WLPP No.	Item No. 5
DA No.	DA-2022/1249 (PAN-281919)
Proposal	Industrial - demolition of selected structures to slab on-ground levels and make safe on the former Corrimal Coke Works site
Property	Corrimal Cokeworks Railway Street CORRIMAL
Applicant	Adrian Kilburn – The Trustee for LegPro 70 Unit Trust
Responsible Team	Development Assessment and Certification - City Centre Major Development Team (NL)
Development cost	$1,290,200
Lodgement date	18 November 2022
Prior WLPP meeting	**N/A**

ASSESSMENT REPORT AND RECOMMENTATION

EXECUTIVE SUMMARY

Reason for consideration by Local Planning Panel

The proposal has been referred to Local Planning Panel pursuant to clause 4(c) of the Local Planning Panels Direction. The proposal involves demolition of a heritage item.

Proposal

The proposal seeks approval for demolition of a variety of industrial structures associated with the historic use of the site as Corrimal Cokeworks. The site is on the State Heritage Register and there is a site specific exemption published in the Government Gazette (contained at **Attachment 5**) to enable the carrying out of the proposed demolition works without the need to obtain approval from NSW Heritage Council under Section 60 of the NSW Heritage Act 1977. A vegetated berm is also proposed to be removed.

The proposal is one stage of the redevelopment of the broader site to accommodate residential development, park land, a public plaza and realignment of the creek following rezoning of the land from industrial under a developer initiated planning proposal.

Permissibility

Demolition is permitted with consent in the R3 Medium Density Residential zone.

Consultation

The application received 25 submissions following notification. 23 of those were in support, generally in relation to making the site safe due to the dilapidated nature of the structures. Two objections were received with concerns relating to loss of heritage, suggestion that heritage items should be retained in Council ownership, and concerns regarding impacts of the overall development to local infrastructure, particularly traffic impacts to the local road network. These concerns are discussed at section 1.3 of this report.

Council's Environment, Traffic and Heritage Officers have reviewed the proposal and provided recommended conditions of consent.

Applicable planning controls

- SEPP (Resilience and Hazards) 2021

- SEPP (Transport and Infrastructure) 2021
- State Environmental Planning Policy (Biodiversity and Conservation) 2021
- Wollongong Local Environmental Plan (WLEP) 2009
- Wollongong Development Control Plan 2009
- Wollongong City Wide Development Contributions Plan
- Wollongong Community Participation Plan 2019

RECOMMENDATION

It is recommended that the proposal be approved subject to the conditions at **Attachment 9.**

1.1 DETAILED DESCRIPTION OF PROPOSAL

The proposal is an enabling application for later stages of the broader redevelopment of the whole, site anticipated following the planning proposal and adoption of a site specific chapter of the DCP (Chapter D15). The indicative land uses for the site from the DCP chapter are illustrated at Figure 1 below.

Figure 1: Indicative land uses (source: Chapter D19 of Wollongong Development Control Plan 2009)

This DA seeks development consent for the selective demolition and disposal of built forms, buildings, and structures to slab on-ground levels and make safe, along with removal of a vegetated berm. A number of structures are to be retained and other elements salvaged and reinterpreted in later stages of the redevelopment of the site.

The next stage of most relevance to the proposal is the future heritage precinct application (see concept plan at Figure 5 for pre-lodgement meeting **PL-2023/39**) where the bulk of heritage retention, salvage and interpretation of the industrial elements will occur. The proposal also seeks to address a current issue with site safety and maintenance, including:

- unauthorised trespassing and inherent public safety concerns with existing structures; and
- cost burden for ongoing maintenance.

The site is listed on the State Heritage Register however there is a site specific exemption published in the Government Gazette (contained at **Attachment 5**) to enable the carrying out of defined works without the need to obtain approval from NSW Heritage Council under Section 60 of the NSW Heritage Act 1977. The exemption is conditional on all further investigation, interpretation, salvage and reinstatement works being subsequently and progressively carried out as per the recommendations of the Heritage Interpretation Strategy (contained at **Attachment 6**). **Attachment 8** tabulates each built form item and how the site specific exemption criteria have been met under the proposal.

Items proposed to be demolished are as follows (and identified in Figure 1, Figure 2and Figure 3 below):

- Maintenance workshop;
- Weighbridge and crib room;
- Coke screen house;
- Coke convenor;
- Stacks (identified as C2S and C2N);
- Quench towers;
- Coke oven batteries (identified as C1 and C2);
- Fire coal bin;
- Coal storage shed;
- Grinding plant and coal bin;
- Brickies shed;
- Production office; and
- Bund and ramp area associated with coal bunker.
- Removal of a vegetated berm (Berm L) to natural ground level

The built form, buildings, and structures, heritage exemption and demolition plan are illustrated at Figure 1, Figure 2, and Figure 3 below.

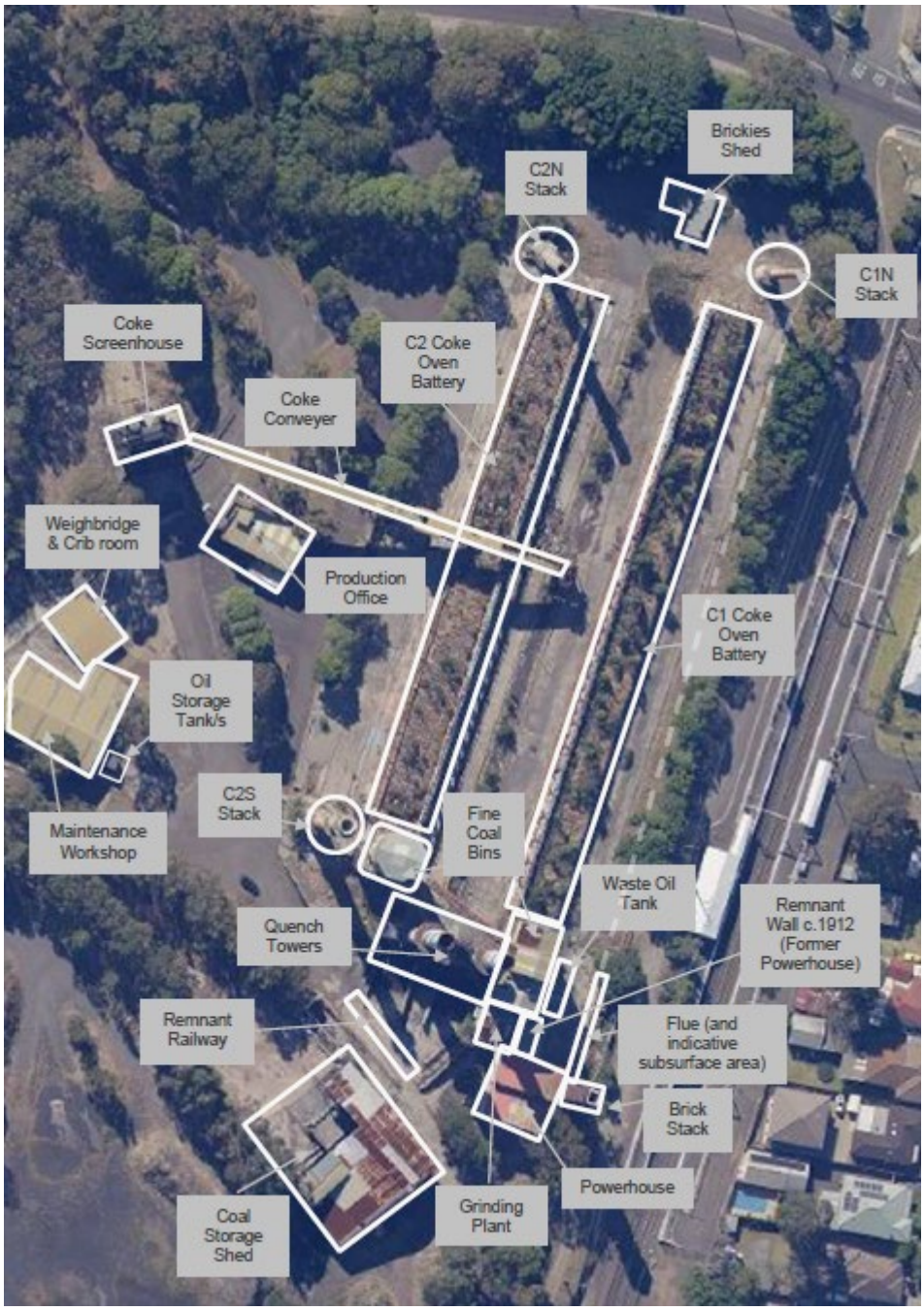


Figure 2: Built form identification

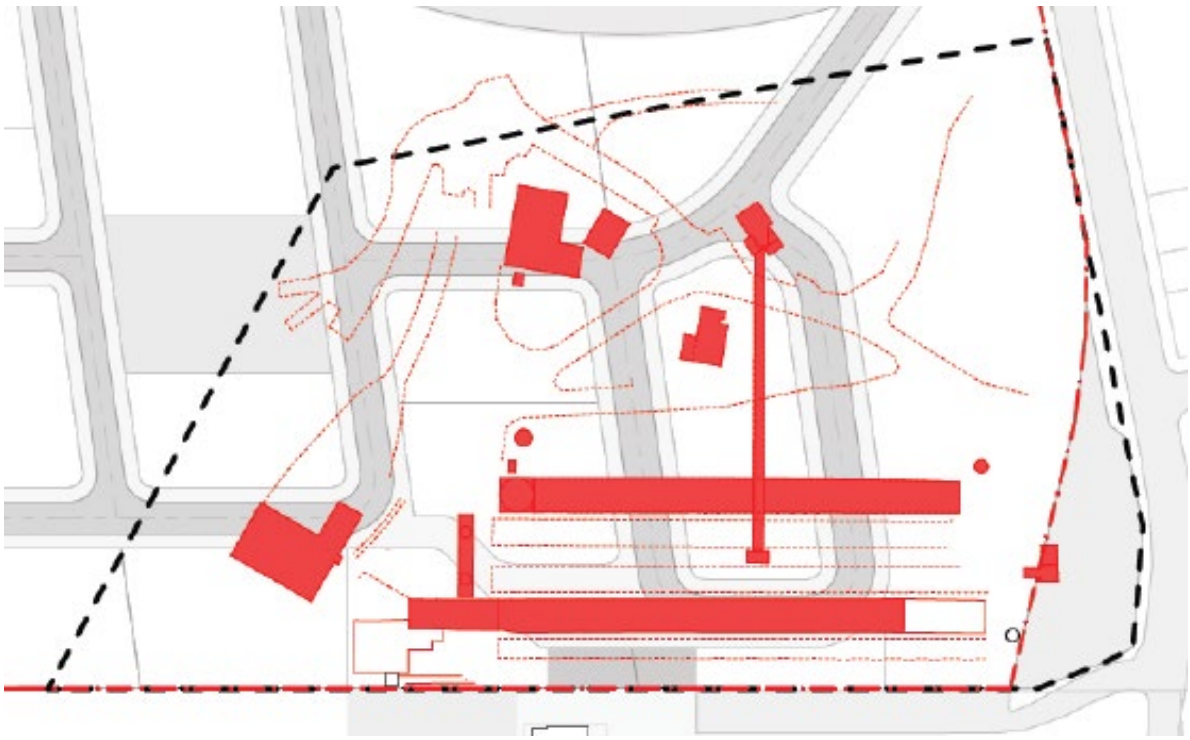


Figure 3: Heritage exemptions from Figure 25 of Heritage Interpretation Strategy (per NSW Government Gazette)

Figure 4: Proposed demolition plan

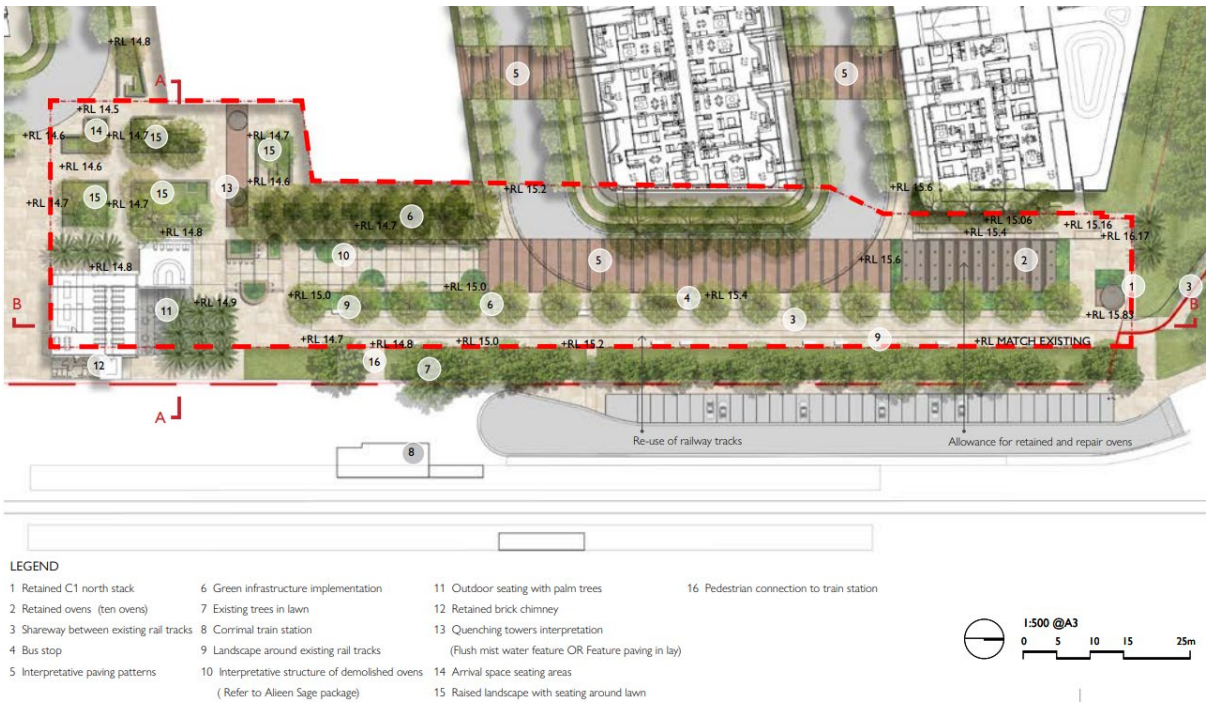


Figure 5: Master plan for heritage plaza (PL-2023/31)

Items identified for salvage are proposed to be stored within the area of the site shown at Figure 6 below. This area has been chosen as the most appropriate in order to best align with future stages of the proposal.

Figure 6: Salvage area as indicated in Demolition Work Plan

Redevelopment strategy

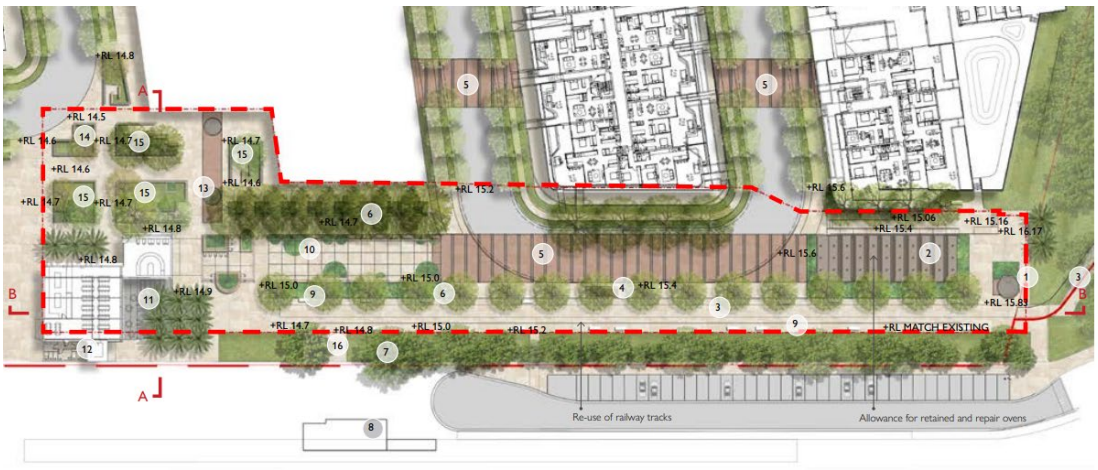
The demolition DA is one three enabling applications that set the groundwork for later stages of the project. The applicant identifies the following stages of redevelopment of the site:

Tranche 1: Enabling Works	
1	Superlot Paper Subdivision
2	Demolition Works
3	Marketing Suite
Tranche 2: Adaptive Reuse, Early Works, and Landscape Embellishment	
4	Stage 1: Bulk Earthworks and Tree / Vegetation Management
5	Adaptive Reuse of Heritage Buildings and Heritage Interpretation
6	Stages 2 - 4: Bulk Earthworks, Vegetation Management, and Creek Alignment / Embellishment
7	Landscape Embellishment Works – Central Park
8	Landscape Embellishment Works – Southern Park
Tranche 3: Built Form Development	
9	Stage 1 A & B: Built Form (including Civil Works and Servicing) **[the subject DA]**
10	Stage 2 A & B: Built Form (including Civil Works and Servicing)

Figure 7: Development application staging

At the time of writing this report, applications that had been submitted to Council were as follows:

- Pre-lodgement meeting (PL-2022/113): Super-lot subdivision and subsequent application DA-2022/1200: Super-lot subdivision (approved under delegation 30 June 2023)
- Pre-lodgement meeting (PL-2022/163): Bulk earthworks and vegetation management as part of the wider planning approval strategy for the former Corrimal Coke Works site
- DA-2023/166 - Bulk earthworks, tree removal, vegetation management and ancillary works
- Design Review Panel meeting (DE-2023/51): Conservation and adaptive reuse of former Corrimal Coke Works heritage buildings, public domain works including an integrated landscaped design to deliver the new Heritage Plaza precinct.
- Pre-lodgement meeting (PL-2023/39): - Stages 2 – 4 of development - bulk earthworks, realignment of the riparian corridor, provision of all-weather construction access, tree management, sediment and erosion control and ancillary works, including site compounds, parking, temporary fencing and sediment fencing
- DE-2023/36 - Recreational Parks referred to as Southern Park and the Central Park
- Pre-lodgement meeting (PL-2023/31): Corrimal Cokeworks - public domain works and an integrated landscaped design to deliver the new Heritage Plaza precinct



- Pre-lodgement meeting (PL-2023/22): Recreational parks (central and southern)

- DE-2023/20 - Mixed Use Development including 5 residential flat buildings, basement parking, communal spaces, public domain improvements and ancillary works
- Pre-lodgement meeting (PL-2023/12): Mixed use development - including five (5) residential flat buildings, basement carparking, communal spaces, public domain improvements and ancillary works -

1.1 BACKGROUND

The site has been used by Corrimal coke works for over 100 years (1912 - 2013) and, at the time of its closure, was the longest continuously running coke works in New South Wales and Australia. The closure was attributed to the negative market conditions, with an excess of coke worldwide and substantially reduced demand the ICC as a small private company could no longer keep the business viable.

A proponent initiated planning proposal, commenced October 2017 and adopted April 2022, amended the industrial zoning to enable future mixed use residential and recreational development. Broader outcomes to be achieved include the following:

- Realignment of the riparian corridor
- Provision of ~11.1 ha of contiguous developable land
- Public open space to be dedicated to Council
- Maximising access to Corrimal train station
- Privately owned public plaza adjacent to the station with interpretive heritage elements.
- Limited neighbourhood and commuter services (e.g. childcare, neighbourhood shops, cafe)
- Mixture of housing options including affordable housing

A site specific DCP was also adopted June 2022 and a Planning Agreement (VPA-2022/9) entered into with Council for transfer of land and infrastructure, requiring the developer/landowner to:

- Provide an embellished central village park with a minimum size of approx. 3,000sqm.
- Provide an embellished southern recreation park of approx. 7,000sqm.
- Dedicate the riparian corridor of approx. 76,000sqm.
- Provide a north-south shared path through the site generally within or adjacent to the riparian corridor.
- Provide a shared path on Railway Street, from Cross Street to the railway crossing.
- Dedicate 2,467sqm of land identified on Council's Land Reservation Acquisition Map in the northeast of the site.
- Construct a four-way roundabout at the intersection of Railway Street and Harbinger Street.
- Provide permanent public access from the development through to Corrimal Station.
- Transfer land to a registered Community Housing Provider to allow for the development of 35 affordable rental housing dwellings.

1.2 SITE DESCRIPTION

The site is located at Corrimal Cokeworks Railway Street Corrimal and the title reference is Lot 126 DP 598190 with an approximate area of 18.2 hectares.

The wider Corrimal Coke Works site owned by Illawarra Coal and Coke (ICC) also includes Lot 5 DP 749492, Lot 126 DP 598190, and Lot 11 DP749492. However, these lots do not form part of the land to which the subject DA relates and no development is proposed on these lots.

The site has a general flat topography, gently undulating to the south.

Structures and infrastructure associated with the former coke work production include coking ovens, stacks, an artificial dam for water supply and related infrastructure, and coal and coke stockpiling

areas. Towradgi Creek forms the southern boundary of the site and drains in a west to east direction. A tributary of the Creek traverses the site, and the western portion of the site is occupied by scattered bush and stockpiling areas.

The site is bounded on the east by the main southern railway line, to the south by Towradgi Creek, to the west by Memorial Drive and to the north by Railway Street and a R3 zoned neighbourhood.

The overall site contains a large number of trees. Trees impacted by the current proposal are limited to those contained in Berm L which is to be removed. Impacts associated with that have been considered under the site wide BDAR and removal of the trees considered acceptable.

Property constraints

Council records identify the land as being impacted by the following constraints:

- Potentially Contaminated Land due to Previous Uses: See discussion at SEPP 55.
- Flooding (Flood Risk Precinct Classification under Review): The proposal involves demolition only and raises no concerns with regard to flooding.
- Heritage:
  - The site is both listed as a local heritage item under the schedule 5 of WLEP 2009" ID 6607 – Former Corrimal Coke Works" and a State Heritage Item on the State Heritage Inventory. European Heritage matters are discussed elsewhere in this report.
  - Aboriginal heritage: A site wide Aboriginal Cultural Heritage Assessment Report has been prepared. That report identified one Aboriginal archaeological site in the southern portion of the site. It is noted that this application involves removal of above ground structures with minimal ground disturbance in an area that has previously been subject to heavy disturbance.
- Ecologically Endangered Communities:
  - Grey Headed Flying Foxes (GHFF): A Site Wide Biodiversity Development Assessment Report (Eco Logical Australia, 1 May 2023) has been submitted. This has been reviewed by Councils Environment Officer. Conditions of consent are recommended with regard to obtaining a Threatened Species Licence prior to undertaking any works on site that may impact upon the GHFF, particularly regarding noise disturbance.
  - Microbats: (Miniopterus orianae oceanensis (Large Bent-winged Bat)): A Microbat Management Plan has been submitted (Ecological Australia, 19 April 2023). The Plan is generally accepted, and conditions of consent recommended. This includes a condition requiring demolition to occur only between October to March, when bats have finished hibernation and females have generally left the over-winter sites for maternity caves.

There are no restrictions on the title.

Figure 8: Aerial photograph

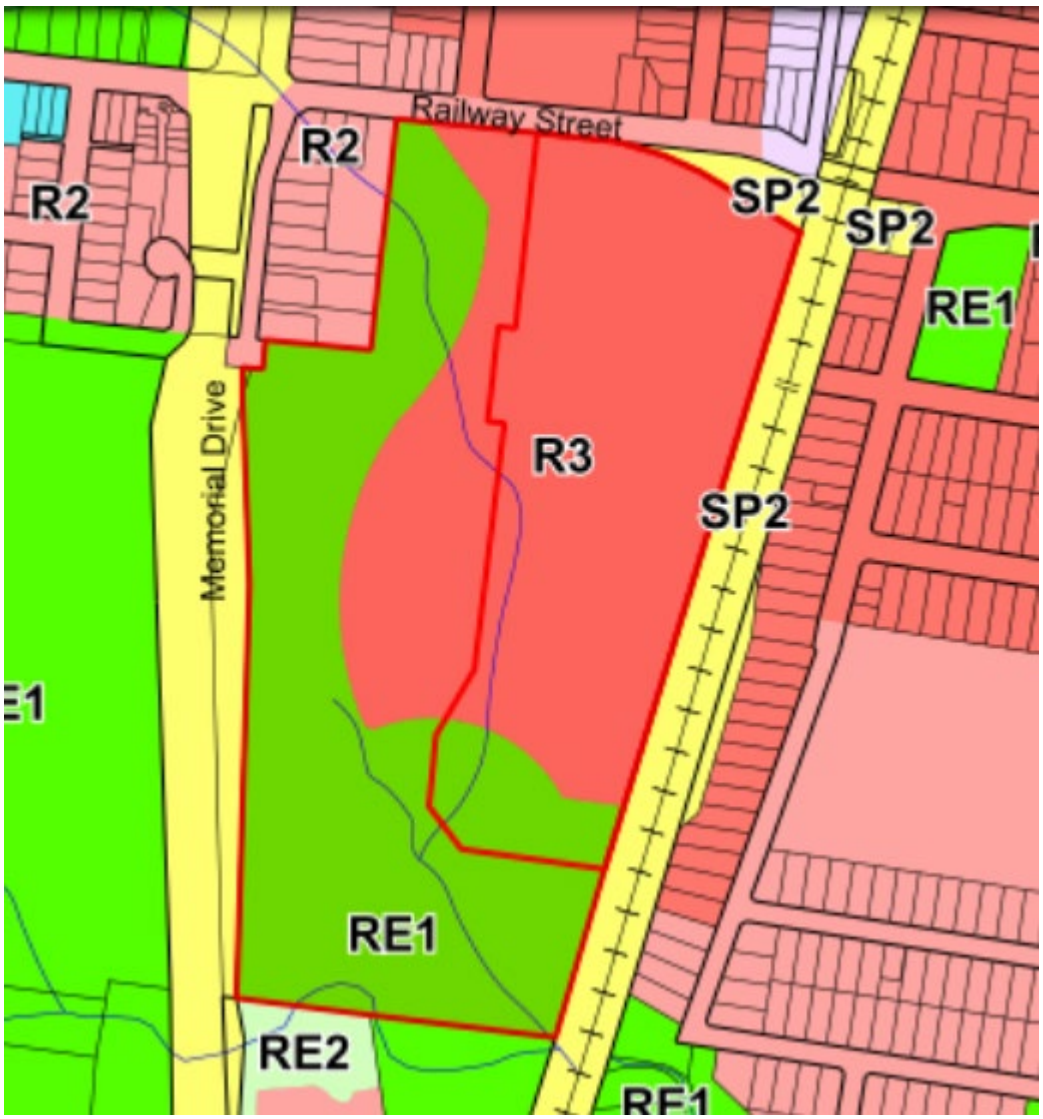


Figure 9: WLEP 2009 zoning map

1.3 SUBMISSIONS

The application was notified in accordance with Council's Community Participation Plan 2019. 25 submissions were received, and the issues identified are discussed below.

Figure 10: Notification map

Table 1: Submissions

Submissions in support of the proposal identified the following positive outcomes arising from the proposal:

- The demolition will make the site safe
- The project will bring much needed housing
- The proposal will reduce unlawful activity at the site

Concern	Comment
Council should consider a heritage grant to assist the transformation of the heritage items	No such mechanism is proposed nor is one required in order to progress the proposal.
The site should include a fenced dog park	This is not a matter for consideration under the demolition DA.
Loss of heritage items	The proposed demolition, retention and salvage is consistent with the site-specific exemptions applicable for demolition, clause 5.10 of WLEP 2009 and relevant chapters of the DCP.
The heritage items (chimneys and ovens) should be in Council ownership to better secure their long-term preservation	Retention of heritage items on Council land raises concerns with regard to ongoing liability and maintenance burden for Council and is generally not supported in this instance.
Lack of infrastructure to support the new residents (including further strain on the local road network).	The demolition itself places no pressure on infrastructure, other than construction vehicles which will be a time limited impact. Infrastructure provision for the project more broadly is not a matter for consideration under this DA.

Concern	Comment
Noise from additional traffic	Noise from demolition traffic would be time limited and subject to standard daytime hours. The proposal is subject to standard restrictions in terms of hours of work.

1.4 CONSULTATION

1.4.1 INTERNAL CONSULTATION

Traffic Engineer

Council's Traffic Officer has reviewed the application. Conditions of consent were recommended and are included in the consent.

Heritage Officer

Council's Heritage Officer has reviewed the proposal and had some outstanding concern regarding potential impacts to an underground flue linking the C1N and Brick Stacks to the C1 Coke Ovens. The Conservation Management Strategy makes recommendation for further investigation and documentation of the subsurface elements with potential for the retention of a section of this flue. It is noted that an area identified as containing the underground flue adjacent to the brick stack is not expected to be disturbed by the demolition. Further, the C1N Stack and northern C1 Coke Ovens are both to be retained and as such would remain similarly undisturbed. The demolition would not compromise the ability for a section of the flue to be retained if found to be desirable. Draft conditions of consent have been recommended requiring further documentation including preparation of a Historical Archaeological Report that confirms details about the location, extent, nature, and management of the flue network (and other subsurface elements) during the demolition works and should include mapping of any elements of archaeological potential and significance within the demolition works area. Further the consent does not authorise any subterranean ground disturbance in areas identified by the above Historic Archaeological Report as having archaeological potential relating to the flue network or any impacts to any archaeological features.

Environment Officer

Council's Environment Officer has reviewed the proposal with regard to the following:

- Ecologically endangered communities
- Coastal management
- Contamination
- Demolition
- Noise
- Waste management

Conditions of consent have been recommended with further discussion on specific items discussed at relevant sections of this report.

1.4.2 EXTERNAL CONSULTATION

Heritage NSW

The site is listed on the State Heritage Register however site-specific exemptions have been granted by the Minister for Environment and Heritage under s57(2) of the Heritage Act 1977 to exemption

from s.57(1). The site specific exemptions applicable to the site exclude it from requiring a s60 approval under the integrated provisions of the Heritage Act 1977.

There are further no requirements for notification to Heritage NSW under clause 5.10(7) of the LEP as discussed elsewhere in this report.

2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

2.1 SECTION 4.15(1)(A)(1) ANY ENVIRONMENTAL PLANNING INSTRUMENT

NSW BIODIVERSITY CONSERVATION ACT 2016

The proposed demolition works will remove approximately 0.19 ha of planted native vegetation on Berm L; and does not trigger the Biodiversity Offset Scheme.

2.1.1 STATE ENVIRONMENTAL PLANNING POLICY (BIODIVERSITY AND CONSERVATION) 2021

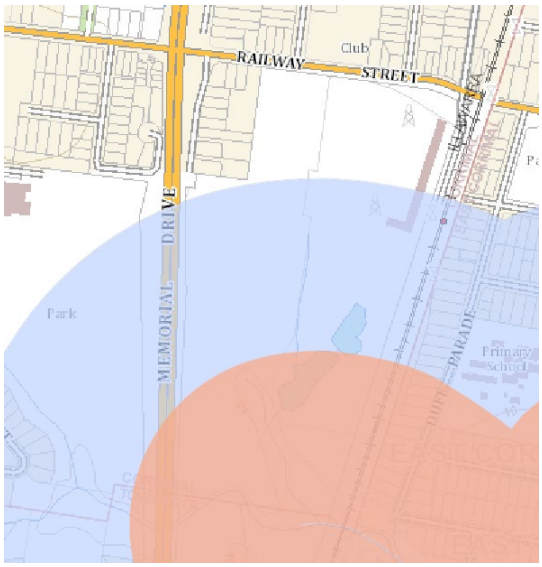
Chapter 4 - Koala Habitat Protection 2021

The site is not considered core koala habitat and is not expected to impact upon koalas.

2.1.2 STATE ENVIRONMENTAL PLANNING POLICY (RESILIENCE AND HAZARDS) 2021

Chapter 2 Coastal management

The site is within both the coastal environment and coastal use areas in the maps to this policy.



2.10 Development on land within the coastal environment area

The majority of the site is mapped as Coastal Environment Area and Cl 2.10 applies. The proposal is for the demolition of disused structures and will not adversely impact upon the coastal environment, provided that effective sediment and erosion control measures are implemented and maintained, and all hazardous materials are managed appropriately.

2.11 Development on land within the coastal use area

The area of the site located in the coastal use area is outside the area the subject of this DA.

Chapter 4 Remediation of land

4.6 Contamination and remediation to be considered in determining development application

The site is identified as contaminated by virtue of the prior industrial land use. The proposal does not involve a land use. Remediation for the ultimate residential and recreational land uses will occur under later stages of the project. Works under this DA are restricted to demolition of industrial structures to slab level and removal of the vegetated berm to natural ground. Berm material is to be stockpiled on

site for future reuse on site if suitable. Conditions of consent are recommended in regard to the berm material including:

- No materials generated as part of the berm demolition are to be re-used, buried or re-distributed onsite until:
  - The site's environmental practitioner validates the materials as suitable for all contaminants of potential concern;
  - The samples must be in accordance with the NSW EPA Sampling Design Part 1 - Application, Contaminated Land Guidelines (August 2022);
  - The site environmental practitioner provides stockpile validation reports confirming that the material is suitable to be re-used onsite; and
  - The stockpile validation reports are reviewed, and the findings agreed to by the appointed NSW EPA Contaminated Land Site Auditor detailed within an Interim Site Audit Advice letter.
- Soil materials generated as part of the berm demolition are to be stockpiled and appropriately protected in accordance with an endorsed sediment and erosion control plan.
- Berm materials not suitable for re-use are to be incorporated into the remedial works proposed in the Stage 1 Bulk Earthworks detailed within the Reditus Consulting Pty Ltd, Remediation Action Plan, Stage 1 Redevelopment, dated 9 June 2023.

A Preliminary Hazardous Materials Assessment (dated 27 September 2022 prepared by Reditus) has been submitted in relation to the structures to be demolished and conditions of consent apply in this regard.

2.1.3 STATE ENVIRONMENTAL PLANNING POLICY (TRANSPORT AND INFRASTRUCTURE) 2021

Subdivision 2 Development in or adjacent to rail corridors and interim rail corridors—notification and other requirements

2.98 Development adjacent to rail corridors

1) This section applies to development on land that is in or adjacent to a rail corridor, if the development—

(a) is likely to have an adverse effect on rail safety, or

(b) involves the placing of a metal finish on a structure and the rail corridor concerned is used by electric trains, or

(c) involves the use of a crane in air space above any rail corridor, or

(d) is located within 5 metres of an exposed overhead electricity power line that is used for the purpose of railways or rail infrastructure facilities.

The works do not fall under any of the above.

2.1.4 WOLLONGONG LOCAL ENVIRONMENTAL PLAN 2009

Clause 1.4 Definitions

The proposal is for demolition and does not involve a specific land use.

Part 2 Permitted or prohibited development

Clause 2.2 – zoning of land to which Plan applies

The zoning map identifies the land as being zoned R3 Medium Density Residential.

Clause 2.3 – Zone objectives and land use table

The objectives of the 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 proposal is satisfactory having regard to the above objectives.

The land use table permits the following uses in the zone.

> *Attached dwellings; Backpackers' accommodation; Bed and breakfast accommodation; Boarding houses; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Exhibition homes; Exhibition villages; Group homes; Home-based child care; Home businesses; Home industries; Hostels; Information and education facilities; Multi dwelling housing; Neighbourhood shops; Oyster aquaculture; Places of public worship; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Residential flat buildings; Respite day care centres; Roads; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Signage; Tank-based aquaculture; Veterinary hospitals*

The proposal is categorised as a demolition which requires consent under clause 2.7

Clause 2.7 Demolition requires development consent

The application seeks consent for demolition.

Part 4 Principal development standards

The proposal does not involve construction and there are no development standards applicable.

Part 5 Miscellaneous provisions

Clause 5.1A Development on land intended to be acquired for a public purpose

(1) The objective of this clause is to limit development on certain land intended to be acquired for a public purpose.

(2) This clause applies to land shown on the Land Reservation Acquisition Map and specified in Column 1 of the Table to this clause and that has not been acquired by the relevant authority of the State specified for the land in clause 5.1.

(3) Development consent must not be granted to any development on land to which this clause applies other than development for a purpose specified opposite that land in Column 2 of the Table.

The lot in the northeast corner is identified under the land reservation acquisition map as shown below.

No development is proposed within that area under this application.

Clause 5.10 Heritage conservation

(1) Objectives The objectives of this clause are as follows—

(a) to conserve the environmental heritage of Wollongong,

(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,

(c) to conserve archaeological sites,

(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

The proposed demolition is satisfactory with regard to the objectives of this clause. The heritage items identified for retention under the site-specific exemption criteria are retained and salvage and interpretation of other elements identified in accordance with the Heritage Interpretation Strategy and Conservation Management Strategy as further outlined in **Attachment 8**.

The subject area of the site is not identified as containing areas of Aboriginal significance.

(2) Requirement for consent Development consent is required for any of the following—

(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—

(i) a heritage item,

(ii) an Aboriginal object,

(iii) a building, work, relic or tree within a heritage conservation area,

(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,

(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,

(d) disturbing or excavating an Aboriginal place of heritage significance,

(e) erecting a building on land—

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,

(f) subdividing land—

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

The application seeks development consent for the works in accordance with this clause.

(3) When consent not required However, development consent under this clause is not required if—

(a) the applicant has notified the consent authority of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development—

(i) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and

(ii) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site or heritage conservation area, or

(b) the development is in a cemetery or burial ground and the proposed development—

(i) is the creation of a new grave or monument, or excavation or disturbance of land for the purpose of conserving or repairing monuments or grave markers, and

(ii) would not cause disturbance to human remains, relics, Aboriginal objects in the form of grave goods, or to an Aboriginal place of heritage significance, or

(c) the development is limited to the removal of a tree or other vegetation that the Council is satisfied is a risk to human life or property, or

(d) the development is exempt development.

N/A

(4) Effect of proposed development on heritage significance The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).

The proposed demolition is consistent with the Site-Specific Exemption, Heritage Interpretation Strategy and Conservation Management Strategy.

(5) Heritage assessment The consent authority may, before granting consent to any development—

(a) on land on which a heritage item is located, or

(b) on land that is within a heritage conservation area, or

(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),

require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.

The application is supported by a Heritage Impact Statement.

(6) Heritage conservation management plans The consent authority may require, after considering the heritage significance of a heritage item and the extent of change proposed to it, the submission of a heritage conservation management plan before granting consent under this clause.

A Conservation Management Strategy was prepared as part of the planning proposal process. The proposal addresses the recommendations of this document.

(7) Archaeological sites The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the State Heritage Register or to which an interim heritage order under the Heritage Act 1977 applies)—

(a) notify the Heritage Council of its intention to grant consent, and

(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.

An archaeological site means a place that contains one or more relics, with relics meaning any deposit, artefact, object or material evidence that—

(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and

(b) is of State or local heritage significance.

This subclause does not apply.

(8) Aboriginal places of heritage significance The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance—

(a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and

(b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.

The granting of an Aboriginal heritage impact permit under s90 of the National Parks and Wildlife Act 1974 for the application is not required as the works are not within an area where there are identified Aboriginal sites.

(9) Demolition of nominated State heritage items The consent authority must, before granting consent under this clause for the demolition of a nominated State heritage item—

(a) notify the Heritage Council about the application, and

(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.

There is a site-specific exemption published in the Government Gazette (contained at **Attachment 5**) to enable the carrying out of the proposed demolition works without the need to obtain approval from NSW Heritage Council under Section 60 of the NSW Heritage Act 1977.

(10) Conservation incentives The consent authority may grant consent to development for any purpose of a building that is a heritage item or of the land on which such a building is erected, or for any purpose on an Aboriginal place of heritage significance, even though development for that purpose would otherwise not be allowed by this Plan, if the consent authority is satisfied that—

(a) the conservation of the heritage item or Aboriginal place of heritage significance is facilitated by the granting of consent, and

(b) the proposed development is in accordance with a heritage management document that has been approved by the consent authority, and

(c) the consent to the proposed development would require that all necessary conservation work identified in the heritage management document is carried out, and

(d) the proposed development would not adversely affect the heritage significance of the heritage item, including its setting, or the heritage significance of the Aboriginal place of heritage significance, and

(e) the proposed development would not have any significant adverse effect on the amenity of the surrounding area.

N/A

Clause 5.21 Flood planning

The broader site is variously impacted by low to high flood risk however the application only involves demolition and is distant from the watercourse. No concerns are raised with regard to flooding.

Part 7 Local provisions – general

Clause 7.1 Public utility infrastructure

The proposal involves demolition only and there are no particular considerations in regard to public utilities.

Clause 7.18 Design excellence in Wollongong city centre and at key sites

(1) The objective of this clause is to deliver the highest standard of architectural and urban design.

(2) This clause applies to development on any of the following land involving the construction of a new building or external alterations to an existing building—

(a) land within the Wollongong city centre,

(b) land shown edged heavy black and distinctively coloured on the Key Sites Map (a key site).

(3) Development consent must not be granted to development to which this clause applies unless, in the opinion of the consent authority, the proposed development exhibits design excellence.

The Corrimal Cokeworks is identified as a key site.

The proposal is for demolition of structures and future built form on the site will be subject to review by the Design Review Panel.

Clause 7.4 Riparian lands

The site contains riparian land as illustrated below. The works are not within close proximity to the riparian land.

Clause 7.5 Acid Sulfate Soils

The land is identified as being impacted by class 5 acid sulphate soils. The proposal involves demolition to ground level and no concerns are raised in this regard.

Claus 7.7 Foreshore building line

The site is not identified as being impacted by the foreshore building line.

Clause 7.21 Restoration or repair of heritage structures at former Corrimal Coke Works

(1) This clause applies to Lot 1, DP 795791, Railway Street, Corrimal.

(2) Despite clauses 4.3 and 7.20, development for the purposes of restoring, repairing, reconstructing or rebuilding the following structures shown on the Overshadowing Map is permitted with development consent—

(a) C1 North Stack,

(b) C1 Brick Chimney Stack,

(c) C1 Fine Coal Bin.

(3) The maximum building height for the structures is as follows—

(a) C1 North Stack—37m,

(b) C1 Brick Chimney Stack—29m,

(c) C1 Fine Coal Bin—25m.

(4) In this clause—

rebuilding a structure means rebuilding in a way that evokes the original structure by representing key shapes or features.

N/A

2.2 SECTION 4.15(1)(A)(II) ANY PROPOSED INSTRUMENT

None applicable.

2.3 SECTION 4.15(1)(A)(III) ANY DEVELOPMENT CONTROL PLAN

2.3.1 WOLLONGONG DEVELOPMENT CONTROL PLAN 2009

CHAPTER A2 – ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The proposal involves demolition of above ground industrial structures and there are no particular considerations regarding ecologically sustainable development.

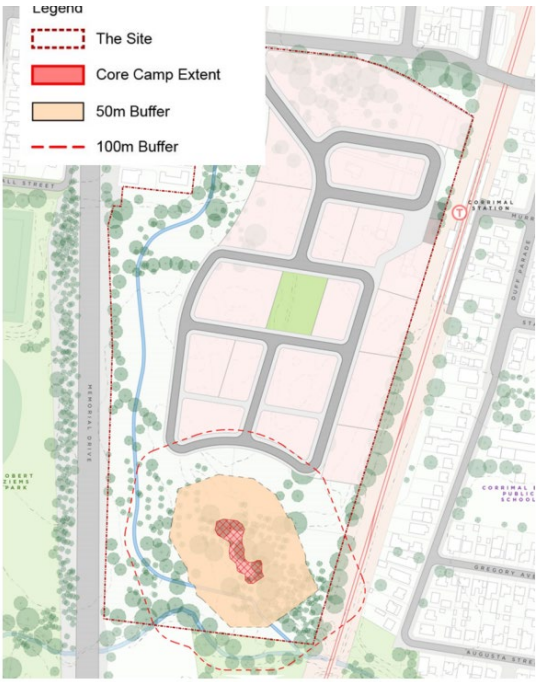
CHAPTER D19: FORMER CORRIMAL COKE WORKS SITE

This chapter applies to the site. Sections of this chapter relevant to the demolition DA are discussed below and also within section 5.1.3 of the Heritage Impact Statement.

Control	Comment
4 MASTER PLAN	
4.2 Desired Future Character	
The former Corrimal Coke Works Site will be developed as a contemporary urban village, providing a diversity of medium density housing types within a high-quality public domain that retains the heritage significance of the place, and reveals and reinforces the role of heritage buildings and sites in their context. The Site will conserve significant industrial elements that are adaptively reused and integrated with innovative heritage interpretations in public spaces and through urban design outcomes to allow the community to engage with the history of the Site. Aboriginal cultural values and significance of the Site will also be acknowledged and celebrated. Built form will be distributed so as to preserve and create key view corridors, as well as providing appropriately scaled interfaces to the heritage plaza precinct. Corrimal Railway Station and the adjacent heritage plaza 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 "green" 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. Development of the site will ensure a commitment to achieving sustainable processes and outcomes.	As far as what is relevant to the demolition DA, the following comments are made: • The proposal is consistent with the site-specific exemption criteria and recommendations of the Heritage Interpretation Strategy and Conservation Management Strategy. • Site specific exemption criteria 4 is as follows: **4. Demolition** Demolition of all elements as identified in Figure 25 Demolition Plan within t Heritage Interpretation Strategy (Urbis, February 2022), on condition that a proposed further investigation, interpretation, salvage and reinstatement wo are subsequently and progressively carried out as per this Strategy. – The demolition plan is consistent with figure 25 as illustrated at Figure 2 and Figure 3. – Attachment 8 details how further investigation, interpretation, salvage, and reinstatement works are subsequently and progressively carried out and conditions of consent are recommended in this regard. • Aboriginal cultural values are to be addressed at later stages of the project and the subject area is within a heavily disturbed part of the site that does not contain areas identified as of Aboriginal significance.

