24th November 2017. Council prepared a preliminary

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assessment, which was endorsed by Council (subject to further technical and design studies) on 3rd April 2018 and forwarded to the Department of Planning, Industry and Environment (DPI&E) for a Gateway determination on 23rd April 2018.

The Gateway determination was issued by the DPI&E on 20th August 2018, allowing the rezoning proposal for the Corrimal Coke Works site to proceed subject to conditions, within a timeframe of 18 months. On 17th February 2020, the DPI&E amended Condition 6 from '18 months' to '30 months' to allow a 12-month extension of time. This PP addresses and responds to Council's resolution as well as the Gateway determination.

In December 2018, ICC and Legacy held a series of visioning workshops with key stakeholders from Council, Neighbourhood Forum 4, Corrimal Community Action Group (CCAG), Corrimal Region Action Group (CRAG) and the Corrimal Chamber of Commerce. These workshop outcomes informed the vision and principles included as part of the concept Master Plan for the PP. Further stakeholder meetings and a community information session were held in late March 2019, with 120 surveys completed as part of the community engagement.

An updated PP and supporting technical studies were submitted to Council in May 2019. Since this time there has been extensive dialogue to address Council queries, State agency feedback and further revisions to the PP and Concept Master Plan.

This PP now fully responds to all Council feedback and is submitted to Council for public exhibition, final endorsement and subsequent amendments to the WLEP 2009 by the DPI&E.

### 1.3 Summary of the Planning Proposal

The site is well placed to support 'in-fill' development, given its adjacency to existing residential development in Corrimal, its location next to Corrimal train station and its proximity to the Corrimal town centre.

As part of the PP, pre-exhibition consultation has been undertaken with the DPI&E, selected state agencies and Wollongong Council in order to inform the proposed planning controls on the site.

A summary table identifying the proposed outcomes of this PP are identified in **Table 1** below.

**Table 1 Summary of the Proposal**

<b>Property Details</b>	The total site comprises 4 existing lots: <ul style="list-style-type: none"> <li>» Lot 1 in DP 795791</li> <li>» Lot 5 in DP 749492</li> <li>» Lot 126 DP 598190</li> <li>» Lot 11 DP 749492</li> </ul>
<b>Area</b>	18.18ha (181,754m <sup>2</sup> )
<b>Proposal</b>	Amend WLEP 2009 as follows: <b>Land Zoning Map 024</b> Remove the RE2 Private Recreation and IN3 Heavy Industrial zoning from the site and replace with: <ul style="list-style-type: none"> <li>» R3 Medium Density Residential</li> <li>» RE1 Public Recreation</li> </ul> The portion of the site zoned SP2 Infrastructure will be retained. <b>Minimum Lot Size (MLS) Map 024</b> Remove the 1.99ha MLS from the part of the site zoned IN3 and introduce a new MLS of 449 m <sup>2</sup> for the land zoned R3 Medium Density Residential. <b>Height of Building (HOB) Map 024</b> Remove the 9m height control from part of the site zoned RE2.

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Insert a height control of 9m over all RE1 zoned land.

Insert the following height controls over R3 zoned land - 9m, 13m, 15m, 18m and 22m

**Floor Space Ratio (FSR) Map 024**

No FSR control currently exists for the site.

Insert the following FSRs over all R3 zoned land; 0.75:1, 1.2:1, 1.5:1, 2:1 and 2.5:1

No FSR control is proposed for RE1 land

**Riparian Land Map 024**

Amend the location of the riparian corridor to reflect the creek re-alignment.

Remove the foreshore building line from the map.

Remove any land located below the foreshore building line from the map.

**Natural Resource Sensitivity Map 024**

Amend the Natural Resource Sensitivity map to include one area of biodiversity sensitivity in the southern area of the site.

**Key Sites Map 024**

Create a Key Sites Map to include the site as a key site in terms of Clause 7.18

**Urban Release Area 024**

Create a Urban Release Area Map to include the site and thus Part 6 of the LEP is to apply

**Part 7 Local Provisions – General**

**Include two new local provisions clauses:**

The following clause will be included in Part 7 to allow increased heights, beyond the maximum height control of 22m, for C1 North Stack, Fine Coal Bin, and C1 Brick Chimney Stack, which currently sit at heights of approximately 36.8m and 29m respectively:

**7.20 Former Corrimal Coke Works**

**Height of Development**

(1) *The height of any development on the former Corrimal Coke Works site may not exceed the height limit shown on the Height of Buildings Map, with the exception of the following heritage items:*

- a) *C1 North Stack*
- b) *C1 Brick Chimney Stack*
- c) *C1 Fine Coal Bin*

(2) *The following height limits are permissible for the heritage items:*

- a) *C1 North Stack: 37m*
- b) *C1 Brick Chimney Stack: 29m*
- c) *C1 Fine Coal Bin: 25m*

The second local provisions clause will be included to provide certainty to the maximum building heights on the site, by allowing lift overrun or other ancillary uses to exceed the height outlined in the building heights map.

**7.21 Height of buildings at Corrimal Coke Works site**

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1. *The consent authority may grant development consent to development for the purpose of rooftop plant, lift towers, lift motor rooms, pergola and or communal open space and access to and structures associated with such space, that would exceed or causes a building to exceed, the height limits set by clause 4.3, but only if the consent authority is satisfied that the structures -*
  - a) *are for the purposes of equipment servicing the building, plant rooms, lift towers, lift motor rooms, fire stairs and other areas used exclusively for mechanical services or ducting; or*
  - b) *are for the purpose of communal open space and access to, and structures associated with that space; or*
  - c) *for both (a) and (b); and*
  - d) *are not an advertising structure; and*
  - e) *does not include floor space area and is not reasonably capable of modification to include floor space area; and*
  - f) *will cause minimal overshadowing; and*
  - g) *any such rooftop structure referred to in (1)(a) and 1(b) is fully integrated into the design of the building."*

**Schedule 1 Additional permitted uses**

The following clause will be included in Schedule 1 Additional Permitted Uses to ensure that convenience neighbourhood retail facilities and commuter services near Corrimal train station can be provided:

***Use of certain land at the former Corrimal coke works site:***

- (1) *This applies to land at the former Corrimal coke works site as mapped*
- (2) *Development for the purposes of food and drink Premises, shops, business premises and neighbourhood supermarket (1,000m<sup>2</sup>) is permitted with consent, but only if at ground floor and within 150m of the train station*
- (3) *Development for purposes of food and drink Premises, shops, business premises and and neighbourhood supermarket is permitted up to a maximum of a total GFA of 2,000m<sup>2</sup>, with no one shop (except for the neighbourhood supermarket) to be more than 250m<sup>2</sup> in size.*

These outcomes are explained in further detail in the '**Planning Proposal Part 2 – Explanation of Provisions**' section of this report. A Site Specific Development Control Plan (DCP) has also been prepared to support the proposed rezoning.

In order to support the proposed rezoning, a Concept Master Plan has been developed to identify future potential land uses and design principles. The rezoning proposal is outlined in detail in Section 4 of this report.

## 1.4 Objective of this report

The objective of this report is the proposed amendment to the WLEP 2009 to facilitate the redevelopment of the site to accommodate primarily residential land uses intended to assist in meeting housing targets for the Wollongong LGA and the suburb of Corrimal.

The PP is consistent with the requirements of Section 55 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in particular the guidelines issued under Section 55(3) of the EP&A Act and has been prepared having

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regard to the DPI&E’s ‘A guide to preparing planning proposals’ (2016) and ‘A guide to preparing local environmental plans.

The PP provides:

- » comprehensive details on the subject site and its surrounds;
- » responses to the Council resolution and the Gateway requirements (refer to **Section 2.5** below);
- » identification of the Environmental Planning Instruments (EPIs), non-statutory planning documents (such as Development Control Plan (DCPs)) and other strategies (planning or otherwise) applying to the subject site and/or the PP, as well as identification of the relevant controls and requirements contained within those EPIs, non-statutory planning documents and strategies;
- » a statement of the objectives and intended outcomes of the PP;
- » explanation of the provisions that are to be included in the proposed instrument;
- » thorough justification of the PP against the questions set out in the above-mentioned guidelines, demonstrating that the proposal is in the public interest, and is worthy of approval;
- » identification of the WLEP 2009 maps which would be amended under the PP;
- » details of the community consultation that has been/will be undertaken on the PP;
- » a project timeline detailing anticipated timeframe for the plan-making process.

The preparation of this report and supporting technical studies has involved the collaboration of a multi-disciplinary team to ensure all relevant issues have been addressed. The documentation submitted in support of the PP is identified in **Table 2** below. This PP should be read in conjunction with these technical reports.

**Table 2 Supporting Technical Reports**

Report	Prepared by/author	Date	Appendices
Master Plan and Site Visual Analysis	DKO		Appendix A
Landscape Master Plan Report	Clouston Associates		Appendix B
Gateway Determination and subsequent extension Letter	DPI&E	20 August 2018 17 February 2020	Appendix C
VPA Letter of offer	Legacy Property		Appendix D
Geotechnical Assessment	Douglas Partners	25 May 2017	Appendix E
Geomorphology Assessment	Soil Conservation Service	19 March 2019	Appendix F
Creek Realignment Stability Assessment	BG&E	19 March 2019	Appendix G
Supplementary Riparian Corridor Information	Clouston Associates	5 August 2019	Appendix H
Flood Study	Cardno	2 May 2019	Appendix I
Additional Environmental Assessment	Arcadis	12 April 2017	Appendix J
Remediation Action Plan	Arcadis	13 May 2019	Appendix K

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<b>Report</b>	<b>Prepared by/author</b>	<b>Date</b>	<b>Appendices</b>
Remediation Action Plan Endorsement	Zoic Environmental Pty Ltd	17 May 2019	Appendix L
Flora and Fauna Assessment	EcoLogical	May 2019	Appendix M
Flying Fox Camp Proposed Management Actions	EcoLogical	25 March 2020	Appendix N
Flying Fox Strategy Peer Review	Ecosure	26 March 2020	Appendix O
Threatened Microbat Habitat Assessment	EcoLogical	22 July 2019	Appendix P
Conservation Management Strategy	Urbis	30 July 2019	Appendix Q
Noise and Vibration Assessment	Renzo Tonin & Associates	20 May 2019	Appendix R
Aboriginal Cultural Heritage Assessment	Kelleher Nightingale Consulting Pty Ltd	17 May 2019	Appendix S
Archaeological Test Excavation Report	Austral Archaeology	13 March 2020	Appendix T
Heritage Interpretation Strategy	Urbis	7 May 2019	Appendix U
Historical Heritage Assessment	Biosis	1 August 2017	Appendix V
Structural Assessment of Existing Structures	BG&E	21 June 2019	Appendix W
Servicing Strategy Report Summary	BG&E	15 April 2019	Appendix X
Traffic Impact Assessment	Bitzios Consulting	29 April 2019	Appendix Y
Economic Impact Assessment	Hill PDA	19 September 2017	Appendix Z
Retail Market Demand and Economic Impact Assessment	Urbis	July 2019	AppendixAA
Ilawarra – Shoalhaven: Housing Market Report for Corrimal Coke Works	Macro Plan Dimasi	22 February 2019	Appendix BB
Consultation Outcomes Report	Elton Consulting	1 May 2019	Appendix CC

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## 1.5 Wollongong Council resolution

Council’s resolution of 3 April 2018 resolved that additional information be submitted to enable Council to consider the information prior to determining the Planning Proposal. Below is a table outlining Council’s resolution/requirements and a response to the issues raised in the right-hand column.

**Table 3 Response to Council’s Resolution**

Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
a) A site specific DCP Chapter be developed and submitted in conjunction with the amended Urban Design Concept Plan	A Site Specific DCP has been prepared to support this Planning Proposal.
b) Advice from the NSW Heritage Council for comment in relation to: <ul style="list-style-type: none"> <li>iii. The Archaeological significance of the site</li> <li>iv. The potential for the site to be listed on the State Heritage Register</li> </ul>	<p>Heritage reports and a Conservation Management Strategy, along with subsequent peer reviews, have been prepared (refer to <b>Appendices S, J, Q, U and V</b>) which determine that the site has no archaeological significance, however does have local heritage significance.</p> <p>The archaeological investigations failed to identify widespread, <i>in situ</i> archaeological remains associated with the tramway which was known to run through the study area. As such, no heritage constraints were identified from within the area subject to historical archaeological testing (refer to <b>Appendix T</b>).</p> <p>Council has progressed a heritage listing for part of the site through a separate Planning Proposal.</p> <p>Council has also nominated the site for State Heritage Listing. This is a separate statutory process that has no direct bearing on this Planning Proposal.</p>
c) Further investigation of the relevant wastewater system capacity, including water cycle management/water services in the development site.	The Servicing Strategy Report Summary prepared by BG&E ( <b>Appendix X</b> ) confirms that the wastewater system is capable of accommodating the proposed development.
d) Review of the local stormwater system	The Servicing Strategy Report prepared by BG&E ( <b>Appendix X</b> ) confirms that the stormwater system is capable of accommodating the proposed development.
e) Hydrological review in relation to the rail corridor bridge to the south east of the site.	A Flood Study has been prepared and is included at <b>Appendix I</b> .
f) An amended Traffic Impact Assessment	An amended Traffic Impact Assessment has been prepared ( <b>Appendix R</b> ), which assesses the impacts of the development on the surrounding road network. The Railway Street/Memorial Drive intersection is proposed to be upgraded as part of the development. Although not strictly required, a roundabout at the intersection of Harbinger Street is proposed to provide an enhanced traffic management outcome for the development and existing residents to the north of Railway Street.



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Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
g) Review of Sydney Trains 33kV Aerial Line asset on the western side of the rail corridor	A review of the Sydney Trains 33kV Aerial Line was undertaken as part of the Servicing Strategy Report Summary by BG&E ( <b>Appendix X</b> ). Sydney Trains confirmed that feeder 787 does not currently have an easement as the station carpark and access road is owned by Railcorp.
h) A Rail and Road Acoustic and Vibration Assessment be prepared	A noise and vibration assessment was undertaken by Renzo Tonin & Associates ( <b>Appendix R</b> ). The study found that noise and vibration issues do not present any constraint to rezoning the site for primarily residential uses.
i) An Aboriginal Cultural Heritage Assessment be prepared.	<p>An Aboriginal Cultural Heritage Assessment was undertaken by Kelleher Nightingale Consulting Pty Ltd (<b>Appendix S</b>).</p> <p>Aboriginal community consultation has indicated that creek lines in the area were traditional fishing grounds and retain Aboriginal cultural value for their connection to this activity, however no specific or significant Aboriginal cultural features have been identified for the site.</p> <p>The site is heavily disturbed with limited potential for Aboriginal archaeological objects.</p> <p>One Aboriginal archaeological site comprising Aboriginal objects is located within the study area: low density artefact scatter FCCW AFT 1 (AHIMS 52-2-4505). Avoidance or mitigation to impacts of this archaeological were deemed as unnecessary.</p>
j) A Conservation Management Plan for providing for the long-term conservation of significant Coke Works heritage components be prepared.	A Conservation Management Strategy has been prepared. Refer to <b>Appendix Q</b> .
k) Agreement to provide at least 5% Affordable Rental Housing within the development, and advice on the proposed management arrangements of the dwellings and the proposed housing needs sectors to be targeted.	Legacy and ICC are committed to providing 35 affordable rental housing units, representing 5% of an estimated 700 residential dwellings.
<p>l) A Revised Ecological Impact Assessment be prepared addressing the following:</p> <ul style="list-style-type: none"> <li>iii. Potential impacts to micro bats roosting on the site; and</li> <li>iv. Potential for Green and Golden Bell Frog habitat on the site.</li> </ul>	<p>An updated Flora and Fauna Assessment has been prepared by EcoLogical (<b>Appendix M</b>).</p> <p>Further investigations to determine the presence of the microchiropteran bat (microbat) habitat found no evidence found of microbats using any of the structures present on the subject site. No microbats were seen or any clear evidence found of microbats having used the buildings at any time.</p> <p>The report also found that the study area was not considered to provide habitat for the Green and Golden Bell Frog.</p> <p>Although not specifically referenced in the Council resolution, additional monitoring and proposed management measures for the existing grey-headed flying camp have been prepared.</p>

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Required additional information (shortened in this executive summary)	Response (shortened in this executive summary)
m) A revised Remediation Action Plan	A Remediation Action Plan ( <b>Appendix K</b> ) and a Remediation Action Plan Endorsement ( <b>Appendix L</b> ) has been prepared by Arcadis to provide the information required.
n) Advice on the proposed facilities and / or infrastructure, including costings, that are proposed to be incorporated into a draft planning agreement.	Legacy has provided a letter of offer for a VPA that details a range of public benefits that will be provided as part of the development. ( <b>Appendix D</b> ).

## 1.6 Gateway Determination

Gateway approval was received on 20<sup>th</sup> August 2018 by the DPI&E, with a 12-month extension granted on 17<sup>th</sup> February 2020. The approval was granted subject to conditions. These conditions, along with our responses, are identified in the table below.

**Table 4 Response to the DPI&Es conditions**

Condition	Response
1. To ensure consistency with 9.1 Directions 2.3 Heritage Conservation and 4.3 Flood Prone Land, the following studies are to be completed prior to public exhibition: <ul style="list-style-type: none"> <li>• An Aboriginal Cultural Heritage Assessment</li> <li>• A Conservation Management Plan that provides for the long-term conservation of significant coke work heritage components</li> <li>• Revised flood study (including flood modelling); and</li> <li>• Geomorphological report</li> </ul>	These required reports have all been provided. Refer to Tables 2 and 3 above.
2. The following studies are also to be completed prior to public exhibition: <ul style="list-style-type: none"> <li>• A revised ecological assessment</li> <li>• A revised traffic impact assessment; and</li> <li>• A revised remediation plan</li> </ul>	These required reports have all been provided. Refer to Tables 2 and 3 above.

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Condition	Response
<p>3. Public Exhibition is required under section 3.34(2)(c) and schedule 1 clause 4 of the Act as follows:</p> <ul style="list-style-type: none"> <li>a) The planning proposal must be made publicly available for a minimum of 28 days; and</li> <li>b) The planning proposal authority must comply with the notice requirement for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals as identified in section 5.5.2 of A guide to preparing local environmental plans (Department of Planning and Environment 2016).</li> </ul>	<p>The Planning Proposal will be exhibited in accordance with these requirements.</p>
<p>4. Consultation is required with the following public authorities/organisations under section 3.34(2)(d) of the Act and/or comply with the requirements of relevant section 9.1 Directions:</p> <ul style="list-style-type: none"> <li>• Roads and Maritime Services;</li> <li>• Department of Primary Industries – Water;</li> <li>• Environment Protection Authority;</li> <li>• Office of Environment and Heritage;</li> <li>• Sydney Water;</li> <li>• RailCorp;</li> <li>• Department of Education;</li> <li>• Heritage Council;</li> <li>• National Trust of Australia (Illawarra Shoalhaven Regional Branch);</li> <li>• Endeavor Energy;</li> <li>• Transport for NSW;</li> <li>• Department of Primary Industries – Fisheries NSW;</li> <li>• Catchment Management Authority; and</li> <li>• State Emergency Service</li> </ul> <p>Each public authority is to be provided with a copy of the planning proposal and any relevant supporting material and given at least 21 days to comment on the proposal.</p>	<p>Selected consultation has occurred where necessary to address matters prior to public exhibition.</p> <p>Consultation with all specified authorities/organisations will be undertaken as part of the statutory exhibition period. Refer to <b>Part 5 Community Consultation.</b></p>
<p>5. A public hearing is not required to be held into this matter by any person or body under section 3.34(2)(e) of the Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).</p>	<p>Noted.</p>
<p>6. The timeframe for completing the LEP is to be 30 months following the date of the extended Gateway determination.</p>	<p>Noted.</p>

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A review of the table above demonstrates that this PP has addressed the Gateway study requirements.

## 1.7 Heritage Planning

The Council resolved in April 2018 to add part of the former Corrimal Coke Works site to Schedule 5 and add to the Heritage Map of the WLEP 2009, to identify the site as a heritage item of local significance and enable its conservation to be considered as part of any development proposal.

In February 2020, a draft Planning Proposal for a local heritage listing was submitted to the NSW DPI&E for Gateway determination. A Gateway Determination was issued 26 February 2020 and the Heritage Amendment draft Planning Proposal was exhibited from 9 March to 8 April 2020. On 29th June 2020 Council approved that part of the former Corrimal Coke Works site be listed as a local heritage item in the WLEP 2009.

As such, this PP does not need to address a local heritage listing of the site.

## 2 Site Analysis

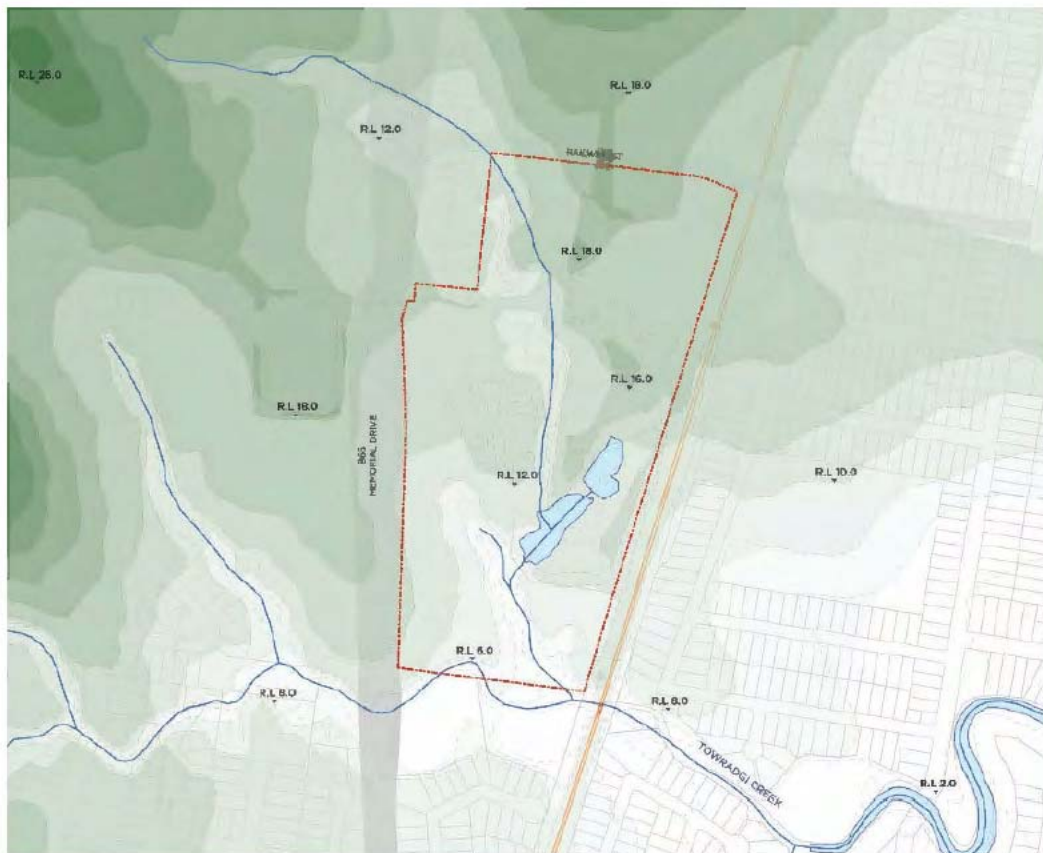
Legacy and ICC have undertaken extensive research and assessment to inform the suitability and capacity of the site for redevelopment. This section contains a summary of technical investigations relating to the rezoning area, including ecology, flooding and hydrology, land contamination, traffic and transport, infrastructure utilities and services and heritage.

This section of the report also provides an overview of the social infrastructure in the area and an analysis of the demographics and housing need. Further details of the analysis can be found in the supporting documentation accompanying this rezoning, outlined in **Table 2**.

### 2.1 Topography

The topography of the site is relatively flat, with the exception of the existing modified creek channel and various berms associated with former industrial operations. There is a minor fall in the landscape from north to south, with the low point of the site being associated with Towradgi Creek at the southern extent. **Figure 5** shows the existing topography of the site based on 2m GIS contours. Topography does not present a significant constraint to development.

**Figure 4 Site Topography**



Source: E8urban

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## 2.2 Soil

In accordance with the Acid Sulfate Soils (ASS) Assessment Guidelines, there is typically a requirement for assessment of the potential for estuarine ASS where the ground surface levels across the site are below (Reduced Level) RL 5.

The majority of the site is classified as 'no known occurrence of ASS – Class 5' with a small portion classified as 'Low Probability Class 3'. As part of future investigation, it is recommended that additional testing of soils be carried out in areas proposed for creek realignment or deep trench excavation for services.

Douglas Partners has indicated that even if ASS or acid soil conditions are encountered, this can be mitigated through engineering solutions.

## 2.3 Geology

The Wollongong – Port Hacking 1:100 000 Geological Series Sheet indicates that the site is underlain by the Erin Vale Formation (comprising fine to medium grained lithic sandstone) and Pheasants Nest Formation (comprising interbedded lithic sandstone, coal, carbonaceous claystone, siltstone and claystone). Almost all the site is mantled by alluvium (comprising quartz and lithic "fluvial" sand, silt and clay) associated with North Corrimal Creek and Towradgi Creek.

Geological investigations undertaken by Douglas Partners inferred the following geological model for the site:

- » bedrock comprising weathering-prone shales, siltstone and sandstone with minor included coalbands, possibly representing the Unanderra Coal Member
- » a highly variable thickness of clay-rich residual and alluvial soils underlying filling within areas previously affected by coke production and storage and directly underlying the surface within the mostly undisturbed, south-western section of the site. These natural soils range from very soft to hard conditions. The natural soils have been locally removed to provide foundation surfaces for sections of the coke works. Soils and weathered rock underlying or adjacent to the coke ovens have significantly reduced moisture contents and may have been "baked".
- » a capping layer ranging from 0.2m to in excess of 3.5m of mostly uncontrolled filling within areas previously affected by coke production and storage. The predominant filling materials are coke (from fines to cobble size), coal, coalwash and clay
- » a modified course of North Corrimal Creek underlying sections of former coke stockpile areas.

## 2.4 Geotechnical

Douglas Partners undertook a geotechnical assessment of the site, which indicates that the site can be made suitable for residential development from a geotechnical perspective. While no geotechnical conditions present a constraint to rezoning and development of the site, the following considerations will need to be incorporated into the design of earthworks to facilitate urban development:

- » existing uncontrolled fill (particularly that comprising coal and coke waste and associated waste fines) needs to be managed as part of future development. The degree of modification (if any) that will be required to provide a suitable fill material will be determined by future investigation;
- » minor constraints relate to erosion potential of disturbed materials, localised waterlogging, localised abnormal moisture content within the coke production area, sodicity and soil aggressiveness, which can be effectively handled during the earthworks design; and
- » as part of future investigations, an earthworks methodology will need to be prepared to ensure the reuse of existing site soils and optimised procedures for the site.

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Regarding specific issues, Douglas Partners outlined the key considerations to take into account, as shown in **Table 5**. These factors can be addressed through earthworks design.

**Table 5 Geotechnical conditions and mitigations**

Geotechnical condition	Mitigation
<p>Erosion Potential - The geological mapping identified the development of minor erosion rills within existing filling of the previous stockpile areas. No bank erosion has been observed along the creek alignments nor is there any WCC record of major scour events within the subject sections of North Corrimal Creek or Towradgi Creek.</p>	<p>The potential for erosion of exposed fill materials (particularly silt and sand size fractions) by concentrated flow is assessed as a minor constraint to development which can be addressed with good engineering practice. To minimise the constraints imposed by erosion potential, earthworks within the site should be undertaken in stages, with adequate erosion and sedimentation controls in place.</p> <p>Treatment of batters constructed as part of the future earthworks should include:</p> <ul style="list-style-type: none"> <li>» filling using select materials (i.e. non-dispersive or erodible) placed under controlled conditions;</li> <li>» provision of temporary surface cover (e.g. pegged matting) during the period of stream floor or batter revegetation.</li> <li>» channel lining or piping of drainage paths where appropriate.</li> </ul>
<p>Waterlogging - waterlogging and softening of alluvial soils and underlying residual soils are expected within creek floors, areas of new batters, areas adjacent to current water ponds and areas requiring removal of deeper sections of existing filling prior to placement of engineered filling.</p>	<p>Precautionary and remedial works for site preparation for residential development should include:</p> <ul style="list-style-type: none"> <li>» improvement of surface drainage including the interception of overland flow.</li> <li>» installation of subsurface drainage to protect road subgrades.</li> <li>» allowance for placement of a granular bridging layer over stripped alluvial or residual soils where trafficability or placement of engineered filling is affected by soft surface conditions.</li> </ul>
<p>Uncontrolled Filling and Reuse particularly that dominated by coalwash and coke products, or new coalwash filling which may be proposed for importation to raise site levels, will be governed by the requirements of the EPA Resource Recovery Order and WCC Coal Washery Refuse in Subdivisions Policy. It should be noted that coke products are not specifically included in the EPA Resource Recovery Order. However, as a combustible material with associated waste derived from coal, it is considered appropriate to include this material for assessment similar to coal washery reuse, in accordance with Council guidelines.</p>	<p>Further assessment will be required as part of the design process to categorise the fill and to determine its geotechnical suitability for reuse on the site. Earthworks design will need to consider WCC Coal Washery Refuse in Subdivisions Policy whereby:</p> <ul style="list-style-type: none"> <li>» very coarse materials (&gt;150 mm) or fine slurry materials (tailings) are to be rejected.</li> <li>» structures are to be slab on ground design. Other footing designs by a Structural/Geotechnical Engineer may be considered.</li> <li>» combustible contents to be determined from site sampling at specified regular frequency.</li> <li>» compaction to be in layers under full engineering control to at least 100% standard density.</li> <li>» combustible contents to be at a mean value not greater than 30% with the upper value not exceeding 40%.</li> <li>» inert fill should be used to backfill services trenches.</li> <li>» coalwash is to be covered by at least 300mm of inert cover.</li> <li>» proper site control to prevent run-off or dust nuisance.</li> </ul> <p>This is achievable to ensure that the site can be developed.</p>
<p>Abnormal Soil Moisture Content - Below the kiln flue, and likely the coke kilns, as well as the extensive concrete paving</p>	<p>Following removal of the existing structures, it is anticipated that exposure to cyclic wetting and drying will result in greater soil swelling than nearby natural soils. Subject to inspection and testing</p>

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Geotechnical condition	Mitigation
about the production area is likely to preserve low moisture contents.	following removal of structures, over-excavation and moisture re-conditioning of materials may be required. This is not expected to be a constraint to development.
Aggressivity - The pH, chloride, Sulfate and resistivity of soil and groundwater samples were compared to the requirements of the AS 2159 – 2009 for exposure classification of concrete and steel piles in soil. Most of the results indicated non-aggressive exposure classification, with only two of seven pH results for soils indicating a “Mild” exposure classification for concrete piles.	Aggressivity of soils is not considered to be a constraint to development.

## 2.5 Geomorphology

The site is traversed by North Corrimal Creek, which runs roughly North-west to South-east through the site, and Towradgi Creek, which runs generally along the southern boundary. In addition, an unnamed drainage line enters the site on the western boundary from under Memorial Drive and discharges into North Corrimal Creek.

Based on topographic datasets, North Corrimal Creek is considered a 2nd order stream (Strahler) with an approximate catchment area of 1.6km<sup>2</sup> upstream of the site. The steep headwaters drain the escarpment through well vegetated bushland before joining at the boundary of developed urban areas near Cox Avenue.

The form and alignment of the existing North Corrimal Creek has been substantially modified in the past through site filling and construction of online dams. These past impacts have been more pronounced in the upstream and central sections of the site. Downstream of the dams, the creek flows generally along the original alignment.

The existing channel form through the site largely consists of a continuous low flow channel typically 3 – 5m wide inset within a broader macro channel, approximately 30m wide and 4 - 6m deep. Bounding sediments of the low flow channel consists of mud and silt and there are no significant accumulations of mobile bed load deposits.

The riparian zone upstream of the dam is dominated by exotic weed species, while downstream a mixture of native and exotic species is evident. The riparian corridor is proposed to be realigned as part of the development. The current design of the realignment consists of a concept level design of the macro-channel and involves:

- » Channel reshaping and enlargement generally along the existing alignment for approximately 170m at the upstream extent of the site.
- » Realigning the channel closer to the western boundary of the site over a distance of approximately 560m.
- » Maintaining the downstream 70m of the existing creek up to the confluence with Towradgi Creek.

As outlined in the technical reports, the limited evidence of bedload transport through the existing North Corrimal Creek system means that the realignment design does not need to account for the transport of bedload sediment in any significant quantity. As a result, further progression of the realignment design will need to focus on the identified areas of potential channel instability while also providing for a complex assemblage of potential habitats and community amenity.

The revised design of the creek mimics the existing creek channel from through the site albeit with the provision of a much wider base width for the macro-channel. The relatively wide base width of up to 30m will allow low to moderate flood flow events to dissipate energy across the inset benches within the macro-channel. Further, the width will provide for the opportunity to include a low flow channel based on natural channel design principles.



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## 2.5.1 Creek Realignment

A major component of the rezoning involves the realignment of North Corrimal Creek through the site. A preliminary creek channel design was prepared by BG&E and provides the following typical parameters:

- » An average longitudinal grade of 1%;
- » An average 11m wide micro channel;
- » A 50-70m wide macro channel;
- » Reduced batter slopes and provision of required offsets from top of bank and Peak Median Flood (PMF) levels with batter slopes are no steeper than 1V:2H;
- » Increased riparian edge road verges to allow more recreational opportunities overlooking the creek channel;
- » Offsets from private property as a high-risk flood precinct; and
- » Any retaining walls being located above the PMF level.

After discussion with Council, DPI&E and Transport for NSW (TfNSW), further design and assessment was undertaken to demonstrate the long-term stability of the realigned creek addressing:

- » Revised civil design and commentary for proposed creek channel profile;
- » Revised flood modelling including output of 1% Annual Exceedance Probability (AEP) and PMF flood levels, flow velocities and bed shear stresses;
- » Geotechnical stability assessment including slip plane failure analysis; and
- » Geomorphological review and assessment.

BG&E prepared a subsequent Creek Realignment Stability Assessment integrating civil, hydraulic, geotechnical and geomorphological expertise in relation to the long-term stability and robustness of the proposed creek design.

The assessment concluded that the proposed batter slopes, offsets and morphology of the proposed creek realignment are robust and provide high confidence for long-term stability. Provided design and construction is undertaken in accordance with geotechnical, civil and structural engineering accepted practice and appropriately designed, the realigned creek channel can withstand flood velocities and perform in events up to and including the PMF. The creek alignment incorporates and balances civil, hydraulic, geotechnical, geomorphology and landscape design outcomes, and will provide an enhanced riparian asset for the Corrimal community and Council.

Hydraulic modelling of the proposed realignment indicates that flow velocities along the bulk of the realignment do not exceed erosion thresholds for turfed surfaces for the more frequent, moderate magnitude 2 year and 10-year Average Recurrence Interval (ARI) events. Further, hydraulic modelling outputs for the 1% AEP event indicates that flow velocities along the realignment are similar to those experienced along the existing watercourse through the site. Given the existing watercourse does not exhibit any significant channel stability issues, the proposed realignment has a high potential to attain a long-term stable condition with the establishment of a structurally diverse native riparian vegetation community.

A typical section of the proposed channel outlines the following general setbacks from structures:

- » The proposed low flow channel for the creek bank to bank is 11m wide;
- » The floodway on the eastern side is 12m wide;
- » The eastern batter varies between 14m and 23m from the edge of the verge of the internal perimeter road and has a slope of approximately 1V: 4H, subject to final landscaping design which may include terracing, rock log retaining walls or other treatments;
- » The floodway on the western side is 5m wide;

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- » The western batter varies between 14m and 23m from the boundary to the edge of floodway and has a slope of maximum 1V: 2H which is subject to landscaping final concept which may include terracing, rock log retaining walls or other treatments
- » The top of bank of the creek on the western side generally aligns with the site boundary and is set off from the edge of bitumen of Memorial Drive between 10-12.5m.
- » These dimensions will ensure that the offset from Memorial Drive will comply with Brisbane City Natural Channel Design Guideline (as referenced by Council), being greater than the zone defined by 1V:3H from toe of bank.

The level of assessment undertaken was considered highly detailed for the rezoning stage and demonstrates that the proposed riparian width is adequate to achieve a robust and acceptable design solution in future development of the site. The assessment provides a range of design recommendations that would be addressed as part of more detailed design of the creek realignment for a future development application.

Council and TfNSW have confirmed their acceptance of the proposed design parameters.

## 2.6 Hydrology

The site is located within the lower reaches of the Towradgi Creek catchment, which is characterised by an extensively developed floodplain, with relatively underdeveloped steep upper slopes. Located approximately 5km north of the Wollongong CBD, the Towradgi Creek catchment has a total area of approximately 7.3km<sup>2</sup>. The drainage network of Towradgi Creek catchment is comprised of the following tributaries:

- » Towradgi Creek
- » South Angels Creek
- » North Angels Creek
- » South Corrimal Creek
- » North Corrimal Creek
- » Carr Creek
- » Parker Creek

Towradgi Creek and North Corrimal Creek traverse the site. The majority of the site drains directly into the North Corrimal Creek, with the main production area generally draining south into a small on-site dam.

### 2.6.1 Hydrogeology

Groundwater is likely to be present within the deeper bedrock that consists of the Illawarra Coal Measures. The depth to the bedrock has been mapped at greater than 10m. Groundwater storage within the bedrock sequence would be dominated by fractures. The intensity, connectivity and orientation of the fracture network would determine the groundwater flow direction and velocity. The anticipated regional groundwater flow direction would be east towards the coast. The hydrogeology is summarised below:

*"The standing water level within the existing wells onsite ranged between 3.03m to 4.69m below top of casing. The inferred local groundwater flow direction on the site is to the south to south east. This opinion is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the Site and the easterly flow direction of Towradgi Creek towards the coastline."*

### 2.6.2 Flooding

The Corrimal Flood Study by Cardno found that significant flooding currently occurs on the low point of Railway Street, located to the north-west of the site. In the 100-year ARI event, flooding extends to the south,

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inundating the existing residential development at 29, 31 and 33 Railway Street. In the PMF event, areas of the existing Cross Street residential development are also inundated.

The proposed creek realignment has been designed to convey major flows up to PMF event within North Corrimal Creek through the site providing for creation of a flood free development area. The proposed creek works result in reduced flooding in the vicinity of Railway Street and within existing residential development on Cross Street for the 100-year ARI event and also the PMF event.

Maintaining flood plain storage in the 100-year ARI event is the main floodplain management constraint for the site. The realigned creek channel includes widening below the 100-year ARI flood level to maintain floodplain storage areas within the site.

The flood modelling demonstrates that development of the site will not result in any increased flooding either downstream or upstream of the site. As noted above, the development results in improvements to flooding in Cross Street and Railway Street.

## 2.7 Contamination

The land is not listed on the Environmental Protection Agency's (EPA) Contaminated Land Register. However, considering the former uses of land, comprehensive contamination assessments have been undertaken in order to understand the potential environmental liabilities associated with the historical uses of the site. These previous assessments include the following:

- » ADI Limited Stage 1 Site Investigation Report, Station Street, Corrimal (1996) Phase 1 and Phase 2 Contamination Reports
- » EnviroRisk Phase 1 Environmental Assessment, (2005)
- » EnviroRisk, Phase 2 Environmental Assessment, (2006)
- » ES Preliminary Site Investigation, 27 Station Street, Corrimal, March 2014
- » ES Detailed Site Investigation, 27 Station Street, Corrimal, July 2014
- » Arcadis Additional Environmental Assessment Works, 27 Station Street, Corrimal, April 2017
- » Arcadis Additional Environmental Assessment – Production Area, 27 Station Street, January 2018
- » Arcadis Flue, Stack and Powerhouse Assessment, 27 Station Street, March 2018
- » Arcadis, Remediation Action Plan (RAP) 13 May 2019

Previous environmental assessments have identified isolated areas of hydrocarbon impacted soil that have the potential to pose a risk to human health under the proposed land use. Hydrocarbon, copper and zinc are also present in soil and have the potential to pose a risk to ecological receptors. Asbestos fibres and fragments were identified in soil at isolated portions of the site.

There were minor exceedances of dissolved heavy metals and ammonia detected in shallow groundwater. These exceedances are considered typical of regional shallow groundwater conditions and are unlikely to pose a risk to human or local ecological receptors.

Although concentrations of contaminants of concern were detected above environmental assessment criteria, they were isolated and minimal compared to the wider site footprint. It is anticipated that through integration of the remedial strategies outlined in the RAP by Arcadis (refer to **Appendix K**) into the bulk earthworks civil design and construction stages of the project, the site can be suitable for the proposed use. The RAP has been endorsed by Zoic Environmental Pty Ltd (**Appendix L**).

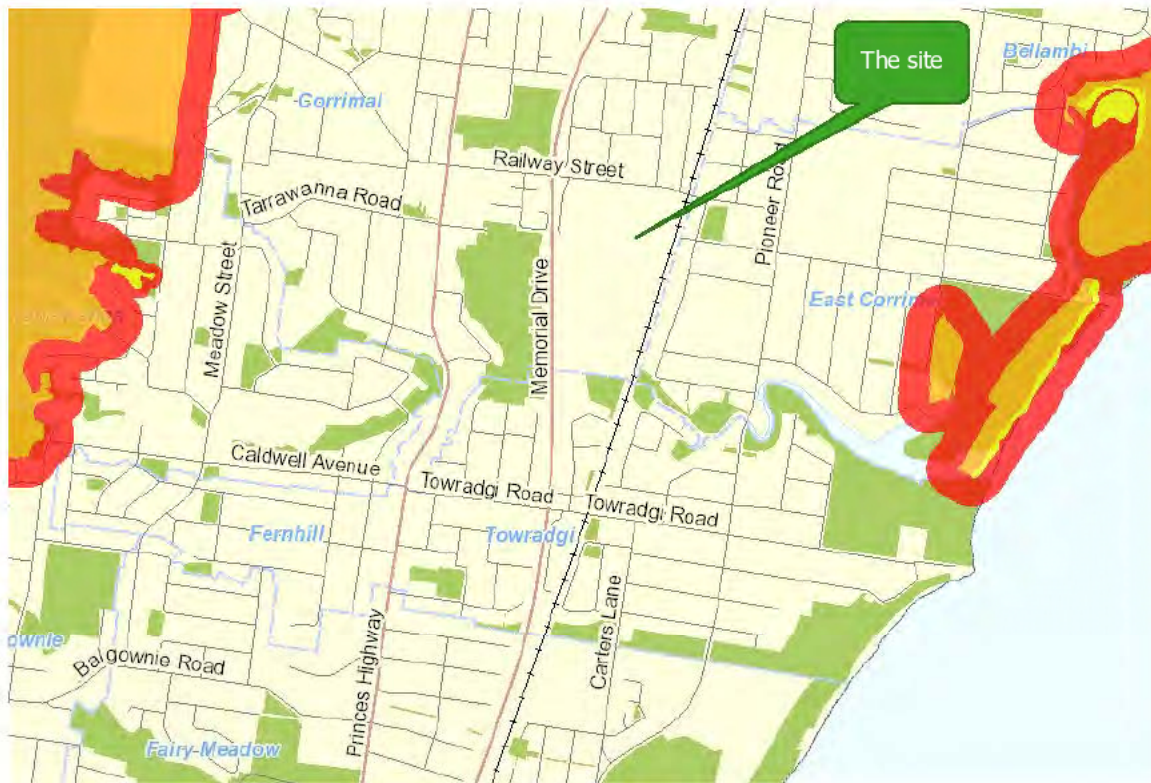
The objectives of the onsite remediation will be achieved subject to the successful implementation of the actions contained in the RAP, which will enable the site to be made suitable for the proposed residential, commercial and open space uses.

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## 2.8 Bushfire

The site is not identified as being Bushfire prone on the bushfire prone land map.

**Figure 5 Bushfire Prone Land**



Source: Wollongong Council

## 2.9 Ecological

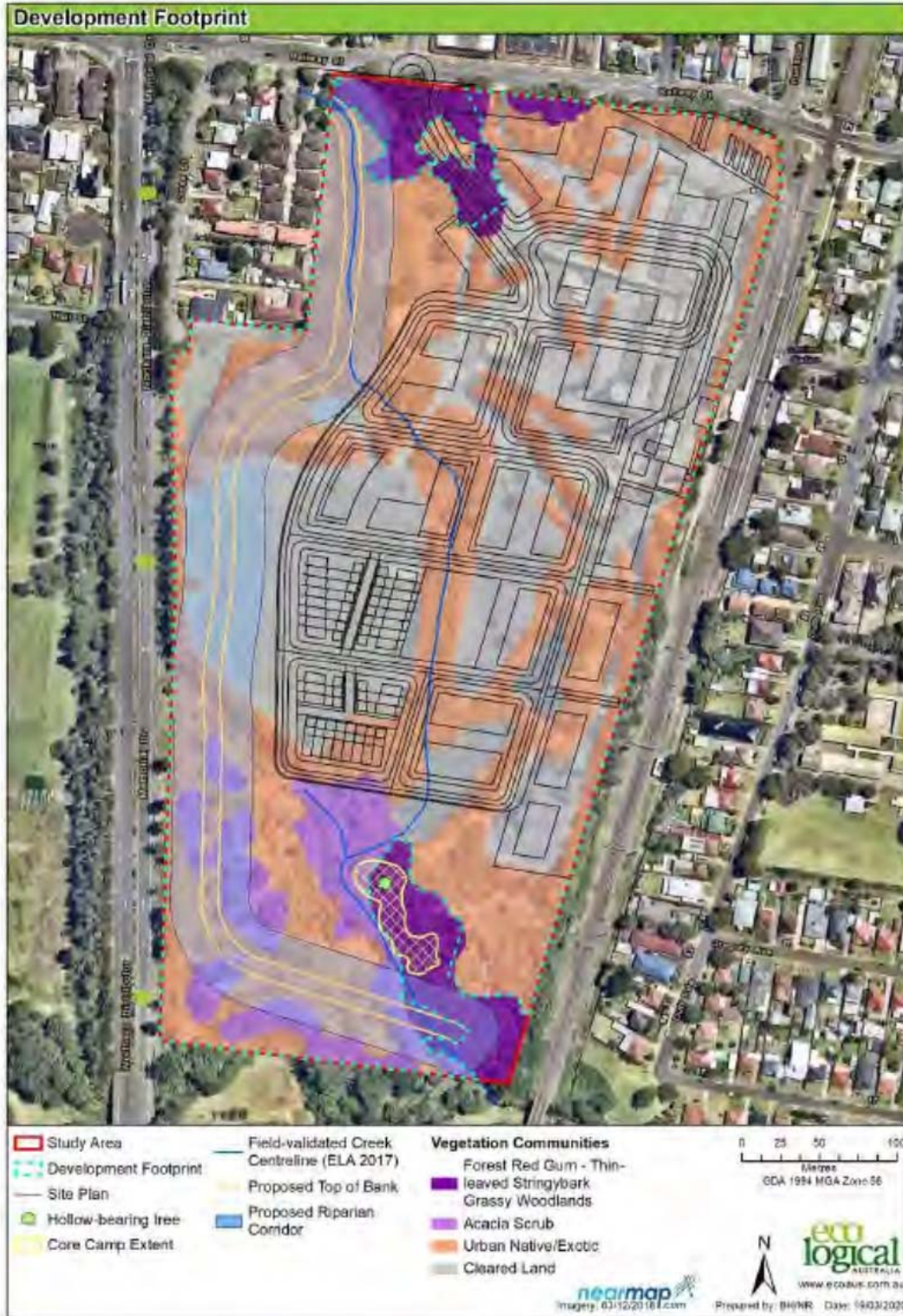
An assessment of the environmental impacts of the proposal was undertaken by EcoLogical (refer to **Appendix M**). The assessment determined that the proposed rezoning would result in the following:

- » realignment and revegetation of the riparian corridor along the western extent of the study area
- » removal of 8.28 ha of Urban Native and Exotic vegetation
- » removal of 0.58 ha of Forest Red Gum – Thin-leaved Stringybark Grassy Woodland
- » removal of 1.12 ha of Acacia Scrub

The proposed rezoning would retain 0.682 ha of Forest Red Gum – Thin-leaved Stringybark Grassy Woodland.

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Figure 6 Rezoning area



Source: EcoLogical

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## 2.9.1 Flora

One species listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and NSW Biodiversity Conservation Act 2016 (BC Act), *Eucalyptus scoparia* (Wallangarra White Gum), was identified within the study area. Within the study area, approximately eight individuals of this species were observed in a row adjacent to an internal road.

No other threatened flora species were recorded during the site inspections. Given the limited habitat available and its highly degraded condition, no other threatened flora species are considered likely to occur. A total of 108 species were identified during the field survey, including 53 exotic species, 48 endemic (locally native) species and five non-local planted natives.

Seven exotic flora species recorded within the study area are listed as requiring management consistent with the South East Regional Strategic Weed Management Plan (SERWMP) 2017.

### Vegetation Communities

The vast majority of the study area accommodates areas of cleared land (including roads, infrastructure, water bodies) or weeds/exotics. Three native vegetation communities were identified within the study area:

- » Forest Red Gum Thin-leaved Stringybark Grassy Woodlands - occurred as two patches, comprising approximately 1.27ha.

The Forest Red Gum Thin-leaved Stringybark Grassy Woodland was identified as being in a highly modified and disturbed condition with high levels of exotic species, with planted non-local native species and modified landforms present. This vegetation community forms part of the 'Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion' Endangered Ecological Community (EEC) listed under the BC Act. Neither of the patches present met the EPBC requirements. The proposed rezoning would retain and restore parts within the northern area and retain and restore the southern endangered ecological community.

The southern patch of this community (0.682ha) will be retained and rehabilitated. The northern patch will be largely deared as a result of Council's request to relocate the site access point and provide a roundabout at the intersection of Harbinger Street.

- » Acacia Scrub – A total of 1.30ha occurred within the south of the study area in association with the tributary of Towradgi Creek which runs through the southern portion of the site.

This vegetation community occurred as a tall dense shrubland to low closed forest with the height and density of the canopy increasing in proximity to the tributary of Towradgi Creek. It is unclear whether these species were part of the original vegetation type within this area, or if they have colonised this area following the formation of a dense canopy of Acacias and exotic species.

- » Urban Native and Exotic - an area of approximately 8.28ha was mapped within the study area

Within and surrounding the most disturbed parts of the study area, stands of vegetation were comprised of exclusively exotic species or consisted of rows of non-local native planted trees with a disturbed predominately exotic understorey.

All vegetation communities across the site were identified as having been subjected to moderate to high levels of disturbance including vegetation clearing/thinning of the canopy layer, infestation of exotic species and modification to the landform and soil profiles.

The only areas of vegetation, beyond the areas which have previously been disturbed, which will be impacted as a result of the proposal is 0.588ha of Forest Red Gum Thin-leaved Stringybark Grassy Woodland and 1.12ha of Acacia Scrub. All efforts have been made during the Master Planning process to ensure the majority of the native vegetation communities are not impacted. The removal of these small areas of vegetation would not impact on the health of the overall community.

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## 2.9.2 Fauna

One threatened fauna species, *Pteropus poliocephalus* (Grey-headed Flying-fox) was identified in the study area during surveys. The Grey-headed Flying-fox is listed as vulnerable under the BC Act and EPBC Act and was identified as occupying the patch of Forest Red-gum Thin-leaved Stringy Bark Grassy Woodlands at the southern extent of the study area, adjacent to the dam and existing riparian corridor. The camp was estimated to support a typical population of 150-250 individuals, however this is subject to seasonably variations. More detail on this is provided below.

The remainder of the site is considered a low ecological constraint due to the presence of cleared lands, existing derelict infrastructure and Urban Native and Exotic Cover. The study area was not found to provide potential habitat for the Green and Golden Bell Frog (*Litoria aurea*) or Threatened microchiropteran bats.

### Grey-headed Flying Fox

The study area contains a Grey-headed Flying-fox camp in the southern extent of the site. During 2017 – 2019, infrequent observations of the camp identified between 100 – 300 individuals occupying a small area of vegetation at the southern end of the site.

A regular monitoring program of the camp commenced in July 2019 to inform an understanding of its patterns of occupation and use. The camp was empty from July 2019 to early November 2019 when the population returned to a typical level. There was a spike in occupation to approximately 4,000 – 6,000 over a period in January – February 2020, which was attributed to significant bushfire activity in the region. The camp returned to a more typical population over March – April 2020 following rainfall events and the end of bushfire activity. Currently the camp is virtually vacant and showing similar trends as the last year.

The monitoring program will continue, however evidence to date supports the following understanding of the camp:

- » The typical population size is 100 – 500 individuals
- » The camp is occupied periodically, which appears to be seasonally related
- » No breeding has been observed at the camp
- » There is potential for the camp to expand in size, however this is constrained by the availability of suitable roosting and foraging species
- » Fly out direction is typically towards the escarpment to the west.

EcoLogical has developed Camp Management Actions to address the potential for future conflict between Grey-headed Flying-foxes and residential development on the site. The indicative management actions are consistent with the Flying-fox Camp Management Policy (OEH 2015) and include:

1. establishment of a physical buffer between the camp and future development (incorporating managed vegetations areas and road reserve)
2. creation of supplementary habitat, such as dams, at the southern boundary of the site
3. revegetation of portions of the site using known feed trees for the species (in areas away from the proposed development)
4. potential building design solutions (eg. acoustic)
5. communication and education for future residents

The proposed management actions have been peer reviewed and endorsed by Ecosure.

Discussions with Council and OEH occurred in relation to the camp buffer with extensive research, case studies and camp management process being considered. The proposed buffer has been increased to 100 metres from the core camp extent in response to feedback from Council and DPI&E.

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## Microchiropteran Bats

EcoLogical undertook a site inspection of all buildings within the Corrimal Cokeworks, in order to determine the presence of the microchiropteran bat (microbat) habitat. The study found no evidence found of microbats using any of the structures present on the subject site. No microbats were seen or any clear evidence found of microbats having used the buildings at any time. In areas where thorough inspection occurred, it was concluded that the buildings were not being used by microbats, nor were there any signs of microbats.

However, some areas of the site were inaccessible, and it cannot be concluded that they were not being used by microbats at the time of survey. These areas were generally considered unsuitable microbat habitat. It is possible that there may be occasional use of buildings by individual microbats in other seasons of the year. The lack of suitable habitat, absence of signs of use or occupation and the lack of records from previous ultrasonic detection surveys, indicated that microbats rarely if ever use the structures and, if they ever do, it is only very occasionally and in small numbers.

## 2.10 Noise and vibration

Renzo Tonin & Associates conducted an environmental noise assessment of rail noise and vibration on the Corrimal site (refer to **Appendix R**) in order to assist in understanding any potential constraints to rezoning. The assessment was undertaken in accordance with NSW State Environment Planning Policy (Infrastructure) 2007 (ISEPP), the associated Development in Rail Corridors and Busy Roads – Interim Guideline, and other relevant vibration standards.

The findings of this study are:

- » Some facades of proposed residential buildings with exposure to road and rail noise will require acoustic facade treatments to meet the ISEPP criteria. The potentially affected building locations have been identified and indicative facade treatment recommendations provided.
- » Vibration impacts from the rail line have been found to be compliant with human comfort vibration criteria.
- » Ground borne rail noise during train pass-by is marginally compliant but should be confirmed during the design development of the residential buildings closest to the rail line.

In summary, noise and vibration issues do not present any constraint to rezoning the site for primarily residential uses. Any noise impacts can be suitably mitigated to achieve compliance through standard treatments to future residential development. These can be detailed at the development application stage.

## 2.11 Heritage

On 29th June 2020 Council approved that part of the former Corrimal Coke Works site be listed as a local heritage item in the WLEP 2009 and provided a curtilage for the site. For this reason, this PP does not need to include the proposed local heritage listing of the site.

This PP however includes information regarding the heritage aspects as it has been integrated into the design and logic of the Concept Master Plan.