Control	Comment
5.9 Heritage	
5.9.1 Objectives	
a. Ensure that future development is undertaken in a manner that is sympathetic and responds to the heritage character of the Site.	The proposal is consistent with the Heritage Interpretation Strategy identifies elements for salvage and storage for future interpretation in later stages, predominantly the heritage precinct.
b. 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.	As above.
c. Provide for the conservation, retention, adaptive reuse and interpretation of significant heritage fabric and Site features within the development.	As above.
d. Acknowledge and interpret the Aboriginal cultural heritage values of the development Site, including the cultural values and significance associated with the creeklines and riparian vegetation on and adjacent the Site.	The proposal involves demolition of above ground industrial structures to slab level along with removal of an emplaced berm. No impacts to any items of Aboriginal cultural significance are expected and no items Aboriginal sites have been identified in the vicinity of the works proposed.
5.9.2 Development Controls	
1. Conservation, retention, interpretation, and removal of existing structures shall consider the Conservation Management Strategy (Urbis 2021) and Heritage Interpretation Strategy (Urbis 2022) submitted in support of the Planning Proposal, while recognising that future development application stages will require the submission of more detailed and updated information.	Section 5.2 of the Heritage Impact Statement outlines how the proposal addresses the specific requirements of the Conservation Management Plan. Recommendations of the Heritage Interpretation Strategy are also addressed at **Attachment 8**.
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. Retained, re-purposed and interpreted structures on Site (including, but not limited to, the C1 Brick Chimney Stack, C1 Fine Coal Bin (coke ovens), remnant wall of the Powerhouse and C1 Northern Stack) are to be incorporated into private structures and private lots (ie not in public areas or transferred to Council for care, maintenance, and funding).	Detail regarding retention of heritage structures and salvage and interpretation is discussed at **Attachment 8** and in the submitted Heritage Impact Statement**.** Under the DA for the heritage plaza, the C1 Brick Chimney Stack, C1 Fine Coal Bin (coke ovens), remnant wall of the Powerhouse and C1 Northern Stack are all to be retained in private ownership and integrated into other commercial or publicly accessible private open areas.

Control	Comment
3. The salvage and re-use of materials from existing structures shall be included in future development outcomes.	The DA provides detail on what structures are to be salvaged, where they are to be stored. Consideration to how salvaged material is to be integrated is subject to further consideration under the heritage plaza DA.
4. The physical remains of the remnant rail tracks should be reinstated in the ground plane in or as close as possible to their current location and accompanied with appropriate interpretation.	This is to be achieved and is captured in the draft conditions.
5. The existing industrial structures on the Site shall be recorded through a photographic archival recording in accordance with NSW Heritage Council guidelines and a copy included in the Wollongong Local Studies Library Collection.	This is to be achieved and is captured in the draft conditions.
6. Any future development application should be supported by an Aboriginal Cultural Heritage Assessment Report and include Aboriginal community consultation in accordance with the Aboriginal Community Consultation Guideline.	Not applicable to the demolition DA.
7. Management of identified Aboriginal Heritage shall consider the Aboriginal Heritage Assessment (Kelleher Nightingale Consulting 2019) submitted in support of the Planning Proposal, while recognising that future development application stages will require the submission of more detailed and updated information. Further consultation should occur with local Aboriginal stakeholders to inform appropriate outcomes for acknowledging and interpreting the Aboriginal cultural values associated with the Site and the surrounding area.	Not applicable to the demolition DA.

Control	Comment
5.11 Heritage Plaza	To be subject to assessment under the development application for that stage.
5.15 Grey-headed Flying-fox Camp	Controls within this section of the DCP relating to protection of the Grey-Headed Flying Fox camp relate to later stages of the DA. Notwithstanding, there are conditions recommended under this application in relation to mitigating impacts to this ecologically endangered community. 

CHAPTER E2: CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

This chapter is not generally applicable to the proposed demolition.

CHAPTER E3: CAR PARKING, ACCESS, SERVICING/LOADING FACILITIES AND TRAFFIC MANAGEMENT

6 Traffic impact assessment and public transport studies

6.1 Car Parking and Traffic Impact Assessment Study

A traffic impact assessment was not required for the development.

6.2 Preliminary Construction Traffic Management Plan

A Construction Traffic Management Plan and Swept Path Analysis have been provided that identifies vehicles can utilise the two existing vehicle entry point to the site on Railway Street.

7 Parking demand and servicing requirements

7.1 Car Parking, Motor Cycle, Bicycle Requirements and Delivery / Servicing Vehicle Requirements

N/A

7.2 Disabled Access and Parking

N/A

7.3 Bicycle Parking / Storage Facilities and Shower and Change Facilities

N/A

7.4 Waiver or Reduction of Parking Spaces

N/A

7.5 Car Parking Credits for Existing Development

N/A

7.6 Monetary Contributions for Off Site Car Parking Provision

N/A

7.7 Car Parking Layout and Design

N/A

7.8 Basement Car Parking

N/A

7.9 Mechanical Parking Systems

N/A

7.10 Allocation of Car Parking within a Strata titled Development

N/A

7.11 Public Car Parks

N/A

7.12 Electronic Parking Vacancy Signs

N/A

8 Vehicular access

The site currently has two vehicular access points onto Railway Street that are suitable to accommodate the anticipated maximum vehicle.

9 Loading / unloading facilities and service vehicle maneuvering

On-site maneuvering can occur on site to ensure forwards entry and egress of vehicles.

10 Pedestrian access

N/A

11 Safety & security (Crime Prevention through Environmental Design) measures for car parking areas

The proposal is satisfactory with regard to the principles of CPTED.

CHAPTER E6: LANDSCAPING

No landscaping is proposed as part of the application.

CHAPTER E7: WASTE MANAGEMENT

A Demolition Noise and Vibration Management Plan has been submitted which details steps to manage impacts to nearby residential receivers during works.

A Preliminary Hazardous Materials Assessment (Reditus, 27 September 2022) was submitted in regard to management of hazardous material during demolition. The report recommends additional

assessment be undertaken prior to demolition commencing as limited sampling has been undertaken due to safety concerns and accessibility.

A Demolition Work Plan (dated 28 September 2022, prepared by Liberty Industrial) has been submitted which details how the physical works required to meet the specifications will be managed and delivered. In order to meet the specific requirements of AS 2601-2001 – The Demolition of Structures, site-specific Work Plans will be created by Liberty Industrial, through detailed inspection and consultation with Liberty Industrial staff undertaking the works, which will not occur until the site is established.

Conditions are recommended in regard to the above documents and management of demolition waste.

CHAPTER E10: ABORIGINAL HERITAGE

A site wide Aboriginal Cultural Heritage Assessment Report (ACHAR) (dated February 2023, prepared by Kelleher Nightingale Consulting Pty Ltd) has been prepared. That report identifies one Aboriginal archaeological site within the broader site at the southern end. Extensive previous modifications and disturbance associated with former industrial land use has diminished or negated the archaeological potential of the remainder of the study area. Parts of the study area used for former coke works operations exhibited significant levels of disturbance that would have removed/displaced Aboriginal archaeological objects. Apart from the specific location of the archaeological site 52-2-4505 an AHIP is not required for the remainder of the study area.

CHAPTER E11 HERITAGE CONSERVATION

The site is both listed under the LEP and on the State Heritage Register.

Assessment against the relevant clauses of the LEP is contained above.

Given that the subject site is listed under the Heritage Act, Section 60 (s.60) approval or Section 57 (s.57) exemption of approval for works is required. The gazettal of the subject site under the aforementioned instrument included site specific exemptions intended to facilitate the future development of the Corrimal Coke Works, including demolition of built forms onsite. The proposed works are consistent with the site-specific exemptions and therefore that the proposed works are exempt from approval under s.57(2) of the Heritage Act. A s.60 approval is not required for the proposed works.

The proposal has been supported by a suitable Heritage Impact Statement

A Conservation Management Study was also prepared as part of the planning proposal.

Relevant documents that pertain to the heritage considerations for the site are as follows:

- Background/informing documents:
  - Heritage Interpretation Strategy (dated 25 February 2022, prepared by Urbis)
  - Conservation Management Study (P2619 04 – Final Report, prepared by Urbis)
  - Site Specific Exemption – Government Gazette dated 24 February 2023
- Heritage Impact Statement (1 November, prepared by Urbis): Submitted as part of the DA package addressing the consistency of the proposal with the above background documents.

CHAPTER E13 FLOODPLAIN MANAGEMENT

No concerns are raised regarding flooding. The subject application does not propose a use.

CHAPTER E14 STORMWATER MANAGEMENT

Not applicable to demolition.

CHAPTER E17 PRESERVATION AND MANAGEMENT OF TREES AND VEGETATION

Tree removal is addressed under the site wide Biodiversity Assessment Report (BDAR) which has been deemed acceptable subject to conditions as far as it relates to the subject application.

CHAPTER E18: THREATENED SPECIES

The site wide Biodiversity Development Assessment Report (V5 dated 23 June 2023 prepared by Ecological) identifies the area the subject of the demolition DA as containing planted native vegetation with threatened ecological communities being located outside of the area the subject of the current DA as indicated at Figure 10 below. No impacts to any remnant vegetation were identified to occur under this stage of the proposal.

The report also assessed locations of microbats, Grey-headed Flying-fox and green and golden bell frog habitat and appropriate conditions of consent have been provided.

Council's Environment Officer has reviewed the submitted documentation and is satisfied that the demolition can proceed with appropriate conditions.

Figure 11: Threatened Ecological Community locations (Biodiversity Development Assessment Report)

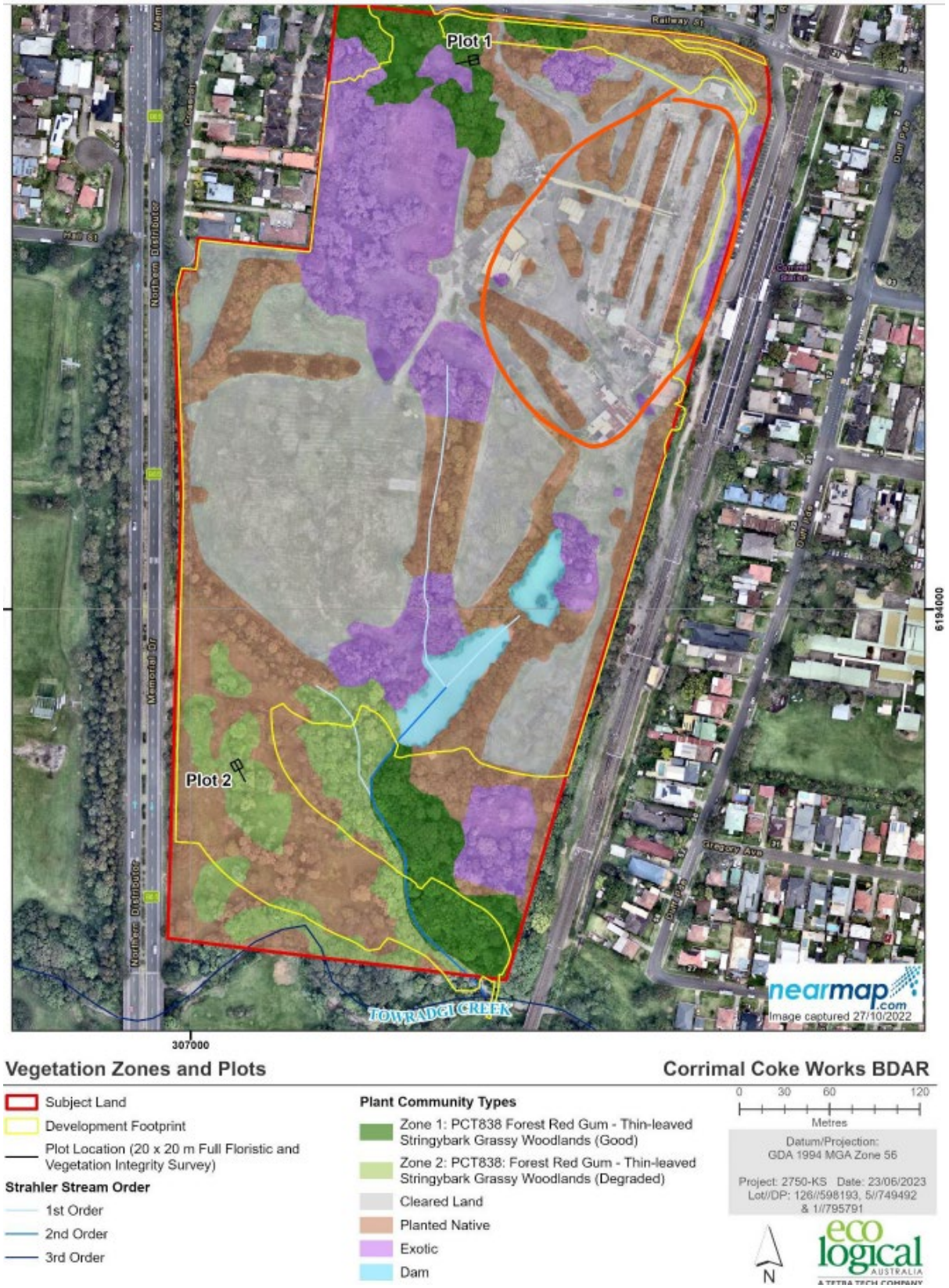


Figure 12: Vegetation zones and plot (Biodiversity Development Assessment Report)

CHAPTER E20 CONTAMINATED LAND MANAGEMENT

See discussion at SEPP 55.

CHAPTER E21 DEMOLITION AND HAZARDOUS BUILDING MATERIALS MANAGEMENT

A Preliminary Hazardous Materials Assessment (Reditus, 27 September 2022) has been undertaken. As recommended by the report, additional assessment will be required prior to demolition as limited sampling has been undertaken due to safety concerns and accessibility. Conditions will be provided regarding additional assessment.

A Demolition Noise & Vibration Management Report (Renzo Tonin & Associates, 3 March 2023) has been submitted and conditions recommended.

CHAPTER E22 SOIL EROSION AND SEDIMENT CONTROL

Conditions of consent are recommended in regard to appropriate sediment and erosion control measures to be in place during works.

2.3.2 WOLLONGONG CITY WIDE DEVELOPMENT CONTRIBUTIONS PLAN

A planning agreement (Document ID: 24263190) has been registered on the properties as part of the planning proposal and bond arranged with Council for $745,000 (Document ID: 24144889). The planning agreement requirements become due at various Occupation Certificate stages across the wider development. The planning agreement (Document ID: 23862998) means that no development contributions are to be levied for the individual development applications.

2.4 SECTION 4.15(1)(A)(IIIA) ANY PLANNING AGREEMENT THAT HAS BEEN ENTERED INTO UNDER SECTION 7.4, OR ANY DRAFT PLANNING AGREEMENT THAT A DEVELOPER HAS OFFERED TO ENTER INTO UNDER SECTION 7.4

See discussion at 2.3.2 above.

2.5 SECTION 4.15(A)(IV) THE REGULATIONS (TO THE EXTENT THAT THEY PRESCRIBE MATTERS FOR THE PURPOSES OF THIS PARAGRAPH)

Environmental Planning and Assessment Regulation 2021

61 Additional matters that consent authority must consider

Conditions of consent are recommended with regard to the proposed demolition.

2.6 SECTION 4.15(1)(B) THE LIKELY IMPACTS OF DEVELOPMENT

The proposed demolition is consistent with the applicable site-specific exemptions and site specific DCP. Conditions of consent are considered suitable to mitigate specific impacts associated with the work such as noise, impacts to fauna, dust, waste management, hours and the like.

2.7 SECTION 4.15(1)(C) THE SUITABILITY OF THE SITE FOR THE DEVELOPMENT

Does the proposal fit in the locality?

The proposed demolition is consistent with the outcomes anticipated for the site in the planning proposal and subsequent DCP chapter along with the applicable site-specific exemptions.

Are the site attributes conducive to development?

There are no site constraints that would prevent the proposal.

2.8 SECTION 4.15(1)(D) ANY SUBMISSIONS MADE IN ACCORDANCE WITH THIS ACT OR THE REGULATIONS

See discussion at section 1.3.

2.9 SECTION 4.15(1)(E) THE PUBLIC INTEREST

The proposal is acceptable regarding the likely impacts and the zoning and applicable planning controls. Submissions have been considered and have either been addressed or would not require amendment to the proposal. Specialist commentary and conditions have been provided. Approving the proposal is in the public interest.

3 CONCLUSION

This application has been assessed as satisfactory having regard to the Heads of Consideration under Section S4.15(1) of the Environmental Planning and Assessment Act 1979, the Site-Specific Exemption and associated Heritage Interpretation Strategy, relevant provisions of Wollongong Local Environmental Plan 2009 and Development Control Plan. The proposal is considered supportable in its current form.

4 RECOMMENDATION

It is recommended that the development application be approved subject to the draft conditions at **Attachment 9**.

5 ATTACHMENTS

1 Aerial photograph

2 Wollongong Local Environmental Plan 2009 zoning map

3 Demolition Plan

4 Heritage Impact Statement

5 State Heritage Listing Gazette Notice

6 Heritage Interpretation Strategy

7 Conservation Management Strategy

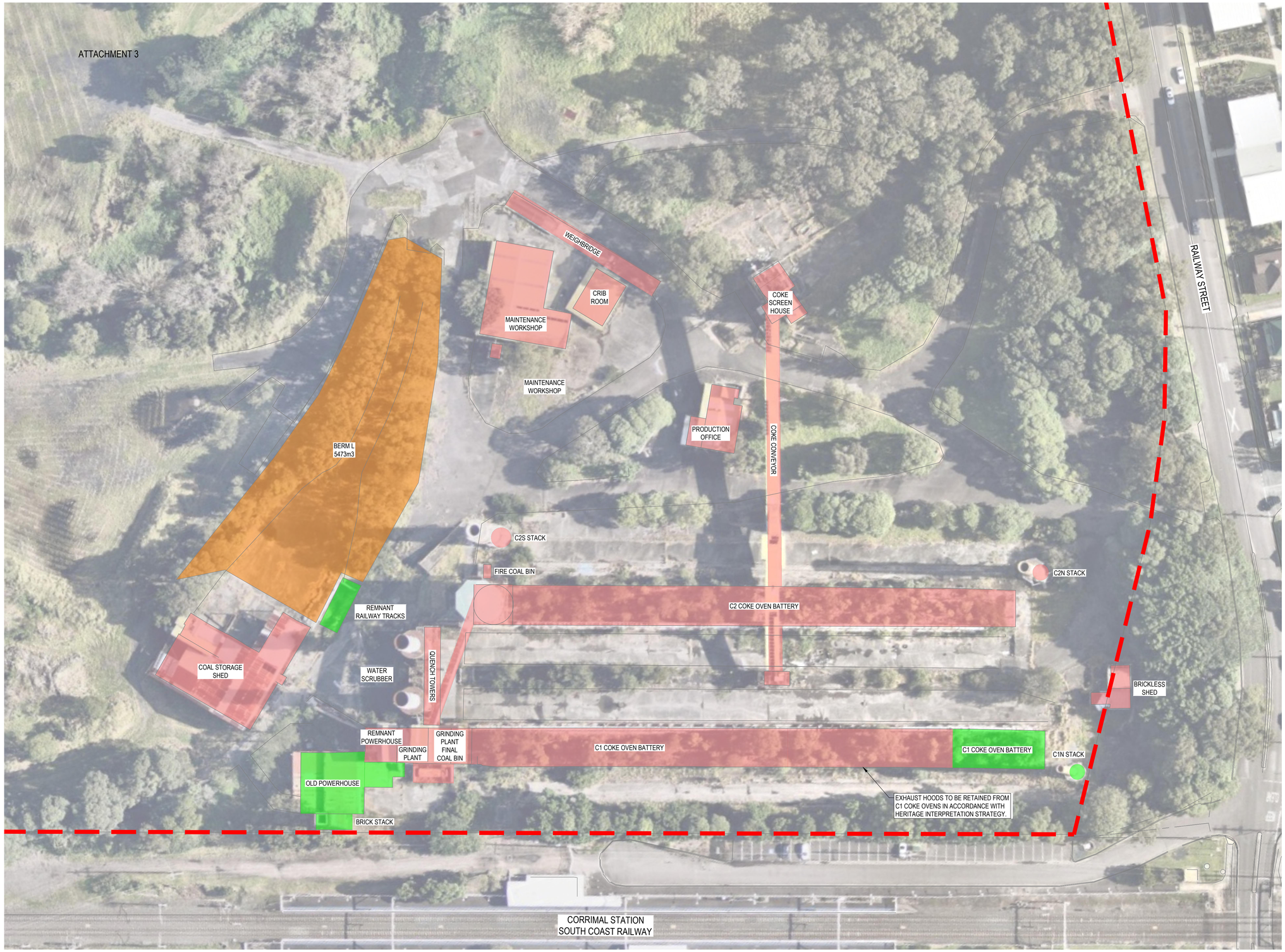
8 Table of heritage items

9 Draft conditions

ATTACHMENT 1 – AERIAL PHOTOGRAPH

ATTACHMENT 2 – WLEP 2009 ZONING MAP

ATTACHMENT 3



PROPOSED

LEGEND

SITE BOUNDARY

EXISTING

LOT BOUNDARY

STRUCTURE TO BE RETAINED

STRUCTURE TO BE DEMOLISHED

BERM TO BE DEMOLISHED

NOTES:

1. EXISTING SURVEY INFORMATION SOURCED FROM DETAIL AND LEVEL SURVEY (JOB NO: 190755) PREPARED BY VERIS DATED MAY 2020.
2. RETENTION OF EXISTING HERITAGE ITEMS AND MINIMUM WORKS CLEARANCES TO BE CONFIRMED BY SUITABLY QUALIFIED HERITAGE CONSULTANT.
3. UNDERGROUND SERVICE LOCATIONS ARE APPROXIMATE ONLY AND SOURCED FROM AVAILABLE DBYD INFORMATION, EXACT LOCATIONS TO BE CONFIRMED VIA DETAILED SERVICE LOCATION SURVEY.
4. REFER TO 'DEMOLITION WORK PLAN' PREPARED BY LIBERTY INDUSTRIAL FOR SPECIFIC DETAILS ON SITE DEMOLITION WORKS.
5. BERM LOCATIONS AS PER LONEGRAN SURVEY DATED NOVEMBER 2017.

REV	DATE	DESCRIPTION	AMD BY	APP BY
P6	30.05.23	UPDATED TO ADDRESS COUNCIL COMMENTS	SS	MAR
P5	07.11.22	ISSUED FOR INFORMATION	MD	MJR
P4	04.10.22	ISSUED FOR INFORMATION	MJR	MJR
P3	27.09.22	ISSUED FOR INFORMATION	MJR	MJR
P2	20.09.22	ISSUED FOR INFORMATION	MD	MJR
P1	09.09.22	ISSUED FOR INFORMATION	MD	MJR

0 5 10 15 20 25m

SCALE 1:500 AT ORIGINAL SIZE

LEGACYPROPERTY

MAKER ENG SURVEY DESIGN DELIVER

DRAWN: M.DAVID	DESIGNED: C.WIEWIORA
DRAFT CHECK: C.WIEWIORA	DESIGN CHECK: M.ROCHE
APPROVED: M.ROCHE	

NOT FOR CONSTRUCTION

CORRIMAL
COKE WORKS
BUILDING DEMOLITION
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00452-00-SK025		A1	P6

Suppachock Sayanmontatul, 5/30/2023 9:33 AM

G:\MKR00452 Corrimal Coke Works - Civil, Utilities & PM\02 Design\Drawings\00 Sketches\Xrefs\2022 09 09 - SK024\MKR00452-10-Hatch Demolition (Buildings).dwg

PROPOSED

LEGEND

SITE BOUNDARY

EXISTING

LOT BOUNDARY

STRUCTURE TO BE RETAINED

STRUCTURE TO BE DEMOLISHED

BERM TO BE DEMOLISHED

HERITAGE ARTIFACTS

NOTES:

1. EXISTING SURVEY INFORMATION SOURCED FROM DETAIL AND LEVEL SURVEY (JOB NO: 190755) PREPARED BY VERIS DATED MAY 2020.
2. RETENTION OF EXISTING HERITAGE ITEMS AND MINIMUM WORKS CLEARANCES TO BE CONFIRMED BY SUITABLY QUALIFIED HERITAGE CONSULTANT.
3. UNDERGROUND SERVICE LOCATIONS ARE APPROXIMATE ONLY AND SOURCED FROM AVAILABLE DBYD INFORMATION, EXACT LOCATIONS TO BE CONFIRMED VIA DETAILED SERVICE LOCATION SURVEY.
4. REFER TO 'DEMOLITION WORK PLAN' PREPARED BY LIBERTY INDUSTRIAL FOR SPECIFIC DETAILS ON SITE DEMOLITION WORKS.
5. BERM LOCATIONS AS PER LONEGRAN SURVEY DATED NOVEMBER 2017.
6. LABELED BUILDINGS AND STRUCTURES (D3,D4, ETC.) AS PER THE SCHEDULES WITHIN THE LIBERTY INDUSTRIAL DEMOLITION WORKS PLAN (P7-P16).

Suppachock Saiyanmontakul, 5/30/2023 9:45 AM

REV	DATE	DESCRIPTION	AMD BY	APP BY
P6	30.05.23	UPDATED TO ADDRESS COUNCIL COMMENTS	SS	MAR
P5	07.11.22	ISSUED FOR INFORMATION	MD	MJR
P4	04.10.22	ISSUED FOR INFORMATION	MJR	MJR
P3	27.09.22	ISSUED FOR INFORMATION	MJR	MJR
P2	23.09.22	ISSUED FOR INFORMATION	MJR	MJR
P1	20.09.22	ISSUED FOR INFORMATION	MD	MJR

0 10 20 30 40 50m

SCALE 1:1000 AT ORIGINAL SIZE

LEGACYPROPERTY

MAKER ENG SURVEY DESIGN DELIVER

DRAWN: M.DAVID	DESIGNED: C.WIEWIORA
DRAFT CHECK: C.WIEWIORA	DESIGN CHECK: M.ROCHE
APPROVED:	M.ROCHE

NOT FOR CONSTRUCTION

CORRIMAL
COKE WORKS
EXISTING BUILDING & STRUCTURE
LAYOUT PLAN

DRAWING NUMBER	SHEET No.	ORIG. SIZE	REVISION
MKR00452-00-SK027		A1	P6

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ATTACHMENT 4

URBIS

FORMER CORRIMAL COKE WORKS

Heritage Impact Statement
Demolition Works

Prepared for
LEGACY PROPERTY
1 November 2022

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

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Consultant	Darrienne Wyndham, B. Arts (Ancient History), M. Museum & Heritage Studies		
Project Code	P0002619		
Report Number	00	27/09/2022	Internal
	01	28/09/2022	Draft 01
	02	30/09/2022	Final
	03	1/11/2022	Final for submission

Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.

We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

urbis.com.au

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EXECUTIVE SUMMARY

Urbis have been engaged by Legacy Property to prepare the following Heritage Impact Statement for the former Corrimal Coke Works site (hereafter referred to as 'the site' or 'the subject site'). This Heritage Impact Statement provides an assessment of the proposed demolition works for the site, the first stage in the urban renewal of the former Corrimal Coke Works.

The subject site is a listed heritage item of local and State significance. The site is listed as 'Corrimal Coke Works Site' (Item No. 02061) on the State Heritage Register (SHR) under the *NSW Heritage Act 1977* (Heritage Act). The site is also listed as 'Former Corrimal Coke Works' (Item No. 6607) under Schedule 5, Part 1 of the *Wollongong Local Environmental Plan (LEP) 2009*.

A Planning Proposal for the former Corrimal Coke Works was lodged with Wollongong City Council in October 2017. The Proposal sought to rezone the site to R3 Medium Density Residential and RE1 Public Recreation, providing for redevelopment of the site with around 700-750 dwellings incorporating a mix of residential apartments and townhouses, as well as new public open spaces. The Planning Proposal was endorsed by Council in April 2018 and received a Gateway Determination from the Department of Planning and Environment in August 2018.

A Locality Chapter containing site-specific planning controls came into force in August 2022, recognising the heritage opportunities of the subject site and outlining demolition and retention of heritage fabric to guide the future design, Chapter D19: Former Corrimal Coke Works Site (Set ID 22160408).

Urbis notes that the site-specific Locality Chapter supersedes the controls set out in the *Wollongong Development Control Plan (DCP) 2009.*

The north-east portion of the site is currently occupied by a number of built forms associated with the former Corrimal Coke Works. It is proposed to selectively demolish or remove parts of these built forms in accordance with the gazetted locality plan for site safety. These built forms will then be reinterpreted as part of the adaptive re-use works, which are currently being designed by experienced adaptive re-use architects Aileen Sage in collaboration with Urbis and the wider site architects in accordance with the endorsed Heritage Interpretation Strategy for the site. Further details of these proposed works are included in Section 1.5.

Given that the subject site is listed under the Heritage Act, Section 60 (s.60) approval or Section 57 (s.57) exemption of approval for works is required. The gazettal of the subject site under the aforementioned instrument included site specific exemptions intended to facilitate the future development of the Corrimal Coke Works, including the demolition of built forms onsite. A self-assessment under the site-specific exemptions for the 'Corrimal Coke Works Site' (Item No. 02061) has been undertaken in Section 5.1.1 of this report. Urbis have determined that the proposed works are consistent with the site-specific exemptions and therefore that the proposed works are exempt from approval under s.57(2) of the Heritage Act. A s.60 approval is not required for the proposed works.

For the purpose of completeness, a detailed impact assessment of the proposed works has been undertaken in Section 5 of this report. The proposed works are assessed as acceptable from a heritage perspective and would not result in adverse impacts to the heritage significance of the subject site.

Key aspects of the proposal are as follows:

- The proposed works comprise the selective demolition and retention of built forms on the 'Former Corrimal Coke Works' item, as per the endorsed locality plan, Heritage Interpretation Strategy and Conservation Management Strategy prepared by Urbis.
- The proposed selective demolition and retention of the selected built forms is the first stage of the urban renewal of the Corrimal Coke Works site and is necessary to de-risk safety concerns for the future development of the site. The proposed works will also facilitate the future heritage interpretation planning onsite (outside of the scope of the current proposal).
- The proposed works have been assessed as compliant with the statutory requirements for the local and State listed site, including the site-specific exemptions for the former Corrimal Coke Works under s.57(2) of the Heritage Act, the Wollongong LEP 2009 and Chapter D19: Former Corrimal Coke Works Site of the Wollongong DCP 2009. The proposed works also comply with the approved heritage and planning documents for the site, including the above Heritage Interpretation Strategy and Conservation Management Strategy.
- All viable options for retention and adaptive re-use of built forms were previously explored as part of the Planning Proposal for the former Corrimal Coke Works site, with the significance, condition and

structural integrity of the built forms onsite assessed in the project Conservation Management Strategy and Heritage Interpretation Strategy. The built forms that have been selected for demolition are a direct response to these assessments and the endorsed locality plan.

- All built forms of little significance have been selected for demolition as part of the proposed works, including (but not limited to) the administration buildings, Brickies Shed and storage tanks. These are late twentieth century additions that have been identified as being in fair to very poor condition. The removal of these built forms will de-risk safety concerns for the site and future site-users and facilitate future development of the site, aligning with the recommendation for elements of little significance onsite.
- Built forms of moderate significance have been selected for demolition as part of the proposed works, including (but not limited to) the Grinding Plant, Fine Coal Bins, C2 Coke Oven Battery and Steel Stacks. These built forms comprise mid-to-late twentieth century additions that have been assessed as being in poor to very poor condition. The removal of these built forms, therefore, would not adversely impact the significance of the site while improving safety outcomes. The proposed works comply with the recommendation for elements of moderate significance onsite.
- The proposed works involve the temporary removal/storage of the Remnant Railway Tracks, identified as being of moderate significance and as being in moderate condition. The Remnant Railway Tracks will be removed and stored for future adaptive re-use in accordance with the Heritage Interpretation Strategy (outside of the scope of the current proposal).
- An item of high significance in very poor condition, the C1 Coke Oven Battery, will be demolished. However, this item is in very poor condition and poses possible safety risks if retained. A minimum of five ovens from the battery will be retained and the overall form will be subject to interpretation onsite as per the Heritage Interpretation Strategy and endorsed locality plan under the DCP (outside of the scope of the current proposal).
- The proposed works involve the retention and conservation of built forms comprising the Brick Stack, Old Powerhouse and Remnant Powerhouse Wall. These built forms have been identified as being of moderate to high significance and have been assessed as being in poor to fair condition. The retention and conservation of these built forms is intended to facilitate future adaptive re-use as key heritage interpretation and community spaces in the redeveloped Corrimal Coke Works site, as proposed in the above documents (outside of the scope of the current proposal). The proposed works comply with the recommendation for elements of high significance onsite.
- The location and purpose of the demolished built forms will be interpreted on signage in accordance with the Heritage Interpretation Strategy (outside of the scope of the current proposal).
- A Photographic Archival Recording of the built forms onsite has previously been undertaken in accordance with the NSW OEH Heritage Division's Guidelines for 'Photographic Archival Recording of Heritage Items Using Film or Digital Capture'. This archival recording was submitted to Council as part of the previous rezoning of the subject site.

For the reasons above, this project is recommended for approval from a heritage perspective.

1. INTRODUCTION

1.1. BACKGROUND

Urbis have been engaged by Legacy Property to prepare the following Heritage Impact Statement for the former Corrimal Coke Works site (hereafter referred to as 'the site' or 'the subject site'). This Heritage Impact Statement provides an assessment of the proposed demolition works for the site, the first stage in the urban renewal of the former Corrimal Coke Works.

The subject site is a listed heritage item of local and State significance. The site is listed as 'Corrimal Coke Works Site' (Item No. 02061) on the State Heritage Register (SHR) under the *NSW Heritage Act 1977* (Heritage Act). The site is also listed as 'Former Corrimal Coke Works' (Item No. 6607) under Schedule 5, Part 1 of the *Wollongong Local Environmental Plan (LEP) 2009*.

A Planning Proposal for the former Corrimal Coke Works was lodged with Wollongong City Council in October 2017. The Proposal sought to rezone the site to R3 Medium Density Residential and RE1 Public Recreation, providing for redevelopment of the site with around 700-750 dwellings incorporating a mix of residential apartments and townhouses, as well as new public open spaces. The Planning Proposal was endorsed by Council in April 2018 and received a Gateway Determination from the Department of Planning and Environment in August 2018.

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Urbis notes that the site-specific Locality Chapter supersedes the controls set out in the *Wollongong Development Control Plan (DCP) 2009.*

Urbis have been the lead heritage consultants engaged by the client on this project to date, preparing a number of heritage management documents including the Conservation Management Strategy and Heritage Interpretation Strategy.

The north-east portion of the site is currently occupied by a number of built forms associated with the former Corrimal Coke Works. It is proposed to selectively demolish or remove parts of these built forms in accordance with the gazetted locality plan for site safety. These built forms will then be reinterpreted as part of the adaptive re-use works, which are currently being designed by experienced adaptive re-use architects Aileen Sage in collaboration with Urbis and the wider site architects in accordance with the endorsed Heritage Interpretation Strategy for the site. Further details of these proposed works are included in Section 1.5.

This Heritage Impact Statement has been prepared to determine the potential heritage impact of the proposed works on the heritage item, assessing these impacts against the relevant local and State statutory instruments. This report will accompany a Development Application for the demolition works to Council.

1.2. SITE LOCATION

The site comprises the former Corrimal Coke Works site, located off Memorial Drive and Railway Street, Corrimal. The site is legally described as Lot 1 Deposited Plan (DP) 795791, Lot 5 DP 749492, Lot 126 DP 598190 and Lot 11 DP749492.

The location and relevant boundaries of the Corrimal Coke Works site are shown below.

Figure 1 – Subject site and locality map

Source: SIX Maps 2022

1.3. METHODOLOGY

This Heritage Impact Statement has been prepared in accordance with the NSW Heritage Division guidelines 'Assessing Heritage Significance', and 'Statements of Heritage Impact'. The philosophy and process adopted is that guided by the Australia ICOMOS Burra Charter 1999 (revised 2013).

The proposal has been considered with reference to relevant controls and provisions contained within the gazettal of the item on the SHR, as well as the Wollongong LEP 2009 and Locality Chapter of the Wollongong DCP 2009.

1.4. AUTHOR IDENTIFICATION

The following report has been prepared by Darrienne Wyndham (Heritage Consultant). Stephen Davies (Director, Heritage) has reviewed and endorsed its content.

Unless otherwise stated, all drawings, illustrations and photographs are the work of Urbis.

1.5. THE PROPOSAL

The proposed works for the former Corrimal Coke Works site involve the selective demolition/removal of built forms which will then be reinterpreted as part of the endorsed locality plan and Heritage Interpretation Strategy for the site. The adaptive re-use works are currently being designed by Aileen Sage Architects in collaboration with Urbis and the wider site architects.

This Heritage Impact Statement addresses the demolition works only, with future Development Applications planned for subsequent stages of the urban renewal of the site addressed in Section 1.6. The proposed works for the built forms at the subject site are summarised hereunder and illustrated in the plans below.

Table 1 – Proposed works

Element	Significance	Proposed works
C2 Coke Oven Battery	Moderate	Remove.
Quench Towers	Moderate	Remove.
Grinding Plant	Moderate	Remove.
C1N Steel Stack	Moderate	Remove.
C2N and C2S Steel Stacks	Moderate	Remove.
Fine Coal Bins	Moderate	Remove.
Brickies Shed	Little	Remove.
Coal Storage Shed	Little	Remove.
Maintenance Workshop	Little	Remove.
Weighbridge and Crib Room	Little	Remove.
Production Office	Little	Remove.
Oil Storage Tank/s and Waste Oil Tank	Little	Remove.
Coke Screenhouse and Conveyor	Little	Remove.
Remnant Railway Tracks	Moderate	Remove and store existing railway tracks for adaptive re-use.
Brick Stack	High	Retain and conserve for adaptive re-use.
Old Powerhouse	Moderate	Retain and conserve for adaptive re-use.
C1 Coke Oven Battery	High	Retain and conserve a representational sample of the C1 Coke Oven Battery for adaptive re-use. Remove all remaining ovens.
Remnant Powerhouse Wall	High	Retain and conserve remnant wall of former Powerhouse Building for adaptive re-use.

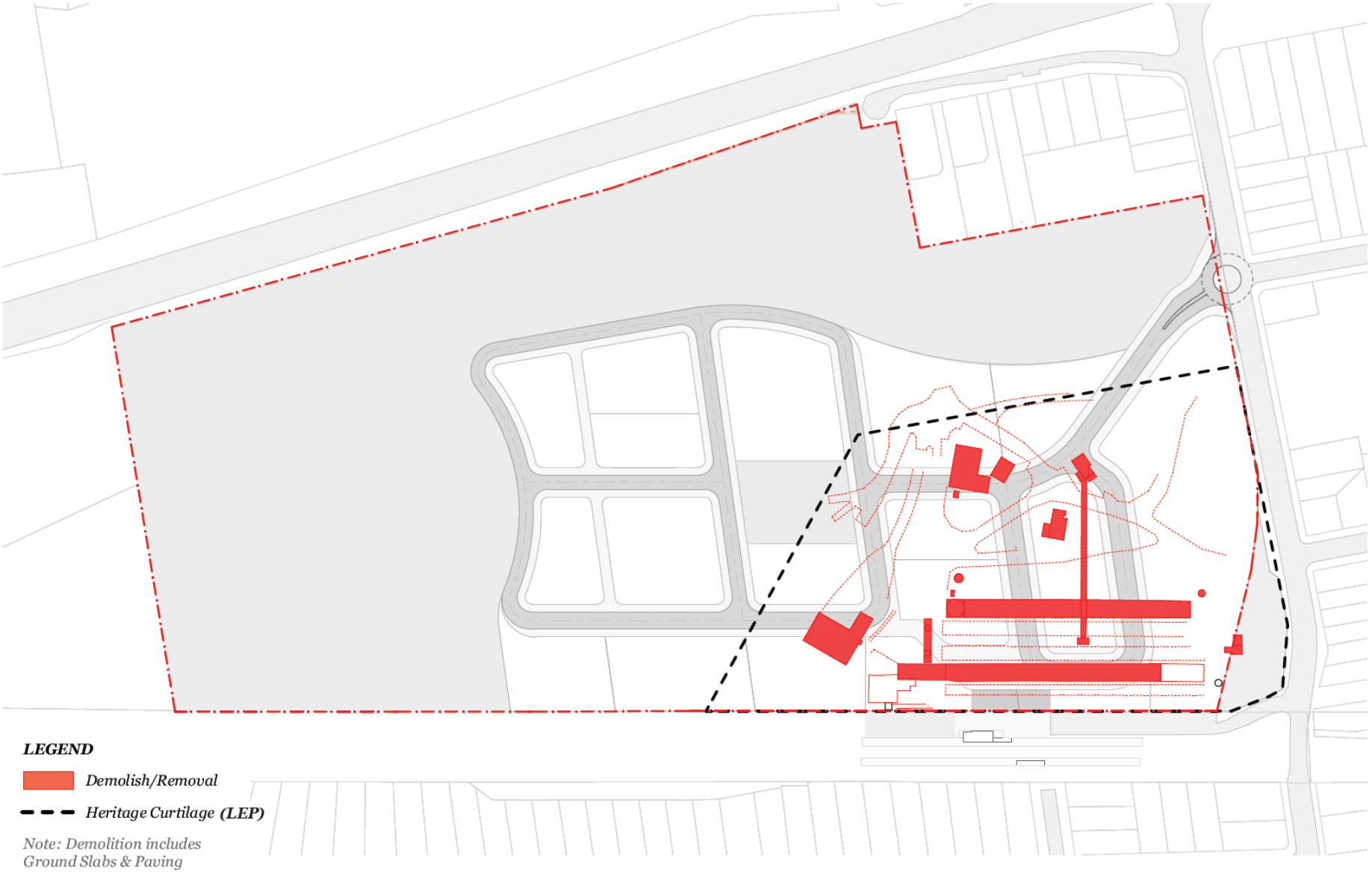

Figure 2 – Demolition Plan and LEP Heritage Curtilage.

Source: DKO. - Former Corrimal Coke Works Heritage Interpretation Strategy, Urbis

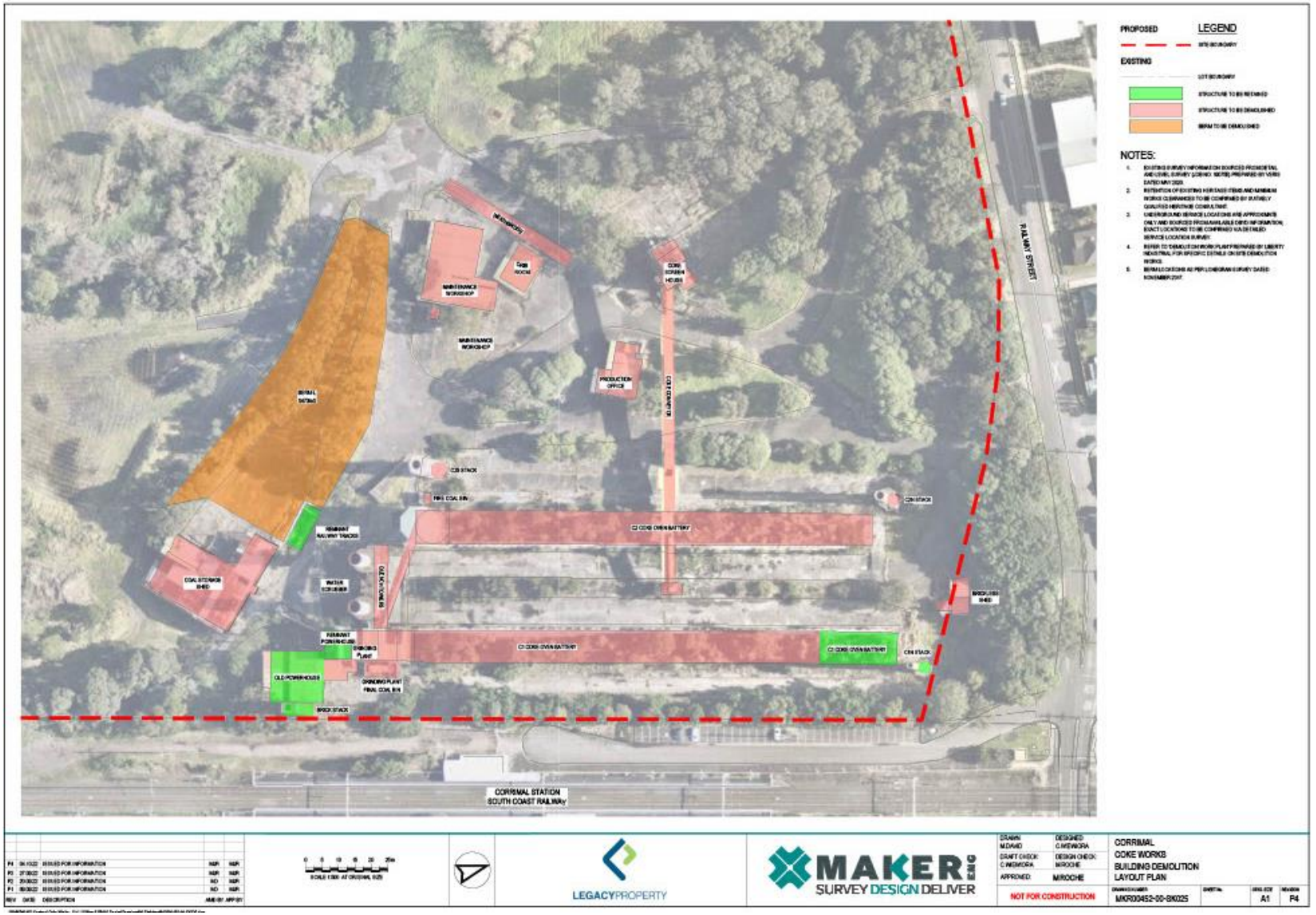

Figure 3 – Corrimal Coke Works Detailed Demolition Plan for DA submission.

Source: Maker Eng via Legacy Property

1.6. FUTURE WORKS

Urbis acknowledges that more detailed planning, including detailed drawings and plans for adaptive re-use and content for interpretation, will be required for future development of the site.

The future works for the former Corrimal Coke Works site are outside the scope of this Heritage Impact Statement and will be the subject of future Development Applications planned for subsequent stages. For the purposes of information, a working draft of the adaptive re-use and general renewal works have been included below.

Figure 4 – Working draft render of the Heritage Plaza.

Source: Aileen Sage Architects

Figure 5 – Working draft renders of built forms onsite.

Source: Aileen Sage Architects

Figure 6 – Working draft renders of built forms onsite.

Source: Aileen Sage Architects

2. SITE DESCRIPTION

2.1. SETTING AND ACCESS

The former Corrimal Coke Works site is located approximately 80km south of Sydney and 7.5km north of Wollongong. The Corrimal Railway Station and South Coast (rail) Line are adjacent to the eastern boundary. Three access points (with gates) provide road access to Railway Street at the northern boundary.

The western boundary of the site is adjacent to Memorial Drive, the primary roadway between the Bulli Pass and Wollongong. The Princes Highway lies further to the west and serves the town centres. Towradgi Creek is located at the southern boundary of the site. The creek crosses into the site and continues through adjacent allotments.

The site is surrounded by the residential suburb of Corrimal and is approximately 1km west of Corrimal Beach.

2.2. LANDSCAPE

The site boundary primarily contains a mix of established trees and shrubs. From most viewing points, this vegetation restricts views to and from the site, with only the large chimney stacks clearly visible. Within the site is a small creek which is a contributory to Towradgi Creek. There are two dams located in the south-western corner of Lot 1 DP795791. These dams were constructed to provide water for the quenching of the coke. Established vegetation winds through the site surrounding coal/coke storage areas and other built elements.

2.3. THE SUBJECT SITE AND BUILT FORMS

The former coke works site contains a diverse range of built forms. These include the industrial elements involved in the coking process, along with administration and staff amenities buildings.

The built forms at the subject site are summarised hereunder and shown below.

Table 2 – Description of the built forms present on the subject site

Element	Description
C2 Coke Oven Battery	The C2 Coke Oven Battery, completed in c.1962, contains 32 ovens to the west and parallel with the C1 Coke Oven Battery. The C2 Coke Oven Battery was assessed in the CMS as being in in very poor condition and not considered viable for retention. 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, metal doors.
Quench Towers	The Quench Towers, constructed in the late 1960s, are located at the southern end of the C1 and C2 Coke Batteries. The Quench Towers were assessed in the CMS as being in very poor condition and not considered viable for retention. Further, these structures are at risk of significant failure and are currently monitored for safety. It was observed that the steel structures which support the towers are precarious, with substantial corrosion and decay.
Grinding Plant	The Grinding Plant, constructed c.1960s, is located to the south of the C1 Fine Coal Bin. The Grinding Plant is constructed of a steel frame with metal cladding. The remnant wall of the earlier Powerhouse forms part of the east elevation of the grinding plant. The Grinding Plant in conjunction with the Quench Towers were assessed in the CMP as being in very poor condition, however the plant itself appears to be in a fair but decayed state.

Element	Description
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 in the CMS as being in very poor condition,
Fine Coal Bins	At the southern end of each coke battery is located a fine coal bin. Fine Coal Bin C1 and Fine Coal Bin C2 held the grinded coal ready to be taken to the coke ovens by the charging canisters. Both fine coal bins date from the 1960s. Both coal bins were assessed in the CMS as being in very poor condition.
Brickies Shed	Part of the complex of administrative buildings which supported the operation of the site. These masonry and metal clad buildings were constructed in the later twentieth century. The Brickies Shed has been partially demolished. The other buildings are in a decayed state with glazing missing/damaged and substantial graffiti.
Coal Storage Shed	
Maintenance Workshop	
Weighbridge and Crib Room	
Production Office	
Oil Storage Tank/s and Waste Oil Tank	The Oil Storage Tank is located to the east of the Maintenance Workshop, the Waste Oil Storage Tank is located to the east of the Fine Coal Bin C1. These structures were assessed in the CMS as being in fair condition.
Coke Screenhouse and Conveyor	The Coke Conveyor traverses the site north-west from the Quench Towers to the Coke Screenhouse. The conveyor took the coke to the screen house to be loaded into trucks. These structures were assessed in the CMS as being of in poor condition, with structural supports visibly corroded and decayed.
Remnant Railway Tracks	The site contains a number of remnant railway tracks 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 were assessed in the CMS as being in fair condition.
Brick Stack	The Brick Stack, constructed in c.1912, is located on the eastern boundary of the site adjacent to 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 Brick Stack was assessed in the CMS as being in poor condition, but viable for retention subject to structural repair. Steel bracing bands are currently supporting the masonry structure. On inspection, cracks were visible on all sides. The stack was re-lined internally in the 1990s, with this lining appearing in good condition. It was noted that the stack has had a metal 'cap' placed on top.
Old Powerhouse	The Old Powerhouse was constructed post-1980 and is located west of the brick stack. A portion of the remnant 1912 powerhouse has been incorporated into the northern part of the modern powerhouse. The Old Powerhouse was assessed in the CMS as being 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

Element	Description
	in 1930. These were sited in line with, but separate, from the original ovens, creating a northern ‘bank’. The C1 Coke Oven Battery was assessed in the CMS as being in very poor condition and not considered viable for retention. 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.
Remnant Powerhouse Wall	The remnant wall of the former powerhouse was constructed in c1912. The remnant wall includes the original west elevation of the powerhouse and an adjoining section of the north elevation. The remnant features three windows. A portion of the lower section of the wall has been reconstructed with modern fabric in the latter 20th century. The remnant wall of the former powerhouse was assessed in the CMS as being in fair condition.

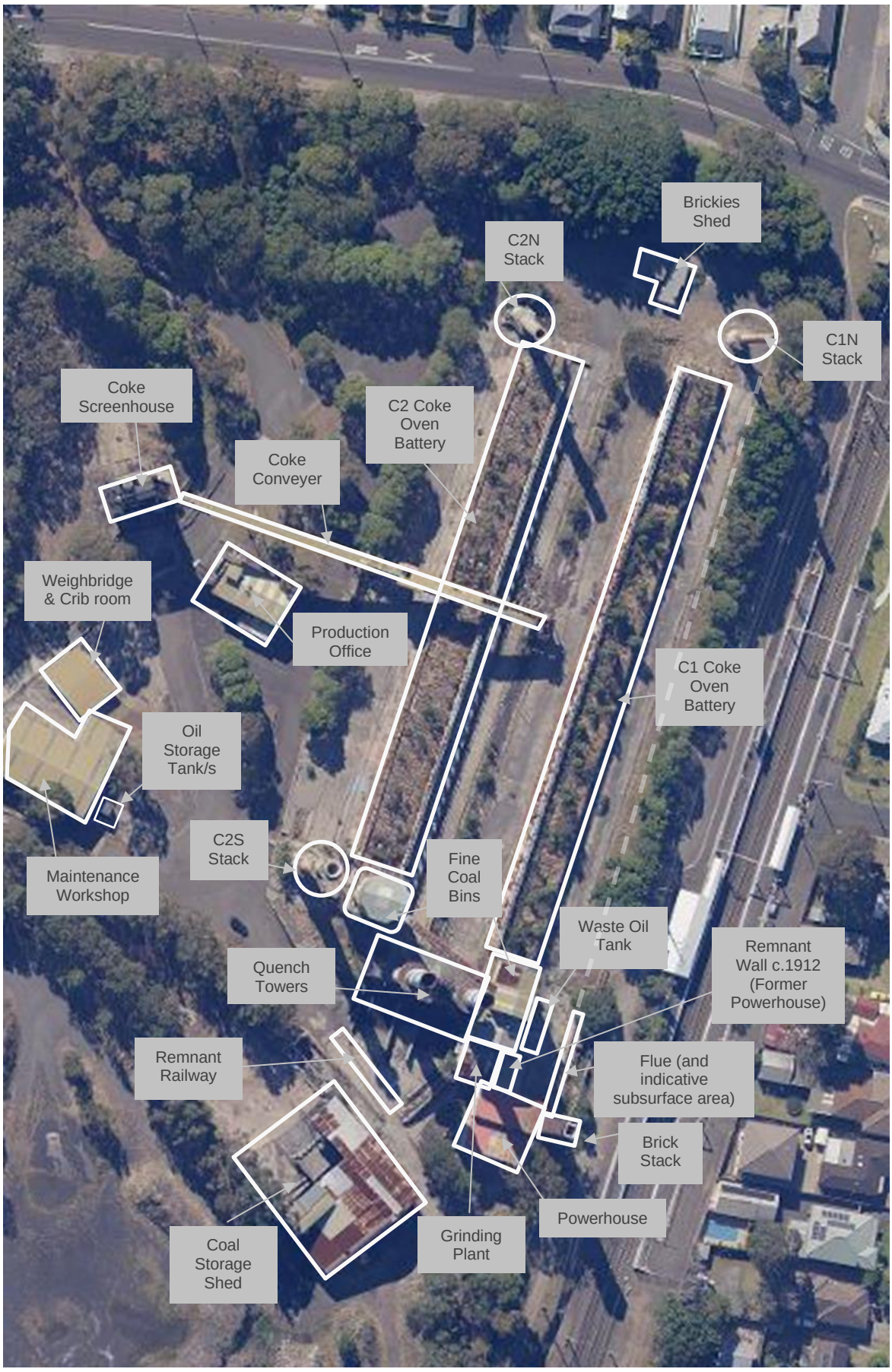

Figure 7 – Former Coke Works Remaining Built Element Map - Detail

Source: Six Maps – Former Corrimal Coke Works Conservation Management Strategy, Urbis

Figure 8 – View of west elevation of C2 Coke Battery.

Figure 9 – View of east elevation of C2 Coke Battery.

Figure 10 – View south showing quench towers.

Figure 11 – View east showing quench towers and structures.

Figure 12 – View south within the grinding plant.

Figure 13 – View looking east showing grinding plant.

Figure 14 – View north showing C1N stack.

Figure 15 – Detail view of C2N stack.

Figure 16 – View west showing C2S stack.

Figure 17 – View west, showing C1 Fine Coal Bin.

Figure 18 – Production Office, looking east.

Figure 19 – Waste Oil Storage Tank

Figure 20 – View of tracks looking west.

Figure 21 – View of tracks looking east.

Figure 22 – View of the brick stack looking west from the Corrimal Railway Station.

Figure 23 – View of the brick stack south from the C1 Coke Oven Battery.

Figure 24 – View of the remnant wall of the former power house.

Figure 25 – View looking south of east elevation of C1 Coke Ovens.

3. HISTORICAL OVERVIEW

This section contains a summary history of the former Corrimal Coke Works site only for the purposes of this Heritage Impact Statement. See the site-specific Conservation Management Strategy and Heritage Interpretation Strategy for a full detailed history.

3.1. THE ILLAWARRA COAL INDUSTRY

The first coal shipped from Wollongong Harbour was from James Shoobert's small coal mine on Mt Keira in 1849, heralding the commencement of an important Illawarra industry. Several other industries had operated in the area during this time, including ship building and whaling; however, agriculture and mining were to dominate the economic development of the Illawarra for the next 50 years.

During the 1860s and 1870s the demand for coal rose as industries developed in Sydney. The increase in steam shipping allowed more frequent and reliable shipment and jetties were developed in association with coal mines to service the trade.[1] Mining companies present in the area during the late 1890s included the South Bulli Colliery and the Brooker's Nose Company (later the Corrimal Coal Company), which operated at Mount Corrimal. The settlement of Corrimal grew during this time as a direct result of the coal mining industry, with 60 men working at the Corrimal colliery by 1880.

In 1887, the railway line to Sydney was constructed and Corrimal Station opened just east of the subject site. A tramline connecting the station to the Corrimal colliery was completed in 1889, allowing coal to be transported easily and swiftly throughout the state. Part of this tramline ran through the northern portion of the subject site.

In 1890 The Southern Coal Company purchased the Corrimal colliery, establishing a standard gauge extension of the Corrimal tramway to allow improved loading structures for the government coal wagons. The improved line allowed about 120 tonnes of coal to be sent to the locomotives per day.[2] The remnant siding for Corrimal Station, a single-track loop, is located within the subject site.

In 1904 there were 11 coke works in NSW supplying heat, light or power. By 1916, it was common for coke works, particularly those not located near an alternative power supply, to produce steam power through burning waste gases from the coking process under boilers.[3]

By 1907, Wollongong was the centre of the state coke industry, with 453 ovens producing 83 per cent of the state's total coke output.[4] In 1908, the Electrolytic Refining and Smelting Co (ERS) was founded at Port Kembla, with multiple batteries being established at the local collieries to respond to an increasing demand for steel manufacturing within the Illawarra.[5] Collieries, as large industrial power sources, were recognised appropriate places for these batteries.

3.2. SITE HISTORY

Prior to its purchase by the Corrimal Coal Company, the land of the subject site had been utilised for agricultural purposes. The land was first subdivided as Collin's Farm in the 1880s, with the railway line constructed through the site in 1887.

The subject site was purchased by the Corrimal Coal Company in 1911, partially in response to the increased demand for batteries for the ERS. Construction lasted a year, with a focus on the mine being self-sufficient and modern. Like other industrial and commercial sites within NSW and the Illawarra, the Corrimal Coke Works would supply enough electricity for their own needs and sell the excess energy to municipalities and other businesses.[6]

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[1] "The Birth of Corrimal", *South Coast Times and Wollongong*, 18 March 1927.

[2] "Illawarra", Sydney Mail and New South Wales Advertiser, 4 January 1890.

[3] Hall, WH, The Official Year Book of New South Wales 1904-05, NSW Government. Accessed via https://www.ausstats.abs.gov.au/ausstats/free.nsf/0/15680DD8C651B7EECA257AFC000FDB0F/$File/13001NSWYrBook1904-05.pdf.

[4] Ibid.

[5] Kass, Terry. 2010. *Thematic History of Wollongong.* Report prepared for City of Wollongong Council.

[6] Illawarra Heritage Trail, n.d. Electricity in the Illawarra. Accessed via https://www.illawarra-heritage-trail.com.au/electricity-in-the-illawarra-coal-met-industry/

The Corrimal Coke Works opened in September 1912 with much fanfare, including a special train bringing a party of eighty from Sydney to inspect the plant. The quality and innovation of the plant was highlighted in the following presentations at the opening day, as reported by the *South Coast Times*:

> *The speakers agreed in pronouncing the plant second to none in the Commonwealth. There were several other speakers, but the company were inclined rather to be festive than serious and the speaking was in that spirit. The plant, which was described in the 'South Coast Times' recently, will be producing coke in 'about a fortnight. The most outstanding feature is the utilization of the waste gases in producing electrical, power which will operate the machinery and also supply current the mine, which will do the same there. It is ' expected that in time the whole of the power required at the mine will be generated here. The advance made in the efficiency of plant's is illustrated by the contrast of the Unanderra plant with this. At Unanderra 100 ovens had a capacity of about 670 tons a week. Here 40 ovens employing but half the labour will make 650 tons.*[7]

The initial configuration of the coke works consisted of 40 non recovery beehive type coke ovens (C1 battery), brick combustion stack, powerhouse, timber coal bunkers and maintenance buildings. Coal was supplied to the coke works from the Corrimal-Balgownie Colliery via the private rail line constructed in 1889. Coal was loaded into the coke works from a small railway siding adjacent to the C1 battery.

The construction of the coke works lead to a reconfiguration of the sidings associated with the Corrimal colliery, including the installation of two dead-end sidings serving the coke loading wharves laid in a northerly direction. A further three dead end sidings for wagon standing were installed to the west of the C1 coke battery. On the southern side of the yard two other sidings left the main collier branch in an easterly direction passing over a steeply inclined embankment to the coal bins serving the crushers at the coke works. A conveyor system carried the coal through a tunnel beneath the branch to the coke works. A two-road engine shed at Unanderra was dismantled and taken to Corrimal for recreation on a site immediately west of the coke works standage sidings. On the southern side of the engine shed was the weighbridge and its loop siding; a point at the western end of the latter having a short connection in a north-eastern direction to pass beneath the engine lifting gallows, also a dead-end spur to the workshops situated against the northern side of the engine shed.[8]

The C1 battery was extended to the north in 1930 adding ten more ovens. The battery which now contained 50 ovens were all of the 'Thomas' type 30 foot long, six foot seven and a half inches wide and six foot six inches high. These ovens, which are still present at the site, had an arched roof and were rectangular in shape and doors at each end facilitate the discharge of the coke through the ovens. Each oven was connected to an underground flue system which enhanced coking efficiency.

By the late 1950s, the coke works complex continued to grow as construction began on a new oven battery (C2) with 32 ovens and the replacement of the old timber bunkers with steel hoppers. In 1960 a new 2,000 KM 6,600 V geared turbo-alternator set was installed in an enlarged powerhouse, together with new and more modern switchgear. By 1962 the second battery (C2) was completed and operational.[9]

The coke works and colliery was purchased by Australian Iron and Steel as a package in 1964. The change in ownership also meant that coal would be delivered by road, with the rail line discontinued. The powerhouse equipment was put up for sale in 1967 and in 1968 the boilers and stacks were removed.

In 1969, the coke works was purchased by the Bellambi Coal Company who began sourcing the coal from its South Bulli Mine. During the 1970s the Bellambi Coal Company spent two million installing pollution reduction equipment. The Bellambi Coal Company was taken over by Australian Coal and Coke Pty Ltd in 1980. From 1982, the works plant was upgraded and activities were progressively automated.

In 1984, ICC purchased the works to add to its operation at Coalcliff. At this point in time, Kembla Coal and Coke, with the combined tonnages from Coalcliff and Corrimal, was one of the largest producers of coke in Australia. As Corrimal Colliery closed in 1985, the coke works was be supplied by local mines.

In late 2013 it was announced that the coke works was to close permanently by April 2014. At the time of its closure, the Corrimal Coke Works had provided the Illawarra with a continuous source of permanent employment for over 100 years.

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[7] "Corrimal Coke Ovens – An Opening Day", *South Coast Times and Wollongong Argus*, 6 September 1912.

[8] McCarthy, K. 1978. The Corrimal Colliery Railway. Light Railway Research Society Sydney.

[9] "Corrimal Cokeworks to shut its doors", *Illawarra Mercury*, 17 October 2013.

Figure 26 – Bird's-eye view of Corrimal Coke Works coking plant, 1916.

Source: The coke industry of New South Wales. L.F. Harper.

Figure 27 – Corrimal-Balgownie Co.'s Ovens at the Corrimal Coke Works, 1916.

Source: The coke industry of New South Wales. L.F. Harper.

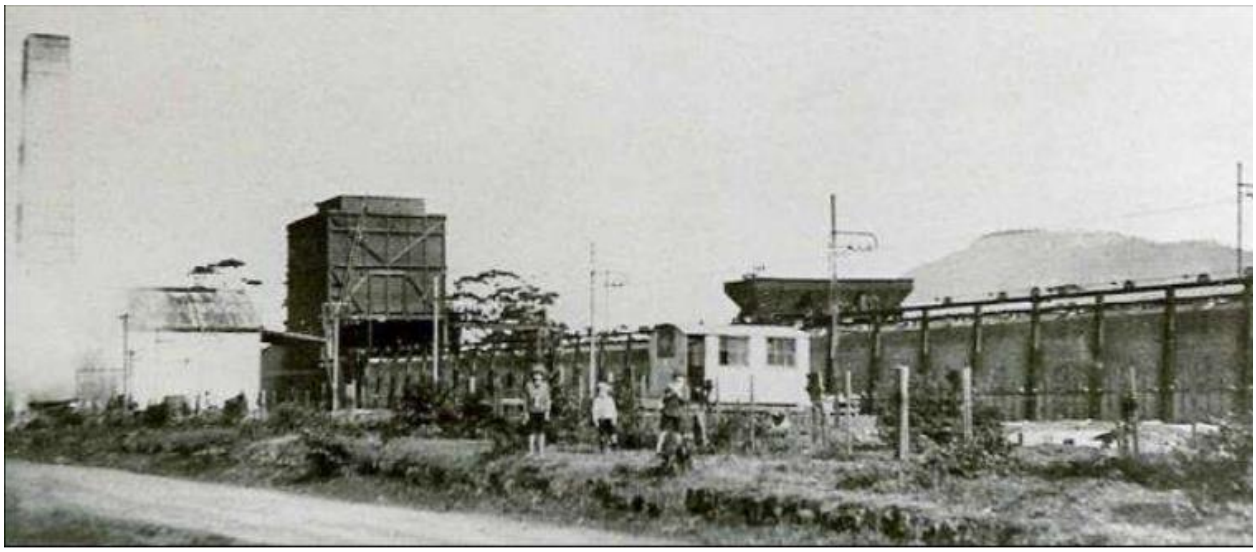

Figure 28 – Corrimal Coke Works, between 1912 and 1927. Note the original brick chimney, powerhouse, C1 batteries and pusher car and charge cars on top of the ovens

Source: Illawarra Images

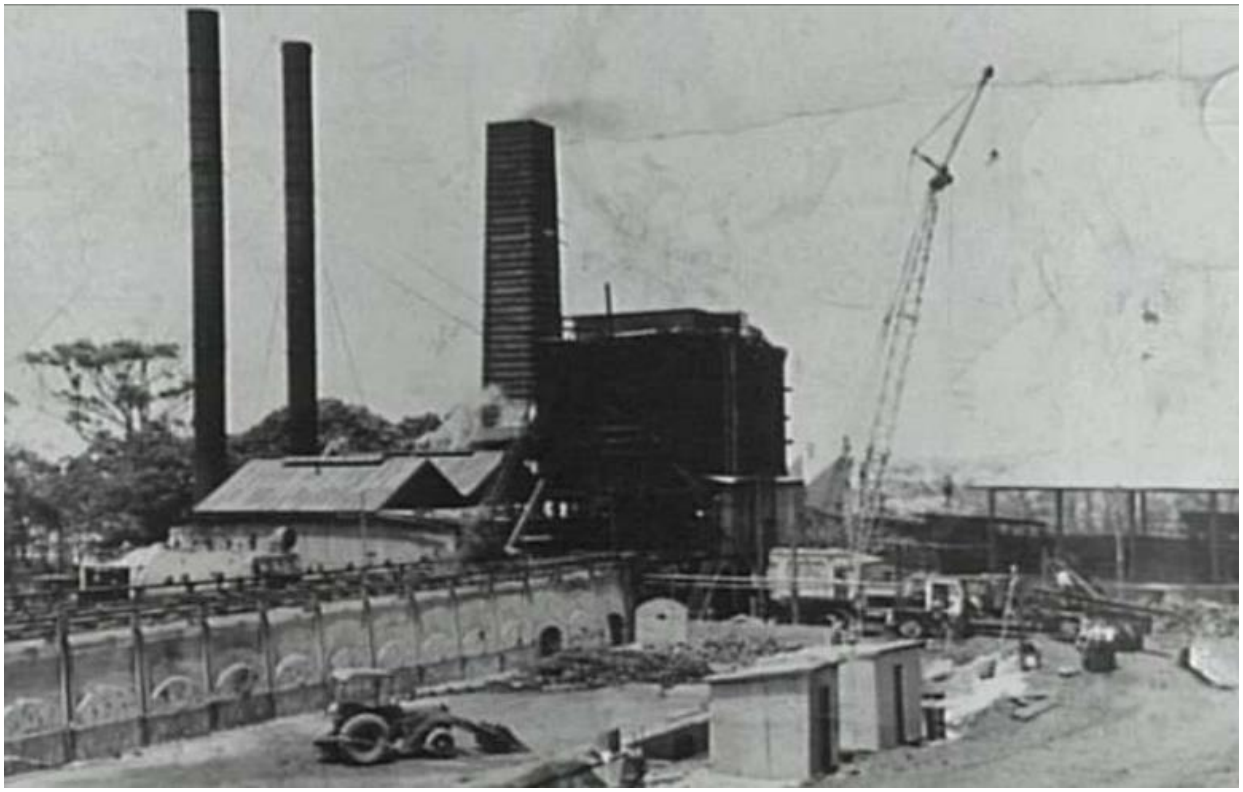

Figure 29 – Replacement of timber coal bunkers with steel hoppers, Corrimal Coke Works, 1959.

Source: Illawarra Images

Figure 30 – Aerial view of Corrimal Coke Works, c.1960s.

Source: UOW Archives

4. HERITAGE SIGNIFICANCE

4.1. WHAT IS HERITAGE SIGNIFICANCE?

Before making decisions to change a heritage item, an item within a heritage conservation area, or an item located in proximity to a heritage listed item, it is important to understand its values and the values of its context. This leads to decisions that will retain these values in the future. Statements of heritage significance summarise the heritage values of a place – why it is important and why a statutory listing was made to protect these values.

4.2. HERITAGE LISTING

The subject site is a listed heritage item of local and State significance. The site is listed as 'Former Corrimal Coke Works' (Item No. 6607) under Schedule 5, Part 1 of the Wollongong LEP 2009. The site is also listed as 'Corrimal Coke Works Site' (Item No. 02061) on the SHR under the Heritage Act.

The local and State curtilages are illustrated in the map below.

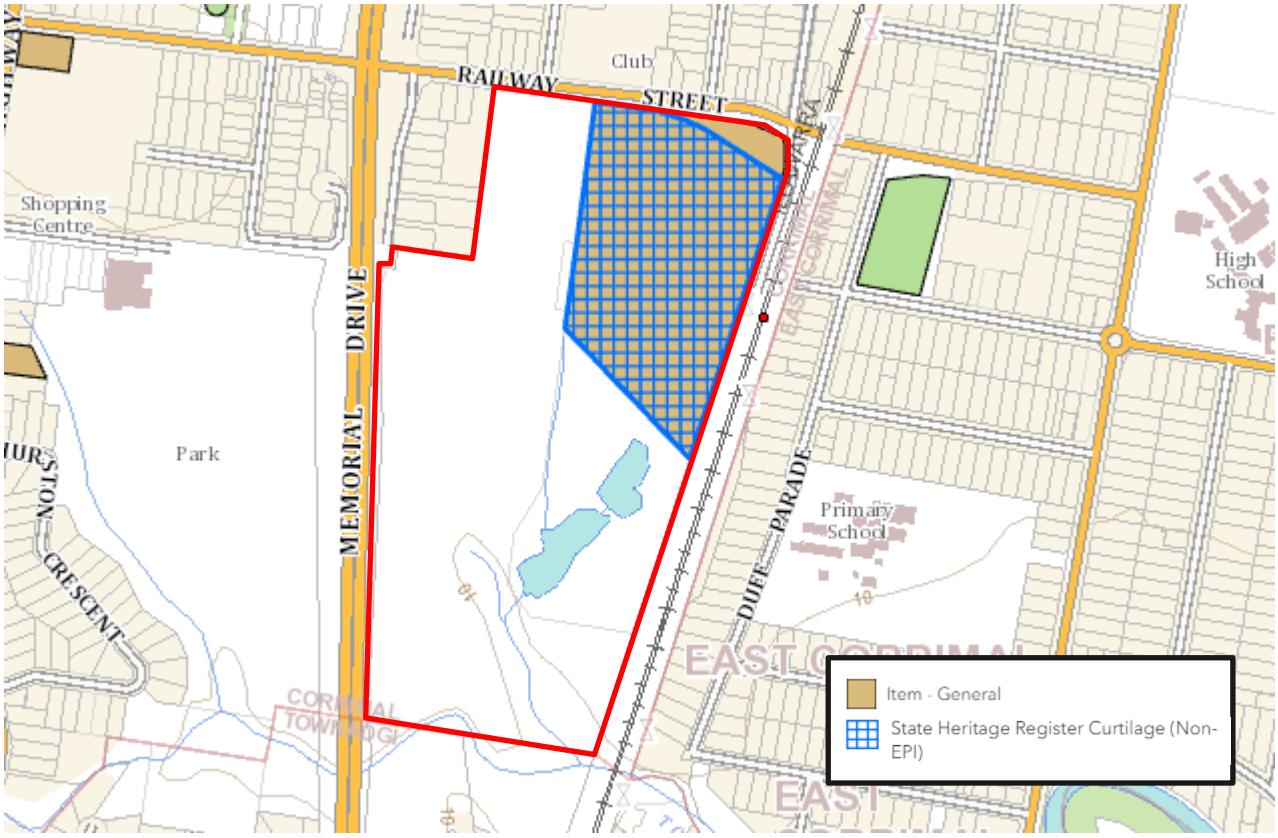

Figure 31 – Curtilage of the heritage item, as listed on the Wollongong LEP 2009.

Source: Wollongong DCP 2009, Chapter D19: Former Corrimal Coke Works Site

4.3. STATEMENTS OF SIGNIFICANCE

4.3.1. 'Former Corrimal Coke Works' (SHR Item No. 6607)

The statement of significance for the SHR listed 'Former Corrimal Coke Works', as extracted from the State Heritage Inventory listing, is as follows:

> *The Corrimal Coke Works is of state heritage significance as a contributor to the development of coke and steel manufacturing in New South Wales and Australia.*
>
> *The coke works operated for over 100 years (1912 - 2013) and, at the time of its closure, was the longest continuously running coke works in New South Wales and Australia (Thompson, 2020). During its operation, the site underwent ongoing and substantial changes and upgrades*

to respond to changes in market conditions, environmental constraints and changes in local conditions. This process of change and adaptation, as evidenced in the built fabric and site layout are of significance in demonstrating change processes that allowed the operation to remain competitive and commercially viable for over 100 years.

The coke works is closely associated with and historically connected to the former Corrimal Colliery site and more broadly to the Illawarra Escarpment, as the source of coking coal. The site is also connected to the South Coast Railway line, Corrimal Railway Station and Railway Street. These associations are important aspects of the coke works' location, siting and functioning. Visual connections between these locations should be conserved, interpreted and re-instated where possible.

The coke works provides a major industrial landscape within the context of a residential suburb. The site demonstrates an industrial aesthetic and the scale of the chimney structures provide a stark contrast to the surrounding low-density residential environment. The site's vertical stacks, dating to various periods of the operation, provide a visual landmark within the surrounding suburbs and evoke memory of the site's significance. Smaller site elements such as the powerhouse and coke oven batteries are visible from the site's boundaries, trains and the environs of the railway station and notably non-residential suburban elements, of some size.

The related Corrimal Colliery tram-line (c1884-88), standard gauge rail spur line (1889-90) across the site in the late 19th century, and its 1912+ coke works was a strong component in the early establishment of Corrimal as a settlement and its growth in the early 20th century. The works' history is intrinsically tied to the suburb's development and growth. The works were a consistent contributing local employer, providing direct and indirect work to a portion of the community. Several families had multiple generations of men and women working here (including at least one family of four generations). Electricity generated on site from waste gases was also used to supply the municipality from 1918 to 1955, further cementing the significant connection of the works with development and economic growth in Corrimal.

The site's long production history provides evidence that it pioneered and implemented a range of technological innovations and techniques designed to respond to changing standards and increased efficiencies of production. The 1912 use of steam heated by waste gases to generate electricity for the coke works and the Corrimal mine and from 1918 to 1955 to sell electricity to the community, and modifications made to processing to improve environmental outcomes in the 1970s are examples of technical innovations.

The former Corrimal Coke Works retains six subterranean flues. Management of archaeological features and assessment of their significance will be necessary in considering future changes to the site.

The site's use over an extended period has created multiple layers of industrial fabric and social history. The supply of coking coal to the site was originally self-sufficient, arriving by tram and later train from the nearby Corrimal Colliery. By the mid-1980s, the colliery had closed, ending the site's use of raw materials from Corrimal itself. The evidence of the site's development over time and changes to the fabric to respond to changing conditions, market factors and local conditions provide evidence of the significance of the site.

The site represents an increasingly rare industrial usage type and as the longest-running coke making operation in NSW and Australia at the time of its closure, is an important representative of this site type in NSW. As an industrial site type, coke works are becoming rare and endangered aspects of what was once a contributing component of the Illawarra's, NSW's and Australia's industrial past. Corrimal, Coalcliff and Port Kembla coke works, are the three remaining Illawarra examples, although Port Kembla uses a different technology to the other two - one recovering by-products of ignition gasses.

Whilst the Corrimal Coke Works are no longer fully intact, it is one of only three examples of its type in NSW and is therefore of high representative value. The coke ovens in particular are

important in demonstrating the principal characteristics of a now under-represented industry of state significance.[10]

4.3.2. ‘Corrimal Coke Works Site’ (LEP Item No. 02061)

The statement of significance for the locally listed ‘Corrimal Coke Works Site’, as extracted from the State Heritage Inventory listing, is as follows:

> *The Corrimal Coke Works operated over 100 years (1912 - 2014) and is arguably the longest continuously operated coke works in the world. The Coke Works Site is a visual reminder of the role of coke-making has played in the coal and steel industries both locally and within the region. The Coke Works were a key component in the establishment of Corrimal as a suburb and ensured the economic health of the locality as a continuous employer of local families. The Corrimal Coke Works are socially significant to the individuals who built and operated the facility and their descendants. As the oldest continually used coke works in the world, the Corrimal Coke Works represent a unique continuation of use over time and have the potential to yield information pertaining to the development of coke-making. As an industrial site type, coke works are becoming uncommon, rare and endangered aspects of what was once a major component of the Illawarra's, NSW's and Australia's industrial past. Whilst the Corrimal Coke Works are no longer fully intact, it is one of only two examples of its type in NSW and is therefore of high representative value. The coke ovens in particular are important in demonstrating the principal characteristics of a now underrepresented industry of local and state significance.*[11]

4.4. SCHEDULE OF SIGNIFICANT ELEMENTS

The CMS for the subject site graded various elements, including buildings, structures and landscapes, of the in relation to their contribution to the overall heritage significance of the place.

This schedule of significant elements is included below, with a significance map of the area provided in Figure 28.

Table 3 – Schedule of Significant Elements

Element	Date	Significance	Condition
C2 Coke Oven Battery	1962	Moderate	Very poor
Quench Towers	1960s	Moderate	Very poor
Grinding Plant	1960	Moderate	Very poor
Steel Stacks			
C1N stack	1985	Moderate	Very poor
C2N stack	1962	Moderate	Very poor
C2S stack	1962	Moderate	Very poor
Fine Coal Bins	1960	Moderate	Very poor
Brickies Shed	Later twentieth century	Little	Very poor
Coal Storage Shed	Later twentieth century	Little	Very poor
Maintenance Workshop	Later twentieth century	Little	Fair

[10] State Heritage Inventory, 2022. Former Corrimal Coke Works, accessed via https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5067133

[11] State Heritage Inventory, 2019. Corrimal Coke Works Site, accessed via https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5063156

Element	Date	Significance	Condition
Weighbridge and Crib Room	Later twentieth century	Little	Fair
Production Office	Later twentieth century	Little	Fair
Oil Storage Tank/s and Waste Oil Tank	Later twentieth century	Little	Fair
Coke Screenhouse and Conveyor	Later twentieth century	Little	Very poor
Remnant Railway Tracks	Pre-1950	Moderate	Good
Brick Stack	1912	High	Poor
Old Powerhouse	Post-1980	Moderate	Fair
C1 Coke Oven Battery	1912 (rebuilt as required)	High	Very poor
Remnant Powerhouse Wall	1912	High	Fair

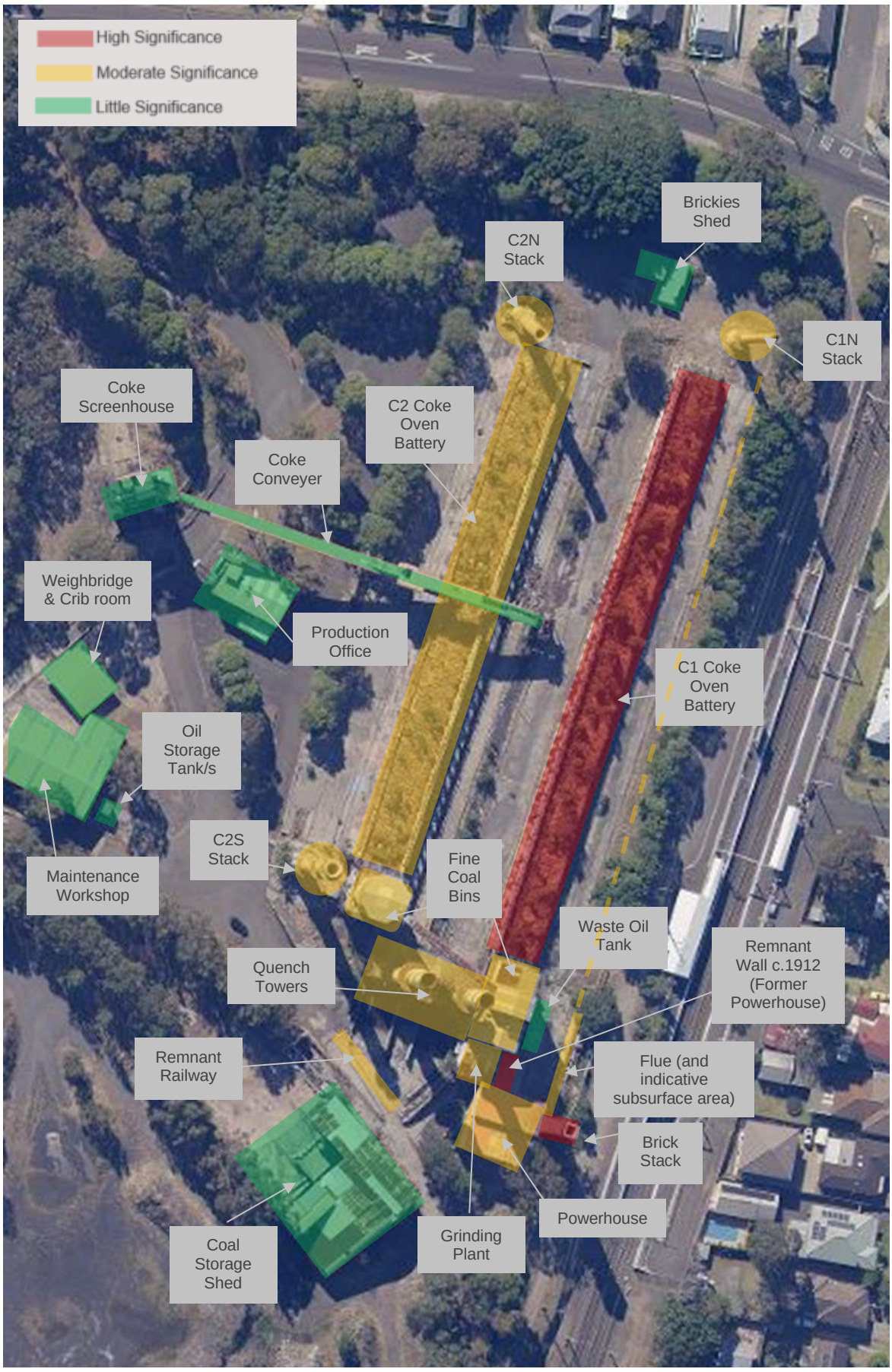

Figure 32 – Former Corrimal Coke Works Significance Map

Source: Former Corrimal Coke Works Conservation Management Strategy, Urbis

5. IMPACT ASSESSMENT

The potential impact of the proposed works is assessed against the applicable heritage-related statutory planning controls which relate to the site and the proposed development.

5.1. STATUTORY CONTROLS

5.1.1. NSW Heritage Act 1977, Corrimal Coke Works Site Specific Exemptions

The table below provides an assessment of the proposal against the relevant site-specific exemptions for the Corrimal Coke Works site as gazetted in the SHR listing under s.57(2) of the Heritage Act.

The assessment has determined that these works are exempt from approval under the Heritage Act.

Table 4 – Assessment against relevant site-specific exemptions under s.57(2) of the Heritage Act

Site-specific Exemption	**Discussion**
New Development All works and activities (including but not limited to subdivision, strata subdivision and development) which are proposed in accordance with: a) A valid development consent in force at the date of gazettal for listing the Corrimal Coke Works Site on the State Heritage Register under the Heritage Act 1977 (NSW) b) The draft Planning Proposal for 27 Railway Street, Corrimal endorsed by Wollongong City Council on 1 November 2021, as finalised by the Minister for Planning and gazetted as an amendment to the Wollongong LEP 2009 c) Draft (DCP) Chapter D19: Former Corrimal Coke Works Site, as adopted by Wollongong City Council d) Corrimal Coke Works Post-Gateway Master Plan Report (DCO, June 2021) e) Corrimal Coke Works Landscape Master Plan Report (Clouston Associates, 17 June 2021).	The proposed works comprise the selective demolition and retention of built forms on the 'Former Corrimal Coke Works' (SHR Item No. 6607) site, as per the endorsed locality plan, Heritage Interpretation Strategy and Conservation Management Strategy prepared by Urbis. The proposed demolition works are the first stage in the urban renewal of the former Corrimal Coke Works, as outlined in the draft Planning Proposal for 27 Railway Street Corrimal and gazetted as Chapter D19 in the Wollongong DCP 2009. The proposed demolition works comply with the principles and plans outlined in the Corrimal Coke Works Post-Gateway Master Plan Report and Corrimal Coke Works Landscape Master Plan Report, specifically regarding the Heritage Plaza and Retained Ovens areas of the Concept Master Plan. The proposed demolition works are acceptable from a heritage outcome, as discussed below.
Are the above conditions met?	**YES**

Site-specific Exemption	Discussion
Heritage Interpretation Interpretation works in accordance with the Conservation Management Strategy (Urbis, June 2021) and Heritage Interpretation Strategy (Urbis, February 2022).	The proposed works, involving the demolition of built forms including (but not limited to) the Grinding Plant, Fine Coal Bins, administration buildings, C2 Coke Oven Battery and Steel Stacks, comply with the plans proposed in the endorsed locality plan, Conservation Management Strategy and Heritage Interpretation Strategy prepared by Urbis for the site. The built forms selected for demolition have been identified as being of little or moderate significance and have been assessed as being in poor to very poor condition. The removal of these built forms will de-risk safety concerns for the site and future site-users and facilitate future development of the site. The location and purpose of the demolished built forms will be interpreted on signage in accordance with the Heritage Interpretation Strategy (outside of the scope of the current proposal). The proposed works also involve the partial demolition or temporary removal/storage of built forms including the Remnant Railway Tracks and C1 Coke Oven Battery, complying with the plans proposed in the endorsed locality plan, Conservation Management Strategy and Heritage Interpretation Strategy prepared by Urbis for the site. These built forms have been identified as being of moderate and high significance respectively and have been assessed as being in moderate and very poor condition respectively. As per the Heritage Interpretation Strategy, the Remnant Railway Tracks will be removed and stored for future adaptive re-use. A representative sample (minimum of five) of the ovens within the C1 Coke Oven Battery will also be retained for future adaptive re-use, with the remaining structure demolished. The proposed works also involve the retention and conservation of built forms comprising the Brick Stack, Old Powerhouse and Remnant Powerhouse Wall, complying with the plans proposed in the endorsed locality plan, Conservation Management Strategy and Heritage Interpretation Strategy prepared by Urbis for the site. These built forms have been identified as being of moderate to high significance and have been assessed as being in poor to fair condition. The retention and conservation of these built forms is intended to facilitate future adaptive re-use as key heritage interpretation and community spaces in the redeveloped Corrimal Coke Works site, as proposed in the above documents (outside of the scope of the current proposal).
Are the above conditions met?	**YES**

Site-specific Exemption	Discussion
Demolition Demolition of all elements as identified in Figure 25 - Demolition Plan within the Heritage Interpretation Strategy (Urbis, February 2022), on condition that all proposed further investigation, interpretation, salvage and reinstatement works are subsequently and progressively carried out as per this Strategy.	As discussed above, the proposed selective demolition and retention of the selected built forms is the first stage of the urban renewal of the Corrimal Coke Works site and is necessary to de-risk safety concerns for the future development of the site. The proposed works will also facilitate the future heritage interpretation planning onsite, including the retention and adaptive re-use of selected built forms including the Brick Stack, Old Powerhouse and Remnant Powerhouse Wall, and the adaptive re-use of the Remnant Railway Tracks and a representative sample of the ovens from the C1 Coke Oven Battery. As per the overarching vision of the Corrimal Coke Works Planning Proposal, endorsed locality plan and Heritage Interpretation Strategy, further investigation, interpretation, salvage and reinstatement works are planned to be progressively carried out following the implementation of the proposal onsite (outside of the scope of the current proposal).
Are the above conditions met?	**YES**

5.1.2. Wollongong Local Environmental Plan 2009

The table below provides an assessment of the proposal against the relevant provision for heritage conservation as found in the Wollongong LEP 2009.