The Corrimal Coke Works site was assessed by Urbis (refer to **Appendix U**), who also subsequently prepared a Conservation Management Strategy (CMS) (**Appendix Q**) to provide for the long-term conservation of significant elements on the site.

Overall, the site holds heritage significance to the local area, through its contribution to the growth of the steel industry in the Illawarra Region, the connection of the site to local collieries, the sites previous electricity generation and the historic connections of a major employer for over a century to the local community.



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### Heritage Significance

The former Corrimal Coke Works are historically significant as a contributor in the development of the coke and steel manufacturing industry, in particular, in the Illawarra Region. The former Coke Works operated for just over 100 years, from 1912 to 2013. The former Corrimal Coke Works are closely associated with the nearby Corrimal Colliery, which fed the coke ovens coal from 1912 until 1985. Over its operational life, the site underwent substantial changes and upgrades, creating a layered industrial history.

The former Corrimal Coke Works provide an industrial landscape within the context of a residential suburb. The site as a whole, demonstrates an industrial aesthetic. These elements include:

- » C.1912 Brick Chimney – a handsome and historic landmark within the area.
- » Coke oven batteries, in particular C1 Coke Oven Battery. It is noted that the aesthetic of these ovens has been reduced due to decay.

Later added industrial elements including steel stacks, coke oven hoods, uptakes and ductwork contribute to the aesthetic qualities. However, these are not essential for understanding the heritage significance of the site.

Overall, the site holds heritage significance to the local area. This is demonstrated through its contribution to the growth of the steel industry in the Illawarra Region, the connection of the site to local collieries, the sites previous electricity generation and the historic connections as a source of employment to the local community.

The CMS recommends the following:

- » Adoption, implementation and review:
  - > Any works to the property should comply with appropriate legislation, policies and guidelines, as amended from time to time, including but not limited to the Heritage Act 1977, the Building Code of Australia (including the National Construction Code), the Australia ICOMOS Burra Charter (revised 2013) and relevant environmental planning documentation.
  - > The CMS should be subject to periodic review to ensure that the document remains relevant to ongoing change and use of the place, and statutory compliance and to incorporate updated information.
- » Managing heritage significance:
  - > The Statement of Significance of the former Coke Works, Corrimal, embodies the core heritage values of the place. All future decisions and works to the property must be guided by the statement of cultural significance and the identified significant spaces, fabric, and built elements identified in this CMS, together with any additional detailed research and assessment.
  - > Article 3 of The Burra Charter (revised 2013) indicates that conservation is based on a respect for the existing fabric of a place and should therefore involve the least possible physical intervention to prevent distortion of the evidence provided by the fabric. One of the key objectives therefore, of contemporary conservation practice is to retain as much of the significant original fabric as possible, in order to preserve the essential integrity of the heritage resource.
- » Conservation and Maintenance:
  - > Regular maintenance and scheduled conservation works are required to be implemented to conserve the heritage significance and identified significant fabric of the place. Ongoing maintenance should be undertaken in accordance with a cyclical maintenance plan.
- » Future use, alterations and new work:
  - > Ongoing sustainable and viable uses would encourage and facilitate the conservation and maintenance of identified elements within the recommended reduced heritage curtilage of the former Corrimal Coke Works, Corrimal NSW. New uses should be considered with a goal to conserve and enhance the identified heritage values of the site whilst providing for those uses.
  - > It is acknowledged that the site is large and contains many elements and built forms. It is not feasible, nor required, to retain all or complete elements. The recommendations below set out the minimum of which should be retained, conserved and/or interpreted.

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### 2.11.1 Heritage retention

While new built forms may be included in any development of the site, the retention of tall, landmark elements will ensure the former industrial site is conserved and interpreted as an industrial element. Any internal access routes, road layouts, built envelopes and landscape elements should provide views and vistas to the reduced heritage curtilage. This could be achieved through view lines and interpretation of the existing railway/roadway and transportation in coke production. The Urbis Report provides a full detail of the elements to be retained and/or interpreted.

### 2.11.2 Curtilage

A curtilage, as part of a separate Planning Proposal determined by Wollongong Council in June 2020, has been included for the site, and therefore is not explained or justified in this report.

### 2.11.3 State Heritage

Wollongong Council has nominated the site for State heritage listing. The application is currently being considered by the Heritage NSW; this will follow the relevant statutory process separately to this PP.

### 2.11.4 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment has been prepared by Kelleher Knightingale. Aboriginal community consultation has indicated that creeklines in the area were traditional fishing grounds and retain Aboriginal cultural value for their connection to this activity, however no specific or significant Aboriginal cultural features have been identified for the site.

Extensive previous modifications and disturbance associated with former industrial land use have diminished or negated the archaeological potential of the majority of the study area. The parts of the study area used for the former cokeworks operations exhibited significant levels of disturbance that would have removed/displaced Aboriginal archaeological objects.

However, the archaeological assessment by Kelleher Nightingale identified one Aboriginal archaeological site comprising Aboriginal objects located within the study area: low density artefact scatter FCCW AFT 1 (AHIMS 52-2-4505). FCCW AFT 1 is located on an elevated floodplain landform in association with Towradgi Creek, in the southern portion of the study area. This site area would be impacted by the proposed redevelopment works and the assessment concludes that avoidance or mitigation to impacts are deemed as unnecessary. An Aboriginal Heritage Impact Permit (AHIP) issued by the former OEH under section 90(1) of the National Parks and Wildlife Act 1974 will be required prior to any impact on this site.

The proposed shared path through the site is expected to run in the vicinity of this identified site, so there is potential for signage/artwork detailing the cultural significance and stories associated with the area to be incorporated into the design of this element.

### 2.11.5 Archaeological

The Historical Heritage Assessment (Biosis 2017) identified that there was moderate potential for the presence of archaeological remains associated with the former tramway. As such, it was recommended that an approval under section 140 of the NSW Heritage Act 1977 will be required in order to excavate or disturb these potential relics associated with the tramway.

Historical archaeological excavations were subsequently undertaken by Austral Archaeology Pty Ltd under an Exception under S139(4) of the Heritage Act 1977 in order to identify structural remains associated with the 1890s tramway, assess the condition of the remains and confirm the potential alignment of the tramlines. The former tramway was constructed in the 1880s and was associated with Thomas Bertram's 'Brokers Nose Coal

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Company, which opened in 1884. The Brokers Nose Coal Company was taken over by the Corrimal Coal Company in 1889. The tramway continued to be utilised by the Corrimal Coal Company into the 21<sup>st</sup> century.

The aim of the archaeological excavations was to determine whether archaeological material associated with the previously identified 1890s tramway was present, and to establish the requirement for any heritage curtilage to manage any archaeological material.

The results of the archaeological investigations failed to identify widespread, in situ archaeological remains associated with the tramway. Where individual elements were identified which related to the tramway, these were all relatively shallow and within 250mm from the present ground level, suggesting that the tramline was removed following its decommissioning, with parts such as sleepers and railway tracks being reused elsewhere.

As such, no heritage constraints were identified from within the area that was subject to historical archaeological testing. There is no requirement to consider enlarging the heritage curtilage to include elements of the tramline as all such physical evidence is likely to have been destroyed, and no requirement for further archaeological investigations.

## 2.12 Services infrastructure

BG&E were engaged to update the previous Servicing Strategy Report by ADW Johnson (**Appendix X**). It has been confirmed that all utility services are available to the site, noting the following:

- » Potable Water, Gas and Telecommunication networks require no augmentation to service the overall development;
- » No funding or construction of extensive feeder infrastructure will be required for electrical servicing, with only minor augmentations to the existing Endeavour Energy network envisaged;
- » After further consultation with Sydney Water and a comprehensive MOUSE Modelling process, it has been confirmed that the wastewater network will be able to accommodate the full development yield; and
- » The wastewater servicing strategy involves the provision of additional storage capacity by upsizing the existing trunk main through the site, which will be undertaken in conjunction with a realignment of that trunk main during the bulk earthworks phase.

A summary is provided below.

### 2.12.1 Potable Water Servicing

Sydney Water Corporation (SWC) was consulted regarding servicing the proposed development with potable water and the associated impacts on existing SWC potable water infrastructure as a result of the increased potable water network demand imposed by the proposed development. SWC confirmed that the existing potable water main fronting the development along Railway Street has sufficient capacity to accommodate the proposed development.

### 2.12.2 Wastewater servicing

Results and findings from modelling and associated consultation with SWC has determined the existing Sydney Water wastewater network will be able to accommodate the proposed former Corrimal Coke Works development upon implementation of planned network upgrades and adjustment and upsize of the on-site wastewater trunk main.

### 2.12.3 Electrical servicing

Review of the existing electrical network shows that there are two 11kV feeders (CR1228 and CR1280) located opposite the development site along Railway Street, however both of these feeders have been estimated to have

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a total available capacity of approximately only 0.5MVA, which is not sufficient to accommodate the development site. However, Endeavor Energy (EE) noted that the overall development can potentially be serviced by Feeder RV1206 from Russell Vale Zone Substation, which is deemed to have the required available capacity to accommodate the mature load of the development.

EE confirmed that the development would not expect to fund or construct extensive feeder works in order to utilize the available capacity from Feeder V1206 and required augmentations would be limited to network switching and minor augmentation of the existing High Voltage (HV) distribution network by linking existing HV networks in various locations. It is envisaged that HV linkage points will be Underground to Overhead (UGOH) terminations on feeder CR1280, with one in both Railway Street and High Street. Details surrounding HV linkages and network configuration will be confirmed when a firm application for load is submitted to EE.

### 2.12.4 Telecommunications servicing

Design It Telco Pty Ltd was consulted about the capacity of existing National Broadband Network (NBN) and Telstra networks. It was confirmed that:

- » Current NBN and Telstra infrastructure could handle the overall development
- » As the development is over 100 lots it will automatically qualify for fibre to the premises (FTTP); and
- » NBN Co will supply a backhaul cable to cater for future lots.

It has been confirmed that the future development does not require any upgrades to telecommunications networks.

### 2.12.5 Gas servicing

A Technical Review Request was submitted to Jemena Limited, to assess the impacts of the proposed development and to confirm the gas network has adequate capacity to service the overall development. It was confirmed that Jemena has suitable gas mains located on Railway Street within the vicinity of this proposal which currently have adequate capacity to service the overall development at this time.

## 2.13 Traffic and transport

Existing transport infrastructure in the study area includes:

- » Memorial Drive (state road) which is a key strategic route through Corrimal carrying high volumes of north-south through traffic. Memorial Drive connects Corrimal to the Princes Highway at Bulli and the M1 Princes Motorway at Gwynneville via North Wollongong;
- » Railway Street between Memorial Drive and Pioneer Road, with intersections at Cross Street, Harbinger Street, High Street, Ruddock Street, Duff Parade and Park Road (all local roads);
- » signalised intersections at Railway Street/Memorial Drive and Railway Street/Pioneer Road;
- » a level crossing on Railway Street with boom gates and flashing lights across the Illawarra Railway Line, which carries both passenger trains (all stop and express services) and freight trains;
- » Corrimal Railway Station (located adjacent to the site), serviced by the South Coast Line between Kiama, Port Kembla and Sydney via Wollongong. Passenger trains generally run every 15-30 minutes during peak hour directly servicing Wollongong with 'all stop' services towards Sydney CBD; and
- » Bus stops along Railway Street in both directions, serviced by:
  - > Route 4: Bulli to Wollongong
  - > Route 92: Bulli to Wollongong
  - > Route 93: Bulli to Wollongong University

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- » The site provides direct access to the existing pathway network on Railway Street. There are very few formal bikeways located in close proximity to the development site.

Bitzios Consulting were engaged to provide a supplementary Traffic Impact Assessment (refer to **Appendix Y**) following Gateway Determination.

The Traffic Impact Assessment was prepared in close consultation with Council, TfNSW (including RMS) and Sydney Trains, and based on an agreed scope and methodology. The traffic modelling was subject to acceptance of calibration and validation in satisfaction of RMS guidelines.

The assessment concludes that there are no traffic and transport impacts associated with the development which cannot be mitigated through reasonable works within public land or on site.

The primary traffic impact from the development is confined to the intersection of Memorial Drive and Railway Street. This intersection requires upgrade to accommodate the future development traffic. The proposed upgrade has the benefit of also providing capacity to accommodate background traffic growth.

Other key conclusions drawn from the assessment of the traffic and transport impacts associated with the proposed development include:

- » The most appropriate location for development access is via Railway Street, approximately 60m east of Harbinger Street. A channelized T intersection with a right turn-in pocket and separate left turn-out and right turn-out lanes is sufficient to provide a safe and efficient access to the site.
- » A left in/out access off Memorial Drive is inconsistent with the function of Memorial Drive and may introduce a safety risk in the high speed, high volume environment in closed proximity to the Towradgi Road intersection. TfNSW also advised that they would not support this outcome.
- » The development will introduce 373 vehicles per hour (vph) into the network in the morning peak and 456 vph into the network in the evening peak with almost three-quarters of this traffic orientated towards the Memorial Drive intersection and the remainder orientated towards the Pioneer Road intersection with Railway Street. This increase in vehicles per hour can be catered for through the introduction of a channelised 'T' intersection at the sole site access intersection on Railway Street, approximately 60m east of Harbinger Street.
- » The additional traffic introduced into Railway Street by the development equates to one vehicle every 10 seconds (two-way) in the peak hour, which is insignificant on a distributor road such as Railway Street.
- » Railway Street will experience an approximate 17% increase in daily traffic. Its forecast volume of approximately 8,700 vehicles per day at the level crossing is well within the capacity of a single lane each way distributor road.
- » The development's impacts on the Railway Street level crossing due to additional traffic and pedestrian movement are insignificant. State Rail's ALCAM model calculated no increased risk at the level crossing as a result of the development and no works/upgrade to the level crossing are required.
- » The preferred route is along the southern side of Railway Street, which is consistent with the Wollongong City Council Bike Plan 2014-2018. The applicant has proposed to construct a shared path from Cross Street to the commuter car parking entrance as part of a VPA with Council.
- » Site specific parking rates are proposed taking into consideration the site is located adjacent to the Corrimal railway station and the localised catchment for retail, food and drink and restaurant uses.
- » The Concept Master Plan facilitates significant opportunities for transport oriented development including potential for bus circulation to interchange at Corrimal station, Kiss and Rides, taxi zones as well as significantly enhanced pedestrian and cyclist access. There is potential for the existing commuter car parking at Corrimal station to be incorporated into the new street network, however this would be subject to future approval from RailCorp and is not required for the PP.

Following subsequent discussions with Council and TfNSW, and at Council's request, it was agreed that a new roundabout access on Railway Street in line with Harbinger Street would be the preferred and best access option for the site. This has been incorporated into the PP and also benefits existing residents to the north of Railway Street by providing a managed intersection for access onto Railway Street.

## 2.14 Economic

### 2.14.1 Industrial suitability

An assessment of the viability of on-going industrial use of the site was undertaken by Hill PDA (**Appendix Z**). The report concluded:

- » There is sufficient supply of well-located industrial land in the Wollongong LGA without the subject site
  - > The Industrial Lands Audit in 2014 found that the Illawarra Region contained 3,110ha of industrial land. Of the total area of industrial land, 603ha was vacant (19%). The Wollongong LGA contains the highest proportion of vacant industrial land supply in the region, totalling 321ha (53% of the region). An examination of the take up of industrial land since the 2014 revealed that 45ha of land has been developed, however, 42ha of this was for the Prixcar processing, storage and transport facility.
  - > The majority of industrial land in the Wollongong LGA is in Unanderra, Kembla Grange and Port Kembla and offers lower cost and better access than Corrimal.
- » Increased demand in transport, storage and warehousing sectors, but the subject site is unsuitable for such uses
  - > Large-scale transport, storage and warehousing sector (or logistics) have locational needs that are determined by efficient supply chains, access to customers and suppliers, land availability and main road access. This describes firms that have specific land and infrastructure needs and potentially buffer distance requirements from residential or other sensitive land uses. Consequently, the site is not as attractive as locations such as Unanderra, in the Illawarra, for these industrial uses due to land use conflict issues due to the proximity of residential dwellings.
- » Conversion to new industrial uses is not viable
  - > The costs of demolition, remediation, land development, subdivision, external works and open space embellishments (around \$25m) would exceed the end value of the industrial parcels (around \$20m to \$22m based on an end sale value of \$200 to \$250/m<sup>2</sup>). Therefore, this option is not financially viable and would not be realised in the current climate or in the foreseeable future.

The Gateway Determination confirmed that the loss of employment land is justified in satisfaction of the relevant Section 9.1 Direction 1.1 Business and Industrial Zones.

### 2.14.2 Existing centres and supermarkets

Urbis undertook an assessment of the retail environment within Corrimal. Within the main trade area, in the Corrimal Town Centre, there is a Woolworths, Coles and ALDI supermarket. There is also a small shopping village in East Corrimal with a Food Works (approximately 300m<sup>2</sup>).

Fairy Meadow represents the key competition from south of the trade area. From the north, retail competition comes from Woonona, Bulli and Thirroul town centres. The current number of supermarkets and their floor space in surrounding town centres is shown in **Table 6** below.

**Table 6 Supermarket provision**

Town Centre	Supermarkets	Estimated supermarket Gross Lettable Area Retail (GLAR)
Corrimal	3	7,600m <sup>2</sup>
Fairy Meadow	3	7,800m <sup>2</sup>
Woonona	1	1,000m <sup>2</sup>

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Town Centre	Supermarkets	Estimated supermarket Gross Lettable Area Retail (GLAR)
Bulli	1	3,200m <sup>2</sup>
Thirroul	2	2,200m <sup>2</sup>

The Corrimal town centre is the largest and closest retail area to the subject site, located around 350m to the west. Key retail includes:

- » Lederer Shopping Centre: a single-level centre with undercroft and at-grade car parking. The centre has multiple pedestrian access points from Railway Street and Princes Highway. The centre comprises:
  - > Woolworths (~3,500m<sup>2</sup>)
  - > Specialty retail (~3,100m<sup>2</sup>) comprising a mix of convenience retail, retail services, and fast casual dining and cafes
  - > Dan Murphy's
- » Corrimal Park Mall is a dated single-level centre at the northern end of the Corrimal town centre, comprising:
  - > Coles supermarket (~2,600m<sup>2</sup>)
  - > Nine specialty retail tenants (~1,200m<sup>2</sup>), orientated towards convenience retail
- » Strip retail along The Princes Highway and Railway Street:
  - > Around 60 retail specialty tenants (estimated 5,800m<sup>2</sup>), including strong provision of hair and beauty tenants (14), takeaway food (6), cafes (6), and massage (5)
  - > Some 36 non-retail tenants, including banks (5), employment and financial services (10), and real estate agents (4)
  - > An ALDI supermarket (~1,500m<sup>2</sup>) in a mixed-use development on Russel Street.

### 2.14.3 Retail demand

Urbis has undertaken an analysis (refer to **Appendix AA**) based on an assessment of key opportunities relating to the subject site and its competitive context, which demonstrate:

- » Retail at the subject site should target on-site residents first and foremost. Residents need on-site amenities to create a focal point for activity.
- » A small-scale independent local supermarket could serve a convenience retail role for on-site residents.
- » The critical mass of new residents on site could support a small convenience-based retail offer, potentially including the likes of a pharmacy, newsagent, and beautician, despite good provision of these in Corrimal town centre.
- » There is a noticeable gap in the local market for higher-quality sit-down dining venues and contemporary cafes. Such an offer at the subject site could draw weekend visitors from beyond the subject site.
- » Retail should be integrated with a strong public realm to establish the precinct as a small neighbourhood centre.
- » The new retail can leverage its location next to the train station and the historical reputation of the Corrimal Coke Works, well known throughout the region, to serve commuters and visitors to the Wollongong area.

Key findings of the retail assessment include:

- » Based on securing a market share of trade area food and grocery retail spending, the subject site could support a small supermarket targeted at the on-site market. Allowing for 10% of spending to come from beyond the catchment, and an allocation of 6% to general merchandising, the estimated sales potential of a

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supermarket facility at the subject site is \$5.2m in 2024, growing to \$6.2m by 2026. This aggregate sales potential could support a store in the range of 500 – 1,000m<sup>2</sup> (assumed 750m<sup>2</sup>), this translates to an average trading level of around \$6,900 per m<sup>2</sup> initially, stabilising at around \$8,300 per m<sup>2</sup> in 2026.

- » A small supermarket on site could be supported by some cafes and restaurants and a limited convenience offer.
- » The indicative composition that could support a small format supermarket on site, based on Urbis' understanding of key retail and design principles, includes:
  - > 2-3 cafes/restaurants, that also serve a takeaway role, and a specialty food store
  - > 2 non-food retail speciality stores, which could include a newsagency, small pharmacy or other leisure/general retail shops
  - > Personal services such as a hair salon, beautician, massage etc.
  - > A non-retail shopfront such as a real estate agent or allied health practice (dental, physiotherapy or chiropractor)

The above mix could occupy around 1,250m<sup>2</sup>, taking total floorspace to around 2,000m<sup>2</sup>.

Total retail sales are estimated at \$11.4m in 2024, growing to \$13.4m in 2026. These sales reflect an overall retail sales performance of \$6,350 per m<sup>2</sup> in 2024 and \$7,440 per m<sup>2</sup> in 2026.

Retail specialties are estimated to trade at around \$6,830 per m<sup>2</sup> by 2026, assuming an optimised tenancy mix.

- » The proposed retail at the subject site is estimated to achieve a very minor share of retail spending in the secondary trade area, and slightly higher share of retail spending in the primary trade area. The centre is estimated to achieve a 2.7% market share of main trade area retail spending, including a 3.5% market share of food spending. Across the combined primary trade areas, the centre is estimated to achieve a 10.6% market share, including 13.9% of food spending and 6.1% of non-food spending.

Within the primary on site trade area, the offer is estimated to achieve a 15.9% market share of total spending, including 20.9% of food spending and 9.0% of non-food spending. Around 10% of sales are estimated to be generated by residents from beyond the trade area.

The combined primary trade areas are estimated to account for 53% of total sales at the centre. The combined secondary trade areas are estimated to account for 37% of total sales.

The following benefits reflect the importance of retail facilities in supporting the residential component of the proposed development, by adding to the appeal of the overall precinct.

- » Improved public amenity and activation
  - > The proposed retail will be integrated with a new town square at the heritage precinct, adjacent to the train station. This town square will include public spaces and amenities, adding significantly to the liveability of the overall development.
  - > Activation of the heritage precinct with a small retail centre will deliver a high-quality urban design outcome with improved safety for residents and visitors.
- » Sense of place
  - > Creating a sense of place adds significantly to the vibrancy and appeal of a precinct.
  - > A modest retail offer at the town square on site can contribute to a sense of place if it is provided with:
    - Strong links to the outdoors, including good solar access
    - Generous and comfortable open space where people can sit and linger, particularly in areas close to the train station
    - A human-scale of street level pedestrian experience
    - Distinctive architectural or landscape features.



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- » Access to convenience retail
  - > The proposed 700 - 750 dwellings at the subject site will accommodate around 1,700 new residents upon completion. Retail at the subject site would be targeted to service the convenience needs of these residents, located centrally to dwellings and public transport.
  - > This would result in enhanced convenience for residents and train patrons, resulting in time savings and reduced travel costs.
- » Enhanced retail choice
  - > The inclusion of retail at the subject site will add to the overall quality and range of retailing provision within the trade area, resulting in an extension of choice for local and on-site residents.
  - > The extension of choice could potentially result in benefits for the consumer in terms of keener prices and better quality.

The proposed retail on site would generate an estimated 103 ongoing jobs during the operational period. Up to an additional 23 indirect jobs in supporting and supplying industries could also be provided, indicating that the development could support up to 126 total jobs in the region (full time, part time and casual).

This could result in a total of \$4.8m Gross Value Added (GVA) per year (in net present value terms) to the local region and broader state economy over a 20-year operating period. This consists of \$3.2m direct GVA per year generated by the daily operation and management of the proposed retail and \$1.6m indirect GVA per year over the same period.

In conclusion, the retail assessment found that:

- » The proposed 2,000m<sup>2</sup> of retail and non-retail floor space, comprising a small supermarket, supporting dining, convenience-based retail, and non-retail shopfronts will be well supported by market demand, driven by strong on-site population growth.
- » The modest retail offer is forecast to achieve turnover in 2024 that reflects:
  - > A minor market share of retail spending (3% of main trade area and 11% of primary trade area)
  - > Only a portion of the expected growth between 2018 and 2024 (28% of primary trade area growth and 16% of main trade area growth)
- » Residual spending and spending growth will continue to support existing and proposed retail centres.
- » The proposed retail at the subject site will also have significant benefits relating to providing valuable amenity for current and future residents of the immediate area, as well as employment, consumer and economic value benefits for the local region and state economy.

The assessment concludes that the proposed retail development should therefore be supported from an economic perspective.

## 2.15 Population and housing need

### Population

In 2016, the Illawarra-Shoalhaven region had a population of 404,650. Wollongong LGA had the largest population, accounting for 52% of the region's total, followed by Shoalhaven LGA (25%), Shellharbour LGA (18%) and Kiama LGA (5%). Between 2001 and 2011 the Illawarra-Shoalhaven region grew at compound annual growth rate of 0.8%, 0.4% slower than Greater Sydney's growth of 1.2%, but faster than growth in regional NSW of 0.7%.

Growth in the Illawarra-Shoalhaven region between 2016 and 2036 will lift its population by 67,000, to 471,700 people. Within the Illawarra-Shoalhaven region, Shellharbour has experienced the fastest growth, in part reflecting supply with the presence of more greenfield options (vs Wollongong).

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### Housing

The projected growth in population will translate to demand for a net addition to the dwelling stock of 45,000 dwellings or 2,250 per annum (pa) in the period between 2016 and 2036. Historically, detached housing has been the dominant form of housing in the Illawarra-Shoalhaven region, accounting for 76.4% of the housing stock in 2016. More recently, particularly in Wollongong but also in Shellharbour, there has been a higher share of growth in dwellings accommodated by in-fill developments, and by medium and high-density housing types. This in part reflects a long-term trend towards higher density.

The DPI&E's projections for 2015/16-2019/20 and 2020/21-2024/25 assume that detached housing will account for 50% of growth in the housing stock, with medium and high-density housing accounting for the other 50%. The DPI&E notes that 60-70% of demand might be met from greenfield developments and 30-40% from in-fill. In the past ten years to 2015, there has been 7,634 dwelling completions from in-fill (in the Illawarra-Shoalhaven region).

In 2016, the most common households within the Illawarra-Shoalhaven region were couples with children, which accounted for 28.7% of all households in 2016. This was followed by couple only households (26.7%) and lone person households (24.1%). Heading into the future the fastest growth is expected to be in couple only households (1.4%) and lone person households (1.4%) which include older households.

In order to cater to the region's changing household structures, diversification of dwelling structures is required. The downsizer market and single young professionals are likely to want smaller and more compact housing. While there has been growth in medium and higher density development, particularly in Wollongong CBD, provision of these housing types is still relatively under-serviced in relation to potential demand.

Housing diversity will also be important in maintaining housing affordability through the provision of a range of more compact dwelling types.

## 2.16 Social Infrastructure

### 2.16.1 Recreational/Community Infrastructure

Recreational/Community Infrastructure in the vicinity of the site includes:

- » Corrimal Memorial Swimming Pool (250m west from the western boundary)
- » Corrimal District Library & Community Centre (250m from the western boundary of the site)
- » Robert Ziems Park featuring multiple playing fields (66m west of the site)
- » Towradgi sporting fields, tennis courts and bowling greens at Moray Road, Towradgi (850m south-east of the site)

There is an opportunity to link all of these community recreational resources, the coast and the site via a green link aligning with the Towradgi Creek corridor. This would also effectively link with the Grand Pacific Walk, currently being developed in stages by Council, that will ultimately provide a continuous shared pathway from the Royal National Park to Lake Illawarra.

In addition, significant walking and cycling facilities are proposed as part of the concept plan for the site to promote active transport and public transport use.

### 2.16.2 Educational Infrastructure

Educational institutions surrounding the sites include:

- » Corrimal High School (375m to the east)
- » Corrimal East Public School (350m to the east)
- » Corrimal Public School (750m to the north-west)

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- » Bellambi Public School (1km to the north-east)
- » Wollongong High School of the Performing Arts & Keira High School (3.5km to the south-west)
- » TAFE NSW Wollongong (3.5km to the south-west)
- » University of Wollongong (4km to the south-west)
- » Saint Columbkille’s School (822m to the north-west)
- » Towradgi Public School (1.2km to the south)
- » Specialist schools such as the Autism Association of NSW - South Coast School (850m to the north-west).

An assessment of likely capacity for schools has been performed by reviewing information on the ‘My Schools’ website. This is provided in **Table 7** below.

Childcare facilities are available surrounding the site, but there is also an excellent opportunity to provide childcare facilities on site, servicing both residents and commuters in particular.

**Table 7 Maximum enrolment and current enrolments for relevant schools near the subject site**

School	Enrolments		Estimated spare capacity
	Maximum	2016	
Corrimal High School (375m to the east)	496 (2008)	345	151+
Corrimal East Public School (350m to the east)	295 (2008)	202	93+
Corrimal Public School (750m to the north-west)	184 (2016)	184	Additional capacity unknown
Bellambi Public School (1km to the north-east)	256 (2008)	164	92+
Wollongong High School of the Performing Arts (3.5km to the south-west)	Additional capacity unknown		
Keira High School (3.5km to the south-west)	949 (2015)	938	9
Saint Columbkille’s School (822m to the north-west)	422 (2016)	422	Additional capacity unknown
Towradgi Public School (1.2km to the south)	164 (2014)	160	4+
Fairy Meadow Public School (3.5km south)	421 (2008)	374	47+
Woonona High School (3.5km north)	787 (2008)	599	188+
Woonona Public School (3.5km north)	342	512	Additional capacity unknown
Woonona East Public School (3.5km north)	310 (2008)	222	88+

Source: www.myschool.edu.au

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### 2.16.3 Health Infrastructure

A brief assessment of health infrastructure would indicate that the subject site is well serviced. In Wollongong, (approximately 5.5km from the subject site) this includes:

- » Wollongong Hospital which is currently undergoing \$100m worth of capital works enhancements which include the construction of the Illawarra Elective Surgical Services Centre
- » South Coast Private Mental Health Hospital
- » Wollongong Day Surgery
- » Wollongong Private Hospital
- » Bulli Hospital (non emergency) is currently being upgraded/rebuilt
- » Numerous specialist centres.

In the local area surrounding the subject site, numerous primary care facilities are available with at least four medical centres and a community health centre.

Significant community, health, educational and recreational resources are available surrounding the site.

## 2.17 Suitability of the site

It is estimated that development of the site for residential land uses has the opportunity to provide for a diversity of housing in order to cater for the changing demographics of the Wollongong LGA. Importantly, the key factors that make the site suitable for residential development include:

- » Not viable for industrial use
  - > The coke works ceased operation in 2014
  - > A financial feasibility assessment has found that it would not be viable to redevelop the site for industrial purposes (considering the cost of redevelopment versus return)
  - > Significant industrial land resources are available in the Wollongong LGA that provide better access and less land use conflict than the subject site.
- » Planning
  - > The 18.18ha site is able to offer a mix of residential and recreational resources where site constraints have been investigated and effective mitigation measures or other strategies have been developed
  - > A large, contiguous area of generally flat, readily developable land adjacent to Corrimal train station offering the opportunity for transit-oriented development
  - > Logical extension of the R3 Medium Density Residential zoning to the north, north-east and east of the site
  - > The capacity to deliver a diverse range of housing within an R3 Medium Density Residential zone, delivering housing typologies that are in short supply in the Illawarra region.
  - > An R3 Medium Density Residential rezoning could also support small-scale neighbourhood and commuter services to deliver convenience for residents and the broader community
  - > Provision of significant open space resources within the site
  - > Residential use will allow preservation and interpretation of key heritage elements on the site
- » Connectivity
  - > Immediately adjacent to Corrimal train station and existing bus routes
  - > Rail and major arterial road access connect the site to the Wollongong CBD (5.5km) and Sydney CBD (63.5km)

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- > Ideally located within 350m of the Corrimal town centre
- > 8-minute bus ride to Wollongong University and the broader innovation employment zone
- > 500m or less from primary and secondary schools with over 10 schools within a 3.5km radius of the site.
- » Amenity
  - > 500m to recreational facilities including sporting fields, Corrimal pool, library and community centre
  - > 1.2km to patrolled beaches
  - > Proposed green link, cycle way/pathway to Corrimal Beach and adjacent sporting fields
  - > Superb views to the Illawarra Escarpment
  - > Potential views to the Wollongong coastline.

## 3 Statutory Planning Context

The rezoning has been prepared having regard to the existing planning framework in context of the WLEP 2009 and other applicable Environmental Planning Instruments (EPIS).

### 3.1 Wollongong Local Environmental Plan 2009

The aims of WLEP 2009, which guide the preparation of the PP for the site at Corrimal are as follows:

- a) *to provide a framework for land use management,*
- b) *to encourage economic and business development to increase employment opportunities,*
- c) *to encourage a range of housing choices consistent with the capacity of the land,*
- d) *to improve the quality of life and the social well-being and amenity of residents, business operators, workers and visitors,*
- e) *to conserve and enhance remnant terrestrial, aquatic and riparian habitats, native vegetation and fauna species,*
- f) *to conserve and enhance heritage,*
- g) *to ensure that development is consistent with the constraints of the land and can be appropriately serviced by infrastructure,*
- h) *to ensure that significant landscapes are conserved, including the Illawarra Escarpment, Lake Illawarra, the drinking water catchment and the coastline.*

The PP gives effect to these objectives, as outlined in **Part 1**.

#### 3.1.1 Zoning

Under the WLEP 2009 the subject site is zoned IN3 Heavily Industrial, RE2 Private Recreation and SP2 Infrastructure (Road). The objectives of these zones are as follows:

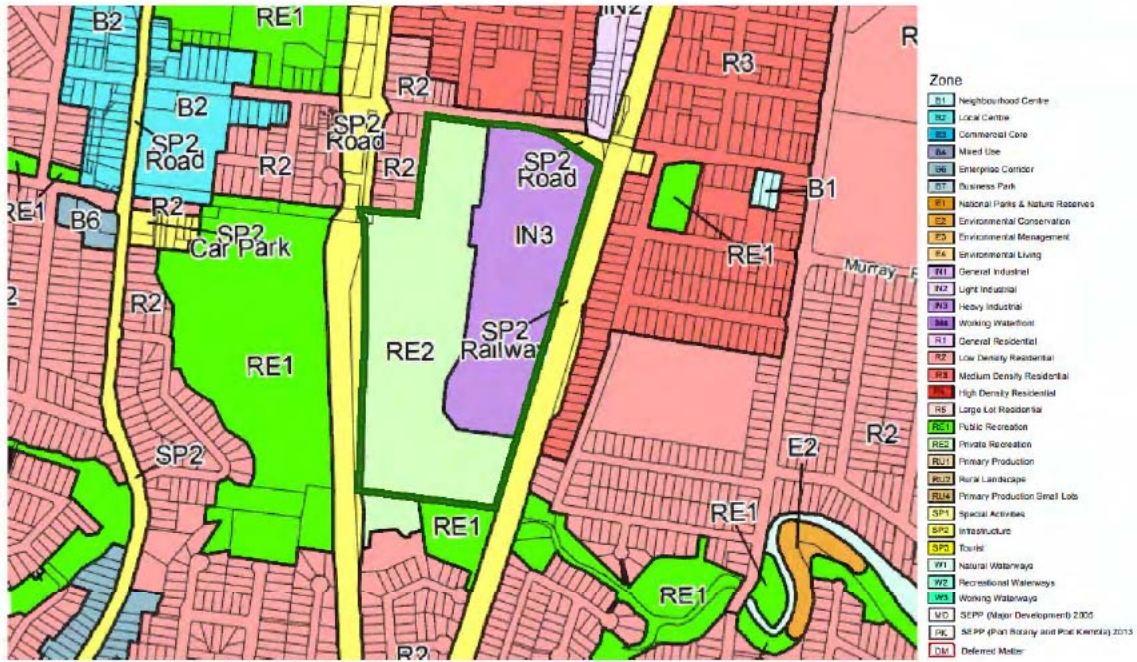
- » **IN3:**
  - > *To provide suitable areas for those industries that need to be separated from other land uses.*
  - > *To encourage employment opportunities.*
  - > *To minimise any adverse effect of heavy industry on other land uses.*
  - > *To support and protect industrial land for industrial uses.*
  - > *To facilitate the ongoing sustainability of steel making and steel product manufacturing that will contribute to the economic and employment growth of Wollongong.*
- » **RE2:**
  - > *To enable land to be used for private open space or recreational purposes.*
  - > *To provide a range of recreational settings and activities and compatible land uses.*
  - > *To protect and enhance the natural environment for recreational purposes.*
- » **SP2:**
  - > *To provide for infrastructure and related uses.*

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- > To prevent development that is not compatible with or that may detract from the provision of infrastructure.
- > To provide for key transport corridors.

The zoning of the site is identified in **Figure 7** below.

**Figure 7 Current zoning map – WLEP 2009**

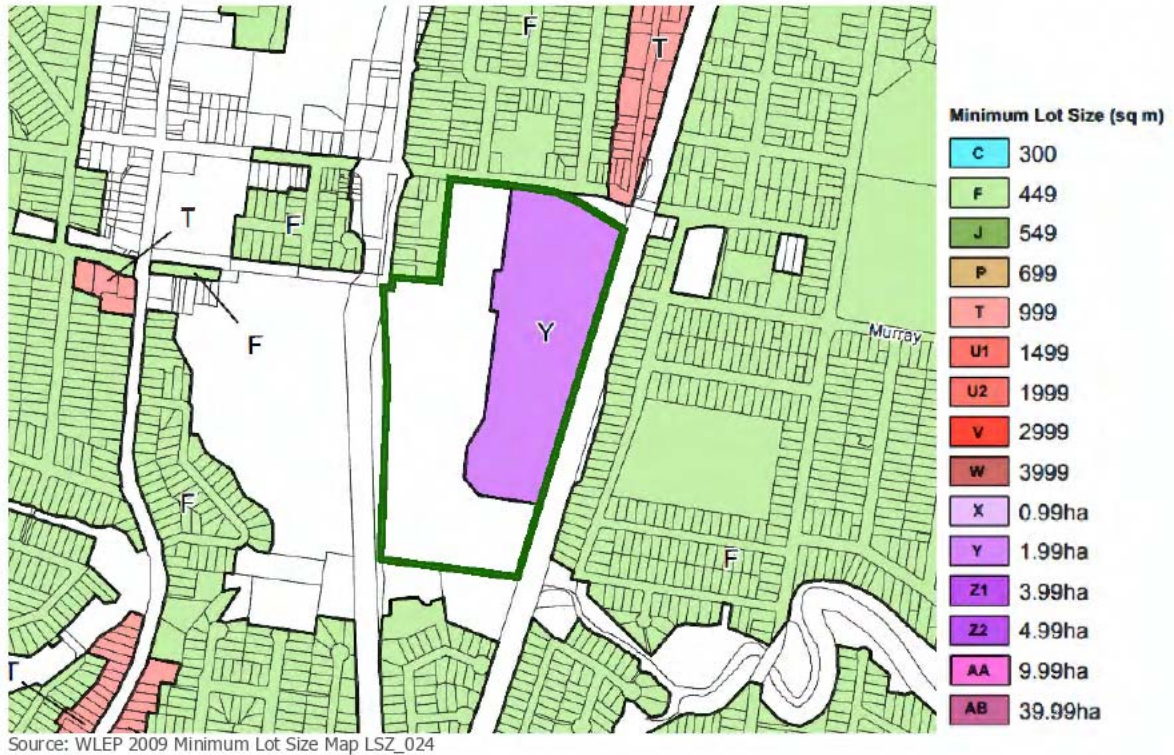


### 3.1.2 Minimum lot size

Clause 4.1 of WLEP 2009 sets a MLS, as indicated in the associated MLS map. Part of the site has an MLS of 1.99ha, while the remaining part of the site is not subject to a MLS, as shown in **Figure 8** below.

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**Figure 8 Current MLS map – WLEP 2009**



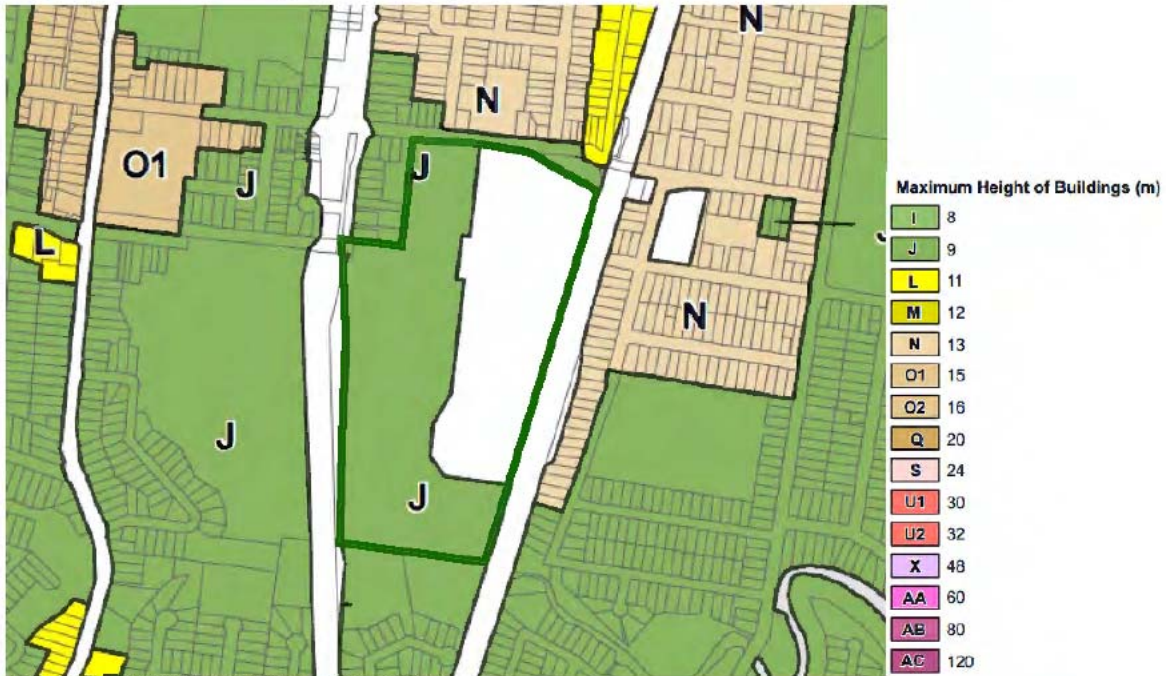
### 3.1.3 Height of Buildings

Clause 4.3 of the WLEP 2009 sets a maximum height limit for buildings, with heights shown on an associated Height of Buildings Map. Part of the site is not subject to a height control, while the remaining part has a 9m height control, as shown in **Figure 9** below.



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**Figure 9 Current height of buildings map – WLEP 2009**



Source: WLEP 2009 Height of Buildings Map HOB\_024

### 3.1.4 Floor Space Ratio

Clause 4.4 of the WLEP 2009 sets a maximum FSR, with FSRs shown on an associated FSR map. The subject site has no FSR control.

### 3.1.5 Land Reservation Acquisition

Clause 5.1A of WLEP 2009 aims to limit development on certain land intended to be acquired for a public purpose. The site contains Lot 126 DP 598190, which is intended to be utilised for the expansion of Railway Street, as shown in **Figure 10** below.

As per Clause 5.1 if there is an owner-initiated acquisition process the following applies:

#### 5.1 Relevant acquisition authority

1. *The objective of this clause is to identify, for the purposes of section 27 of the Act, the authority of the State that will be the relevant authority to acquire land reserved for certain public purposes if the land is required to be acquired under Division 3 of Part 2 of the Land Acquisition (Just Terms Compensation) Act 1991 (the owner-initiated acquisition provisions).*

*Note.*

*If the landholder will suffer hardship if there is any delay in the land being acquired by the relevant authority, section 23 of the Land Acquisition (Just Terms Compensation) Act 1991 requires the authority to acquire the land.*

2. *The authority of the State that will be the relevant authority to acquire land, if the land is required to be acquired under the owner-initiated acquisition provisions, is the authority of the State specified below in relation to the land shown on the Land Reservation Acquisition Map (or, if an authority of the State is not specified in relation to land required to be so acquired, the authority designated or determined under those provisions).*

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Type of land shown on Map Authority of the State  
Zone SP2 Infrastructure and marked "Local road" Council

- Development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

Figure 10 Land Reservation Acquisition



Source: WLEP 2009 Land Reservation Acquisition Map LRA\_024B

### 3.1.6 Heritage

Clause 5.10 of the WLEP 2009 sets controls for heritage items, heritage conservation areas, archaeological sites and Aboriginal objects or places. There is no heritage listed items of Commonwealth, State or local heritage significance within the site nor is the site located within a heritage conservation area.

On 29th June 2020 Council approved that part of the former Corrimal Coke Works site be listed as a local heritage item in the WLEP 2009. The WLEP Amendment has not yet been made.

### 3.1.7 Natural Resource Sensitivity

Clause 7.2 of the WLEP 2009 identifies controls for areas of natural resources sensitivity – biodiversity. As shown in **Figure 11** below, the site contains areas of natural resource sensitivity.

Extensive investigation into the biodiversity values of the site have been undertaken to ascertain the biodiversity values of the site. The areas of greatest significance do not reflect those provided in the LEP mapping.

The concept planning process has ensured the development is designed, sited and managed to avoid potential adverse environmental impacts and incorporates measures to minimise any impact.

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**Figure 11 Natural Resource Sensitivity – Biodiversity Map – WLEP 2009**



Source: WLEP 2009 Natural Resource sensitivity – biodiversity Map NRB\_010

### 3.1.8 Flood Planning

Clause 7.3 of WLEP 2009 is designed to ensure that:

- a. to maintain the existing flood regime and flow conveyance capacity,
- b. to enable evacuation from land to which this clause applies,
- c. to avoid significant adverse impacts on flood behaviour,
- d. to avoid significant effects on the environment that would cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses,
- e. to limit uses to those compatible with flow conveyance function and flood hazard.

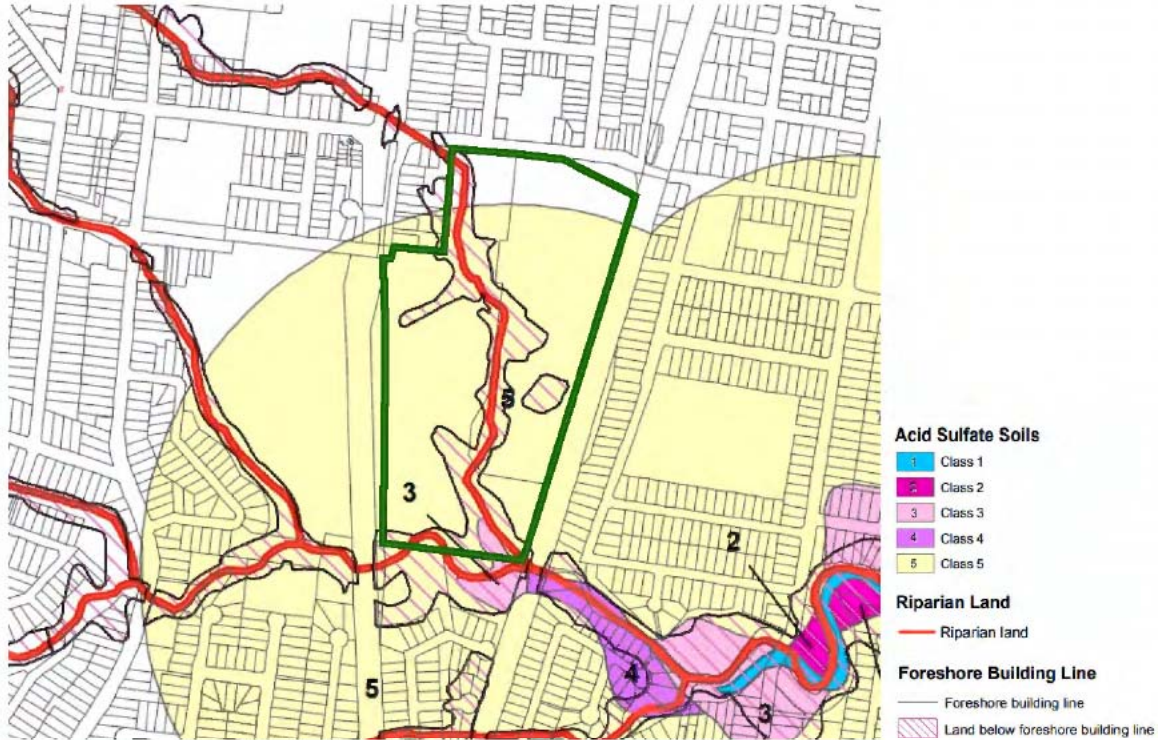
The subject site is identified on the accompanying Flood Planning Mapping as part of the WDCP 2009 Part E13 Towradgi Creek Flood Plain.

### 3.1.9 Acid Sulfate Soils

Clause 7.3 sets out controls for flood planning, Clause 7.4 identifies controls for Riparian Lands, while Clauses 7.5 and 7.7 identify controls for ASS and the Foreshore Building Line. The site contains Class 5 ASS and areas of riparian land and land below the foreshore building line, as shown in **Figure 12** below.

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**Figure 12 Acid Sulfate Soils, Riparian Land, Foreshore Building Line and Flood Planning Map – WLEP 2009**



Source: WLEP 2009 Acid Sulfate Soils, Riparian Land and Foreshore Building line Map CL1\_024

Clause 7.3 states that development consent must not be granted for land to which this clause applies unless the consent authority is satisfied in relation to all the following matters:

- all habitable floor levels of the development will be above the flood planning level,*
- the development will not adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties,*
- the development will not significantly alter flow distributions and velocities to the detriment of other properties or the environment of the floodplain,*
- the development will not affect evacuation from the land,*
- the development will not significantly detrimentally affect the floodplain environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses,*
- the development will not result in unsustainable social and economic costs to the community as a consequence of flooding,*
- if located in a floodway area—the development will not be incompatible with the flow conveyance function of, or increase a flood hazard in, the floodway area.*

Clause 7.4 aims to ensure that development does not adversely impact upon riparian lands. However, it should be noted that the existing riparian corridor is significantly degraded as a result of the previous industrial use of the land.

Clause 7.5 aims to ensure that development does not disturb, expose or drain ASS and cause environmental damage. The majority of the site is class 5 ASS. Under Clause 7.5 Class 5 ASS permits "works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the water table is

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*likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.”* The ASS map also indicates a small section of the south-eastern corner of the site which is Class 3 ASS, however, this area of the site is not proposed to be developed.

Clause 7.7. provides foreshore building line controls. The clause aims to ensure that development in the foreshore area will not impact on natural foreshore processes or affect the significance and amenity of the area. However, as previously stated the riparian land and adjacent foreshore area is extremely degraded.

## 3.2 Wollongong Development Control Plan 2009

The site is also subject to the Wollongong Development Control Plan 2009 (WDCP 2009). The WDCP 2009 applies to the entire Wollongong LGA and includes general development guidelines. The main objective of the WDCP 2009 is to assist in the realisation of the aims of the WLEP 2009.

Details of the relevant provisions of the WDCP 2009 have not been undertaken as part of this PP due to the fact that a site specific DCP has been prepared for the Corrimal Coke Works and is submitted with this PP.

## 4 Proposed rezoning concept

### 4.1 Planning Proposal Description

The aim of the PP is to rezone the Corrimal Coke Works site to facilitate the development of housing, with local commercial services, public open space, and with a focus on delivering a public plaza adjoining Corrimal train station whilst retaining the sites industrial heritage.

### 4.2 Urban Design Concept

The Concept Master Plan, based on urban design principles, was undertaken to inform the PP. The Concept Master Plan provides for the delivery of housing within a strong public domain framework while ensuring that the site will be integrated into its existing context. Key features of the Concept Master Plan include:

- » Delivering a diversity of housing with the potential for low-scale apartment buildings, including affordable housing and the potential for seniors living/aged care, as well as options for strata titled townhouses.
- » Providing 9.5ha of open space to offer a range of community and recreational resources, including a 3,000sqm central park, 5,150 sqm southern recreation space and riparian corridor promoting walking and cycling.
- » Ensuring architectural diversity that responds to the local context through creation of a range of character precincts within the site.
- » Maintaining key views to the escarpment, including a significant view corridor along Murray Street, while also establishing new views within the development to key heritage features.
- » Maximising access to Corrimal train station and delivery of a public plaza adjacent to the station with retention of key heritage structures and also interpretive heritage elements.
- » Activating Corrimal train station and the heritage precinct with neighbourhood scale retail uses at a scale that does not detract from Corrimal Town Centre and East Corrimal shops.
- » Providing flexible community and business space within the heritage precinct, including the potential for tele-working and start-ups.
- » Realignment and rehabilitation of North Corrimal Creek to establish a new riparian corridor with enhanced biodiversity outcomes, while providing a large area of PMF-free contiguous developable area.
- » Providing a regional walking and cycling path through the site, connecting Railway Street in the north across Towradgi Creek to the south.
- » Retention of key ecological areas within the southern section of the site and integrated with the riparian corridor, including provision of a suitable buffer to the existing grey headed flying fox camp.
- » Providing a suitable buffer distance from the rail and state road corridors and appropriate landscaping adjacent to the site for noise attenuation.
- » New site access from Railway Street with a proposed roundabout at the intersection of Harbinger Street.

### 4.3 Place principles and values

The Master Plan for Corrimal has been based on the following place principles:

- » **Place Principle 1 Made for Friendship:** We help people to meet, share and connect, building on and contributing to Corrimal's already genuinely friendly and supportive community. We're creating a safe and

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supportive place where people grow together, look out for each other and share special moments and events.

- » **Place Principle 2 Designed for difference:** We're building a community of many different ages, shapes and sizes. We champion difference and are designed to attract people at different stages of life. Our place is made up of a wide variety of landscapes, precincts, features, housing types and experiences, creating a vibrant and distinctive destination.
- » **Place Principle 3 Bringing more to life:** We invest in making people and places the best they can be, breathing new life into heritage and green space and helping people reach their potential. We make everyday life easier, so that people have more time and energy to enjoy what's important.
- » **Place Principle 4 United through stories:** We cherish our unique story. From our history to our unique ecology, we're a place like no other. Together we will celebrate the stories of the past and build new stories, forging a strong sense of character and identity.

## 4.4 Concept Master Plan: The basis for the rezoning

The Master Plan is a progression of the 2017 Concept Plan which established the potential for the site to be rezoned from predominantly industrial uses to residential zoning. The 2017 Concept Plan established key design drivers including:

- » A generally regular street grid facilitating the creation of orderly development lots
- » A strategy to retain some former industrial elements of the Site including the 1912 Brick Chimney Stack.
- » The identification of ecological communities in the north and south of the Site.
- » The opportunity to position local services around Corrimal Station.
- » The opportunity to access the Site from Railway Street in the north.
- » The realignment of North Corrimal Creek to the west of the site to establish an enhanced green corridor, manage flooding and consolidate the developable area

In line with Wollongong Council's resolution and the Gateway Determination, it is proposed to rezone the site from IN3 Heavy Industrial and RE2 Private Recreation, under WLEP 2009, to R3 Medium Density Residential and RE1 Public Recreation. A small portion (0.25ha) of the subject site will retain its existing zoning as SP2 Infrastructure - Road. Appropriate controls relating to FSR, MLS, height, biodiversity and ASS are also proposed.

The rezoning of the site would accommodate approximately 700 – 750 dwellings, providing for housing diversity through the provision of a mix of residential apartments, strated titled townhouses, affordable housing and senior/aged care housing. It is also proposed to provide for small scale retail space in close proximity to Corrimal Station, and a village park nested within the residential area. The site will be connected to the wider Corrimal area through cycling and pedestrian links.