Table 5 – Assessment against Wollongong Local Environmental Plan 2009.

Clause	Discussion
(1) Objectives The objectives of this clause are as follows: (a) to conserve the environmental heritage of Wollongong, (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views, (c) to conserve archaeological sites, (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.	The proposed works are in line with the objectives set out in the Wollongong LEP 2009, as discussed below.
(2) Requirement for consent Development consent is required for any of the following: (a) demolishing or moving any of the following or altering the exterior of any of the following	The subject site is identified as a heritage item 'Corrimal Coke Works Site' (Item No. 02061) under Part 1 of Schedule 5 of the Wollongong LEP 2009. Therefore, Development Consent is required for the proposal.

(including, in the case of a building, making changes to its detail, fabric, finish or appearance): (i) a heritage item, (ii) an Aboriginal object, (iii) a building, work, relic or tree within a heritage conservation area.	The proponent has submitted this Heritage Impact Statement as part of the development application to gain consent from Council for the proposed works to the site.
(4) Effect of proposed development on heritage significance The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).	This Heritage Impact Statement has been prepared to assess the proposal with regard to its potential impact on the 'Corrimal Coke Works Site' (Item No. 02061) heritage item. The proposed works would retain the significance of the subject site while facilitating the urban renewal of the Corrimal Coke Works as per the objectives of the Planning Proposal and the objectives and controls of Chapter D19 of the Wollongong DCP 2009. The proposed selective demolition and retention of the onsite built elements will facilitate a robust outcome for understanding and celebrating the history of the site during the future development.
(5) Heritage assessment The consent authority may, before granting consent to any development: (a) on land on which a heritage item is located, or (b) on land that is within a heritage conservation area, or (c) on land that is within the vicinity of land referred to in paragraph (a) or (b), require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.	This Heritage Impact Statement has been prepared to assist the City of Wollongong Council with their determination. This HIS has determined that the proposal would not result in adverse impacts to the heritage significance of the 'Corrimal Coke Works Site' (Item No. 02061) heritage item, as all proposed works comply with the objectives and controls of Chapter D19 of the Wollongong DCP 2009.

5.1.3. Wollongong Development Control Plan 2009 – Chapter D19, Former Corrimal Coke Works Site

The table below assesses the proposal against the relevant objective and provisions for heritage conservation as found in Chapter D19 of the Wollongong DCP 2009.

Table 6 – Assessment against the Wollongong DCP 2009 – Chapter D19, Former Corrimal Coke Works Site.

Clause	Discussion
5.9 Heritage	
Objectives a) Ensure that future development is undertake in a manner that is sympathetic and responds to the heritage character of the Site. b) 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. c) Provide for the conservation, retention, adaptive re-use and interpretation of significance heritage fabric and Site features within the development.	The proposed works, comprising the selective demolition and retention of built forms within the subject site, are the first stage of the ongoing redevelopment of the Corrimal Coke Works into a residential precinct as set out in the DCP chapter. The proposed works comply with the approved heritage and planning documents for the subject site. The proposed demolition of selected built forms will effectively remove identified safety risks from the site, with built forms in poor to very poor condition identified as suitable for removal. These built forms have been identified as being of little to moderate significance, with no items of high significance proposed for complete demolition. The demolished built forms will be subject to interpretation onsite as per the Heritage Interpretation Strategy (outside of the scope of the current proposal). The proposed retention and partial retention of selected built forms will provide for the future conservation, adaptive re-use and interpretation of built forms of moderate to high significance. The built forms selected for retention have been identified as being of poor to moderate condition and of a type, size and condition to enable adaptive re-use. An item of high significance in very poor condition, the C1 Coke Oven Battery, will be demolished. However, a minimum of five ovens from the battery will be retained and the overall form will be subject to interpretation onsite as per the Heritage Interpretation Strategy (outside of the scope of the current proposal). The built forms currently onsite will be subject to approved heritage interpretation, including adaptive re-use, signage, reconstruction and ground plane elements, as outlined in the Heritage Interpretation Strategy (outside of the scope of the current proposal). The proposed demolition works will expedite the interpretation stage of the development. Overall, proposed works will facilitate the meaningful and practical celebration and interpretation of the history of the site during the future development.
Development Controls	

1. Conservation, retention, interpretation, and removal of existing structures shall consider the Conservation Management Strategy (Urbis 2021) and Heritage Interpretation Strategy (Urbis 2022) submitted in support of the Planning Proposal, while recognising that future development application stages will require the submission of more detailed and updated information.	1. As discussed above, the proposed selective demolition and retention of the built forms on the former Corrimal Coke Works site has been extracted directly from the recommendations of the endorsed locality plan, Conservation Management Strategy and Heritage Interpretation Strategy for the site. The works fully comply with the recommendations of both documents, including the demolition plan outlined in Figure 25 of the Heritage Interpretation Strategy (see Section 5.2 below). A broad strategy for the interpretation of the site, including the conservation, retention and interpretation of selected built forms and the removal and interpretation of other built forms onsite, was prepared by Urbis and DKO Architecture in 2022. Urbis acknowledges that more detailed interpretation planning, including detailed drawings and plans for adaptive re-use and content for interpretation, will be required for future development of the site (outside of the scope of the current proposal). The current proposal assessed in this Heritage Impact Statement is the first stage of the urban renewal project and is necessary to implement prior to the preparation and submission of detailed interpretation planning. Detailed interpretation planning for the Corrimal Coke Works site, including adaptive re-use of the relevant built forms, will be the subject of subsequent Development Applications following the implementation of the current proposal.
3. The salvage and re-use of materials from existing structures shall be included in future development outcomes.	3. Materials identified for salvage and re-use in the endorsed locality plan and Heritage Interpretation Strategy include the Remnant Railway Tracks and a representative sample of coke ovens from the C1 Coke Battery. Additional materials salvaged from demolished built forms may be incorporated into the future development, subject to assessment of their suitability and condition.
5. The existing industrial structures of the Site shall be recorded through a photographic archival recording in accordance with NSW Heritage Council guidelines and a copy included in the Wollongong Local Studies Library Collection.	5. A Photographic Archival Recording of the built forms onsite has previously been undertaken in accordance with the NSW OEH Heritage Division's Guidelines for 'Photographic Archival Recording of Heritage Items Using Film or Digital Capture'. This archival recording was submitted to Council as part of the previous rezoning of the subject site.

5.2. CORRIMAL COKE WORKS CONSERVATION MANAGEMENT STRATEGY

The proposed works are addressed in relation to relevant recommendations within the Corrimal Coke Works Conservation Management Strategy.

Table 7 – Corrimal Coke Works Conservation Management Strategy recommendations

Recommendation	Discussion
Recommendation 2 This CMS should be submitted to the Wollongong Council as part of any application for new development or adaptive re-use proposals. Where appropriate or requested, it should be accompanied by a heritage impact statement that assesses the specific impacts of the proposal against relevant legislation and recommendations in this CMS.	This Heritage Impact Statement has been prepared to assess the proposal with regard to its potential impact on the 'Corrimal Coke Works Site' (Item No. 02061) heritage item. The Heritage Impact Statement has been prepared to comply with the recommendations of the Conservation Management Strategy for the site regarding demolition and retention of built forms for future adaptive re-use. The Heritage Impact Statement will be submitted alongside the Conservation Management Strategy as part of the Development Application for the proposal.
Recommendation 4 Elements of exceptional significance are rare or outstanding elements that directly contribute to the place's overall heritage significance; they retain a high degree of integrity and intactness in fabric or use; any change is to be minimal and retain significant values or fabric Elements of high significance have a high degree of original fabric; they demonstrate a key aspect of the place's overall heritage significance and must be retained and conserved; retention should be considered in-situ; change is allowed as outlined within this report, so long as significant values and fabric are retained and conserved. Elements of moderate significance have been altered or modified or do not demonstrate a key aspect of the significance of the place; they contribute to the place's overall heritage significance however change (including interpretation) is allowed so long as it does not adversely affect values and fabric of exceptional or high significance. Elements of little significance do not substantially add to the significance of the place in a positive way, though neither do they detract from its overall significance. Elements of little significance may also reflect fabric that is reproduction or may have been substantially altered or modified or may reflect non-significant phases of development. Changes	The extant built forms at the former Corrimal Coke Works site were assessed for their significance and condition as part of the Conservation Management Strategy for the site. The significance, condition and suitability for interpretation were assessed within the Heritage Interpretation Strategy. The proposed works, comprising selective demolition and retention of built forms, effectively respond to the assessments and recommendations in both the above documents. No built forms of exceptional significance have been identified on the former Corrimal Coke Works site. Two built forms of high significance, the Remnant Powerhouse Wall and the Brick Stack, are proposed to be retained onsite. An item of high significance, the C1 Coke Oven Battery, is proposed to be demolished. However, this item is in very poor condition and poses possible safety risks if retained. A minimum of five ovens from the battery will be retained as part of the proposed works. The proposed works comply with the recommendation for elements of high significance onsite. A built form of moderate significance, the Old Powerhouse, is proposed to be retained onsite. Another built form of moderate significance, Remnant Railway Tracks, are proposed to be removed and stored for future adaptive re-use. The remaining built forms of moderate significance have been proposed for demolition. The remaining built forms of moderate significance selected for demolition comprise mid-to-late twentieth century additions that have been assessed as being in poor to very poor condition. The removal of these built forms, therefore, would not adversely impact the significance of the site while improving safety outcomes. The proposed works comply with

(including removal) are allowed so long as it does not adversely affect values and fabric of exceptional or high significance. Intrusive elements are damaging to the place's overall heritage significance; they should be considered for removal or alteration.	the recommendation for elements of moderate significance onsite. All built forms of little significance have been selected for demolition as part of the proposed works. These built forms largely comprise of late twentieth century additions and administrative buildings that have been assessed as being in very poor to fair condition. The removal of these built forms, therefore, would not adversely impact the significance of the site while improving safety outcomes. The proposed works comply with the recommendation for elements of little significance onsite.
Recommendation 7 **Unless otherwise stated in these recommendations**, surviving original and early elements and fabric identified as exceptional or high should be retained intact, and conserved.	As discussed above, no built forms of exceptional significance have been identified on the former Corrimal Coke Works site. Two built forms of high significance, the Remnant Powerhouse Wall and the Brick Stack, are proposed to be retained onsite. An item of high significance, the C1 Coke Oven Battery, is proposed to be demolished. However, this item is in very poor condition and poses possible safety risks if retained. A representative sample of ovens from the battery will be retained as part of the proposal. Future planning outside the scope of this proposal will address the interpretation of the overall form onsite as per the Heritage Interpretation Strategy.
Recommendation 9 If changes to elements of exceptional or high significance are required, they should be carefully considered. and the approach should be one of minimal intervention, unless otherwise stated in this report.	As discussed above, no built forms of exceptional significance have been identified on the former Corrimal Coke Works site. No changes to built forms of high significance are proposed as part of the proposed works.
Recommendation 11 Any elements of significance proposed for demolition, removal or alteration, should be subject to archival photographic recording, copies of which should be retained on site and provided to the relevant consent authorities (Wollongong Council). Archival recordings should be undertaken in accordance with the NSW OEH Heritage Division's Guidelines for *'Photographic Recording of Heritage Items Using Film or Digital Capture'*.	A Photographic Archival Recording of the built forms onsite has previously been undertaken in accordance with the NSW OEH Heritage Division's Guidelines for 'Photographic Archival Recording of Heritage Items Using Film or Digital Capture'. This archival recording was submitted to Council as part of the previous rezoning of the subject site. A digital point cloud survey has also been undertaken of the built forms onsite as part of the initial investigations into adaptive re-use (outside of the scope of this report).
Recommendation 14 A heritage impact statement should be prepared for all proposals for new development within the recommended reduced heritage curtilage.	As discussed above, this Heritage Impact Statement has been prepared to assess the proposal with regard to its potential impact on the 'Corrimal Coke Works Site' (Item No. 02061) heritage item.

	The Heritage Impact Statement will be submitted as part of the Development Application for the proposal.
Recommendation 20 The following strategy should be read in conjunction with the Heritage Interpretation Strategy for the site. The C1 Coke Oven Battery has been assessed as having high heritage significance. Structural engineering advice has confirmed that the ovens are in very poor condition and not considered viable for retention. Due to the size of and substantial deterioration of the C1 Coke Oven Battery, it is recommended that a representational section of the C1 Coke Oven Battery be conserved/stablished and retained in situ. A representational section of ovens should be retained adjacent to each other. For practical reasons, this is likely to be at the northern end of the existing battery. At least 5 ovens should be stabilised and retained in full. Ovens towards the southern end are understood to be in particularly poor condition. An opportunity exists for partial reconstruction/interpretation (using a mix of original and new materials) of a number of ovens in this section. This would allow a better appreciation of the coke making process. This opportunity should be included within the Heritage Interpretation Strategy for the site. Interpretation of the spatial length and width of the full battery, including ram car tracks to the east should be included. This could be achieved using sculptural or built form elements or landscape elements such as paving, plantings etc. Given the state of the ovens, some alteration to allow for stabilisation of the retained sections is appropriate. Later added metal flues and hoods should be salvaged, conserved and retained, if possible. Where not possible, an interpretation of these metal elements should be included. Salvaged elements, such as oven doors and oven identifiers, should be considered for use within any future development.	The demolition of the C1 Coke Battery is included in the proposed works for the subject site, as outlined in this recommendation. Urbis acknowledges that this item is in very poor condition and poses possible safety risks if retained. A representative sample of ovens from the battery will be retained as part of the proposed works. Future planning outside the scope of this proposal will address the interpretation of the overall form onsite as per the Heritage Interpretation Strategy.

Architectural drawings of the proposed/possible interpretation of the C1 Coke Oven Battery are contained in Appendix A of this CMS.	
Recommendation 21 C1N, which is included within the recommended reduced heritage curtilage, should be retained or interpreted. This element has been assessed as having moderate significance. It would allow greater understanding of the coke making process. It would be a visible landmark to demonstrate the spatial length of the C1 Coke Oven Battery. It would provide landmark views and be a counterbalance for the Brick Stack. It is noted that further structural assessment is required to determine the suitably of retention or interpretation. Architectural drawings incorporating the proposed retention of the C1 Coke Stack is contained in Appendix A of this CMS.	The C1N steel stack is proposed to be demolished as part of the proposed works. The C1N steel stack, an addition from 1985, has been assessed as being of moderate significance and in very poor condition with possible safety risks if retained. As per Recommendation 21, the visual balance of between the steel stack and the Brick Stack, as well as the spatial qualities of the C1 Coke Oven Battery, will be interpreted in future development as outlined in the Heritage Interpretation Strategy (outside of the scope of the current proposal). The removal of the C1N stack, therefore, would not adversely impact the significance of the site while improving safety outcomes.
Recommendation 22 The remnant wall of the former Powerhouse has been assessed as having high significance. This wall should be conserved/stabilised and retained in situ. A sympathetic structure should be considered which would incorporate this remnant wall, including adaptive re-use of the wall.	The remnant wall of the former Powerhouse is not proposed for demolition as part of the proposed works. The wall will be retained and conserved for future adaptive re-use as outlined in the Heritage Interpretation Strategy (outside of the scope of the current proposal).
Recommendation 26 Further investigation and documentation of the subsurface elements of the site, should be undertaken at Development Application stage and prior to further construction works. Of particular note is the underground flue linking the C1N and Brick Stacks to the C1 Coke Ovens. There is potential for the retention of a section of this flue.	Investigation of the underground flue between the C1N/Brick Stacks and the C1 Coke Ovens is currently being undertaken to inform the viability of retention or possible adaptive re-use. The investigation and methodology for possible adaptive re-use will be included in the future Development Application for adaptive re-use (outside of the scope of the current proposal) following the submission of the current Development Application.

5.3. HERITAGE DIVISION GUIDELINES

The proposed works are addressed in relation to relevant questions posed in the Heritage Division's 'Statement of Heritage Impact' guidelines.

Table 8 – Heritage Division Guidelines

Clause	Discussion
The following aspects of the proposal respect or enhance the heritage significance of the item or conservation area for the following reasons:	The proposed works comprise the selective demolition and retention of built forms on the 'Former Corrimal Coke Works' item (SHR Item No. 6607, LEP Item No. 02061), as per the endorsed locality plan, Heritage Interpretation Strategy and Conservation Management Strategy prepared by Urbis. The proposed selective demolition and retention of the onsite built elements will facilitate a robust outcome for understanding and celebrating the history of the site during the future development. The proposed selective demolition and retention of the selected built forms is the first stage of the urban renewal of the Corrimal Coke Works site and is necessary to de-risk safety concerns for the future development of the site. The proposed works will also facilitate the future heritage interpretation planning onsite (outside of the scope of the current proposal). The proposed works are a design response to the assessed significance and condition of built forms onsite and would not result in an adverse impact to the significance of the heritage item.
Demolition of a building or structure ▪ Have all options for retention and adaptive re-use been explored? ▪ Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site? ▪ Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible? ▪ Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?	The proposal has been carefully designed to align with the current safety requirements and future needs of the site while sympathetically responding to the site's history as a former coke works. All viable options for retention and adaptive re-use of built forms were previously explored as part of the Planning Proposal for the former Corrimal Coke Works site, with the significance, condition and structural health of the built forms onsite assessed in the project Conservation Management Strategy and Heritage Interpretation Strategy prepared by lead heritage consultant Urbis. The built forms that have been selected for demolition are a direct response to these assessments and comply with the recommendations of the reports and site-specific local and State legislation.

6. CONCLUSION AND RECOMMENDATIONS

This Heritage Impact Statement has been prepared to determine the potential heritage impact of the proposed demolition works on the former Corrimal Coke Works site, a heritage item of local and State significance.

Given that the subject site is listed under the Heritage Act, Section 60 (s.60) approval or Section 57 (s.57) exemption of approval for works is required. The gazettal of the subject site under the aforementioned instrument included site specific exemptions intended to facilitate the future development of the Corrimal Coke Works, including the demolition of built forms onsite. A self-assessment under the site specific exemptions for the 'Corrimal Coke Works Site' (Item No. 02061) has been undertaken in Section 5.1.1 of this report. Urbis have determined that the proposed works are consistent with the site specific exemptions and therefore that the proposed works are exempt from approval under s.57(2) of the Heritage Act. A s.60 approval is not required for the proposed works.

For the purpose of completeness, a detailed impact assessment of the proposed works has been undertaken in Section 5 of this report. The proposed works would be considered acceptable from a heritage perspective and would not result in adverse impacts to the heritage significance of the subject site.

Key aspects of the proposal are as follows:

- The proposed works comprise the selective demolition and retention of built forms on the 'Former Corrimal Coke Works' item, as per the endorsed locality plan, Heritage Interpretation Strategy and Conservation Management Strategy prepared by Urbis.
- The proposed selective demolition and retention of the selected built forms is the first stage of the urban renewal of the Corrimal Coke Works site and is necessary to de-risk safety concerns for the future development of the site. The proposed works will also facilitate the future heritage interpretation planning onsite (outside of the scope of the current proposal).
- The proposed works have been assessed as compliant with the statutory requirements for the local and State listed site, including the site-specific exemptions for the former Corrimal Coke Works under s.57(2) of the Heritage Act, the Wollongong LEP 2009 and Chapter D19: Former Corrimal Coke Works Site of the Wollongong DCP 2009. The proposed works also comply with the approved heritage and planning documents for the site, including the above Heritage Interpretation Strategy and Conservation Management Strategy.
- All viable options for retention and adaptive re-use of built forms were previously explored as part of the Planning Proposal for the former Corrimal Coke Works site, with the significance, condition and structural integrity of the built forms onsite assessed in the project Conservation Management Strategy and Heritage Interpretation Strategy. The built forms that have been selected for demolition are a direct response to these assessments and the endorsed locality plan.
- All built forms of little significance have been selected for demolition as part of the proposed works, including (but not limited to) the administration buildings, Brickies Shed and storage tanks. These are late twentieth century additions that have been identified as being in fair to very poor condition. The removal of these built forms will de-risk safety concerns for the site and future site-users and facilitate future development of the site, aligning with the recommendation for elements of little significance onsite.
- Built forms of moderate significance have been selected for demolition as part of the proposed works, including (but not limited to) the Grinding Plant, Fine Coal Bins, C2 Coke Oven Battery and Steel Stacks. These built forms comprise mid-to-late twentieth century additions that have been assessed as being in poor to very poor condition. The removal of these built forms, therefore, would not adversely impact the significance of the site while improving safety outcomes. The proposed works comply with the recommendation for elements of moderate significance onsite.
- The proposed works involve the temporary removal/storage of the Remnant Railway Tracks, identified as being of moderate significance and as being in moderate condition. The Remnant Railway Tracks will be removed and stored for future adaptive re-use in accordance with the Heritage Interpretation Strategy (outside of the scope of the current proposal).
- An item of high significance in very poor condition, the C1 Coke Oven Battery, will be demolished. However, this item is in very poor condition and poses possible safety risks if retained. A minimum of five ovens from the battery will be retained and the overall form will be subject to interpretation onsite as per the Heritage Interpretation Strategy and endorsed locality plan under the DCP (outside of the scope of the current proposal).
- The proposed works involve the retention and conservation of built forms comprising the Brick Stack, Old Powerhouse and Remnant Powerhouse Wall. These built forms have been identified as being of moderate to high significance and have been assessed as being in poor to fair condition. The retention

and conservation of these built forms is intended to facilitate future adaptive re-use as key heritage interpretation and community spaces in the redeveloped Corrimal Coke Works site, as proposed in the above documents (outside of the scope of the current proposal). The proposed works comply with the recommendation for elements of high significance onsite.

- The location and purpose of the demolished built forms will be interpreted on signage in accordance with the Heritage Interpretation Strategy (outside of the scope of the current proposal).
- A Photographic Archival Recording of the built forms onsite has previously been undertaken in accordance with the NSW OEH Heritage Division's Guidelines for 'Photographic Archival Recording of Heritage Items Using Film or Digital Capture'. This archival recording was submitted to Council as part of the previous rezoning of the subject site.

For the reasons above, this project is recommended for approval from a heritage perspective.

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DISCLAIMER

This report is dated 1 November 2022 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd **(Urbis)** opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Legacy Property **(Instructing Party)** for the purpose of Heritage Impact Statement **(Purpose)** and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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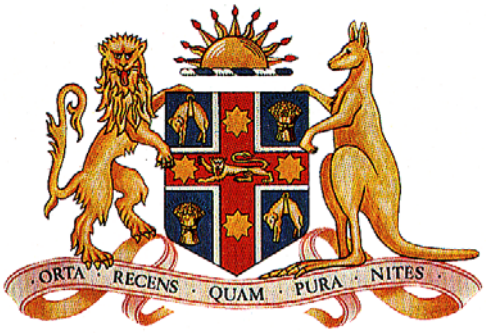
This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

URBIS

ATTACHMENT 5



Government Gazette

of the State of

New South Wales

Number 94–Planning and Heritage
Friday, 24 February 2023

The New South Wales Government Gazette is the permanent public record of official NSW Government notices. It also contains local council, non-government and other notices.

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To submit a notice for gazettal, see the Gazette page.

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ERRATUM

HERITAGE ACT, 1977

The notice published in the Government Gazette No. 196 of 6 May 2022, relating to the Corrimal Coke Works Site, Corrimal should have read:

HERITAGE ACT 1977

NOTICE OF LISTING ON THE STATE HERITAGE REGISTER UNDER SECTION 37(1)(b)

Corrimal Coke Works Site, 27 Railway Street, Corrimal

SHR No 02061

In pursuance of section 37(1)(b) of the *Heritage Act 1977*, the Heritage Council of New South Wales gives notice that the item of environmental heritage specified in Schedule “A” has been listed on the State Heritage Register in accordance with the decision of the Minister for Environment and Heritage made on 28 April 2022 to direct the listing. This listing applies to the curtilage or site of the item, being the land described in Schedule “B”.

Heritage Council of New South Wales

SCHEDULE “A”

The item known as Corrimal Coke Works Site, situated on the land described in Schedule "B".

SCHEDULE “B”

All those pieces or parcels of land known as Part Lot 1 DP 795791 in Parish of Wollongong, County of Camden, shown on the plan catalogued 3283 in the office of the Heritage Council of New South Wales.

ORDER UNDER SECTION 57(2)
TO GRANT SITE SPECIFIC EXEMPTIONS FROM APPROVAL

Corrimal Coke Works Site

SHR No. 02061

I, the Minister for Environment and Heritage, on the recommendation of the Heritage Council of New South Wales, in pursuance of s.57(2) of the Heritage Act 1977, do, by this my order, grant an exemption from s.57(1) of that Act in respect of the engaging in or carrying out of any activities described in Schedule "C" by the owner, mortgagee or lessee of the land described in Schedule "B" on the item described in Schedule "A".

The Hon. James Griffin MP
Minister for Environment and Heritage

Sydney, 28th Day of April 2022

SCHEDULE "A"

The item known as Corrimal Coke Works Site, situated on the land described in Schedule "B".

SCHEDULE "B"

All those pieces or parcels of land known as Part Lot 1 DP 795791 in Parish of Wollongong, County of Camden, shown on the plan catalogued 3283 in the office of the Heritage Council of New South Wales.

SCHEDULE "C"

Exemptions

1. All Standard Exemptions

The following site-specific exemptions.

2. New Development

All works and activities (including but not limited to subdivision, strata subdivision and development) which are proposed in accordance with:

a) A valid development consent in force at the date of gazettal for listing the Corrimal Coke Works Site on the State Heritage Register under the Heritage Act 1977 (NSW), or
b) The draft Planning Proposal for 27 Railway Street, Corrimal endorsed by Wollongong City Council on 1 November 2021, as finalised by the Minister for Planning and gazetted as an amendment to the Wollongong LEP 2009.

c) Draft (DCP) Chapter D19: Former Corrimal Coke Works Site, as adopted by Wollongong City Council.
d) Corrimal Coke Works Post-Gateway Master Plan Report (DCO, June 2021).
e) Corrimal Coke Works Landscape Master Plan Report (Clouston Associates, 17 June 2021).

3. Heritage Interpretation
Interpretation works in accordance with the Conservation Management Strategy (Urbis, June 2021) and Heritage Interpretation Strategy (Urbis, February 2022).

4. Demolition
Demolition of all elements as identified in Figure 25 Demolition Plan within the Heritage Interpretation Strategy (Urbis, February 2022), on condition that all proposed further investigation, interpretation, salvage and reinstatement works are subsequently and progressively carried out as per this Strategy.

5. Former Powerhouse Building
a) Use of the building as permitted under the draft Planning Proposal and / or Wollongong LEP 2009.
b) Repair and / or replacement of existing fabric with materials that generally match the existing fabric.
c) Internal fit-out works.
d) Installation of building services as required for compliance with the Building Code of Australia and any other required standards.

6. Minor work, temporary works, and maintenance
a) Essential repair or replacement of all deteriorated significant heritage fabric. Materials used for repair and replacement of significant fabric should closely match the existing fabric.
b) Erection of temporary hoardings (for periods of up to 18 months) and scaffolding associated with maintenance or conservation of significant heritage fabric where no physical impact to heritage fabric occurs because of the hoardings.
c) Removal, replacement and / or installation of non-illuminated external signs and decorations, such as flags, rigging, banners, merchandising and associated decorations where the size, scale and impact of the new item does not obscure or dominate identified significant views and where the new item is not fixed directly to significant heritage fabric.
d) Installation of essential safety services including security cameras (minimising the number of fixings to external original heritage fabric where possible) and internal fire sprinklers if there is no material impact to significant heritage fabric, fixture, or form.
e) Installation of temporary and reversible structures for the operation of special events and activities lasting less than three (3) months' duration. Structures are preferably to be weighted down and not fixed into significant heritage fabric.

7. Change of use or permissible new uses for some buildings
a) Change of use or the addition of permissible new uses to any non-significant buildings.
b) Change of use or the addition of permissible new uses to any significant heritage buildings, excluding physical new works. New uses must have no material impact on significant heritage fabric, fixtures or form.
c) Implementation of all land uses and development permissible with consent under Wollongong LEP 2009.

d) Change of operating hours to any businesses on the site.

ATTACHMENT 6

URBIS

HERITAGE INTERPRETATION STRATEGY

Former Coke Works Corrimal
NSW

Prepared for
LEGACY PROPERTY & ILLAWARRA COKE COMPANY
25 February 2022

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Project Code	P0002619
Report Number	03 – Final Heritage Interpretation Plan – 07.05.2019
	04 – Final Heritage Interpretation Plan (update post gazetted heritage listing) – 21.06.2021
	05 – Revised Heritage Interpretation Plan – 18.02.2022
	06 – Revised Heritage Interpretation Plan – 25.02.2022

Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.

We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

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1. INTRODUCTION

1.1. BACKGROUND

Urbis has been engaged by Legacy Property and the Illawarra Coke Company, to prepare the following Heritage Interpretation Strategy for the former Corrimal Coke Works, Corrimal NSW.

The purpose of a Heritage Interpretation Strategy is to communicate the heritage significance of an item. It is intended to inform and guide collaborative interpretation planning with stakeholders and relevant parties.

Urbis completed a Conservation Management Strategy (CMS) for the site, and this Interpretation Strategy should be read in conjunction with the CMS.

1.2. SITE LOCATION

The site is located at 27 Railway Street, Corrimal NSW (Figure 1).

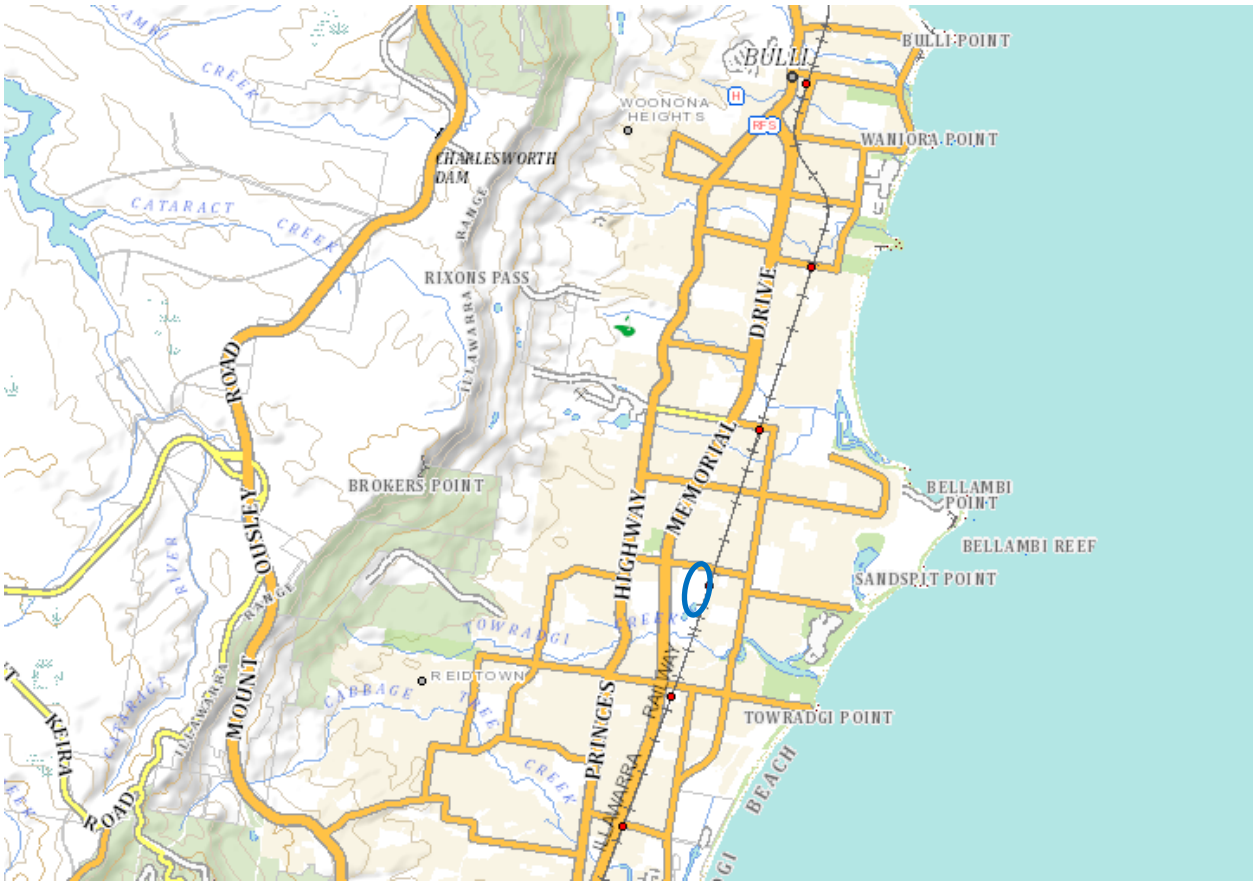

Figure 1 – Locality map

Source: SIX Maps 2019

Figure 2 – Aerial Image of site showing approximate boundaries.

Source: Six Maps 2019

1.3. METHODOLOGY

The Plan has been prepared in accordance with relevant guidelines and relevant policy as outlined below.

Heritage conservation seeks to sustain the values of heritage landscapes, places and objects, individually and collectively, so that the community and visitors can continue to appreciate, experience and learn from them and about them, and so that they can be passed on to future generations.[1] Interpretation is an integral part of the experience of significant heritage places and the conservation and management of heritage items and is relevant to other aspects of environmental and cultural management and policy. Interpretation also incorporates and provides broad access to historical research and analysis.[2]

[1] NSW Heritage Branch, Department of Planning, Heritage Information Series, Heritage Interpretation Policy August 2005, p2.

[2] Ibid 3

This Interpretation Plan has been prepared in accordance with the *NSW Heritage Manual*, the NSW Heritage Branch *Interpreting Heritage Places and Items: Guidelines* (August 2005) and the NSW Heritage Branch's *Heritage Interpretation Policy* (endorsed by the Heritage Council August 2005) as well as the conditions of the Minister's consent as outlined above in section 1.1. The general philosophy and process adopted is guided by the Australia ICOMOS *Burra Charter 2013.*

The Burra Charter defines interpretation as "all the ways of presenting the *cultural significance* of a *place*" (Article 1.17) and it may be a combination of the treatment of the fabric; the use of and activities of the place; and the use of introduced explanatory material.

Interpretation should provide and enhance understanding of the history, significance and meaning of the place. Interpretation should respect and be appropriate to the cultural significance of the building (Article 25).

The NSW Heritage Branch *Interpreting Heritage Places and Items: Guidelines* lists the following best practice "ingredients" for interpretation:

1) Interpretation, People and Culture – Respect for the special connections between people and items
2) Heritage Significance and Site Analysis – Understand the item and convey its significance
3) Records and Research – Use existing records of the item, research additional information and make these publicly available (subject to security and cultural protocols)
4) Audiences – Explore, respect and respond to the identified audience
5) Themes – Make reasoned choices about themes, stories and strategies
6) Engaging the Audience – Stimulate thought and dialogue, provoke response and enhance understanding
7) Context – Research the physical, historical, spiritual and contemporary context of the item, including related items, and respect local amenity and culture
8) Authenticity, Ambience and Sustainability – Develop interpretation methods and media which sustain the significance of the items, its character and authenticity
9) Conservation Planning and Works – Integrate interpretation in conservation planning and in all stages of a conservation project
10) Maintenance, Evaluation and Review – Include interpretation in the ongoing management of an item; provide for regular maintenance, evaluation and review
11) Skills and Knowledge – Involve people with relevant skills, knowledge and experience
12) Collaboration – Collaborate with organisations and the local community.

1.4. AUTHOR IDENTIFICATION

The following report has been prepared by Gavin Patton (Heritage Consultant). Lynette Gurr (Associate Director) and Stephen Davies (Director) have reviewed and endorsed its content.

Unless otherwise stated, all drawings, illustrations and photographs are the work of Urbis.

1.5. LIMITATIONS

The Conservation Management Strategy for the site incorporated only a summary archaeological component, which was outside the scope of the project. *CMS Policy No. 27* states:

> *Further investigation and documentation of the subsurface elements of the site, within the recommended reduced heritage curtilage, should be undertaken at Development Application stage and prior to further construction works'. Of particular note is the underground flue linking the C1N and Brick Stacks to the C1 Coke Ovens. There is potential for the retention of a section of this flue.*

Therefore, while interpretation of physical remnants is included within this Interpretation Strategy. These are subject to change pending an archaeological assessment at Development Application and prior to further construction works.

2. SITE DESCRIPTION

The former Corrimal Coke Works site is located approximately 80km south of Sydney and 7.5km north of Wollongong. The Corrimal Railway Station and South Coast (rail) Line are adjacent to the eastern boundary. Three access points (with gates) provide road access to Railway Street at the northern boundary.

The western boundary of the site is adjacent to Memorial Drive, the primary roadway between the Bulli Pass and Wollongong. The Princes Highway lies further to the west and serves the town centres. Towradgi Creek is located at the southern boundary of the site. The creek crosses into the site and continues through adjacent allotments.

The site is surrounded by the residential suburb of Corrimal and is approximately 1km west of Corrimal Beach.

The existing curtilage of the site is defined by the following allotments:

- Lot 1 DP795791
- Lot 5 DP749492
- Lot 126 DP598190
- Lot 11 DP749492

The site contains a large number of built elements relating to the process of coke making. In particular the site contains two large coke oven batteries (c. 1912 and c. 1962), a brick stack (1912), three steel stacks (c. 1960s and 1985) two quenching towers (late 1960s), fine coal bins (c. 1960s) etc.

The comprehensive CMS provides details of the site and its built forms.

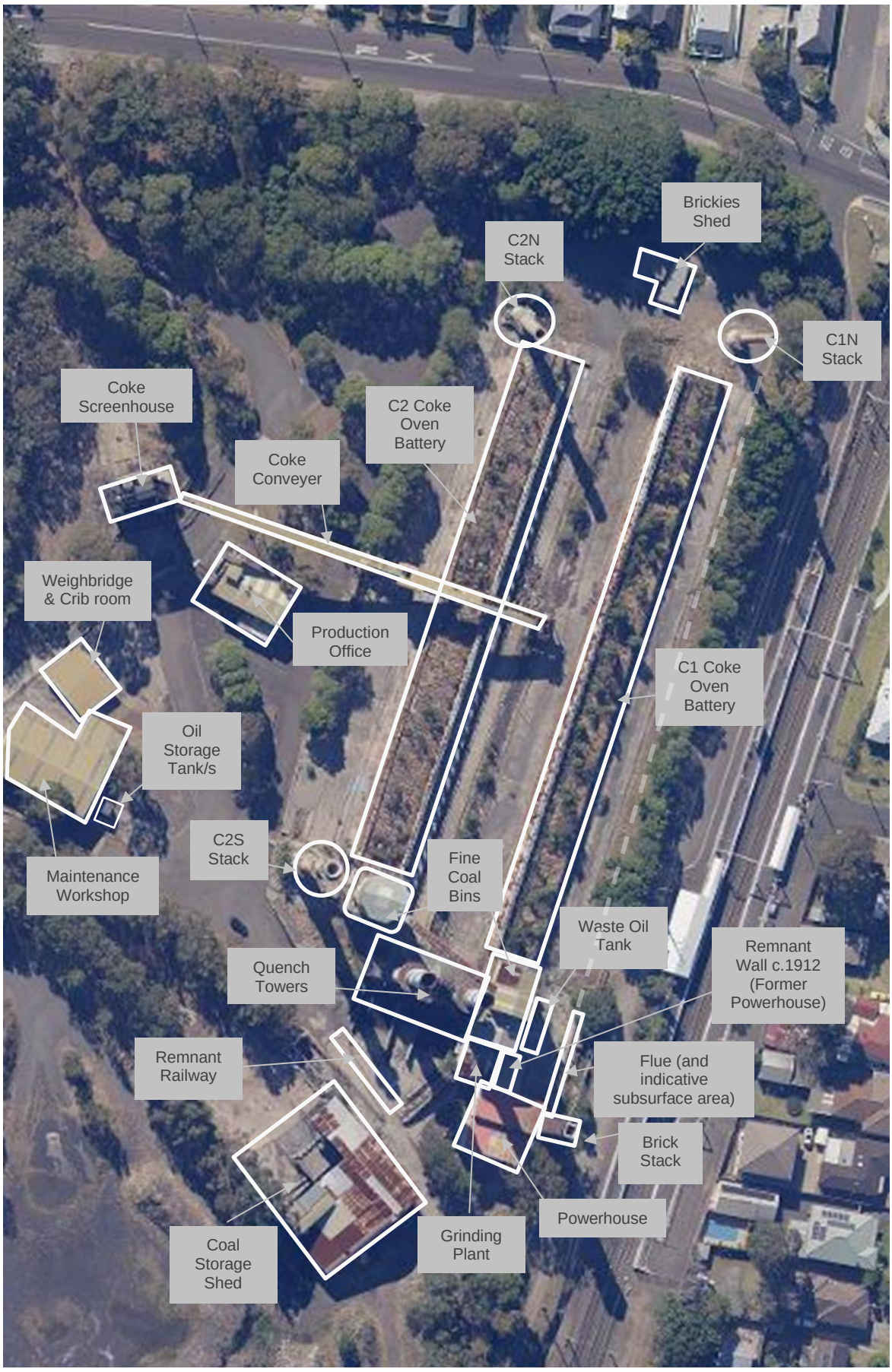

Figure 3 - Former Coke Works Remaining Built Element Map - Detail

Source: Six Maps

3. HERITAGE LISTING AND HERITAGE CURTILAGE

The former Corrimal Coke Works site is listed on the following statutory registers:

- Wollongong Local Environmental Plan 2009 listed as a heritage item under schedule 5 item No. 6607
  - Former Corrimal Coke Works, 27 Railway Street, Lot 126, DP 598190 and part of Lot 1, DP 795791

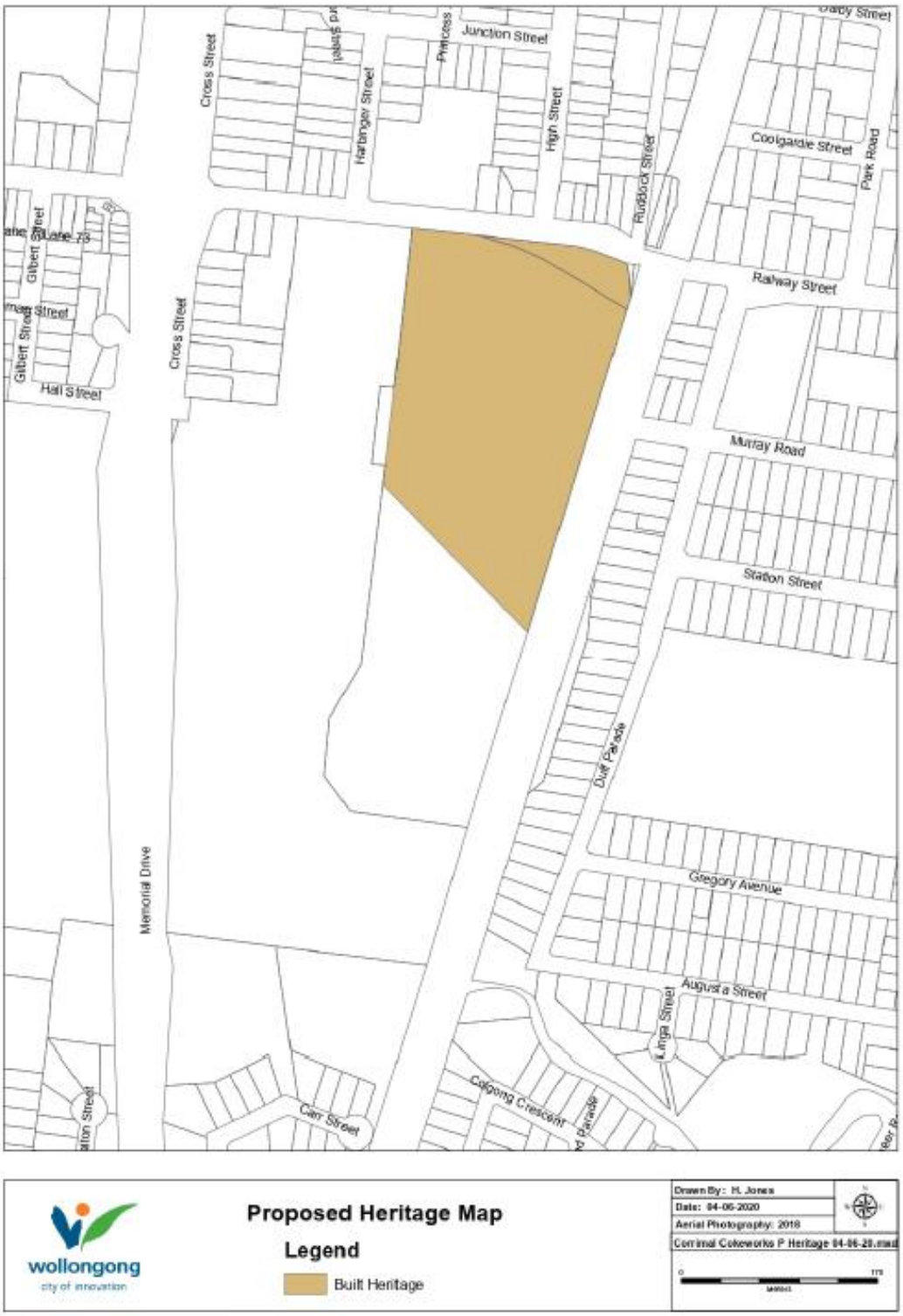

Figure 4 – Heritage curtilage by Wollongong Council gazetted under the LEP

Source: Wollongong council

Figure 5 – Heritage curtilage by Heritage NSW.