The riparian corridor, which is currently severely degraded, is proposed to be realigned to manage and reduce flood risks, offer a mix of passive and active recreational uses and support water quality management. The riparian corridor will link to the existing Towradgi Creek corridor and provide a shared cycle/pedestrian path from Railway Street to existing public open space at the south of the site. The southern ecological area is to be preserved, as well as the creation of a southern recreational park. The updated indicative Concept Master Plan for the site is shown in **Figure 13**.

A buffer of 100m has been included between the development and the grey-headed flying fox camp in the south of the site to avoid and minimise potential conflicts between future residents and flying foxes. The creation of a buffer is consistent with the level 2 camp management actions prescribed by DPI&E in the Camp Management Policy.

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**Figure 13 Proposed Master Plan**



Source: DKO

Key features of the Master Plan include:

- » An expanded plaza adjacent to Corrimal Station.
- » Increased retention and interpretation of existing industrial structures, and establishment of key view corridors to heritage elements
- » Refinement of the realigned North Corrimal Creek corridor to provide opportunities for active and passive recreation while addressing long-term stability.



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- » A refined street network that facilitates bus access to Corrimal Station.
- » A new roundabout access on Railway Street at the intersection of Harbinger Street
- » An expanded area for local services around Corrimal station
- » A new, village neighbourhood park
- » A new, southern recreation park
- » The identification of a number of character precincts that respond to local conditions and the project vision
- » Further development of the built form strategy to allow for a diverse mix of innovative housing
- » An extensive network of active transport and pedestrian links to key destinations within and around the site
- » Updated staging and implementation planning

## 4.5 Key proposed land uses

### 4.5.1 Housing

Development of the site will provide approximately 700 – 750 new dwellings. This has been determined as an appropriate yield taking into account the opportunities and constraints of the site, the strategic hierarchy of Corrimal as a Major Centre, and through benchmarking a broad range of precedent infill sites.

The site offers ideal development potential for infill housing, adjacent to Corrimal train station and within walking distance of Corrimal town centre. The site is potentially the best location for new housing in the northern suburbs of Wollongong.

It is proposed to amend the land zoning on the site from IN3 and RE2 to R3 and RE1. The objectives of the R3 zone are as follows:

- » *To provide for the housing needs of the community within a medium density residential environment.*
- » *To provide a variety of housing types within a medium density residential environment.*
- » *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

The proposed R3 zoning has been selected, as:-

- » The site in essence has three “barriers” or edges:
  - > There is a large open space to the south of the site and separated by a creek, which does not impact any residents.
  - > Memorial Drive to the west is approximately 26 metres wide, and west of the site is further open space (Robert Ziems Oval), providing significant buffer to any dwellings in this direction.
  - > Dwellings in Cross Street will be separated from the site by the existing/future riparian corridor that will provide a significant green buffer.
  - > The railway line provides separation of approximately 40 metres to the nearest dwellings east of the site.
  - > North of the site is a changing environment, with some light industrial, new residential buildings and some dwellings. The proposed height and scale would not impact the amenity of the context to the north.

Further, it is a natural extension of the existing R3 zoned areas located directly to the north and east of the site. In addition, the R3 zoning will allow for the intended built form; being a mix of one, two and three-bedroom residential flat buildings, and even two storey apartments, affordable housing, senior/aged care housing as well as options for strata titled town houses. The rezoning of the site will increase housing choice and affordability within the area, supporting the current and future housing needs of the community.

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At present Medium Density Residential (R3) areas are significantly lacking within the Wollongong LGA and those that do exist are underperforming, in terms of supplying medium density outcomes. This has been recognised by Council in their recent Housing and Affordable Housing Strategy. A review of R3 Medium Density Residential zoned lands indicated these areas are operating not dissimilar to the R2 Low Density Residentially zoned land, and that there is not the capacity for the desired forms of medium density housing in these areas.

The data for both housing supply and affordable housing point to the need to increase the supply of smaller dwellings (1-2 bedrooms), as the Illawarra-Shoalhaven area has an increasing number of 1-2-person households due to an aging population. A more diverse housing mix is also required to respond to an increasing need for more affordable housing (as discussed below).

The proposed R3 zoning is considered appropriate for the site as it permits the following housing typologies under WLEP 2009:

*Attached dwellings; Dual occupancies; Dwelling houses; Multi dwelling housing; Residential flat buildings; Shop top housing; Semi-detached dwellings; Seniors housing; Serviced apartments*

#### 4.5.2 Affordable Housing

Legacy and ICC are committed to ensuring that the site is rezoned and developed with the provision of 35 affordable rental dwellings, representing 5% of a forecast 700 dwellings. This affordable housing will be delivered in partnership with a registered Community Housing Provider. This is to ensure that a wide range of housing choice is provided, based on the belief that housing affordability is underpinned by providing a high level of housing diversity, including appropriate compact housing types and noting that the present housing stock of Corrimal is dominated by detached dwellings.

#### 4.5.3 Open Space

52% of the site is proposed as open space, including the riparian corridor, the addition of two new parks and the heritage plaza area. This is more than originally proposed (43%), and provides a major asset and place making component on the site.

Open space is a key component of the site and provides connection and integration with the proposed development itself and with adjacent areas.

The open space and landscape have been integrated into design and derived from the following design principles:

- » Maintain the existing green buffer along Railway Street, and other site boundaries where possible
- » Create a new public parkland along the realigned North Corrimal Creek
- » Enhance proposed heritage public realm plaza adjacent to Corrimal station
- » Define a fine grain network of streets and pedestrian links
- » Frame internal views and vistas, while preserving key views from surrounding areas
- » Create additional parkland in the centre and to the south of the site
- » Create a system of cycle paths that link to key destinations and connect into wider network.

The addition of new parks is a central component of the proposal to provide an opportunity for local residents to informally gather and enjoy recreational facilities together. This open space will be zoned R3 so to enable the exact size and configuration to be resolved through the development application process, however a minimum area of 3,000sqm will be provided for local residents. To ensure that is implemented, the requirement for the village park and southern park will be included in the site specific DCP, as well as in Legacy/ICC VPA offer to Council.

The new riparian corridor, village park and southern recreation park reflect their value as a significant open space resources for the Corrimal community. They support the objectives of the RE1 zone namely:

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- » To enable land to be used for public open space or recreational purposes.
- » To provide a range of recreational settings and activities and compatible land uses.
- » To protect and enhance the natural environment for recreational purposes.
- » To cater for the development of a wide range of uses and facilities within open spaces for the benefit of the community.

To meet best practice in line with policies such as Greener Places Policy and Guideline and Green Grid, the design for the riparian corridor at Corrimal seeks to also integrate a range of functions:

- » Fulfilling its hydraulic function managing water quality and quantity without damage to property and the environment, especially in flood events
- » Enhancing the site and locality’s ecosystem services, through a connected corridor of riparian native vegetation
- » Extending pedestrian/cycle access for residents of the site and the locality, through a creek corridor pathway, connecting into the wider district path network
- » Reducing Urban Heat Island Impacts by providing increased urban tree canopy
- » Offering opportunities for connection to nature for residents through recreational engagement with their local Creek
- » Encouraging water-oriented, nature-based play for children
- » Optimising passive surveillance by retaining views to the creek from the adjoining residential dwellings.

These functions have been carefully integrated to ensure that they are complementary, not exclusive of each other.

The proposed riparian corridor will be preserved and enhanced whilst also allowing it to be accessible for passive recreation by the residents of Corrimal. The proposed RE1 zoning will allow the permissibility of “*Environmental facilities; Environmental protection works; Recreation areas; Recreation facilities (outdoor)*”. The proposed RE1 zoning is in keeping with the zoning of surrounding areas, as shown in **Figure 14** below.

The intention of the corridor, village park and southern recreational park is to provide a range of recreational settings and compatible land uses while protecting and enhancing the natural environment for recreational purposes. Further:

- » The proposed RE1 zoning is consistent with upstream and downstream zoning of Towradgi Creek and there is no justification to change this approach.
- » The proposed riparian corridor area is currently zoned RE2 Private Recreation and is therefore already earmarked for recreational uses.
- » The proposed riparian corridor is not consistent with the objectives of either the E2 or E3 zones. In particular, the majority of the corridor is not of high ecological, scientific, cultural or aesthetic value. The portion of EEC that is within the riparian corridor precinct is being retained.
- » RE1 zoning is consistent with the Gateway Determination and there has been no new ecological information since this time to warrant a change to this approach

It is not proposed to include an Environmental Zone in the corridor as the space will:

- » Be owned and managed by Council and thus secured in public ownership
- » The biodiversity and vegetation will be managed and maintained by Council in the longer term
- » Other similar areas to the south and north with biodiversity have also been zoned RE1, and this will be consistent to form a prominent green linkage corridor.

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Figure 14 Surrounding RE1 land



Source: Elton Consulting

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#### 4.5.4 Proposed non-residential uses

It is proposed to accommodate a small neighbourhood precinct on the site to support activation of the rail station and heritage plaza, and meet the convenience needs of future residents. The inclusion of a local neighbourhood centre, with shops, restaurants and possible community facilities, was a key comment and vision that was an outcome of the community engagement process.

The precinct is expected to incorporate a small local supermarket, supported by some cafes and restaurants and limited convenience offer (such as newsagency or small pharmacy, personal services such as a hair salon, beautician etc.). The retail will be limited to a maximum GFA of 2,000m<sup>2</sup> within a 250m radius of Corrimal train station, to ensure that it does not detract for existing retail services in Corrimal Town Centre and East Corrimal. Any supermarket will be limited to 1,000sqm in size, while other shops are limited to 250sqm in size.

Subject to market demand, there is potential for a childcare centre to be included within this precinct.

It is also proposed to provide a shared community space and a flexible working space as part of the heritage precinct. These spaces are also intended to support local business start-ups, as well as providing opportunities for community groups and other local organisations. It is also proposed to include hairdressers, dry cleaners, internet access facilities or other business uses, to support local residents, and who may want to work close to the Corrimal Station. These type of uses were raised by communities during the community consultation. These uses are defined as business premises in the LEP.

These small-scale non-residential uses will be permitted through a local provisions' clause nominating additional permissible uses.

### 4.6 Land Use Character

The Master Plan for the rezoning area would result in a diverse range of building forms which respond to their individual location and context. The Master Plan also proposes a range of public realm and open space to provide for a range of needs for residents and visitors.

The Master Plan identifies different character areas to ensure the site respects heritage in appropriate locations and provides variety and interest in the design of buildings and the spaces.

The character area design controls have been included into the site-specific Development Control Plan.

### 4.7 Proposed road and public realm

#### 4.7.1 Road networks

A new hierarchy of streets is proposed within the site to ensure easy and adequate access for residents and visitors. The key access point to the site will be from Railway Street, with the construction of a new roundabout at the intersection of Harbinger Street agreed following consultation with Council and TfNSW.

The traffic assessment has indicated that traffic from the proposed development can be accommodated by the existing network of streets and intersections, with the exception of the Memorial Drive/Railway Street intersection. An upgrade to this intersection is required to mitigate traffic impacts from the proposed development, consistent with the standards applied to all development through New South Wales.

The primary capacity issues with the existing intersection involve left turns from Railway Street onto Memorial Drive in the AM period, and right turns from Memorial Drive into Railway Street in the PM period. To address these issues and improve the capacity of the intersection, the upgrade is proposed to involve:

- » one of the two departure lanes on the eastern and western legs of Railway Street reassigned as a third approach lane (i.e. three approach lanes in each direction, one right turn pocket, one through lane and one left turn lane) in order to separate vehicle movements;

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- » extending the right turn pocket length in the southern approach along Memorial Drive from 95m to 150m to provide additional capacity and avoid queuing into the through traffic lanes; and
- » changing the signal phase times of the intersection to better flows and align with the geometrical changes.

Significantly, this upgrade will accommodate background traffic growth to 2026 as well as traffic generated by the development.

The detailed design of the intersection upgrade will be subject to further consultation and approval by TfNSW.

### 4.7.2 Pedestrian cycle network

Pedestrian and cycling connections are proposed throughout the site, linking Corrimal town centre to Corrimal train station, and further south through a shared cycle/pedestrian path from Railway Street across Towradgi Creek to the existing open spaces south of the site.

The existing footpath along Railway Street will also be upgraded to a shared path consistent with Council's Bike Plan.

### 4.7.3 Streetscapes

The concept Master Plan integrates a street hierarchy that meets vehicle, pedestrian and cycle circulation needs and enhances intuitive way-finding.

A palette of tree species has been selected to provide a clear identity for all streets and to maximise environmental and amenity benefits of tree canopy. The proposed species have been selected to draw on native species, many being locally endemic, and to respond to the WDCP 2009.

## 4.8 Proposed Built form controls

Based on the Concept Master Plan the following controls are proposed.

### 4.8.1 Minimum Lot Size

It is proposed that the R3 zoned area of the site be subject to a minimum lot size of 449 m<sup>2</sup>. There is no proposed MLS for RE1 zoned areas.

Council previously endorsed a 149sqm minimum lot size as part of the Gateway process. The proposed minimum lot size is now greater than previously endorsed on that the basis that compact housing typologies, such as townhouses, will be delivered under strata title or through an integrated housing approval.

The proposed MLS is consistent with surrounding areas and will allow for the creation of development lots for future residential flat buildings.

### 4.8.2 Height of Buildings

The proposed building heights remain consistent with the height range endorsed through the Gateway Determination.

Following Gateway Determination, extensive engagement has occurred with Council officers to review building heights, massing and site levels to ensure that the scale and form of future development is appropriate. The distribution of building heights across the site has been developed through this process and is designed to:

- » Ensure that higher buildings of 5 and 6 storeys are located to have the least impact on existing residential areas around the site

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- » Avoid and minimise impacts on views from existing residential areas, particularly views to the Illawarra escarpment
- » Minimise building heights in proximity to key heritage elements on the site
- » Provide for some variation in building heights across the site

The proposed building heights have been benchmarked against a range of broadly comparable centres throughout Wollongong and Sydney to demonstrate that the range of heights are appropriate for the Corrimal Coke Works site. While 13m and 15m are established height zones in surrounding areas and Corrimal town centre, there are also precedents for greater heights in the northern suburbs including:

- » The Innovation Campus which provides building heights of 24m, 30m and 32m
- » 'Beaches Towradgi' which provides 6 residential storeys above a full level of above-ground parking

Both these locations do not benefit from the immediate adjacent of rail infrastructure that exists at Corrimal Coke Works. Further heights were assessed in areas such as West Dapto (vary between 11m- 30m) and in Warrawong (vary between 13m and 24m) as these centres do have a train station. These also demonstrated consistency of heights at stations.

The calculation of building heights also provides some minor flexibility to accommodate:

- » 'half in/half out' basement car parking (up to 1.2m above ground), and
- » new sustainable construction methods, such as engineered timber, that require increased floor to floor heights due to insulation requirements for BCA compliance.

Council requested Legacy to assess and consider two manners in which to define height at Corrimal. The first manner was that which is consistent with the definition in Clause 4.3 of WLEP. This proposed height is shown in the plan below and varies between 13m – 24m.

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**Figure 15 Height of buildings based on current definition**





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The second manner to calculate height, is to exclude lift overruns, communal open space and other associated structures on roof tops. This proposed height is shown in the plan below and varies between 13m – 22m.

**Figure 16 Proposed height based on the alternative height definition**



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The building heights proposed in this PP for the site, therefore range from 13m to 22m. The proposed heights are:

- » 13m for proposed retail precinct adjacent to Corrimal train station, which serves to limit heights directly adjacent to key heritage elements
- » 15m on the northern side of the site, and that which is close to the 4-storey new building north of the site, as well as 15m adjacent to the railway line in the southern part of the site
- » 18 and 22m adjacent to the riparian corridor, towards the middle of the site.

The proposed height has also taken into consideration views and vistas of the brick chimney, as well as views of the escarpment from the east looking to the west.

The proposed heights within RE1 is 9m to allow for community facilities within open space areas.

The proposed building heights are therefore accompanied by a local provisions clause that adopts an alternative definition of building height to that of the standard LEP instrument. This clause is intended to provide greater certainty about the future scale of buildings by excluding elements such as lift-overruns, communal open space and pergolas from the definition of height.

Council have proposed clause 7.21 Height of Buildings at Corrimal Coke Works, as follows:

### **7.21 Height of buildings at Corrimal Coke Works site**

1. *The consent authority may grant development consent to development for the purpose of rooftop plant, lift towers, lift motor rooms, pergolas, community facilities and or communal open space and access to and structures associated with such space, that would exceed or causes a building to exceed, the height limits set by clause 4.3, but only if the consent authority is satisfied that the structures -*
  - a) *are for the purposes of equipment servicing the building, plant rooms, lift towers, lift motor rooms, fire stairs and other areas used exclusively for mechanical services or ducting; or*
  - b) *are for the purpose of communal open space and access to, and structures associated with that space; or*
  - c) *for both (a) and (b); and*
  - d) *are not an advertising structure; and*
  - e) *does not include floor space area and is not reasonably capable of modification to include floor space area; and*
  - f) *will cause minimal overshadowing; and*
  - g) *any such rooftop structure referred to in (1)(a) and 1(b) is fully integrated into the design of the building."*

## 4.9 Floor space ratio

No FSR control currently exists for the site. The proposed floor space ratio (FSR) remain consistent with the FSR range endorsed by Council and in the Gateway Determination.

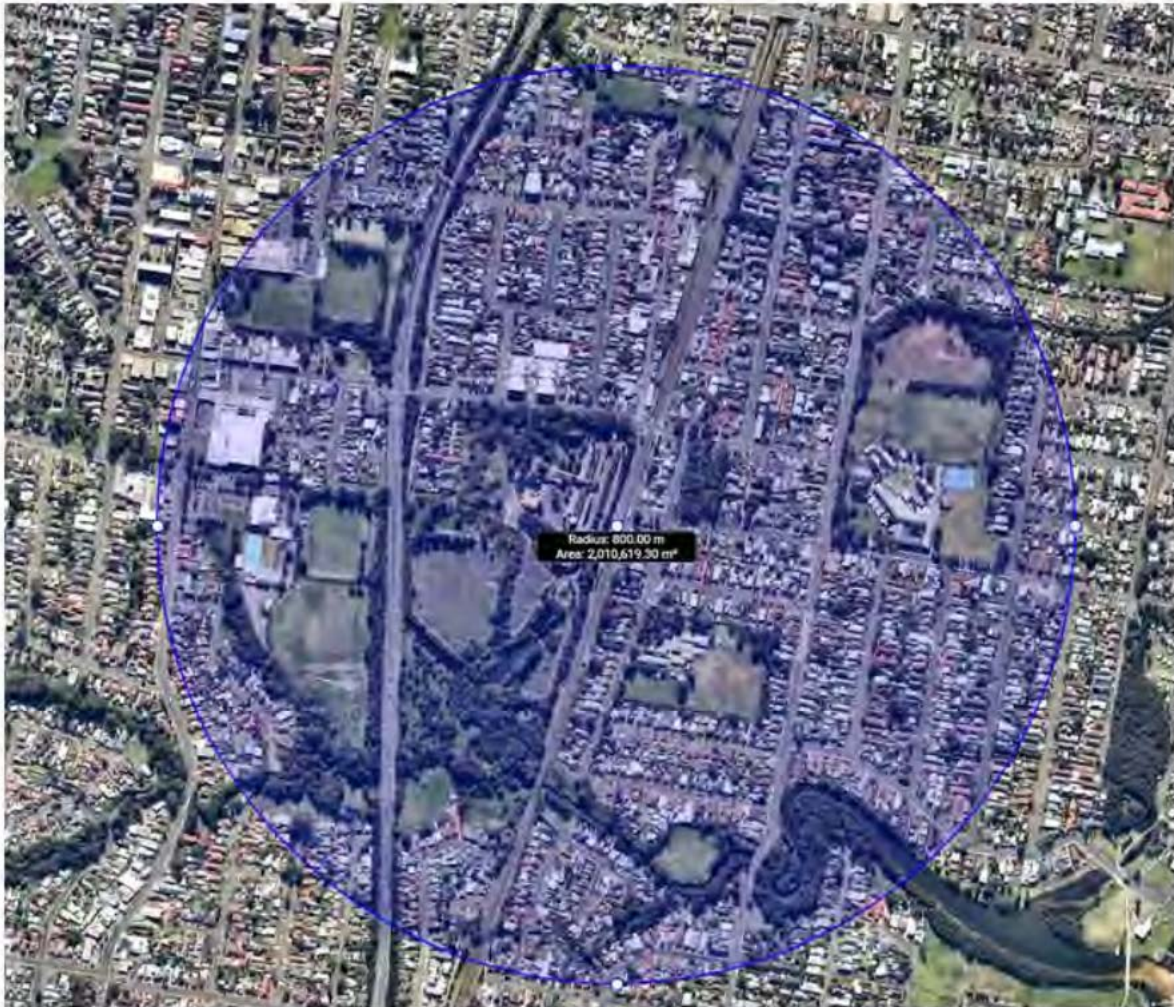
The proposed height and FSR controls reflect the concept master plan that has been developed based on further technical studies and in response to community consultation. The relationship between the proposed 22m height zone and 2.5:1 FSR is a common reconciliation of height and FSR outcomes, and simply reflects the master plan outcomes that have been demonstrated to Council

The FSR is appropriate for the site for the following reasons: -

- » The Corrimal town centre is located approximately 600-800m from the train station and therefore does not offer the same opportunity for transport-oriented development as the former Corrimal Coke Works site, which is located directly adjacent to Corrimal station. While Corrimal represents a context there are numerous precedents demonstrating that the density for the Corrimal Coke Works is appropriate and necessary to ensure proper utilisation of its unique opportunity.

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**Figure 17 Location of Corrimal Town Centre from the station**



- » The Corrimal Coke Works site is within 800m of the town centre, plus directly adjacent to the town centre, which places it in a unique situation to have a floor space ratio density floor space ratio which is similar range to many housing diversity typologies in similar circumstances. The proposed FSR ranges also compare well to other scales and areas in Wollongong, but also other more regional or outer suburbs of Sydney, with an exert shown in the table below.

**Comparable floor space ratio**

Place	Current heights	Current FSRs	Applicability
Warrawong	24m	2.5:1	Lower hierarchy centre than Corrimal
Kiama	11m	2.1:1	Regional area
Edmondson Park	24m	2.5:1	Outer suburb of Sydney, with town centre to the south and a adjacent to a train station
Shell Harbour	15m	1.5:1	Regional Area

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Place	Current heights	Current FSRs	Applicability
West Dapto	20m	2.5:1	Wollongong LGA
Yagoona	20m	2:1	Outer suburb of Sydney
Putney, Ryde	18.5 and 21m	2.9:1	New development away from the station, close to town centre and adjacent to a major road and an infill site
Wyong	13-25m	Up to 2:1	Regional area

- » Corrimal is designated as an 'urban centre' within the Illawarra Shoalhaven Regional Plan. Benchmarking against broadly comparable 'local centres' within the Sydney Metropolitan Area identified a number of centres that illustrate generally comparable height and/or FSR outcomes located adjacent to train stations and a similar hierarchy of centre. This demonstrated evidence of the site's suitability for the FSR.
- » The highest FSR on the site is adjacent to the riparian corridor and away from the existing residential area. This there is no impact on the adjacent built form.
- » The FSR has been broken up across the site in order to achieve diversity in heights, scale and reflect the character areas of the site.
- » While the proposed FSRs controls range from 0.75:1 to 2.5:1, the resultant FSR across the entire site is approximately 0.5:1 demonstrating that the overall density is not significant.
- » The proposed FSR creates a resultant average FSR is 1.3:1, which is consistent with the broader floor space ratios in other benchmark studies as well as with Wollongong's city centre northern area FSR of 1.5:1.
- » The majority of the site has a proposed height similar FSR to Corrimal town centre or lower, being in the 1.5:1 FSR range or lower. As Corrimal is identified as one of the main urban centres in the Illawarra Shoalhaven Plan, and the site being directly adjacent to the train station highlights the suitability of the mix of FSRs across the site.
- » In terms of overall density, the site will achieve approximately 41 dwellings per hectare. This is consistent with the maximum density allowed in R3 zones in urban release areas across Sydney, demonstrating its general suitability. This also compares with other infill urban renewal sites such as:
  - Putney Hill (Ryde LGA) – 57 dwellings per hectare. This is an infill site in a suburban context with no immediate access to heavy rail.
  - Ashbury (Canterbury Bankstown LGA) – 119 dwellings per hectare. This is an infill site in a suburban context with no immediate access to heavy rail.
  - South Village, Kirrawee (Sutherland LGA) – 176 dwellings per hectare. This is a infill site in a generally suburban and industrial context, with close proximity to heavy rail, however Kirrawee has no designation within the strategic planning context.

The proposed FSRs for all R3 zoned land comprise the following; 0.75:1, 1.2:1, 1.5:1, 2:1 and 2.5:1. No FSR control is proposed for RE1 land.

## 4.10 Heritage

On 29 June 2020 the Council approved that part of the former Corrimal Coke Works site be listed as a local heritage item in the Wollongong Local Environmental Plan 2009. As such, this Planning Proposal does not address a local heritage listing of the site.

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## Planning Proposal

This section of the PP provides justification and clarity in terms of the intended outcomes and the strategic merit of the proposal to enable the determining authority to approve the proposed amendment to the planning controls on the site, consistent with s3.33 of the EP&A Act.

In accordance with s3.33 of the EP&A Act and 'A Guide to Preparing Planning Proposal' (the guidelines), this section contains the basis of a PP for the WLEP 2009 amendment. It is comprised of:

- » Part 1 – objectives and intended outcomes
- » Part 2 – explanation of provisions
- » Part 3 – justification
- » Part 4 – mapping
- » Part 5 – community consultation

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## Part 1 – Objectives or intended outcomes

The primary objective of this PP is to amend WLEP 2009 to facilitate the development of the site to deliver a residential development at the former Corrimal Coke Works site. The intended outcomes of the PP are:

- » create a residential site for approximately 700 - 750 dwellings for a mix of housing types
- » support local retail services adjacent to Corrimal train station to provide for activation of the train station and public domain, and local convenience retail services and facilities
- » retain and interpret key heritage elements of the site
- » deliver an open space network that provides a range of recreational opportunities
- » realign and rehabilitate the riparian corridor to manage flooding and enhance the biodiversity values on the site
- » support increase public transport use and active transport opportunities
- » provide improved connectivity through the site for pedestrians, cyclist and vehicles
- » manage traffic circulation from the development within the site and on the surrounding road network.

## Part 2 – Explanation of Provisions

Part 2 of the PP is an explicit statement of how the objectives outlined in Part 1 are to be achieved through an LEP amendment.

The current IN3 Heavy Industrial and RE2 Private Recreation zoning on the site inhibits redevelopment. A rezoning of the site is necessary in order to create a high-quality residential development.

Viable development of the site can only be realised by amending WLEP 2009 to enable the type of development envisaged by the Master Plan.

### 4.11 Amendments to WLEP 2009 Mapping

The proposed outcomes will be achieved by an amendment to WLEP 2009 as follows:

- » **Amend the Land Zoning Map**
  - > Rezone the site from **RE2** Private Recreation and **IN3** Heavy Industrial to **R3** Medium Density Residential and **RE1** Public Recreation.
- » **Amend the Minimum Lot Size Map**
  - > On part of the land zoned **R3** specify a minimum lot size of 449 m<sup>2</sup>
  - > On all other land there will be no minimum lot size control
- » **Amend the Height of Buildings Map**
  - > On land zoned **R3** specify a height of 13m, 15m, 18m and 22m
  - > On land zoned **RE1** specify a height of 9m
- » **Amend the Floor Space Ratio Map**
  - > On land zoned **R3** specify FSRs of 0.75:1, 1.2:1, 1.5:1, 2:1 and 2.5:1
  - > On all other land there will be no FSR control
- » **Amend the Acid Sulfate Soils, Riparian Land, Foreshore Building Line Map, Flood Planning Map**
  - > Amend the location of riparian land to reflect the corridor realignment.
  - > Delete the foreshore building line.
  - > Delete land below foreshore building line.
- » **Amend the Natural Resource Sensitivity – Biodiversity Map**
  - > Remove the northern and add a southern area to the natural resource sensitivity – biodiversity of the site
- » **Amend the Key Sites Plan – Key Site 024**
  - > Include the site as a Key Site
- » **Urban Release Area 024**
  - > Create a Urban Release Area Map to include the site and thus Part 6 of the LEP is to apply

The objective and justification for the planning proposal amendments below, should be read in association with Section 4 above.

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#### 4.11.1 Land use zones

The proposed **R3** Medium Density Residential zoning facilitates a mix of higher density residential development on the site. This is consistent with the requirement for increased housing diversity within the Wollongong LGA and the vision for increased density housing surrounding train stations within the northern corridor of Wollongong (from Thirroul to Fairy Meadow).

It is envisaged that the development will include primarily residential flat buildings with potential for other forms of medium density housing, such as townhouses. The R3 zoned area of the site will also form an extension of the existing R3 zoned land to the north and the east.

A small-scale neighbourhood retail precinct is proposed adjacent to Corrimal train station, which will play an important role in activating the heritage precinct and associated public domain in this location.

The village park is intended to be located within the centre of the site. This park is proposed to be zoned R3 and will be included as a dedication in the VPA. In order to provide Council and the community with certainty that it will be delivered, the park will be included within the site specific DCP.

The **RE1** Public Recreation zoning is proposed for the passive and active open spaces provided within the development in order to ensure that there are designated areas for public recreation. The **RE1** land can be identified on a land acquisition map if necessary, to enable the land to be transferred to public ownership in the future.

#### 4.11.2 Minimum lot size

The principle development standards for the MLS is proposed to be amended. At present the IN3 part of the site has a 1.99ha MLS. As part of the proposed amendments, part of the site zoned **R3** will have a 449m<sup>2</sup> MLS. The part of the site zoned **RE1** will have no MLS.

The designated MLS have been established to ensure that there is sufficient area to accommodate the proposed typologies of built development and to establish a character suitable to offer a diversity of housing choice.

#### 4.11.3 Height of Buildings

The proposed instrument will amend the principle development standards for the HOB with an amended HOB map. At present the site has a HOB control of 9m over the part of the site zoned RE2 Private Recreation.

Building heights will range from 9m, over the part of the site zoned **RE1**, to heights of 13m - 22m over the part of the site zoned **R3**.

The proposed height zones across the site have been determined through an extensive master plan process and in close consultation with Council.

The proposed heights of the building are based on the alternative height definition as outlined in section 4.12 below. If Council, DPIE or NSW Parliamentary Council do not support this alternative definition to be inserted into the WLEP, the intention is that the heights would need to demonstrate the existing definition which is between 13-24m in height.

#### 4.11.4 FSR

No FSR control currently exists for the site.

The proposed instrument will amend the principle development standards for the FSR with an amended FSR map. As part of the proposed amendments, the area to be zoned R3 will accommodate a range of FSRs from 0.75:1 – 2.5:1 in order to permit the diversity of development typologies and built form character envisaged for the site.



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#### 4.11.5 Acid Sulfate Soils, Riparian Land, Foreshore Building Line Map, Flood Planning

The proposed realignment of the riparian corridor will be reflected in the amended Acid Sulphate Soils (ASS), Riparian Land, Foreshore Building Line, and Flood Planning map.

The Foreshore Building Line and Land below the foreshore building land will also be deleted to reflect the fact that realignment will remove the probability of flooding on the site.

#### 4.11.6 Natural Resource Sensitivity – Biodiversity Map

The Natural Resources Sensitivity Map will be amended to include one new area of natural resource sensitivity in the southern section of the site, in response to the biodiversity assessment undertaken by EcoLogical.

The current EEC in the northern area is required to be removed as a result of Council's request to incorporate site access via a new roundabout at the intersection of Harbinger Street be created.

#### 4.11.7 Key Sites

The site is to be identified as a key site in a Key Sites Plan in order that design and built form excellence is demonstrated on the site, as per Clause 7.18 (2).

#### 4.11.8 Urban Release Area

The site is to be identified in the Urban Release Area Map in order that Part 6 of the LEP is to apply, in particular that there should be a Development Control Plan (DCP) for the site prior to any development applications.

A site specific DCP is proposed for the site and is to be placed on exhibition and be considered by Wollongong Council simultaneous to the Planning Proposal, in order to provide further design controls related to the site.

### 4.12 Amendments to Part 7 Local Provisions – General

The following clauses is proposed to be included in Part 7 to allow increased heights, beyond the maximum height control of 22m, for C1 North Stack and C1 Brick Chimney Stack, which currently sit at heights of approximately 36.8m and 29m respectively:

#### *7.20 Former Corrimal Coke Works*

##### *Height of Development*

1) *The height of any development on the former Corrimal Coke Works site is not to exceed the height limit shown on the Height of Buildings Map, with the exception of the following heritage items:*

- a. *C1 North Stack*
- b. *C1 Brick Chimney Stack*
- c. *C1 Fine Coal Bin*

2) *The following height limits are permissible for the heritage items:*

- a. *C1 North Stack: 37m*
- b. *C1 Brick Chimney Stack: 29m*
- c. *C1 Fine Coal Bin: 25m*

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A second local provisions clause is proposed to be included in WLEP to manage the height of buildings on the site, but allowing rooftop plants, lift towers, motor rooms, pergolas, communal open space and associated structures above the maximum height proposed. The intention of this clause is to ensure that the maximum height of the building does not allow for additional floor area, but also to manage the height due to the necessary earthworks that is required to be undertaken on the site.

**7.21 Height of buildings at Corrimal Coke Works site**

2. *The consent authority may grant development consent to development for the purpose of rooftop plant, lift towers, lift motor rooms, pergola and communal open space and access to and structures associated with such space, that would exceed or causes a building to exceed, the height limits set by clause 4.3, but only if the consent authority is satisfied that the structures -*
  - a) *are for the purposes of equipment servicing the building, plant rooms, lift towers, lift motor rooms, fire stairs and other areas used exclusively for mechanical services or ducting; or*
  - b) *are for the purpose of communal open space and access to, and structures associated with that space; or*
  - c) *for both (a) and (b); and*
  - d) *are not an advertising structure; and*
  - e) *does not include floor space area and is not reasonably capable of modification to include floor space area; and*
  - f) *will cause minimal overshadowing; and*
  - g) *any such rooftop structure referred to in (1)(a) and 1(b) is fully integrated into the design of the building."*

**4.13 Amendments to Schedule 1 Additional permitted uses**

The following clause will be included in Schedule 1 Additional Permitted Uses to ensure that a full complement of neighbourhood and commuter services near Corrimal train station can be provided:

***Use of certain land at the former Corrimal Coke Works site:***

- 1) *This applies to land at the former Corrimal coke works site*
- 2) *Development for the purposes of food and drink Premises, shops, business premises and neighbourhood supermarket (1,000m<sup>2</sup>) is permitted with consent, but only if at ground floor and within 150m of the train station*
- 3) *Development for purposes of food and drink Premises, shops, business premises and and neighbourhood supermarket is permitted up to a maximum of a total GFA of 2,000m<sup>2</sup>, with no one shop (except for the neighbourhood supermarket) to be more than 250m<sup>2</sup> in size.*

The above clause is proposed to accommodate a small supermarket on site, supported by some other small-scale retail shops as a limited convenience offer with a maximum GFA of 2,000m<sup>2</sup> and located within 200m of the railway station. In the future, some community uses may also be accommodated on the site.

As the site is close to the railway station and in proximity to Corrimal town centre, it is considered that the small commercial/retail neighbourhood uses should not be rezoned to a B1 Neighbourhood Centre zoning, but rather to retain the whole site as R3 to allow additional permissible uses to specifically apply to that part of the site which is within 200m of the railway station.

The intention of this clause is to provide a suitable amount of convenience retail and non-residential uses on the site while limiting the GFA to avoid competition and impacts on existing retail within Corrimal Town centre and East Corrimal.

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## 4.14 **Corrimal Coke Works Site Development Control Plan**

A Site-Specific DCP has been created for the Corrimal Coke Works site and is submitted with this PP.

## 4.15 **Voluntary Planning Agreement/Section 7.11 Contributions**

Discussions regarding a VPA are currently ongoing. A preliminary schedule of public benefits is provided at **Appendix D**. The proposed VPA will provide for offsets to local contributions due to the extent of work and public benefit being proposed.

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## Part 3 - Justification

Part 3 sets out the justification for the PP within its strategic planning context, considering the environmental, social and economic impacts of the proposal and the interests of the State and Commonwealth Governments.

In accordance with the guidelines, the level of justification is to be commensurate to the stage in the LEP making process. The potential impacts of the proposal have been identified in sufficient detail to confirm the suitability of the rezoning.

### Section A – Need for the Planning Proposal

#### *Q1 Is the Planning Proposal a result of any strategic study or report?*

The Corrimal Town Centre Implementation Plan, which supports the Corrimal Town Centre Plan 2015-2025, includes Action 2.2, which relates to the former Corrimal Coke Works and states:

*"Work with site owners to guide investigation of site renewal – Planning Proposal request to be prepared and submitted by owner and required to be strategically aligned with Town Centre Plan and other strategies."*

The PP has been prepared as a result of the above action and the fact that the Corrimal Town Centre Plan 2015 – 2025 identifies the former Corrimal Coke Works as a 'key site'.

#### *Q2 Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?*

In order to achieve the intended development outcomes and consistency with State Government strategic directions, the site requires rezoning. This is the only alternative to achieve the objectives of the strategic directions. The current controls allow for industrial development only.

### Section B – Relationship to Strategic Planning Framework

#### *Q3 Is the Planning Proposal consistent with the objectives and actions of the applicable regional, sub-regional or district plan or strategy (including any exhibited draft plans or strategies)?*

This section of the report supplements the PP by addressing the provisions of the relevant regional and subregional plans and strategies.

### Building Momentum: State Infrastructure Strategy 2018-2038 (2018)

Economic activity is growing around Wollongong, where the focus is on providing jobs and housing, growing the capacity of Port Kembla and driving greater economic diversity in priority sectors. Wollongong is recognised as a major city, key international gateway and significant economic activity centre.

By 2036 the Wollongong and Shellharbour area are likely to be home to more than half a million people. The area will drive the economic growth, employment and diversification of the broader Illawarra-Shoalhaven region, while also contributing to Greater Sydney's economy and labour force.

Wollongong will become increasingly connected to Greater Sydney by 2056, enabled by its proximity to Greater Sydney's jobs and services and improved road and rail connections. Improved connectivity between Wollongong and Port Kembla, the National Land Transport Network, the Western Sydney Airport and intermodal terminals in the Western Parkland City will also be important for the city's ongoing economic growth.

The NSW Government has committed to upgrading the Princes Highway at Albion Park Rail and the section between Berry to Bombaderry. TfNSW is now building an extension of the M1 Princes Motorway between Yallah and Oak Flats to bypass Albion Park Rail. The NSW Government is funding the \$630 million project. The bypass would complete the 'missing link' for a high standard road between Sydney and Bomaderry.

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This investment will improve access between the Shoalhaven and Wollongong and Sydney. Various other NSW Government and private investments will enhance Wollongong over the coming years, including an expansion of the Wollongong Hospital. Future investments should be focused on:

- » growing the amenity of Wollongong by providing good transport connections and local services
- » growing the capacity of the port at Port Kembla as an international trade gateway, enabled by dedicated rail connections
- » strengthening links between Wollongong, Port Kembla and Greater Sydney, with extra capacity for rail services and improved road connections across the Illawarra Escarpment and to the Western Parkland City
- » building on existing strengths and supporting economic diversity through growth in priority sectors including tourism, health, disability and aged care, ICT/knowledge services, education and training, and freight and logistics.

**Future Transport Strategy 2056 (2018)**

Future Transport strategy 2056 is a 40 year strategy supported by plans for regional NSW and for Greater Sydney. Future Transport 2056 outlines six state wide outcomes to guide investment, policy and reform and service provision. They provide a framework for planning and investment aimed at harnessing rapid change and innovation to support a modern, innovative transport network. These outcomes are as follows:

- » Customer focused: Customer experiences are seamless, interactive and personalised, supported by technology and data
- » Successful place: the liveability, amenity and economic success of communities and places are enhanced by transport
- » A strong economy: The transport system powers NSW's future \$1.3 trillion economy and enables economic activity across the state
- » Safety and performance: Every customer enjoys safe travel across a high performing, efficient network
- » Accessible services: Transport enables everyone to get the most out of life, wherever they live and whatever their age, ability or personal circumstances
- » Sustainable: The transport system is economically and environmentally sustainable, affordable for customers and supports emissions reductions

Planning and investment for Greater Sydney will focus around the three cities concept – the Western Parkland City, the Central River City and the Eastern Harbour City. Customers will be able to travel to one of these cities or to their nearest strategic centre within 30 minutes of where they live by public or active transport. This will give people better access to jobs, education and essential services.

An integrated network of corridors will support the efficient movement of people and goods throughout Greater Sydney. Future Transport 2056 is focused on three types of corridors that have been developed to align with the land use vision and to guide service levels (capacity, function and service frequencies) and infrastructure investment. The hierarchy of corridors in Greater Sydney include:

- » City-shaping corridors – major trunk road and public transport corridors providing higher speed and volume connections between our cities and centres that shape locational decisions of residents and businesses.
- » City-serving corridors – higher density corridors within 10km of metropolitan centres providing high frequency access to metropolitan cities/centres with more frequent stopping patterns.
- » Centre-serving corridors – local corridors that support buses, walking and cycling, to connect people with their nearest centre and transport interchange.

By 2056, economic and housing growth around Greater Sydney will drive integration across the city's hinterland, establishing areas such as Gosford and Wollongong as 'satellite cities'. Population and economic growth in these areas will require fast transit connections to Greater Sydney.

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In high demand areas including the satellite cities of Gosford and Wollongong, frequent, high capacity, city-shaping corridors will be provided to move the majority of people. These will be complemented by more flexible or ondemand services on city-serving and local corridors.

As part of the strategy, the following infrastructure upgrades are intended:

- » Regional NSW Initiatives for investigation (0-10 years):
  - > Sydney-Wollongong faster rail improvement
  - > Wollongong Rapid Bus Package
  - > Wollongong Place Plans
  - > Bus headstart for Wollongong

### **Future Transport 2056 - Regional NSW Services and Infrastructure Plan (2018)**

The growth of Greater Sydney will directly influence the growth of surrounding regional cities resulting in the regional cities of Gosford and Wollongong becoming Satellite cities and a part of the Greater Sydney conurbation by 2056. The existing cities will evolve to strengthen critical linkages to jobs and services within Greater Sydney, due to their proximity and improved road and rail connections.

With its port and airport, Wollongong is considered to have future potential as an emerging Global Gateway. However there are constraints to its future growth due to the area's topography and proximity to Sydney, while over 80% of workers are employed locally.

In the next decade it is recommended that Faster Rail corridor infrastructure investment programs be focused on Satellite and Global Gateway cities to achieve significant travel time savings. For Wollongong and Gosford the aspiration is for a 60 minute journey time.

Investment in Faster Rail between Satellite cities (Wollongong, Gosford) through major investment in track straightening, signalling improvements to maximise the operational capabilities of the New Intercity Fleet and the Regional Rail Fleet Project.

This will be an improvement for Corrimal and the surrounding community.

### **Visitor Economy Industry Action Plan 2030 (2018)**

The Visitor Economy Industry Action Plan 2030 sets targets for NSW to:

- » more than triple 2009 overnight visitor expenditure to 2030, aiming to achieve \$45 billion by 2025 and \$55 billion by 2030, and
- » achieve \$20 billion in regional overnight visitor expenditure by 2025 and \$25 billion by 2030, in alignment with the overall 2030 target.

To help drive growth in the Sydney and regional visitor economies, the Visitor Economy Industry Action Plan 2030 sets a direction for the NSW Government to invest in new ways to support the visitor economy through:

- » a new Team Tourism NSW Taskforce of industry leaders to improve visitor economy collaboration
- » increased funding and accountability for the Destination Networks
- » the development and release of a state-wide Destination Management Plan, nature based tourism strategy and tourism infrastructure strategy
- » a new industry portal, and
- » a new Visitor Economy Index designed to complement the expenditure targets by tracking industry conditions, perceptions and the future industry outlook over time.

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## Future Transport 2056 – Tourism and Transport Plan (2018)

This plan provides a framework of customer outcomes for our visitors and initiatives to guide the work of the NSW Transport cluster over the next 10 years. These customer outcomes and initiatives are designed to harness emerging technology and service models as well as visitor trends. Customer outcomes and initiatives for investigation include:

- » Customer Outcome 1: Enhancing the visitor experience
  - > Improving the transport information available to visitors when they are planning their visit
  - > Improving access and travel for visitors, including people with disabilities, arriving and departing their NSW destination
  - > Creating places and experiences for visitors at their destination
  - > Providing opportunities for visitors to share their experience during and after their trip with WiFi access at key interchanges and on public transport and other ways to share their transport journeys on social media.
- » Customer Outcome 2: Greater access to more of NSW
  - > Improve global gateways
  - > Improving regional roads
  - > Tourist signposting
  - > Regional trains, coaches and air
  - > improving links to national parks, historic, artistic and cultural sites and events
- » Customer Outcome 3: Making transport the attraction
  - > Visitors consider riding a ferry or bicycle as some of the top activities to do while in NSW to experience the place they are travelling in. There are opportunities to use technology to create interactive experiences that highlight and provide information about destinations along transport routes.
- » Customer Outcome 4: A seamless experience
  - > Our collaboration and partnerships with transport service providers, tourism operators, across Government and with local councils all work to create a seamless experience for visitors.

## Future Transport 2056 - NSW Freight and Ports Plan 2018 – 2023

The NSW Freight and Ports Strategy released in 2013 was the first long-term freight vision to be produced for NSW, which drove targeted investment in both metropolitan and regional transport networks. All freight transport operators who use our roads, our rail networks, our ports or our airports have felt the benefits the 2013 strategy has delivered. Projects such as WestConnex, the Cargo Movement Coordination Centre and upgrades to the Pacific, Newell and Great Western Highways are all fine legacies of that strategy. But with the NSW freight task set to grow by 28 per cent by 2036, a continued focus is required on the freight sector. The NSW Freight and Ports Plan 2018- 2023 is a call to action for government and industry to work together to make our freight system more efficient, more accessible, safer and more sustainable for the benefit of producers, operators, customers and communities across NSW. Over the next five years, we will:

- » Drive economic growth and deliver capacity enhancements
- » Increase efficiency, connectivity and access
- » Improve safety and sustainability

As a supporting plan to Future Transport 2056, this Plan is central to the NSW Government's long-term vision for transport in NSW. It aligns with the NSW Government's statewide land use and infrastructure plans – the NSW Regional Plans, Greater Sydney Commission District Plans and the State Infrastructure Strategy.

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The Plan includes over 70 initiatives to be delivered by 2023 ranging from infrastructure investment to trials of new technologies. These initiatives are focused on achieving five key objectives:

- » Objective 1: Economic growth
- » Objective 2: Efficiency, connectivity and access
- » Objective 3: Capacity
- » Objective 4: Safety
- » Objective 5: Sustainability

**Illawarra – Shoalhaven Regional Plan 2036 (2015)**

The Illawarra-Shoalhaven Regional Plan applies to the LGAs of Kiama, Shellharbour, Shoalhaven and Wollongong. By 2036, the population of the Illawarra-Shoalhaven is forecast to grow to 463,150, an increase of 60,400 from 2016. Population growth will result from natural increases as well as the sustained migration of young families and retirees.

The make-up of the population will change over the next 20 years. Growth will be moderate in most age groups, except in the 65-and-over group, particularly in Kiama and Shoalhaven. There will also be more one- and two-person households. Growth will necessitate at least 35,400 new homes.

This Regional Plan for the Illawarra-Shoalhaven provides the strategic policy, planning and decision-making framework to guide the region to sustainable growth over the next 20 years.

Within the Plan, Corrimal is marked as an urban centre, as shown in **Figure 17** below.

**Figure 18 Corrimal Urban Centre**



Source: Illawarra-Shoalhaven Regional Plan

The following key principles underline the planning framework for the plan:

- » identify and protect land with high environmental value and recognise cultural heritage values
- » support the sustainable use of land and water resources and build resilience to natural hazards and climate
- » support a strong, resilient and diversified economy that will enable the community to respond to environmental, economic and social challenges



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- » integrate transport and land use planning, and support improvements in active transport (walking and cycling), public transport and transport infrastructure (including freight)
- » take a balanced approach to housing that provides choice, affordability, and supports the orderly supply of land for development
- » increase housing density around centres that have access to jobs and transport and are already appealing to residents
- » encourage urban design that reduces car dependency, improves the public domain, promotes energy efficiency and supports healthier environments
- » improve infrastructure coordination

To achieve the vision for the Illawarra-Shoalhaven, a number of goals have been identified, as shown in **Table 8** below.

**Table 8 Key Goals, Directions and Actions in the Illawarra-Shoalhaven Regional Plan 2015**

Goals and Directions	Justification and response
<b>Goal 1 – A prosperous Illawarra Shoalhaven</b>	
<p><b>DIRECTION 1.3</b> Grow regional strategic assets to support economic growth across the region</p> <p><b>DIRECTION 1.4</b> Support new and expanded industrial activity by providing well-located and serviced supplies of industrial land</p>	<p>The subject site is not listed as being of strategic economic importance for continued industrial development in the plan. The Corrimal Centre is identified as an important Urban Centre servicing the needs of residents in the northern portion of the Wollongong LGA.</p> <p>There is a ready availability of better located heavy industrial land in the Wollongong LGA. In addition, the conversion of the land to light industrial is likely unfeasible due to remediation and other costs likely to exceed return on investment.</p> <p>The location of the site within a residential area also marks it as a less than ideal location to continue industrial activities due to land use conflict issues.</p>
<b>Goal 2 – A variety of housing choices, with homes that meet needs and lifestyles</b>	
<p><b>DIRECTION 2.1</b> Provide sufficient housing supply to suit the changing demands of the region.</p> <p><b>DIRECTION 2.2</b> Support housing opportunities close to existing services, jobs and infrastructure in the region’s centres.</p>	<p>Within the Wollongong LGA, the projected housing need from 2016-2036 is 14,600 dwellings. The combined demands from tourism and the housing market, particularly in coastal towns, will require new housing developments. The changing demographics and market demand of the LGA will require a mix of housing.</p> <p>Ensuring additional housing development in existing urban areas is a sustainable option in terms of housing supply as it takes advantage of existing job markets infrastructure, commercial and retail opportunities, public transport and facilities for pedestrians and cyclists.</p> <p>Corrimal has been identified as a focus for increased housing activity within the Northern Corridor. An analysis of current planning controls in the region shows capacity for 24,100 new homes in existing urban areas, including townhouses and multi-unit dwellings.</p> <p>The Plan notes that additional residential development in locations such as Corrimal could also act as a catalyst to enhance their existing recreational and environmental features.</p> <p>The subject site presents an opportunity to provide a diversity of housing types adjacent to public transit, in close proximity to an existing urban centre. It offers strong recreational opportunities nearby and, in the Wollongong LGA, Northern Corridor generally.</p>

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Goals and Directions	Justification and response
<b>GOAL 3 – A region with communities that are strong, healthy and well-connected</b>	
<p><b>DIRECTION 3.2</b> Enhance community access to jobs, goods and services by improving connections between centres and growth areas.</p> <p><b>ACTION 3.2.2</b> Improve access to centres, particularly in the northern corridor, to encourage development</p>	<p>The proximity of the northern corridor (which encompasses Corrimal) to Sydney means that there is considerable scope to support commuters and also attract business to the region relocating from Sydney. Over 21% of the workforce in the northern corridor commutes to Sydney for work.</p> <p>In order to capitalise on improved public transport, new housing should be focused in and around centres in the rail corridor. The location of the site adjoining the Corrimal train station, linked with the Sydney and Wollongong CBDs, provides an excellent commuter location.</p> <p>The site also offers an opportunity to create local jobs in servicing the population such as childcare, seniors living and small-scale neighbourhood shops servicing local residents and commuters (all permissible under the proposed R3 zoning).</p> <p>A key objective in the concept plan is to make public transit more convenient and attractive for both residents of the development and the wider Corrimal community.</p>
<p><b>DIRECTION 3.2</b> Build socially inclusive, safe and healthy communities</p> <p><b>ACTION 3.3.2</b> Support Council-led revitalisation of centres</p>	<p>New neighbourhoods and centres should be designed to offer a high-quality lifestyle and to be environmentally sustainable, socially inclusive, easy to get to, healthy and safe. Opportunities should be taken to connect neighbourhood communities with the surrounding landscape.</p> <p>A key aim of the Corrimal redevelopment is to connect the site with the wider community through the establishment of a number of green links providing pedestrian and cycling paths.</p> <p>The Corrimal urban centre has been subject to investigation by Wollongong City Council through the Corrimal Town Centre Plan 2015-2025. The proposed development is in line with the vision for the revitalisation of Corrimal.</p>
<p><b>ACTION 3.4.1</b> Conserve heritage sites when preparing local planning controls</p>	<p>Council have recently approved the amendment to the WLEP to include the site in Schedule 5 as a local heritage item.</p>
<b>GOAL 5 – A region that protects and enhances the natural environment</b>	
<p><b>DIRECTION 5.1</b> Protect the region’s environmental values by focusing development in locations with the capacity to absorb development</p> <p><b>ACTION 5.1.1</b> Avoid, minimise and mitigate the impact of development on significant environmental assets</p> <p><b>ACTION 5.1.4</b> Create a consistent approach to protect important riparian areas in planning and development controls</p>	<p>The regions ‘high environmental value’ land have been mapped. These include the Illawarra Escarpment. Due to the high value of this landscape, a key element of the proposed redevelopment of Corrimal has been to maintain view lines west towards the escarpment.</p> <p>The development will result in positive impacts for Corrimal by revitalisation a currently derelict industrial site to maximise public transport use and active transport opportunities.</p> <p>Portions of the subject site have been identified as being of high biodiversity value. Redevelopment of the site will ensure the management and maintenance of these assets, adding value to residents and the broader community alike. The majority of the biodiversity areas have been avoided in the development footprint.</p> <p>The proposal also includes re-alignment of the riparian corridor due to the fact it is currently significantly degraded and in light of the potential benefits realignment will have in terms of alleviating flooding on the site.</p>

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Goals and Directions	Justification and response
<p><b>DIRECTION 5.3</b> Improve the environmental outcomes for waste management and air quality</p> <p><b>ACTION 5.4.1</b> Protect sensitive estuaries and coastal lakes</p>	<p>The site presents an opportunity to support sustainable development given its public-transit access and proximity to the Corrimal town centre and recreational resources. The street network has been designed to deliver efficient waste management to work with the current regime in place in Wollongong.</p> <p>The establishment of a new, rehabilitated riparian corridor through the site will result in improved water quality outcomes for Towradgi Creek downstream from the site.</p>

### Illawarra Regional Transport Plan (2014)

Population and employment in the Illawarra region are focused on the Wollongong metropolitan area and identified key urban centres, one of which is Corrimal.

Wollongong metropolitan area has a population of around 250,000 and is the focus for employment and residence in the Illawarra region, as well as for education and health care within the region. The following actions for Wollongong are identified within the Plan:

- » Action: Improve public and active transport access to Wollongong
  - > Deliver actions to increase the public transport share of commuter trips to and from Wollongong in peak hours to and from the CBD to 15% by 2016.
  - > Strengthen the role of rail in connecting local communities to Wollongong city centre.
  - > A network of bus services will provide local access with peak period frequencies supporting convenient access to work and education
  - > Local rail services integrated with high quality bus services, and supported by pedestrian and cycle networks
- » Action: Improve opportunities for walking and cycling
  - > Support the implementation of better facilities for walking and cycling, including the provision of cycle parking facilities at transport interchanges, centres, schools and hospitals.
- » Action: Invest in public transport infrastructure
  - > Identify opportunities to improve the infrastructure that supports public transport services, such as bus stops and shelters, terminal facilities and customer information.
- » Action: Deliver road upgrades
  - > Continue to improve the Princes Motorway (M1), Princes Highway (A1) and Mount Ousley Road to boost capacity, improve travel time, support public transport operations and provide efficient freight connections to Port Kembla

#### *Q4 Is the Planning Proposal consistent with a Council’s local strategy or other local strategic plan?*

The PP is consistent with the aims and objectives of Council’s local planning strategies, as discussed below.

### Wollongong Local Strategic Planning Statement (LSPS) 2020

Council has adopted the Wollongong Local Strategic Planning Statement (LSPS) to provide a 20-year land use planning vision for the City. The LSPS states that the Wollongong LGA is expected to grow to a population of 257,450 by 2036 and 265,750 by 2041. This is an increase of 13,000 persons above the 2016 estimates contained in the Regional Plan for 2036. An additional 23,800 dwellings are therefore estimated to be required to house this population increase.

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By 2036 there will also be more people aged 70 years and above, with that age group increasing from 12.6% in 2016 to 14.8% by 2036, an increase in the number of couples without children, from 23.9% in 2016 to 27.6% in 2036 and a small increase in the proportion of people living alone, increasing from 26% in 2016 to 26.1% in 2036.

Future housing growth can be planned for by reviewing the controls in the City Centre, around Town Centres and transport nodes, including Corrimal, to increase housing density.

### Discussion

Corrimal is identified by the LSPS as a major town and district centre and is the main shopping and commercial precinct for the northern suburbs, containing a range of retail, commercial and community services. As such, Corrimal is an ideal location for the provision of additional housing.

The Corrimal Coke Works site is arguably the best single opportunity to provide housing within Corrimal and the wider northern suburbs. The site is directly adjacent to Corrimal train station and provides easy access to the range of existing services in Corrimal. The site can play a major role in supporting diversity of housing choices, including small housing products, to cater for the aging population and changing community needs.

### Draft Housing and Affordable Housing Options Paper (2020)

A Housing and Affordable Housing Options Paper was prepared to inform the development of a new Housing Strategy for the Wollongong LGA. The purpose of the paper was to present the key issues and planning priorities for housing, as well as options and key recommendations moving forward.

The Illawarra Shoalhaven Regional Plan 2016 estimates that by 2036 the Wollongong LGA will grow by 33,000 persons, who will require an additional 14,600 dwellings. The 2019 NSW Population Projections recently issued by the DPI&E indicate that Wollongong is now expected to grow by 45,700 persons by 2036 (257,450 population) who will require an additional 23,800 dwellings. The extra 12,700 persons and 9,200 dwellings is a significant increase from the 2016 data. However, the Housing and Affordable Housing Options Paper was prepared using the earlier projections.

On 17 July 2017 Council endorsed the 'Housing our Community discussion paper', the key findings of which were as follows:

- » Wollongong's population is growing
- » The proportion of older residents is increasing
- » Household types are changing and decreasing in size
- » The structure of dwellings has remained consistent and has not responded to the changing nature of households
- » Housing stress is increasing and is a major issue affecting a large proportion of the population; and
- » Employment challenges are affecting where people live

An increase in the number of new dwellings is required in order to house the projected increase in population. Projections for the type of housing have been developed using an analysis of demographics, lifecycles of neighbourhoods, and from reviewing how population and housing has evolved. Key findings include:

- » 1,000 – 1,200 additional dwellings are needed by 2021, at which time the annual dwelling need will reduce and stabilise between 800 – 1,000 until 2036
- » The types of dwellings needed will vary through time, however single dwelling houses are expected to dominate new housing stock
- » This additional housing will not be evenly distributed throughout the LGA. New dwellings in the form of apartments and higher density living will continue to be developed in Wollongong City Centre while new release areas will continue to be dominated by single dwelling houses and alternative types of low-density housing.

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Modelling undertaken by DPI&E under the 2017 planning controls indicated that the Wollongong LGA has widespread capacity to supply new housing and meet projected needs. This analysis excluded Urban Release Areas such as West Dapto. Key findings from the analysis include:

- » 44% of capacity was for semi-detached, medium density forms of housing (townhouses and villa development)
- » 45% of capacity was for higher density apartments (residential flat buildings)
- » 11% of capacity was for dual occupancy development
- » There is a mismatch between the zoning where capacity is available and the land use objectives of the zone as per the Wollongong LEP.

Although the West Dapto Urban Release Area and Wollongong City Centre are expected to absorb a large proportion of projected dwelling needs, there will be a shortfall of approximately 3,000 dwellings needed through to 2036.

### Housing options

The data for both housing supply and affordable housing point to the need to increase the supply of smaller dwellings (1-2 bedrooms). The draft Housing and Affordable Housing Options Paper presents a number of options for the community and development industry to consider, based around the following three planning priorities for housing:

#### 1. Increase housing stock diversity

- Encourage the provision of more 1-2-bedroom dwellings
- Review the location and planning controls for the R3 Medium Density Residential Zone to improve feasibility and take-up.
- Change the dwelling mix in residential apartments, to increase the number of smaller dwellings from the current 10% requirement, this could include the introduction of incentive provisions, or the decoupling of car parking spaces from each unit.
- Consider new smaller housing products, such as 'Fonzie Flats'.

#### 2. Plan for future housing growth

- Ongoing review and monitoring of housing supply, within greenfield development (eg West Dapto, Tallawarra), City Centre housing, town centres and around transport nodes
- Review the planning controls in the City Centre, around Town Centres and transport nodes to increase housing density
- Review the planning controls of constrained sites and locations

#### 3. Increase supply of affordable rental housing stock

- This is the key priority issue found in the options paper, and Council has already commenced a number of initiatives
- An Affordable Housing Policy should be prepared, exhibited and adopted, and possibly an Affordable Rental Housing target be set
- The inclusion in SEPP 70 Affordable Housing should continue to be pursued, through the preparation of an Affordable Contributions Housing Scheme, as the next step in the process, this may require an Affordable Housing Contribution to be paid
- As part of residential up-zonings, an Affordable Housing Contribution will be expected, or a proportion of Affordable Rental dwellings to be provided on-site
- Council work with NSW Land and Housing Corporation and Community Housing Providers to increase the supply of Affordable Rental Housing.

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### Medium Density Housing

The WLEP 2009 defines 13 precincts for medium density residential development. These areas are located in Helensburgh, Thirroul, Bulli, Woonona, Corrimal, Fairy Meadow, Coniston, Unanderra, Kembla Grange, Dapto, Huntley, Avondale and Warrawong. These can also be termed R3 Medium Density Residential zoned land. Medium density residential housing typically includes townhouses, villas, terraces and smaller apartment buildings.

A land use survey of Wollongong's established medium density zoned lands was undertaken in 2014. This determined how well these zones were operating and issues affecting development. Key findings were:

- » Wollongong LGA had approximately 1,800 lots zoned for medium density development, representing 2.8% of the total of 64,000 residentially zoned lots throughout the Wollongong LGA;
- » 78% of housing in these medium density zones was single dwelling houses, which is not a desired medium density housing outcome
- » Other types of housing (dual occupancies, townhouses, villas) made up less than 5% each of the total housing stock
- » Although increased heights and permitted floor areas are generally permitted, 77% of existing development was single storey;
- » Overall, the established areas were far from full and their operation was similar to that of surrounding low density zoned land.

A review of DAs approved from 2010 – 2018 for medium density zoned land indicates that these areas are still attracting a mix of low-density housing types. Approvals for new development indicate:

- » 54% were for single dwelling houses, dual occupancies, or alterations and additions and an existing dwelling;
- » 14% were for multi dwelling housing (townhouses, villas)
- » 32% were for other approval types (strata subdivisions etc)

The review of R3 Medium Density Residential zoned lands indicated these areas are operating not dissimilar to the R2 Low Density Residentially zoned land, and that there is not the capacity for the desired forms of medium density housing in these areas.

Urban Feasibility modelling undertaken by the DPI&E indicated that there was minimal feasible capacity for housing in the form of townhouses in existing medium density residential zoned land. Evidence from Wollongong's development industry suggests Council's planning controls for such housing needs to change to facilitate diversity in housing. The Greater Illawarra: The Smart Growth Agenda (2015) suggests changes to planning controls that will facilitate housing that achieves the medium density residential zone objectives.

Preliminary review of land and environmental constraints throughout Wollongong LGA indicates there is opportunity to expand medium density zoned land. This may include expansion of existing medium zoned precincts or the creation of new medium density zoned lands where there is currently low-density zoned land. The Wollongong Residential Density Study (2014) nominated some areas suitable for additional medium density housing. The Illawarra – Shoalhaven Urban Development Program Update 2016 also identifies centres 'as having capacity for additional dwellings through higher densities and appropriate zonings. This includes land in Woonona, **Corrimal**, Fairy Meadow, Wollongong, Figtree, Unanderra, Warrawong and Dapto.

There are three options available to address the shortfall in R3 housing. These are discussed in detail in the draft paper. In particular the Paper indicates:

#### Option 1 – No change

R3 Medium Density Residential zoned land can continue to operate under current planning controls and conditions. This will likely see dwelling houses and dual occupancy housing being developed inconsistent with the zoning objectives.

#### Option 2 – Adjust controls

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Review planning controls in existing areas zoned Medium Density Residential with the intent to increase residential density. A second approach, which may be considered, is to review and refine planning controls in existing Medium Density Residential zoned land to target density and growth. This may include review of permissibility of single dwelling houses in Medium Density Residential zoned land, or FSRs, heights and lot widths for all permissible residential development. The primary reason is that the analysis showed that single dwelling houses are still being constructed in this zone. The land use table could be amended to remove new dwelling houses as being permitted, which will better encourage land to be redeveloped into two or more dwellings.

### **Option 3 – Expand R3 Medium Density zones**

Planning for urban growth in medium density residential areas and in and around town and village centres: this approach would include a review and refinement of planning controls in existing Medium Density Residential zoned land, as well as business zones (town or village centres) in the vicinity, and adjacent areas transitioning into surrounding low density residential zone.

This option is called planning for growth or defining urban growth areas. Such review could result in changes to height limits, FSR, minimum lot widths and/or permissibility of development types, to facilitate a density consistent with zoning objectives. It may also look to expand to Medium Density zoned land.

Council specifies that the preferred approach is a combination of Options 1 and 2.

### **Review of R3 Medium Density residential precincts**

There are 1,811 lots located within ten precincts throughout the City that are zoned R3 Medium Density Residential under WLEP 2009. During 2013-14 a review of the built form within the R3 Medium Density Residential precincts occurred. The purpose of the review was to examine the take up of the Medium Density precincts and determine the remaining capacity for additional housing within those precincts.

The review found that there has been limited development in the precincts, with some 78% of lots being single dwelling houses, 2% dual occupancies, 6% town houses, 4% villas and 4% residential flat buildings. This is due to medium density development not being financially feasible, bank lending policies, the planning control settings (eg FSR or lot width controls) not encouraging development, the value of improvements in many single dwellings, and existing owners not willing to sell for the amount offered.

Review of land and environmental constraints throughout Wollongong indicate that there is opportunity to expand medium density zoned land. This may include expansion of existing medium zoned precincts or the creation of new medium density zoned lands where there is currently low density zoned land.

### **Discussion**

The draft Housing and Affordable Housing Options Paper identifies three planning priorities for housing as follows:

- » Increase housing stock diversity
- » Plan for future housing growth
- » Increase supply of affordable rental housing

The draft Housing and Affordable Housing Options Paper documents forecast housing supply and demand. The data suggests that Council's existing planning controls and strategies will cater for the projected demand and that there is sufficient feasible supply capacity to meet the projections forecasted in 2016. The housing supply includes the West Dapto, Calderwood and Tallawarra urban release areas, development in the Wollongong City Centre and other centres, and infill development in the suburbs.

However, the analysis indicates that a greater supply of smaller dwellings (1-2 bedrooms) is required to meet the increasing demand, as a consequence of the ageing population, lone person households and for very, low, low and moderate income households. The draft Housing and Affordable Housing Options Paper considers the housing needs of various sectors of the community and Council's role. It also outlines and justifies the need for more housing diversity through the provision of smaller lots.

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Corrimal is predicted to require 563 single dwelling houses, 130 terrace, townhouse, villas, 1-2 storey flats and apartments and 93 flats and apartments, 3 storeys and larger, by 2036 and can therefore assist in meeting the LGAs requirements for smaller housing typologies.

### **Draft Sustainable Wollongong 2030: A Climate Healthy City Strategy (2020)**

The vision for sustainable Wollongong is *"together we're creating a healthy and sustainable future for all. Wollongong is a thriving low waste, low emissions city which is resilient, liveable and has high biodiversity value."*

Creating a Sustainable Wollongong means:

- » protecting our ecosystems,
- » reducing greenhouse gas emissions,
- » reducing natural resource consumption,
- » becoming resilient to the impacts of climate change,
- » increasing active transport and walkability of our city,
- » designing and constructing buildings to minimise their environmental impact,
- » connecting with and appreciating our natural environment.

In response to the Paris Agreement, the Australian Government has set an emissions reduction target of 26-28% of 2005 emissions by 2030.

The goals of the Sustainable Wollongong Strategy are as follows:

- » *Environmental and climate leadership underpins Council decision-making and service delivery, and inspire the same in others*
- » *Protect our environment, reduce emissions and increase resilience to climate change*
- » *Achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city.*
- » *Our ecosystems and waterways are enhanced, our urban areas are cooler and greener, and our community is connected to our environment*
- » *Our people only take what they need, reuse and recycle what they can, and are aware of the resources that they consume*
- » *Our infrastructure and community can adapt to the impacts of a changing climate and water is valued as a vital natural resource*

### **Discussion**

The development of Corrimal site will include sustainability measures, by: -

- » including and increasing pedestrian paths and cycle paths,
- » significantly enhancing the riparian corridor
- » including sustainable building construction
- » increasing opportunities for active transport through the site and to the surrounding area. This will reduce the use of vehicles, thereby assisting in the reduction of emissions.

The future development also aims to incorporate sustainable design.

### **Draft Wollongong Cycling Strategy 2030 (2020)**

Since 2013 Council have expanded and upgraded 27km of the cycling and shared path network. This has improved the quality and safety of the cycling routes while also increasing the distances available to the community for cycling.



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The draft Wollongong Cycling Strategy 2030 works toward a 10-year vision where cycling is a preferred option for transport. By 2030 Council seeks to:

- » *Provide an additional 50km of on-road cycling routes and 35km of off-road cycling routes, through partnering with State and Federal partners. This will expand the present shared path and cycling network from approximately 130km to a total of nearly 215km*
- » *Work with the State Government to fund and deliver education programs and significant cycleways alongside regional and state roads, including the Princes Highway, Crown Street and Lawrence Hargrave Drive*
- » *Connect residential areas to the City Centre and towns and villages, by delivering missing cycling links*
- » *Work with partners to develop positive community perceptions of bike riding and enable the development of a local cycling culture that encourages bike riding alongside other forms of sustainable transport*
- » *Develop shared infrastructure that is inclusive and allows for safe access by those who are unable to cycle*
- » *Support tourism, business and innovation through Council's planning and support mechanisms to seek opportunities to support and enable cycling events and community engagement in the LGA.*

This Strategy describes the priority actions needed to fulfil Council's commitment to encouraging and enabling cycling as a sustainable transport option for short and medium-length trips throughout the city. In addition, a greater uptake of cycling will support meeting Council's adopted emissions reduction targets.

By 2030 Council intends to:

- » Increase weekly cycling participation, from 12.9% to 20%
- » Increase cycling journey to work trips, from 0.7% to 2%
- » Increase the number of transport cycling trips, from 20.6% to 25%
- » Reduce the number of cycling related crashes reported from 156 to 70 per 5-year period
- » Increase weekly female participation, from 10.9% to 15%.

The strategy will guide Council in achieving its visionary targets for increasing participation across Wollongong.

The following priority areas form the basis for the Strategy:

- » *Safe: invest in safe cycling infrastructure and educate our community on safe behaviour.*
- » *Convenient: prioritise infrastructure that supports convenient cycling as a sustainable and well-integrated mode of transport.*
- » *Planned: actively plan and implement strategies to improve cycling in Wollongong to facilitate increased participation in the future.*
- » *Business, tourism and events: promote and support cycling in Wollongong as a fun, attractive and sustainable way of life.*
- » *Innovation: actively engage and support in innovative solutions that inform and encourage greater participation in riding.*

### Discussion

The redevelopment of the Corrimal Coke works site will include an internal cycling network, providing cross connections and links through the site to the surrounding area. The site will promote cycling from the site to the station and to the Corrimal town centre, assisting with Council's vision for cycling being a preferred transport option by 2030.

## City of Wollongong Pedestrian Plan 2017 - 2021

Over the past 20 years there has been a steady decline in walking as the only method used in a commute trip (around a 20%). As many public transport journeys are usually accompanied by significant walks at either or both ends, data related to public transport use is also an important indicator of how much walking occurs in an area.

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The latest available travel data shows about a 30% drop in train travel and close to a 40% reduction in bus travel between 1991 and 2011.

The vision of the strategy is as follows:

- » Walking is the preferred means of transport for short trips in the city and adjoins a public transport trip for longer journeys.
- » The walking network is accessible to all and is a safe, quick and pleasurable way to move to and through centres and other popular destinations in the city.
- » High quality walking information including wayfinding and trip planning is readily available to the travelling public.
- » The wide-ranging benefits of walking are recognised and valued in the community.

The Plan sets out a range of strategies to address key walking issues facing the city, and facilitate Council’s contribution toward its vision for walking and the following community goal established in the Wollongong 2022 Community Strategic Plan. Specific goals of the strategy are as follows:

- » Goal 1 - Encourage Walking
- » Goal 2 - Create Pedestrian Friendly Places
- » Goal 3 - Make Walking Safe
- » Goal 4 - Make Walking Easy and Convenient
- » Goal 5 - Work Effectively to Implement the Pedestrian Plan

The Plan identifies key activity centres including Corrimal. One of the aims is to investigate opportunities for ‘continuous footpath’ treatments and pedestrian permeability in town centres such as Corrimal.

**Discussion**

The proposed vision for Corrimal is to create a community base don active transport. Pedestrian and cycle links will form an integral part of the development, allowing connectivity both through the site and to the wider Corrimal area. Increasing the opportunities for walking and cycling will reduce reliance on motor vehicles and consequently less traffic congestion within the area and subsequent air pollution. The physical activity would, meanwhile, improve public health.

**Wollongong 2028 Community Strategic Plan (2018)**

The Wollongong 2028 Community Strategic Plan outlines the Wollongong community’s priorities and aspirations, providing directions for the provision of key projects and services. Relevant directions are included in **Table 9** with an outline of how the PP for the site responds to these directions.

**Table 9 Relevant Strategic Plan directions and justifications and response**

Strategic Plan Directions	Justifications and response
<b>Goal 1: We value and protect our environment</b>	
<b>Objective 1.1 Our natural environment, waterways and terrestrial areas are protected, managed and improved</b>	
1.1.1 The community is actively involved in the expansion and improvement of our green corridors and other natural areas connecting the escarpment to the sea.	The proposed redevelopment of the site will include pedestrian and cycling connections providing improved access to Corrimal train station and facilitating a regional connection from Railway Street across Towradgi Creek to the south.
1.1.2 Manage and effectively improve the cleanliness, health and biodiversity of creeks, lakes, waterways and oceans.	The riparian corridor on the site is proposed to be realigned and rehabilitated. At present the corridor is severely degraded

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Strategic Plan Directions	Justifications and response
<p>1.1.3 The potential impacts of natural disasters, such as those related to bushfires, flood and landslips are managed and risks reduced to protect life, property and the environment.</p>	<p>and the restoration of the corridor will result in improved biodiversity outcomes while also managing flooding.</p> <p>Realignment of the riparian corridor would significantly reduce the potential of flooding on the site and improve drainage outcomes for adjacent neighbours.</p> <p>The site is not bushfire prone land.</p>
<p><b>Objective 1.2 We practice sustainable living and reduce our ecological footprint</b></p>	
<p>1.2.1 Reduce our ecological footprint, working together to mitigate the impacts of climate change and reduce waste going to landfill.</p>	<p>The development footprint of the PP has been designed so as to avoid the majority of areas considered to have high biodiversity values.</p>
<p><b>Objective 1.3 The sustainability of our urban environment is improved</b></p>	
<p>1.3.1 Manage land uses to strengthen urban areas and improve connectivity close to train stations and key transport routes.</p>	<p>The proposed development incorporates pedestrian and cycling links to improve connectivity between surrounding areas and Corrimal train station, and through the site.</p> <p>The development will result in this large site being connected into to the broader Corrimal area.</p>
<p><b>Objective 1.4 We recognise and celebrate our heritage</b></p>	
<p>1.4.1 Programs and projects that achieve proactive heritage management, education and promotion are developed and implemented.</p>	<p>Council have recently approved the amendment to the WLEP to include the site in Schedule 5 as a local heritage item.</p>
<p><b>Goal 5 We have a healthy community in a liveable city</b></p>	
<p><b>Objective 5.1 There is an increase in the health and well-being of our community</b></p>	
<p>5.1.4 Urban areas are created to provide a healthy and safe living environment for our community.</p>	<p>The development will provide a network of new open spaces as well as walking and cycling connections to facilitate community interaction and promote active transport opportunities.</p>
<p><b>Objective 5.2 Participation in recreational and lifestyle activities is increased</b></p>	
<p>5.2.1 Provide a variety of quality public spaces and opportunities for sport, leisure, recreation, learning and cultural activities in the community.</p>	<p>The proposed development incorporates a large riparian corridor and several public recreation spaces including an amphitheatre as well as green links through the site, enabling active and passive recreation. Interpretation/learning installations will be integrated referencing the site’s history and ecology.</p> <p>The site does not warrant provision of sporting facilities, however Robert Ziems Oval and Corrimal swimming pool are located in dose proximity to the west of the site.</p>
<p><b>Objective 5.3 Residents have improved access to a range of affordable housing options</b></p>	
<p>5.3.1 Housing choice in the Wollongong Local Government Area is improved, taking into account population growth, community needs and affordability.</p>	<p>Development of the site would provide an opportunity to increase the amount and variety of housing in the LGA from townhouses to residential flat buildings. The LGA is currently in need of higher density housing to accommodate for the</p>

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Strategic Plan Directions	Justifications and response
	increasing number of 1 -2 person households. The diversity of housing proposed will also increase affordability options.
<b>Goal 6 We have sustainable, accessible and affordable transport</b>	
<b>Objective 6.1 Wollongong is supported by an integrated transport system</b>	
6.1.2 Work with partners to decrease car dependency and facilitate sustainable transport to provide convenient movement throughout the city, with sustainable transport modes such as walking and cycling.	The proposed development has been centred around decreasing car usage of future residents and increasing the patronage of train services from Corrimal station, as well as promoting active transport through pedestrian and cycling connections.
6.1.4 Integrated communities close to public transport and local services and facilities focused around existing train stations and town and village centres are planned for and encouraged.	The site is located adjacent to the Corrimal train station and 350m from the Corrimal Town Centre representing an opportunity to develop a diverse integrated community close to a major transport link and significant urban centre.

**Places for People: Wollongong Social Infrastructure Planning Framework 2018 – 2028 (2018)**

Places for People, Wollongong’s Social Infrastructure Planning Framework is a blueprint for long term strategic planning and management of Council’s social infrastructure. It is the vision of Wollongong Council that all residents, workers and visitors will have access to quality, sustainable social infrastructure that meets their needs and reflects Wollongong’s role as a leading regional city.

Wollongong is divided into ten planning areas, based on population size, common topography, historical and affiliative perceptions of ‘place’ and patterns of people movement along road and rail systems. Corrimal is located within Area 2/3 of the Northern Catchment. It is expected that the Northern Catchment will continue to grow, but the overall share of the population will drop from 37% to 33% by 2036. However, the population of the Northern Corridor is still expected to expand from 78,425 people in 2016 to 81,811 people in 2036.

Within the planning framework Corrimal is identified as a key urban centre within the Northern catchment. The current social infrastructure provision by catchment area indicates that the northern catchment has a total foundation GFA of 9,183m<sup>2</sup>, a total of 15 foundation facilities, 14,482m<sup>2</sup> of total supporting GFA and a total of 40 supporting facilities.

Key outcomes for the Northern catchment are:

- » Consider the role of Social Infrastructure in Council’s town centre planning for Corrimal – possible impact of proposed higher density residential developments for social infrastructure.
- » Recognise availability of two, existing ‘District level multi-purpose community centre and library facilities at Thirroul and Corrimal
- » Recognise limited availability of dedicated, creative, cultural social infrastructure within the Northern catchment, while noting that Thirroul and Corrimal community centres and libraries offer spaces that can be used for exhibition and performance.

**Discussion**

There is no identified requirement for additional Council social infrastructure on the site. However, it is envisaged that a shared community space will be incorporated into the development and managed as part of the local retail facilities.

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## Diasability Inclusion Action Plan 2016-2020

The purpose of the Disability Inclusion Action Plan is to set out the strategies and actions that Council will deliver in the next four years to enable people with disability to have greater access to Council information, services and facilities. The Plan includes actions for all areas of Council and will provide guidance for making services and facilities more inclusive.

The Plan is underpinned by the following principles which support the United Nations Convention on the Rights of Persons with Disabilities (2006):

- » Focusing on abilities and not disabilities.
- » Fundamental rights for all people.
- » Genuine dialogue and participation.
- » Improving access and inclusion for all.
- » Prudent use of resources.
- » Recognising the benefits of collaboration.
- » Principles of Universal Design.
- » Access is everyone's business.

The aims of the plan are as follows:

- » Create liveable communities:
  - > Improve our accessible public toilets
  - > Increase number of accessible parking spaces
  - > Increase the number of accessible paths of travel to key destinations
  - > Improve access to our spaces and streetscapes
  - > Increase the number of accessible bus stops and shelters
  - > Increase access to our recreation services and facilities
  - > Increase access to library, community, youth and cultural services
  - > Increase access to buildings
  - > Improve policy and planning tools to create better access
- » Improve access to our systems and processes:
  - > Increase access to information
  - > Increase participation in our community engagement activities
  - > Increase awareness about our services to support access
  - > Increase our capacity to provide accessible services and facilities
  - > Improve our systems and processes to deliver better outcomes
- » Promote positive attitudes and behaviours:
  - > Raise awareness about the contribution people with disability make to our community
  - > Increase participation in our events, festivals and activities
  - > Undertake programs to promote access and inclusion
- » Promote access to meaningful employment:
  - > Increase employment opportunities
  - > Increase participation opportunities

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- > Incorporate workforce diversity as part of everyday Council business
- > Increase retention and development opportunities
- > Increase awareness about working with people with disability

**Corrimal Town Centre Plan (including Memorial Park) 2015 – 2025 (2015)**

The plan provides a strategic direction for the Corrimal town centre. The plan identifies the former Corrimal Coke Works site as being a 'key site', adjacent to the railway station and in walking distance to the Corrimal Town Centre services and noted that the following matters should be considered in future planning for the site:

1. Investigations into flooding and contamination constraints would be required in order to inform the development capacity of the site
2. A quality east-west linkage from the town centre to the site and the railway station and the beach would need to be established and any development would need to have an active street frontage with Railway Street
3. Any future development would need to be complementary to the town centre
4. Investigations would be required into the archaeological and cultural significance of the site
5. Future works would need to be cognisant of flood impacts and in accordance with the existing Vegetation Management Plan.

The Corrimal Town Centre Implementation Plan, which supports the Corrimal Town Centre Plan 2015-2025, includes Action 2.2, which relates to the former Corrimal Coke Works and states:

*"Work with site owners to guide investigation of site renewal – Planning Proposal request to be prepared and submitted by owner and required to be strategically aligned with Town Centre Plan and other strategies."*

Consequently, the PP has been prepared as a result of the above action and the fact that the Corrimal Town Centre Plan 2015 – 2025 identifies the former Corrimal Coke Works as a 'key site'.

**Discussion**

In response to the above:

1. Investigations into contamination on the site have revealed that there are a limited number of locations that require remediation and the site can be made suitable for residential and recreational uses.
2. The concept plan will deliver a significant improvement to the streetscape connecting the Corrimal town centre and Corrimal train station. Both road edge and through site routes will be created, particularly concentrating on pedestrian and cycling links in order to increase active transport. Pedestrian and cycling links will connect with a potential green link along the Towradgi Creek corridor to Corrimal Beach. This would also link with the Grand Pacific Walk and the community and recreational resources west of Memorial Drive.
3. The proposed development would be complementary to the town centre in that it would result in an increased population, subsequently increasing economic activity in Corrimal. A R3 Medium Density zoning is proposed for the developable area of the site. This is consistent with surrounding zoning to the north, north-east and east of the site and will result in the delivery of housing diversity.

Some retail and commercial development is intended to be located adjacent to Corrimal station. However, the low-scale nature of these will not undermine the efficacy or further fragment to the core retail area of the Corrimal town centre.

4. Council has progressed a local heritage for the part of the site separate to this PP and the development will provide for the retention and interpretation and key heritage elements.
5. An Aboriginal Cultural Heritage Assessment has been undertaken and, while consultation has indicated that creeklines in the area were traditional fishing grounds and retain Aboriginal cultural value for their connection to this activity, no specific or significant Aboriginal cultural features have been identified for the site. The site is heavily disturbed with limited potential for Aboriginal archaeological objects, with only one Aboriginal

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archaeological site identified on the site. Avoidance or mitigation to impacts of this archaeological were deemed as unnecessary.

6. The proposed realignment of North Corrimal Creek will manage flooding on the site and provide a flood-free development area, while also reducing some flood impacts upstream of the site and avoiding any change to downstream flood levels. At the same time, this will also deliver a rehabilitated riparian corridor with enhanced biodiversity values.

**Q5 Is the Planning Proposal consistent with the applicable State Environmental Planning Policies?**

The PP considers the State Environmental Planning Policies (SEPPs) which are applicable for the proposed urban development of the site, as identified in **Table 10** below.

**Table 10 Applicable SEPPs**

SEPP	Applicable	Consistency
SEPP No 1 – Development Standards	No	N/A
SEPP No 14 – Coastal Wetlands	No	N/A
SEPP No 19 – Bushland in Urban Areas	No	N/A
SEPP No 21 – Caravan Park	No	N/A
SEPP No 26 – Littoral Rainforests	No	N/A
SEPP No 30 – Intensive Agriculture	No	N/A
SEPP No 33 – Hazardous and Offensive Development	The site has previously been utilised for industrial uses, however operations ceased 6 years ago.	N/A
SEPP No 36 – Manufactured Home Estates	No	N/A
SEPP No 44 – Koala Habitat Protection	The site does not represent 'potential koala habitat' or 'core koala habitat' as defined in SEPP 44. Accordingly, there is no requirement to prepare a Koala Plan of Management.	Consistent
SEPP No 50 – Canal Estate Development	No	N/A
SEPP No 55 – Remediation of Land	A Contamination Assessment has been prepared for the site in accordance with the SEPP requirement. A Remediation Action Plan has been prepared for the subject site and endorsed by a Site Auditor.	Consistent
SEPP No 62 – Sustainable Aquiculture	No	N/A
SEPP No 64 – Advertising and Signage	This proposal allows future development to meet the requirements of the SEPP	Consistent

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SEPP	Applicable	Consistency
SEPP No 65 – Design Quality of Residential Flat Development	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP No 70 – Affordable Housing (Revised Schemes)	No	N/A
SEPP (Building Sustainability Index: BASIX) 2004	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Housing for Seniors or People with a Disability) 2004	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Infrastructure) 2007	The proposal is supportive of planned and required upgrades to services, facilities and infrastructure which will support the development of the site.	Consistent
SEPP (Mining, Petroleum and Extractive Industries) 2007	No	N/A
SEPP (Miscellaneous Consent Provisions) 2007	No	N/A
SEPP (Exempt and Complying Development Codes) 2008	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Affordable Rental Housing) 2009	The proposal allows future development to meet the requirements of this SEPP	Consistent
SEPP (Coastal Management) 2018	The site is within the Coastal Area Use Area Mapping associated with the Coastal Management SEPP.  Division 4 applies to this area and the most relevant provision is that development <i>has taken into account the type and location of the proposed development, and the bulk, scale and size of the proposed development.</i>  The proposal can comply with the requirements of the SEPP.	Consistent

**Q6 Is the Planning Proposal consistent with applicable Ministerial Directions?**

The PP gives consideration to the relevant Ministerial Directions issued under Section 117 (now 9.1) of the EP&A Act. The Minister for Planning and Environment issues Local Planning Directions that councils must follow when preparing a PP. The directions cover the following broad categories:

- » employment and resources,
- » environment and heritage,
- » housing, infrastructure, and urban development,
- » hazard and risk.

**Table 11** provides information for consideration with regard to the consistency of the PP with regard to the relevant ministerial directions.



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**Table 11 Section 9.1 Directions**

Section 9.1 Direction	Comment
<b>Employment and Resources</b>	
<p><b>1.1 Business and Industrial Zones</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed business or industrial zone (including the alteration of any existing business or industrial zone boundary).</p>	<p>A key objective of this ministerial direction is to protect business and industrial zones. The site is not considered suitable for the use of any further heavy or light industrial land uses.</p> <p>The response to this Direction was accepted as part of the Gateway Determination.</p>
<p><b>1.2 Rural Zones</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural zone (including the alteration of any existing rural zone boundary).</p>	<p>Does not apply as the land is not zoned rural and does not apply in the Wollongong LGA.</p>
<p><b>1.3 Mining, Petroleum Production and Extractive Industries</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that would have the effect of:</p> <p>(a) prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or</p> <p>(b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.</p>	<p>To date no mining activity has been approved or undertaken below the site.</p>
<p><b>1.4 Rural Lands</b></p> <p>This direction applies when:</p> <p>(a) a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural or environment protection zone (including the alteration of any existing rural or environment protection zone boundary) or</p> <p>(b) a relevant planning authority prepares a planning proposal that changes the existing minimum lot size on land within a rural or environment protection zone.</p>	<p>Not applicable as the land has not been used for rural purposes and does not apply in Wollongong City Council LGA.</p>
<b>Environment and Heritage</b>	
<p><b>2.1 Environmental Protection Zones</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal.</p>	<p>It is noted that this Ministerial Direction applies when a relevant planning authority prepares a PP.</p> <p>The PP does not seek to reduce the environmental protection standards affecting the site.</p>

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Section 9.1 Direction	Comment
<p><b>2.3 Heritage Conservation</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal.</p> <p>The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance.</p>	<p>Council has progressed a separate planning proposal to list part of the site as a local heritage item. This satisfies the requirements of this Direction.</p> <p>This PP is supported by a Conservation Management Strategy and Heritage Interpretation Plan.</p>
<b>Housing, Infrastructure and Urban Development</b>	
<p><b>3.1 Residential Zones</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect land within:</p> <p>(a) an existing or proposed residential zone (including the alteration of any existing residential zone boundary),</p> <p>(b) any other zone in which significant residential development is permitted or proposed to be permitted.</p>	<p>The proposal will provide diverse housing choices with a mix of medium density housing typologies in close proximity to public transit infrastructure. The proposed provision of approximately 700 - 750 new dwellings will help ensure that Wollongong City Council deliver a diverse range of housing options as an infill project.</p> <p>The proposed development will make efficient use of existing and proposed infrastructure, promote active living and seek to minimise the potential impacts of housing on the environment.</p>
<p><b>3.3 Home Occupations</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal.</p>	<p>This Ministerial Direction requires a PP to contain 'home occupations' as a use that is permissible without consent in dwelling houses.</p> <p>'Home Business' and 'Home occupation' as additional permitted uses are permitted through SEPP Exempt and Complying Development Code.</p>
<p><b>3.4 Integrating Land Use and Transport</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.</p>	<p>The PP integrates with the adjacent Corrimal train station to offer an opportunity for transit-oriented development.</p> <p>Improved pedestrian and cycling infrastructure will also reduce car dependence for the broader Corrimal community. Commuter-related services, without undermining the efficacy of the Corrimal town centre, can be offered under the PP such as neighbourhood shops, food and beverage premises and childcare to offer convenience for both residents and commuters.</p>
<p><b>4.1 Acid Sulphate Soils</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps.</p>	<p>The site is identified as having a probability of acid sulphate soils. The majority of the site is Class 5 with a small portion Class 3 (however, this is not proposed to be developed).</p> <p>Assessment has shown it is not a constraint to development, but further investigation and management of acid Sulfate soils will need to be undertaken.</p> <p>The response to this Direction was accepted as part of the Gateway Determination.</p>
<p><b>4.2 Mine Subsidence and Unstable Land</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that permits development on land that:</p> <p>(a) is within a mine subsidence district, or</p>	<p>It is understood that the site is not located within a mine subsidence district.</p>

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Section 9.1 Direction	Comment
<p>(b) has been identified as unstable in a study, strategy or other assessment undertaken:</p> <p>(i) by or on behalf of the relevant planning authority, or</p> <p>(ii) by or on behalf of a public authority and provided to the relevant planning authority.</p>	
<p><b>4.3 Flood Prone Land</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that creates, removes or alters a zone or a provision that affects flood prone land.</p>	<p>The site is flood affected. Mitigations are proposed as part of this PP to ensure that all land proposed to be zoned R3 will be PMF-free and assist in alleviating flooding issues for surrounding properties. All other land that will remain flood affected will be zoned RE1.</p> <p>The Gateway Determination required further information to demonstrate consistency with this Direction. Numerous reports and information have been provided to satisfy this Direction and Council has indicated that it is satisfied with the approach.</p>
<p><b>4.4 Planning for Bushfire Protection</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal that will affect or is in proximity to land mapped as bushfire prone land.</p>	<p>This direction applies when a relevant planning authority prepares a PP that will affect or is in proximity to land mapped as bushfire prone land. The subject site is not classed as bushfire prone by Wollongong City Council. The proposal will be delivered in accordance with this direction and Planning for Bushfire Protection 2006.</p>
<b>Regional Planning</b>	
<p><b>5.1 Implementation of Regional Strategies</b></p> <p>This direction applies when a relevant planning authority prepares a planning proposal.</p>	<p>The site is not within any areas included in the Regional Strategies listed in this Ministerial Direction.</p>
<p><b>5.2 Sydney Drinking Water Catchments</b></p> <p>This Direction applies when a relevant planning authority prepares a planning proposal that applies to land within the Sydney drinking water catchment.</p>	<p>The site is not within a Sydney drinking water catchment area as provided in mapping associated with State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011.</p>
<p><b>5.8 Second Sydney Airport: Badgerys Creek</b></p> <p>Planning proposals must not contain provisions that enable the carrying out of development, either with or without development consent, which at the date of this direction, could hinder the potential for development of a Second Sydney Airport.</p>	<p>The development of the site will not hinder the development of a second Sydney Airport.</p>
<p><b>5.10 Implementation of Regional Plans</b></p>	<p>The PP is consistent with the Illawarra-Shoalhaven Regional Plan 2015.</p>
<p><b>6.1 Approval and Referral Requirements</b></p>	<p>The proposal does include provisions that will require concurrence regarding development adjacent to a state road and rail line. The creek re-alignment and development within areas designated under the draft SEPP (Coastal Management) 2016. These concurrences are likely to be required.</p>

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Section 9.1 Direction	Comment
<b>6.2 Reserving Land for Public Purposes</b>	The proposal includes provisions and dedication of land for public services and facilities.
<b>6.3 Site Specific Provisions</b>	A Site Specific DCP has been prepared to support this PP.

## Section C – Environmental, Social and Economic Impacts

*Q7 Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal.*

A Flora and Fauna Assessment was undertaken by EcoLogical Australia (refer to **Appendix M**) in order to provide a description of the biodiversity values of the site and the impact and proposed outcomes associated with the PP.

The vast majority of the study area accommodates areas of cleared land (including roads, infrastructure, water bodies) or weeds/exotics. However, three vegetation communities were found on the site:

- » Forest Red Gum Thin-leaved Stringybark Grassy Woodlands - occurred as two patches, comprising approximately 1.27ha.  
The Forest Red Gum Thin-leaved Stringybark Grassy Woodland was identified as being in a highly modified and disturbed condition with high levels of exotic species, with planted non-local native species and modified landforms present. This vegetation community forms part of the 'Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion' EEC.
- » Acacia Scrub – A total of 1.30ha occurred within the south of the study area in association with the tributary of Towradgi Creek which runs through the southern portion of the site.  
This vegetation community occurred as a tall dense shrubland to low closed forest with the height and density of the canopy increasing in proximity to the tributary of Towradgi Creek. It is unclear whether these species were part of the original vegetation type within this area, or if they have colonised this area following the formation of a dense canopy of Acacias and exotic species.
- » Urban Native and Exotic - an area of approximately 8.28ha was mapped within the study area  
Within and surrounding the most disturbed parts of the study area, stands of vegetation were comprised of exclusively exotic species or consisted of rows of non-local native planted trees with a disturbed predominately exotic understorey.

All vegetation communities across the site were identified as having been subjected to moderate to high levels of disturbance including vegetation clearing/thinning of the canopy layer, infestation of exotic species and modification to the landform and soil profiles.

The only areas of vegetation, beyond the areas which have previously been disturbed, which will be impacted as a result of the proposal is 0.588ha of Forest Red Gum Thin-leaved Stringybark Grassy Woodland (northern area) and 1.12ha of Acacia Scrub. The Forest Red Gum Thin-leaved Stringybark Grassy Woodland vegetation community forms part of the 'Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion' which is an EEC listed under the BC Act. The proposed rezoning would retain and restore a majority of this EEC.

One flora species listed under the EPBC Act and BC Act, *Eucalyptus scoparia* (Wallangarra White Gum), was identified within the study area, where approximately eight individuals of this species were observed in a row adjacent to an internal road. No other threatened flora species were recorded during either of the site inspections and given the limited habitat available and its highly degraded condition, no other threatened flora these species are considered likely to occur.

All efforts have been made during the Master Planning process to ensure the majority of the native vegetation communities are not impacted.

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In terms of fauna, one threatened fauna species, *Pteropus poliocephalus* (Grey-headed Flying-fox) was identified in the study area during surveys. The Grey-headed Flying-fox is listed as vulnerable under the BC Act and EPBC Act and was identified as occupying the patch of Forest Red-gum Thin-leaved Stringy Bark Grassy Woodlands at the southern extent of the study area, adjacent to the dam and existing riparian corridor. The camp was estimated to support a typical population of 100-300 individuals, however this is subject to seasonably variations. More detail on this is provided below.

The remainder of the site is considered a low ecological constraint due to the presence of cleared lands, existing derelict infrastructure and Urban Native and Exotic Cover. The study area was not found to provide potential habitat for the Green and Golden Bell Frog (*Litoria aurea*) or Threatened microchiropteran bats.

**Grey-headed Flying Fox**

The study area contains a Grey-headed Flying-fox camp in the southern extent of the site. During 2017 – 2019, infrequent observations of the camp identified between 100 – 300 individuals occupying a small area of vegetation at the southern end of the site, immediately adjacent to the dam wall.

A regular monitoring program of the camp commenced in July 2019 to inform an understanding of its patterns of occupation and use. The camp was empty from July 2019 to early November 2019 when the population returned to a typical level. There was a spike in occupation to approximately 4,000 – 6,000 over a period in January – February 2020, which was attributed to significant bushfire activity. The camp returned to a more typical population over March – April 2020 following rainfall events and the end of bushfire activity. Currently the camp is virtually empty and showing a trend like the last years.

The monitoring program will continue, however currently support the following understanding of the camp:

- » The typical population size is 100 – 500 individuals
- » The camp is occupied periodically, which appears to be seasonally related
- » No breeding has been observed at the camp
- » There is potential for the camp to expand in size, however this is constrained by the availability of suitable roosting and foraging species
- » Fly out direction is typically towards to escarpment to the west.

As a result, a buffer from the core of the camp has been established.

EcoLogical has developed Camp Management Actions to address the potential for future conflict between Grey-headed Flying-foxes and residential development on the site. The indicative management actions are consistent with the Flying-fox Camp Management Policy (OEH 2015) and include:

- » establishment of a physical buffer between the camp and future development (incorporating managed vegetations areas and road reserve)
- » creation of supplementary habitat, such as dams, at the southern boundary of the site
- » revegetation of portions of the site using known feed trees for the species (in areas away from the proposed development)
- » potential building design solutions (eg. acoustic)
- » communication and education for future residents

The proposed management actions have been peer reviewed and endorsed by Ecosure.

The proposed buffer has been increased to 100 metres from the core camp extent in response to feedback from Council and DPI&E.

**Microchiropteran Bats**

EcoLogical undertook a site inspection of all buildings within the Corrimal Cokeworks, in order to determine the presence of the microchiropteran bat (microbat) habitat. The study found no evidence found of microbats using

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any of the structures present on the subject site. No microbats were seen or any clear evidence found of microbats having used the buildings at any time. In areas where thorough inspection occurred, it was concluded that the buildings were not being used by microbats, nor were there any signs of microbats.

However, some areas of the site were inaccessible, and it cannot be concluded that they were not being used by microbats at the time of survey. These areas were generally considered unsuitable microbat habitat. It is possible that there may be occasional use of buildings by individual microbats in other seasons of the year. The lack of suitable habitat, absence of signs of use or occupation and the lack of records from previous ultrasonic detection surveys, indicated that microbats rarely if ever use the structures and, if they ever do, it is only very occasionally and in small numbers.

***Q8 Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?***

Additional environmental investigations were undertaken to inform the PP. The following table provides a summary of the key findings of these investigations.

**Table 12 Environmental investigation area and outcome of findings**

Environmental Factor	Site Implication
<b>Contamination and Remediation</b>	<p>Site investigations have revealed minimal contamination considering the former heavy industrial uses. A Remediation Action Plan by Arcadis (May 2017) was completed for the site pre-Gateway and has subsequently been updated in response to conditions in the Gateway Determination. The investigations summarised in the report revealed that only six soil samples that exceeded acceptable levels of human health assessment criteria considering future residential and open space use. Three locations are contaminated with asbestos, two with lead and one with TEQ BaP. The locations are isolated in nature and will require delineation sampling to determine the lateral extent prior to remediation.</p> <p>The RAP has been endorsed by a Site Auditor and future remediation works will be subject to validation and issue of a Site Audit Statement.</p>
<b>Geotechnical</b>	<p>Douglas Partners concluded that all geotechnical conditions can be managed to facilitate development. As part of future investigations, an earthworks methodology will need to be prepared to ensure the reuse of existing site soils and optimised earthworks and procedures.</p> <p>Considerations in redevelopment of the site will include:</p> <ul style="list-style-type: none"> <li>» uncontrolled fill assessed and processed for suitability for redevelopment</li> <li>» further test and management of any Acid Sulphate Soils in earthworks, design and construction</li> <li>» minor constraints relate to erosion potential of disturbed materials, localised waterlogging, localised abnormal moisture content within the coke production area, sodicity and soil aggressiveness, which can be effectively handled during the earthworks design.</li> </ul>
<b>Bushfire</b>	<p>The site is not identified as bushfire prone.</p>
<b>Overland flow and riparian corridors</b>	<p>A flood study undertaken by Cardno concludes that flooding issues can be effectively managed, and that development of the site will not increase flood impacts upstream of downstream of the site.</p> <p>The proposed creek realignment has been designed to convey major flows up to PMF event within North Corrimal Creek through the site, allowing for a flood free development area.</p>

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Environmental Factor	Site Implication
<b>Heritage</b>	The Heritage Report undertaken by Urbis confirms that there are no existing statutory heritage listings on the site, nor in the vicinity of the site. The report recommends a reduced heritage curtilage which enables significant heritage elements of the site to be retained in situ and/or interpreted. It is recommended that these individual elements and or curtilage be incorporated as items of local significance within Schedule 5 of the WLEP 2009
<b>Visual</b>	A visual impact analysis was performed by e8urban pre-Gateway to inform typology and building heights in the concept plan. The view to the Illawarra Escarpment from development to the east of the subject site was considered of primary importance. Further analysis of views has been undertaken as the master plan has evolved, and the distribution of building heights has been developed in close consultation with Council.
<b>Traffic serviceability</b>	The Traffic and Transport Assessment revealed that the development does not result in traffic or transport impacts that cannot be mitigated. The primary impact is confined to the intersection of Memorial Drive/Railway Street, which will require an upgrade to mitigate additional traffic from the development. These upgrade works are proposed to be undertaken as part of the development.
<b>Servicing</b>	<ul style="list-style-type: none"> <li>» ADW Johnson initially, and BG&amp;E more recently, have assessed that the site is capable of being serviced with gas, electricity, sewer, potable water and NBN telecommunications</li> <li>» Consultation with various providers is underway to optimise servicing arrangements</li> </ul>
<b>Mining and mining subsidence</b>	Review of available mine subsidence maps indicates that the site is not located in a mine subsidence area.

*Q9 Has the planning proposal adequately addressed any social and economic effects?*

**Economic Effects**

The urban development of Corrimal is forecast to generate \$761M in additional economic activity (Hill PDA). Construction and indirect jobs will be supported during the delivery of the project. The relevant social and economic effects of the proposed development include:

- » Delivery of a range of public benefits associated with the development
- » Location in proximity to current transport services
- » Building capacity within the local community to increase housing and lifestyle diversity, employment, economic viability, social activity and opportunity.

A detailed assessment of the economic impacts of the PP was undertaken by Hill PDA pre-Gateway. Hill PDA assessed the land as not being viable for on-going industrial purposes due to the high cost of remediating the land, compared to the return of investment for industrial purposes. Hill PDA has also outlined the large supply of better located land for industrial purposes readily available in the Illawarra.

Redevelopment of the site will provide economic benefits in terms of jobs and value added. While the R3 Medium Density zoning does not specify employment-generation as a specific intended use, and the development will be primarily residential, there are a number of permitted uses and proposed additional permitted uses that are expected to generate employment within a 200m location of Corrimal train station.

Key permitted uses that are likely to generate jobs are:

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- » Neighbourhood shops (but not large-scale retail which would undermine the Corrimal town centre)
- » Food and Beverage Premises
- » Child Care Centres
- » Seniors Housing

Urbis has undertaken an Economic assessment post-Gateway which concludes the following:

- » The proposed 2,000m<sup>2</sup> of retail, comprising a small supermarket and supporting dining and convenience-based retail, will be well supported by market demand, driven by strong on-site population growth
- » The modest retail offer is forecast to achieve turnover in 2024 that reflects:
  - > A minor market share of retail spending (2% of main trade area and 9% of primary trade area)
  - > Only a portion of the expected growth between 2018 and 2024 (25% of primary trade area growth and 14% of main trade area growth)
- » Residual spending and spending growth will continue to support existing and proposed retail centres.
- » The proposed retail at the subject site will also have significant benefits relating to providing valuable amenity for current and future residents of the immediate area, and employment, consumer and economic value benefits for the local region and state economy.

Urbis has undertaken an analysis (refer to **Appendix U**) based on an assessment of key opportunities relating to the subject site and its competitive context. Key findings of the retail assessment include:

- » Based on securing a market share of trade area food and grocery retail spending, the subject site could support a small supermarket targeted at the on-site market. Allowing for 10% of spending to come from beyond the catchment, and an allocation of 6% to general merchandising, the estimated sales potential of a supermarket facility at the subject site is \$5.2m in 2024, growing to \$6.2m by 2026. This aggregate sales potential could support a store in the range of 500 – 1,000m<sup>2</sup> (assumed 750m<sup>2</sup>), this translates to an average trading level of around \$6,900 per m<sup>2</sup> initially, stabilising at around \$8,300 per m<sup>2</sup> in 2026.
- » A small supermarket on site could be supported by some cafes and restaurants and a limited convenience offer.
- » The indicative composition that could support a small format supermarket on site, based on Urbis' understanding of key retail and design principles, includes:
  - > 2-3 cafes/restaurants, that also serve a takeaway role, and a specialty food store
  - > 2 non-food retail speciality stores, which could include a newsagency, small pharmacy or other leisure/general retail shops
  - > Personal services such as a hair salon, beautician, massage etc.
  - > A non-retail shopfront such as a real estate agent or allied health practice (dental, physiotherapy or chiropractor)

Total retail sales are estimated at \$11.4m in 2024, growing to \$13.4m in 2026. These sales reflect an overall retail sales performance of \$6,350 per m<sup>2</sup> in 2024 and \$7,440 per m<sup>2</sup> in 2026.

Retail specialties are estimated to trade at around \$6,830 per m<sup>2</sup> by 2026, assuming an optimised tenancy mix.

- » The proposed retail at the subject site is estimated to achieve a very minor share of retail spending in the secondary trade area, and slightly higher share of retail spending in the primary trade area. The centre is estimated to achieve a 2.7% market share of main trade area retail spending, including a 3.5% market share of food spending. Across the combined primary trade areas, the centre is estimated to achieve a 10.6% market share, including 13.9% of food spending and 6.1% of non-food spending.



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Within the primary on site trade area, the offer is estimated to achieve a 15.9% market share of total spending, including 20.9% of food spending and 9.0% of non-food spending. Around 10% of sales are estimated to be generated by residents from beyond the trade area.

The combined primary trade areas are estimated to account for 53% of total sales at the centre. The combined secondary trade areas are estimated to account for 37% of total sales.

The proposed retail on site would generate an estimated 103 ongoing jobs during the operational period. Up to an additional 23 indirect jobs in supporting and supplying industries could also be provided, indicating that the development could support up to 126 total jobs in the region (full time, part time and casual).

This could result in a total of \$4.8m GVA per year (in net present value terms) to the local region and broader state economy over a 20-year operating period. This consists of \$3.2m direct GVA per year generated by the daily operation and management of the proposed retail and \$1.6m indirect GVA per year over the same period.

### Social Effects

The PP has the following intended social effects:

- » Delivery of approximately 700 - 750 dwellings with excellent access to public transit
- » Provide a diversity of housing to meet affordable price points for residents in the Illawarra
- » Provide neighbourhood and commuter services to deliver convenience for residents and commuters (e.g. neighbourhood shops, childcare facilities, food and beverage premises) promoting the use of public transit
- » Support tele-working and start-ups with the provision of a flexible working space
- » Deliver improved connections through the site to encourage active transport to and from Corrimal train station
- » Provide a public plaza at Corrimal station to provide a forum for social activity and celebrate the heritage of the site
- » Capitalise on the proximity to health, education, recreational and community resources near the site, including Wollongong Hospital that is undergoing an upgrade, schools within walking distance that are believed to have additional capacity, and the significant community resources such as Corrimal pool and library nearby.

### Section D - State and Commonwealth Interests

#### *Q10 Is there adequate public infrastructure for the Planning Proposal?*

A Servicing Strategy Report Summary was prepared by BG&E (refer to **Appendix X**). The report confirms that all utility services are available on the site, noting the following:

- » Potable Water, Gas and Telecommunication networks require no augmentation to service the overall development;
- » No funding or construction of extensive feeder infrastructure will be required for electrical servicing, with only minor augmentations to the existing Endeavour Energy network envisaged; and
- » After further consultation with Sydney Water and a comprehensive MOUSE Modelling process, it has been confirmed that the wastewater network will be able to accommodate the full development yield. The wastewater servicing strategy involves the provision of additional storage capacity by upsizing the existing trunk main through the site, which will be undertaken in conjunction with a realignment of that trunk main during the bulk earthworks phase.

The likely infrastructure upgrade requirements are summarised in **Table 13** below.