Source: HNSW.

4. HISTORICAL OVERVIEW

A comprehensive history of the site is contained in the CMS for the former coke works site.

The following site history has been sourced from the "Corrimal Coke Works, Corrimal NSW Historical Heritage Assessment Final Report Prepared for Illawarra Coke Company Pty Ltd", prepared by Biosis in August 2017 and supplemented where necessary.

4.1. THE CORRIMAL COKE WORKS: 100 YEARS OF CONTINUOUS COKE MAKING (1911- PRESENT)

Between 1875 and 1925 there were a number of coke works making coke for the Illawarra region due to the close proximity of good quality coal. By 1907, Wollongong was the centre of the state coke industry, with 453 ovens producing 83 per cent of the state's total coke output.[3] A significant factor in the expansion of the industry within the Illawarra was the founding the Electrolytic Refining and Smelting Co (ERS) at Port Kembla in 1908.[4] The Corrimal coke works was one of numerous batteries that sprang up in association with collieries throughout the Illawarra in response to developing steel manufacture demands from both local and overseas markets.

The Project Area was purchased by the Corrimal Coal Company in 1911. Initially the first purchase was of the north eastern portion of the current Project Area. The land was described as commencing over the eastern side of the main south coast road at the south west corner of land of Mr Anderson and containing portions 39, 40, 41, 42, 43 and 44 (Figure 6).

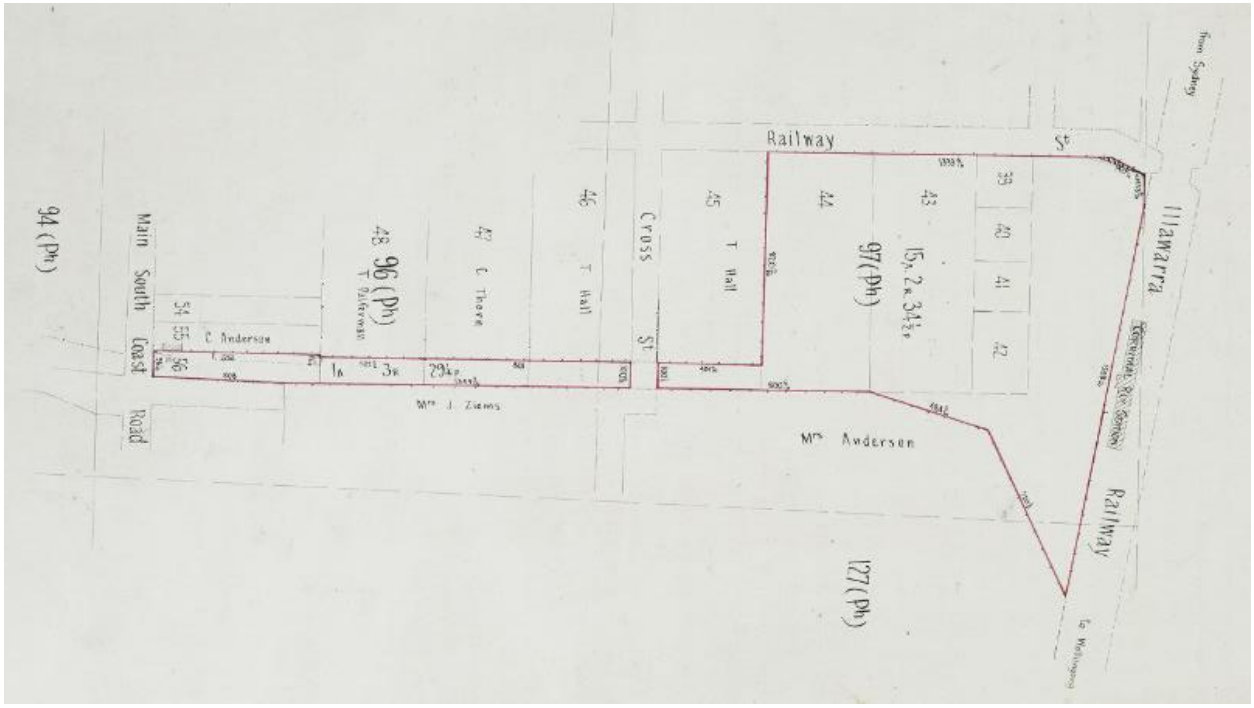

Figure 6 – Block plan accompanying CT Vol 1987 Fol 19, showing part of the land owned by the Corrimal Coal Company Limited.

Source: NSW LRS

The first reports of a new coke works at Corrimal appeared in 1910 with the South Coast Times reporting:

> *Much satisfaction is expressed locally at the commencement of the erection of about thirty ovens for the manufacture of coke by the Corrimal-Balgownie Coal Co. This project has been rumoured for the*

[3] *ibid.*

[4] Kass 2010, p140

last couple of years. It will probably be nine months or so before the ovens will be ready for firing. Corrimal is likely yet to justify the prophesy that is to be the largest town, probably excepting Port Kembla, south of Sydney.[5]

In addition to the reports of the Corrimal coke works, excerpts of the construction manager, George Davidson's diary provide information about the construction of the coke works:

Excavations – There has been considerable delay on account of wet weather which has made it impossible to continue with horse and drays, and it has been considered best to lay down the road and take out the remainder of hot deck (next to ovens). The crossing and points have been put in, the laying of the road was started during the week and five chains of sleepers and rails are now ready for ballasting.[6]

The coke works opened in 1912 with much fan fair and the *South Coast Times* reported on the event in great detail:

On Thursday at the invitation of Messrs. G. S. Yuille and Co, Ltd. there was a gathering at the new ovens, situated adjoining the Corrimal railway station, which are to treat the small coal from the Corrimal-Balgownie Colliery. A special train brought a party, from Sydney numbering about 80 and there was a considerable local representation, including several of the Council of North Illawarra and the president of the Bulli Shire (Mr. J. S. Kirfcton). The party were shown over the plant by the constructing engineer Mr George Davidson and Mr Walter Evans (the manager), and afterwards reassembled in a marquee erected by Sergeant's Ltd. wherein was provided a tip-top lunch, the only liquor at which was champagne. Mr Yuille Scott, a director, presided here the toast for the occasion was given by Mr. Frank Young, the Mayor of North Illawarra, who expressed the goodwill of the Council and of the public generally towards an (enterprise which I would give employment and commended the enterprise of the company; he was confident that the company would find that the workers of Illawarra were a reasonable people and that they would have no troubles of that kind, notwithstanding that there was some stir over the position of general secretary. (The chairman said shat the company were indebted to Mr. J. McMeekan for his assistance in the designin1 of the ovens and he acknowledged the ability with which the constructing engineer, Mr. Davidson, had carried the designs out. Mr. McMeekan who responded to calls, said he feared the anticipations of the Mayor of North Illawarra as to the employment these works would afford would not be fulfilled, inasmuch as the aim of eliminating as far as possible the human factor in operations had been carried out. That was the first question I which had to be considered in the designing of a works in these times and he was certain finality had not been reached, and that after Mr. Evans had been in charge some time he would be able to make further reductions. Mr. McMeekan said that 'Messrs. Yuille and Co. had left nothing undone, no matter what the cost which had been suggested to make the works perfect, and they had here one of the most up to date works in Australia. Mr. Davidson, who also spoke in response, acknowledged the compliments which had been paid him, and said it had given him a great amount of pleasure to 'be associated with this undertaking) in connection with Messrs. Yuille and Co.Fsom beginning to end there has not been a discordant note. Mr. Evans was also called and briefly replied. The speakers agreed in pronouncing the plant second to none in the Commonwealth. There were several other speakers, but the company were inclined rather to be festive than serious and the speaking was in that spirit. The plant, which was described in the 'South Coast Times' recently, will be producing coke in 'about a fortnight. The most outstanding feature is the utilization of the waste gases in producing electrical, power which will operate the machinery and also supply current the mine, which will do the same there. It is ' expected that in time the whole of the power required at the mine will be generated here. The advance made in the efficiency of plant's is illustrated by the contrast of the Unanderra plant with this. At Unanderra 100 ovens had a capacity of about 670 tons a week. Here 40 ovens employing but half the labour will make 650 tons.[7]

The majority of the buildings and coke work machinery were confined to the northern portion of the Project Area. The initial configuration of the coke works consisted of 40 non recovery beehive type coke ovens (C1 battery), brick combustion stack, powerhouse, timber coal bunkers and maintenance buildings. Coal was supplied to the coke works from the Corrimal-Balgownie Colliery via the private rail line constructed in 1889. Coal was loaded into the coke works from a small railway siding adjacent to the C1 battery.

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[5] "Corrimal", *Illawarra Mercury*, 29 July 1910, p4

[6] Davidson Journal, 1911-1912, UOW Archives

[7] "Corrimal Coke Ovens – An Opening Day", *South Coast Times and Wollongong Argus*, 6 September 1912, p12

Figure 7 – Bird's-eye View of Coking Plant. The Corrimal-Balgownie Collieries, Ltd., Corrimal. Photo: LF Harper. Shows the coking process including coal delivery, charge car, push car and hand quenching in process.

Source: The coke industry of New South Wales: descriptive notes / by L.F. Harper. Analyses and notes on by-products by J.C.H. Mingaye, 1916, frontispiece

Figure 8 – Another view of Coking Plant. The Corrimal-Balgownie Collieries, Ltd., Corrimal. Shows the coking process including coal delivery, charge car, push car and hand quenching in process.

Source: The coke industry of New South Wales: descriptive notes / by L.F. Harper. Analyses and notes on by-products by J.C.H. Mingaye, 1916, p4

Figure 9 – Corrimal-Balgownie Co.'s Ovens, Corrimal.

Source: The coke industry of New South Wales: descriptive notes / by L.F. Harper. Analyses and notes on by-products by J.C.H. Mingaye, 1916

The construction of the coke works lead to a reconfiguration of the sidings associated with the Corrimal colliery, including the installation of two dead-end sidings serving the coke loading wharves laid in a northerly direction. A further three dead end sidings for wagon standing were installed to the west of the C1 coke battery. On the southern side of the yard two other sidings left the main collier branch in an easterly direction passing over a steeply inclined embankment to the coal bins serving the crushers at the coke works. A conveyor system carried the coal through a tunnel beneath the branch to the coke works. A two-road engine shed at Unanderra was dismantled and taken to Corrimal for recreation on a site immediately west of the coke works standage sidings. On the southern side of the engine shed was the weighbridge and its loop siding; a point at the western end of the latter send a short connection in a north-eastern direction to pass beneath the engine lifting gallows, also a dead-end spur to the workshops situated against the northern side of the engine shed.[8]

In 1916 the southern portion of the Project Area was purchased by G. S Yulli and Company Ltd. The portion of land now encompassed the rest of Mr Andersons grant and part of portion 97 originally grated to William Underwood and also part of portion 96 originally granted to Joseph Underwood. The configuration of the land occupied by the Corrimal coke works doubled with this purchase and the modern boundaries of the Project Area are formed.

The C1 battery was extended to the north in 1930 adding ten more ovens. The battery which now contained 50 ovens were all of the 'Thomas' type 30 foot long, six foot seven and a half inches wide and six foot six inches high. The burning periods for the ovens were seventy two and ninety six hours with charges of 12 and 14 tonnes respectively. These ovens, which are still present at the site, had an arched roof and were rectangular in shape and doors at each end facilitate the discharge of the coke through the ovens. Each oven was connected to an underground flue system which enhanced coking efficiency.

[8] McCarthy 1978

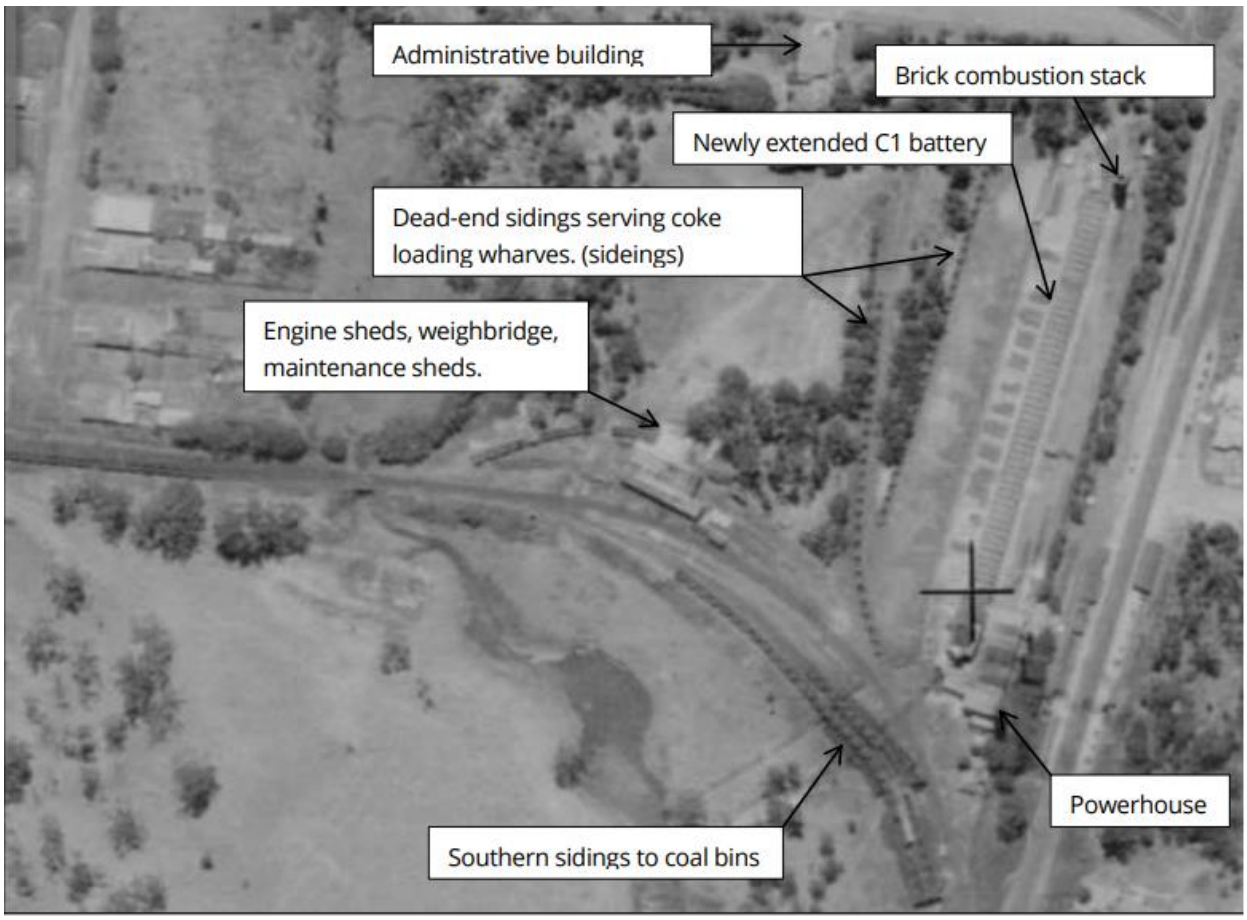

Figure 10 – Annotated c.1948 aerial view of Corrimal Coke Works showing the configuration of the study area.

Source: Wollongong City Council

Figure 11 – Corrimal Coke Works, general view of coke ovens and quenching hearth, 1958-59.

Source: UOW Archives,

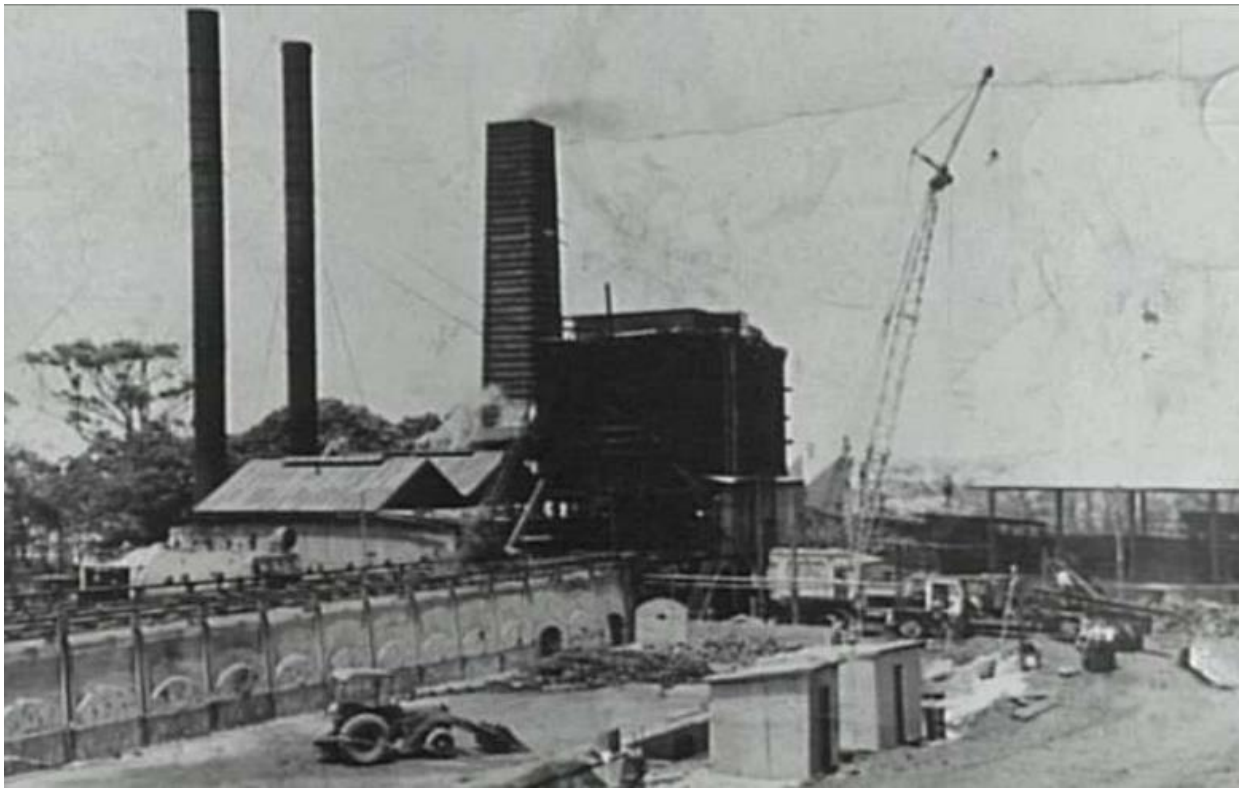

Figure 12 - c.1959 replacement of timber coal bunkers with steel hoppers, Corrimal Coke Works. Note the revised power house with brick chimneys associated with the 1932 additions to the power house.

Source: Illawarra Images

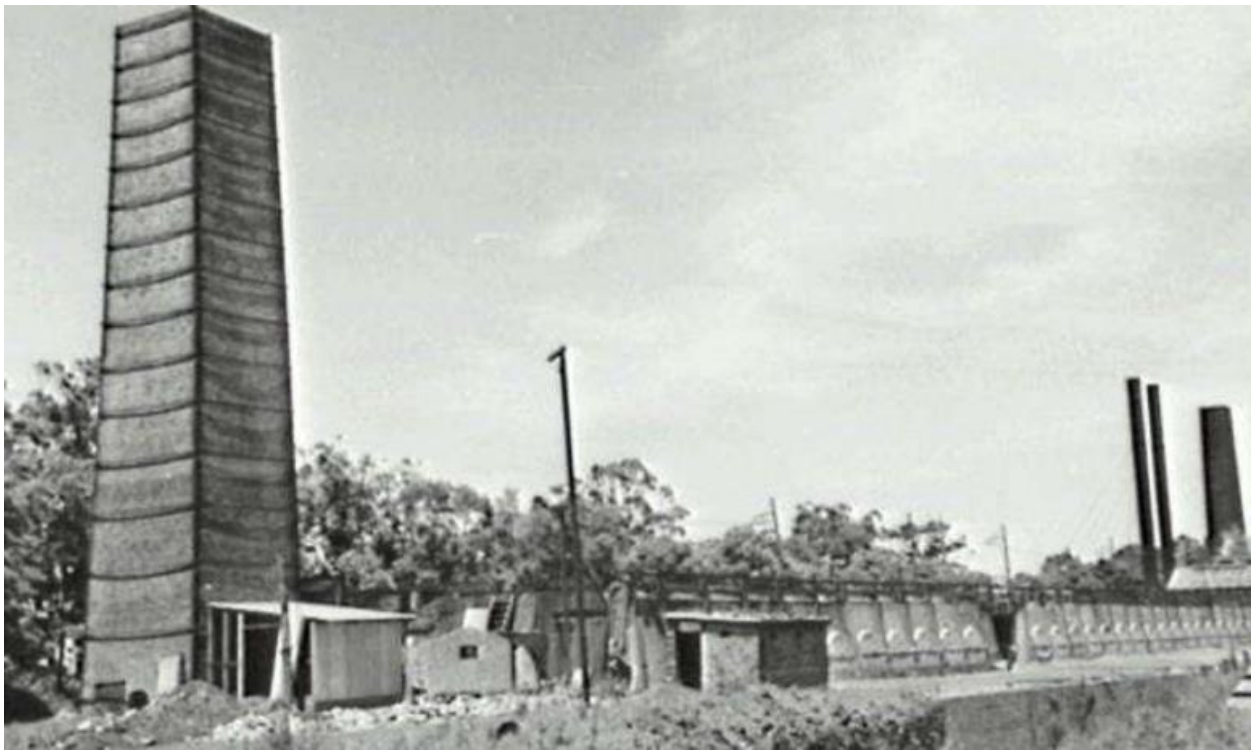

Figure 13 – c.1961 view of Corrimal Coke Works showing brick combustion stack.

Source: Illawarra Images

Figure 14 – Aerial view of Corrimal Coke Works, c.1960s.

Source: UOW Archives

Figure 15 - Aerial view of Corrimal Coke Works, c.1960s.

Source: UOW Archives

Figure 16 – Detail from Aerial view of Corrimal Coke Works, 1965.

Source: UOW Archives

Figure 17 - 1966 plan of the Corrimal Coke Works. Note the curvature of the c1889 private tram/railway through the centre of the site linking up the government rail line.

Source: ICC

In 1916 the Corrimal coke works, apart from the Broken Hill Proprietary Steel Works and Hoskins Wongawilli Coke Works were the only coke works in NSW at which all the steam power required was obtained by burning the waste gases generated in the coke ovens under the boilers. Sufficient amounts of electricity were produced to provide for the coke works the Corrimal colliery and the North Illawarra Municipality.[9] On Friday 17 July 1925 the electricity generated by the Corrimal power house powered 400 street lamps in the Northern Illawarra Municipality. At this time the maximum capacity of the coke works was 950 tonnes of coke per week.54 In 1932 the power house was upgraded with a 1,000 KW turbo alternator unit and steam boiler was installed. A 1948 aerial shows the configuration of the railway sidings, engine sheds and coke works during this period (Figure 10).

In 1947 four of the Illawarra municipal areas combined to form the city of Greater Wollongong. In 1948 the new City Council purchased the companies' electricity franchise for a fee of £30,000.55 Coal continued to be transported to the coke works along the private railway line which crossed the Princes Highway near the intersection of Tarrawanna Road and Cross Street. During this time a coke worker was employed to stop the traffic when a train loaded with coal destined for the coke works was due to cross the road.

By the late 50's construction began on a new oven battery (C2) with 32 ovens of similar type and size to C1 battery but with a larger capacity, during this time the old timber bunkers were replaced by steel hoppers (Figure 12 and Figure 13). Each steel hopper stored 250 tonnes of pulverized coal from Corrimal-Balgownie Collier which fed the coke ovens. The coal was charged into the coke ovens by an electrically driven canister running on rails along the top of the battery.56 An electrically operated ram pushed the hot coke out of the ovens onto the hearth for quenching with water. Once the coke had cooled by hand held hoses it was transferred to a scraper conveyor with rubber belt to take it to the screening and sizing plant. Two steel surge hoppers, each 40 tonne capacity were divided to hold the three sizes of metallurgical coke.

In 1960 the continuing growth of the plant demanded more power to supply it. A new 2,000 KM 6,600 V geared turbo-alternator set was installed in an enlarged power house, together with new and more modern switchgear. In order to provide steam for the generating plant two coal fired fire-tube boilers were installed. By 1962 the second battery (C2) was completed and operational.[10] The location of the C2 battery, revised layout of the power house and configuration of the coke works can be clearly seen in a 1966 plan (Figure 17). The coke works and colliery was purchased by Australian Iron and Steel as a package in 1964. The change in ownership also meant that coal would be delivered by road and so the rail line was discontinued. The power house equipment was put up for sale in 1967 and in 1968 the boilers and stacks were removed. In 1969 the ownership of the coke works changed again when Bellambi Coal Company purchased the works and began sourcing the coal from its South Bulli Mine. During the 1970's the Bellambi Coal Company spent two million installing pollution reduction equipment. Smokeless charging plants were installed on each battery in 1977, the electrically operated cars running on rails laid on top of the oven batteries charged each oven with small coal through charge holes situated in the dome of each oven.[11] The holes were then sealed with cast iron removable lids. At the start of the coking cycle the coal was quickly ignited by residual heat in the oven brickwork from the previous charge. The heat in the ovens was retained as they were never left empty for long.

The Bellambi Coal Company was taken over by Australian Coal and Coke Pty Ltd in 1980. From 1982 the works plant was upgraded and activities progressively automated. Another change in ownership occurred just four years later when in 1984 ICC purchased the works to add to its operation at Coalcliff. Kembla Coal and Coke with the combined tonnages from Coalcliff and Corrimal was the largest producer of foundry coke in Australia. Corrimal Colliery closed in 1985 and Corrimal coke works continued to be supplied by local mines. The C1 north brick stack was replaced with a metal one in 1985.[12] In 1985 the Corrimal colliery closed, however coal for the coke works was still sourced from local mines

ICC Holding Pty Ltd (a private company) purchased ICC in 1996 becoming the only independently owned producer of coke in Australia. The surrounding area had changed substantially since the coke works construction and this high number of homes and schools made environmental improvements to operations a top priority of the ICC. Enhancements in the design of a new flue and stack and additions of a bag house on the charge car for clean air charging and a new quench tower canopy was evident at end of the 1990's. The

[9] Harper 1916, p15; Harper 1924, p37

[10] Wright 2012, p4

[11] *ibid.*

[12] Wright 2012, p5

most visible enhancements were the oven hoods, uptakes and ductwork to capture oven pushing emissions which were installed in 1999.[13]

In late 2013 it was announced that the Corrimal coke works was to close permanently by April 2014. The closure was attributed to the negative market conditions, with an excess of coke worldwide and substantially reduced demand the ICC as a small private company could no longer keep the business viable.[14] The coke works operated for over 100 years (1912 - 2013) and, at the time of its closure, was the longest continuously running coke works in New South Wales and Australia.

[13] Wright 2012, p6

[14] "Corrimal Cokeworks to shut its doors", *Illawarra Mercury*, 17 October 2013

5. HERITAGE SIGNIFICANCE

5.1. WHAT IS HERITAGE SIGNIFICANCE?

Before making decisions to change a heritage item, an item within a heritage conservation area, or an item located in proximity to a heritage listed item, it is important to understand its values and the values of its context. This leads to decisions that will retain these values in the future. Statements of heritage significance summarise the heritage values of a place – why it is important and why a statutory listing was made to protect these values.

5.2. PROPOSED STATEMENT OF 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, 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.
- 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 do have aesthetic qualities, however, do not reach the threshold required to attain Aesthetic Heritage Significance.

The Corrimal Coke Works employed a very small fraction of the workforce that was employed in the steelworks, mines and port that formed the ‘major’ components of the Illawarra's industrial past. For example, in 1936 BHP employed 5,000 workers. The Corrimal Coke Works then employed about 40 workers, less than one percent of BHP’s workforce alone. Coke production only employed a small fraction of the workforce of the coal mines in the Illawarra and NSW, and a small fraction of the steel works’ workforce. A number of families had multiple generations of men and women working at the coke works (including at least one family of 4 generations).

The former Corrimal Coke Works contains subterranean flues, the role and physical characteristics of these are well documented, thus research potential is very limited. While there is potential for archaeological research relating to the coke ovens, the information that would be available would be substantially similar to, or identical to, the nearby Coalcliff Coke Works.

Operated for over 100 years, the former coke works only ceased operations in 2013. The long continual use of the site has created multiple layers of industrial fabric and social history. The supply of coking coal to the site was originally self-sufficient, arriving from the nearby Corrimal Colliery. By the mid-1980s, the colliery had closed, ending the sites use of raw materials from Corrimal itself.

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 and the sites previous electricity generation.

6. HERITAGE INTERPRETATION

6.1. AUDIENCE ANALYSIS

Interpretation aims to reveal meanings and connections. To effectively achieve this, interpretation is based on identifying audiences and using appropriate media. It is important to identify specific audiences so that interpretation responds to needs and motivations. Media needs to consider literacy levels, accessibility, gender, ethnicity and age.

The former Corrimal Coke Works has historic significance as part of the expansion and industrialisation of Corrimal and the broader Illawarra Area. The site also demonstrates the processes and technologies of making coke throughout the 20th and early 21st Centuries.

The current proposal includes a primarily residential redevelopment of the site, with some mixed use/commercial areas. The proposal will remove structures of little heritage significance and/or intrusive built elements on the site.

For safety, amenity and practical reasons, the C2 Coke Oven Battery, graded as having moderate heritage significance, is proposed to be removed and interpreted.

It is proposed that sections of the C1 Coke Oven Battery, graded as having high heritage significance, will be removed. The C1 and C2 Coke Oven Batteries are large structures which are in poor condition. The C1 Coke Ovens are located adjacent to the Corrimal Railway Station. Any future development on the site, in particular residential development, requires visual and physical permeability between the broader site to the railway station.

The movement of people between the proposed redevelopment areas and the railway station, will provide a large and regular opportunity to communicate the heritage significance of the site to potential and future residents, workers and visitors.

The site's proximity to the Corrimal township, local beaches, main road thoroughfare to Wollongong and the Corrimal Railway Station will encourage a broad visitor base. It is envisioned that the main visitors to the site may fall into the following categories:

- Residents/owners/tenants and occupants of the residential areas of the redeveloped site;
- Visitors for commercial purposes;
- Visitors for recreational and retail purposes;
- General public, workers and residents of the established areas of Corrimal;
- Special interest groups such as heritage, art and architecture enthusiasts and audiences visiting for educational purposes, including primary, secondary and tertiary;
- Commuters and pedestrians;
- Former employees of the Corrimal Coke Works.

6.2. INTERPRETATION THEMES

Table 1 – Historical Themes

Australian theme	NSW theme	Local theme	Discussion
3. Developing local, regional and national economies	Mining	Making Coke	Process of making coke on the site included originally the extraction of suitable coal from the nearby Corrimal Colliery, the transportation of that coal to the site, the coking process (baking) the coal in the coke ovens to modify the product from coal to coke.

Australian theme	NSW theme	Local theme	Discussion
Building settlements, towns and cities	Utilities	Electricity Generations	Utilisation of by-products of steam/gas and heat from the coking process to generate electricity for the local community.

6.3. BUILT FORM INTERPRETATION

The emphasis for conservation at the site is focuses on the Brick Stack, Old Powerhouse and the northern end of the C1 Battery Ovens. Other remaining elements of the site are proposed to be interpreted in a variety of ways including ground plane paving, landscaping or other interpretive feature/s as well as signage and other media. The following table lists elements of the site, the significance grading and the interpretation intention.

Table 2 – Built Form Table.

Element	Significance	Interpretive Device
Brick Stack	High	Retain and conserve.
Old Powerhouse	Medium	Retain and conserve.
C1 Coke Oven Battery	High	Retain and conserve a representational sample of the C1 Coke Oven Battery (minimum 5) to the northern of the battery. Remove all remaining ovens, retaining oven numbers to be reused on site. Interpret the footprint and repetition of the ovens on the ground plane through the centre section of the battery. Interpret the steel structural framing elements and repetition to the southern end of the C1 Coke Oven Battery. The representational section will include ram car tracks (to the east) and hot car tracks (to the west). Interpretative coke ovens at the southern end of the battery could include a series of deconstructed ovens showing the form and internal elements of the existing ovens. Interpretative/sculptural elements will include both original and new fabric from the C1 Coke Oven Battery. Atmospheric lighting may be incorporated for evening illumination of ovens. To demonstrate the spatial length of the C1 Coke Oven Battery, the footprint / alignment of the C1 Coke Oven Battery should be interpreted with paving, landscaping or other interpretive feature/s. Figure 26 provides a graphic representation of the possible appearance of these elements. Signage to be located within the vicinity of retained and deconstructed ovens. Signage to provide historic information as text and graphics. Signage to feature diagrams of coke making process and oven construction and maintenance.
Remnant Powerhouse Wall	High	Retain and conserve remnant wall of former Powerhouse Building. There is potential for the wall to be incorporated within a new structure. Potential uses of the Powerhouse structure could include tele-working office, start-up space and retail.

Element	Significance	Interpretive Device
		Signage in the vicinity of this element should focus on the history and technology used at the site to generate electricity for the local community.
C2 Coke Oven Battery	Medium	Remove C2 Coke Oven Battery and interpret, where practical, on the ground plane using paving, landscaping or other interpretive feature/s. The retention of some materials such as some bricks, oven doors and numbers are possible. See Section 6.4 Material Salvage Plan for more information. Note: The reuse of existing material is not necessary for the interpretation of the battery.
Quench Towers	Medium	Remove Quench Towers with opportunity to interpret the former structure on the ground place. This could include a water feature, public artwork, paving and landscaping.
Grinding Plant	Medium	Remove Grinding Plant structures. Note: BG&E have assessed the structures as having major steel corrosions, structural elements need widespread replacement; potentially at risk of major failure. Partridge who reviewed the aforementioned plan have stated that the structures are unsound and are at risk of collapse. Demolition should be considered as a matter of public safety.
C1N Steel Stack	Medium	Further structural assessment of this structure to be undertaken. Where the structure is not able to be retained and conserved, an interpretive/sculptural representation may be substituted. Any substitute could be of metal construction, of comparable form and height. No other steel stack or tower are proposed to be retained on the site. The retention of the stack is also subject to the exact location of the base structure in relation to the boundary as the land included Lot 125 DP598190 will be transferred to Council ownership. Note: BG&E's Structural Condition Assessment and Partridge's review of the report both concur that the C1N Steel Stack is in poor condition but possibly viable for preservation through remediation of the base fixings and footing as well as strengthening of the stack. However further detailed structural analysis needs to be undertaken.
C2N and C2S Steel Stacks	Medium	Remove structures.
Fine Coal Bins	Medium	The Fine Coal Bins will be removed from the site. The structure has been assessed in both BG&E's Structural Condition Assessment and Partridge's review of that report as being unviable for retention. Possible interpretation using structural steel framing/elements comprising original fabric, new fabric or both. These to be located within the footprint of the C1 Fine Coal Bin. Signage in the vicinity of the deconstructed coke ovens will include images and diagrams of the coke making process, including the Fine Coal Bins.

Element	Significance	Interpretive Device
Remnant Railway Tracks	Medium	Carefully remove and store existing railway tracks, located south of the Quench Towers. Re-lay railway tracks along the original alignment at a revised Reduced Level (RL).

6.4. MATERIAL SALVAGE PLAN

Due factors such as the viability of reusing or storing existing fabric in poor condition and the public safety implications of these materials the following Material Salvage Plan guides the reuse/storage plan and other considerations for each element of the site which has the potential to be reused.

Table 3 – Reuse and Salvage Table.

Element	Quantity	Potential Reuse/Storage	Other Considerations
C1 and C2 Fine Coal Bin – Hoppers including mechanisms	6	Possible interpretation within public landscaping in the heritage precinct of the site and within private open space in development lots using structural steel framing/elements comprising of original fabric, new fabric or both.	Public safety, fit for purpose (safety in design) and maintenance.
C2 Exhaust Hoods and flues	Minimum 10 ovens	To be reused within public landscaping within the heritage precinct.	Public safety, fit for purpose (safety in design) and maintenance.
C1 and C2 Coke oven numbers	All	To be reused within public landscaping in the heritage precinct and within private open space in development lots and the retail lot as shop numbers.	Public safety, fit for purpose (safety in design) and maintenance.
C1 and C2 Coke oven doors	10 doors	To be reused within public landscaping in the heritage precinct.	Public safety, fit for purpose (safety in design) and maintenance.
C1 and C2 Oven bricks	Approx. 600m^2 or 23,000 bricks on 45 pallets	To be reused within public landscaping in the heritage precinct and within private open space in development lots.	Public safety, fit for purpose (safety in design) Note: Bricks not suitable for road paving.
Coke screen house hoppers including mechanisms (similar to C2 hoppers but larger).	4	To be reused within public landscaping in the heritage precinct and within private open space in development lots.	Public safety, fit for purpose (safety in design) and maintenance.
C1 Ram car and Hot car tracks	Minimum 5 ovens of the hot car tracks, all of the ram car tracks	To be reused within public landscaping in the heritage precinct.	Public safety, fit for purpose (safety in design) and maintenance.
Remnant railway tracks to the south of the quench towers	All	Reinstate within the new paving in the same location.	Public safety, fit for purpose (safety in design) and maintenance.

6.5. MEDIA

There is an opportunity to include a variety of media displays within the proposed plaza. This could take the form of large images on internal walls (within any commercial spaces) or an interactive display panel. Other potential interpretative devices may include

- Soundscapes including Oral History Collections;
- Industrially inspired “smell-scapes”
- Water features;
- Haze and mist;
- Interpretative Apps;
- Display cases of tools and industrial artefacts of the Corrimal Coke Works;
- Corrimal Coke Works Website incorporating access to moveable heritage and historic documents;
- Use of salvaged bricks and retained artefacts for paving, walkways, etc.
- Coke and coal inspired colours and textures used in architectural and landscape features.

6.6. PLACE MAKING INTERPRETATION

There is a strong opportunity to imbed into the development language, names and processes used throughout the sites operational life as a coke works. In doing so, the heritage significance of the former industrial site is interpreted within everyday used discussion.

For example:

- Use of coke making process terminology for building names or street names, such as:
  - Quench Street
  - Oven Lane
  - Coal Walk
  - Powerhouse Plaza
  - Stack Street
  - “Reservoir” – building name located near existing dam sites
  - Flue Walk (located on pathway which crosses the underground flue)
- Use of names of people who have had considerable involvement with the site, such as:
  - Davies Street (4 generations of Davies worked in the site)
  - Yuille (an original Director and owner)
  - Evans Road (the site’s first manager)
  - Churchill Lane (in recognition of the service Ruth Churchill provided during and after the site’s operation)

Consultation with appropriate people will need to occur prior to any decisions.

6.7. RELEVANT HERITAGE INTERPRETATION EXAMPLES

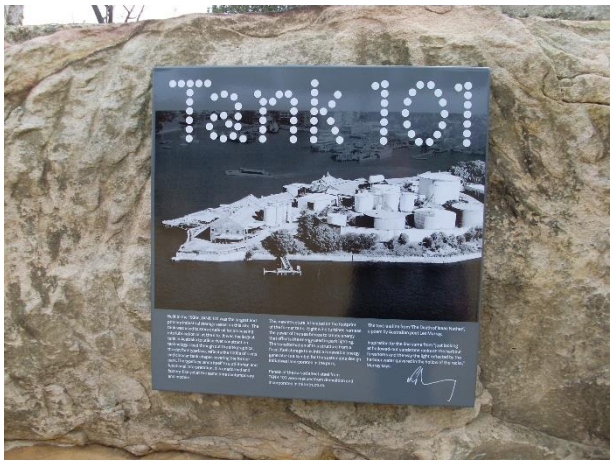

Figure 18 – Signage display, Ballast Park, Sydney.

Figure 19 – Signage, Ballast Park, Sydney.

Figure 20 – Signage display, Central Station, Sydney.

Figure 21 – Building footprint interpretation, Bakers Mews, Parramatta.

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Figure 23 – Interactive display, Sydney Opera House.

Figure 24 – Building footprint interpretation, former, Glebe Incinerator, Sydney.

Source: Six Maps

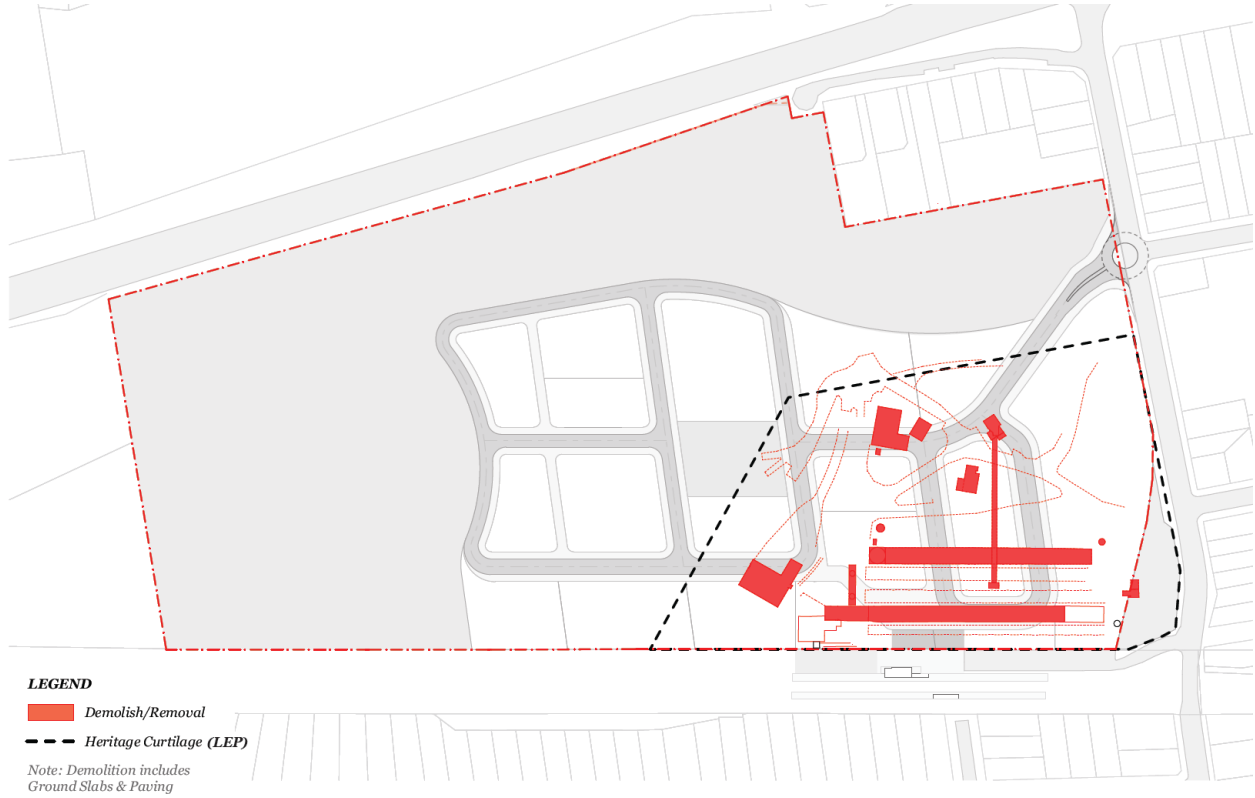

Figure 25 – Demolition Plan and LEP Heritage Curtilage.

Source: *DKO.*

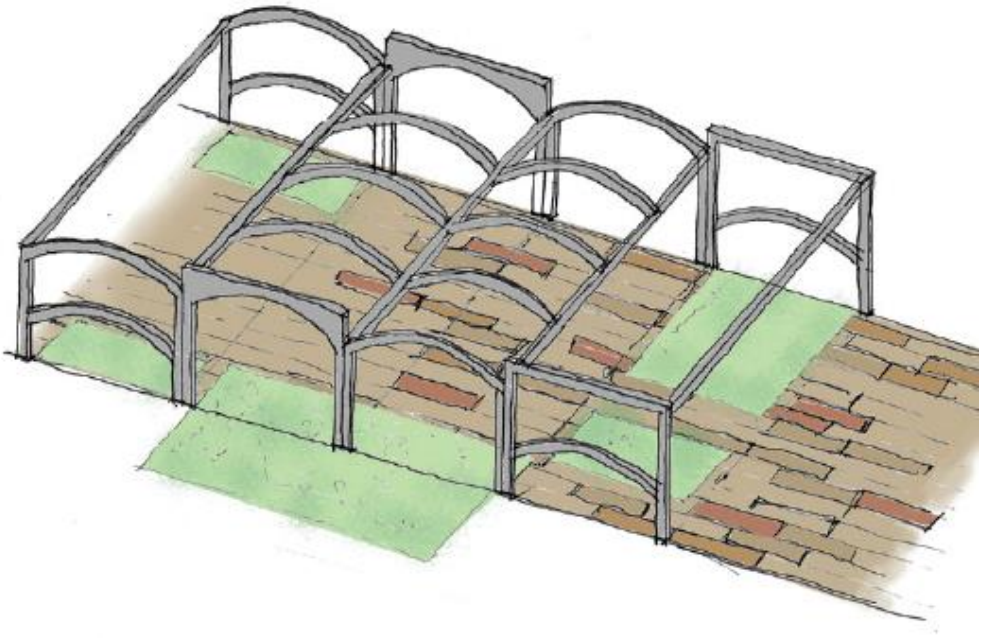

Figure 26 – Graphic representation of how the deconstructed C1 Coke Oven Battery ovens may appear.