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**Table 13 Infrastructure requirements**

Infrastructure requirements	
<b>Electricity</b>	<p>Endeavor Energy (EE) estimated that the load of the overall development is approximately 2.6MVA (Mega Volt Amp) based on 3.5kVA (Kilo-Volt-Amp)/unit Average Daily Maximum Demand (ADMD) for apartments.</p> <p>Review of the existing electrical network shows that there are two 11kV feeders (CR1228 and CR1280) located opposite the development site along Railway Street, however both of these feeders have been estimated to have a total available capacity of approximately only 0.5MVA – not sufficient to accommodate the development site. However, EE noted that the overall development can potentially be serviced by Feeder RV1206 from Russell Vale Zone Substation (ZS) which is deemed to have the required available capacity to accommodate the mature load of the development.</p> <p>It is envisaged that HV linkage points will be Underground to Overhead (UGOH) terminations on feeder CR1280, with one in both Railway Street and High Street. Details surrounding HV linkages and network configuration will be confirmed when a firm application for load is submitted to EE.</p>
<b>Telecommunications</b>	<p>Design It Telco Pty Ltd was consulted about the capacity of existing NBN and Telstra networks on 9 November 2018, which confirmed:</p> <ul style="list-style-type: none"> <li>» Current NBN and Telstra infrastructure could handle the overall development (750 dwellings);</li> <li>» As the development is over 100 lots it will automatically qualify for fibre to the premises (FTTP); and</li> <li>» NBN Co will supply a backhaul cable to cater for future lots.</li> </ul> <p>It has been confirmed that the future development does not require any upgrades to telecommunications networks.</p>
<b>Gas</b>	<p>Jemena Ltd confirmed that there are suitable gas mains located on Railway Street within the vicinity of this proposal which currently have adequate capacity to service the overall development at this time.</p>
<b>Water</b>	<p>Sydney Water was consulted at a meeting dated 20 December 2017, regarding servicing the proposed development with potable water and the associated impacts on existing SWC potable water infrastructure as a result of the increased potable water network demand imposed by the proposed development.</p> <p>A letter from SWC dated 8 March 2018 confirmed that the existing DN200 CACL potable water main fronting the development along Railway Street has sufficient capacity to accommodate the proposed development.</p>
<b>Sewer</b>	<p>Results and findings from modelling and associated consultation with SWC has determined the existing Sydney Water wastewater network will be able to accommodate the proposed development upon implementation of planned network upgrades and adjustment and upsize of the on-site wastewater trunk main.</p>
<b>Roads</b>	<p>Modelling and impact assessment by Bitzios concluded that there are no traffic and transport impacts associated with the development which cannot be mitigated through reasonable works within public land or on site.</p> <p>The primary traffic impact from the development is confined to the intersection of Memorial Drive and Railway Street. This intersection requires upgrade to accommodate the future development traffic. The proposed upgrade has the benefit of also providing capacity to accommodate background traffic growth.</p> <p>Following discussions with Council and TfNSW, it was agreed that a new roundabout access on Railway Street would be the preferred and best access option for the site. This has been incorporated into the PP and also benefits existing residents to the</p>

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**Infrastructure requirements**

north of Railway Street by providing a managed intersection for access onto Railway Street.

**Rail**

Sydney Trains – Transport NSW was consulted regarding the existing high voltage 33kV overhead electrical network (Feeder 787) located outside of the eastern boundary of the proposed development, traversing Corrimal Station carpark.

It was confirmed that Feeder 787 does not currently have an easement, as the station carpark and access road is owned by RailCorp. However, it was noted that the electrical poles were previously located against the development boundary but were relocated to their current alignment many years ago, with the old easement (Y254942) being resinded on gazette notification.

It is not envisaged that this electrical feeder will pose any significant constraint to rezoning and development of the site.

*Q11 What are the views of state and Commonwealth public authorities consulted in accordance with the Gateway determination*

**Consultation with DPI&E**

Various meetings have been held with Council and DPE to discuss and obtain comment on the planning provisions and the completion of the studies outlined in the Gateway. DPI&E have also assisted and facilitate meetings with other state agencies.

**Consultation with Transport for NSW (now including RMS), Sydney Trains and RailCorp**

The relevant transport agencies were closely consulted in preparing the updated Traffic Impact Assessment following Gateway Determination. This included a number of face to face meetings, provision of information from the agencies, validation and calibration of the traffic modelling (in accordance with RMS guidelines) and presentation of findings.

There has been ongoing communication with TfNSW in relation to the concept design for the proposed upgrade of the Memorial Drive/Railway Street intersection.

During discussions and meetings with TnSW Sydney Trains they indicated that the car parking should not be impacted, or redesigned or be included into the PP. They commented that there was no plans at this stage to provide any station or pedestrian upgrades. For this reason the PP has excluded the area in the PP.

**Consultation with DP&IE - Environment**

Consultation and a few meetings with Environment were held to discuss the biodiversity outcomes and management of the grey-headed flying fox camp.

**Consultation with Council**

Consultation with Council has occurred on a regular basis, with meetings held often at Council’s offices or on line. The aim of these meetings has been to progress the PP and master plan, obtain comments and input, and discuss and draft the new Corrimal Site Specific DCP.

A substantial number of amendments have been included into the PP based on council feedback.

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## Part 4 – Mapping

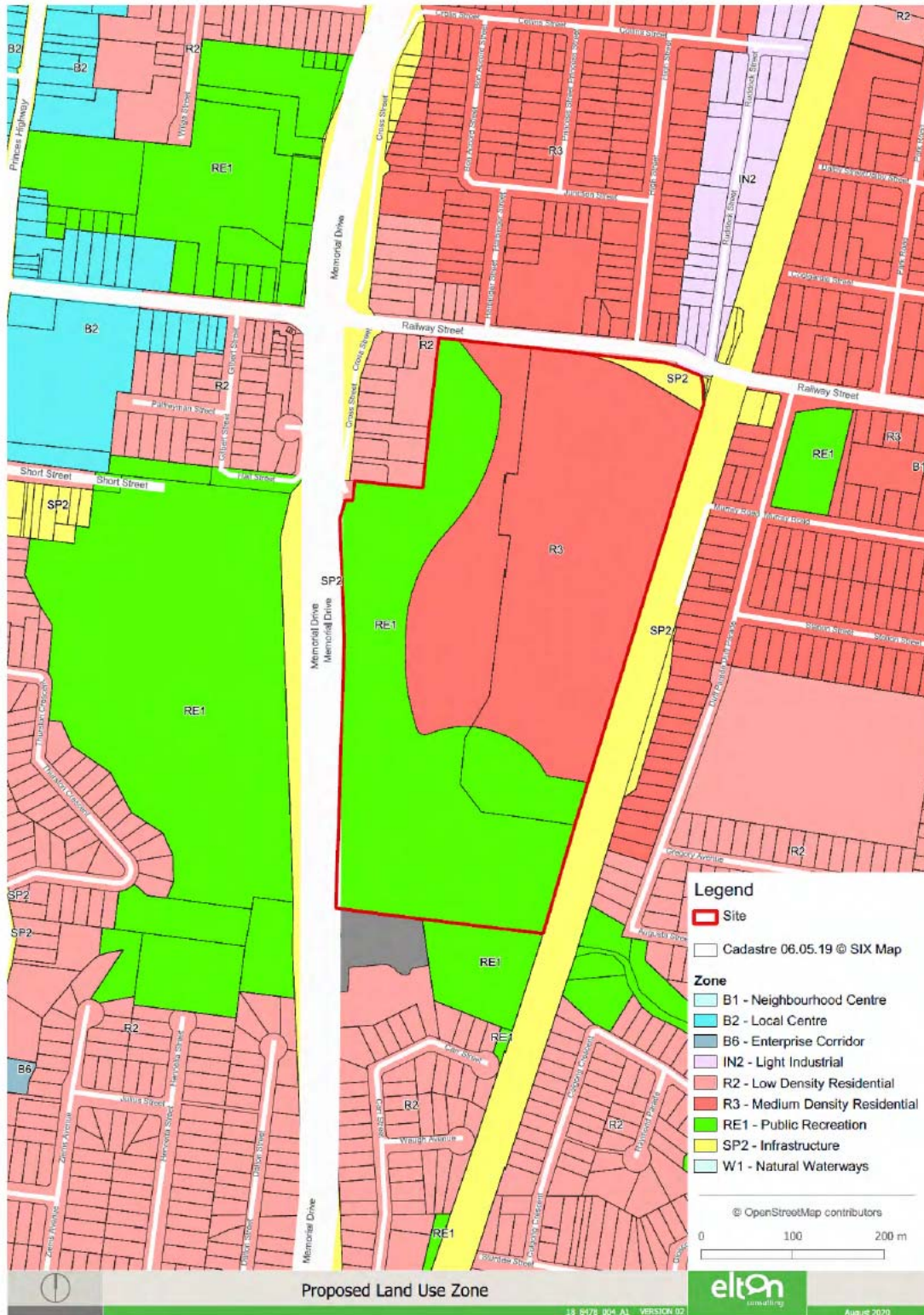
Part 4 presents clear and accurate mapping depicting relevant aspects of the PP. The subject PP seeks amendments that relate to land use zoning, height of buildings, minimum lot size, natural resource sensitivity and acid sulfate soils map, riparian land map & foreshore building line mapping.

Thus, the mapping amendments of the WLEP 2009 required are listed below:

- » Land zoning
  - > Sheet LZN\_024
- » Minimum lot size
  - > Sheet LSZ\_024
- » Height of Buildings
  - > Sheet HOB\_024
- » Floor Space Ratio
  - > Sheet FSR\_024
- » Natural Resource Sensitivity - Biodiversity
  - > Sheet NRB\_010
- » Acid Sulfate Soils Map Riparian Land Map Foreshore Building Line Map
  - > Sheet CL1\_024
- » Key Sites Plan
  - > Sheet KSP 024
- » Urban Land Release Plan
  - > Sheet URP 024

The proposed WLEP map amendments are identified in **Figures 18 – 24** below. The maps will be provided in the format prescribed by the technical guidelines for LEP maps published by the DPI&E for exhibition purposes as required.

Figure 19 Proposed Land Zoning Map



Figure

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Figure 20 Proposed Minimum Lot Size Map



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**Figure 21 Proposed Height of Buildings Map**



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Figure 22 Proposed Floor Space Ratio Map





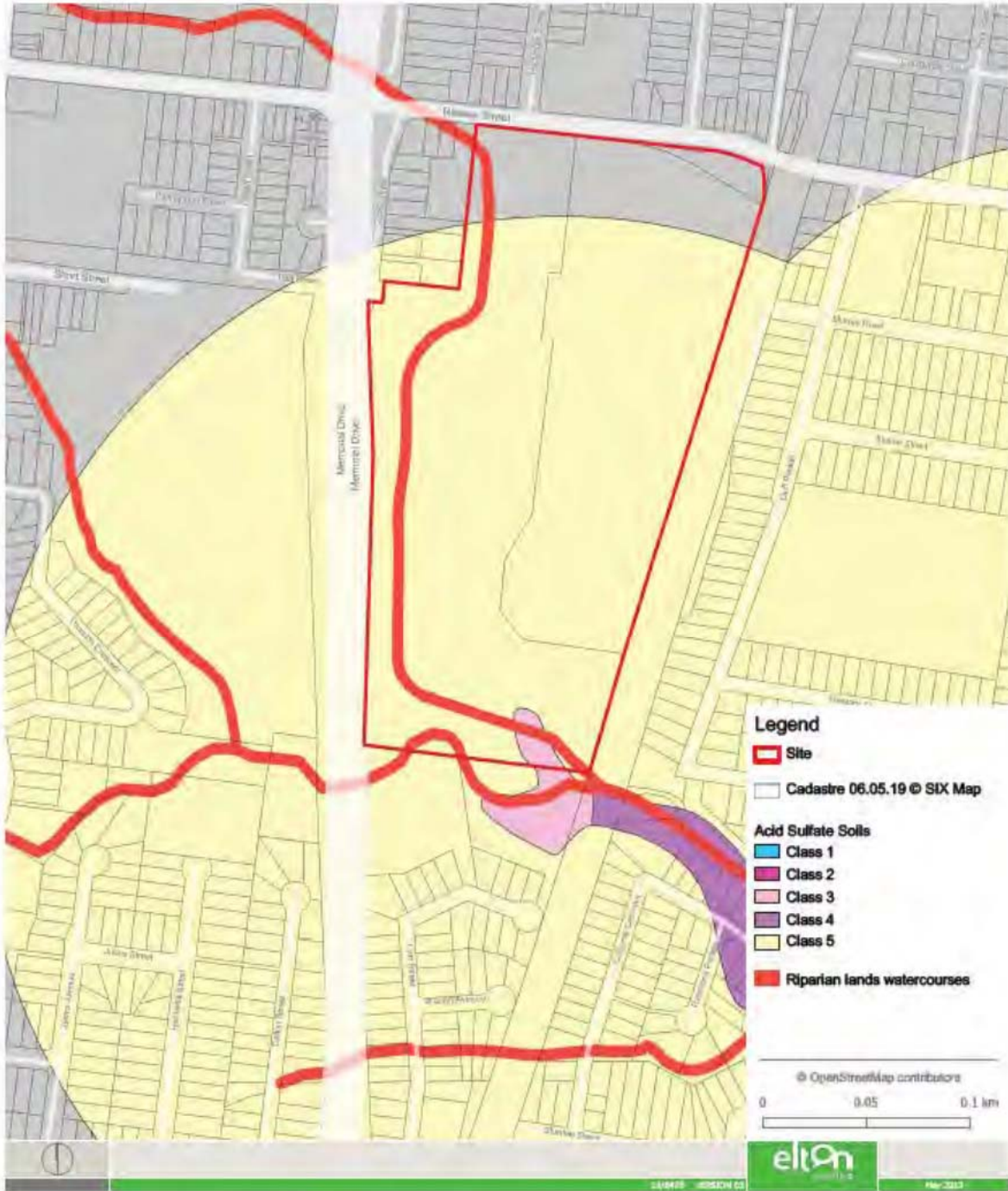
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**Figure 23 Proposed Natural Resource Sensitivity – Biodiversity Map**



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**Figure 24 Proposed Acid Sulfate Soils Map, Riparian Land Map, Foreshore Building Line Map**



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Figure 25 Key Sites Plan



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**Figure 26 Urban Land Release Map**



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## Part 5 – Community Consultation

Legacy Property and ICC are committed to transparent and proactive communication with the communities in and around this project to ensure all parties are informed about the plans and have the opportunity to have their say.

At Corrimal, this has meant:

- » Being open, clear and sensitive in all dealings with directly affected landowners, stakeholders and the community
- » Making the greatest possible effort to ensure community members are aware of the proposal
- » Providing opportunities for participation and collaboration

Initial community consultation commenced 6 years ago with ICC holding workshops with key community groups recommended by WCC including Neighbourhood Forum 4, the Corrimal Chamber of Commerce and the Corrimal Revitalisation Action Group. A booth was also set up at the Spring into Corrimal 2015 event to answer questions raised by the public. In addition, a dedicated website was launched in 2017 ([www.corrimalcokeworks.com.au](http://www.corrimalcokeworks.com.au)) to provide information on the project and to answer specific questions from the public.

Community newsletters are produced on an ongoing basis and distributed to approximately 1,500 residences and business in the Corrimal area.

Since obtaining Gateway approval, ICC and Legacy Property have conducted a range of more formal consultation activities as outlined below with a specific focus on residents immediately adjoining the rezoning area and in surrounding areas.

Consultation has also occurred with the Registered Aboriginal Parties.

### 4.16 Statutory consultation requirements

Sections 56 and 57 of the EP&A Act sets out statutory community consultation requirements for PPs. It is envisaged that, at a minimum, this will involve the public exhibition of the PP and supporting information for a period of 28 days. Council has previously resolved to exhibit the PP for 60 days. Notification of the PP will likely occur:

- » On Wollongong City Council's website;
- » In the applicable local newspaper(s);
- » In writing to the owners of adjacent and nearby land parcels, relevant stakeholders and neighbourhood/community groups and the surrounding community in the immediate vicinity of the site; and
- » In writing to relevant Government agencies.

### 4.17 Consultation workshops

In December 2018, ICC and Legacy Property held a series of visioning workshops with key stakeholders from Council, Neighbourhood Forum 4, Corrimal Community Action Group (CCAG), Corrimal Region Action Group (CRAG) and Corrimal Chamber of Commerce. This followed the issuing of a Gateway Determination in August 2018.

ICC and Legacy Property advised participants in December 2018 that the project team would consider the feedback received and other outputs of the sessions and come back to each stakeholder group by the end of March 2019 to detail how their feedback had been incorporated into detailed development of the proposal.

These follow-up sessions, as well as information sessions for the broader community, were held in late-March 2019. The information session invitation was letterbox dropped to approximately 1,000 residences in the

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surrounding area and was shared with key stakeholders who in turn shared with their networks. Digitally, the invitation was emailed to all those who had registered interest in the project online and was further posted on the official website as a pop-up box as well as a static notice on the homepage.

As well as the information sessions, pop ups were held on Friday and Saturday 30/31 March 2019 in order to ensure a broad cross section of the community had the opportunity to provide their views on the proposed development. 122 surveys were completed as part of this consultation process and demonstrated broad community support for the proposal.

The scale of that consultation has significantly exceeded what is mandated for a rezoning process, demonstrating a genuine commitment to an inclusive and transparent process that meaningfully engages the community and key stakeholders.

A consultation outcomes report can be found at **Appendix CC**.

## 4.18 Additional consultation methods

Other methods of consultation ICC and Legacy Property have undertaken include:

- » Regular distribution of newsletters to approximately 1,500 residences and businesses in the Corrimal area. 12 newsletters have been distributed between October 2017 and May 2020.
- » Developing a website that provides wide range of information about the proposal, including frequently asked questions, and the opportunity to register for ongoing updates

## 4.19 Response to Submissions

A number of submissions have been received by Council (and provided to the Applicant) since the Gateway determination was made, in response to the proposed development. These submissions are summarised, and responses provided in **Table 14** below.

**Table 14 Residents/stakeholder Concerns and Responses**

Concerns	Response
<b>Road Network</b>	
<b>Traffic</b>	
Increased traffic	The proposed development would result in an increase in traffic, however the traffic assessment undertaken by Bitzios indicates that any significant traffic impacts are isolated to the intersection of Memorial Drive/Railway Street and that an upgrade to this intersection is required to mitigate the development's impacts.  ICC and Legacy propose to upgrade this intersection in accordance with this recommendation.
A Master Traffic Plan is required	A Traffic Impact Assessment has been prepared for the proposed development by Bitzios Consulting.
Engagement with RMS should occur to examine mitigation strategies for the Memorial Drive/Railway Street intersection	Consultation with RMS and TfNSW has occurred on an ongoing basis. The Memorial Drive/Railway Street intersection will be upgraded in accordance with the recommendations made by the Traffic Impact Assessment.
RMS need to undertake a fully independent assessment that's available to the public	RMS has been consulted and will continue to be consulted regarding this project. Any recommendations which are made by RMS or TfNSW will be incorporated into the proposed development scheme.

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Concerns	Response
Traffic generation should be calculated on dwellings types with height traffic generation	Traffic generation has been based on dwelling types, including terraced/semi-detached, 1, 2 and 3 bedroom apartments, Seniors Living apartments, affordable housing dwellings and Aged Care beds.
The intersection of Memorial Drive and Station Street data for SIDRA is from 2014 and an inaccurate baseline	The data utilised for traffic modelling is considered to be the most accurate and up to date data available. The traffic modelling has been subject to calibration and validation acceptance by RMS.
Distribution at the junction of Harbinger Street and Railway Street should be included in traffic distribution	Traffic distributions at the intersection of Railway Street/Harbinger Street are assessed as part of the Traffic Impact Assessment. A new roundabout is proposed at the intersection with Harbinger Street, providing access to the site. This will result in improved traffic outcomes for residents north of Railway Street.
<b>Parking</b>	
Not enough parking	Adequate parking will be provided on site in accordance with the requirements of the Site Specific DCP.
Undercroft parking is unsuitable, will act as a heat sink, reduce panting area, attract vandalism, prefers basement parking.	The parking typologies included onsite will form part of the later DA stage. However, any proposed development will be supported by a Crime Prevention Through Environmental Design (CPTED) report in order to determine the crime prevention features to include in the proposed development.
<b>Access</b>	
Direct access to Memorial Drive should be provided	Consultation has been undertaken with RMS and TfNSW to discuss the possibility of access from Memorial Drive, however this was not supported. It was also tested in modelling and shown to have very limited benefit.
The development proposes limited road access	Road access from Memorial Drive was discussed with RMS and TfNSW but was not supported. Therefore, one access from Railway Street is proposed.
There needs to be a turning lane into the site	Access to the site is proposed from a new roundabout at the intersection of Railway Street and Harbinger Street.
More points of ingress and egress are required	See above.
Access for emergency services will be difficult due to increase traffic	An adequate access route will be provided for emergency services.
<b>Community</b>	
<b>Community Facilities</b>	
Increased pressure on public services such as hospitals and schools	An assessment has been undertaken and the conclusion made, in consultation with Council, that there is no need to provide for any social infrastructure on the site. The Department of Education was contacted, with the outcome that there is likely to be adequate classrooms for the future volume of children resulting from the proposed development.
Should contain more facilities for the broader community	As stated above, Council has determined that there is no need to provide for any social infrastructure on the site. However small-

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Concerns	Response
	<p>scale retail land uses are proposed surrounding Corrimal train station, which will be accessible to the future population of the site as well as the broader community.</p> <p>The development will provide a range of new parks and open spaces for the benefit of the broader community.</p> <p>The development is also proposed to include a shared community space and flexible working space as part of the heritage precinct.</p>
<b>Demographics</b>	
The development will attract a younger demographic, and this is going to have a negative effect on the current elderly demographic	The proposed development is to provide for a diversity of housing and a diversity of demographics in order to create an inclusive community linking with the existing surrounding Corrimal community.
<b>Environment</b>	
<b>Flooding</b>	
Making sure the development does not increase the risk of flooding downstream	The Flood Study demonstrates that flooding issues can be effectively managed, and that development of the site will not increase flood impacts upstream or downstream of the site.
How will waterways be measured and monitored for water levels and contamination ongoing	The waterways will be monitored during creek alignment works. Refer to below regarding contamination.
Too many hard surfaces reducing rainfall absorption	See above.
Creek should remain following natural course.	<p>The existing creekline and riparian zone has been subject to high levels of modification and disturbance associated with the cokeworks operations.</p> <p>The proposed creek realignment has been designed to convey major flows up to PMF event within North Corrimal Creek through the site and provides improved flooding outcomes.</p> <p>This also allows for restoration of a riparian corridor to provide enhanced biodiversity outcomes.</p>
<b>Ecology</b>	
Coke works one of the last natural areas in the suburb and should not be taken away	<p>The site has previously been used for industrial purposes and therefore is not considered to be a natural area.</p> <p>An area of EEC in the southern portion of site with highest ecological values will be retained and rehabilitated.</p>
Tree canopy should remain, and mature trees should be kept	<p>An area of EEC in the southern portion of site with highest ecological values will be retained and rehabilitated.</p> <p>The existing significant trees along Railway Street will be substantially retained.</p>
Lack of green space	Approximately 9.5 hectares of new open space will be provided, representing 52% of the total site area.
Protection of bat habitat	The development retains the existing grey-headed flying fox camp and provides a significant buffer to future residential dwellings.
Riparian zone along the creek should be retained	The existing creek corridor is significantly modified and degraded, with limited biodiversity values.



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Concerns	Response
	North Corrimal Creek is being realigned through the majority of the site and will be restored as new riparian corridor with enhanced biodiversity outcomes.
Retain ponds for the ecology	The onsite dams were not found to contain any threatened species or threatened species habitat. These are man-made dams and not considered suitable to retain.

**Contamination**

Concerned about contamination being properly assessed and dealt with	<p>Previous environmental assessments have identified isolated areas of hydrocarbon impacted soil that have the potential to pose a risk to human health under the proposed land use. Hydrocarbon, copper and zinc are also present in soil and have the potential to pose a risk to ecological receptors. Asbestos fibres and fragments were identified in soil at isolated portions of the site.</p> <p>There were minor exceedances of dissolved heavy metals and ammonia detected in shallow groundwater. These exceedances are considered typical of regional shallow groundwater conditions and are unlikely to pose a risk to human or local ecological receptors.</p> <p>Although concentrations of contaminants of concern were detected above environmental assessment criteria, they were isolated and minimal compared to the wider site footprint. It is anticipated that through integration of the remedial strategies outlined in the RAP by Arcadis (refer to <b>Appendix K</b>) into the bulk earthworks civil design and construction stages of the project, the site can be suitable for the proposed use. The RAP has been endorsed by Zoic Environmental Pty Ltd (<b>Appendix L</b>).</p> <p>It is considered that the objectives of the onsite remediation will be achieved subject to the successful implementation of the actions contained in the RAP, which will enable the site to be made suitable for the proposed residential, commercial and open space uses.</p>
Independent contamination report must be done	The Remediation Action Plan has been endorsed by an accredited Site Auditor. This approach is consistent with the legislative framework for managing contaminated sites in NSW.
Water testing needs to be conducted	Testing of water in the existing dams as well as groundwater on the site has occurred and did not identify any significant issues.

**Heritage**

There should be a museum on site for both aboriginal and industrial heritage of the site	Development of the site as a residential community provides a significant opportunity to celebrate the heritage of the site. This will occur through retention and interpretation of key existing structures, as well as a broad range of interpretative measures.
Need to respect aboriginal heritage	Consultation with Registered Aboriginal Stakeholder has occurred in accordance with the relevant guidelines. While this consultation has indicated that creeklines in the area were traditional fishing grounds and retain Aboriginal cultural value for their connection to this activity, no specific or significant Aboriginal cultural features have been identified for the site. The site is heavily disturbed with limited potential for Aboriginal archaeological objects, with only one Aboriginal archaeological site identified on the site. Avoidance or mitigation to impacts of this archaeological were deemed as unnecessary.

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Concerns	Response
	<p>However, there is opportunity to recognise Aboriginal heritage values with interpretative elements included as part of the shared walking and cycling path that will be located in the general area of the Aboriginal archaeological site.</p>
<b>Built form</b>	
<b>Density</b>	
<p>Building height and density too high compared to surrounds. Should be low density village.</p>	<p>The general scale of proposed development has been supported through the Gateway Determination.</p> <p>There has been extensive consultation with Council to evolve the master plan and provide appropriate density and distribution of building heights.</p> <p>The overall density, as well as building heights and FSRs, have been benchmarked against a range of broadly comparable locations and precincts.</p> <p>The development, as proposed would result in revitalisation of the site and up to 750 additional residences, contributing to the housing needs of Corrimal and the wider Wollongong area.</p> <p>The development of a low-density village would represent a significant underutilisation of the site and is inconsistent with broader strategic planning objectives for Corrimal.</p>
<b>Zoning</b>	
<p>The zoning should remain the same and the land should be employment land</p>	<p>The rezoning of the site to support residential use has been supported by Council and DPI&amp;E through the Gateway Determination.</p> <p>An economic assessment has demonstrated that it is not feasible to redevelop the site for industrial/employment uses.</p>
<p>Need retail included</p>	<p>Small scale retail land uses have been included within the proposed development in close proximity to Corrimal train station.</p>
<p>It should be a mixed used zone</p>	<p>See above. Although the zoning is for R3 Medium Density Residential, the site is proposed to accommodate some small-scale residential land uses surrounding Corrimal train station.</p> <p>A mixed-use zone would create potential for an excessive amount of non-residential floor space, potentially detracting from Corrimal town centre.</p>
<b>Detailed Design</b>	
<p>Development should only take place on the dumpsites and cleared areas</p>	<p>The proposed development will be located on areas which have been previously cleared and were previously utilised for industrial activities. Minimal clearing of areas of ecological value is proposed.</p>
<p>Apartment size is too small</p>	<p>All future apartments will be designed to be compliant with SEPP 65 and the ADG.</p>
<p>The artistic impressions of the housing type are not detailed enough</p>	<p>The development is currently only at the rezoning stage. Additional detail regarding housing typologies will be provided at the DA stage.</p>
<p>Should be world class design</p>	<p>The proposed development is intended to be of a high-quality design and an exemplar of urban renewal.</p>

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Concerns	Response
Needs to be age friendly	It is expected that the development will support a wide demographic with a broad spectrum of ages.
<b>Green development</b>	
Needs to include bike paths and improve pedestrian pathways	<p>The proposed development will include a wide network of pedestrian and cycling connections, linking the site with the wider Corrimal community.</p> <p>A regional pedestrian and cycling path will be provided from Railway Street through the site and across Towradgi Creek at the southern end of the site.</p> <p>The existing footpath along the frontage of the site will be upgrade to a shared path.</p>
Building should be a green building, solar panel and water catching	The proposed development is proposed to include sustainable elements; however, these will be detailed at the future DA stage.
<b>Views</b>	
Not impact on residences view of escarpment	<p>The proposed development intends to retain views to the escarpment by proposing heights which are lower than the heights of the existing brick and steel towers.</p> <p>In consultation with Council a view from the east along Murray Street axis has been retained to ensure connection to the west and also views to the escarpment.</p> <p>The master plan has been subject to extensive consultation and review with Council to ensure impacts of views to the escarpment are avoided and minimised. A detailed view analysis has been undertaken and outlined in a view analysis report.</p>
<b>Planning process</b>	
Planning process must be transparent	The PP application has been undertaken in accordance with all legislative requirements. The proponent has conducted consultation that exceeds legislative requirements.
All documents should be made publicly available	All documents will be made publicly available during the exhibition period.
An independent assessment of all reports should be undertaken	Council and the DPI&E will undertake an assessment of the PP as well as all associated documentation.

## Appendices

- A Master Plan and Site Visual Analysis
- B Landscape Master Plan Report
- C Gateway Determination and subsequent extension Letter
- D VPA Letter of offer
- E Geotechnical Assessment
- F Geomorphology Assessment
- G Creek Realignment Stability Assessment
- H Supplementary Riparian Corridor Information
- I Flood Study
- J Additional Environmental Assessment
- K Remediation Action Plan
- L Remediation Action Plan Endorsement
- M Flora and Fauna Assessment
- N Flying Fox Camp Proposed Management Actions
- O Flying Fox Strategy Peer Review
- P Threatened Microbat Habitat Assessment
- Q Conservation Management Strategy
- R Noise and Vibration Assessment
- S Aboriginal Cultural Heritage Assessment
- T Archaeological Test Excavation Report
- U Heritage Interpretation Strategy
- V Historical Heritage Assessment
- W Structural Assessment of Existing Structures
- X Servicing Strategy Report Summary
- Y Traffic Impact Assessment
- Z Economic Impact Assessment
- AA Retail Market Demand and Economic Impact Assessment
- BB Illawarra – Shoalhaven: Housing Market Report for Corrimal Coke Works
- CC Consultation Outcomes Report

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# A **Master Plan and Site Visual Analysis**

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## **B Landscape Master Plan Report**

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## **C Gateway Determination and subsequent extension Letter**

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## D VPA Letter of offer



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## **E Geotechnical Assessment**

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## F Geomorphology Assessment

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# **G Creek Realignment Stability Assessment**

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# H **Supplementary Riparian Corridor Information**

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# I Flood Study

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# J **Additional Environmental Assessment**

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## **K Remediation Action Plan**

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# L Remediation Action Plan Endorsement



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## M **Flora and Fauna Assessment**

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# N **Flying Fox Camp Proposed Management Actions**

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## O Flying Fox Strategy Peer Review

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# P **Threatened Microbat Habitat Assessment**

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# Q Conservation Management Strategy

ELTON CONSULTING

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## R Noise and Vibration Assessment

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# S **Aboriginal Cultural Heritage Assessment**

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# T **Archaeological Test Excavation Report**



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## U **Heritage Interpretation Strategy**

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## V Historical Heritage Assessment

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# W **Structural Assessment of Existing Structures**

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# X **Servicing Strategy Report Summary**

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# Y Traffic Impact Assessment

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## Z Economic Impact Assessment

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# AA **Retail Market Demand and Economic Impact Assessment**

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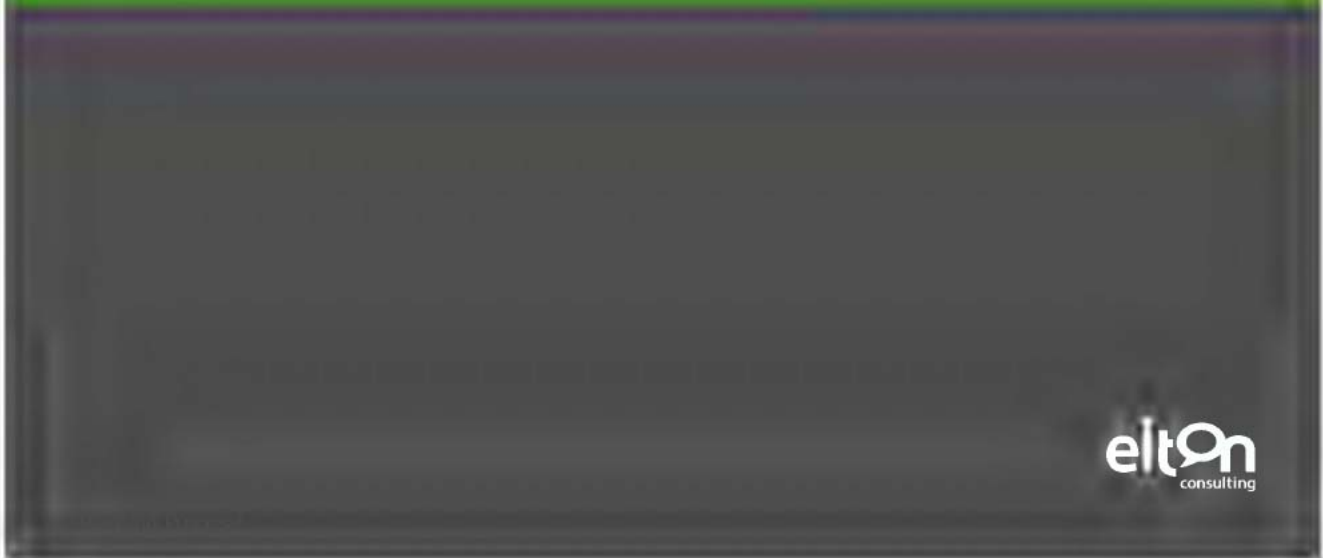
## **BB Illawarra – Shoalhaven: Housing Market Report for Corrimal Coke Works**



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# CC Consultation Outcomes Report







# Corrimal Coke Works

Draft Development Control Plan

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**Client:** Legacy Property & Illawarra Coke Company

**Date:** 11 October 2020

**Contact:**

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**Date** 11 October 2020

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**Version** final

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# 1 Introduction

## 1.1 Introduction

This locality Chapter is intended to supplement the land use planning controls applied by part B of the WDCP 2009 to guide any future development at the former Corrimal Coke Works. This Chapter of the DCP should also be read in conjunction with Part A, B, C, D and E of WDCP 2009 and the relevant Local Environmental Plan and SEPPS. In the event that the provisions contained in this DCP chapter are inconsistent with the provisions of WDCP 2009, the provisions of this DCP shall prevail.

This chapter recognises the unique qualities of the Corrimal Coke Works, and the ability to deliver unique character precincts, local retail facilities heritage preservation and interpretation, and new, high quality open spaces.

## 1.2 Aims and objectives

The aim of this chapter is to provide planning controls to facilitate urban renewal of the Corrimal Coke Works site in a manner that is consistent with the Wollongong Local Environmental Plan 2009 (as amended) and the Corrimal Coke Works Master Plan.

The key objectives of this chapter are to:

1. Ensure that development of the site results in an open and welcoming urban environment to facilitate integration and connection between future residents and the wider community.
2. Create a liveable and sustainable residential precinct that provides quality housing with contemporary built form and materials to respond to the character.
3. Ensure that future development respects and celebrates the heritage of the site.
4. Deliver a transport-oriented development adjacent to Corrimal station that promotes increased public transport use.
5. Provide for a neighbourhood scale retail precinct to meet the convenience retail needs of local residents and to activate Corrimal station and the Heritage Plaza.
6. Create a high quality, safe and accessible public domain that provides a range of recreational and community benefits.
7. Define the subdivision structure, character and built form controls for the site.
8. Provide a permeable network of streets in order to integrate the site with the wider Corrimal area and Corrimal train station.
9. Encourage walking and cycling by providing high quality walking and cycling paths, including a broader regional connection through the site.
10. Manage and where appropriate, enhance, the important environmental attributes of the site to ensure future sustainability and management of the site.
11. Ensure that development of the site is sensitive to surrounding areas, including the protection of key view corridors to the Illawarra Escarpment.

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## 1.3 Definitions

For all definitions refer to **Appendix 4**: Definitions of the Wollongong Development Control Plan 2009.

## 1.4 Relationship to Other Chapters of the DCP

This chapter of the DCP provides the development controls for the site. This Chapter of the DCP should also be read in conjunction with Part A, B, C, D and E of WDCP 2009 and the relevant Local Environmental Plan and State Environmental Planning Policies (SEPPs). In the event that the provisions contained in this precinct plan are inconsistent with the provision of WDCP 2009, the provisions of this precinct plan shall prevail.

In essence, this DCP overrides the DCP chapter as outlined in **Table 1** below due to the specific aspects of the site.

**Table 1 DCP Chapters that are not applicable to this site**

Current chapter	Controls that will not apply to this site
B1 – Residential Development	The entire chapter
D1 – Character Statements	The entire chapter
E3 – Car Parking Access Servicing Loading facilities	7.1 Car Parking, Motor cycle, Bicycle Requirements and Delivery /Servicing Vehicle Requirements <i>1. The car parking, motorcycle and bicycle requirements for specific land uses / developments are contained in Schedule 1 to this chapter of the DCP.</i> 7.7 Car Parking Layout and Design 7.8 Basement Car Parking 7.13 Car Parking and Access Requirements
E10 – Aboriginal Heritage	4.3 Preparation of the Aboriginal Archaeological and Cultural Heritage Assessment Report
E11 – Heritage	11. Subdivision 12. Alterations and additions to heritage listed buildings or buildings within heritage conservation areas 13. Infill development 15. Adaptive reuse of a heritage building
E23 – Riparian Land Management	Section E23 Section 6

If there is a conflict between this chapter and the other chapters of the WDCP 2009, this chapter prevails.

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## 2 Land to which this DCP applies

This chapter applies to land identified as the Corrimal Coke Works site, located off Memorial Drive and Railway Street, Corrimal (Lot 1 DP 795791, Lot 5 DP 749492, Lot 126 DP 598190 and Lot 11 DP749492), as identified in the figure below.

**Figure 1 Land to which this plan applies**



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### 3 Vision and Development Concept

A concept master plan for the Corrimal Coke Works has been prepared to demonstrate the holistic vision, key outcomes and principles that will guide the future development of the site.

**Figure 2 Corrimal Coke Works Master Plan**



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## 3.1 Vision

*Corrimal Coke Works will become a community born of diverse people, places and stories that respects the site's past while showcasing Wollongong's future as the city of innovation.*

The site will be revitalised as a place for people that provides a mix of housing choices within a landscape and heritage setting, while leveraging its accessibility to services and public transport.

## 3.2 Key planning and design principles

The key principles can be interpreted in the following way:

- » Deliver a public open space network that establishes the character of the site and provides a range of recreational opportunities.
- » Provide diversity in the design of built form and public realm to ensure the character of the site reflects a varied cohesive group of design elements and different character precincts.
- » Integrate the site's heritage through the retention, interpretation and adaptive re-use of key elements so to respect the history of the site.
- » Design a safe and functional road network within the site including the provision of adequate on street parking and opportunities to access the station.
- » Establish a new access to the site from Railway Street to connect with the surrounding Corrimal community and facilitate improved access to Corrimal station.
- » Deliver a site that is highly permeable to pedestrians and cyclists, linking the precinct to surrounding amenities, services and facilities, public transport, recreational opportunities and beach and broader regional pedestrian/cycle path network.
- » Create a residential community with housing diversity, neighbourhood hub and commuter services near the train station for added convenience, but at a scale that does not detract from the Corrimal town centre.
- » Conserve, manage and improve existing native vegetation and biodiversity located in the south of the site, as well as facilitate a new realigned riparian corridor.
- » Allow for earthworks to improve and manage the drainage across the site, and realign North Corrimal Creek to improve flood management and ultimately enhance the biodiversity values on the site.
- » Deliver serviced development with appropriate infrastructure services.
- » Maintain key views to the escarpment from the east, particularly the ridgeline and along key streets
- » Establish key view corridors through the site, in particular along the Murray Street alignment and views towards the iconic brick chimney.
- » Locate higher buildings away from the station area in order to ensure the heritage character and significance around the brick chimney is respected.
- » Ensure that public spaces receive appropriate levels of solar access, are not excessively overshadowed, and are safe and accessible.
- » Manage flooding and stormwater, and incorporate water sensitive urban design principles
- » Enable the built form and the natural environment to co-exist, including appropriate buffers from the core of the occasional flying fox camp.
- » Ensure that future development complies with universal design and Crime Prevention Through Environmental Design (CPTED) principles.

### 3.3 Elements of the Master Plan

The key elements that have been incorporated into the indicative master plan include:

- » Delivering a diversity of housing with the potential for low-scale apartment buildings, including affordable housing and the potential for seniors living/aged care, as well as opportunities for strata titled townhouses.
- » Providing approximately 9 hectares of open space to offer a range of community and recreational resources, including a 3,000sqm Village Park, 5,150 sqm Southern Recreation Park and riparian corridor promoting walking and cycling.
- » Ensuring architectural diversity, including articulation and modulation of built form, that responds to the local context through creation of a range of character precincts within the site.
- » Maintaining key views to the escarpment, including a significant view corridor along Murray Street, while also establishing new views within the development to key heritage features.
- » Maximising access to Corrimal train station and delivery of a public plaza adjacent to the station with retention of key heritage structures and interpretive heritage elements.
- » Activating Corrimal train station and the heritage precinct with neighbourhood scale retail uses at a scale that does not detract from Corrimal Town Centre and East Corrimal shops.
- » Providing flexible community and business space within the heritage precinct, including the potential for tele-working and start-ups.
- » Realignment and rehabilitation of North Corrimal Creek to establish a new riparian corridor with enhanced biodiversity outcomes, while providing a large area of PMF-free contiguous developable area.
- » Providing a regional walking and cycling path through the site, connecting Railway Street in the north across Towradgi Creek to the south.
- » Retention of key ecological areas within the southern section of the site and integrated with the riparian corridor, including provision of a suitable buffer to the occasional grey headed flying fox camp.
- » Providing a suitable buffer distance from the rail and state road corridors and appropriate landscaping adjacent to the site for noise attenuation.
- » New site access from Railway Street with a proposed roundabout at the intersection of Harbinger Street.

## 4 Character statement

### 4.1 Existing character

The site currently contains areas of derelict industrial structures, large former stockpiling areas and more natural areas of native and exotic vegetation to the south. The site is not accessible to the public and presents as a derelict former industrial site.

Existing industrial structures are clustered in the north-east corner of the site and reflect the site's past industrial character. There has been widespread vandalism across the site since industrial operations ceased and many of the existing buildings and structures are in poor condition.

The site is highly modified as a result of its past industrial uses, including realignment and damming of North Corrimal Creek to supply water for the coke works, and establishment of many large berms often containing discarded building materials.

The southern part of the site is less disturbed by industrial activities and has a more natural, vegetated character including an area of Illawarra Lowlands Grassy woodland.

The site is generally characterised by mature trees that present a natural green buffer on the boundaries of the site.

### 4.2 Desired Future Character

#### 4.2.1 Overview

Corrimal Coke Works will be developed as a contemporary urban village, providing medium density housing within a high quality public domain and reflecting the unique heritage of the site.

Corrimal train station and the adjacent heritage precinct will be activated with neighbourhood scale retail uses, as well as flexible community and business space. This will create a high quality environment with improved accessibility that promotes public transport use. Provision for a bus loop through the site will further encourage reduced car use.

The development will encourage walking through pleasant streets and the provision of key off-road shared paths, to Corrimal Station and also connecting through the site to the Towradgi Creek corridor. Importantly, the site will be open and permeable to invite the broader community to use its public spaces and facilities.

The environmental values of the site will be restored and enhanced, including establishing a new riparian corridor with increased biodiversity, and management of retained vegetation areas.

#### 4.2.2 Character Precincts

Corrimal Coke Works will be developed with five character precincts that relate to key features of the master plan and are intended to ensure diversity and interest in the future built form.

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**Figure 3 Character Areas**



### Civic Hub

The Civic Hub will provide an urban and active character, reflecting the concentration of heritage elements and its proximity to Corrimal station. Buildings are built to the street boundary to activate the street, while the architecture will reflect the industrial history of the site through extensive use of masonry combined with finer grain metal elements.

The Heritage Plaza will provide a high quality public domain at Corrimal station and a focal point for the retention, interpretation and adaptive re-use of key heritage structures.

Retail uses are located within the Civic Hub to activate the Heritage Plaza, Corrimal station and provide amenity for local residents.



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### Treetop Escarpment

The Treetop Escarpment precinct forms the entrance to the site from Railway Street, with buildings screened by the established green buffer that is retained in a generous landscape setback. The landscape character will extend with new trees planted between building forms and within private courtyards of residential apartment buildings.

The built form is designed with strong vertical elements to emphasise the pattern of surrounding trees, while rooflines vary in order to reflect the character of the Illawarra Escarpment. A simple palette of materials complements the natural context of this precinct.

### Green Edge

The Green Edge precinct fronts the vast riparian corridor and green open space at the south of the site, providing a key interface between the natural and built elements of the site. New buildings will respond to this natural interface, providing a sense of openness and characterised by a lightweight materiality including fine grain timber elements and screens. Buildings will promote passive surveillance, while creating appropriate privacy for residential dwellings.

The higher buildings on the site are located in this precinct, providing significant separation to existing residential areas outside of the site. The upper levels of buildings will be setback to minimise overall scale and designed with different materials and colours.

### Village Park

The Village Park precinct is focused around the neighbourhood Village Park and provide a place for local connections at the heart of the site.

The built form reflects an urban village character, reflecting some of the character of the Civic Hub but utilising more contemporary materials and architecture.

### Riparian Precinct

The Riparian Precinct provides a natural and functional green edge to the site, providing a significant connection with the natural environment.

Its natural biodiversity qualities will be retained, restored and enhanced, while offering opportunities for passive recreation and providing a significant walking and cycling connecting through the site. These outcomes are achieved while satisfying functional flood management and engineering requirements.

The Southern Recreation Park provides a dedicated recreation space for community enjoyment, while providing an appropriately defined interface to more ecologically sensitive areas.

## 5 Development controls and guidelines

This chapter of the DCP provides the subdivision and built form controls for the Corrimal Coke Works.

### Objectives

1. Supplement existing controls for residential development provided in WDCP 2009.
2. Provide design controls that define setbacks and articulation to create an appropriate street interface.
3. Ensure good quality and innovative architectural designs that reflect the character precincts across the site and avoid a bland and monotonous architectural style.
4. Provide for adequate amenity and services for the residential dwellings.
5. Support activation of Corrimal station and the adjoining Heritage Plaza with appropriate retail/business uses.
6. Provide for adequate car parking on the site for various uses, while reflecting the opportunity for transport-oriented development because the site is directly adjacent to the Corrimal railway station.
7. Ensure appropriate access is provided for each of the buildings on the site whilst minimising the impacts on the public domain from parking structures.
8. Minimise on street parking for residents in order to allow visitors to use on street parking.

### 5.1 Views and Vistas

#### Development Controls

New development will establish or maintain key view corridors as indicated in **Figure 4**.

1. The Brick Chimney is of significance and a landmark and therefore views to and from the stack should be conserved or prominently seen from Corrimal Railway Station, Railway Street and Towradgi Road overpass.
2. Ensure key view axis from Railway Street to the Brick Chimney are retained to ensure heritage items are prominent, as well as visual axis aligned with Murray street (to the east) and a new east west road within the site to view the Brick Chimney as shown in Figure 4.
3. New development (not in existing structures) adjacent to the Brick Chimney within the heritage curtilage should be stepped back in its form, or have an appropriate setback/buffer zone
4. Buildings adjacent to the rail corridor shall utilise a natural colour and material palette to blend into the backdrop of the Illawarra Escarpment when viewed from East Corrimal.
5. Create a green link corridor through the site in order to link the southern Park to the northern tree lined edge.
6. New commercial buildings should be positioned and be of a two level scale or set back so to ensure views along the visual axis from Railway Street to the Brick Chimney

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**Figure 4 Views and vistas**



**MAINTAINED VIEW CORRIDORS**

**Legend**

- The Site
- View Corridor to Heritage
- Murry Road New Corridor
- Western View Corridors to Riparian Corridor and Escarpment
- Central View Axis

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## 5.2 Residential Development

### 5.2.1 Setbacks

#### Development controls

1. Building setbacks are to comply with **Figure 5**.
2. Upper level front setbacks shall be generally in accordance with SEPP 65 and **Figure 6**.
3. Up to 70% of the articulation zone can be occupied by architectural elements. Articulation zone means a zone forward of the Main façade line that may include architectural features such as pergolas, roofs elements, bay windows, sun shading and verandahs.

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**Figure 5 Built Form Setback**



**BUILT FORM SETBACK  
Legend**

- The Site
  
- A:  
 - Residential Flat Building: 5.0m  
 - Multi-Dwelling: 4.5m  
 - Medium Density: 4.5m with 3.5m articulation
- B: 0.0m (Ground Level) and 3.0m (Level 1)
- C: 4.0m with 3.5m articulation zone
- D: 15.0m
- E: 6m with 5.5m articulation zone

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**Figure 6 Built Form Upper Setbacks**



**UPPER LEVEL SETBACK**

**Legend**



The Site



A: 3m from below facade line above 5 storeys

## 5.2.2 Architectural Diversity and Building Design

### Development controls

1. The design of new buildings is to achieve architectural diversity reflecting the character precincts in accordance with **Table 2**.

**Table 2 Building design**

	Treetop Escarpment	Civic Hub	Village Park	Green Edge
<b>Primary Façade</b>	Render	Masonry	Render / cladding	Cladding
<b>Base Element</b>	Masonry	Masonry	Masonry / render	Masonry / render
<b>Feature Elements</b>	Timber / metal	Metal	Timber / cladding elements	Metal screens / Façade greening
<b>Balustrade</b>	Glass	Metal / masonry	Glass / solid	Glass
<b>Roof Form</b>	Varied	Flat	Flat	Varied
<b>Rhythm</b>	Vertical	Horizontal	Vertical	Horizontal
<b>Colour Palette</b>	White / Neutral	Brown / Grey	Natural / colour highlights	Natural

2. The design of new development must have particular regard to the topography of the site to minimise the extent of cut and fill associated with building construction.
3. Retained heritage items must be integrated into the design of the built form. Any retained coke ovens and the remnant wall of the powerhouse, in particular, must be incorporated into the overall design.
4. Design of new buildings should minimise the overall sense of bulk and scale, with maximum building length to comply with the Apartment Design Guide. The use of landscaping, articulation, balconies, sun shading devices and awnings will help reduce the apparent bulk of buildings.
5. Provide for a mix of built form styles, whether north south orientated, courtyard type style or L-shaped, or articulation in the built form in order to reduce monotony in built form.
6. Entrances must be visible at eye level from the street and well lit.
7. Buildings directly adjoining open space, such as the Village Park or Riparian Corridor, must be designed with an appropriate interface and frontage to the open space.
8. Establish a variety of built form heights, with lower heights closer to the railway station, and higher towards the creek corridor, and varying heights within the northern and southern parts of the site.
9. Buildings adjoining the rail corridor are to be designed with consideration of their presentation to the rail corridor. The use of landscaping to screen these buildings and create a green edge to the rail corridor is encouraged.

## 5.2.3 Rail and Road Noise

### Development Controls

1. Acoustic treatments shall be provided, where required, in accordance with the Environment Noise and Vibration Assessment (Renzo Tonin, 2019) to address noise impacts from the rail corridor and Memorial Drive. Site specific acoustic assessments may be undertaken for any development application where alternative measures or treatments are proposed.

## 5.3 Non-residential development

### Development Controls

1. Non-residential land uses, primarily retail and business uses, are to be located in close proximity to Corrimal station and the Heritage Plaza, as in accordance with **Figure 7**.
2. Buildings fronting the Heritage Plaza shall comprise of predominantly non-residential uses on the ground floor to ensure activation and surveillance of the public space.
3. Non-residential uses may spill out into the Heritage Plaza as generally shown in **Figure 8** and be managed by the owner.
4. Any neighbourhood supermarket should be located and designed to minimise the extent of blank and non-active frontage to public streets and open space. The indicative location for a neighbourhood supermarket is shown on **Figure 7**.
5. Development within the Heritage Plaza shall integrate with the heritage of the site, through the interpretation of the heritage buildings as well as through landscaping.
6. Awnings should be included in developments associated with the proposed retail uses, however are not necessary when a current heritage structure is being interpreted and adapted for retail and business purposes.
7. Signage on heritage structures adapted for the reuse should integrate and reflect the heritage character of the structure.
8. Access areas into buildings, including for loading, shall be generally in accordance with that shown on **Figure 9**.
9. All loading and unloading activities shall take place wholly within the designated loading bay, at all times, except for the uses associated with the adaptive re-use of heritage structures within the Heritage Plaza.
10. The designated loading / unloading area for the local retail use shall be kept free for that purpose, at all times.
11. All loading dock facilities must satisfy on-site manoeuvring areas for trucks in accordance with the Australian Standard AS 2890.2 Design Vehicular and Turning templates.
12. Loading / unloading facilities shall be located or screened so they are not directly visible from the adjoining residential area and do not transmit excessive noise onto any adjoining residential area.
13. An acoustic assessment report may be required at the discretion of Council with a Development Application where loading dock facilities are proposed to be positioned in proximity to any adjoining noise sensitive land uses including residential dwellings.

If required, the acoustic assessment report must address predicted maximum noise levels from loading and unloading activities conducted within the loading dock facility of the development and provide recommendations on acoustic attenuation measures required to mitigate any unacceptable noise impacts. The noise impact assessment report should apply the NSW EPA's "Noise Policy for Industry" maximum noise level assessment when assessing sleep disturbance.



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**Figure 7 Indicative Land Use**







- INDICATIVE LAND USE**  
Legend
-  The Site
  -  Residential
  -  Non-residential Uses

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**Figure 8 Indicative Uses and Spill out zone**

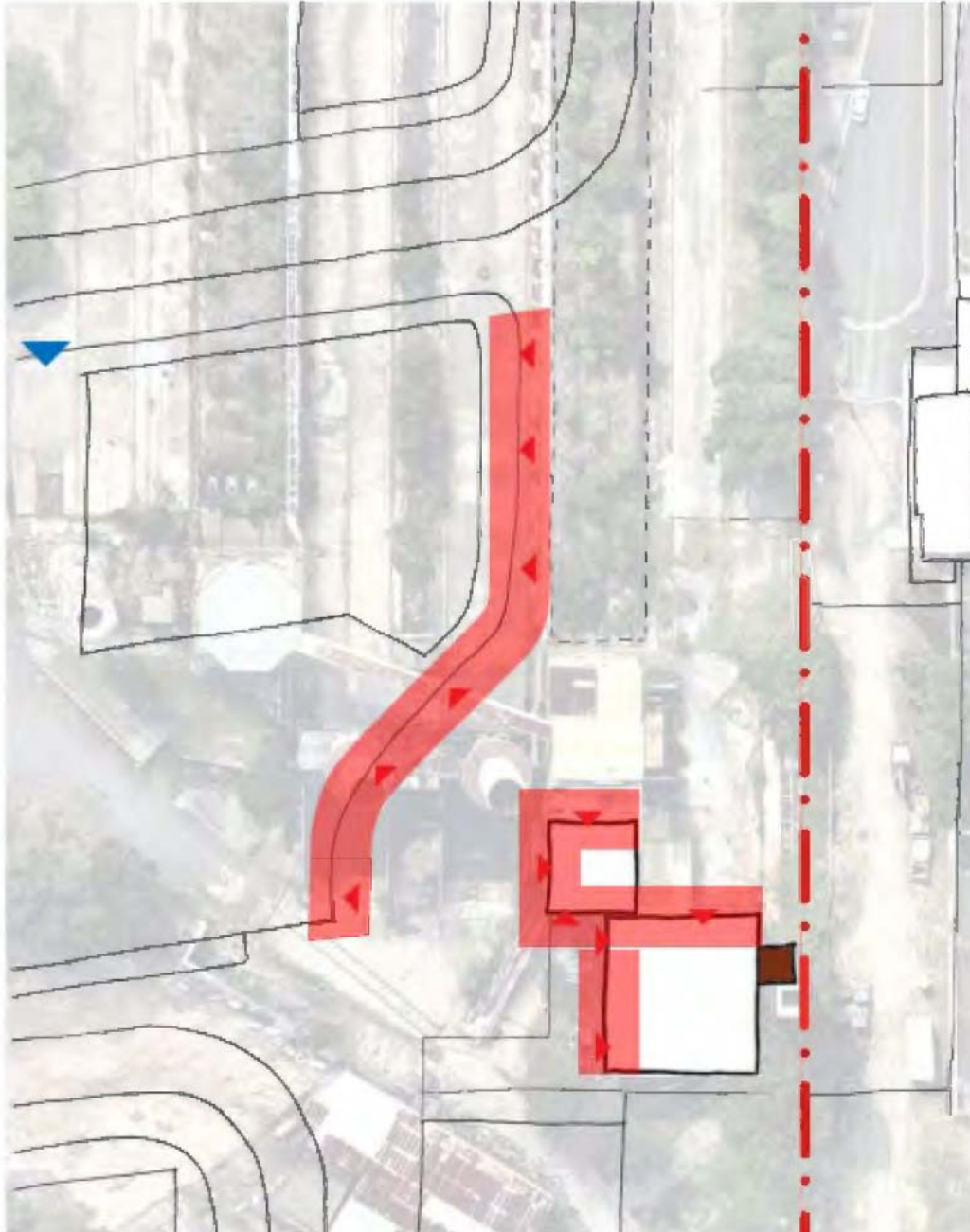


INDICATIVE USES AND SPILL OUT ZONES  
Legend

-  INDICATIVE RETAIL TENANCY
-  INDICATIVE SPILL OUT ZONE
-  INDICATIVE LOBBY
-  INDICATIVE SUPERMARKET LOCATION

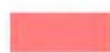


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**Figure 9 Active frontages and loading**



**ACTIVE FRONTAGES AND LOADING**

**Legend**

-  ACTIVE FRONTAGE
-  INDICATIVE ENTRY
-  INDICATIVE LOADING ACCESS

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## 5.4 Car parking and vehicular access

### Development Controls

1. Vehicular access to development lots should be integrated with the design of the building and located to minimise impacts on adjoining streets.
2. Car parking for residential flat buildings may be provided in the form of a full basement, 'half in half out' basement or sleeved above ground.
3. On site car parking must be positioned to minimise impacts on the streetscape. Car parking must be located behind the building setback and be screened from view with well-designed structures and vegetation.
4. Car parking in residential flat buildings areas should be designed to conveniently, efficiently and appropriately serve residents and visitors of the site. This can be achieved in the following ways:
  - a) Ensuring that car parking areas are located close to entrances and access ways.
  - b) Car parking areas to be secure yet easily accessible for all residents.
  - c) Have clearly defined areas for visitor parking and disabled parking.
5. Parking for cars, motorcycles and bicycles other than outlined in **Table 4** must be provided and designed in accordance with the requirements contained in Traffic, Access, Parking and Servicing Chapter contained in Part E of the DCP.
6. Parking is to be provided for the site in accordance with **Table 4** below.

**Table 4 Parking Controls**

Land use		Car Parking Rates	Motorcycle Parking	Bicycle spaces
Residential Flat Building, and shop top housing	1 bedroom	1 space per dwelling (<70m <sup>2</sup> )	1 motorcycle space per 15 dwellings	1 bicycle space per 3 dwellings
	2 bedroom	1.5 car space per dwelling (70-110m <sup>2</sup> )		
	3 bedroom	2 car spaces per dwelling (>110m <sup>2</sup> )		
	visitors	0.2 spaces per dwelling for visitors	N/A	1 bicycle space per 12 dwellings
Retail		1 space per 25m <sup>2</sup>	1 motorcycle space per 25 car parking spaces	1 bicycle space per 750m <sup>2</sup> GFA for staff plus 1 space per 1,000m <sup>2</sup> GFA for shoppers
Restaurant		1 space per 25m <sup>2</sup>	-	-
Food and drink premises		1 space per 25m <sup>2</sup>	-	-

7. The layout of all residential flat building and non-residential car parking areas shall be in strict accordance with Australian Standard AS 2890 and the following additional requirements:
  - a) Parking areas must be designed so any vehicle which uses the area will be able to enter and leave the site in a forward direction.
  - b) Stacked or tandem parking may be permitted in residential flat building or non residential buildings in the following circumstances:
    - i. The applicant must demonstrate that there is a need for stacked parking and that the provision of stacked parking will not adversely affect the safe, efficient and effective use of the site;
    - ii. No more than two cars are parked in a stacked arrangement;
    - iii. Stacked parking should be limited to a maximum of 50% of all parking
    - iv. Provision shall be made on site for shifting cars without the movement of vehicles onto public streets;

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- v. Residential: only permitted where both spaces are utilised by the same dwelling and such spaces do not interfere with common manoeuvring areas;
8. On street parking should be subject to time restrictions in accordance with **Figure 10 and 11**. This is intended to avoid the potential for all-day commuter parking and promote the turnover of on street parking spaces for visitors.

**Figure 10 Parking**

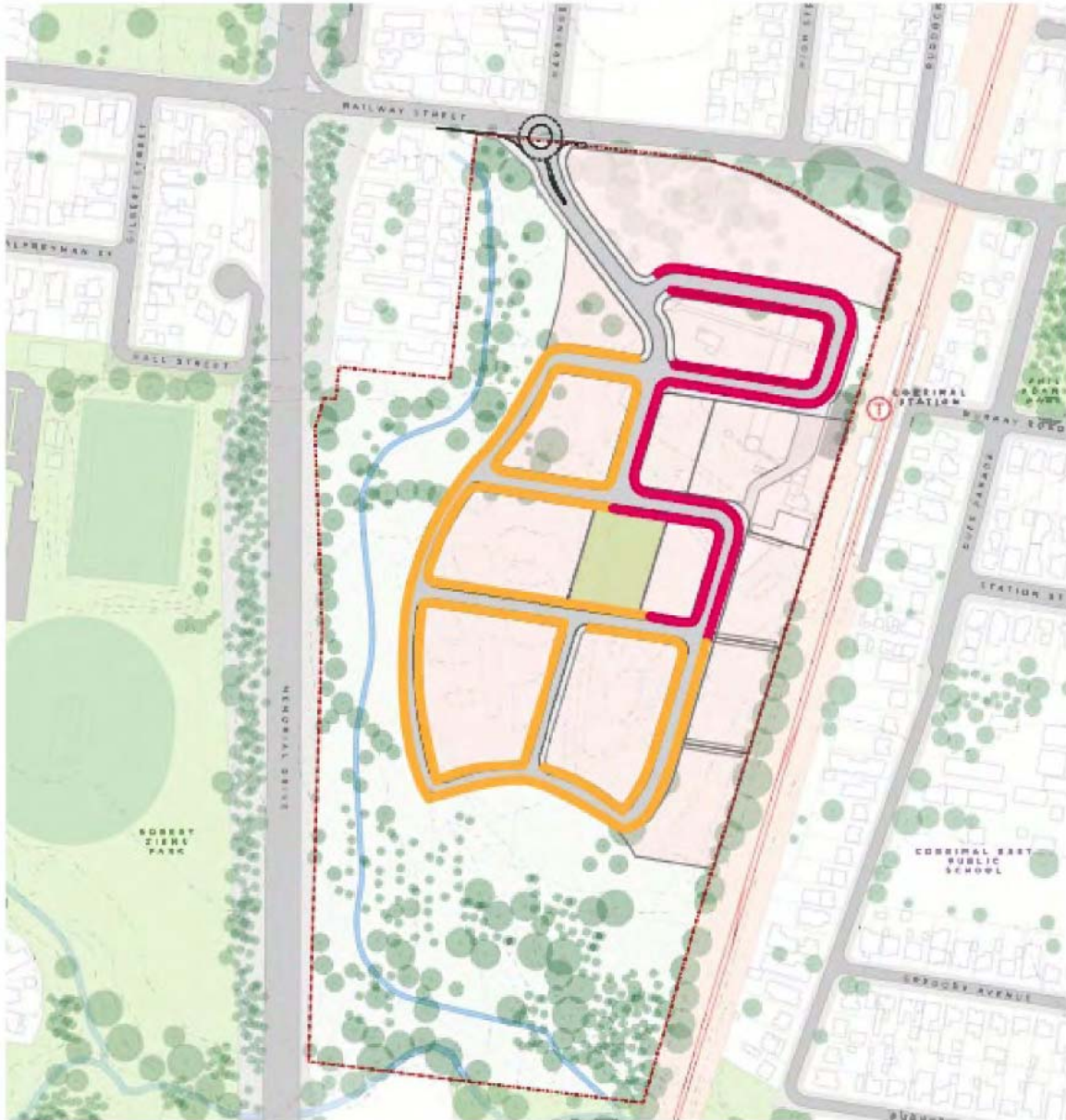


**PARKING AND ACCESS  
Legend**

- The Site
- No On-Street Parking
- Station Parking
- Controlled Parking on Open Space Edge
- B Bus Stop

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**Figure 11 On street car parking**



**PARKING AND ACCESS**

Legend

 The Site

 1 Hour Retail Precinct Parking Limit

 4 Hour Parking Limit

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9. The design of basement car parking should support the use of natural ventilation where possible.
10. The design of basement car parking should be integrated with the overall design of the development and limiting the extent to which the podium extends beyond the building footprint will minimise the impact of the basement parking areas on the streetscape.
11. Any basement or part basement that is above ground level should not be greater than 1.2m above finished ground level. On sites with significant slope it may be acceptable to exceed this height provided appropriate design measures are included to minimise the impact on the streetscape.
12. The following setbacks from side and rear boundaries apply to basement podiums:
  - a) Where the height of the basement podium (measured to the top of any solid wall located on the podium) is less than 1.2m above natural or finished ground level (whichever distance is greater), the basement podium may extend to the property boundary. A minimum 1.5m wide landscaped planter must be provided on the perimeter of any section of the basement podium which is located on a side or rear property boundary. Such planter must prevent direct access to the outer edge of the podium, to minimise direct overlooking of adjacent dwellings and open space areas.
  - b) Any portion of the basement (measured to the top of any solid wall located on the podium) which exceeds 1.2m above natural or finished ground level (whichever distance is greater) must be setback from the property boundaries by a ratio of 1:1 (height: setback). A minimum setback of 1.5m applies in this instance, with this area to be landscaped.
13. Ventilation structures/openings/exhausts for basement parking and air-conditioning units must be orientated away from windows of habitable rooms and private open space areas on the subject site as well as adjoining sites. They must be designed to minimise any visual or amenity impacts on adjoining public domain. Ventilation grills must be integrated into the design of the façade of the building to minimise their visual impact.
14. The visual impact of all basement walls must be minimised through the use of various design techniques including well-proportioned ground level articulation and relief, mixed finishes and materials, terracing and/or dense landscaping.
15. Waste collection vehicles may enter building basements from rear lanes to collect waste and/or recyclables subject to the following requirements:
  - a) Compliance with Australian Standard AS 2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities;
  - b) The height to the structural members and upper floor ceiling should allow for collection vehicle travel height/operational height, consistent with the type of vehicle nominated as the waste collection vehicle;
  - c) Adequate provision of space clear of structural members or vehicle parking spaces to allow a typical three-point turn of collection vehicles or alternatively, provision should be made for a truck turn table within the basement car parking area; and
  - d) The basement floor should be of industrial-type strength pavement and designed for a maximum wheel loading of seven tonnes per axle to accommodate garbage and recycling collection vehicles.

## 6 Heritage

This chapter should be read in conjunction with Chapter E11 of the DCP.

### Objectives

1. Integrate and reflect the heritage significance of the site through conservation, interpretation and management within the planning and development of the curtilage area of the site.
2. Ensure that any development undertaken within the heritage curtilage is undertaken in a manner that is sympathetic and responds to the heritage character of the site.
3. Celebrate and interpret the heritage significance of the site in the design of buildings and open space in a manner that contributes to a broader understanding of the site's history and function.
4. Provide opportunities for public access to, and appreciation of, retained heritage items within the curtilage.
5. Create opportunities for adaptive reuse or re-purposing of significant heritage items.
6. Encourage innovative approaches to the conservation and interpretation of the heritage items on the site.
7. Maintain and establish significant views to the Brick Chimney, and ensure the Brick Chimney is a key built form on the site.
8. Provide for interpretation of Aboriginal heritage values in development of the site.

### Development Controls

1. Retention, interpretation and removal of existing structures on site shall generally be in accordance with the Conservation Management Strategy and Heritage Interpretation Strategy (Urbis 2019)
2. Retention and re-use of existing structures will have regard to the condition of those structures and their suitability within a residential context in relation to safety, visual and physical connectivity and potential vandalism.
3. The salvage and re-use of materials from existing structures shall be included in future development outcomes, where possible.
4. The physical remains of the remnant tramway do not need to be retained, however interpretation of its historical value should be considered in the design.
5. A Heritage Impact Statement shall be submitted with development applications within the heritage curtilage area. The Heritage Impact Statement should be accompanied by a structural engineering report on the condition of items being addressed.
6. The existing industrial structures on the site shall be recorded through a photographic archival recording in accordance with NSW Heritage Council guidelines.
7. Identified Aboriginal heritage shall be managed in accordance with the Aboriginal Cultural Heritage Assessment (Kelleher Nightingale Consulting, 2019). Interpretation of identified Aboriginal heritage is encouraged and should occur in consultation with Registered Aboriginal Parties.
8. Further archaeological assessment associated with existing industrial structures may be required as part of future Development Applications where relevant.



## 7 Public Domain

The Corrimal Master Plan provides a range of new parks and open spaces for the community, integrated with the riparian corridor, biodiversity, cycle and pedestrian connections, proposed residential development and local retail hub.

These open spaces and public realm will cater for a variety of informal recreational areas, community activities and spaces for people, including older and younger residents and visitors.

### Objectives

1. Provide a range of open space as identified in the master plan to create a high quality public domain and cater for a wide range of user needs.
2. Establish attractive and safe walking and cycle links across the site that also provide opportunities for regional linkages.
3. Incorporate heritage interpretation or public art to enhance place making.
4. Retain the existing tree line character along Railway Street as a green buffer to the development.
5. Establish a new riparian corridor that provides a significant natural edge to the development and provides a range of passive recreational opportunities.
6. Ensure that new public spaces are safe and accessible.
7. Provide for appropriately managed access to the site from Railway Street
8. Define a fine grain network and hierarchy of streets, lanes and pedestrian links to ensure connections within and out of the site.
9. Facilitate the potential for transport-oriented development and interchange at Corrimal train station, including providing a high quality public domain at the station.
10. Provide a conservation outcome for the occasional Grey Headed Flying Fox camp that avoids and minimises the potential for conflict with future residential development on the site

### 7.1 Public open space areas

#### Development Controls

1. New open spaces are to be provided in accordance with **Table 5**:

**Table 5 Proposed park typologies**

Open Space	Total Area (ha)	Ownership
Heritage Plaza	0.3ha	Private
Village Park	0.3ha	Council
Southern Recreational Park	0.5ha	Council
Riparian Corridor	7.7ha	Council

2. A landscaping plan is to be submitted with the development application for any of the open space and public realm areas, and generally be consistent with the landscape concept plan below.
3. The design of new open spaces shall have regard to ongoing maintenance requirements, universal design and CPTED principles.

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4. Locational and interpretive signage, and appropriate lighting shall be provided as part of the open space system
5. All open spaces shall provide high quality and robust park furniture to allow the functional use of the open space by the community.
6. Ensure that any servicing facilities are located to minimise impacts on the public domain. Any substation located within the public domain is to be positioned to minimise its functional and visual impact, and appropriate screened.

**Figure 12 Indicative Landscape Plan**



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### 7.1.1 Heritage Plaza

The Heritage Plaza is intended to have an urban character and function. The primary functions of the Heritage Plaza are to:

- Create a safe and accessible public domain that provide connectivity to Corrimal train station
- Provide a community space that can be activated by adjoining neighbourhood retail uses
- Celebrate existing heritage features through appropriate retention and interpretation

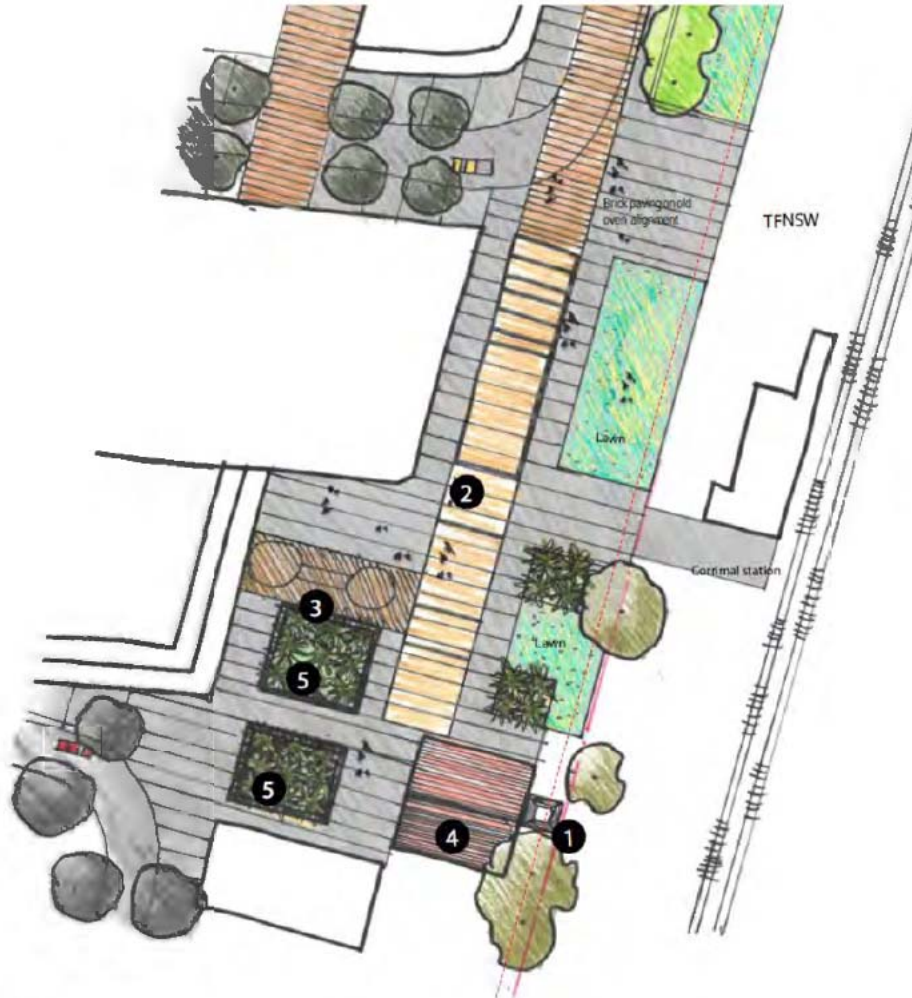
#### Development Controls

Key design controls for the Heritage Plaza include:

1. The design of the Heritage Plaza shall generally be in accordance with the concept provided in **Figure 13**.
2. The design of the Heritage Plaza is to be appropriately integrated and reflects key heritage elements, in particular retaining and interpreting elements of the former industrial use and materials as part of the public realm in accordance with the Conservation Management Strategy and Heritage Interpretation Strategy (Urbis, 2019).
3. Provide a high level of physical and visual permeability to facilitate access to Corrimal station and activation of the Heritage Plaza, generally in accordance with **Figure 14**.
4. Facilitate direct access to Corrimal train station, noting that any works within the rail corridor will require the approval of RailCorp.
5. Provide appropriate lighting to promote a sense of safety.

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Figure 13 Indicative concept design – Heritage Plaza



- 1 BRICK CHIMNEY RETAINED
- 2 C1 COKE OVEN INTERPRETATION
- 3 QUENCH TOWER REINTERPRETATION
- 4 POWER HOUSE RE-PURPOSED
- 5 ELEVATED LAWNS WITH PALMS AND SEATING WALL EDGE

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**Figure 14 Permeability**



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## 7.1.2 Village Park

The Village Park is a neighbourhood scale recreational space that is intended to encourage community interaction and facilitate unstructured recreation activities for a range of demographics. The key functions of the Village Park are to:

- Provide open lawn areas suitable for unstructured recreation activities and encourage community interaction
- Incorporate a defined play space

### Development Controls

1. A minimum 50% of the park is to be provided as open lawn area.
2. Incorporate a designated playground area with an appropriate range of equipment as well as formal seating areas, as generally indicated in **Figure 15**.
3. Provide a separate access path for any residential dwellings that front onto the park, with appropriate landscape screening to create appropriate privacy but simultaneously ensuring surveillance of the park.
4. The Village Park shall receive at least 4 hours of solar access to at least 70% of its area all year round. Solar Access Studies showing the extent of overshadowing on the Southern park between 9am and 3pm on 21<sup>st</sup> June are to accompany all development applications.

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**Figure 15 Indicative concept design – Village Park**



### 7.1.3 Southern Recreation Park

The Southern Recreation Park is an informal recreational area intended to provide a transition area between the occasional flying fox camp core and the residential built form by encouraging integration and respect of the environment. The primary functions of the park are to:-

- » Provide open lawn areas suitable for unstructured recreation activities and encourage community interaction
- » Incorporate a defined play space

#### Development Controls

1. A minimum 30% of the recreation area is to be provided as open lawn area.
2. There shall be a southern edge defining element, whether a fence, a pathway or the like, to provide adequate distance to the natural bushland and respond to the topography of that part of the site. A viewing platform may be incorporated on the park edge.
3. Recreational area should be designed to have view of a design feature or view of the natural bushland from the central north-south local road.

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4. The Southern park shall receive at least 4 hours of solar access to at least 70% of its area all year round. Solar Access Studies showing the extent of overshadowing on the Southern Park between 9am and 3pm on 21<sup>st</sup> June are to accompany development applications.

### 7.1.4 Riparian Corridor

The Riparian Corridor is established through a realignment of North Corrimal Creek to create an opportunity to establish a new green corridor with improved ecological, flooding and recreation outcomes. The primary functions of the re-aligned Riparian Corridor are to:

- Provide a continuous green corridor from Railway Street to Towradgi Creek that reflects the natural qualities of the area
- Appropriately manage ecological and flooding considerations on site, and not impact downstream properties
- Improve regional connectivity through the provision of a continuous shared path
- Provide appropriate passive recreational opportunities.
- The Ecological Area provides for the conservation and enhancement of the Illawarra Lowlands Grassy Woodland located in the southern part of the site.

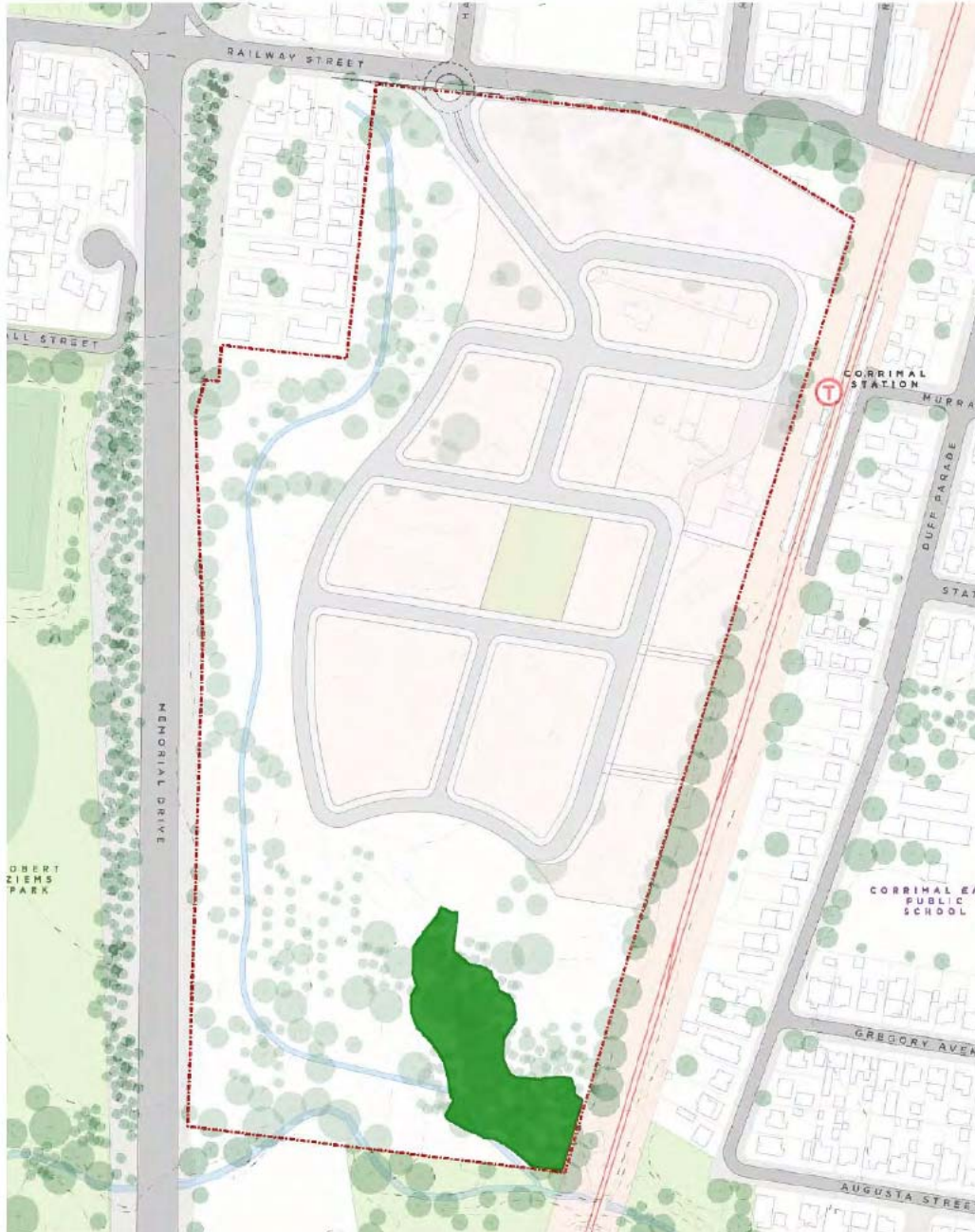
### Development Controls

1. North Corrimal Creek is to be realigned to provide a connected riparian parkland and environmental outcome from Railway Street down to Towradgi Creek.
2. Opportunities for passive recreation should be incorporated along the eastern bank of the riparian corridor, without comprising the flood management and stability requirements contained in Section 9 of this DCP.
3. A community event space may be included in the riparian corridor, and should include appropriate power and services to support community events.
4. The riparian corridor must be naturalistic in character and planting to support its ecological function, while still providing appropriate recreation opportunities and connectivity to deliver a regional asset.
5. Landscaping along the western embankment shall be designed to establish a natural bushland context to provide a visual buffer to Memorial Drive while also minimising maintenance requirements.
6. A shared pathway shall be provided along the riparian corridor from Railway Street and link with bridges (or as otherwise determined by Council) across the realigned North Corrimal Creek and Towradgi Creek, connecting to the Council owned reserve south of the site.
7. Prevent flooding impacts on site (and up and downstream) through the realignment of the riparian corridor, and creation of a flood free area suitable for residential development.
8. The design of the riparian corridor shall be intended to establish a stable riparian environment that minimises ongoing maintenance requirements. Access requirements for maintenance shall be incorporated as part of the design.
9. Retain and manage the Illawarra Lowlands Grassy Woodland EEC in the southern part of the site (see **Figure 16**) and other native plant communities according to the Vegetation Management Plan and GHFF Camp Management Plan.
10. A Vegetation Management Plan for the Ecological Area in the southern part of the site is to be submitted with the development application for the realignment of North Corrimal Creek.
11. Access to the Ecological Area is to be generally restricted except as required for maintenance.
12. The site stormwater management strategy should provide flows to the gully through the Ecological Area to maintain the existing hydrology of the area.



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Figure 16 Retained Illawarra Lowlands Grassy Woodland



ECOLOGICAL AREA

Legend



The Site



Ecological Area 7,450m²

## 7.2 Flying Fox Management

### Development Controls

1. A typical and averaged 100m buffer is to be provided between the core camp extent and future residential development, as identified in **Figure 17**. Flexibility in the buffer of +/- 10 metres is permissible.
2. A final Camp Management Plan is to be submitted at the development application stage and shall address ongoing management outcomes, including:
  - > Vegetation outcomes and management within the buffer area
  - > Community education
  - > Provision of aquatic habitat within the riparian corridor
  - > Any proposal for supplementary habitat to support expansion of the camp away from the residential development
  - > Construction management measures to minimise potential disturbance to flying foxes
3. The buffer shall be treated generally in accordance with the following approach:
  - > An inner buffer of approximately 50 metres. This area will be primarily ecological in function with limited public access, except as required for specific functions contemplated by this DCP.
  - > An outer buffer of a further 50 metres. This area should be used for recreational purposes to support community amenity.
4. Landscaping and vegetation within the buffer area will be designed to prevent the expansion of the camp further to the north.
5. Provide a shared path through the riparian corridor and within the flying fox buffer.
6. Future residential development that interfaces with the buffer area shall consider the need for any specific management or design measures as part of future development applications.
7. Encourage community interaction and facilitate unstructured recreation activities.
8. Retain and manage the Illawarra Lowlands Grassy Woodland EEC and other native plant communities according to the Vegetation Management Plan and GHFF Camp Management Plan.
9. The occasional flying fox camp is to be protected, retained and managed according to the GHFF Camp Management Plan. To prevent the flying foxes migrating into the newly planned built-up areas the following landscape principles should be considered in the landscape design:
  - > A treeless buffer between the existing occasional flying fox camp and the planned built infrastructure
  - > Additional open lawn recreational spaces to be provided directly north of the occasional flying fox camp
  - > Reducing permanent built structures inside the landscape in this area
  - > Recreational spaces will be surrounded by native grasses
  - > Designing of a "belly dip" area inside the realigned riparian corridor (in the south) relating specifically to the occasional flying fox camp.

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**Figure 17 Flying Fox Management buffer**



**PARKING AND ACCESS**

Legend

-  The Site
-  Core Camp Extent
-  50m Buffer
-  100m Buffer

## 7.3 Public Domain and Streets

### 7.3.1 Access to the site

#### Development Controls

1. Access to the site is to be provided from Railway Street with a new roundabout constructed at the intersection with Harbinger Street. The associated removal of vegetation is to be assessed through a Biodiversity Assessment Report (BDAR) as part of the development application

### 7.3.2 Streetscape character

#### Development Controls

1. The hierarchy of streets should be generally in accordance with **Figure 18**, and character as included in Table 6, and be integrated with the public transport railway station, kiss and ride and bus loop.
2. The Landscape Concept Plan for the streets and public domain should incorporate all positive streetscape elements including:
  - a) Street trees.
  - b) Remnant stands of trees.
  - c) Links and relationships to the heritage buildings and
  - d) On street car parking
  - e) Linkages with other open space areas in the locality
  - f) Street furniture, fences, and gates
3. The location and selection of street trees should have regard to requirements for utility services within the street verge.
4. Landscaping should reflect the character areas of the site and be used to soften the impact of buildings and to assist in providing visual relief to buildings.
5. Where the developer is responsible for the construction of footpath paving:
  - a) the type of paving is to be determined by Council according to the location
  - b) A nominal two percent (2%), minimum one percent (1%), maximum two and a half percent (2.5%) cross fall to be provided from property line to back of kerb.
  - c) The driveway entry threshold finish from the property boundary line to the face of the kerb must match the footpath and be designed to withstand predicted traffic loadings.
6. A change in driveway pavement is required at the entrance threshold within the property boundary to clearly show to motorists they are crossing a pedestrian area. Between the property boundary and the kerb, the developer must construct the driveway pavement in accordance with the conditions, technical specifications and levels to be obtained from the Council's Manager of Works. This requirement shall be reflected on the Construction Certificate plans and any supporting documentation.

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**Figure 18 Road Hierarchy**



**ROAD HIERARCHY  
Legend**

- The Site
- Entry Boulevard - Entrance and Arrival
- Entry Boulevard - Beyond Bus Loop
- Bus Loop Road - Public Transport Access
- Main Loop Road - Circulation
- Riparian Edge Road - Activation of Green Space
- Local Street - Typical Street
- Shared Zone Road - Vehicle, Bicycle and Pedestrian

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### 7.3.3 Street Design and Road widths

#### Development controls

Streets within the precinct are to be designed in accordance with **Table 6** and Figures in this section of this DCP

**Table 6 Street Design**

Road Segment ID	Road Location	Street Type	Carriageway			Verge			
			Kerb Lane (m)	Centre Lane (m)	Total (m)	Verge (m)	Total Reserve (m)	Footpath (m)	Shared Path (m)
1	Entry Boulevard	Type 5 (modified) Parking on one side	2.6 & 1.5	3	10.1	9.75 (5.25m one side, 4.5m other side)	19.85	1.5	3
2	Entry Boulevard (beyond bus loop)	Type 5 (with parking)	2.1	2.8	9.8	9.0 (4.5m each side)	18.8	1.5	3
3	Bus access loop	Type 4 (with parking and with bus stops as needed)	2.6	3	11.2	9.75 (5.25m one side, 4.5m other side)	21.0	1.5	3
4	Main Loop road	Type 5 (with parking)	2.1	2.8	9.8	9m (4.5m each side)	18.8	3m (1.5m each side)	N/A
5	Riparian Edge Road	Type 6 (modified) parking one side	2.1	3	8.1	4.5m one side	12.6	1.5m each side	N/A
6	Local Street (Typical Street)	Type 6	2.3	3.5	8.1	9m (4.5m each side)	17.1	3m (1.5m each side)	N/A
7	Shared Zone Road	Type 7 (modified)	0	6	6	8 (4m each side)	14.0	N/A	N/A

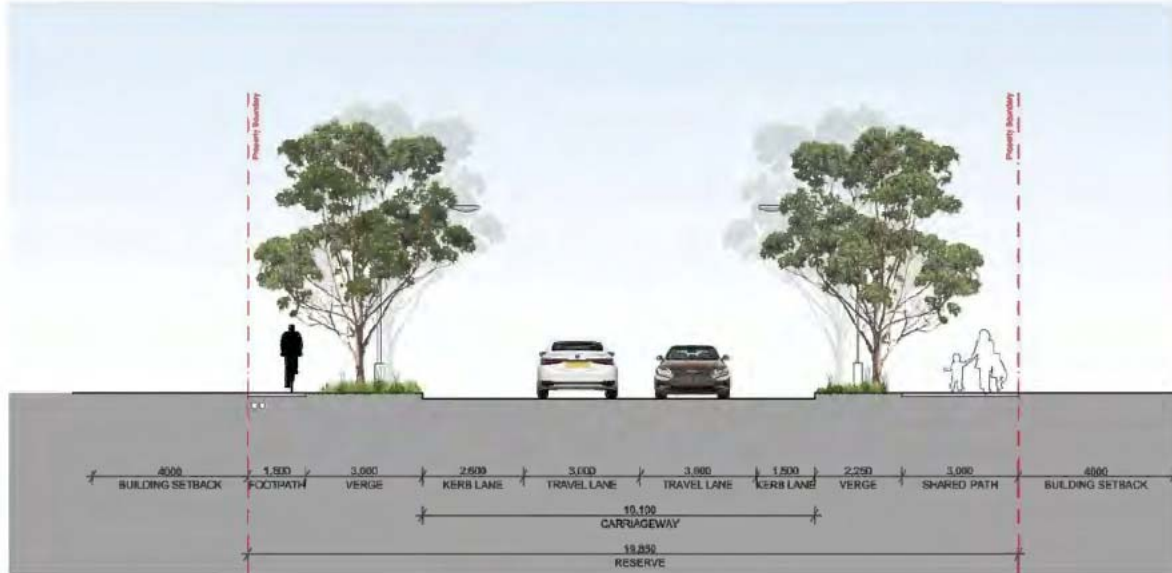
An explanation and controls relating to each street are outlined below.

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## Entry Boulevard

The Entry Boulevard reinforces the entrance and sense of arrival to the site.

**Figure 19 Entry Boulevard Section**



Character	Landscape	Parking
Grand entrance feel providing clear, direct access to the station and Civic Plaza for vehicles, pedestrians and cyclists	Mature trees in rows with understorey planting in verge.	No dedicated parking

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## Bus Loop Road

Bus access road allows for the circulation of public transport route.

Figure 20 Bus Loop Road Section

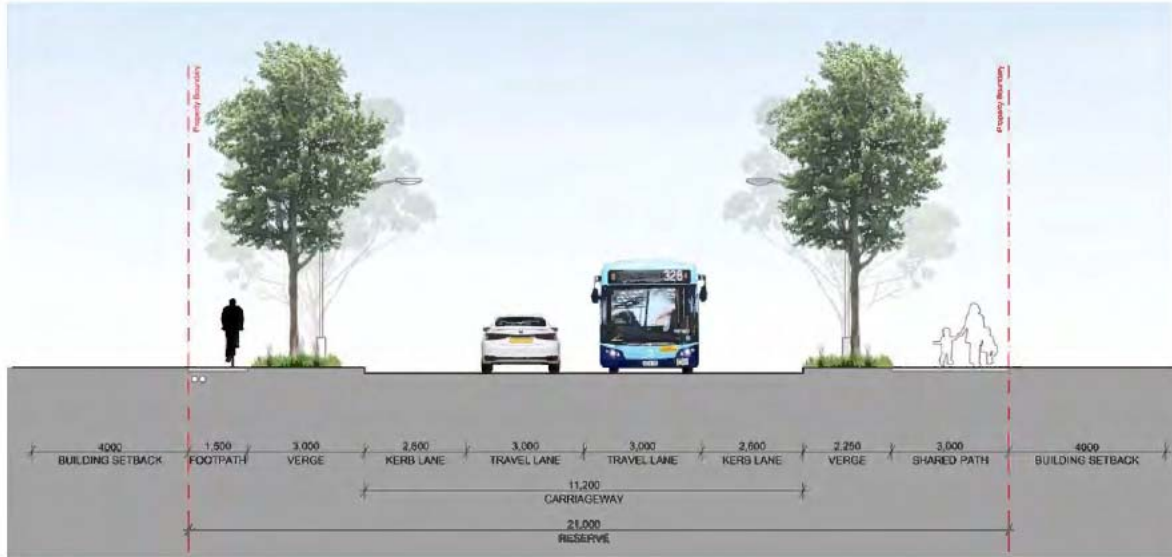
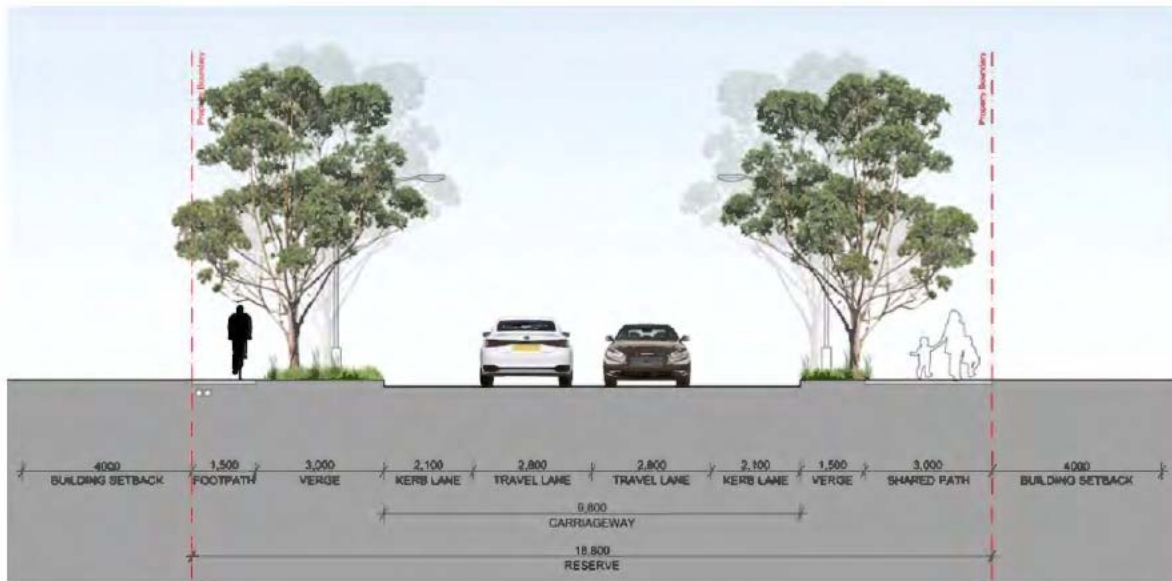


Figure 21 Boulevard Beyond Bus Loop





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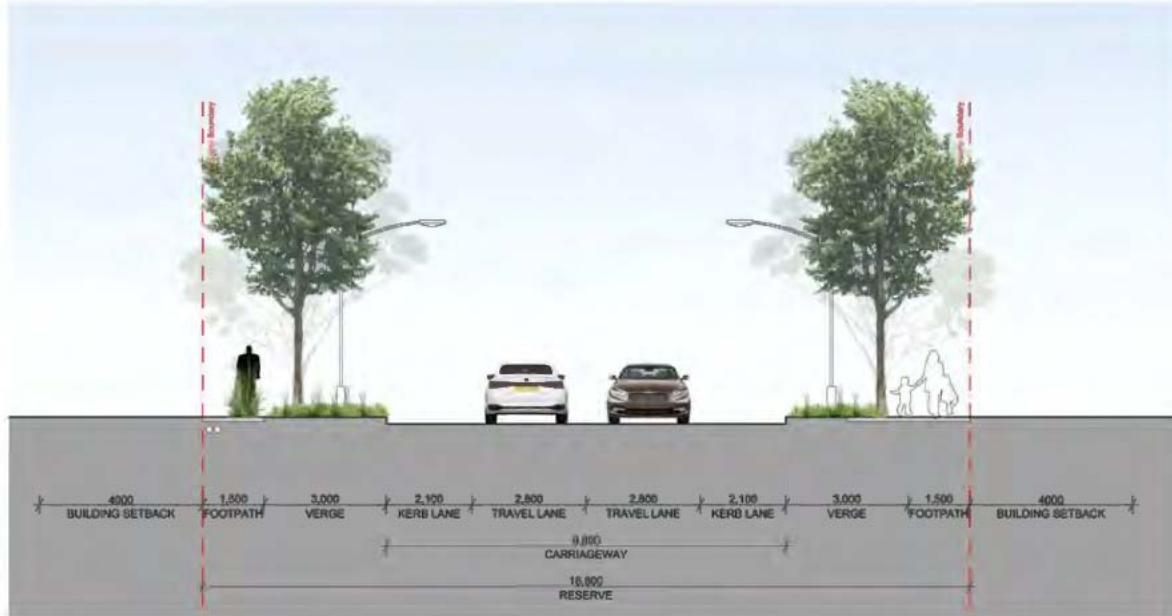
Character	Landscape	Parking
<p>A clearly defined route for quicker circulation in and out of the Precinct and reinforcing the link between the Civic Plaza and larger useable open space in the Riparian Corridor</p>	<p>Mature trees in rows with understorey planting in verge.</p>	<p>Dedicated parking on one side of the carriageway</p>

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## Main Loop Road

The main loop road clearly defines the main circulation loop around the precinct.

**Figure 22 Main Loop Road Section**



Character	Landscape	Parking
Clearly defined main circulation around the site for visitors and residents with flexibility to accommodate differing ground level interfaces	Mature trees in rows with understorey planting in verge.	Dedicated parking lanes on both sides of the carriageway

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## Riparian Edge Road

Figure 23 Riparian Edge Medium Density



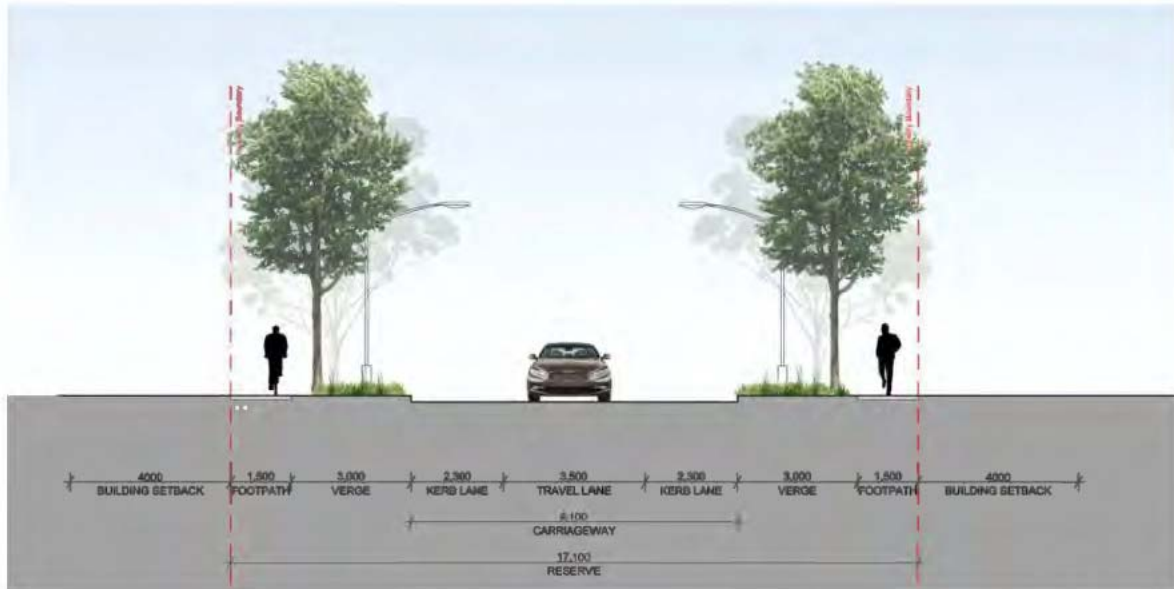
Character	Landscape	Parking
Provides interface to public open spaces.	Mature trees in rows with understorey planting in verge.	Single side of dedicated parking on the opposite side to the open space

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**Local Street**

Local Streets within the Precinct cater to everyday use and provide pedestrian amenity. Street verges are to include mature trees in rows with complimentary understorey planting to act as a buffer for residential buildings.

**Figure 24 Local Street Section**



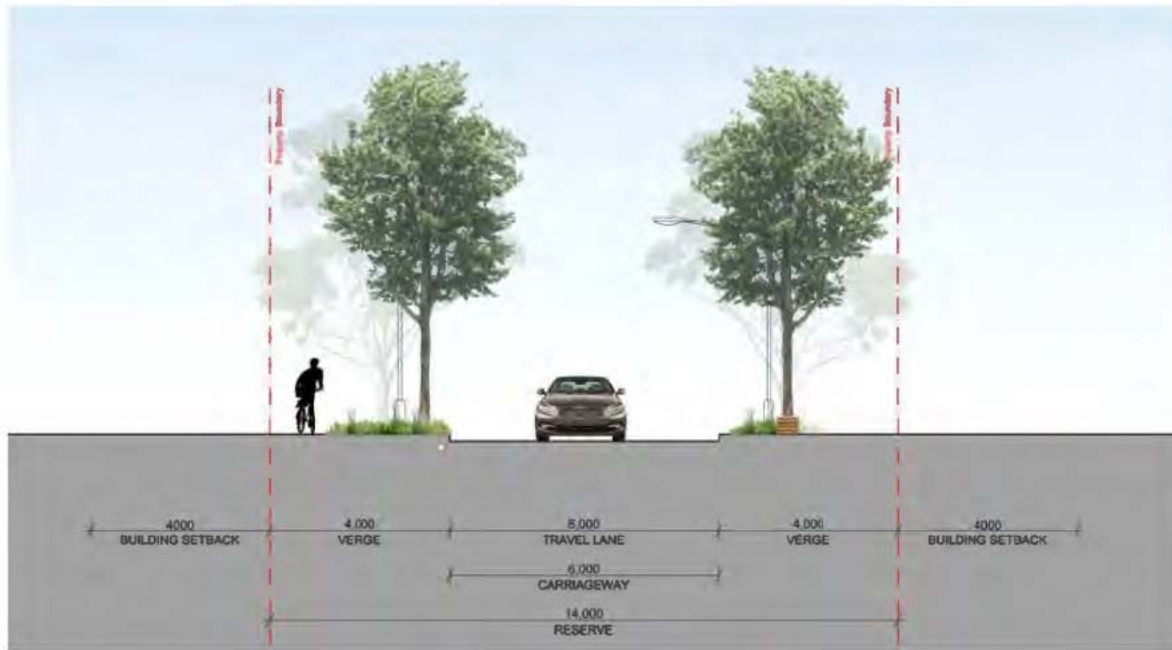
Character	Landscape	Parking
Provide local connections between more major streets and public open space within the Precinct	Mature trees in rows with understorey planting in verge.	Dedicated parking lanes on both sides of the carriageway.

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## Shared Path

Shared roadway for cars and pedestrians to access residential lots, and to support pedestrian and cycle linkage to the southern recreation park.

**Figure 25 Shared Path**



Character	Landscape	Parking
Activated shareway for vehicles, bicycles and pedestrians. Provides for a pedestrian friendly green landscaped link from the central park to the southern recreational park	Planting bed with seating provided on one side of the shared pathway with space for small tree planting in between verge car parking on the other side	Verge parking is provided on one side of the shared vehicle, bicycle and pedestrian pathway

## 8 Other controls

### Objectives

1. Manage the potential flood hazard and risk associated with the use and development of land within the floodplain
2. Provide for appropriate management of flooding to ensure that there is no increase in flood impacts around the site
3. Incorporate water sensitive urban design measures in the management of stormwater.
4. Establish a riparian corridor that supports a range of biodiversity, hydraulic and recreational outcomes.
5. Ensure that the realignment of North Corrimal Creek provides for the long-term stability and functioning of the creek.
6. Ensure that the land is suitable for its intended use
7. Ensure that earthworks are managed in an appropriate manner.

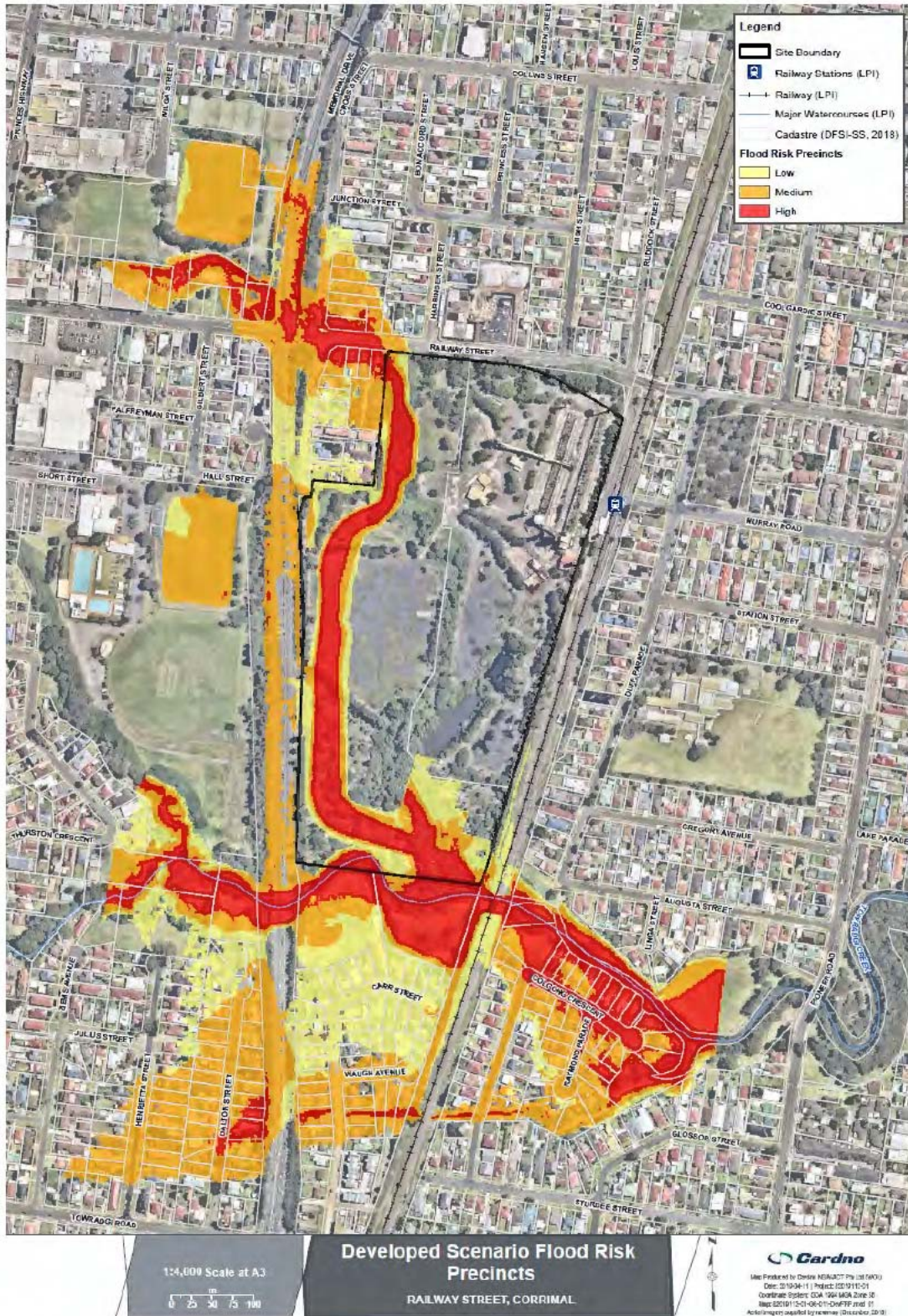
### 8.1 Flood management

#### Development Controls

1. An updated Flood Study is to be submitted with the development application for realignment of North Corrimal Creek to demonstrate that the design complies with the general parameters and flood outcomes from the Corrimal Coke Works Flood Study (Cardno, May 2019) as demonstrated in **Figure 26**.
2. Development should not detrimentally increase the potential flood affectation on other development or properties either individually or in combination with the cumulative impact of development
3. The development shall not result in any net loss of floodplain storage.
4. Provision of on-site stormwater detention (OSD) will be determined at development application stage and is to generally comply with Council's requirements
5. Vegetated Riparian Zones (VRZ) offset areas can be utilised for water quality treatment.
6. The 10m width requirement from top of bank, as outlined in Chapter E23 Clause 6.2 Table 2 and Clause 6.2.2 can be varied on the site, in cases where the realigned creek adjacent to Cross Street Residential dwellings will not result in any adverse impact upon the functions of the riparian corridor or any adverse flood hazard risk or other hazard risk, and in this situation Council may consider a variation to the minimum property offset.

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Figure 26 Flood Management



## 8.2 Stormwater management

### Development Controls

1. A detailed stormwater drainage concept plan together with relevant calculations is required to be submitted with any Development Application for construction of roads and drainage.
2. The site stormwater management drainage will include directing appropriate flows to the gully through the ecological area in the south.
3. The proposed stormwater drainage system must incorporate water sensitive urban design techniques, wherever possible, in order to minimise runoff and restrict discharge from the site. This may be achieved by using grass swale drains, biofiltration, bio-retention basins, detention ponds, reuse systems and retention of natural watercourses including wetlands and pool and riffle zones. Other stormwater quality improvement measures such as artificial wetlands, sedimentation basins and gross pollutant traps or trash racks may also be provided to facilitate the removal of sediment and other pollutants.