Source: DKO

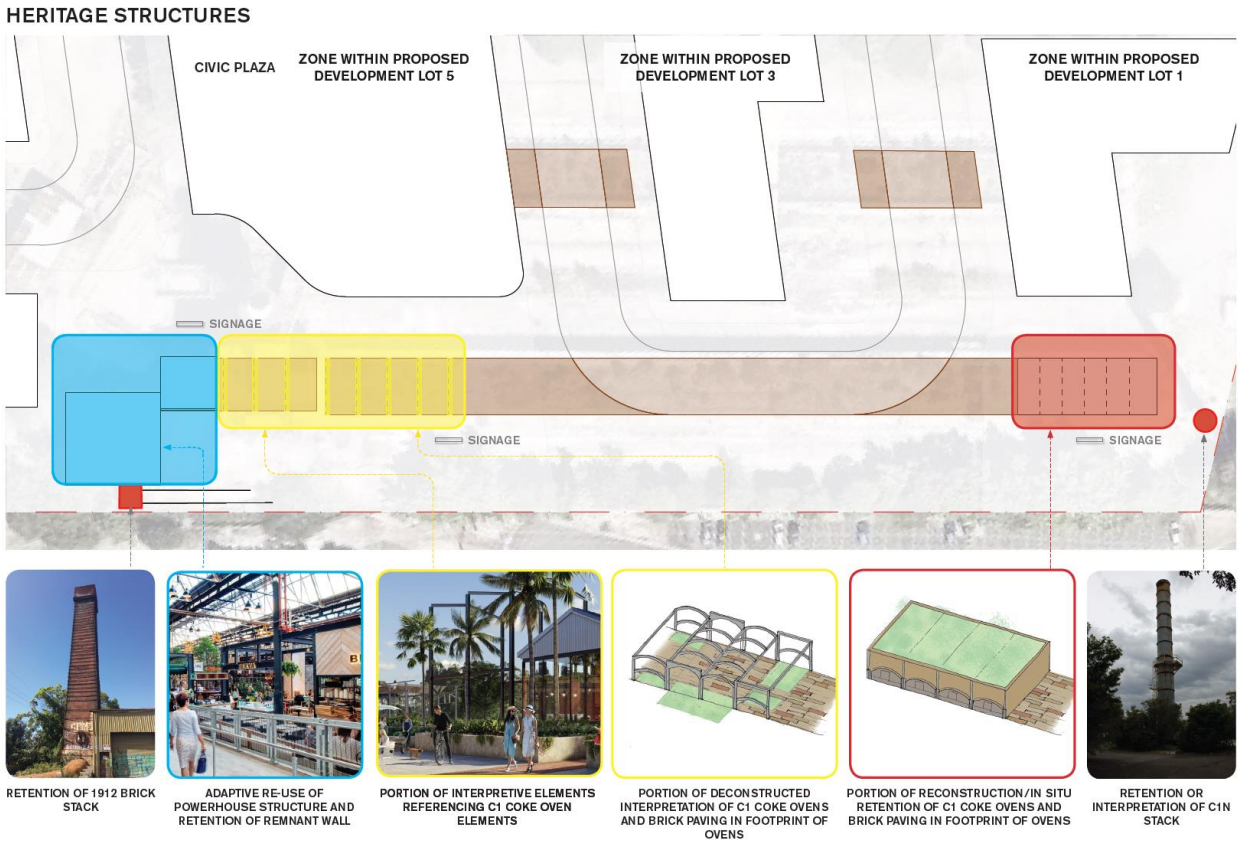

Figure 27 – Graphic representations of how the deconstructed C1 Coke Oven Battery ovens may appear.

Source: DKO

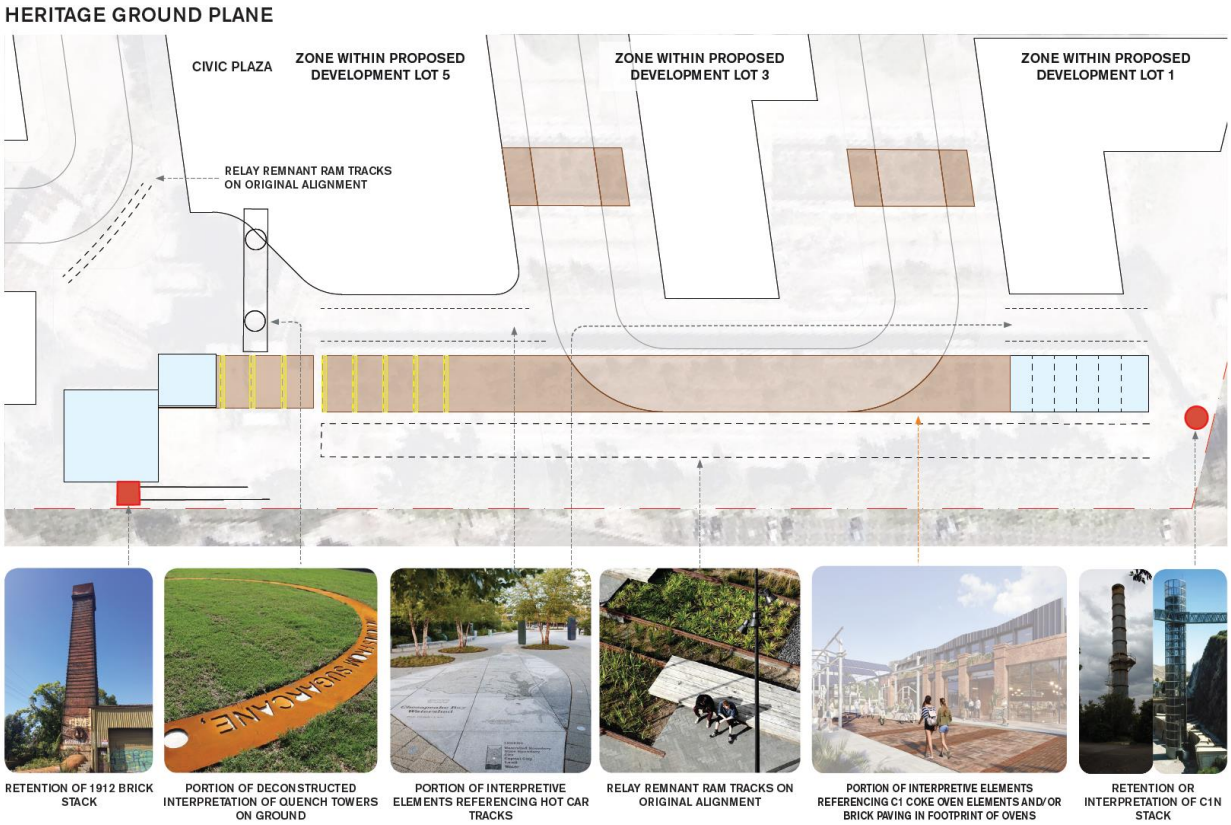

Figure 28 – Graphic representations of how the C1 Coke Oven Battery interpretation may appear in paving and on the ground plane.

Source: DKO

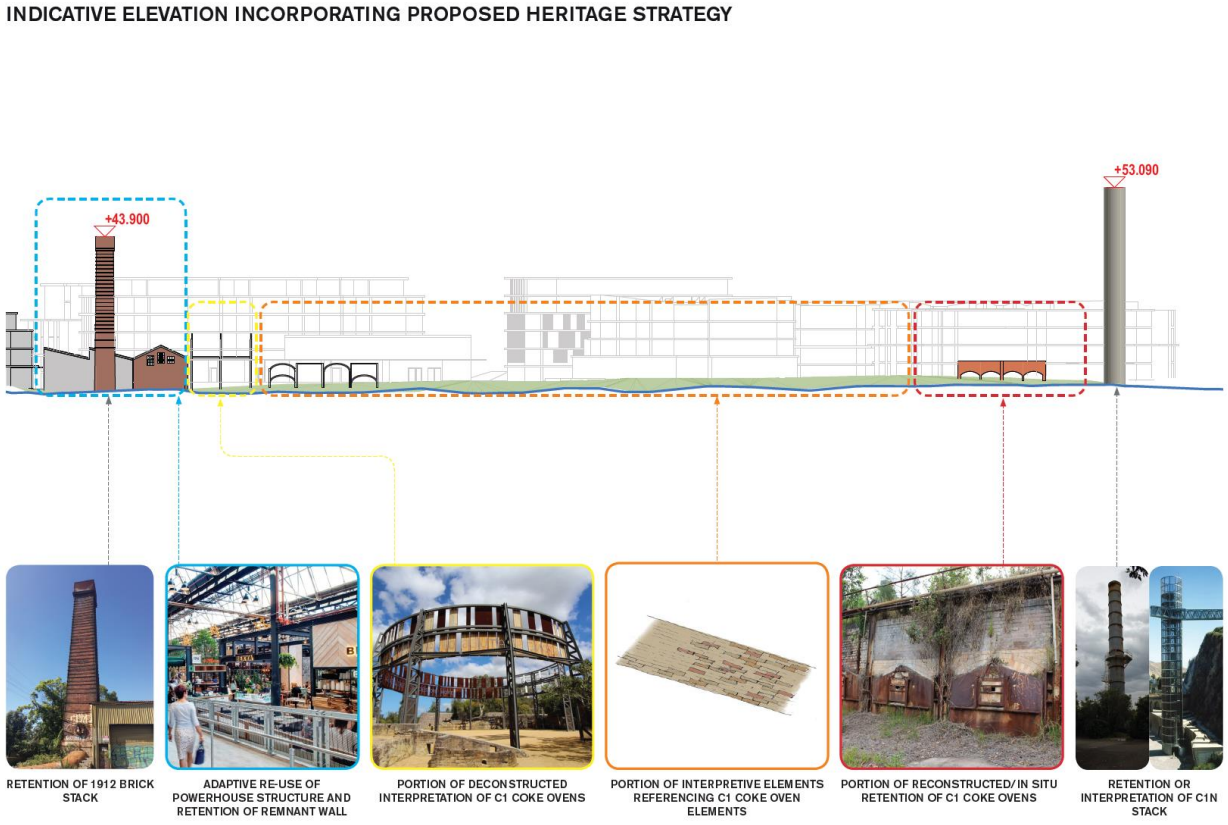

Figure 29 – Graphic representations of how the elevation of the proposed heritage interpretation strategy may appear across the site.

Source: DKO

7. CONCLUSION AND RECOMMENDATIONS

The proposed interpretation forms part of the redevelopment of the former Corrimal Coke Works and complies with the Conservation Management Strategy policies for the site. The strategy forms part of the heritage conservation works which accompanies the current development proposal for the site.

The proposed interpretation incorporates all identified significant themes and phases of development for the site and provides for public access to the interpretation.

The recommended strategy provides for a variety of active and passive forms of interpretive media including:

- Built form interpretation and conservation of fabric;
- Provision of interpretive signage; and
- Opportunities for interactive media.

This Strategy accompanies the current proposed redevelopment of the site.

Pending approval for this Strategy by the consent authority, Urbis (or a suitably qualified heritage consultant) will be required to provide detailed design and text for signage and interpretive media, and to assist with production and installation of the interpretive media.

With regard to the interpretation the following limitations are noted:

- Proposed conservation works are subject to the Conservation Schedule to be prepared by Urbis (or a suitably qualified heritage consultant) at Development Application stage, prior to further construction works;
- Approvals from the relevant copyright holders are required to reproduce images recommended for use herein;

It is recommended that the Strategy is approved by the consent authority and its recommendations incorporated into consent conditions.

8. BIBLIOGRAPHY AND REFERENCES

8.1. BIBLIOGRAPHY

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[Note: Some government departments have changed their names over time and the above publications state the name at the time of publication.]

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A APPENDIX

URBIS

ATTACHMENT 7

CONSERVATION MANAGEMENT STRATEGY

FORMER COKE WORKS, CORRIMAL NSW

P2619
FINAL
PREPARED FOR LEGACY PROPERTY & ILLAWARRA COKE COMPANY

URBIS

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Report Number	04 – Final Report

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1. INTRODUCTION

Urbis has been engaged by Legacy Property and the Illawarra Coke Company, to prepare the following Conservation Management Strategy (CMS) for the former Corrimal Coke Works, Corrimal NSW.

A Planning Proposal for the former Corrimal Coke Works was lodged with Wollongong City Council in October 2017. The Proposal sought to rezone the site to R3 Medium Density Residential and RE1 Public Recreation, providing for redevelopment of the site with around 700-750 dwellings incorporating a mix of residential apartments and townhouses, as well as new public open spaces. The Planning Proposal was endorsed by Council in April 2018 and received a Gateway Determination from the Department of Planning and Environment in August 2018.

In endorsing the Planning Proposal, Council requested preparation of a Conservation Management Plan to provide for the long term conservation of significant heritage elements on the site. In subsequent discussions, it was agreed that a Conservation Management Strategy (CMS) was more appropriate for managing heritage on the site and this CMS has been prepared for that purpose.

Importantly, the proposed extent of heritage retention and interpretation has significantly increased from the original proposal and now provides a robust outcome for understanding and celebrating the history of the site.

The purpose of a CMS is to assess and consider the significance of an item prior to submitting development proposals. The CMS provides a careful analysis of why the item is significant, how to retain its significance, and conservation strategies to ensure its long-term viability.

1.1. SITE LOCATION

The site is located at 27 Railway Street, Corrimal NSW (Figure 1).

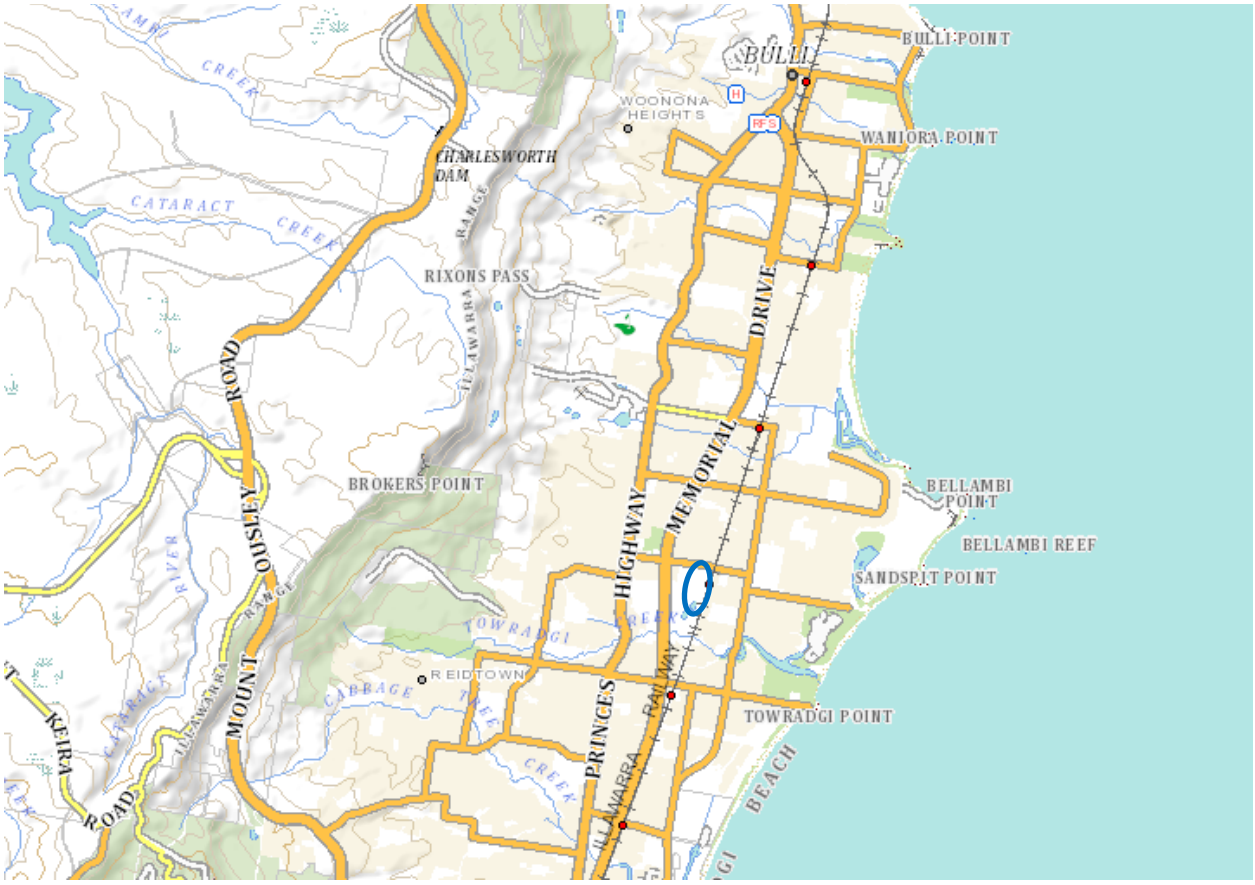

Figure 1 – Locality map

Source: SIX Maps 2019

Figure 2 – Aerial Image of site showing approximate boundaries.

Source: Six Maps 2019

1.2. METHODOLOGY

This Conservation Management Strategy has been prepared in accordance with the *Conservation Management Documents (including Model Brief),* Heritage Office and Department of Urban Affairs & Planning, (1996, revised 2002), *The Conservation Management Plan,* James Semple Kerr, National Trust (2000) and the Australia ICOMOS Burra Charter (2013).

1.3. LIMITATIONS AND EXCLUSIONS

Due to safety concerns, a number of buildings and structures were inaccessible during physical site inspection. It is unlikely that this has impacted on the significance gradings or assessment of the relevant components.

No subterranean structures were inspected, and the assessment of archaeological potential was not included as part of this report. The report does include strategies to further assess the retention of underground structures associated with proposed significant heritage elements recommended to be retained in situ and/or interpreted.

1.4. AUTHOR IDENTIFICATION & ACKNOWLEDGEMENTS

The following report has been prepared by Gavin Patton (Heritage Consultant) and Lynette Gurr (Associate Director, Heritage). Stephen Davies (Director) has reviewed and endorsed its content. Unless otherwise stated, all drawings, illustrations and photographs are the work of Urbis.

The authors would like to thank the following people for their assistance with the compilation of this plan:

- Ruth Churchill (Engineering and Management Consultant, Illawarra Coke Company)

1.5. ABBREVIATIONS & DEFINITIONS

Common abbreviations and definitions used throughout the report are provided in the table below:

Table 1 – Abbreviations

Abbreviation	Definition
BCA	Building Code of Australia
CMP	Conservation Management Plan
EMP	Environmental Management Plan
LEP	Local Environmental Plan
HAMS	Heritage Asset Management Strategy
HMF	Heritage Management Framework
REF	Review of Environmental Factors
RNE	Register of the National Estate
S170R	Section 170 Heritage and Conservation Register (under the *Heritage Act 1977*)
SEPP	State Environmental Planning Policy
SHR	State Heritage Register of New South Wales (under the *Heritage Act 1977*)
TAMP	Total Asset Management Plan

Table 2 – Terms & Definitions

Abbreviation	Definition
Aboriginal object	A statutory term meaning any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non- Aboriginal extraction, and includes Aboriginal remains

Abbreviation	Definition
Aboriginal place	A statutory term meaning any place declared to be an Aboriginal place (under s.84 of the *National Parks and Wildlife Act 1974*) by the Minister administering the NPW Act, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture; it may or may not contain Aboriginal objects
Archaeological assessment	A study undertaken to establish the archaeological significance (research potential) of a particular site and to identify appropriate management actions
Archaeological potential	The degree of physical evidence present at an archaeological site, usually assessed on the basis of physical evaluation and historical research
Archaeology	The study of past human cultures, behaviours and activities through the recording and excavation of archaeological sites and the analysis of physical evidence
Australia ICOMOS	The national committee of the International Council on Monuments and Sites
Burra Charter	Charter adopted by Australia ICOMOS, which establishes the nationally accepted principles for the conservation of places of cultural significance; Although the *Burra Charter* is not cited formally in an Act, it is nationally recognised as a document that shapes the policies of the Heritage Council of NSW
Conservation	All the processes of looking after an item so as to retain its cultural significance; it includes maintenance and may, according to circumstances, include preservation, restoration, reconstruction and adaptation, and will be commonly a combination of more than one of these
Conservation Management Plan	A document explaining the significance of a heritage item, including a heritage conservation area, and proposing policies to retain that significance; it can include guidelines for additional development or maintenance of the place
Conservation policy	A proposal to conserve a heritage item arising out of the opportunities and constraints presented by the statement of heritage significance and other considerations
Context	The specific character, quality, physical, historical and social characteristics of a building's setting; depending on the nature of the proposal, the context could be as small as a road or entire suburb
Curtilage	The geographical area that provides the physical context for an item, and which contributes to its heritage significance; land title boundaries do not necessarily coincide
Heritage and Conservation Registers	A register of heritage assets owned, occupied or controlled by a State agency, prepared in accordance with section 170 of the Heritage Act
Heritage assets	Items of heritage significance identified in a State Government Agency's Heritage and Conservation Register, including items of cultural and natural significance
Heritage Asset Management Strategy	A strategy prepared by a State Government Agency to document how the principles and guidelines outlined in the *Management of Heritage Assets by NSW Government Agencies* will be implemented in the management of heritage assets
Heritage item	A landscape, place, building, structure, relic or other work of heritage significance

Abbreviation	Definition
Heritage significance	Of aesthetic, historic, scientific, cultural, social, archaeological, natural or aesthetic value for past, present or future generations
Heritage value	Often used interchangeably with the term ‘heritage significance’; there are four nature of significance values used in heritage assessments (historical, aesthetic, social and technical/research) and two comparative significance values (representative and rarity)
Integrity	A heritage item is said to have integrity if its assessment and statement of significance is supported by sound research and analysis, and its fabric and curtilage and still largely intact
Interpretation	Interpretation explains the heritage significance of a place to the users and the community; the need to interpret heritage significance is likely to drive the design of new elements and the layout or planning of the place
Maintenance	Continuous protective care of the fabric and setting of a place; to be distinguished from repair; repair involves restoration or reconstruction
Relics	Relic is defined under the Heritage Act 1977 (NSW) as any deposit, object or material evidence which relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and is of state or local heritage significance
Scar trees	Scarred trees have scars where a section of bark was removed by Aboriginal people in order to make canoes, shields or baskets; footsteps were also cut into the tree trunk to gain access to possums or honey in tree tops; scar trees are different to carved trees
Setting	The area around a heritage place or item that contributes to its heritage significance, which may include views to and from the heritage item; the listing boundary or curtilage of a heritage place does not always include the whole of its setting
Shell middens	Term is referred to in Australia as an archaeological deposit in which shells are the predominant visible cultural items; shells are principally the remains of past meals; some middens also consist of bones, stone and other artefacts
Total Asset Management Policy	Total Asset Management is a NSW Government policy introduced to achieve better planning and management of the State's assets. Total Asset Management is the strategic management of physical assets to best support the delivery of agency services. It is part of a planning framework in which the Government's social, ecological and financial service outcomes are achieved by the most efficient means and within the resource limits of the community. It provides a structured and systematic resource allocation approach to infrastructure and physical asset management so that resources are aligned with the service objectives of State agencies. This approach achieves reduced costs and best value for money.
Use	Means the functions of a place, as well, as the activities and the practices that may occur at the place; a compatible use respects the cultural significance of a place

2. SITE DESCRIPTION

2.1. SITE LOCATION, ACCESS & SETTING

The former Corrimal Coke Works site is located approximately 80km south of Sydney and 7.5km north of Wollongong. The Corrimal Railway Station and South Coast (rail) Line are adjacent to the eastern boundary. Three access points (with gates) provide road access to Railway Street at the northern boundary.

The western boundary of the site is adjacent to Memorial Drive, the primary roadway between the Bulli Pass and Wollongong. The Princes Highway lies further to the west and serves the town centres. Towradgi Creek is located at the southern boundary of the site. The creek crosses into the site and continues through adjacent allotments.

The site is surrounded by the residential suburb of Corrimal and is approximately 1km west of Corrimal Beach.

2.2. CURTILAGE

The existing curtilage of the site is defined by the following allotments:

- Lot 1 DP795791
- Lot 5 DP749492
- Lot 126 DP598190
- Lot 11 DP749492

2.3. LANDSCAPE

The site boundary primarily contains a mix of established trees and shrubs. From most viewing points, this vegetation restricts views to and from the site, with only the large chimney stacks clearly visible. Within the site is a small creek which is a contributory to Towradgi Creek. There are two dams located in the south western corner of Lot 1 DP795791. These dams were constructed to provide water for the quenching of the coke. Established vegetation winds through the site surrounding coal/coke storage areas and other built elements.

2.4. BUILT ELEMENTS

The former Cokeworks site contains a diverse range of built forms. These include the industrial elements involved in the coking process, along with administration and staff amenities buildings.

2.4.1. Brick 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. On inspection, cracks were visible on all sides. Urbis understands that the stack was re-lined internally In the 1990s. This internal lining appeared in good condition. It was noted that stack has had a metal ‘cap’ placed on top.

Figure 3 – View west from the Corrimal Railway Station.

Figure 4 – View south from the C1 Coke Oven Battery.

2.4.2. 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 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.

Figure 5 – View looking south of east elevation of C1 Coke Ovens.

Figure 6 – View of east elevation of C1 Coke Ovens - 31,32 & 33.

Figure 7 – View within an oven, looking west.

Figure 8 – View of the west elevation of the C1 Coke Oven Battery.

2.4.3. Remnant wall of former Power House

The remnant of the former Power House was constructed in c1912. The remnant includes the original west elevation of the power house and an adjoining section of the north elevation. The remnant features three windows. A portion of the lower section of the wall has been reconstructed with modern fabric in the latter 20th century.

The condition of the *remnant wall* was fair. Window glazing has been removed/damaged.

Figure 9 – View of the remnant of the former power house.

Figure 10 – Detail view of the remnant of the former power house.

2.4.4. C2 Coke Oven Battery

The C2 Coke Oven Battery was completed in c.1962 and contains 32 ovens, with a larger capacity than the C1 Battery. The battery is located to the west of the C1 Coke Battery and runs parallel.

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 ovens. The west door being used by the ram car (on rails) to push the coke out of the oven through the east 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 C2 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, metal doors.

Figure 11 – View of west elevation of C2 Coke Battery.

Figure 12 – View of east elevation of C2 Coke Battery.

Figure 13 – View of west elevation of C2 Coke Battery, showing ovens 2, 3, 4 & 5.

Figure 14 – Detail view of metal identifier for coke oven 15 in C2 Coke Battery.

2.4.5. Quench Towers and associated structures

The quench towers are located at the southern end of the C1 and C2 Coke Batteries. Quenching of the coke, that is the cooling after being removed from the ovens, was originally completed by hand with hoses. In the 1960s, this process was replaced with the electric quench cars. These took the coke rammed from the oven to the quenching facility. The quench towers and structure were constructed in the late 1960s.

The Quench Towers have been assessed by structural engineers and are currently monitored for safety. It was observed that the steel structures which support the towers are precarious, with substantial corrosion and decay.

Figure 15 – View south showing quench towers.

Figure 16 – View east showing quench towers and structures.

Figure 17 – View north of quench tower settling pond.

Figure 18 – View east showing structure and surrounds of quench tower base.

2.4.6. 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.

Figure 19 – View north showing C1N stack.

Figure 20 – Detail view of C1N stack.

Figure 21 – Detail view of C2N stack.

Figure 22 – View NW toward C2N stack.

Figure 23 – View west showing C2S stack.

Figure 24 – View east showing C2S stack with one of the quench towers to the left.

2.4.7. Fine Coal Bins

At the southern end of each coke battery is located a fine coal bin. Fine Coal Bin C1 and Fine Coal Bin C2 held the grinded coal ready to be taken to the coke ovens by the charging canisters. Both fine coal bins date from the 1960s. An earlier timber hopper fine coal bin previously serviced the C1 Coke Battery.

Fine Coal Bin C1 is steel construction, with metal cladding. Fine Coal Bin C2 has a concrete frame and concrete tank, with metal cladding at the top of the tank. Both bins appeared in a decayed state. Further structural assessments are being undertaken by structural engineers.

Figure 25 – View west, showing C1 Fine Coal Bin

Figure 26 – View south, showing C1 Fine Coal Bin.

Figure 27 – View west, showing C2 Fine Coal Bin

Figure 28 – View north, showing C2 Fine Coal Bin

2.4.8. Grinding Plant

The grinding plant, c.1960s, is located to the south of the C1 Fine Coal Bin. Coal was conveyed from the coal storage shed to the grinding plant prior to being placed in the fine coal bins. The grinding plant is constructed of a steel frame with metal cladding. The remnant wall of the earlier power house forms part of the east elevation of the grinding plant. The plant appeared to be in a fair, but decayed state. Further structural assessments are being undertaken.

Figure 29 – View south within the grinding plant.

Figure 30 – View looking east showing grinding plant.

2.4.9. Coal Storage Shed

The coal storage shed is located at the southern end of the coke plant. The shed was constructed prior to the 1960s and originally contained rail sidings from the tramway to Corrimal Colliery. After the colliery closed in 1985, trucks were used to bring coal to the site. At this point the ramp to the west of the shed was constructed to allow for trucks to dump coal. The concrete and timber walls at the base of the building, along with corrugated metal sheeting, were added at this point. The shed appeared in a poor state, with structural defects and corrosion observed in steel trusses and rusting of corrugated metal.

Figure 31 – View looking west, showing north elevation of coal storage shed.

Figure 32 – View looking east inside coal storage shed.

2.4.10. Coke conveyor and Coke Screen House

The coke conveyor traverses the site north-west from the quench towers to the coke screen house. The conveyor took the coke to the screen house to be loaded into trucks (originally rail hopper cars took the coke off site via the South Coast line). These structures appeared in poor condition, with structural supports visibly corroded and decayed.

Figure 33 – View of south and west elevations of coke screen house and conveyor.

Figure 34 – View south between the two coal batteries showing the conveyor.

Figure 35 – View under the coke screen house.

Figure 36 – View under the coke screen house showing railway line remnants.

2.4.11. Ancillary Buildings – Weighbridge/Crib Room, Maintenance Workshop and Production Office

The site contains a number of ancillary and administrative buildings which supported the operation of the site. These masonry and metal clad buildings were constructed in the later 20th Century. The Brickies Shed has been partially demolished. The other buildings appeared in a decayed state with glazing missing/damaged and substantial graffiti.

Figure 37 – Production Office, looking north.

Figure 38 – Production Office, looking east.

Figure 39 – Weighbridge/Crib Room and Maintenance Workshop (behind) looking south.

Figure 40 – Weighbridge/Crib Room, looking east.

Figure 41 – Weighbridge/Crib Room and Maintenance Workshop, looking west.

Figure 42 – Brickies Shed

2.4.12. Oil Storage Tank and Waste Oil Storage Tank

The Oil Storage Tank is located to the east of the Maintenance Workshop, the Waste Oil Storage Tank is located to the east of the Fine Coal Bin C1. These structures appeared in fair condition.

Figure 43 – Oil Storage Tank

Figure 44 – Waste Oil Storage Tank

2.4.13. North and South Dams (and pump sheds)

The north and south dams were utilised in the quenching process. Originally, there was only one dam, which subsequently was divided into two.

Figure 45 – The dam in 1965.

Figure 46 – The dam 2018.

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.

Figure 47 – View of tracks looking west.

Figure 48 – View of tracks looking east.

3. HISTORY

The following site history has been sourced from the "Corrimal Coke Works, Corrimal NSW Historical Heritage Assessment Final Report Prepared for Illawarra Coke Company Pty Ltd", prepared by Biosis in August 2017 and supplemented where necessary.

3.1. TOPOGRAPHY AND RESOURCES

The Project Area is located within Wollongong (Coastal) Plain physiographic region[1] and is within the Berry formation of the Shoalhaven group of geological units. It consists of the gentle rises of the Illawarra Coal Measures, rolling to steep low hills of volcanic materials and undulating Budgong Sandstone and Quaternary alluvium. The Illawarra Coal Measures is Permian in age (299 – 251 million years ago) and consists of shale, sandstone, conglomerate, tuff, chert and coal. Quaternary alluvium consists of gravel, swamp and dune deposits that have been forming for the last 2.6 million years. These low lying areas are almost completely cleared of forest and woodland. The Illawarra Coal Measures consist of stratified late Permian coal measures which are inter-bedded with the Hawkesbury Sandstones and these coal measures. These coal measures which were noted since the early colonial period, have been a major resource in simulating the economic and industrial development of the Illawarra.

The Wollongong Plain region includes Coledale, Thirroul, Woonona, Bellambi, Towradgi and Wollongong Beaches. This physiographic unit has formed from the gradual recession, westward, of the Plateau.[2] The Coastal Plain is characterised as a mosaic of foothills, ridges, spurs, hillocks and floodplains with slopes varying from very gently inclined to steep with the occasional low cliff. The Coastal Plain is dissected by easterly flowing streams at intervals that become more frequent towards the north. This unit is geomorphically active and the dunes are subject to deflation and erosion.[3]

3.2. ABORIGINAL PAST

The Project Area was originally inhabited by the Tharawal (also Dharawal, Darawal, Carawal, Turawal, and Thurawal) linguistic group. The named groups (often referred to as 'clans', 'bands' or 'tribes') belonging to the Tharawal/Dharawal language group included the following: Gweagal, Norongerraga, Illawarra, Threawal, Tagary, Wandeandega, Wodi Wodi and Ory-ang-ora. In his overview of Australian Aboriginal tribal boundaries, Tindale places the Illawarra area within the territory of the Wodi Wodi tribe (or 'named group').[4] Tindale describes the Wodi Wodi named group as occupying the area north of the Shoalhaven River to Wollongong.[5]

Ethnographic evidence considered by Sefton indicates population mobility on the Woronora Plateau with frequent contact between the neighbouring Gandangarra, Cobrakall (Liverpool and Cabramatta) and Wodi Wodi (Illawarra).[6] The traditional Wodi Wodi land extended from around Stanwell Park to the Shoalhaven River and as far inland as Picton, Moss Vale and Marulan. Many of the town and place names of the Illawarra are derived from the Dharawal language.

Historic accounts for the Illawarra region that specifically reference the Aboriginal inhabitants are scarce. Some early ethnographic accounts suggest that at the time of European occupation, a highly mobile, largely dispersed Aboriginal population occupied the region.[7] It is thought that there were slightly higher populations near Lake Illawarra given the resource base associated with and accessible at the Lake. Based on the varied environmental zones along the south coast it is unlikely that consistent, large scale movement from east to west was prevalent.

The arrival of European colonists wrought swift and catastrophic change to the Aboriginal people of the Illawarra region. Europeans began appearing in the region before the end of the eighteenth century and by the first decades of the nineteenth century a forestry industry had begun. Other industries began to become

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[1] Hazelton, 1990
[2] Bowman, 1971
[3] Dallas, 1995
[4] Tindale, N, 1940, pp194-201
[5] *ibid*., pp194-195
[6] Sefton, C. 1980, pp22-29
[7] Suggested through research compiled by Sullivan 1982 and Organ 1990

more prevalent in the region, including pastoralism and dairying, bringing more and more non-Aboriginal people into the area resulting in restricted access to the traditional hunting grounds of the Tharawal and Wodi Wodi. Conflict, disease and dispossession took a terrible toll on the Wodi Wodi and Tharawal peoples. In 1820, approximately 3000 Aboriginal people were living in the Illawarra, but by 1899 their numbers had declined to only 33 people of non-mixed descent.[8] Today many Wodi Wodi and Tharawal people continue to live in the Illawarra.

3.3. EXPLORATION AND PIONEERS- EARLY COLONIAL PERIOD (1770-1827)

The Illawarra district was first noted by Lt James Cook in 1770 when he located the headland of Port Kembla, naming it 'Red Point'.[9] He also identified a large hill which looked like the crown of a hat. This was Mount Kembla, which was known as Hat Hill in the early days of the settlement.[10] The next recorded Europeans to visit the Illawarra district were Bass and Flinders who in 1796 sailed along the south coast from Sydney in their small boat, Tom Thumb.[11] Following their landing near Tom Thumb Lagoon, they entered Lake Illawarra and made the first recorded contact with the Aboriginal people in the Illawarra.[12]

In 1797 the ship Sydney Cove was wrecked in Bass Strait and survivors made their way through the area to find help, losing several members of their party to 'hostile natives' as they went.[13] Camping overnight at Coal Cliff, the survivors used coal found in a seam to keep warm. The survivors were eventually rescued and taken to Sydney, where their report of the coal led Bass to be sent back to the area to investigate the report.[14] The location of the six foot thick coal seam recorded by Bass has since been identified as the 'No. 1' or Bulli seam.[15] This resource was not utilised for a further 80 years. During this visit Bass also located and named the Shoals-haven and the Shoalhaven River.[16]

Figure 49 - Coal Cliffs, Illawarra, N.S.W. / Robert Marsh Westmacott, between 1840 and 1846. Stratified coal seams are visible in the headland.

Source: NLA, https://trove.nla.gov.au/goto?i=picture&w=18726193&d=http%3A%2F%2Fnla.gov.au%2Fnla.obj-138708147%3FsearchTerm%3Dcoal%2Bcliffs%2Billawarra&s=NeAebf%2FZ9rJA3tvHO4guFXXEieuv7xXXkMNVS1Fmf5E%3D

The first settlement in the Illawarra region was established by Charles Throsby, who cut a cattle track from Glenfield to just behind South Beach, Wollongong, where he constructed a stockman's hut and cattle yard in 1815.[17] Joe Wild was Throsby's stockman, and was also made constable of the district of Five Islands in

[8] Organ 1990
[9] Lindsay et al. 1994, p1
[10] McDonald 1966, p5
[11] Lindsay et al. 1994, p1
[12] McDonald 1966, p10
[13] *loc. cit.,* p17
[14] Lindsay et. al. 1994, p2
[15] Harper 1916
[16] *ibid.*
[17] Osbourne 2000, p1

1815.[18] The following year, Surveyor-General John Oxley was sent to the Illawarra region to make a general survey of the area and to connect it to the known parts of the colony, as well as identify specific lands for prospective grantees.[19]

Although Throsby was the first to pasture cattle in the Illawarra, closely followed by John Oxley, neither received land grants in the Illawarra region.[20] The first grants in the area were made to absentee landlords, who ran cattle on their lands with a few stockmen present.[21] These began in 1817 with several large grants including the 2200 acre 'Illawarra' parcel granted to David Allan. Many early squatter pioneers were not among these grantees and were forced off their land.

Early grantees focused on establishing cleared land and livestock. In addition to this, the potential for coal, the proximity to Sydney and particularly, the prevalence of red cedar in the Illawarra region ensured large parcels of land were taken up throughout the Illawarra by 1830.[22] The value of cedar allowed landholders to actually profit from the clearance of their land and cedar-getting was profitable enough to attract free colonists in addition to the indentured convict labour.

Widespread settlement did not occur as early as expected as the wide area of sandstone country separating Wollongong from Sydney hindered overland access from the north and the Illawarra escarpment hindered overland access from the west. The earliest settlements in the Colony were generally located in areas such as rivers and coastline that could be easily accessed by boat. Between the cattlemen and the cedar cutters, passages into the Illawarra region were found[23] and an unpoliced niche emerged for absconders and bushrangers within the wilderness known as the 'wild bush' or 'long brush' that extended southward toward Kiama.[24] This prompted the later establishment of a military garrison at Five Islands as the Government sought to establish control over the Illawarra.

3.4. SETTLING THE ILLAWARRA- THE BEGINNING OF CORRIMAL (1827-1849)

The next 50 year period saw more intensive settlement of the area and a diversification of interests including the development of coal mining. The first land grants in the Corrimal area were issued to Harriet Overington, John Buckland and James Martin. Harriet Overton (who later married James Spearing of Paulsgrove Estate) was promised a grant of 2000 acres in 1827, which was named Pallamba or Bellambi. The grant stretched from Towradgi to Woonona, encompassing the Corrimal, Bellambi and Woonona flats (Figure 50).[25] James Spearing used the land to run sheep until 1842 when the estate was subdivided and the village of Bellambi established.

John Buckland received a grant of 1920 acres in 1835, which he called Balgownie Estate (Figure 50). In 1839 it was subdivided into 132 lots and sold. Buckland lived in Hoare Town (now known as Douglas Park) and it appears he didn't take up residence on this estate.[26]

[18] McDonald 1966, p28
[19] Osbourne 2000, p6
[20] Dowd 1960, p2
[21] McPhee et al. 1991, p21
[22] Adams 2009
[23] Lindsay et al. 1994, p4
[24] Adams 2009, pp28-32
[25] Organ, M 1987
[26] Jervis 1942 & Cousins 1948

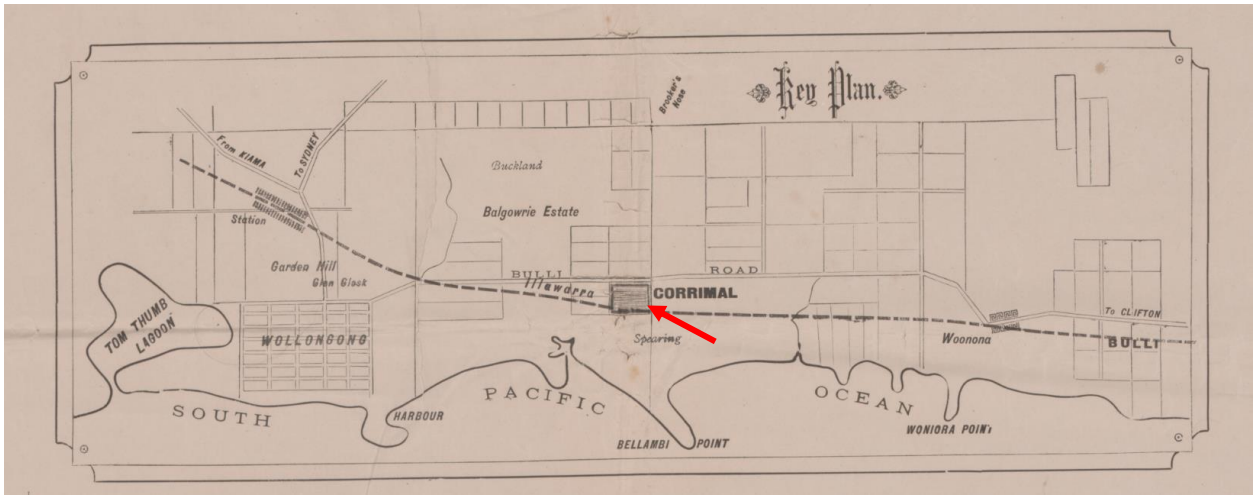

Figure 50 – Key Plan detail from Corrimal : new township : subdivision of 150 acres, known as Collin's farm / sale on the ground, Wednesday, 2nd July [188-?] , 2.30 p.m. ; J. Biggar, auctioneer. Shows the location of the Spearing and Balgowrie Estates c1880-1889. Approximate location of study area indicated by the red arrow.

Source: NLA, http://nla.gov.au/nla.obj-232437582

Dr George Cox, born in Nottinghamshire, England in 1805 arrived in Australia in 1840 and acquired the 50 acres of land at Corrimal originally granted to James Martin in 1831. Mr Martin did not take up this grant and was ordered to pay "quite rent" from January 1st 1839. George Cox was granted the land in 1840 and soon took up residence. He built a large slab house and named the property Summer Hill (to the north west of the Project Area) where he resided there until his death in 1880.[27] George Cox was one of three trustees elected under the Parish Roads Act (the other two being Captain Plunkett and Mr George Anderson who also had properties between Fairy Meadow and Bulli) to form the Bulli Road. Up until 1846-47 the road beyond Fairy Meadow was just a track. He and Captain Plunkett succeeded in having the road run past the boundaries of their properties, along the route first surveyed by Major Mitchell in 1834. This was very much to their benefit as it meant that they didn't have to construct roads from their own properties to the main road. George Cox was medically trained but did not practice his profession, though he was known to be 'most considerate and kind' to locals who fell ill. He was also a great collector and Fred Zeims, another early resident of Corrimal recalls the doctor's study being 'more like a museum than a surgery'. His property was also known locally as the Coxton Estate and Cox's Hill.[28]

In 1833 Mr Robert Anderson was granted portion 127 (Figure 51), the Project Area lies within this parcel of land. The 100 acres granted to Mr Anderson was called Franklyn farm and adjoined Mrs Spearing's estate[29] then known as Fairy Meadow.