## 8.3 Riparian corridor geomorphology and stability

### Controls

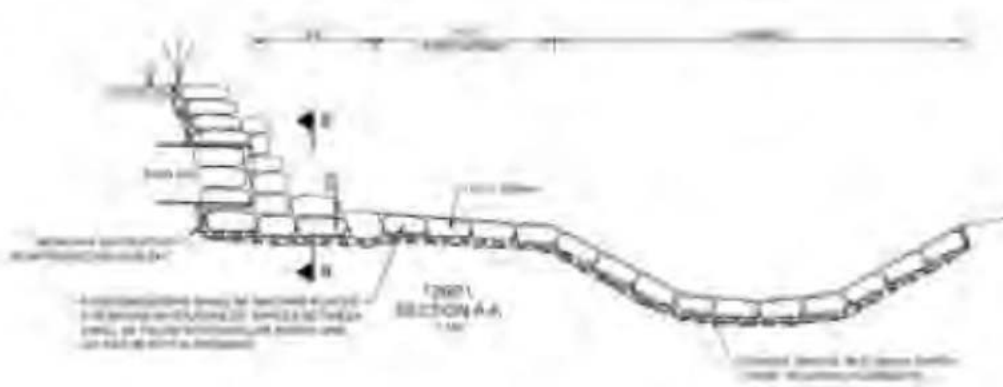
1. An average longitudinal grade of 1% (generally ranging from 0.5-1.1% and allowing for features such as riffle zones and drops etc)
2. A micro channel ranging in width from 1-15m and wherever practical the low flows channel shall concentrate on either side of that channel, and be generally consistent with Figure 30. The micro channel should meander and include options to:
  - > Establish a pool – rock step morphology with rock steps constructed of large sandstone boulders. Where appropriate, the rock steps should be designed to provide opportunities for community access to the creek during low flows
  - > Provide alternating mini retaining rock structures or low rock benches along the low flow channel. Retaining rock structures should be approximately 500mm below the current design level of the macro-channel base and grade up gently in a downstream direction. These should be vegetated with dense plantings of native ground cover grasses/sedges and shrubs
  - > On outside bends, during establishment and stabilisation of all channel banks, vegetation will be used as part of the stabilising techniques.
  - > Where outside bends of the low flow channel are close to the bank of the macro-channel, there should be rock protection at the bend to prevent scour at the toe of the macro-channel bank.
3. Provide rock pitching or other hard scour protection measures where soft scour protection is inappropriate measures (e.g. stepping stones).
4. The riparian corridor shall generally have, and generally shown in **Figure 28-32** :
  - > A macro channel ranging in width from 20-80m wide
  - > An offset from top of bank (varying in width from 5-10m) along the western bank to Memorial Drive and private property
  - > The PMF shall be contained within the newly formed creek channel.
  - > Batter slopes no steeper than 1V:2H throughout, while allowing for landscape elements with an aesthetic or amenity value (eg sandstone blocks/seating walls) that are not structural or load bearing
5. All structural retaining walls to be located above PMF level. All retaining solutions would be designed by a structural engineer, comply with Council specifications and utilise natural materials (e.g. sandstone blocks or similar) to achieve the desired landscape character



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6. Western embankment to be planted with a range of native grasses, understorey shrubs and tree species with deep root structures and to be relatively low maintenance
7. For the Western Bank it is envisaged that the modified channel will have rock retaining walls and meander the centre line of the creek to create access on the western bank and cut in graded access to the channel. Retaining walls such as those shown in the below figures should be developed.

**Figure 27 Design of retaining walls**



8. Eastern embankment to combine areas of native planting with spaces and paths for creek-oriented recreational uses
9. Landscape plans to provide the specification for appropriate planting and establishment to support bank stability, riparian outcomes and compatible recreation uses.
10. All stormwater discharge from the site will be directed in a controlled manner to the creek system, limiting discharge over creek banks and directly into the micro channel.
11. The creek tie in and confluence point should avoid major disturbance and reinstate connectivity to Towradji Creek, as it creates a formed channel to an existing water course. Detailed design shall address how the tie in to the existing channel will minimise impact at the confluence and the adjacent Endangered Ecological Community (EEC).
12. The riparian land within a subdivision will be subject to a Vegetation Management Plan (VMP) to assist in establishing an ongoing management process. This VMP will include ownership, maintenance and management arrangements.

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Figure 28 Riparian Corridor stabilisation design



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Figure 29 Creek section - Amphitheatre

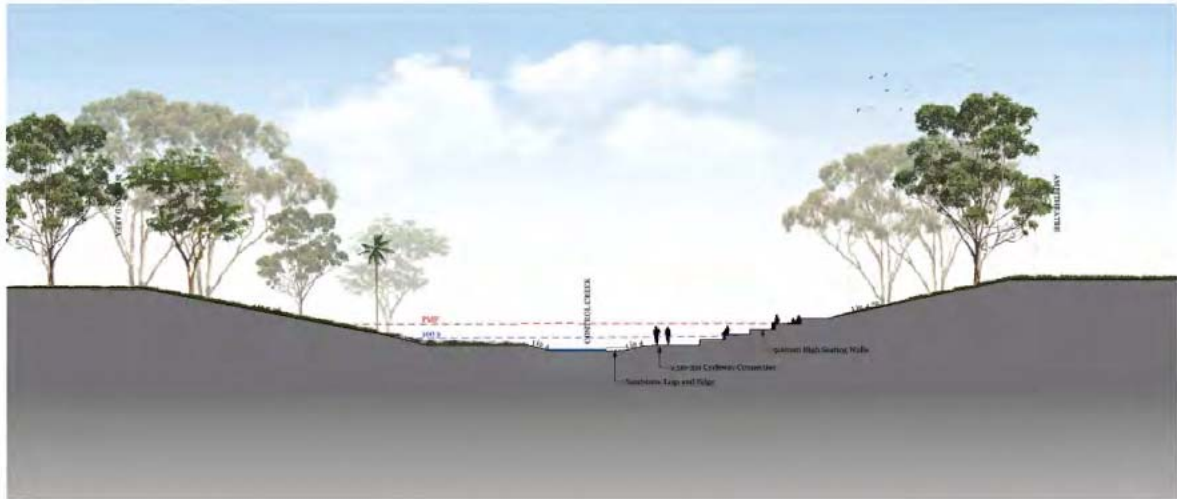


Figure 30 Bridge Section

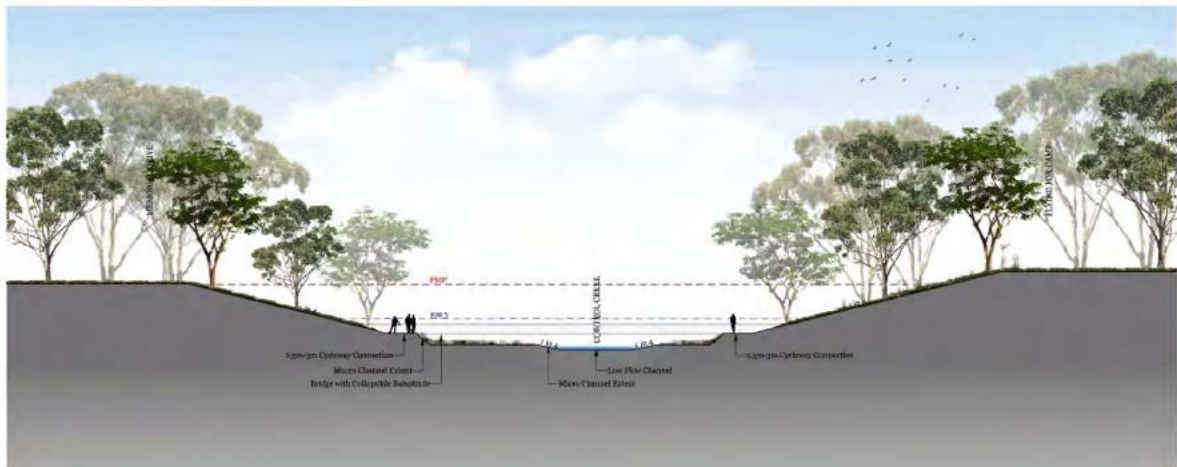


Figure 31 Southern Park Section



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**Figure 32 Illawarra Lowlands Grassy Woodland Area Section – North West**



## 8.4 Contamination and Remediation

### Controls

1. Remediation on the site should be undertaken generally in accordance with the Remediation Action Plan (Arcadis, May 2019) and under the oversight of an EPA accredited Site Auditor.
2. A Site Audit Statement is to be provided following the completion of remediation works and prior to the occupation of any residential dwelling.
3. Coal Washery Reject (CWR) can be considered as fill material at the site, and addressed as part of the remediation and proposed bulk earthworks plan.

## 8.5 Earthworks

### Controls

1. The design of bulk earthworks should result in appropriate interfaces to existing site boundaries including Railway Street, the rail corridor and Memorial Drive. Earthworks should also have regard to generally maintaining existing ground levels in the vicinity of retained heritage items.
2. Bulk earthworks should be undertaken in a manner that seeks to achieve a balance of cut and fill as reasonably possible in order to reduce the extent of fill import or export.
3. The extent of cut and fill associated with bulk earthworks should be minimised, except where associated with:
  - > Realigning North Corrimal Creek, including the new creek corridor and filling the existing creek
  - > Filling existing dams
  - > Removing substantial earth berms/bunds across the site
  - > Remediation of contaminated areas.
4. All earthworks are to be undertaken under appropriate Level 1 geotechnical supervision.
5. A waste classification shall be undertaken for any fill material to be disposed off site.

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6. Imported fill must be free from any soil contamination and accompanied by an appropriate waste classification prepared in accordance with the requirements of the NSW EPA Waste Classification Guidelines (2014) and with consideration of the Protection of the Environment Operations (Waste) Regulations (2014). All imported material must be classified as virgin excavated natural material (VENM). In restricted circumstances where deemed appropriate Excavated Natural Material (ENM) may also be accepted as long as it is in keeping with the requirements of any regulatory bodies and the proposed site use.
7. Where earthworks involve land known or suspected to be contaminated, the provisions of the Contaminated Land Management Chapter in Part E of this DCP will also apply.

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## 9 References

**Table 7** References

Report	Prepared by/author	Date
Aboriginal Cultural Heritage Assessment	Kelleher Nightingale Consulting Pty Ltd	17 May 2019
Conservation Management Strategy	Urbis	30 July 2019
Creek Realignment Stability Assessment	BG&E	19 March 2019
Supplementary information regarding creek realignment	BG&E	2 August 2019
Heritage Interpretation Strategy	Urbis	7 May 2019
Historical Heritage Assessment	Biosis	1 August 2017
Noise and Vibration Assessment	Renzo Tonin & Associates	20 May 2019
Structural Assessment of Existing Structures	BG&E	21 June 2019





12 October 2020

General Manager  
Wollongong City Council  
Locked Bag 8821  
WOLLONGONG DC NSW 2500

*Attention: Chris Stewart, Manager City Strategy*

**LETTER OF OFFER TO ENTER INTO A PLANNING AGREEMENT WITH WOLLONGONG CITY COUNCIL –  
CORRIMAL COKE WORKS**

LegPro 70 Pty Ltd as trustee for LegPro 70 Unit Trust (**Legacy**) offers to enter into a Voluntary Planning Agreement (**VPA**) with Wollongong City Council (**Council**) under section 7.4 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* in accordance with the terms of this Letter of Offer (**Offer**).

**1 Operation and Application**

The VPA will be entered into in connection with a Planning Proposal for the rezoning of the Corrimal Coke Works, prepared by Elton Consulting entitled “Planning Proposal: Former Corrimal Coke Works” dated 6 August 2020 (**Planning Proposal**).

Legacy intends to lodge development applications for the residential and mixed-use redevelopment of the Land, subject to finalisation of the Planning Proposal (**Development**).

**2 The Land**

The VPA will apply to the land generally known as the Corrimal Coke Works comprising Lot 1 DP795791, Lot 5 DP749492, Lot 126 DP598190 and Lot 11 DP749492 (**Land**).

Illawarra Coke Company Pty Limited is the landowner and agrees to be a party to the VPA in its capacity as landowner. Legacy has rights in respect of the Land.

**3 Application of sections 7.11, 7.12 and 7.24 of the EP&A Act**

The VPA will exclude the application of sections 7.11 and 7.12 of the EP&A Act to the Development.

The VPA will not exclude the operation of section 7.24 of the EP&A Act to the Development.





#### 4 Development Contributions

Legacy agrees to provide the public benefits in accordance with the Schedules **attached** as Annexure A to this Letter of Offer, subject to the Planning Proposal being made in the form as submitted to Council.

Legacy reserves the right to amend this Offer should the Planning Proposal be amended prior to its finalisation.

#### 5 Affordable Housing Contribution

The affordable housing contribution in this Offer will full satisfy the requirement to provide affordable housing as part of the Development.

The VPA will exclude the application of any future contribution or additional requirements in relation to affordable housing.

#### 6 Enforcement and security

Security will be provided through:

- registration of the VPA on title to the Land;
- inclusion of a clause allowing Council to compulsorily acquire land to be dedicated for \$1;
- restriction on the issue of relevant certificates under Part 6 of the EP&A Act prior to the relevant obligation(s) being satisfied.

#### 7 Registration

The VPA shall be registered against all the titles comprised in the Land. However, a mechanism will be required which allows for the VPA to be released from the Land in stages as relevant obligations under the VPA are satisfied.

#### 8 Limitation of liability clause

The VPA will contain the limitation of liability clause in Annexure B to this letter of offer.

Yours sincerely,



**Matthew Hyder**  
Chief Executive Officer



**LEGACYPROPERTY**

**Annexure A**

Schedule of public benefits

12 OCTOBER 2020

**Corrimal Coke Works: Schedule 1 – Defined Public Benefits and Contribution Offsets**

Item	Overview	Description	Total Public Benefit		Contribution Offset	Timing
			Land	Works		
Central Village Park	Provision of a neighbourhood scale park to provide amenity for future residents and the wider community.	<ul style="list-style-type: none"> <li>» Dedication of a minimum 3,000sqm of land</li> <li>» Embellishment works</li> <li>» 36 month maintenance period from practical completion</li> </ul>	\$1,365,000	\$1,272,128	n/a	Embellishment and dedication prior to an occupation certificate for any residential flat building in Stage 2
Southern Recreation Park	Provision of a neighbourhood scale park to provide amenity for future residents and the wider community.	<ul style="list-style-type: none"> <li>» Dedication of a minimum of 5,000sqm of land</li> <li>» Embellishment works</li> <li>» 36 month maintenance period from practical completion</li> </ul>	\$2,275,000	\$1,848,200	n/a	Embellishment and dedication prior to an occupation certificate for any residential flat building in Stage 3
Riparian corridor	Establishment of green riparian corridor providing a range of passive recreation, active transport and ecological functions.	<ul style="list-style-type: none"> <li>» Dedication of approximately 77,360sqm of land</li> <li>» Landscape embellishment works</li> <li>» Improving and enhancing retained ecological communities under Vegetation Management Plan</li> <li>» 5 year maintenance period from practical completion</li> </ul>	\$4,641,600	\$5,957,968	n/a	Embellishment and dedication prior to an occupation certificate for any residential flat building in Stage 3
Riparian Corridor shared pedestrian / cycle path	Provision of a regional pedestrian/cycling connection through the North Corrimal Creek riparian corridor	<ul style="list-style-type: none"> <li>» 2.5m shared path from Railway Street to Council reserve south of Towradgi Creek (including bridge crossings) within riparian corridor</li> </ul>	n/a	\$1,609,575	\$1,609,575	Embellishment prior to an occupation certificate for any residential flat building in Stage 3
Railway Street shared pedestrian / cycle path	Provision of shared path on Railway Street for site frontage	<ul style="list-style-type: none"> <li>» 2.5m shared path along the site frontage on Railway Street</li> </ul>	n/a	\$187,500	n/a	Embellishment prior to an occupation certificate for any residential flat building in Stage 1.

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Item	Overview	Description	Total Public Benefit		Contribution Offset	Timing
			Land	Works		
Road widening land dedication	This land is zoned SP2 Road Widening and is identified on Wollongong City Council's Land Reservation Acquisition Map.	» Dedication of approximately 2,467sqm of land (Lot 126 DP598190) for road widening (Railway Street) (facilitates future rail overpass bridge by Council)	\$1,122,485	n/a	\$1,122,485	Transfer prior to issue of an occupation certificate for any residential flat building in Stage 1
Railway Street/ Harbinger Street roundabout	Roundabout on Railway Street	» Construction of new 4 way roundabout at intersection of Railway Street and Harbinger Street (contribution offset amount represents the differential between constructing a channelised 'T' intersection and the proposed roundabout)	n/a	\$950,943	\$666,474	Prior to issue of an occupation certificate for any residential flat building in Stage 1
Station Plaza public access	Provision of permanent public access through the development to Corrimal station, delivering improved connectivity and promoting increased public transport use.	» Creation of public easement/right of way across Station Plaza providing public access to railway station » Embellishment works (excluding cost of major heritage restoration and interpretation elements) » Contribution offset represents 25% of the total embellishment cost reflecting broader public benefit » Any connection through rail corridor subject to approval of RailCorp	n/a	\$3,068,035	\$767,009	Prior to occupation certificate on adjoining development site to the south.
Affordable Housing	Facilitating the delivery of affordable housing within the site to meet Wollongong City Council's 5% target.	» Sale of land to a registered Community Housing Provider to allow delivery of a minimum of 35 affordable rental housing dwellings. » Restriction on title for affordable housing use in accordance with Affordable Rental Housing SEPP.	n/a	n/a	n/a	Prior to issue of an occupation certificate for any residential flat building in Stage 2
<b>TOTAL</b>			<b>\$9,404,085</b>	<b>\$14,894,349</b>	<b>\$4,165,543</b>	

12 OCTOBER 2020

**Notes:**

- The Offer is conditional of finalisation of the Planning Proposal as submitted to Wollongong City Council. Legacy Property reserves the right to amend the Offer if the Planning Proposal is amended.
- The VPA will exclude the application of any further contributions under Section 7.11 and 7.12 for development of the site.
- The affordable housing contribution proposed in the VPA will fully satisfy any requirement for affordable housing in the project and will exclude the application of any future affordable housing contribution to the project (including but not limited to any contribution proposed under SEPP 70).
- The current scope and costs for proposed VPA items are based on concept plans at the rezoning stage. It may be necessary to review and amend the scope and associated costs as the design is developed through the development application process.
- The early handover and completion of maintenance periods may be considered in future, subject to negotiation of appropriate arrangements such as the provision of a monetary contribution in lieu of ongoing maintenance by the developer.
- Adopted land values, based on MMJ valuation (April 2019), as follows:
  - Road widening, central park, southern park and active/fully usable riparian corridor land - \$455/sqm
  - Ecological areas and passive riparian corridor land - \$60/sqm(updated valuation to be prepared prior to execution of VPA)

12 OCTOBER 2020

**Corrimal Coke Works: Schedule 2 – Scope of Embellishment Works**

The scope of embellishment works will be generally in accordance with existing landscape concept plans (prepared by Clouston Associates) subject to future development applications, and as outlined below:

Item	Scope
1	<p><b>Central Village Park</b>  <i>Site Preparation/Earthworks</i> – minor preparation for construction, trim and compact sub-grade of pathways  <i>Hardworks</i> – 1.2m concrete path, Paving, Soft fall  <i>Soft works</i> – turf zone, native grasses and shrubs (6/sqm), advanced trees 48 off  <i>Play equipment</i> – Suitable for 0-6 years  <i>Furniture &amp; Fixtures</i> – Shade structure to play equipment, seating, bollards, tactile indicators  <i>Services</i> – Lighting as required to Australian Standard, 1 x waterpoint, signage  <i>Maintenance</i> – Planting establishment and maintenance 36 months</p>
2	<p><b>Southern Recreation Park</b>  <i>Site Preparation/Earthworks</i> – minor preparation for construction, trim and compact sub-grade of pathways  <i>Hardworks</i> – 1.2m concrete path, Paving, Soft fall  <i>Soft works</i> – turf zone, native grasses and shrubs (6/sqm),  <i>Play equipment</i> – Suitable for 6+ years  <i>Furniture &amp; Fixtures</i> – Shade structure to play equipment, seating, bollards, tactile indicators  <i>Services</i> – Lighting as required to Australian Standard, 2 x waterpoints, signage  <i>Community Gardens</i> – Area for planting, 1 x water point  <i>Maintenance</i> – Planting establishment and maintenance 36 months</p>
3	<p><b>Riparian Corridor</b>  <i>Site Preparation/ Earthworks</i> – Trimming and grading, sediment and erosion control during preparation, topsoil blend assumed salvaged on site, topsoil for planting assumed salvaged, trim and compact subgrade of pathways and landscaped areas  <i>Hardworks</i> – Concrete footpaths varying widths 1.2m, Concrete stage area, sandstone logs as seating to amphitheatre, Amphitheatre stairs and handrail, stacked sandstone block to rip rap zone, drop structure  <i>Walls</i> – Creek edge wall, gabion retaining wall to Northwest corner (max 1.5m high), Retaining wall to footpath edge  <i>Softworks</i> – Native grasses, shrubs and small trees (9/sqm), Turf zones, Mass planting of shrubs (6/sqm), Wetlands planting, Trees planting 50 x 45ltr, Jute mesh to creek  <i>Furniture and Fixtures</i> – Seating, balustrades, bollards, tactile indicators  <i>Services</i> – Lighting as required to Australian Standard, Power to Stage area, water points x 4, signage  <i>Vegetation restoration and management</i> – in accordance with future Vegetation Management Plan for retained Endangered Ecological Community area  <i>Maintenance</i> – Planting establishment and Maintenance 5 years</p>
5	<p><b>Shared Pedestrian and Cycle Path</b>  <i>Site Preparation/ Earthworks</i> – Trimming and grading, trim and compact subgrade of pathways  <i>Hardworks</i> – Concrete footpaths 2.5m  <i>Bridges</i> – 2 off 2.5m wide x 20m long timber and steel bridge over creek  <i>Services</i> – Lighting as required to Australian Standard  <i>Other</i> – Signage and line marking, note path terminates on the southern bank of Towradgi creek adjacent to bridge crossing.</p>

12 OCTOBER 2020

### **Corrimal Coke Works: Schedule 3 – Additional General Public Benefits**

Revitalisation of the Corrimal Coke Works will deliver a broad range of additional public benefits that have not been quantified in monetary terms and/or do not represent offsets to s7.11 or s7.12 contributions.

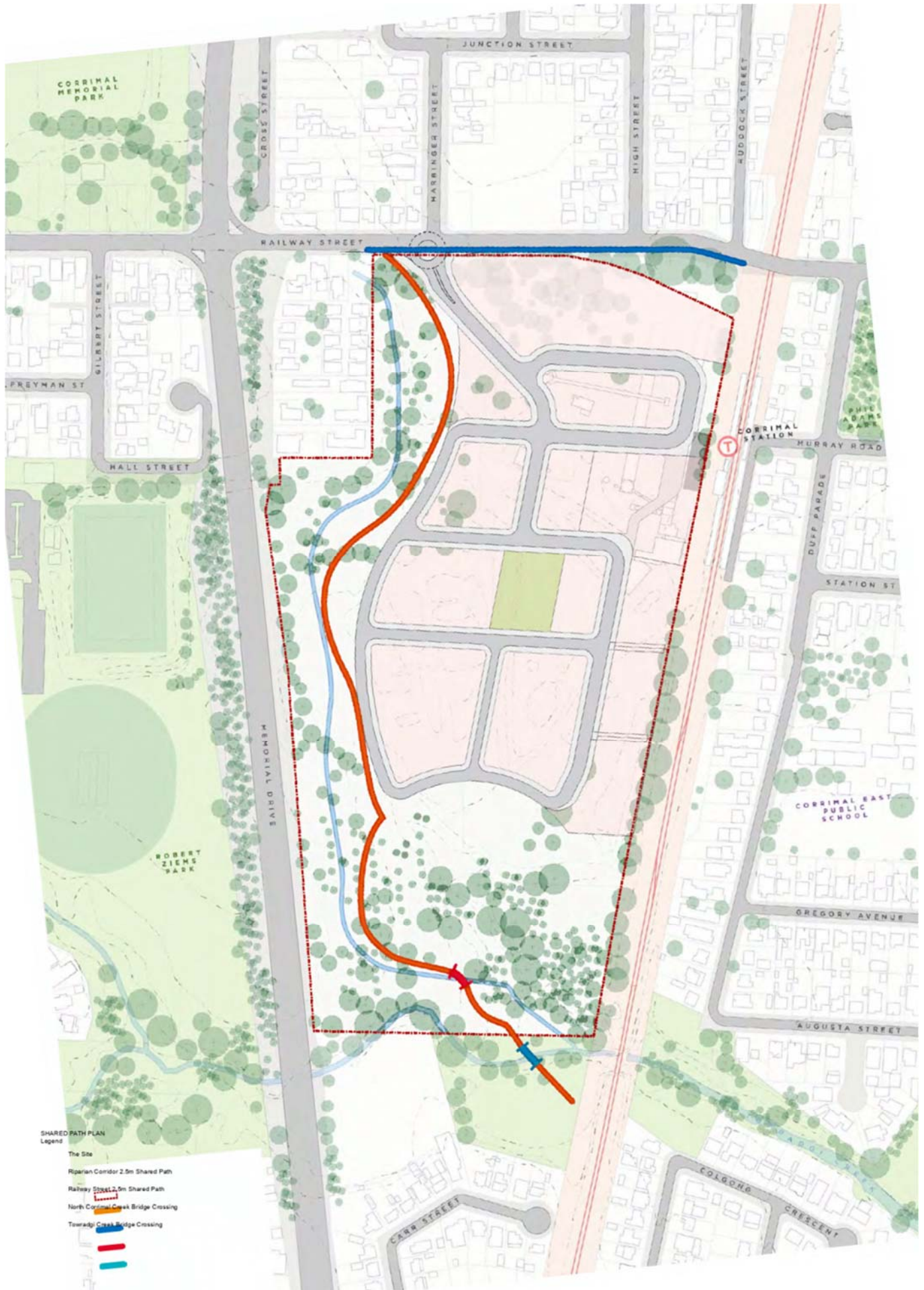
These additional public benefits include:

- Preservation and restoration of various heritage structures
- Interpretation of existing heritage structures and general history of the site, including Aboriginal heritage
- Substantial retention of existing mature vegetation along Railway Street
- Reduction in flood levels in selected locations upstream and adjacent to the site
- Increased accessibility and permeability for the Corrimal community
- New housing opportunities
- Significant restoration of environmental and biodiversity values
- Provision of neighbourhood retail services at Corrimal station











## **Annexure B**

### **(1) Definitions**

In this clause:

- (a) Trust means the Legacy Property Unit Trust (ABN 75 600 144 578); and
- (b) Trust Deed means the trust deed establishing the Trust.

### **(2) Limitation of Liability**

- (a) The Developer warrants that:
  - (i) it enters into this deed in its capacity as trustee of the Trust and in no other capacity; and
  - (ii) it is empowered by the terms of the Trust Deed or any other instrument constituting the Trust to enter into this deed in accordance with its provisions; and
  - (iii) it is entitled to be indemnified out of the assets of the Trust in respect of the obligations and liabilities assumed by it under the terms of this deed.
- (b) The Council acknowledges and agrees that, despite any other provision of this deed, any liability or obligation of the Developer arising under or in connection with this deed can only be enforced to the extent to which they are entitled to be, and are in fact, indemnified for that liability or obligation out of the assets of the Trust. This includes without limitation any representation, warranty or conduct by the Developer.
- (c) Clause 1(b) does not apply to any liability or obligation of the Developer to the extent there is a reduction in their ability to be indemnified for that liability or obligation out of the assets of the Trust as a result of the Developer's fraud, negligence or breach of trust.



7 June 2020

Ms L Davis  
Director, Planning & Environment  
Wollongong City Council  
Sent via email

Dear Linda,

Re: Affordable Housing, Corrimal Coke Works site

I am writing at the request of Legacy Property who are the developer of this important site on the understanding that they have been progressing discussions with Council about a Voluntary Planning Agreement (VPA) that would include the delivery of Affordable rental housing.

Housing Trust has a Memorandum of Understanding with Legacy Property that provides an exclusive period for the parties' to progress commercial discussions about the delivery of Affordable rental housing. The basic intent is that Housing Trust would acquire a freehold parcel within the development and design, build and manage the Affordable rental housing proposed in the VPA.

We understand the VPA contemplates 35 Affordable rental dwellings, representing 5% of the total housing stock in the development. Although we would prefer the allocation was 10-15% we are grateful that Legacy Property recognise the need for developments of this scale to make a contribution that is consistent with Council's affordable policy and planning intentions. This must include a range of structural changes and incentives if the crisis identified in the Affordable Housing Options Paper, currently on exhibit, is going to be addressed.

Tenant eligibility for Affordable rental housing is defined by the NSW Ministerial Guidelines that include an income range of approximately \$52,000 - \$72,000 for households without children, and \$89,000 - \$124,000 for households with one or more children. This cohort are often the 'key workers' who are essential to the economic and social fabric of the community. Their incomes are above the eligibility threshold for Social housing which cannot provide without assistance from the NSW Government. No such assistance is envisaged in this project.

Planning for the Affordable housing units has not commenced however Council would be aware of the design and construction quality of recent Housing Trust buildings in Eager St. Corrimal, Robert St. Corrimal and Willinga Rd. Flinders. Affordable housing is indistinguishable from market housing. We hope to integrate some of the heritage features of the site in our design, perhaps by reusing bricks or steel in architectural features.

Subject to Council's planning requirements, we anticipate Housing Trust will construct a 3-4 storey building (including a basement carpark) with a minimum 35 units with one and two bedroom layouts. A 'dual key' floorplan could be considered to provide diversity and flexibility in the configuration. Our procurement policy favours local trades and suppliers in all design, supply, construction and maintenance programs.



The Constitution, regulatory and legislative frameworks within which Housing Trust operates can be relied on by Council to ensure a freehold asset at the Coke Works will be dedicated to a charitable purpose in perpetuity. Subject to a commercial agreement between Legacy Property and Housing Trust, an affordable housing restriction could be placed on the title for 10 years as anticipated in the SEPP provisions for affordable rental housing.

Please don't hesitate to contact me if further information is required.

Yours faithfully,

A handwritten signature in purple ink that reads "Michele Adair".

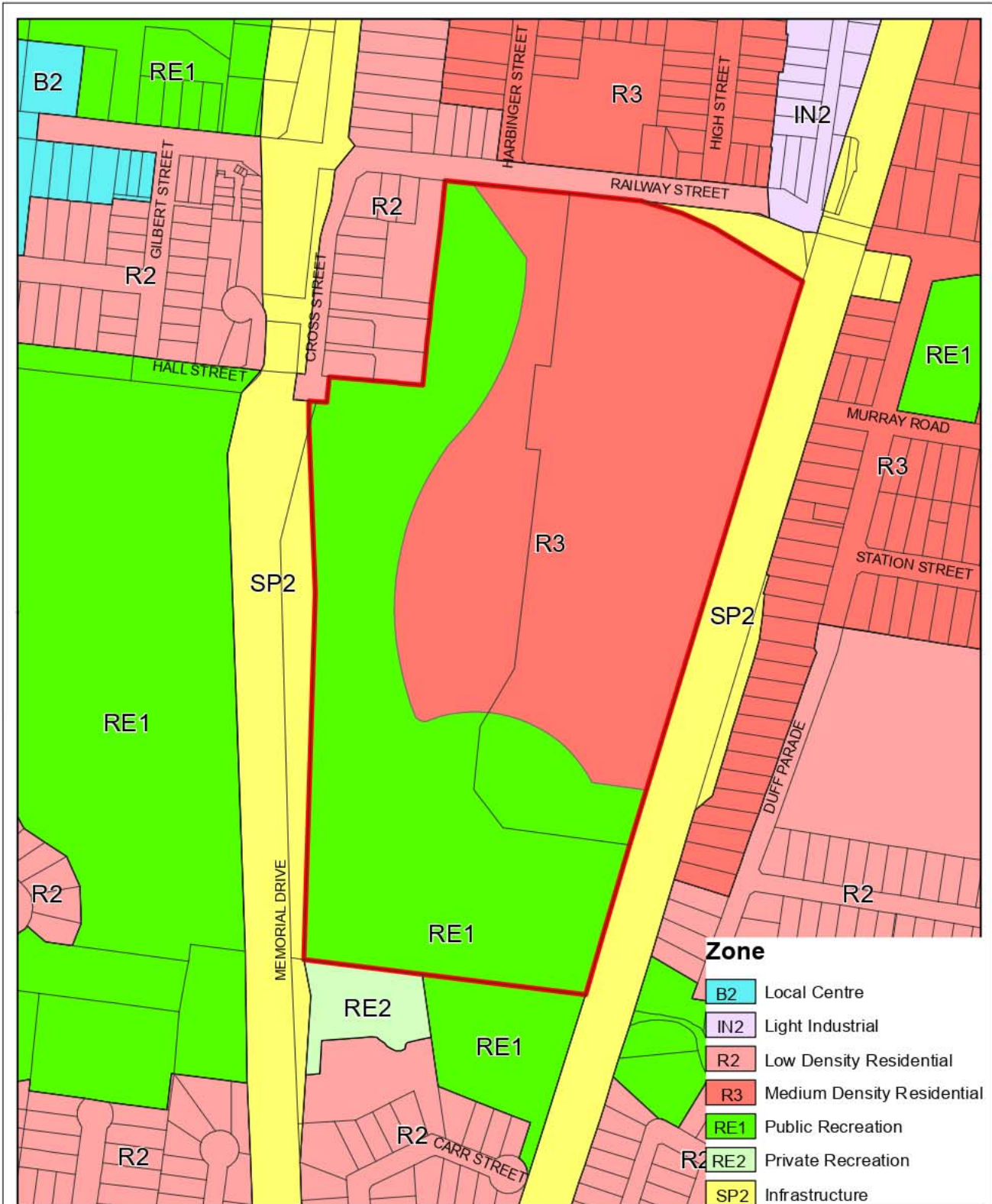
Michele Adair  
CEO

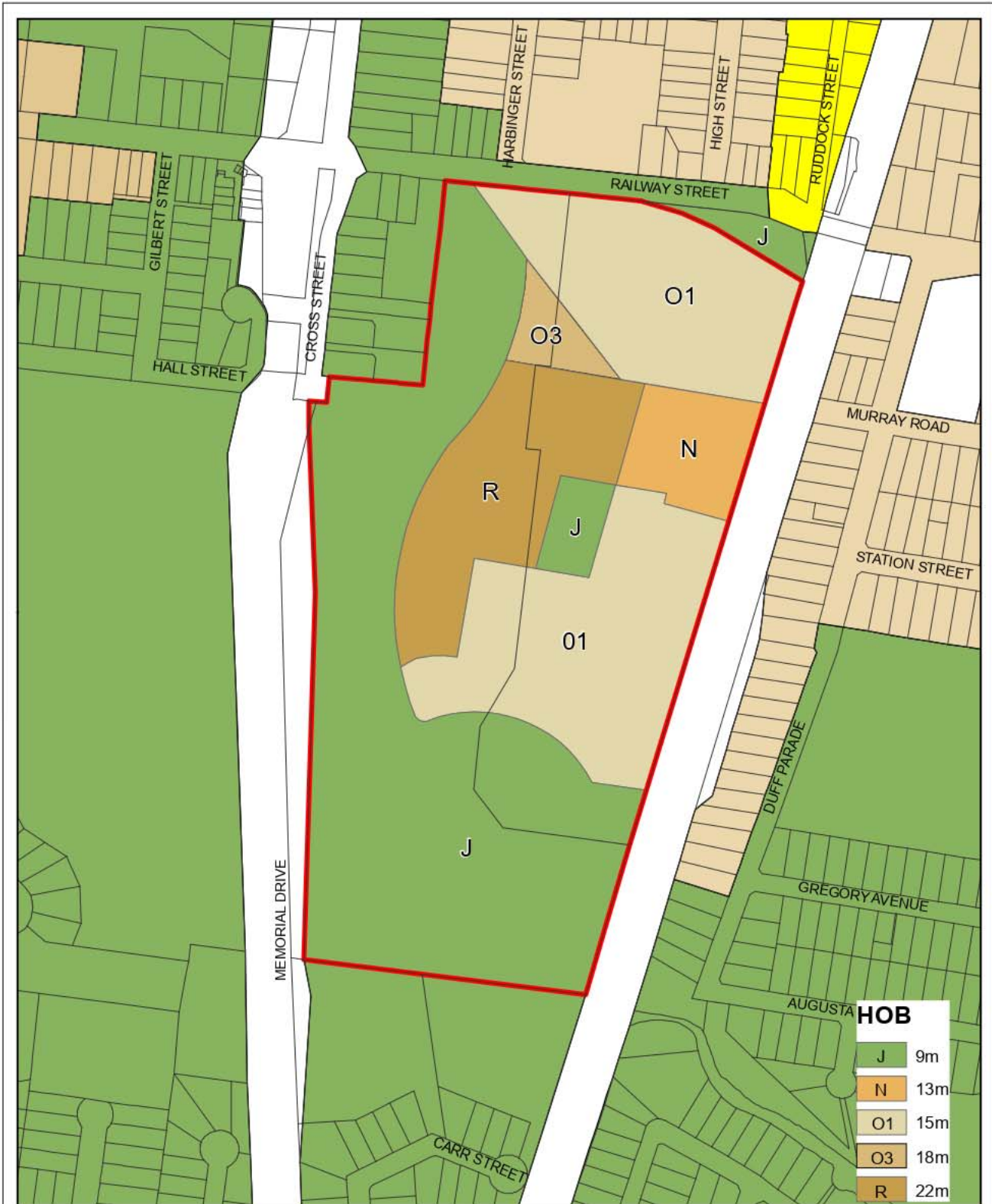
Cc Mike Williams, Legacy Property

**Housing Trust**

Level 7/5 Bridge Street, Coniston NSW 2500  
PO Box 1, Coniston NSW 2500  
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E [info@housingtrust.org.au](mailto:info@housingtrust.org.au)  
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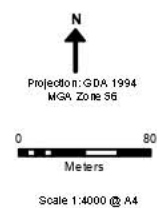
[housingtrust.org.au](http://housingtrust.org.au)

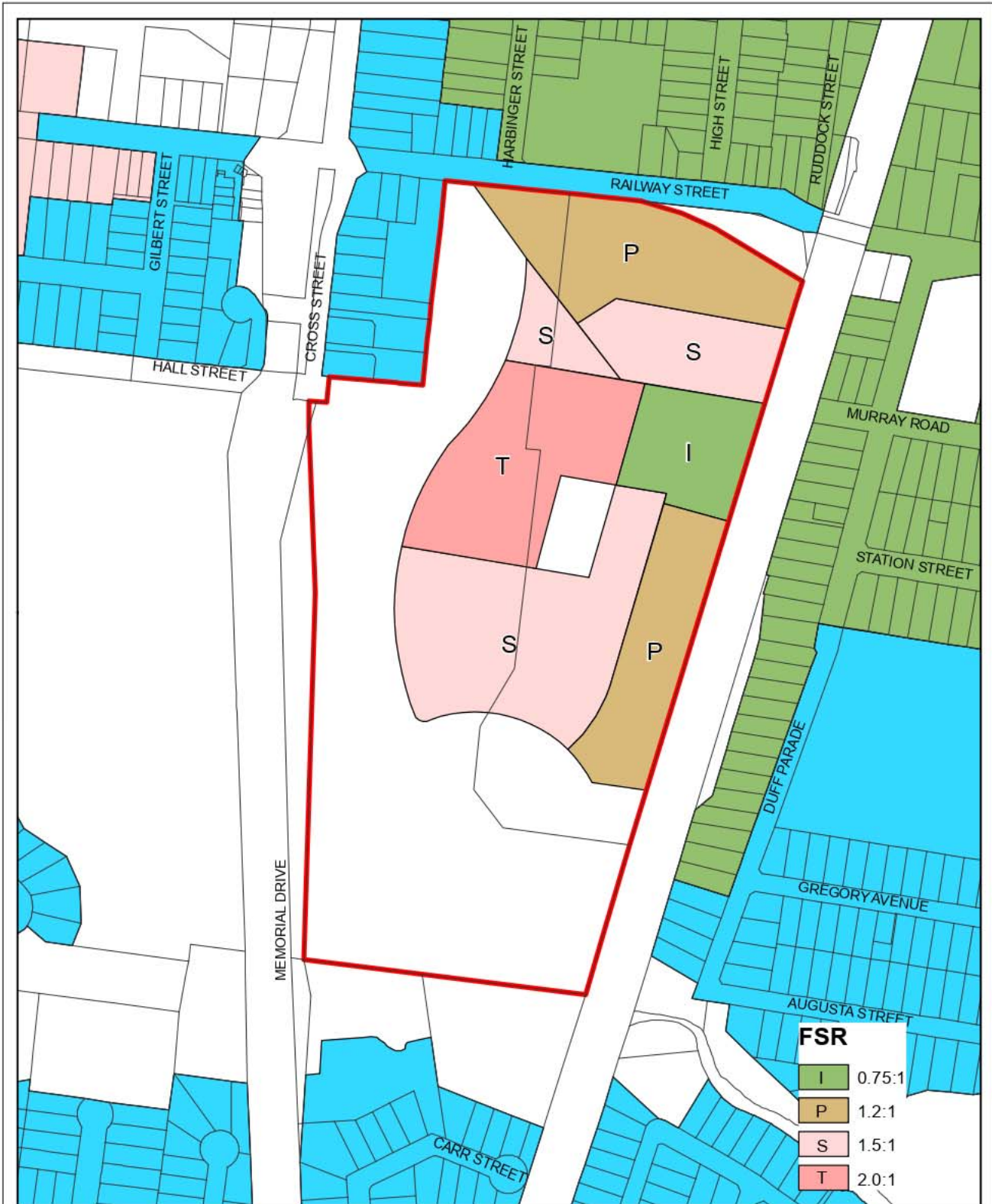




**Planning Proposal**  
**Former Corrimal Coke Works**  
**Proposed**  
**HEIGHT of BUILDING Map**

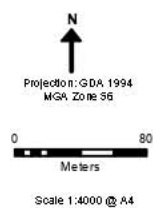
Subject Site





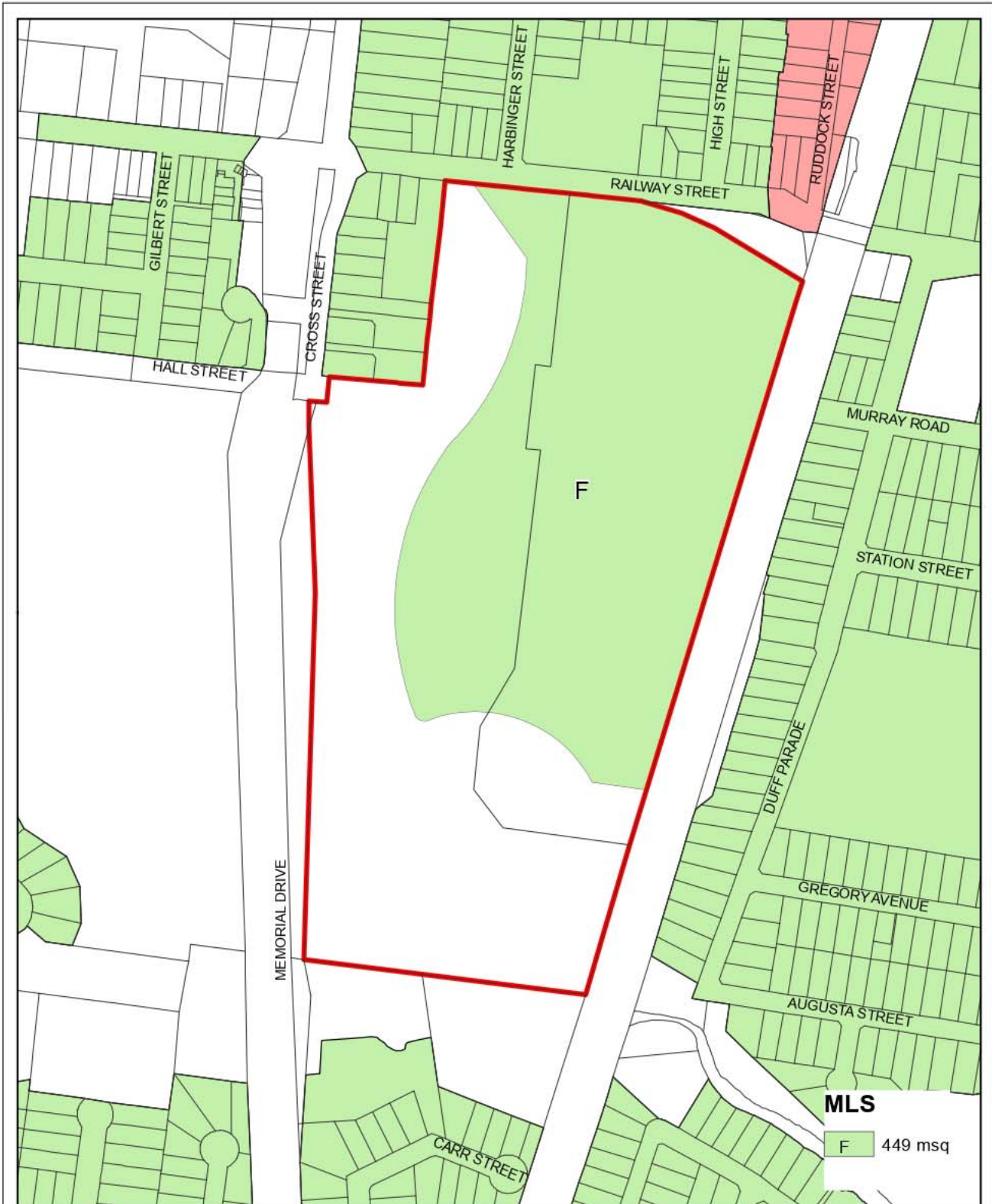
**Planning Proposal**  
**Former Corrimal Coke Works**  
**Proposed**  
**FLOOR SPACE RATIO Map**

Subject Site



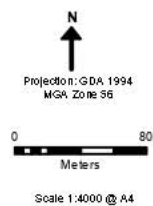
Map identification number  
CCPP AT FC 15R 12-10-20.mxd





**Planning Proposal  
Former Corrimal Coke Works  
Proposed  
MINIMUM LOT SIZE Map**

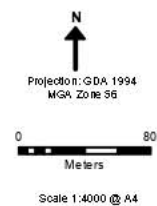
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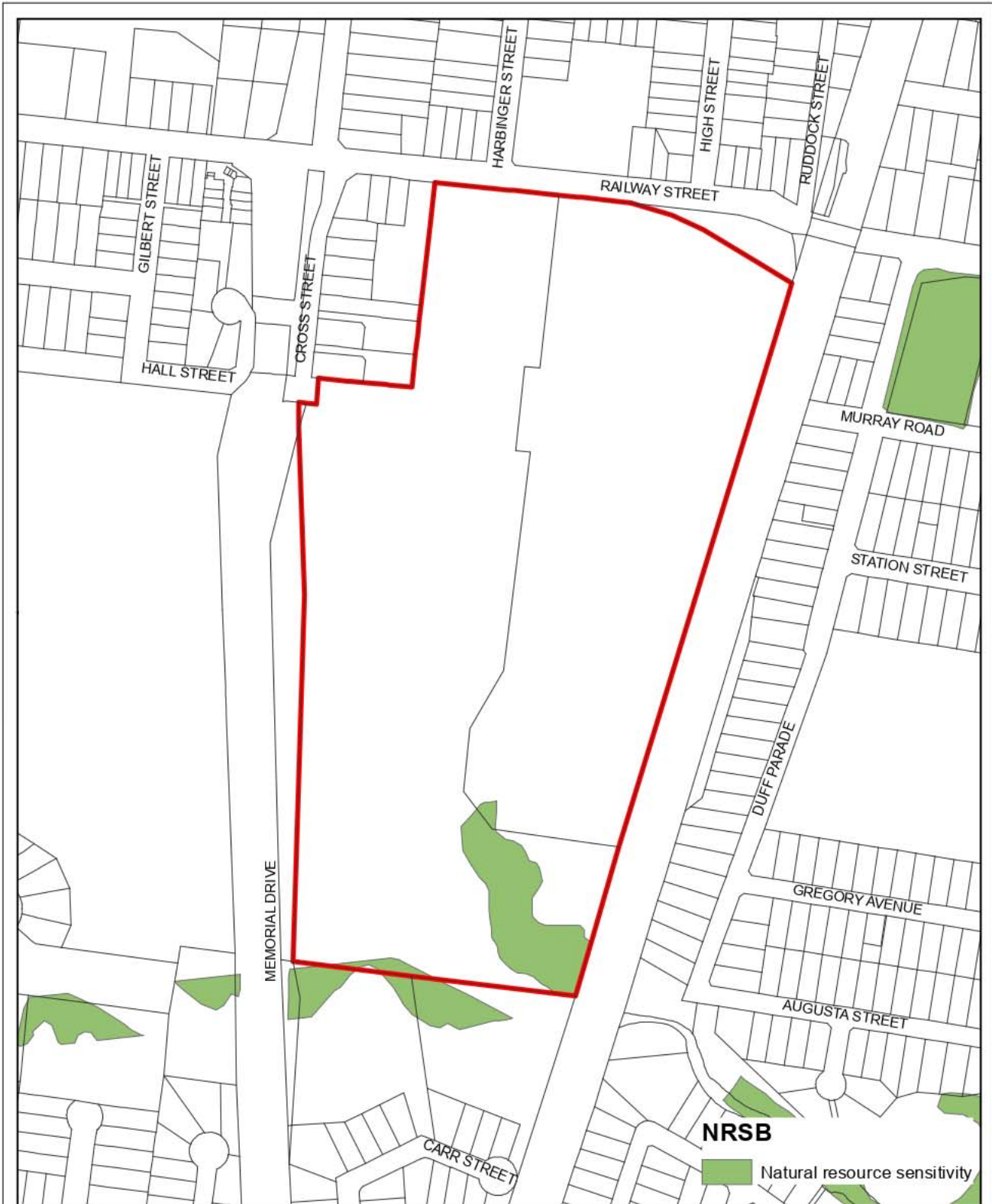


**Planning Proposal  
Former Corrimal Coke Works  
Proposed RIPARIAN LAND Map**

 Subject Site

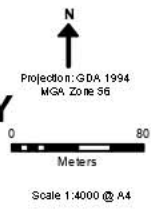


Map Identification number  
CCPP AT ICRIP 12-10-20.mxd



**Planning Proposal**  
**Former Corrimal Coke Works**  
**Proposed**  
**NATURAL RESOURCE SENSITIVITY**  
**- BIODIVERSITY Map**

 Subject Site



Map identification number  
CCPP AT ICNRSB 12-10-20.mxd

**Wollongong Design Review Panel**  
**Corrimal Coke Works, proposed Master plan**  
19<sup>th</sup> July 2019.

The panel has been engaged by Council to provide design commentary upon the proposed Master Plan and the accompanying draft Development Control Plan (henceforth draft DCP) forming part of the proposed Planning Proposal application for the site formally occupied by Corrimal Coke Works. The Panel understands that the proposed Master Plan has been provided by the Applicant as a vision for the site, which will ultimately inform the Planning Proposal to change the applicable LEP controls for the site and the creation of the site specific DCP. Therefore, the Panel understands the importance of adhering to best-practice and place-based outcomes for the site and the following comments are being issued in a cooperative spirit with the aim of achieving the expected levels of excellence for a site of this importance and significance.

In providing the below commentary, the Panel has received and reviewed Copies of the Planning Proposal, draft DCP and various supporting documents, provided to the panel prior to the meeting, visited the site (with the Applicant and Council Staff in attendance); held a briefing session with Council staff post site visit, and undertaken internal correspondence amongst panel members.

The briefing meeting with Council Staff took place at Council's offices after the site visit held on 16<sup>th</sup> July 2019; people in attendance at the meeting are listed below:

Panel

Karla Castellanos  
Marc Deuschle  
David Jarvis (Chair)

Council Officers:

Kathy Adams – Strategic Project Officer  
Jon Bridge – Senior Strategic Project Officer  
Joel Thompson – Coordinator Heritage  
Suri Mora – Senior Environmental Project Officer  
Brett Morrissey – Environmental Strategy Officer  
Gaby Kirwood – Environmental Assessment Officer  
Mathew Carden – Senior Stormwater Development Engineer  
Andrew Heaven – Development Engineering Manager – Development Assessment & Certification  
Felicity Skoberne – Design Officer - Project Delivery

Proponents:

Mike Williams – Legacy Property  
Adrian Kilburn – Legacy Property  
Jenny Rudolph – Elton Planning  
David Randerson – DKO Architecture

Nicola Traise – DKO Architecture

### Context

The 18.18-hectare site known as the Corrimal Coke Works site is located in close proximity to Corrimal centre, immediately adjoining Corrimal Railway station. Vehicular entry to the site is available only from the north edge of the site via a low-density residential street (Railway Street). The eastern edge of the site adjoins the rail corridor and the western edge of the site adjoins a busy road (Memorial Drive). An isolated pocket of low density residential adjoins the north western corner of the site. An ecologically sensitive area - a remnant community of Forest Red Gum Thin-leaved Stringybark Grassy Woodlands - that is currently home to a colony of flying foxes, is located on the southern edge of the site. A second ecologically sensitive area – a remnant community of Acacia Scrub – is located in the north-western corner of the site. The site has a high proportion of heritage-significant buildings and artefacts – remnant objects of the former use of the site, which are an intrinsic to the character of the site and history of the area.

### Site planning

The fundamental planning of the site follows logical strategies for the majority of the site however some areas require further resolution and investigation or additional clarification. The following strategies are endorsed by the panel:

- A main entry road located to connect Railway Street (and Corrimal Centre beyond) to a public plaza created around the railway station.
- The inclusion of a modest area of retail around the railway forecourt.
- The creation of precincts focusing on common characteristics and fomenting diversified cluster identity and variety across the site, which can be reinforced by the different sections of the site specific DCP.

The areas that can potentially be endorsed pending further resolution, investigation or clarification include:

- Rational street network with lanes that potentially reduce vehicular access points on the primary streets. However, the proposed street hierarchy needs to comply with Council's road carriageways, especially those regarding on-street parking widths.
- The diversion of the creek contributing to the potential for a landscaped buffer around the eastern and southern perimeters of the site. The critical issue to be clarified is what areas truly contribute to the amenity of future residents without being segregated for the sole purpose of drainage and flooding mitigation, with particular reference to the steepness of slopes.
- The inclusion of a variety of housing typologies and building heights pending further clarification on exactly how many typologies are being proposed other than RFBs and terraces. The panel received conflicting messages that there are only two types rather than the variety and number of housing types shown in the leaflet titled Incorporating Housing Types dated 06/12/18.
- Incorporation of heritage elements within the site pending the resolution of the extent of the curtilage and the number of elements that are retained.

The relevant areas that cannot be endorsed due to a lack of information or clarity are:

- The Placement of buildings across the site in relation to the level of excavation against the existing topographical levels. Detailed documentation of the resulting levels after excavation across the site is missing.

- The strategy for remediation of the contamination across the site as this might impact on the publicly accessible areas of the open space versus being contained within the private domain.
- The resolution on the proximity, scale and extent of bulk placed around the Flying Fox colony currently present on site.
- The approach to water sensitive design across the site.
- The draft DCP chapters relating to lighting, awnings, public art and signage. Should these be included specifically for the site or as variations, omissions or exclusions from the comprehensive WDCP?

The Panel is of the opinion that some of the above mentioned areas need not a mere contextual justification, but material and palpable detail development, if the potential of this site is to be successfully realised. The following comments are issued in an attempt to assist the Applicant on resolving the most relevant issues:

#### Overall character

While the idea of the creation of distinct precincts is endorsed by the Panel, it is the Panel's general concern that this principle has not been used to promote significant differences in character between the the various precincts - setbacks, street widths, landscape character and even the typology of buildings appears to be very homogeneous across the site. The creation of character cannot simply be relegated to the appearance of the buildings, but must be carried throughout all sectors of the urban form and landscape.

#### Streets

The detail resolution of each street must be considered holistically, vehicular carriage widths must meet council's minimum requirements and adequate space must be allocated to accommodate significant landscaping within each street. For this to be successful it must be co-ordinated with vehicular access to buildings, on-street parking and street lighting requirements. This is a three-dimensional exercise which must be clearly demonstrated in a site plan as well as diagrammatic sections.

The road typology suggests a bus loop road that brings people to and from the station plaza only. If the bus route followed the 'main loop' instead, with an additional stop in the southern portion of the site, the site would be better serviced by public transport.

The road currently running EW as the 'bus loop' would be a great pedestrian link between the plaza and the riparian corridor. The focal connection between these two ends should be considered, celebrating the view to the riparian landscape in the same way the chimney focusses attention towards the urban landscape.