The first recording of Corrimal as the town name was in 1884 where the *Illawarra Mercury* reported that:

> *Corrimal is to be the name of the village or town into which Mr. W. Wiley is to lay out (before long) his property at Fairy Meadow, now known as Mrs Collins's.*

Mr. W. Wiley bought the Collins farm estate which extended from the Corrimal railway line on the south to the Roman Catholic cemetery on the north and to the government line on the east. The first sale of allotments was held in 1887 (Figure 52).[30]

[27] Herben 2007
[28] Organ, M 1987
[29] *ibid.*
[30] "The Birth of Corrimal", *South Coast Times and Wollongong*, 18 March 1927, p5

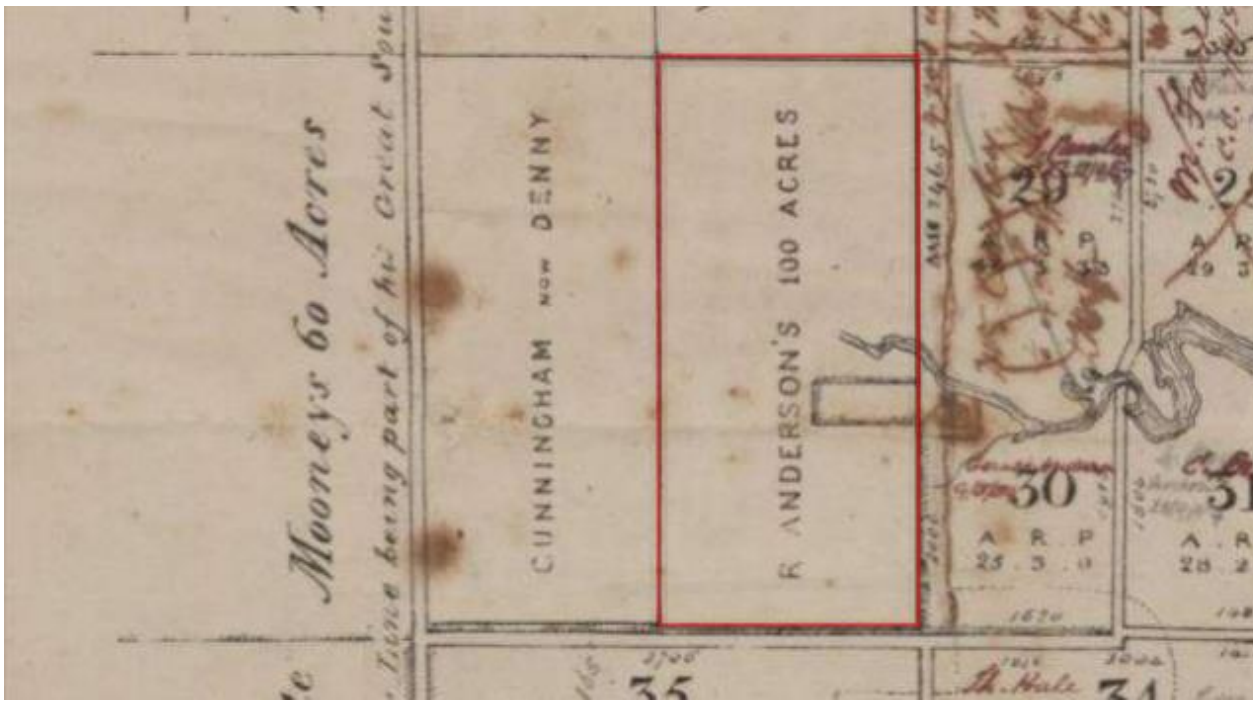

Figure 51 - Detail of the Bellambi Estate subdivision plan 1840-1845. The approximate location of the Project Area indicated by the red rectangle.

Source: NLA

The *South Coast Times and Wollongong Argus* reported a succinct history of Corrimal in 1927:

> *…sometime before this the Corrimal mine was opened by Mr. Thomas Bertram, who carried on for some time. He also erected two or three coke ovens about three hundred yards up the line on the West side' of the Main Road. At this time the screens were just about where the present coke works are. The paddock, now, the cricket pitch, was all fenced and pailed, and inside of the, fence, M. Bertram had erected a sawmill, a fitting, blacksmith, and carpenter's shops. This was before the locomotives time, the skips being lowered down the mountain in the usual manner and then drawn to and from the screens by horses. The late W. B. Green was the contractor for the preparing the road for the locomotives. This was after the South Kembla Coal Company bought Mr. Bertram out. The two small engines and a number of tracks brought out from England by this Kembla Coy for the purpose of drawing coal from their property at South Kembla. which was situated just under the round mountain. The tunnel pieroed the mountain a little better than half way up. The coal was very thin and never got any thicker as far as they went, so I suppose the coal being so thin and having extra tonnage to pay for the extraction, they were unable to compete with the thicker seems, hence the buying of the Corrimal Company. The first manager for this company was a Mr. Pringle with James Crowther as undermanager. Those two gentlemen with other officials and a few miners were all brought from Yorkshire by the South Kembla Company. We have a few of them residing in Corrimal yet.*
>
> *On my arrival here in June 1891, Corrimal was a very small place. The first house was situated just about a hundred and fifty yards north of Angel's Bridge. This cottage was burned down and the one now occupied by Mr W. Laden erected. The next was Mr Thos. Palfryman's, now occupied by Mr Heath. After that and across the Corrimal line, the Anderson's had three cottages…*
>
> *…at this time (1891) there was no more than a dozen houses not mentioned. Mr Henry McCabe's Estate, on the West side of the Main Road was not cut up until about 1902, so there was not a house on that side of the street, with the exception of an old hut which stood facing what is now Underwood street and is about where Mr. J. Pollock's cottage now stands. About four hundred yards further north was Dr Cox's residence (Summer Hill), and behind this Bloomfield farm. On the corner of Main Road and Bellambi Lane was the gate house as it stands now. This house was built by the South Bulli Coal Company. Some years before this there was a toll gate, just where the road crosses the line. The gate keeper's cottage stood where the present gate house stands.*

> *The South Bulli Colliery was reopened in 1889. The tunnel was driven some distance, the incline laid and the railway laid to the sea, and a low level jetty erected. But none of these was ever used, as these gentlemen, I am told, were not able to go any further. So everything connected with the mine was at a standstill for a good many years until the Saywell's Company took over the proposition. This company reconstructed the whole concern and built the present jetty. Mr. William Wilson was the first manager, with his brother Andrew as undermanager.*[31]

Thomas Bertram opened Corrimal Colliery (also known as the Corrimal-Balgownie Colliery) in 1883 and until 1887 coal was transported to the government railway by bullock team. A private colliery line was then constructed to connect with the government line by the Southern Coal Company, which had bought out Bertram. Coal from Corrimal was then shipped from the Southern Coal Company jetty at Port Kembla. By 1890, 60 men were working at the Corrimal mine and 200 tons of coal was being carried away per day. Coal from Corrimal Colliery was also shipped from Wollongong Harbour, Bulli and Bellambi Jetties.[32]

Throughout this period transport by water remained vital for the development of the colony as passengers and goods could be moved with little requirement for capital works.

The thick timber of the Illawarra hindered extensive agricultural use of the land by the early settlers. The labour required to clear the land, combined with the early difficulties in transporting produce to Sydney, resulted in most settlers concentrating on pastoral grazing. A clearing lease system was introduced in the Illawarra following the abandonment of the assigned convict system. Under the leases, a tenant leased a block of land for a number of years, endeavouring to clear the land in that time. As the land was cleared the tenant could plant crops or graze livestock and, when the lease expired, the land and all improvements reverted to the owner who usually leased the land back out. This system continued in use until the 1860s and accelerated land clearance in the Illawarra.[33]

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[31] *ibid.*
[32] *ibid.*
[33] *ibid.*

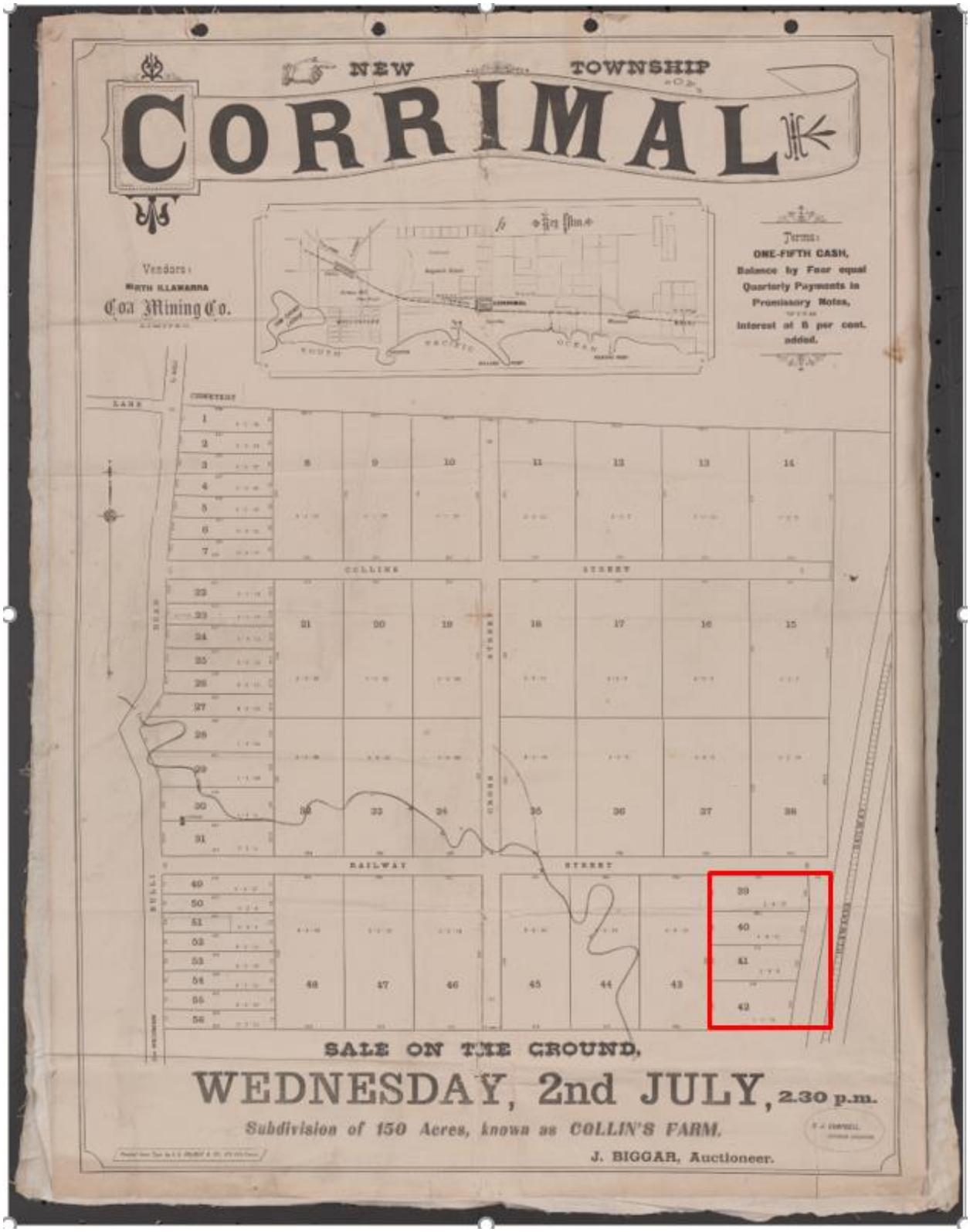

Figure 52 - Corrimal : new township : subdivision of 150 acres, known as Collin's farm / sale on the ground, Wednesday, 2nd July [188-?] , 2.30 p.m. ; J. Biggar, auctioneer. Study area outlined in red.

Source: NLA, http://nla.gov.au/nla.obj-232437582

3.5. INDUSTRIAL DEVELOPMENT AND INFRASTRUCTURE (1849-1911)

The first coal shipped from Wollongong Harbour was from James Shoobert's small coal mine on Mt Keira in 1849, heralding the commencement of an important Illawarra industry. Several other industries had operated in the area during this time (e.g. ship building had been established at Wollongong Harbour since 1831, whaling operated from Bulli Point that same year); however, agriculture and mining were to dominate the economic development of the Illawarra for the next 50 years.

During the 1860's and 1870's the demand for coal rose as industries developed in Sydney. The increase in steam shipping allowed more frequent and reliable shipment and jetties were developed in association with coal mines to service the trade.[34] Corrimal grew during this time as a direct result of the coal mining industry as demonstrated in the Illawarra Mercury in 1889:

> *'This part of the district is fast assuming the character of a most important centre of population and industry. The South Bulli Colliery, already in full operation, has given the place an impetus of no ordinary kind in the growth of country localities, and the late Brooker's Nose Company (now changed to the Corrimal Company)is about to give it another 'lift' in the onward direction. The Bellambi Coal Company, too, regarding which an extended notice appears in this issue, will have considerable progressive influence on the Corrimal centre and surroundings. The Corrimal Coal Company, having a siding to the Government railway just on the point of completion, will be sending coal to Sydney by rail within a week hence, should all go well. The Brooker's Nose Company having practically been ruined by the delay of Government in providing the still-required Wollongong loop-line, the present company, which has merged out of the latter one, has determined not to be baffled by the same cause, and therefore intend to despatch coal at once right along the Illawarra line to Sydney. For this purpose, Government trucks are to be supplied. Such a stage having been reached, must gladden the heart of Mr. Bertram, the martyred manager of the Brooker's 'Nose Company, who now has command of the concern under the new proprietary. And the whole public of the district must wish the new company success, as we do most heartily. It is pleasing to find that this rapidly-increasing community is progressing in social, religious, and educational respects quite in keeping with its numbers. Houses of substantial and ornate character are springing up here and there, as ordinary four-roomed cottages, which, although abounding, are not sufficient to accommodate all the inhabitants of the place'.*

The development of smelting industries was also reflected in the appearance of the first coke ovens in the southern coalfield.[35] Metallurgical coke, produced through the destructive distillation of coal in ovens, was the most suitable furnace fuel and coke production forms a key component of the history of the Illawarra. Numerous coke works were developed throughout the area in association with early collieries, beginning with four traditional 'beehive' ovens built in 1878 by Osborne and Ahearn near the Wollongong Wharf and supplied by small quantities of coal from the Osborne-Wallsend Colliery.[36] The Australian Coke Making Company erected 20 beehive ovens at Unanderra in 1888, adding further ovens in 1889 and using slack coal from the Southern Coal Company's Corrimal Colliery. The Unanderra Coke Works were the first to produce coke on a viable commercial scale, employing 40 and producing 400 tons of coke per week. The works closed in 1896 and transplanted all movable fabric to Corrimal. The Bulli Coke Company owned by George Adams began producing from its 20-oven battery a year later and was the first to prove financially viable.[37]

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[34] *ibid.*
[35] Harper 1916, p5
[36] Geology of the Wollongong 1:100 000 sheet
[37] Kass 2010, p137

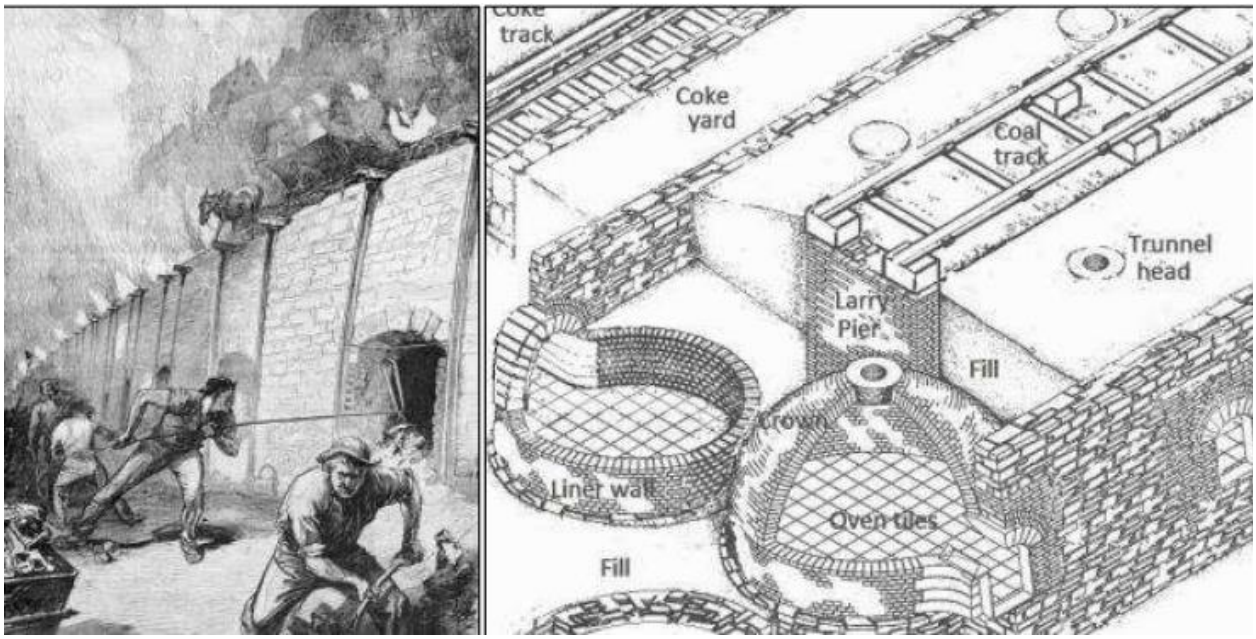

Figure 53 - An illustration of 19th century coke working (left) and an isometric view of a typical 19th century 'beehive' coke battery (right).

Source: Hillstrom 2005

3.6. MINING AND GROWTH – CORRIMAL COLLIERY AND COKE WORKS

Agriculture and mining continued in importance through this period and changes in technology wrought changes in the industries. Development occurred over a period of industrial innovation following late 19th century advancements in steam technology, the completion of the Illawarra railway and the introduction of electricity. The longer running collieries and coke works such as those at Corrimal (the Project Area) highlighted the transition between 19th century manual labour and 20th century mechanization.

In 1884 Captain Osborne proposed to lease the Balgownie estate to a Sydney syndicate for the purpose of mining coal. The mine would be located at Mount Corrimal, also known as Brokers Nose. The lease would be for 50 years duration and the coal would be carried along the proposed New South Wales government railway (NSWGR).[38] In 1884 Thomas Bertram opened the Brokers Nose Coal Company in the escarpment behind Corrimal. The coal was initially brought down by horse and cart teams along Bulli Road (Princes Highway) to Wollongong Harbour pending the completion of the NSWGR line. A two-foot gauge tramway was built from the mine that terminated at the western side of Bulli Road where Bertram set about building a set of seven beehive coke ovens.[39] The coke ovens only operated sporadically during this time and by 1890 were out of use.[40] The colliery experienced difficulties during this period which are likely to have been linked to the delay of connecting the NSWGR government railway to Wollongong Harbour.

After being closed for three years it was announced that Brokers Nose Colliery would resume operations. The company proposed to construct a connection between the tram way and the government railway at Corrimal. The completion of this work would enable the company to commence a lucrative trade with Sydney, by transporting its produce to Sydney by rail and the now established connection to Wollongong Harbour.[41] To finance this venture the company had to be reformed and as a result the assets of the Broker's Nose Coal Company were taken over by the Corrimal Coal Company in 1889. The extension of the tram way was completed in 1889 which successfully liked the Corrimal colliery to the government railway at Corrimal Station (running through what is now the northern portion of the Project Area). The tramway connection with the South Coast Railway was operated together with an elevated coal trans-shipping staith which permitted the skips which carried coal to be emptied into government wagons marshalled at the lower end.

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[38] McCarthy 1978, p7
[39] *ibid.*
[40] Reynolds 2006, p18
[41] McCarthy 1978, p60

In 1890 The Southern Coal Company purchased the Corrimal colliery. Increased coal production soon stretched the resources of the tramway leading to the staiths adjacent to Corrimal station. To alleviate this problem a standard gauge extension of the sidings at Corrimal was undertaken which extended the sidings to a new screen and loading structure at the base of the inclined way. This permitted government wagons to be loaded directly from the screen bins and taken to the point of disposal or shipment. The *Sydney Mail* reporting that:

> *The widening of the Corrimal tramway is now nearing completion, a large number of men being on the work. The way is to be a permanent construction, equal to the government railway, to enable the heavy locomotive work to work thereon, the company not intending to keep an engine of their own. The mine is still working sending out about 120 tons daily to the locomotive department.*[42]

The Southern Coal Company's siding at Corrimal (located within the Project Area) consisted of a single loop laid adjacent to the South Coast Railway. A short spur was thrown off at the northern end of the coal loop by the releasing crossover.

3.7. THE CORRIMAL COKE WORKS: 100 YEARS OF CONTINUOUS COKE MAKING (1911- PRESENT)

Between 1875 and 1925 there were a number of coke works making coke for the Illawarra region due to the close proximity of good quality coal. By 1907, Wollongong was the centre of the state coke industry, with 453 ovens producing 83 per cent of the state's total coke output.[43] A significant factor in the expansion of the industry within the Illawarra was the founding the Electrolytic Refining and Smelting Co (ERS) at Port Kembla in 1908.[44] The Corrimal coke works was one of numerous batteries that sprang up in association with collieries throughout the Illawarra in response to developing steel manufacture demands from both local and overseas markets.

The Project Area was purchased by the Corrimal Coal Company in 1911. Initially the first purchase was of the north eastern portion of the current Project Area. The land was described as commencing over the eastern side of the main south coast road at the south west corner of land of Mr Anderson and containing portions 39, 40, 41, 42, 43 and 44 (Figure 54).

[42] "Illawarra", *Sydney Mail and New South Wales Advertiser*, 4 January 1890, p46
[43] *ibid.*
[44] Kass 2010, p140

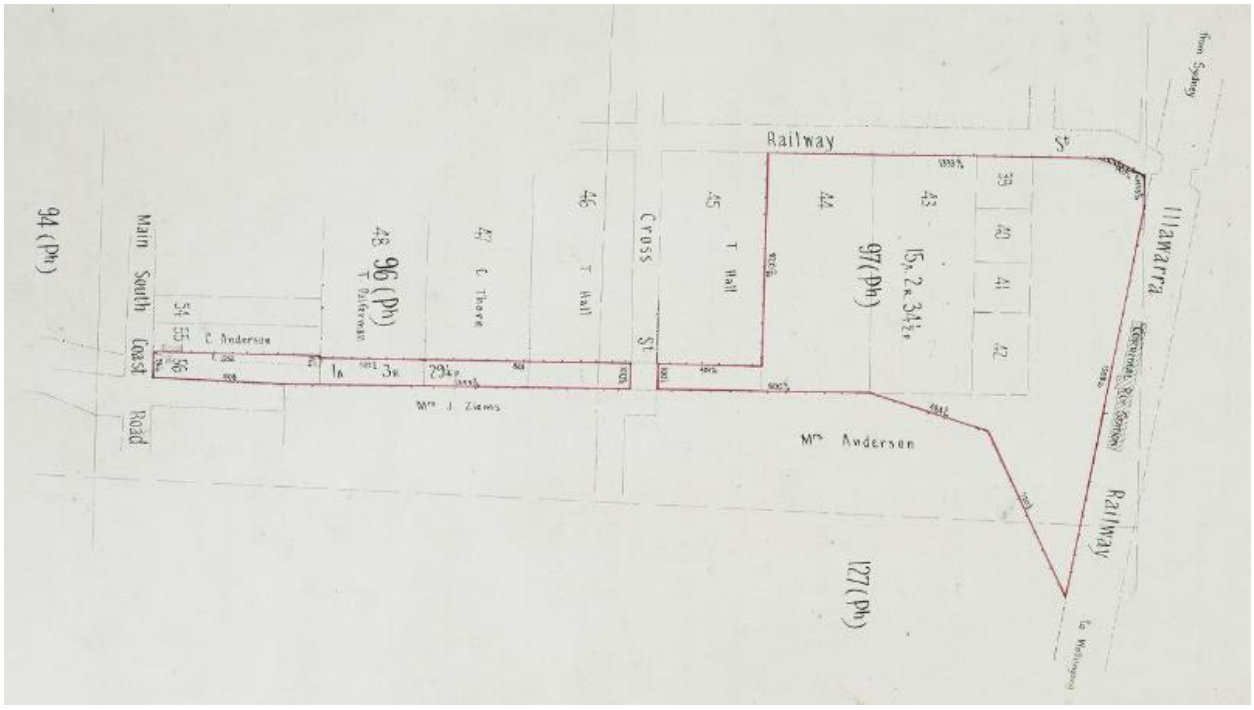

Figure 54 – Block plan accompanying CT Vol 1987 Fol 19, showing part of the land owned by the Corrimal Coal Company Limited.

Source: NSW LRS

The first reports of a new coke works at Corrimal appeared in 1910 with the South Coast Times reporting:

> *Much satisfaction is expressed locally at the commencement of the erection of about thirty ovens for the manufacture of coke by the Corrimal-Balgownie Coal Co. This project has been rumoured for the last couple of years. It will probably be nine months or so before the ovens will be ready for firing. Corrimal is likely yet to justify the prophesy that is to be the largest town, probably excepting Port Kembla, south of Sydney.*[45]

In addition to the reports of the Corrimal coke works, excerpts of the construction manager, George Davidson's diary provide information about the construction of the coke works:

> *Excavations – There has been considerable delay on account of wet weather which has made it impossible to continue with horse and drays, and it has been considered best to lay down the road and take out the remainder of hot deck (next to ovens). The crossing and points have been put in, the laying of the road was started during the week and five chains of sleepers and rails are now ready for ballasting.*[46]

The coke works opened in 1912 with much fan fair and the *South Coast Times* reported on the event in great detail:

> *On Thursday at the invitation of Messrs. G. S. Yuille and Co, Ltd. there was a gathering at the new ovens, situated adjoining the Corrimal railway station, which are to treat the small coal from the Corrimal-Balgownie Colliery. A special train brought a party, from Sydney numbering about 80 and there was a considerable local representation, including several of the Council of North Illawarra and the president of the Bulli Shire (Mr. J. S. Kirfcton). The party were shown over the plant by the constructing engineer Mr George Davidson and Mr Walter Evans (the manager), and afterwards reassembled in a marquee erected by Sergeant's Ltd. wherein was provided a tip-top lunch, the only liquor at which was champagne. Mr Yuille Scott, a director, presided here the toast for the occasion was given by Mr. Frank Young, the Mayor of North Illawarra, who expressed the goodwill of the Council and of the public generally towards an (enterprise which I would give employment and commended the enterprise of the company; he was confident that the company would find that the*

[45] "Corrimal", *Illawarra Mercury*, 29 July 1910, p4
[46] Davidson Journal, 1911-1912, UOW Archives

workers of Illawarra were a reasonable people and that they would have no troubles of that kind, notwithstanding that there was some stir over the position of general secretary. (The chairman said shat the company were indebted to Mr. J. McMeekan for his assistance in the designin1 of the ovens and he acknowledged the ability with which the constructing engineer, Mr. Davidson, had carried the designs out. Mr. McMeekan who responded to calls, said he feared the anticipations of the Mayor of North Illawarra as to the employment these works would afford would not be fulfilled, inasmuch as the aim of eliminating as far as possible the human factor in operations had been carried out. That was the first question I which had to be considered in the designing of a works in these times and he was certain finality had not been reached, and that after Mr. Evans had been in charge some time he would be able to make further reductions. Mr. McMeekan said that 'Messrs. Yuille and Co. had left nothing undone, no matter what the cost which had been suggested to make the works perfect, and they had here one of the most up to date works in Australia. Mr. Davidson, who also spoke in response, acknowledged the compliments which had been paid him, and said it had given him a great amount of pleasure to 'be associated with this undertaking) in connection with Messrs. Yuille and Co.Fsom beginning to end there has not been a discordant note. Mr. Evans was also called and briefly replied. The speakers agreed in pronouncing the plant second to none in the Commonwealth. There were several other speakers, but the company were inclined rather to be festive than serious and the speaking was in that spirit. The plant, which was described in the 'South Coast Times' recently, will be producing coke in 'about a fortnight. The most outstanding feature is the utilization of the waste gases in producing electrical, power which will operate the machinery and also supply current the mine, which will do the same there. It is ' expected that in time the whole of the power required at the mine will be generated here. The advance made in the efficiency of plant's is illustrated by the contrast of the Unanderra plant with this. At Unanderra 100 ovens had a capacity of about 670 tons a week. Here 40 ovens employing but half the labour will make 650 tons.[47]

The majority of the buildings and coke work machinery were confined to the northern portion of the Project Area. The initial configuration of the coke works consisted of 40 non recovery beehive type coke ovens (C1 battery), brick combustion stack, powerhouse, timber coal bunkers and maintenance buildings (Figure 55, Figure 56, Figure 57 and Figure 58). Coal was supplied to the coke works from the Corrimal-Balgownie Colliery via the private rail line constructed in 1889. Coal was loaded into the coke works from a small railway siding adjacent to the C1 battery.

Figure 55 – Bird's-eye View of Coking Plant. The Corrimal-Balgownie Collieries, Ltd., Corrimal. Photo: LF Harper. Shows the coking process including coal delivery, charge car, push car and hand quenching in process.

Source: The coke industry of New South Wales: descriptive notes / by L.F. Harper. Analyses and notes on by-products by J.C.H. Mingaye, 1916, frontispiece

[47] "Corrimal Coke Ovens – An Opening Day", *South Coast Times and Wollongong Argus*, 6 September 1912, p12

Figure 56 – Another view of Coking Plant. The Corrimal-Balgownie Collieries, Ltd., Corrimal. Shows the coking process including coal delivery, charge car, push car and hand quenching in process.

Source: The coke industry of New South Wales: descriptive notes / by L.F. Harper. Analyses and notes on by-products by J.C.H. Mingaye, 1916, p4

Figure 57 – Corrimal-Balgownie Co.'s Ovens, Corrimal.

Source: The coke industry of New South Wales: descriptive notes / by L.F. Harper. Analyses and notes on by-products by J.C.H. Mingaye, 1916

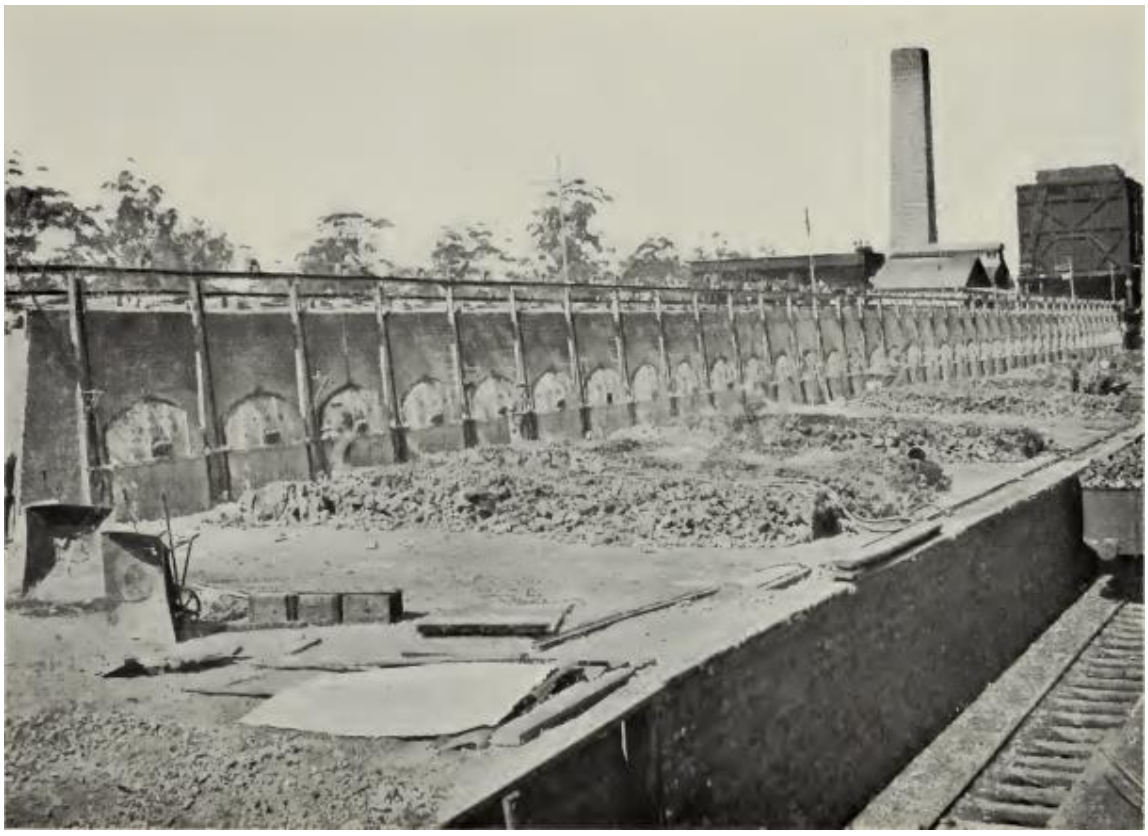

Figure 58 – Corrimal-Balgownie Co.'s Ovens, Corrimal.

Source: The coke industry of New South Wales: descriptive notes / by L.F. Harper. Analyses and notes on by-products by J.C.H. Mingaye, 1916

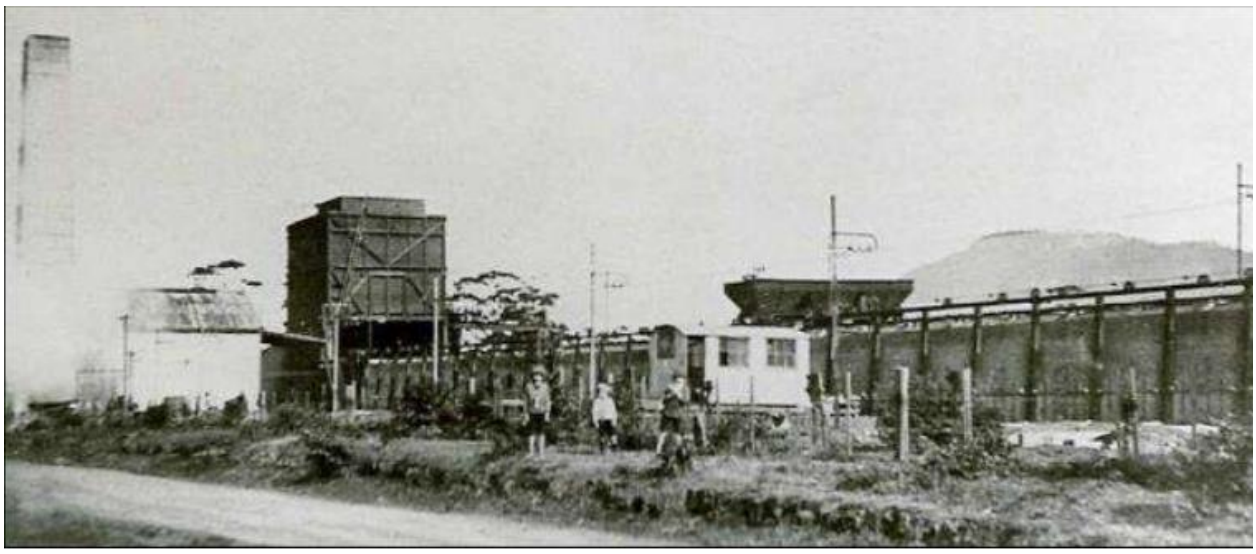

Figure 59 – Corrimal Coke Works 2 / Broadhurst Photo, between 1912 and 1927. Note the original brick chimney, power house, C1 batteries and pusher car and charge cars on top of the ovens

Source: Illawarra Images

The construction of the coke works lead to a reconfiguration of the sidings associated with the Corrimal colliery, including the installation of two dead-end sidings serving the coke loading wharves laid in a northerly direction. A further three dead end sidings for wagon standing were installed to the west of the C1 coke battery. On the southern side of the yard two other sidings left the main collier branch in an easterly direction passing over a steeply inclined embankment to the coal bins serving the crushers at the coke works. A conveyor system carried the coal through a tunnel beneath the branch to the coke works. A two-road engine shed at Unanderra was dismantled and taken to Corrimal for recreation on a site immediately west of the coke works standage sidings. On the southern side of the engine shed was the weighbridge and its loop siding; a point at the western end of the latter send a short connection in a north-eastern direction to pass beneath the engine lifting gallows, also a dead-end spur to the workshops situated against the northern side of the engine shed.[48]

In 1916 the southern portion of the Project Area was purchased by G. S Yulli and Company Ltd. The portion of land now encompassed the rest of Mr Andersons grant and part of portion 97 originally grated to William Underwood and also part of portion 96 originally granted to Joseph Underwood. The configuration of the land occupied by the Corrimal coke works doubled with this purchase and the modern boundaries of the Project Area are formed.

The C1 battery was extended to the north in 1930 adding ten more ovens. The battery which now contained 50 ovens were all of the 'Thomas' type 30 foot long, six foot seven and a half inches wide and six foot six inches high. The burning periods for the ovens were seventy two and ninety six hours with charges of 12 and 14 tonnes respectively. These ovens, which are still present at the site, had an arched roof and were rectangular in shape and doors at each end facilitate the discharge of the coke through the ovens. Each oven was connected to an underground flue system which enhanced coking efficiency.

[48] McCarthy 1978

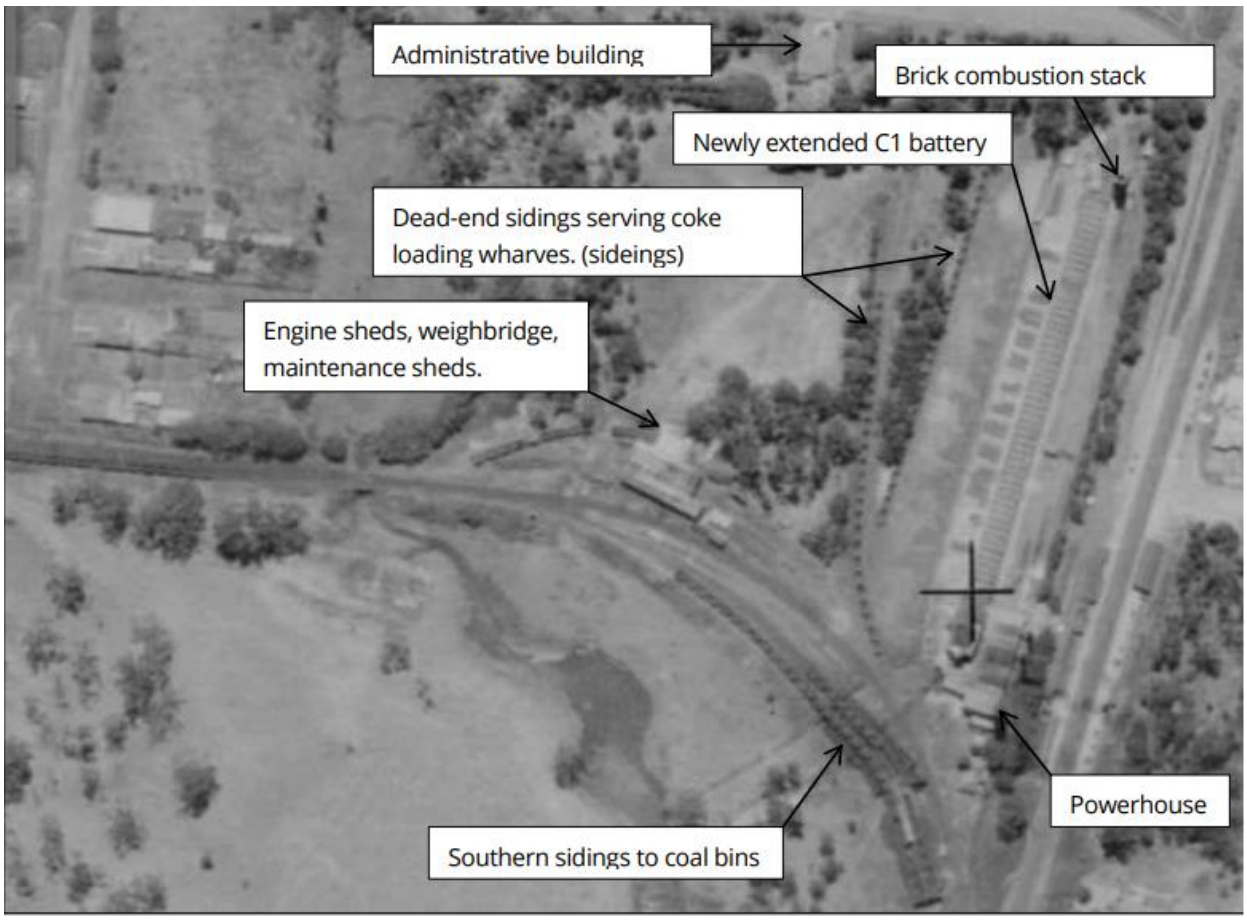

Figure 60 – Annotated c.1948 aerial view of Corrimal Coke Works showing the configuration of the study area.

Source: Wollongong City Council

Figure 61 – Corrimal Coke Works, general view of coke ovens and quenching hearth, 1958-59.

Source: UOW Archives,

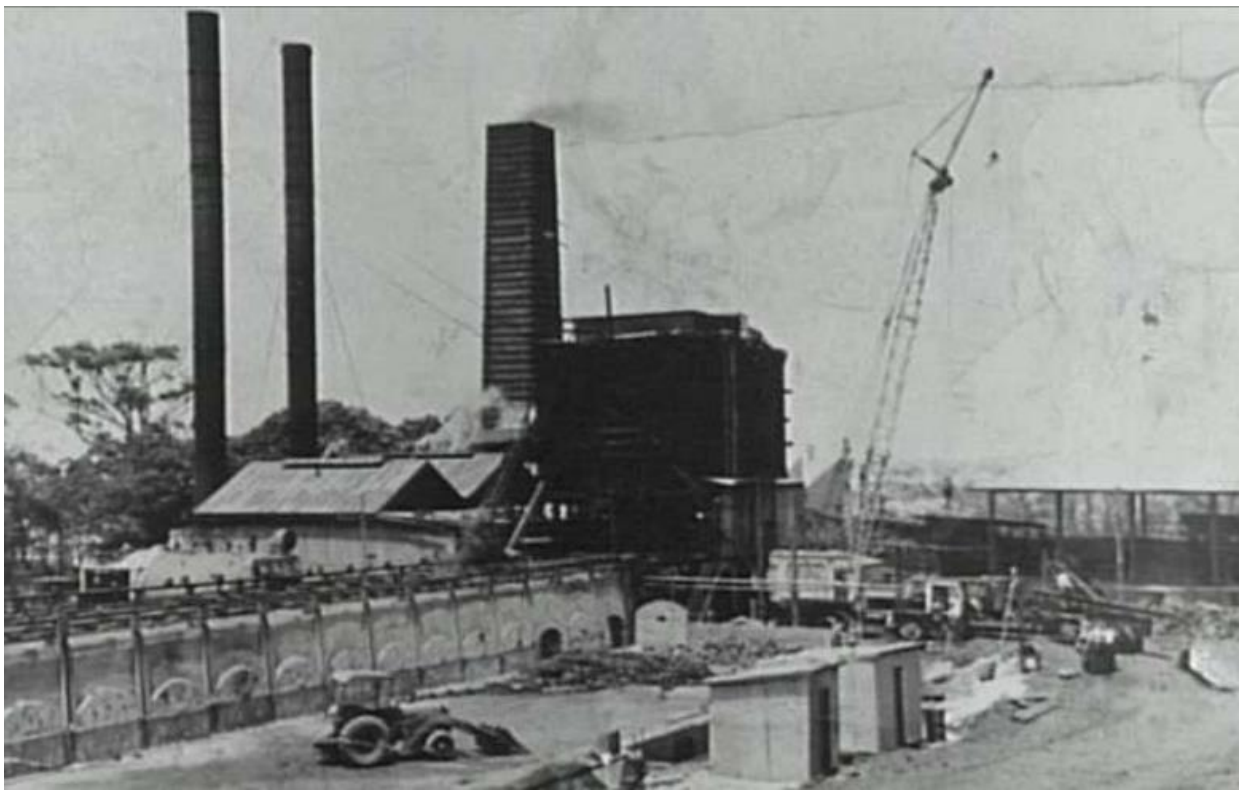

Figure 62 - c.1959 replacement of timber coal bunkers with steel hoppers, Corrimal Coke Works. Note the revised power house with brick chimneys associated with the 1932 additions to the power house.