The single point of vehicle access may create safety issues on a development of this scale. If this entry point is blocked (road works, traffic accident, fire) there should be an alternative point of access and egress. It is essential that the vehicular access point connecting to the railway carpark becomes operational.

#### Street setbacks

Clause 5.2 table 4 of the draft DCP documents street setbacks and articulation zones. It was noted that the proposed setbacks (varying from 3.5m to 5m) are significantly less than would be permissible in surrounding areas. This was justified by the applicant, due to the typology

of building being different to that of the surrounding area. Surely some of the character areas: Tree Top Escarpment, Green Edge and perhaps Village Park warrant more significant setbacks to reflect the landscape character of these precincts. The Panel makes the following recommendations:

- Civic Hub  
A setback of 4m is acceptable for residential buildings, pending an appropriate interface with the street to allow good amenity / privacy to residents whilst providing an appropriate contribution to the streetscape. This precinct will require wider streets and further development of built form to avoid the taller buildings with reduced setbacks from creating a canyon. Stepping of buildings to create a lower scale street wall contained within a generous tree lined boulevard is recommended. Detail sections and street level perspective are required to develop and demonstrate the street character. Basement areas should not be allowed to encroach into the 4m zone to ensure sufficient deep soil and space for tree root zones.
- Tree top escarpment, Creek Edge Road and Village Park.  
The character of these precincts should be notably different to the Civic Hub and more a-kin to buildings in a landscape setting. A minimum landscape zone of 6m is recommended; this area must be dedicated to deep soil landscaping. Building articulation and significant areas of hard paving should not be located in this zone. If a building is a single dwelling with vehicular access from the street, the set back must not be dominated by driveways, carpark structures and it should provide increased opportunity for landscaping. A variety of housing types i.e. single stand alone, semi-detached and attached dwellings should form part of each precinct.

Articulation zones should be clearly defined within the draft DCP as the definition of the articulation zone will likely be very different for different typologies of building. An articulation zone for a six storey RFB should be aiming to achieve a very different out-come to that of a two – 3 storey dwelling.

**Note:** The setback table is confusing when the articulation zones can encroach up to 3.5 metres into a 4m setback. The articulation zones read as though the street setbacks is as small as 0.5m. The way in which this control is written can be interpreted as delivering an unwanted or unforeseen adverse outcome. Setbacks should be kept clear of articulation zones.

The draft DCP should include diagrams in plan form to evince the desired outcome of the front setbacks in relation to how the following elements are intended to relate to each other: the provision of driveways, pedestrian footpaths, fencing, mature planting, deep soil zones, landscape strips in front of fencing, footpaths, verges and street trees. The plan diagrams should be provided for all building typologies, but especially for areas where continuous front-loading terraces or stand-alone dwellings on narrow lots are being contemplated. The Panel will not endorse garage-dominated or driveway dominated front setbacks with a lack of mature planting in the front courtyards and the street verge due to inherent conflicts with multiple driveway crossings.

#### Creek

The site's eastern and southern interfaces provide the majority of common open space within the development. Yet, the majority of these spaces seem to be unusable due to their significant grades (1:2 - 1:4). The proposed topography of the site must be clearly documented. The panel is not yet convinced that adequate set back has been provided

around the creek to accommodate meaningful common open space and adequate creek edge batters allowing future access and maintenance.

The proposed batter on the eastern side of the creek is set at a grade of 1:2. Consideration must be given to how the bank is stabilised, how access is provided for users, its visual appearance, and the ease of access for maintenance. Further to this, it should be demonstrated that flood events common to the area will not erode and significantly affect the newly-aligned creek in the future.

The neighbours adjoining the north western corner of the site currently enjoy a densely landscaped interface with the site. This will change significantly with the realignment and development of the proposed creek and associated batters. The proximity of the creek to these neighbours should be adequate to allow a landscaped buffer at the perimeter of the site. This buffer should be suitable for maintenance access when required.

### Height

Corrimal town centre currently allows a maximum building height of 15m. It must be noted that the proposal to provide significantly taller buildings (24m) on the outskirts of the centre is not consistent with a typical town centre hierarchy.

However, it is also acknowledged that the site's proximity to the railway station and its significant size create the potential for some taller building forms on this site. Justification must be provided for the proposed height in the form of a view analysis. This view analysis should be provided from distant vantage points around the site. It will assist in determining an appropriate height and the placement / extent of taller buildings on the site.

The heritage chimneys currently located on the site are prominent landmarks in this area and should remain as the dominant forms and silhouettes in the skyline visible in views across the site.

The relative level of each building should be established so the proposed relationship with the heritage chimneys is complementary and harmonious, with the relationship of these buildings within the broader context clearly represented.

### Topography

The natural topography has been altered during the site's time as a Cokes Works. The site now consists of a series of artificial mounds and valleys that would significantly restrict the development potential of the site, if retained. The proponent's strategy to level a large portion of the site, to accommodate a rational street layout is understandable.

This is a major undertaking that will have a significant impact on the proposal. It must be more clearly documented, to evince the way buildings sit within the site and relate to the railway, to neighbouring buildings, and to Memorial Drive. A site plan should be provided showing road levels, major landscape levels, creek levels, and the extent of cut and fill proposed.

Part of this process should also be to develop a strategy to accommodate contaminated fill on the site. Proposed location / strategies for dealing with contaminated fill should be clearly



shown on the cut and fill diagram. Preference should be given to this fill not being in the creek corridor or under any public spaces.

#### Built form

Further detailed information is required to document the building forms shown in the master plan. Some basic dimensions and RLs, to show how buildings relate to each other, the streetscape, and the topography of the site are required.

It must also be demonstrated that building forms shown in the Master Plan are an accurate representation of the heights and FSRs that are proposed in the Planning Proposal. The Panel, currently has no way to determine if the proposed FSR can be achieved in the forms shown on the master plan, or if the forms outlined in the site-specific draft DCP are larger than necessary to accommodate the proposed FSR. It is assumed that the Applicant has undertaken this work as part of the design process. However, this information should be provided to Council and the Panel to assist with the review of the proposal.

One observation that can be made from the information provided is that the number of storeys shown in the master plan does not match the maximum heights that can be achieved in the planning proposal. Planning proposal heights vary from 13m up to 24m which will allow buildings between 4 and 7 storeys. Whereas the Master Plan information provided to the Panel shows buildings ranging from 2 to 6 storeys. Building heights should be refined to reflect the design intent.

The typology of each building shown on the Master should also be clearly stated.

#### Clause 7.13, Basement parking (RFB)

This clause as currently proposed allows basements (less than 1.2m above ground level) to extend to the property boundary. This should be avoided in the Tree Top Escarpment and Creek Edge precincts, where the aim should be to create more of a landscaped setting. It would be more appropriate to state that basements are not to extend past the footprint of the building above.

#### Minimum lot size

A minimum lot size of 135sqm is proposed; an example of this typology of housing has been provided (DKO Architects, page 65, Rear Loaded Terrace). The 4.5m width terrace is a reasonable building typology. However, consideration should be given to increasing the area to accommodate more generous setbacks to the street (as outlined above under Street Setbacks). It will be a better outcome to limit this lot size to buildings that are serviced by rear laneways to avoid garage-dominated streets.

#### Minimum private open space

The proposed minimum area of private open space (16sqm) is less than generous. It is noted that all the dwelling type examples provided by the applicant appear to have areas of private open space in excess of 16sqm. A minimum area of 25sqm, with a minimum width of 4m is recommended.

#### Building in south eastern corner

Entrances to the buildings proposed in the south eastern corner of the site do not appear to be serviced by a street. They also appear to be proposing an at-grade external carpark that abuts the railway.

Further detail information / development is required to demonstrate that these are appropriate building forms that will contribute to the quality of the development. A landscaped buffer should be provided between the buildings and the railway. A clear process for pedestrian entry and vehicular drop-off must also be demonstrated.

#### Building length

The master plan presents a number of indicative building forms that resemble RFBs located mainly on the 'Treetop Escarpment', 'Civic Hub' and the southern part of the 'Green Edge'. These forms are indicative of potential continuous footprints over 100m long footprints in some areas. A maximum building length control is strongly recommended per precinct to further reinforce the desired character of each precinct.

#### Setbacks above street wall height

The proposed upper level setback is 3m above 5 storeys for areas shown in Figure 6 (page 21). This applies to areas of the Entry Boulevard that are shown to be in the Road Hierarchy sections as being no more than 4 storeys tall. Furthermore, no street section in the draft DCP (pages 49-55) reflects heights greater than 4 storeys, which as discussed above, is confusing as the proposed heights can allow heights of 6-7 storeys.

#### Heritage

It is understood that the site is currently under-going assessment as a state significant item. This may potentially have a significant impact upon the placement of built form, retention of existing structures and curtilage around areas of significance.

Regardless of this assessment / determination, there are laudable principles and statements in the masterplan and associated documents which should be incorporated into the site-specific draft DCP.

A new section should be created in the DCP which outlines the significance of the industrial heritage of the site and explains how significant elements must be retained – directly or in some form of interpretation.

This section should specifically highlight/catalogue all heritage items on the site and indicate the level of retention/interpretation allowed and expected for each.

#### Public Art

A new section should be created in the draft DCP which specifically quantifies and locates public artworks within the development and outlines their objectives and controls. The re-use of suitable heritage elements and site materials should be dictated as required for all such artworks. Artworks should speak to the previous heritage and the future character of the site.

For example, the landscape masterplan notes that the riparian corridor will be provided with a distinctive character by the provision of artworks using salvaged site materials. In order for this to eventuate, it must become part of the controls of the site – how many artworks, their locations, their purpose, their materiality.

Further to this, all salvaged materials and items of heritage value should be retained and registered so that they can be successfully integrated into any such artworks and also into built form, architecture and landscape architectural elements such as furniture / structures / entry statements / signage / etc.

#### Interface with ecologically sensitive area to south

The ecologically sensitive area to the south of the site will be flanked by 4-5 storey buildings forms on three sides. This area currently accommodates a camp of flying foxes. It is important that existing wildlife habitats on the site are preserved and incorporated in such a way as to ensure they can co-exist in harmony with the proposed development. The Panel will defer to council's expert as to whether the proposal will maintain a suitable habitat for flying foxes.

However, the Panel members are concerned that the proximity to the flying fox camp will create a significant level of disturbance to people living in these buildings. The bats can be extremely noisy and will inevitably generate guano either on or in close proximity to these buildings. This must be a consideration in the detailed design of these buildings. It is likely to impact the orientation of dwellings, material selection and noise attenuation.

There is a question in the Panel's mind as to why the area around this colony is being proposed for heights of 4-5 storeys when the taller heights should be located around the Civic Hub and then gradually transition down as they move away from the main height concentration.

#### Landscape

It is appreciated that the landscape masterplan at this stage is somewhat indicative. The draft DCP should reflect the specific landscape controls and objectives specific to this site in greater detail.

With regards to the landscape masterplan, it is commended that the existing communities of vegetation on the site have been mostly retained and incorporated into the design. Further to these communities, it is clear from the site inspection that there are many mature, healthy trees scattered throughout the site. Admittedly some (such as those existing on artificial mounds and surrounding the dams) may not be possible to retain; however, it is expected that all trees, not subject to such conditions, should be retained to maintain as much tree cover as possible. Assessment of their removal should be determined as part of the proposed cut-n-fill exercise and subsequently upon the DA assessment of individual lots.

The riparian corridor forms the most significant open space within the development, but it is mostly inaccessible due to steep indicative levels (1:2-1:4). More detailed levels should be provided and consideration should be given to widening some parts of the creek / corridor to allow for usable open space within this zone.

Pedestrian connections to the riparian corridor appear to be minimal and limited to the northern two thirds of the site. Given the linear nature of the corridor and its potential of connecting spaces with the site, more consideration must be given to how the site, particularly the southern part of the site, can be connected.

The Central Park is a valuable addition to the masterplan. It appears the 'built / hardscaped' spaces within the park are placed on the southern edge, however, when considering

pedestrian movement through the park and from across the greater site this may be better suited on the eastern edge.

It is commended that street tree choices being considered at this stage. All trees proposed as street trees should have a form and growth pattern suitable to this use, and their proposed location – a high canopy and clear trunk and size relative to the hierarchy of the street. It appears some tree selections do not fit this criteria and should be removed as choices. A street tree masterplan should be considered to be included in the draft DCP outlining species choice, maximum spacing, planting size and location.

#### Water-sensitive Urban Design

Inclusion of WSUD has been presented as an overarching design principle and is discussed within several of the documents associated within the masterplan. It is commended that it is being included within the development, however, this does not form part of the chapters outlined in the draft DCP.

A new section should be created in the DCP which specifically outlines WSUD objectives and controls for the site. This section should indicate the broad and specific requirements for WSUD and should include locating, and indicating what type of WSUD device is to be used.

#### Draft DCP Comments

Given the reviewed draft DCP document is in draft form, it is expected that many of the general comments will be edited prior to the final review issue of the draft DCP.

Generally:

- Many sentences are overly long and difficult to comprehend. Further punctuation and breaking long sentences into several shorter sentences may help clarify the purpose and content.
- Several Principles or objectives do not direct the reader adequately leaving the interpretation of the principle open: e.g. p9 '*Dwelling Diversity and Innovation*'; could read instead '*Establish Dwelling Diversity and Innovation*' to clarify intent.
- Section 3 - Vision and Development Concept – may benefit from a clear set of diagrams outlining the major principles and major site moves as an introduction to the entire development.
- The existing character of the site should be further elaborated, p11.
- The character of the existing site, and the proposed precincts, should be strongly defined in the draft DCP – this is currently not the case with character statements not adequately describing the character.
- The Character Controls (4.2.1 – 4.2.5) need refinement to become actual controls. Remove 'Desired and Future' from title. The desired future character should talk more about actual character – several inclusions are principles or objectives – character is different. The precincts' character could be defined consistently by talking about the existing character to be retained, the built form character, and the landscape character phrased as controls.
- Instead of table 1 outlining superseded chapters, could this be covered specifically in each section of this DCP to be less confusing? For example, the first sentence in each specific section outlines whether the general DCP applies / does not apply / or is supplemented by the site-specific draft DCP.

- Plans of the streetscape character per building typology or streetscape should be included.
- Street sections need to reflect the intended number of storeys and upper level setbacks.

### **Summary**

The Panel strongly recommends the draft DCP to be further resolved in order to provide Council and the surrounding community with a level of certainty that the proposed Master Plan can be delivered once a number of issues are resolved satisfactorily. It is the Panel's general opinion that given the site's proximity to Corrimal Railway Station, a varied and robust mix of dwelling types combined with a modest retail offering could potentially provide a positive contribution to this area. The draft DCP should aim to provide guidance and become a real tool for Council and the Panel in the assessment of future DAs on the site. However, for this aim to be realised, further detail information and development of the following issues is essential:

- Refine street interfaces
- Clear documentation of proposed building envelopes (relate proposed FSR to Master Plan forms)
- Building height to be changed to relate to the building height shown in the Master Plan.
- Further justification of proposed height in the form of a view analysis, then development of built form to respond to this analysis.
- Clear documentation of site levels (including but not limited to cut and fill diagram).
- Increase of minimum lot size and private open space.
- Clarification of the Heritage state significance of this site.
- Detail clarification of creek, embankment and associated areas of communal open space.
- More specific control and objectives generally within the draft DCP including additional sections as outlined above.



**REPORT PREPARED BY**

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ISSUE	DATE	PREPARED BY	REVIEWED BY	COMMENT
P1	14.08.19	NT	DR	DRAFT
A	15.08.19	NT	DR	FOR SUBMISSION
B	04.09.19	NT	DR	FOR SUBMISSION
C	10.02.20	PP	DR	FOR SUBMISSION
D	23.09.14	JY	PP	FOR SUBMISSION

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11	View 2	20	View 10
12	Alternative View 2	21	View 11
13	View 3	22	View 12
14	View 4	23	View 13
15	View 5	24	View 14
16	View 6	25	View 15

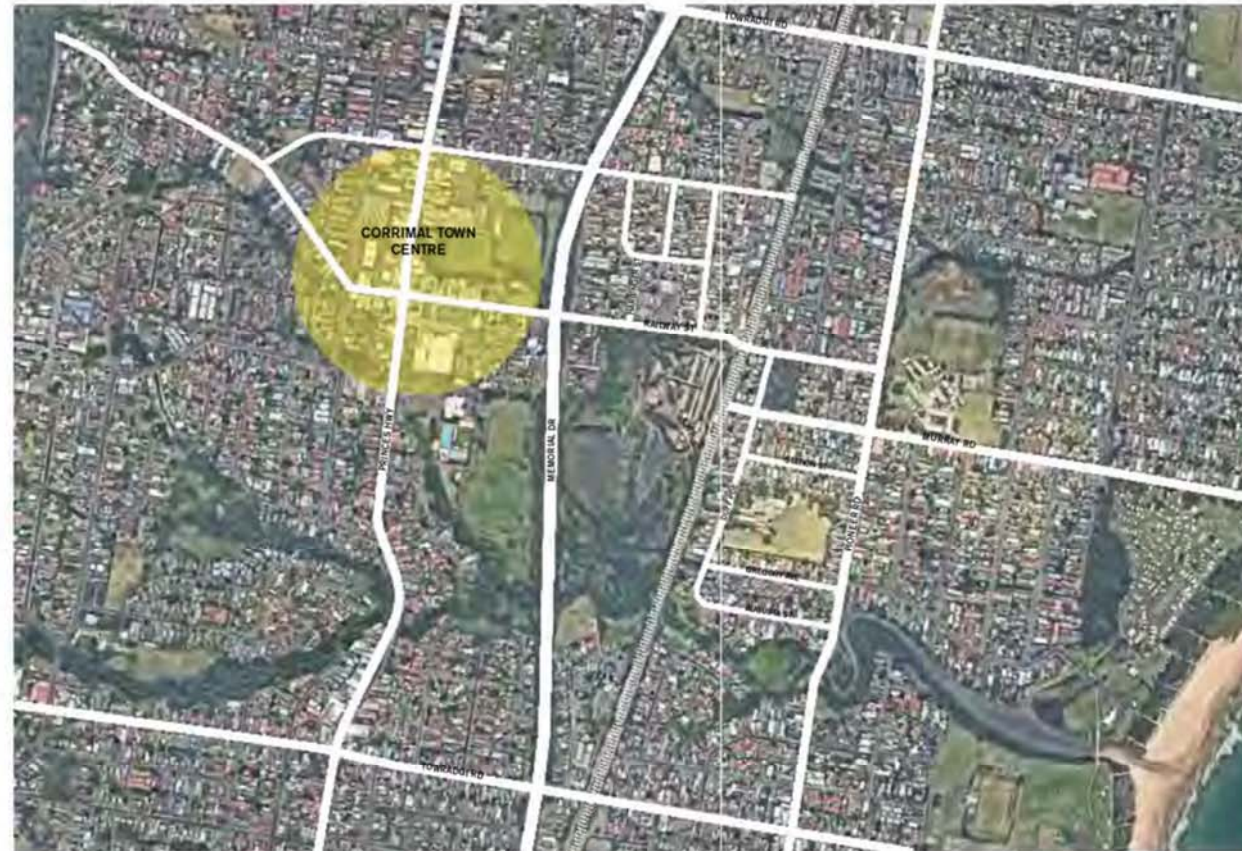




INTRODUCTION

This view analysis has been prepared on behalf of Legacy Property and Illawarra Coke Company to demonstrate the impacts of proposed built form on the Corrimal Coke Works site.

The report includes of site photographs to analyse of existing visibility of elements on the site, as well as photomontages to show the visibility and impact of the proposed development envelopes on these views.



**INTRODUCTION**  
**VIEW SELECTION & METHODOLOGY**

A series of view locations were selected to illustrate potential view impacts for key areas surrounding the site, notably from existing lower-rise residential areas and towards Corrimal town centre. A key focus was to consider potential impacts on westerly views towards the escarpment from areas to the east of the site. All view locations were within the public domain.

From an inspection of surrounding areas it is evident that, while the features of the site notably the chimneys are prominent in selected locations, existing vegetation and other built elements create significant visual buffers that obscure many views to the site.

Photographs were taken from selected view locations at eye height using an appropriate lens to obtain images that reflect a human's perspective and view of the site.

The 3D model used to generate the photomontages represents building envelopes based on the proposed maximum LEP height limit and are therefore representative of the extent of view impacts. The presence of existing chimney structures on the site also provides a benchmark to ensure that the representation of building heights is accurate.

It is also important to note that the photomontages present solid building envelopes. In this regard, the visibility of proposed envelopes is more pronounced and does not reflect the benefit of a mixed palette of appropriate materials and colours, as well as build articulation, that will ultimately be delivered.



INTRODUCTION  
SELECTED VIEWS



INTRODUCTION  
SELECTED VIEWS



INTRODUCTION  
SELECTED VIEWS



INTRODUCTION  
SELECTED VIEWS



**VIEW 1  
MURRAY ROAD**

View 1 is taken from the footpath on the southern side of Corrimal High School on Murray Road, approximately opposite 55 Murray Road.

The quenching towers and C2S stack (not proposed to be retained) are the most clearly identifiable, with the brick chimney slightly obscured by surrounding street trees.

The photomontage illustrates that the development generally sits within the context of existing vegetation and built elements, and the impact are considered negligible. Importantly, the view to the escarpment remains largely uninterrupted.



EXISTING



PROPOSED

**VIEW 2  
MURRAY ROAD**

View 2 is taken from the footpath on the southern side of Murray Road, approximately in front of 87 Murray Road.

This position has a clear view to Corrimal train Station, with the brick chimney stack (to be retained), quench towers and C2S stack (not proposed to be retained) also clearly visible.

The view impacts at this location are slightly increased, due to the closer proximity to the site, and there is some loss of the escarpment view. However, a significant portion of the proposed built form is obscured by existing mature trees and importantly, the escarpment and ridge line remain prominently visible so this important landscape connection is maintained.





**ALTERNATIVE VIEW 2**  
**MURRAY ROAD, VIEW FROM**  
**OPPOSITE SIDE OF THE STREET**

An alternative View 2 is proposed from the footpath on the Northern side of Murray Road, approximately in front of 87 Murray Road.

This position has a clear view to Corrimal train Station, with the brick chimney stack (to be retained), quench towers and C2S stack (not proposed to be retained) also clearly visible.

This view highlights one of the big changes in the masterplan which is to align the masterplan with visual corridors. From Murray Road, there is a direct visual connection to the escarpment through the masterplan.



**VIEW 3  
RAILWAY STREET EAST**

View 3 is taken from the footpath on the southern side of Railway Street, approximately in front of 19 Railway Street.

The northern chimney stacks are the most visible existing elements on the site, while existing mature vegetation obscures further views into the site. The closest northern stack is proposed to be retained.

The photomontage indicates that there are negligible view impacts, with only filtered views to the built form through existing vegetation, and the building height limit sits below the tree line. The closest stack, being the C1N stack, is proposed for retention and will remain the most prominent visual element from this location.



EXISTING



PROPOSED

**VIEW 4  
HARBINGER STREET**

View 4 is taken from the road verge on the western side of Harbinger Street, approximately in front of 1 Harbinger Street and the intersection of Harbinger Street and Junction Street.

Views to the site are largely obscured from this position by the new residential flat building under construction on the former Corrimal Leagues Club site. The only clearly visible elements are the tops of the northern metal chimney stacks, as well as existing vegetation at the end of Harbinger Street.

There are no view impacts from the proposed development at this location.



EXISTING



PROPOSED

**VIEW 5  
RAILWAY STREET WEST**

View 5 is taken from the footpath on the northern side of Railway Street, approximately outside 108 Railway Street. This view is representative of the site's visibility from the Corrimal town centre.

Despite being situated at a higher ground level than the site, the majority of the site is not visible from this position, being mostly obscured by the tree canopy and built form in the foreground. The most distinctly visible site elements are the top sections of existing chimney stacks.

The photomontage shows there would be minimal visual impact from this position, with the maximum building envelopes only just visible above the built form and tree canopy. The retained brick chimney and C1N stack will retain prominence as the visible site elements.



EXISTING



PROPOSED

**VIEW 6  
RAILWAY STREET WEST**

View 6 is taken from the footpath on the northern side of Railway Street, approximately opposite 51 Railway Street.

As this position sits lower than View 5, the site and its existing elements are hardly visible as they are obscured by existing vegetation and tree canopy. Only a very small portion of the northern chimney stacks are visible.

There are no view impacts from the proposed development at this location.



DKO ARCHITECTURE



EXISTING



PROPOSED

**VIEW 7  
MEMORIAL DRIVE**

View 7 is taken from the eastern footpath on Memorial Drive, adjacent to approximately 2 Hall Street.

There is limited visibility of the site and existing elements, due to existing vegetation filtering the view. The solid fence sitting in front of Cross Street also limits visibility of the site.

The photomontage indicates that there are minimal visual impacts in this location, with a small portion of built form visible and significantly filtered by existing vegetation. The building heights sit well under the tree line and only just above existing built structures.



**VIEW 8  
ROTHERY STREET RAIL BRIDGE**

View 8 is taken from the southern footpath in approximately the centre of the Rothery Street Rail Bridge.

With the elevated height of the bridge, the existing vertical built elements on the site are clearly visible above the horizon line, with the escarpment beginning to rise up West of the site. The brick chimney stack sits prominently adjacent to the rail and visual corridor looking South towards the site.

With the ground level of and subsequent perspective from this view, the proposed building envelope can be seen above the surrounding built fabric and vegetation. While the heights appear close to that of the brick stack, it remains clearly identifiable.



EXISTING



PROPOSED

**VIEW 9  
8 STATION STREET**

View 9 is taken from the centre of Station street, in front of approximately number 8 Station Street.

From this position, the brick chimney stack is the most prominent element, sitting almost in line with the northern edge of the road and existing built form setbacks along it. The quench towers and C2S stack (not proposed to be retained) also are clearly visible. These vertical elements sit slightly higher than the escarpment which is slightly visually filtered by existing vegetation

As this view has the second closest proximity to the site and the higher portions of proposed built fabric, the view impacts from this location are slightly increased with some loss of the escarpment view and the proposed heights sitting above it. However, the upper ridge line of the escarpment and brick chimney stack remain prominently visible so these important visual connections are maintained.



DKO ARCHITECTURE



EXISTING



PROPOSED



**VIEW 10  
25 STATION STREET**

View 10 is taken from the centre of Station Street, approximately outside 25 Station Street.

The quenching towers (not proposed to be retained) and brick chimney are the most clearly identifiable elements on the site, sitting above the surrounding built fabric and vegetation. The escarpment is clearly visible also.

As illustrated by the photomontage, the proposed maximum building envelope sits above but generally in context of the surrounding built fabric. Importantly, it sits below the height of the brick chimney stack and the line of the escarpment, thus not impacting or interrupting their visual significance.



EXISTING



PROPOSED

**VIEW 11**  
**29 GREGORY AVE**

View 11 is taken from the centre of Gregory Avenue, approximately outside 29 Gregory Avenue.

No existing built elements on the site are visible from this position and perspective. Views to the escarpment are significantly filtered by large existing trees along Duff Parade and within the lots along Duff Parade, as well as the higher existing built fabric in the foreground.

The photomontage shows that only glimpses of the maximum proposed building envelop are visible behind this significant vegetation. It can be seen that the proposed heights sit below and do not impact the visual connection to the escarpment line. Hence, it is considered there is only a minor visual impact.



EXISTING



PROPOSED

**VIEW 12**  
**5 GREGORY AVENUE**

View 12 is taken from the centre of the road outside approximately 5 Gregory Avenue.

Looking directly West at this position, the existing vertical built elements on the site are not visible. There is a clear view to the escarpment, and the significant vegetation along the site's perimeter screen views into the site.

As shown in the photomontage, very little of the proposed building envelope can be seen, with only a small portion visible above the tree canopy. Given this and there being no impact of the view to the escarpment, there is only minor visual impact from this position.



EXISTING



PROPOSED

**VIEW 13**  
**32 AUGUSTA STREET**

View 13 is taken from close to the middle of Augusta Street, approximately outside 32 Augusta Street.

No existing built elements on the site can be seen from this position. The escarpment is visible above the surrounding built form and vegetation in the foreground but is more filtered.

There is no impact on views to the escarpment.



EXISTING



PROPOSED

**VIEW 14**  
**3 AUGUSTA STREET**

View 14 is taken from the southern road verge on Augusta Street, approximately outside 3 Augusta Street.

There is a clear view of the escarpment looking West from this position and no existing built elements on the site are visible. The vegetation around the site screens visually connectivity to and through it.

There is no visual impact with clear views to the escarpment maintained.



DKO ARCHITECTURE



EXISTING



PROPOSED

**VIEW 15  
TOWRADGI ROAD RAIL BRIDGE**

View 15 is taken from the northern footpath in approximately the centre of the Towradgi Road Rail Bridge.

The existing vertical built elements are clearly visible sitting in line with the escarpment line, and above the substantial vegetation canopy. The brick chimney stack is visible but less prominent due to the vegetation in front of it.

From this position, a top portion of the proposed maximum building height envelop can be above the canopy line but sits below the escarpment line. It also sits below and does not impact the visibility of the brick stack hence it is considered to have a minimal visual impact.



DKO ARCHITECTURE



EXISTING



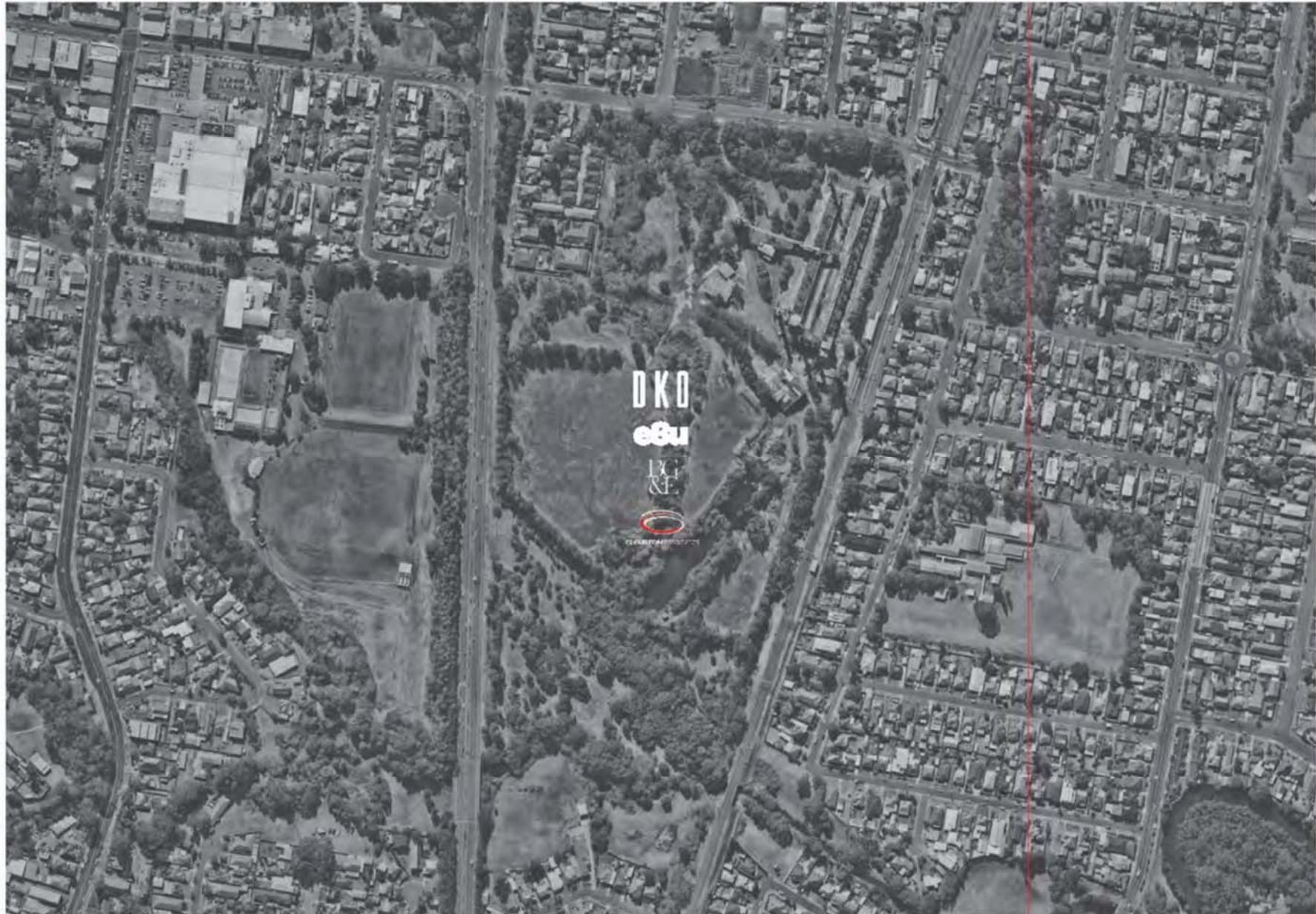
PROPOSED

**CONCLUSION**

To conclude the findings of the visual analysis:

1. The proposed built form does not inhibit any significant or primary views, and in many cases, existing vegetation or built elements provide a visual buffer to the site and the future built form.
2. The proposed built form allows the brick chimney and C1N stack to remain visible from all locations
3. Key locations east of the site retain views of the escarpment.
4. View 2 and 9, representing the closest positions to the site where the proposed built form is more visible, demonstrates that key views to the escarpment and brick chimney are retained.
5. The photomontages demonstrate that the proposed built form has low to negligible impacts on existing views.







**VIEW 1  
MURRAY ROAD**

View 1 is taken from the footpath on the southern side of Corrimal High School on Murray Road, approximately opposite 55 Murray Road.

The quenching towers and C2S stack (not proposed to be retained) are the most clearly identifiable, with the brick chimney slightly obscured by surrounding street trees.

The photomontage illustrates that the development generally sits within the context of existing vegetation and built elements, and the impact are considered negligible. Importantly, the view to the escarpment remains largely uninterrupted.



**Overshadowing Study:**

Between the hours of 9am - 3pm on June 21st, the Central and Southern Park shall receive more than 4 hours of solar access to at least 70% of its area

	9am	10am	11am	12pm	1pm	2pm	3pm
Central Park	✗	✓	✓	✓	✓	✓	✗
Southern Park	✓	✓	✓	✓	✓	✓	✓

Central Park 4hrs > 70%  
Southern Park 6hrs > 70%



June 21st

9am



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Surry Hills, NSW 2010  
ABN: 81959706590  
NSW: Nominated Architects  
Kees de Keijzer 3/67  
David Randerson 8/42

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Project Name Corral Coke Works  
Project Address 27 Railway Street,  
Corral, NSW 2518  
Client Legacy Property  
Date August 2020

Project Number 11877  
Drawing Name Shadow Diagram - 1  
Scale 1:2000 @ A3  
Drawing Number SK548.1  
Revision 02

**Overshadowing Study:**

Between the hours of 9am - 3pm on June 21st, the Central and Southern Park shall receive more than 4 hours of solar access to at least 70% of its area

	9am	10am	11am	12pm	1pm	2pm	3pm
Central Park	✗	✓	✓	✓	✓	✓	✗
Southern Park	✓	✓	✓	✓	✓	✓	✓

Central Park 4hrs > 70%  
Southern Park 6hrs > 70%



Overshadowing	Park Area	Area Overshadowed	%
Central Park	3000m <sup>2</sup>	522m <sup>2</sup>	17.4%
Southern Park	5177m <sup>2</sup>	760m <sup>2</sup>	14.7%

June 21st

10am



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David Randerson 8/42

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Project Address 27 Railway Street,  
Corral, NSW 2518  
Client Legacy Property  
Date August 2020

Project Number 11877  
Drawing Name Shadow Diagram - 2  
Scale 1:2000 @ A3  
Drawing Number SK548.2  
Revision 02

**Overshadowing Study:**

Between the hours of 9am - 3pm on June 21st, the Central and Southern Park shall receive more than 4 hours of solar access to at least 70% of its area

	9am	10am	11am	12pm	1pm	2pm	3pm
Central Park	✗	✓	✓	✓	✓	✓	✗
Southern Park	✓	✓	✓	✓	✓	✓	✓

Central Park 4hrs > 70%  
Southern Park 6hrs > 70%



June 21st

11am

**Overshadowing Study:**

Between the hours of 9am - 3pm on June 21st, the Central and Southern Park shall receive more than 4 hours of solar access to at least 70% of its area

	9am	10am	11am	12pm	1pm	2pm	3pm
Central Park	✗	✓	✓	✓	✓	✓	✗
Southern Park	✓	✓	✓	✓	✓	✓	✓

Central Park 4hrs > 70%  
Southern Park 6hrs > 70%



Overshadowing	Park Area	Area Overshadowed	%
Central Park	3000m <sup>2</sup>	256m <sup>2</sup>	8.5%
Southern Park	5177m <sup>2</sup>	246m <sup>2</sup>	4.8%

June 21st

12pm



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Project Address 27 Railway Street,  
Corral, NSW 2518  
Client Legacy Property  
Date August 2020

Project Number 11877  
Drawing Name Shadow Diagram - 4  
Scale 1:2000 @ A3  
Drawing Number SK548.4  
Revision 02

**Overshadowing Study:**

Between the hours of 9am - 3pm on June 21st, the Central and Southern Park shall receive more than 4 hours of solar access to at least 70% of its area

	9am	10am	11am	12pm	1pm	2pm	3pm
Central Park	✗	✓	✓	✓	✓	✓	✗
Southern Park	✓	✓	✓	✓	✓	✓	✓

Central Park 4hrs > 70%  
Southern Park 6hrs > 70%



Overshadowing	Park Area	Area Overshadowed	%
Central Park	3000m <sup>2</sup>	488m <sup>2</sup>	16.3%
Southern Park	5177m <sup>2</sup>	259m <sup>2</sup>	5%

June 21st

1pm

**Overshadowing Study:**

Between the hours of 9am - 3pm on June 21st, the Central and Southern Park shall receive more than 4 hours of solar access to at least 70% of its area

	9am	10am	11am	12pm	1pm	2pm	3pm
Central Park	✗	✓	✓	✓	✓	✓	✗
Southern Park	✓	✓	✓	✓	✓	✓	✓

Central Park 4hrs > 70%  
Southern Park 6hrs > 70%



Overshadowing	Park Area	Area Overshadowed	%
Central Park	3000m <sup>2</sup>	900m <sup>2</sup>	30%
Southern Park	5177m <sup>2</sup>	395m <sup>2</sup>	7.6%

June 21st

2pm



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Project Address 27 Railway Street,  
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Client Legacy Property  
Date August 2020

Project Number 11877  
Drawing Name Shadow Diagram - 6  
Scale 1:2000 @ A3  
Drawing Number SK548.6  
Revision 02



**Overshadowing Study:**

Between the hours of 9am - 3pm on June 21st, the Central and Southern Park shall receive more than 4 hours of solar access to at least 70% of its area

	9am	10am	11am	12pm	1pm	2pm	3pm
Central Park	✗	✓	✓	✓	✓	✓	✗
Southern Park	✓	✓	✓	✓	✓	✓	✓

Central Park 4hrs > 70%  
Southern Park 6hrs > 70%



June 21st

3pm





**Planning,  
Industry &  
Environment**

IRF20/3684

Mr Greg Doyle  
General Manager  
Wollongong City Council  
Locked Bag 8821  
WOLLONGONG DC 2500

Dear Greg

**Planning proposal PP\_2018\_WOLLG\_005 – former Corrimal Coke Works site  
Consistency with Section 9.1 Directions**

Thank you for contacting the Department to advise that additional studies relating to heritage and flooding have been completed for the above planning proposal and seeking confirmation that the proposal is consistent with relevant Section 9.1 Directions.

The Gateway determination, issued on 20 August 2018, identified the need for further studies to determine the consistency of the proposal with Section 9.1 Directions 2.3 Heritage Conservation and 4.3 Flood Prone Land.

I note that this proposal no longer includes specific heritage protection provisions and is therefore inconsistent with the terms of Direction 2.3. However, a proposal may be inconsistent with this Direction if heritage protection is provided through another means. Wollongong LEP 2009 (Amendment 46) is being finalised and will facilitate the heritage protection of the site. The inconsistency with Direction 2.3 is therefore considered to be justified and no further approval is required in relation to this Direction.

I have reviewed the information relating to flooding and consider the proposal is now consistent with Direction 4.3 Flood Prone Land following the completion of studies.

If you have any questions in relation to this matter, I have arranged for Louise Myler to assist you. Louise can be contacted on 4247 1822.

Yours sincerely



5 August 2020

**Sarah Lees**  
**Director, Southern Region**  
**Local and Regional Planning**

### **Overview of Challenges in the Management of Grey-headed Flying-fox Camps**

Council's Environment and Land Use Planning Officers have undertaken due diligence extensive research of publications and consultation with State Agencies, Flying-fox specialists including OEH/ESS Conservation Planning and Threatened Species officers, other Councils and the OEH facilitated NSW Flying-fox Land Manager Network in an effort to understand the environmental and management implications of rezoning land for residential use in close proximity to a Flying-fox colony that to date has varied in numbers from the low hundreds to in excess of 6000 individuals. This has identified a range of challenges other Councils Australia wide currently face in the management of GHFF camps. As part of the consultation effort, Council officers have attended a number of site visits and used GPS technology to map distances from the edge of camps to monitor noise and smell impacts and have reviewed the DPIE "Working with communities living with Flying-foxes" web page and Flying-fox Management Plans commissioned by a number of Councils.

We note the following key information obtained about Flying-fox camps in proximity to residential development:

- Flying-fox migrate from one area to another depending on the amount of food and water available (which would account for fluctuations in numbers between surveys).
- Camps often develop over many years, the location and size depending on availability of resources within a 20 to 50 kilometre radius of camps – some camps are occupied permanently, some seasonally and others irregularly.
- Behaviours are complex and hard to predict and response to management intervention can be unpredictable (management actions that work on one occasion at one camp may not reliably work at another)
- Once they occupy a site and achieve a master threshold (e.g. a camp of 200) a "memory and loyalty to the camp" forms, the implication being that you have to plan that they will return – methods to attempt to relocate or nudge camps often fail
- DPIE advice is that "preventing Flying-foxes continuing to roost at an established camp is a difficult and fraught task" and "any relocation of Flying-foxes after disturbance is largely unknown and ultimately may not resolve the problem. The Flying-foxes are just as likely to ...return to the original site in future"
- Flying-fox agitate and make noise ("squabble") all day long, with most noise during the fly in and fly out, especially when mothers and babies are trying to locate each other (it is foreseeable that any camp can become a maternity camp)
- Flying-foxes in urban areas are commonly the source of conflict with the community
- Resident complaints centre on amenity impacts - smell, noise, droppings associated with the fly in and fly out (on washing, balconies, cars), loss of property values and community fear of disease.

It should be noted that the DPIE "Working with communities living with Flying-foxes" web page states that there are no health risks from Flying-fox camps unless you make direct contact with live animals, and Flying-fox urine or droppings pose no health risk to humans unless eaten".

We note the following camp management actions the OEH recommend and/or that Councils have had to undertake and allocate funding/staffing resources to in an attempt to address resident complaints about amenity and lifestyle impacts where Flying-fox camps have set up in close proximity to existing residential properties (noting that these actions are ongoing once the conflict is identified):

- Ongoing trimming or removing of whole canopy trees at the camp boundary to create and maintain a buffer between the Flying-fox camp and areas of human settlement, to prevent the Flying-foxes roosting within the buffer
- Installation of noise attenuation fencing between the Flying-fox camp and nearby residents – expensive to install
- Installation of sprinkler systems in trees to discourage roosting (trialed with limited success)
- Disturbance actions such as continuous loud noise at dawn and dusk to deter them from their daytime roost, and the use of light and smoke
- Obligation to monitor a 20 km radius of a dispersal permit if granted (full time job) and anything above a level 1 action in the vicinity of the camp requires a permit application
- Offer of financial benefits to residents seriously affected by the proximity of Flying-fox roosts, such as rate reductions, provision of cleaning services, construction of sound and odour barriers, provision of covers over outdoor living areas/cars, assistance in installation of air conditioners to help when strong odours prevent windows and doors from being left open (odours are strongest in the breeding season and following rain)
- Employment of full time Council officers to develop engagement strategies and handle complaints, and ongoing Council marketing and communication actions to address resident concerns and educate about the Flying-fox camps
- Employment of Council staff to work over time to clean the droppings from public areas to prevent people slipping (WHS directive).

The Eurobodalla Flying-fox Management Plan (2018) states that dispersal is a high risk and expensive management action and if successful it generally only provides temporary outcomes, with Flying-foxes regularly attempting to return to the original site. It recommends strategic actions, including land use planning and development controls. It is noted that the 2017-18 Annual Report for Eurobodalla Council referenced the expenditure of \$207,718 for "Flying-fox program", funded through the Council's Environment Levy and supported by grants, this figure increasing to \$622,644 in the 2018-19 Annual Report.

A Parliamentary Inquiry into Flying-foxes (2016) addressed a range of evidence about the negative impacts that increasing incidences of urban roosting of flying-foxes has had on individuals and businesses in affected communities, including social quality of life impacts, economic impacts to businesses and the cost to local governments responsible for managing camps. The inquiry cited 17 flying-fox dispersal attempts by Councils, with costs ranging from tens of thousands to millions of dollars, with a high degree of uncertainty regarding long term outcomes or success of dispersals. A submission received from Batemans Bay estimated costs of up to \$6.2 million.

A key recommendation of the Flora and Fauna Assessment (EcoLogical, May 2019) was that future development of the site will require careful planning and consideration of the interface between the Flying-fox and humans, and that consideration should be given to the Flying-Fox Camp Management Policy (OEH 2015). The OEH Flying-fox Camp Management Policy 2015 section 5 outlines planning options when considering the location of development near a Flying-fox camp. The Policy suggests the identification of Flying-fox camps as development constraints to prevent future conflicts arising over proposed development, and zone the camps "environmental protection" to ensure the long term security of Flying-fox camps, including those used irregularly (i.e. historically been known to be used) . The Policy also identifies the need for appropriate zoning of land adjacent Flying-fox camps, particularly when this land is undeveloped or redevelopment is planned, in the context that Flying-fox camps expand or move locally. The Policy further states that certain land uses are inherently more compatible in the vicinity of a Flying-fox camp than others, for example light industrial or rural compared with high density urban residential.

The Policy identifies the need for a Development Control Plan (DCP) to be developed to define a Council’s responsibilities for managing and conserving Flying-fox camps, ensure the camps are considered when planning and constructing developments in the area, and provide guidelines for assessment, particularly in terms of avoiding conflict between adjoining land uses.

Section 6 of the OEH Flying-fox Camp Management Policy 2015 recommends that land owners consider the location of historically and currently occupied camps or potential Flying-fox camps early in strategic planning processes, particularly when planning future residential areas, schools or other sensitive infrastructure. This is in recognition that most Flying-fox camps are not occupied continuously. In addition to recognising the presence of existing Flying-fox camps through appropriate land use zoning and development control plans, it is also stated that new development proposals give consideration to appropriate buffers such that any additional hazard reduction activities that become necessary will be able to occur without being unduly impacted on by the existing camp locations. Sites that have the potential to function as Flying-fox maternity camps should be a priority for conservation.

The OEH also provides advice on Level 2 actions – creation of buffers around camps to separate humans and Flying-foxes. The recommendation is “planning to prevent conflict”, using land use planning instruments to provide sufficient space between established camp sites and residential neighbours. It is stated that camp site boundaries and buffers should cater for large seasonal influxes of Flying-foxes, as these trigger greater community concern.

Guidance on appropriate buffers include:

- Draft National Recovery Plan (Dr Peggy Ebby 2008) recommends 300m buffer
- EES noted 300m buffer best practice, noting that the most appropriate buffer should be determined on a case by case basis
- A buffer of 300m is ideal (e.g. low trees <3m, cleared land, rivers, open space) – the usefulness of the buffer to reduce the impacts of smell and noise declines if less than 50m (SEQ Catchments 2012)
- Neighbouring Council recommendations: 100m plus
- Moreton Bay Planning Scheme Policy: 500 metres

Leading consultants (EcoSure) published (Eurobodalla Flying-fox Management Plan 2018) impact thresholds in relation to buffer distances between a GHFF camp and residential development:

<50m	Likely high impact
50-100m	Likely moderate impact
100-300m	Likely low impact
>300m	Unlikely to be impacted

The EES (formerly OEH) was consulted as to appropriate buffers between the proposed development and the camp, and in relation to whether an environmental zoning would be appropriate. The OEH response recommended the integration of buffers between the Flying-fox camp and residential development “*as wide as reasonably practicable with guidance of up to 300m in width, but determined on a case by case basis having regard to land use conflict and level of impact from Flying-foxes*”. The response acknowledged that a camp of 2000 individuals may significantly increase impacts where the camp is in such close proximity to houses – “*there exists the potential for significant issues with the co-location of the camp and proposed medium density residential use*”. The letter stated that the dispersal of Flying-foxes is not preferred and should be considered as a last resort only, as dispersal is likely to be costly, ongoing and unlikely to succeed. The submission additionally raised potential problems for Council ownership, given that the Planning Proposal includes the proposed dedication to

Council of the realigned riparian corridor, including the vegetation patch supporting the Flying-fox camp.

*“Housing residents next to a known flying-fox camp will necessarily generate conflict, as experienced many times over with the increasing establishment of camps in urban areas. This, in turn, will lead to increased workload for Council staff in terms of community engagement/education and responding to community requests to remove flying-foxes. A buffer is considered particularly appropriate in planning for new urban areas as, unlike camps co-located with existing urban areas, there is the opportunity for strategic planning to incorporate suitable buffers.”*

It should also be noted that the original 2017 Planning Proposal proposed the removal of 0.06ha of the Flying-fox habitat, with additional habitat to be provided through the proposed revegetation of the realigned riparian corridor along the western extent of the boundary. The Forest Red Gum – Thin-leaved Stringybark Grassy Woodland which forms part Illawarra Lowlands Grassy Woodland is an endangered ecological community under the BC Act and as such Council Officers and the ESS (formerly OEH) have indicated they would not support any removal of this vegetation community.

The proponent has responded to Council officer concerns about the need to maintain a suitable buffer by undertaking fortnightly monitoring of camp use and targeted surveys and commissioning a number of additional reports to provide advice on a suitable buffer. The survey and monitoring report (EcoLogical March 2020) concluded that the camp size fluctuates over time as does the area of occupation and the camp is expected to hold between 100-7,300 bats depending on resource availability, weather and seasonability. The bats were observed using the dam for belly dipping immediately prior to flying out for their nightly forage. The report identifies a core camp estimated to be approximately 100-500 individuals and referenced a camp size fluctuation in January 2020 which may be the result of the unprecedented bushfires over the 2019/2020 summer.

The commissioned reports recommended buffers ranging from 20 metres to 50 metres to minimise the potential conflicts between future residents and the bats. However, while the latest EcoLogical report (March 2020) states that the implementation of an indicative 50m buffer would minimise the conflict, information contained in Section 3.3 of the Report appears to contradict that recommendation by acknowledging the potential for land use conflict. Section 3.3 discusses measures such as the use of acoustic treatments (e.g. double glazing) that might be used to address noise, or mechanical ventilation systems to address potential noise and odour, for residential development interfacing the camp, and raises the question of whether apartments or townhouses should be the preferred built form on the edge of the buffer – *“apartments would increase the number of dwellings but avoid some of the most common residential complaints (droppings on washing and cars), townhouses reduce the number of dwellings but still have uncovered private open space that could be affected by Grey-headed Flying-fox behaviour”*. The proposed camp management actions included in the Report are clearing of currently used vegetation to encourage the bats to move to the southern extent of the vegetation; incorporate a dam or deep ponds and additional plantings as supplementary habitat into the proposed creek alignment to nudge the camp south and mitigate the removal of the existing dam, along with suggested built form responses, acoustic treatment and an education campaign for future residents.

It should be noted that the abovementioned actions under the Flying-fox Camp Management Code of Practice relate to management actions Council may be permitted to undertake in response to a Flying-fox camp setting up in proximity to an existing residential area (as opposed to the planning of a new community adjacent an established Flying-fox camp as being considered through this Planning Proposal request). The Code recognises residential development as a sensitive land use requiring a buffer from flying fox camps.

Based on Council due diligence extensive research, the proponent was advised that a minimum 100 metre buffer would be required between the GHFF camp and any future

proposed residential development. The proponent responded that a 100 metre buffer has an unacceptable impact on the development footprint, however the 2020 Master Plan now incorporates the required buffer (noting the proposed built form in the south of the site has now also been changed in order to retain the 760 dwelling target).

The proponent intends to dedicate the land containing the GHFF camp into Council ownership. There are risks and financial and staff resourcing liabilities to consider in the decision to accept dedication of land into future Council ownership and therefore stewardship of a State and Nationally listed threatened fauna species and its habitat. This commitment will be realised regardless of the setbacks of future development to the non-static roost camp footprint, however the proximity of the development to the roost camp will directly correlate to the resources Council will have to commit and expend on the in-perpetuity management actions. Implementation of Flying-fox Management Plans require substantial ongoing funds. The Planning Proposal, while outlining the need for a Management Plan, remains silent on the issue of how the proposed ongoing management actions would be funded.

Many Councils rely on grants for their camp management actions – these grants are designed to assist Councils where an existing residential area is unexpectedly having to deal with conflict issues arising from a camp setting up in close proximity. Recent advice received is that these grants have now become very competitive, given the number of Councils seeking this assistance, and the grant amounts will be limited to \$30,000 per annum, assigned on a merit assessment and will require the Council to commit to matching the funds 1:1. It is a possibility that Councils creating this conflict situation through poor land use planning decisions (i.e. a decision to rezone for new residential use in close proximity to a known camp) may not qualify for such grant funding.

It is uncertain how the Flying-fox camp might change or develop over time and the community concerns that might arise as a result. In assessing the Planning Proposal there is a need to consider the potential impacts of the proposed development on the GHFF camp and the potential impacts of the camp on future occupiers of the development. In July 2019 Council's Environmental Officer estimated the extent of suitable roost habitat to be 1.2ha of remnant/regrowth native vegetation – in the draft Parramatta North Management Plan (EcoLogical 2020) an area the size of 2ha was noted as usually sustaining 5,000 to 10,000 individuals, and has been observed to have up to 20,000. An inadequate buffer is likely to result in ongoing/long term management issues for Council.

#### **Recommendation:**

Consistent with the recommendations of the EcoLogical report and the OEH Flying-Fox Camp Management Policy (OEH 2015), the following recommendations are made in line with a precautionary approach, and "planning to prevent conflict":

- future development of the site will require careful planning and consideration of the interface between the Flying-fox and humans – a buffer of a minimum 100 metres will be required at this Planning Proposal phase in allocating zoning boundaries between the existing Flying-fox camp and any proposed new residential development (recognising documented conflict between flying fox camps and residential uses), with future detailed assessments at the Development Application stage required to determine the extent of the area utilised by the Grey-headed Flying-fox and how the camp is used. A buffer of less than 100m is effectively planning for reactive, challenging and resource intensive management measures to safeguard the future community and GHFF camp.
- Consideration of a new Part 7 clause for the site, to prevent future residential development within 100 metres of the GHFF mapped core area.
- land currently occupied by the species should be zoned appropriately to ensure the retention of habitat and prevention of conflicting land uses – an E2 Environmental Conservation zoning should be considered to reflect the EEC and ensure retention of habitat and the conservation outcome for the Flying-fox camp.

- the areas mapped as low ecological constraint are preferable locations for development.
- should Council resolve to accept dedication of the EEC and Flying-fox camp, a funding mechanism will be required. A Biodiversity Stewardship Agreement/ BSS which would be established prior to finalising the Planning Proposal has been raised by Council Officers as a possibility for the proponent to explore further.
- information regarding proximity to the Flying-fox camp will be included in planning certificates to alert future residents (sec 10.7/sec 149 certificates).
- invite comment from the Commonwealth Department of Energy and Environment during the public exhibition.

**Figure 1: GHFF Mapped Extent and Core Area**