Source: Illawarra Images

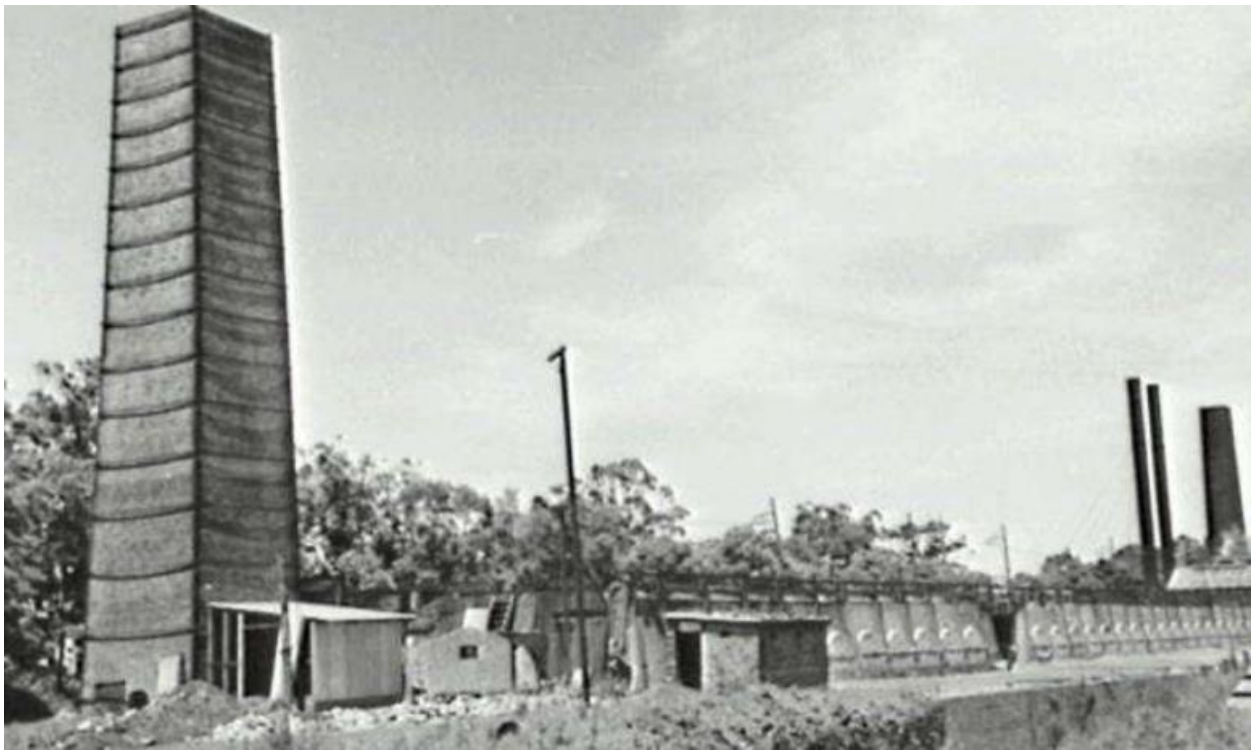

Figure 63 – c.1961 view of Corrimal Coke Works showing brick combustion stack.

Source: Illawarra Images

Figure 64 – Aerial view of Corrimal Coke Works, c.1960s.

Source: UOW Archives

Figure 65 - Aerial view of Corrimal Coke Works, c.1960s.

Source: UOW Archives

Figure 66 – Detail from Aerial view of Corrimal Coke Works, 1965.

Source: UOW Archives

Figure 67 - 1966 plan of the Corrimal Coke Works. Note the curvature of the c1889 private tram/railway through the centre of the site linking up the government rail line.

Source: ICC

In 1916 the Corrimal coke works, apart from the Broken Hill Proprietary Steel Works and Hoskins Wongawilli Coke Works were the only coke works in NSW at which all the steam power required was obtained by burning the waste gases generated in the coke ovens under the boilers. Sufficient amounts of electricity were produced to provide for the coke works the Corrimal colliery and the North Illawarra Municipality.[49] On Friday 17 July 1925 the electricity generated by the Corrimal power house powered 400 street lamps in the Northern Illawarra Municipality. At this time the maximum capacity of the coke works was 950 tonnes of coke per week.54 In 1932 the power house was upgraded with a 1,000 KW turbo alternator unit and steam boiler was installed. A 1948 aerial shows the configuration of the railway sidings, engine sheds and coke works during this period (Figure 60).

In 1947 four of the Illawarra municipal areas combined to form the city of Greater Wollongong. In 1948 the new City Council purchased the companies' electricity franchise for a fee of £30,000.55 Coal continued to be transported to the coke works along the private railway line which crossed the Princes Highway near the intersection of Tarrawanna Road and Cross Street. During this time a coke worker was employed to stop the traffic when a train loaded with coal destined for the coke works was due to cross the road.

By the late 50's construction began on a new oven battery (C2) with 32 ovens of similar type and size to C1 battery but with a larger capacity, during this time the old timber bunkers were replaced by steel hoppers (Figure 62 and Figure 63). Each steel hopper stored 250 tonnes of pulverized coal from Corrimal-Balgownie Collier which fed the coke ovens. The coal was charged into the coke ovens by an electrically driven canister running on rails along the top of the battery.56 An electrically operated ram pushed the hot coke out of the ovens onto the hearth for quenching with water. Once the coke had cooled by hand held hoses it was transferred to a scraper conveyor with rubber belt to take it to the screening and sizing plant. Two steel surge hoppers, each 40 tonne capacity were divided to hold the three sizes of metallurgical coke.

In 1960 the continuing growth of the plant demanded more power to supply it. A new 2,000 KM 6,600 V geared turbo-alternator set was installed in an enlarged power house, together with new and more modern switchgear. In order to provide steam for the generating plant two coal fired fire-tube boilers were installed. By 1962 the second battery (C2) was completed and operational.[50] The location of the C2 battery, revised layout of the power house and configuration of the coke works can be clearly seen in a 1966 plan (Figure 67). The coke works and colliery was purchased by Australian Iron and Steel as a package in 1964. The change in ownership also meant that coal would be delivered by road and so the rail line was discontinued. The power house equipment was put up for sale in 1967 and in 1968 the boilers and stacks were removed. In 1969 the ownership of the coke works changed again when Bellambi Coal Company purchased the works and began sourcing the coal from its South Bulli Mine. During the 1970's the Bellambi Coal Company spent two million installing pollution reduction equipment. Smokeless charging plants were installed on each battery in 1977, the electrically operated cars running on rails laid on top of the oven batteries charged each oven with small coal through charge holes situated in the dome of each oven.[51] The holes were then sealed with cast iron removable lids. At the start of the coking cycle the coal was quickly ignited by residual heat in the oven brickwork from the previous charge. The heat in the ovens was retained as they were never left empty for long.

The Bellambi Coal Company was taken over by Australian Coal and Coke Pty Ltd in 1980. From 1982 the works plant was upgraded and activities progressively automated. Another change in ownership occurred just four years later when in 1984 ICC purchased the works to add to its operation at Coalcliff. Kembla Coal and Coke with the combined tonnages from Coalcliff and Corrimal was the largest producer of foundry coke in Australia. Corrimal Colliery closed in 1985 and Corrimal coke works continued to be supplied by local mines. The C1 north brick stack was replaced with a metal one in 1985.[52] In 1985 the Corrimal colliery closed, however coal for the coke works was still sourced from local mines

ICC Holding Pty Ltd (a private company) purchased ICC in 1996 becoming the only independently owned producer of coke in Australia. The surrounding area had changed substantially since the coke works construction and this high number of homes and schools made environmental improvements to operations a top priority of the ICC. Enhancements in the design of a new flue and stack and additions of a bag house on the charge car for clean air charging and a new quench tower canopy was evident at end of the 1990's. The

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[49] Harper 1916, p15; Harper 1924, p37
[50] Wright 2012, p4
[51] *ibid.*
[52] Wright 2012, p5

most visible enhancements were the oven hoods, uptakes and ductwork to capture oven pushing emissions which were installed in 1999.[53]

In late 2013 it was announced that the Corrimal coke works was to close permanently by April 2014. The closure was attributed to the negative market conditions, with an excess of coke worldwide and substantially reduced demand the ICC as a small private company could no longer keep the business viable.[54] At the time of its closure the Corrimal coke works had provided the Illawarra with a continuous source of permanent employment for over 100 years and was the oldest coke-making facility to be in continuous operation in the world.[55]

3.8. INDUSTRIAL PROCESSES EVIDENT AT THE CORRIMAL COKE WORKS

The Corrimal coke works represent a range of industrial processes which relied on certain technologies to be implemented. Coal was delivered to Corrimal coke works via rail from the Corrimal colliery directly into the coal bunker. The coal was then transferred via an underground conveyor, crushed and before being stored in the fine coal bin and discharged into the charge cars.

The Corrimal coke works consists of two batteries of rectangular beehive coke ovens. Rectangular beehive coke ovens were one of three types of coke oven utilised in New South Wales, the other two being the true beehive and by-product ovens.[56] The rectangular ovens were a modification of the old Belgian type and were evolved primarily to compensate for unskilled labour and higher costs. As the name suggests these ovens were of a rectangular shape, whilst they were built to a variety of patters the main difference to the other types of coke oven was the flue arrangement which meant that head was applied to the charge and mechanical discharge of coke. The Corrimal coke ovens were fitted with side and bottom flues which allowed for a more general distribution of heat. This also enabled the waste gases to be used in the heating of steam boilers for power production. Corrimal was the first coke works in New South Wales designed to recover the waste head leading the coke ovens to generate power.[57]

In the 1970s the Corrimal coke works implements smokeless oven charging which consisted of charging of coke ovens with coal charge in which coal is poured into each chamber of the coke oven in two stages: firstly coal charge is loaded into the oven chamber through extreme holes and charging gases liberated during said operation are discharged simultaneously, the loaded coal charge is held within the oven, after which the latter is replenished to capacity with coal charge through central holes, charging of the oven which is next in terms of the charging schedule and replenishing of the preceding one being effected simultaneously.[58]

Once the burning period within the oven was completed the coke (or charge) was transferred from the oven with the use of a ram car which discharges coke from the oven. The coke is then quenched immediately; this is a process where water is used to terminate the combustion as rapidly as possible. If quenching is undertaken, then the coke continues to burn itself away with resultant loss in the form of ash. Quenching was originally undertaken through spraying water on the okay by hand. In the 1930s mechanised quenching was implemented where the ram car discharged the coke into hot cars which transferred the coke to a quenching facility at the southern portion of the coke batteries. Following quenching the coal is then transferred for storage and then removed from the facility for distribution.

[53] Wright 2012, p6
[54] "Corrimal Cokeworks to shut its doors", *Illawarra Mercury*, 17 October 2013
[55] "Corrimal Cokeworks Centenary", *Illawarra Mercury*, 21 March 2012
[56] Harper, LF 1915, p21
[57] Harper, LF 1915, p21; Reynolds 2006-09, p21
[58] Munson, JG 1976, p1

3.9. HISTORICAL THEMES

Contextual analysis is undertaken to place the history of a particular site within relevant historical contexts in order to gauge how typical or unique the history of a particular site actually is. This is usually ascertained by gaining an understanding of the history of a site in relation to the broad historical themes characterising Australia at the time. Such themes have been established by the Australian Heritage Commission and the NSW Heritage Office and are outlined in synoptic form in New South Wales Historical Themes.[59]

There are 38 State Historical Themes, which have been developed for New South Wales, as well as nine National Historical Themes. These broader themes are usually referred to when developing sub-themes for a local area to ensure they complement the overall thematic framework for the broader region.

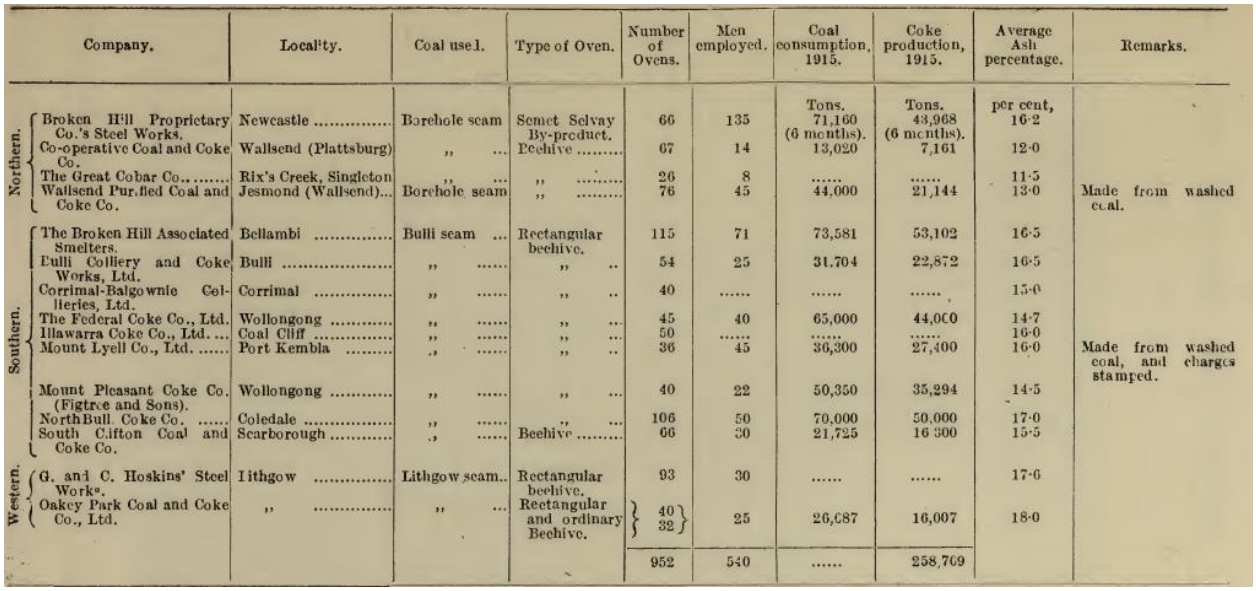
Historical themes at each level that are relevant to the place are provided in Table 3.

Table 3 – Historical Themes

Australian theme	NSW theme	Local theme	Discussion
3. Developing local, regional and national economies	Mining	Making Coke	Process of making coke on the site included originally the extraction of suitable coal from the nearby Corrimal Colliery, the transportation of that coal to the site, the coking process (baking) the coal in the coke ovens to modify the product from coal to coke.
Building settlements, towns and cities	Utilities	Electricity Generations	Utilisation of by-products of steam/gas and heat from the coking process to generate electricity for the local community.

[59] NSW Historical Themes 2001

4. COMPARATIVE ANALYSIS



	Company.	Locality.	Coal used.	Type of Oven.	Number of Ovens.	Men employed.	Coal consumption, 1915.	Coke production, 1915.	Average Ash percentage.	Remarks.
Northern.	Broken Hill Proprietary Co.'s Steel Works.	Newcastle	Borehole seam	Semet Selvay By-product.	66	135	Tons. 71,160 (6 months).	Tons. 43,968 (6 months).	per cent, 16·2	
	Co-operative Coal and Coke Co.	Wallsend (Plattsburg)	,,	Beehive	67	14	13,020	7,161	12·0	
	The Great Cobar Co.	Rix's Creek, Singleton	,,	,,	26	8	.....	.....	11·5	
	Wallsend Purified Coal and Coke Co.	Jesmond (Wallsend)	Borehole seam	,,	76	45	44,000	21,144	13·0	Made from washed coal.
Southern.	The Broken Hill Associated Smelters.	Bellambi	Bulli seam	Rectangular beehive.	115	71	73,581	53,102	16·5	
	Bulli Colliery and Coke Works, Ltd.	Bulli	,,	,,	54	25	31,704	22,872	16·5	
	Corrimal-Balgownie Collieries, Ltd.	Corrimal	,,	,,	40	.....	.....	.....	15·0	
	The Federal Coke Co., Ltd.	Wollongong	,,	,,	45	40	65,000	44,000	14·7	
	Illawarra Coke Co., Ltd.	Coal Cliff	,,	,,	50	.....	.....	.....	16·0	
	Mount Lyell Co., Ltd.	Port Kembla	,,	,,	36	45	36,300	27,400	16·0	Made from washed coal, and charges stamped.
	Mount Pleasant Coke Co. (Figtree and Sons).	Wollongong	,,	,,	40	22	50,350	35,294	14·5	
	North Bull Coke Co.	Coledale	,,	,,	106	50	70,000	50,000	17·0	
	South Clifton Coal and Coke Co.	Scarborough	,,	Beehive	66	30	21,725	16,300	15·5	
Western.	G. and C. Hoskins' Steel Works.	Lithgow	Lithgow seam	Rectangular beehive.	93	30	.....	.....	17·6	
	Oakey Park Coal and Coke Co., Ltd.	,,	,,	Rectangular and ordinary Beehive.	40 / 32	25	26,687	16,007	18·0	
					952	540	.....	258,709		

Figure 68 – Comparative Table from *The Coke Industry of NSW 1916* (J.C.H. Mingaye).[60]

Table 4 – Coke Works within or in the vicinity of the Illawarra area.

Company	Locality	Oven Type	Operation Period	Physical Status
Australian Iron and Steel Coke Works (later BHP, BlueScope)	Port Kembla	Rectangular beehive/by - products	1938 - Present	Existing (noting ovens have been rebuilt during industrial life)
The Broken Hill Associated Smelters	Bellambi	Rectangular beehive	1914 - 1925	Demolished
Bulli Colliery and Coke Works Ltd.	Bulli	Rectangular beehive	1889 - 1987	Demolished
Corrimal-Balgownie Collieries Ltd. (later Illawarra Coke Co. Ltd.) – **Subject site**	Corrimal	Rectangular beehive	1912 - 2013	Existing (noting ovens have been rebuilt during industrial life)
The Federal Coke Co. Ltd.	Wollongong	Rectangular beehive	1900 - 1970	Demolished
Hoskins Iron & Steel Coke Works	Wongawilli	Beehive	1916 – 1949 (mothballed between 1938 and 1941)[61]	Demolished

[60] Ibid.
[61] https://www.illawarra-heritage-trail.com.au/wongawilli-colliery-and-coke-works/

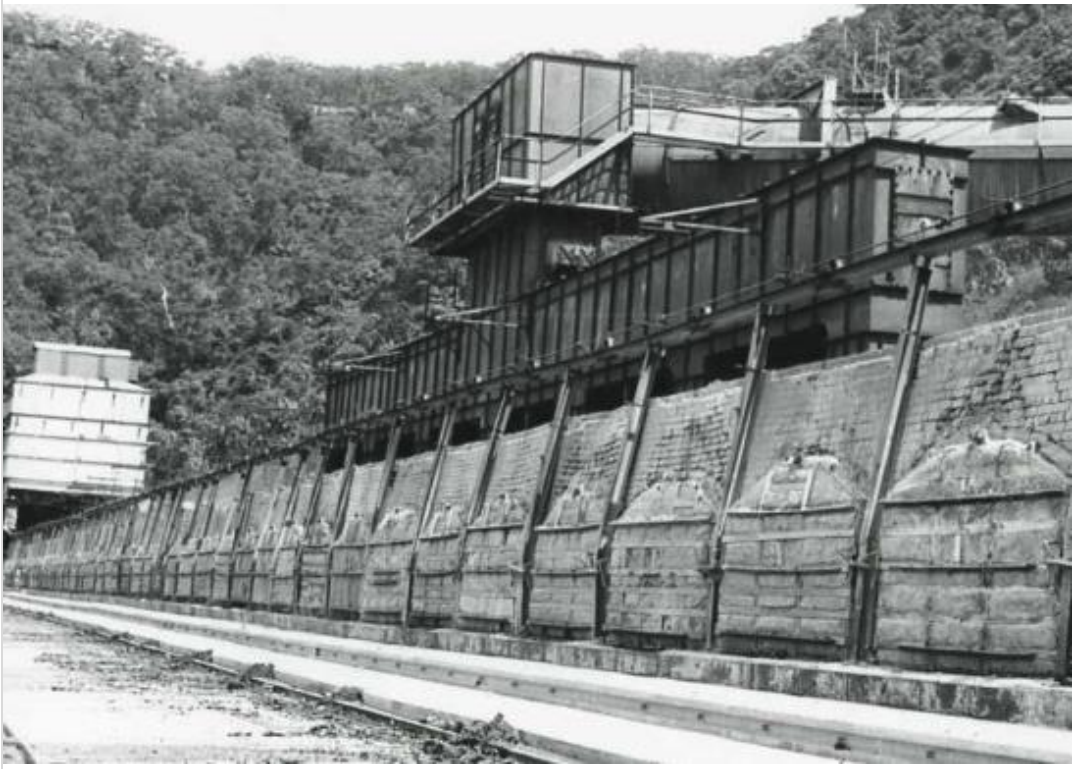
Company	Locality	Oven Type	Operation Period	Physical Status
Illawarra Coke Co. Ltd.	Coal Cliff	Rectangular beehive	1913 - 2013	Existing (noting ovens have been rebuilt during industrial life)
Mount Lyell Co. Ltd.	Port Kembla	Rectangular beehive	1899 - 1926[62]	Demolished
Mount Pleasant Coke Co. (Figtree and Sons).	Wollongong	Rectangular beehive	1889 - 1910	Demolished
North Bulli Coke Co.	Coledale	Rectangular beehive	1905 - 1970	Demolished
Osborne & Ahearn's Coke Works.	Wollongong	Beehive	1875 - 1890	Demolished, archaeological site.
South Clifton Coal and Coke Co.	Scarborough	Beehive	1900 - 1919	Demolished
Discussion	In 1916, there were 15 coke works in NSW alone.[63] These coke works produced coke in either the traditional beehive oven, the rectangular beehive oven or the Semet Solvay by-product beehive. Nine of these coke works were located within or in the vicinity of the Illawarra area. A substantial number of coke plants have been constructed and decommissioned or demolished within NSW and, in particular, the Illawarra. This has occurred over the course of over 150 years. In understanding the rarity and representative significance of the site, we compare and contrast the site against other extant coke works within the Illawarra area which have been identified as having local heritage significance OR, that are still operating.			

Table 5 – Comparative Analysis

Site	Illawarra Coke Co. Coalcliff Coke Works
Legislative Heritage Listing	The site is listed as an item of local heritage significance in Schedule 5, Wollongong Local Environmental Plan 2009 (LEP).
Statement of Significance	Coalcliff Colliery is significant for its long association with coal mining in NSW and the Illawarra as it was in continuous production from 1877 to 1991. By 1980 it was the largest underground mine in Australia producing 1.7 million tons of coal annually. The mine is significant for its association with employment and for providing the investment that catalysed population growth and established the pattern of settlement at Clifton and later at Coalcliff and the North Wollongong area. It is also significant for its connection with the jetty which was constructed but eventually washed away in storms as well as the custom-built colliers employed in nineteenth century. The Coalcliff Colliery is significant for its connection with the Coalcliff coke ovens as it provided the coal, electric power and fresh water to the coke works, which were built in 1913 and operational up until 2013. It is also

[62] https://www.illawarra-heritage-trail.com.au/port-kembla-harbour/

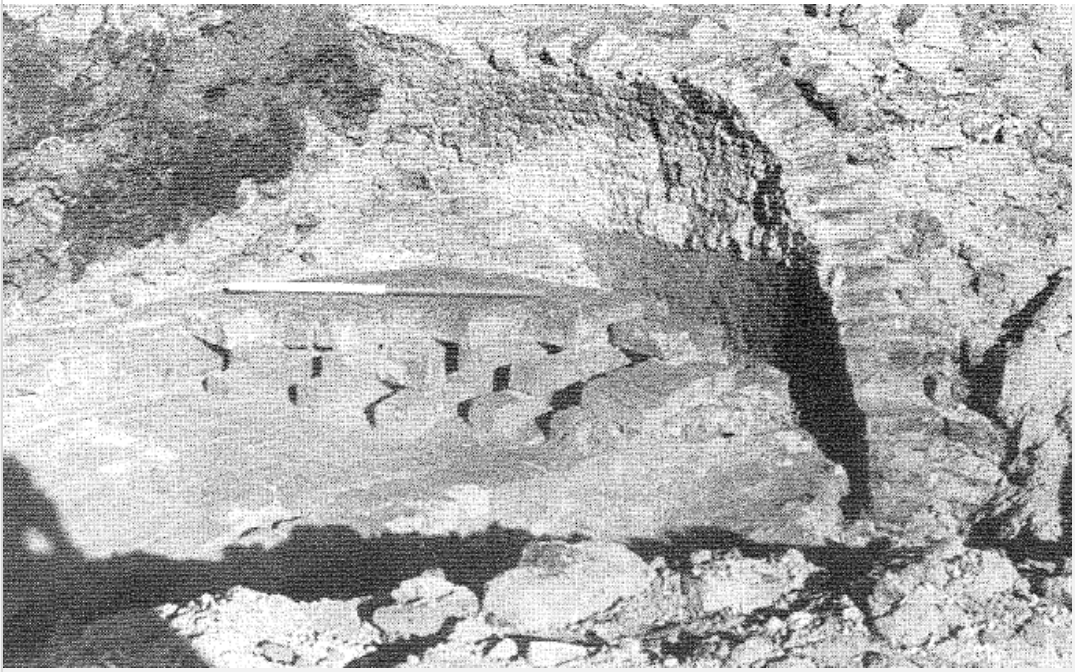
[63] Harper, LF 1915, p27

	significant for its connection with the South Coast Railways which provided transport to Belmore Basin/Wollongong Harbour.
Images	 *Figure 69 – Coalcliff Coke Works c.1981.* *Source: Wollongong City Library*
	The former Coalcliff Coke Works are the most comparable site. Both sites were owned and operated by the same company, Illawarra Coke Company, from the late 20th Century until operations ceased. The Coalcliff site is an item of local significance, listed in Schedule 5 of the Wollongong LEP 2009 (I6348), however the listing includes the Coalcliff Colliery shaft mine. The Coalcliff site is a more complete example of coke making within the Illawarra due to the continual linkage with the colliery and it is understood that the site is in a better condition. The Coalcliff site includes Nevertheless, key elements of the Corrimal Site, while being located within a suburban environment, warrant being listed as an item of local heritage significance.

Site	Australian Iron and Steel Coke Works (later BHP, BlueScope), Port Kembla
Legislative Heritage Listing	The site is not included in any legislative heritage listings.
Statement of Significance OR Historic Notes	BlueScope has a long and proud history as an efficient, trusted and innovative steelmaker in the Illawarra. It evolved from the coming together of three companies that pioneered the Australian steel industry in the early 20th Century – The Broken Hill Proprietary Company Limited (BHP), John Lysaght (Australia) Pty Ltd (Lysaght) and Australian Iron and Steel Limited (AIS). The company's history dates back to 1915, when BHP established a steelworks at Newcastle in New South Wales. British company Lysaght started an Australian operation in 1918 to

Site	Australian Iron and Steel Coke Works (later BHP, BlueScope), Port Kembla
	serve the building and construction industry. Its galvanised corrugated steel has long contributed to the uniquely Australian style of architecture. AIS was formed in 1928 by the Hoskins family to establish and operate a steelworks at Port Kembla. Charles Hoskins had been the first person to profitably make steel in Australia, having taken over in 1908 the Lithgow steel plant of William Sandford Limited which had gone into liquidation. In the mid-1920s he decided to move the steelworks to Port Kembla because of its deep water harbour, high quality coal deposits and coke ovens the family owned at nearby Wongawilli, and proximity to limestone deposits at Marulan. Charles Hoskins died in 1926 but his sons continued his work and on August 29, 1928 Charles' widow Emily commissioned the No. 1 Blast Furnace at Port Kembla. BHP acquired AIS in 1935, and John Lysaght (Australia) Pty Ltd became a wholly owned subsidiary in 1979. BlueScope Steel became a stand-alone steel company in July 2002 after BHP had announced in 2001 that it was merging with Anglo-African mining house Billiton to form BHPBilliton, and that the company's steel division would be spun out as separate Australian listed companies. Part of BHP Steel's assets had been spun off as OneSteel in 1999. The remaining assets were spun off in 2002 and eventually became BlueScope Steel, and now BlueScope. In 2011, the decision was taken to taken to halve production at the Port Kembla Steelworks, effectively exiting the export market and operating one Blast Furnace only. The Port Kembla Steelworks is still the largest of the company's global operations, where currently 2.6 million tonnes of raw steel are produced each year. The company is a world leader in metallic coating and painting technologies, supplying a wide range of branded products such as COLORBOND® steel, ZINCALUME® steel and the LYSAGHT® range of building products. It serves its customers through a network of distribution and manufacturing facilities throughout Australia.
Images	

Site	Australian Iron and Steel Coke Works (later BHP, BlueScope), Port Kembla
	Figure 70 – Port Kembla Coke Works – Charge Car on No.7 Coke Battery. *Source: Illawarra Mercury*[64]
Discussion	The Australian Iron and Steel Coke Works, now BlueScope, Port Kembla remain operational. Regardless, the site is not listed as an item of heritage significance, local or otherwise. While the coke oven design differs from the older Corrimal site, similarities exist in the process of coke production and recent operation. The Port Kembla site however is linked directly to the long-term steel manufacturing process at the site and is in operational condition.

Site	**Osborne & Ahearn's Coke Works.**
Legislative Heritage Listing	The site is listed as an item of local heritage significance (I6406) in Schedule 5, Wollongong Local Environmental Plan 2009 (LEP). The site is also contained within the North Beach Precinct and Belmore Basin Heritage conservation Area (HCA).
Statement of Significance OR Historic Notes	The coke ovens are of significance for Wollongong area for historical, scientific, and reasons of rarity. The coke ovens demonstrate the Harbour precincts role in the development of Wollongong and the Illawarra and its coal industry as well as agricultural and natural resource industries. The coke ovens may contribute to a further understanding of this type of items and additional research is warranted. The bee-hive coke ovens are the only intact examples of their type remaining in NSW -while there are other examples of similar coke ovens elsewhere in NSW, the internal brick flues in the oven have not been noted elsewhere.
Images	 *Figure 71 – Excavated western portion of beehive coke oven, Wollongong Harbour.* *Source: Australian Historical Archaeology*[65]
Discussion	Osbourne and Ahearn's coke works site is now an archaeological site, with no/minimal above ground structures remaining. The site is an item of local heritage significance, and within North Beach Precinct and Belmore Basin Heritage Conservation Area, listed in Schedule 5 of the Wollongong LEP 2009 and the Wollongong Harbour Precinct, an item of State heritage

[64] https://www.illawarramercury.com.au/coke-ovens/
[65] The Coke Works on Flagstaff Point Wollongong, 1875-1890, Australian Historical Archaeology Issue 6, 1988. Photo Credit, E.Higginbothan.

Site	**Osborne & Ahearn's Coke Works.**
	significance (01823). While the site was a former coke works, the comparisons with the subject site are limited. The type of coke ovens were Beehive, therefore different to the subject site, and the operation of the ovens ceased 22 years prior to the opening of the Corrimal site. Nevertheless, the coke oven site is recognised as being of *local heritage significance*.

Site	Lithgow Blast Furnace
Legislative Heritage Listing	The site is listed as an item of state heritage significance under the Heritage Act 1977, and as an item of local significance in Schedule 5, Lithgow Local Environmental Plan 2014.
Statement of Significance OR Historic Notes	State Significance Statement The layout of the Blast Furnace site represents the organic and uninterrupted growth of a workplace which is now the only relic of one of Australia's major industries. The Blast Furnace was the sole producer of iron in Australia for the first seven years of its life. The remains are in themselves a resource for studying technical changes in ironmaking. Local Significance Statement The site of the Lithgow Blast Furnace displays high significance in each of the four criteria as follows: Historical Significance: As the birthplace of the modern Australian iron srnelting industry, its national fame is secure. The ruins are uniquely well documented and can be presented as a fully legible heritage of an industry which played a dominating role in the development both of Lithgow and of Australia. The highly visible ruins symbolise the zenith of Lithgow's association as a classical industrial revolution town. Aesthetic significance: The Romanesque engine house of the Blast Furnace now dominates the industrial landscape of Lithgow. Technological Research Significance: It is a rare example in international terms of a complete blast furnace interpretive site of its period and is unique in Australia. It demonstrates clearly the organic growth and technical change in ironmaking during a period of major industrial development and achievement. Social Significance: The Blast Furnace had a profound impact on the social structure and the contemporary community of Lithgow. It was a major employer, it spawned the growth of other industries and supported the mining industry. The Hoskins family left a legacy of social institutions in the town.

Site	Lithgow Blast Furnace
Images	 *Figure 72 – Lithgow Blast Furnace Park.* *Source: NSW Heritage Inventory*[66]
Discussion	The Lithgow Blast Furnace is an item of State heritage significance. The statement of significance for the site indicates why the blast furnace holds State significance: *"The layout of the Blast Furnace site represents the organic and uninterrupted growth of a workplace which is now the only relic of one of Australia's major industries. The Blast Furnace was the sole producer of iron in Australia for the first seven years of its life."* The former Corrimal Coke Works, while being a substantial industrial remnant, was, and is still, one of a large number of coke works.

Site	Former Bedford Brickworks Group (including Chimneys, Kilns and Grounds)
Legislative Heritage Listing	The site is listed as an item of local heritage significance in Schedule 5, Sydney Local Environmental Plan 2012.
Statement of Significance OR Historic Notes	The Bedford Brickworks site is a significant component of one of Sydney's oldest and most important industries. It retains sufficient material, and occupies an appropriate site to present a clear indication of the working of the site. The Brickworks formed a vital component of the labour force of the St Peters district for several generations and contributed largely to the construction of the district itself. The Brickworks, in its Sydney Park setting, reveals the relationship between several types of industrial activity and between the structure and urban open space.

[66] Greater Lithgow Tourism Association
https://www.environment.nsw.gov.au/heritageapp/HeritageItemImage.aspx?ID=5045094#ad-image-10

Site	Former Bedford Brickworks Group (including Chimneys, Kilns and Grounds)
	The entire site constitutes a landmark that contributes to the stark industrial character of the streetscape. Significant views and vistas that contribute to enhance the significance of the site include the views and vistas along the Princes Highway; along Sydney Park Road; to the site from Sydney Park hills; and from Sydney Park Road to the city to the north and to Sydney Airport to the south.
Images	  *Figure 73 – Former Bedford Brickworks Group, St Peters, NSW. Source: NSW Heritage Inventory*[67]

Site	South Grafton Brickworks
Legislative Heritage Listing	The site is listed as an item of local heritage significance in Schedule 5, Clarence Valley Local Environmental Plan 2011.

[67] City of Sydney (Image credit Chery Kemp), https://www.environment.nsw.gov.au/heritageapp/HeritageItemImage.aspx?ID=2421330#

Site	South Grafton Brickworks
Statement of Significance OR Historic Notes	The South Grafton brickworks are historically significant demonstrating the need for building materials in Grafton and on the north coast in the last half of the 20th century. This type of dry press brickworks, with its down draft kilns, is technically significant demonstrating brick making using labour intensive activities and is one of only four still operating in NSW. Other similar brickworks on the North Coast have now closed for example the Coombell Brick works in Richmond Valley LGA and Bexhill Bricks in Lismore LGA.
Images	 *Figure 74 – South Grafton Brickworks.* *Source: NSW Heritage Inventory*[68]
Discussion	The remaining comparable sites demonstrate that (former) industrial plants, particularly key elements of sites and/or industrial ruins, are regularly included as items of local heritage significance and held in high esteem by the local community. This indicates the former Corrimal Coke Works site, with an appropriate reduced heritage curtilage, warrants listing as an item of local heritage significance.

[68] https://www.environment.nsw.gov.au/heritageapp/HeritageItemImage.aspx?ID=1640747#ad-image-1

5. HERITAGE SIGNIFICANCE

Before making decisions to change a heritage item, an item within a heritage conservation area, or an item located in proximity to a heritage listed item, it is important to understand its values and the values of its context. This leads to decisions that will retain these values in the future. Statements of heritage significance summarise the heritage values of a place; why it is important, why a statutory listing was made to protect these values.

5.1. BUILT HERITAGE SIGNIFICANCE ASSESSMENT

The Heritage Council of NSW has developed a set of seven (7) criteria for assessing heritage significance, which can be used to make decisions about the heritage value of a place or item. The following assessment of heritage significance has been prepared in accordance with the NSW heritage Division's 'Assessing Heritage Significance' guidelines.

Table 6 – Assessment of Heritage Significance

Criteria	Significance Assessment
A – Historical Significance *An item is important in the course or pattern of the local area's cultural or natural history.*	
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. After this period the coke works continued to be supplied coal by other local collieries, most notably, Coalcliff to the north. Over that lengthy period, the site underwent substantial changes and upgrades, creating a layered industrial history. The changes include: • The method that coal was brought to the site, first direct from the Corrimal Colliery, later via the NSW South Coast Line and from 1964, via road • The number of coke batteries and coke ovens - the original C1 Coke Battery was extended in 1930. The C2 Coke Battery commenced construction in the late 1950s and was operational by 1962. • Increase in technology and mechanisation on the site, with electrical charging cannisters and ram cars being introduced in the late 1950s, and automatic coke quenching. • Replacement of an earlier brick chimney stack with steel stacks. • Introduction of 'smokeless charging plants' in 1977. • Introduction (1920s) and then removal (1960s) of power generation capability on the site. With the site previously utilising a gas by-product of the coking process, to generate electricity, at one point, powering over 400 street lamps across the Northern Illawarra Municipality. Overall, the site is historically important 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, being a major employer for over a century to the local community. The site meets the threshold for Historical Significance at the local level.	
B – Associative Significance *An item has strong or special associations with the life or works of a person, or group of persons, of importance in the local area's cultural or natural history.*	

Criteria	Significance Assessment
The former Corrimal Coke Works have been associated with a number of important owners/company's over the 100 years that they operated. However, these associations have ceased at ownership transfer. The current owners, Illawarra Coke Company, have been considerable employers and operators of industrial sites within the Illawarra, including the nearby Coalcliff Coke Works. While this association has demonstrated strong links, they are not considered to meet the threshold for Associated Heritage Significance.	
C – Aesthetic Significance *An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area.*	
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 of the site in an aesthetic sense. These elements are primarily: • C.1912 Brick Chimney – which is 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 significantly 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. Overall the site does meet the threshold for Aesthetic Significance at a local level.	
D – Social Significance *An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons.*	
The former Corrimal Coke Works operated for approximately 102 years. During this time the site contributed to the overall development and growth of Corrimal and the surrounding Illawarra Region. The former coke works were an important employer in the area and provided employment in peripheral local industries. A number of families had multiple generations of men and women working at the coke works (including at least one family of 4 generations). The former Corrimal Coke Works have demonstrated Social Significance at the local level.	
E – Research Potential *An item has potential to yield information that will contribute to an understanding of the local area's cultural or natural history.*	

Criteria	Significance Assessment
The former Corrimal Coke Works contain a number of subterranean structures, including flues and coke oven elements, which have some research potential. In addition, the site was previously linked to the Corrimal Colliery to the west by a tramway. Tracks may or may not still exist. While there is potential for archaeological research relating to the coke ovens, the information that would be available would be substantially similar to, or identical to, the nearby Coalcliff Coke Works. On balance, the site does meet the threshold for Research Potential at a local level.	
F – Rarity *An item possesses uncommon, rare or endangered aspects of the local area's cultural or natural history.*	
The former Corrimal Coke Works are one of three surviving coke works (the others being Port Kembla and Coalcliff) within the Illawarra, an area that has had 12 coke works in total. The reduction in the number and type of coke works has occurred due to technological and economic reasons. Operated for over 100 years, it is a rare industrial survivor, having only ceased operations in 2013. The long continual use of the site has created multiple layers of industrial fabric and social history. The supply of coking coal to the site was originally self-sufficient, arriving from the nearby Corrimal Colliery. By the mid-1980s, the colliery had closed, ending the sites use of raw materials from Corrimal itself. The site is located within a residential suburb and is in a state of decay. A number of the steel structures have significant corrosion and the masonry structures require substantial remediation works to stabilise. The former Corrimal Coke Works meet the threshold for Rarity heritage significance at a local level.	
G – Representative *An item is important in demonstrating the principal characteristics of a class of NSWs (or the local area's):* • *cultural or natural places; or* • *cultural or natural environments.*	
The former Corrimal Coke Works is one of several surviving coke works/former coke works located within the Illawarra Region. These include the early beehive coke ovens located at Wollongong Harbour, the Coalcliff Coke Works and the Port Kembla Coke Works (which are still in operation). The site is representative of the layers of industrial history and coke processing technologies that developed throughout the 20th and early 21st Centuries. The site includes substantial historic and later added industrial infrastructure, however since the plant closed in 2013, many elements have rapidly fallen into decay. This is particularly evident in the coke oven batteries, which show evidence of considerable structural defects, partly caused by the established vegetation which has grown over the batteries. While the site does possess Representative heritage significance at a local level, its ability to relay the historic and heritage narrative is limited due to this decay. It's nearby sister site at Coalcliff demonstrates a representative value of coke production in a much more cohesive way, particularly given the link to the Coalcliff Colliery.	

5.2. VIEWS & VISTAS

There are a number of significant views to and from the site due to the suburban location and the industrial nature of the former coke works. However, these views and vistas are primarily from further afield due to the restrictions created by dense vegetative boundaries.

Figure 75 – View south within site, along the C1 Coke Oven Battery.

Figure 76 – View south along the west elevation of the C1 Coke Oven Battery to the Quench Towers.

Figure 77 – View north towards Quench Towers from near North Dam.

Figure 78 – View south-west across the South Dam

Figure 79 – View west from Corrimal Station, prominent view of Brick Stack.

Figure 80 – View north along the South Coast Line from Towradgi Road railway overbridge.

5.3. SIGNIFICANT LANDSCAPE

Apart from the broad industrial landscape within the site, there are two dams. The water from these two dams were used to cool the coke through the quenching process. Originally, the two water bodies were one. Both dams are of moderate heritage significance.

5.4. STATEMENT OF HERITAGE SIGNIFICANCE

5.4.1. Proposed Statement of 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, 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 former coke works were an important employer in the area and provided employment in peripheral local industries. A number of families had multiple generations of men and women working at the coke works (including at least one family of 4 generations).

The former Corrimal Coke Works contain a number of subterranean structures, including flues and coke oven elements which may have some research potential. In addition, the site was previously linked to the Corrimal Colliery to the west by a tramway. Tracks may or may not still exist.

While there is potential for archaeological research relating to the coke ovens, the information that would be available would be substantially similar to, or identical to, the nearby Coalcliff Coke Works.

Operated for over 100 years, the former coke works is a rare industrial survivor, having only ceased operations in 2013. The long continual use of the site has created multiple layers of industrial fabric and social history. The supply of coking coal to the site was originally self-sufficient, arriving from the nearby Corrimal Colliery. By the mid-1980s, the colliery had closed, ending the sites use of raw materials from Corrimal itself.

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 of a major employer for over a century to the local community.

5.5. LEVELS & GRADINGS

The Heritage Council of NSW recognises four (4) levels of heritage significance in NSW: Local, State, National and World. The level indicates the context in which a heritage place is important (for example, local heritage significance means the place is important to the local area or region). Heritage places that are rare, exceptional or outstanding beyond the local area or region may be of state or national significance.

Different components of a place may contribute in different ways to its heritage value. The gradings of significance adopted for this CMP are based on those definitions as developed by the Heritage Council of NSW, and have been modified as follows:

Table 7 – Gradings of Significance

Grading	Justification	Status
Exceptional	Rare or outstanding elements that directly contribute to the place's overall heritage significance; they retain a high degree of integrity and intactness in fabric or use; any change should be minimal and retain significant values or fabric	Fulfils criteria for local or state listing
High	Element demonstrates a key aspect of the place's overall heritage significance; they have a high degree of original fabric or they retain their original use; alterations do not detract from significance	Fulfils criteria for local or state listing
Moderate	Element contributes to the place's overall heritage significance; they may have been altered but they still have the ability to demonstrate a function or use particular to the site; change is allowed so long as it does not adversely affect the place's overall heritage significance	Fulfils criteria for local listing
Little	Element may be difficult to interpret or may have been substantially modified which detracts from its heritage significance; change is allowed so long as it does not adversely affect the place's overall heritage significance	Does not fulfil criteria for local or state listing
Neutral	Elements do not add or detract from the site's overall heritage significance; change allowed	Does not fulfil criteria for local or state listing
Intrusive	Elements are damaging to the place's overall heritage significance; can be considered for removal or alteration	Does not fulfil criteria for local or state listing

Each element's significance has been graded having specific regard to its contribution to the overall significance of the place, its period of construction and its condition. We have identified the corresponding time period and condition status for the elements as follows:

Table 8 – Gradings of Condition

Grading	Justification
E (Excellent)	Element has no defects. Condition and appearance are stable and not deteriorating.
G (Good)	Element exhibits superficial wear and tear, minor defects, minor signs of deterioration to surface finishes, but does not require major maintenance. No major defects exist.
F (Fair)	Element is in average condition. Deteriorated surfaces require attention. Services are functional but require attention. Deferred maintenance work exists.
P (Poor)	Element has deteriorated badly. Serious structural problems exist. General appearance is poor with eroded protective coatings. Elements are defective, services are frequently failing, and significant number of major defects exists.
VP (Very Poor)	Element has failed. It is not operational and is unfit for occupancy or normal use.
U	Unknown. Unable to access to assess condition.

5.6. SCHEDULE OF SIGNIFICANT ELEMENTS

Various elements of the place have been graded below in relation to their contribution to the overall heritage significance of the place. Elements include buildings, structures, landscape and other elements that are located within the curtilage of the place.

Table 9 – Schedule of Significant Elements

Element	Grading of Significance
Brick Chimney Stack	High
C1 Coke Oven Battery (including load tracks)	High
C1 Coke Oven Ram Tracks	High
C1N Stack (steel)	Moderate
C2 Coke Oven Battery (including load tracks)	Moderate
C2N Stack (steel)	Moderate
C2S Stack (steel)	Moderate
Remnant Power House - west elevation	High
Power House (remainder)	Moderate
Quench towers	Moderate
Fine Coal Bin C1 and C2	Moderate
Bridge	Little
Grinding Plant	Moderate
Coal Storage Shed	Little
Oil Storage tank & Waste Oil Tank	Little
Maintenance Workshop	Little
Coke screenhouse	Little
Coke conveyor	Little
Production Office	Little
Brickies shed	Little
Weighbridge/Crib room	Little
Pump shed, recycled water	Little
Pump shed, south dam	Little
Remnant railway tracks	Moderate
Dams (North and South)	Moderate

Figure 81 – Former Coke Works Significance Map - Site

Source: Six Maps

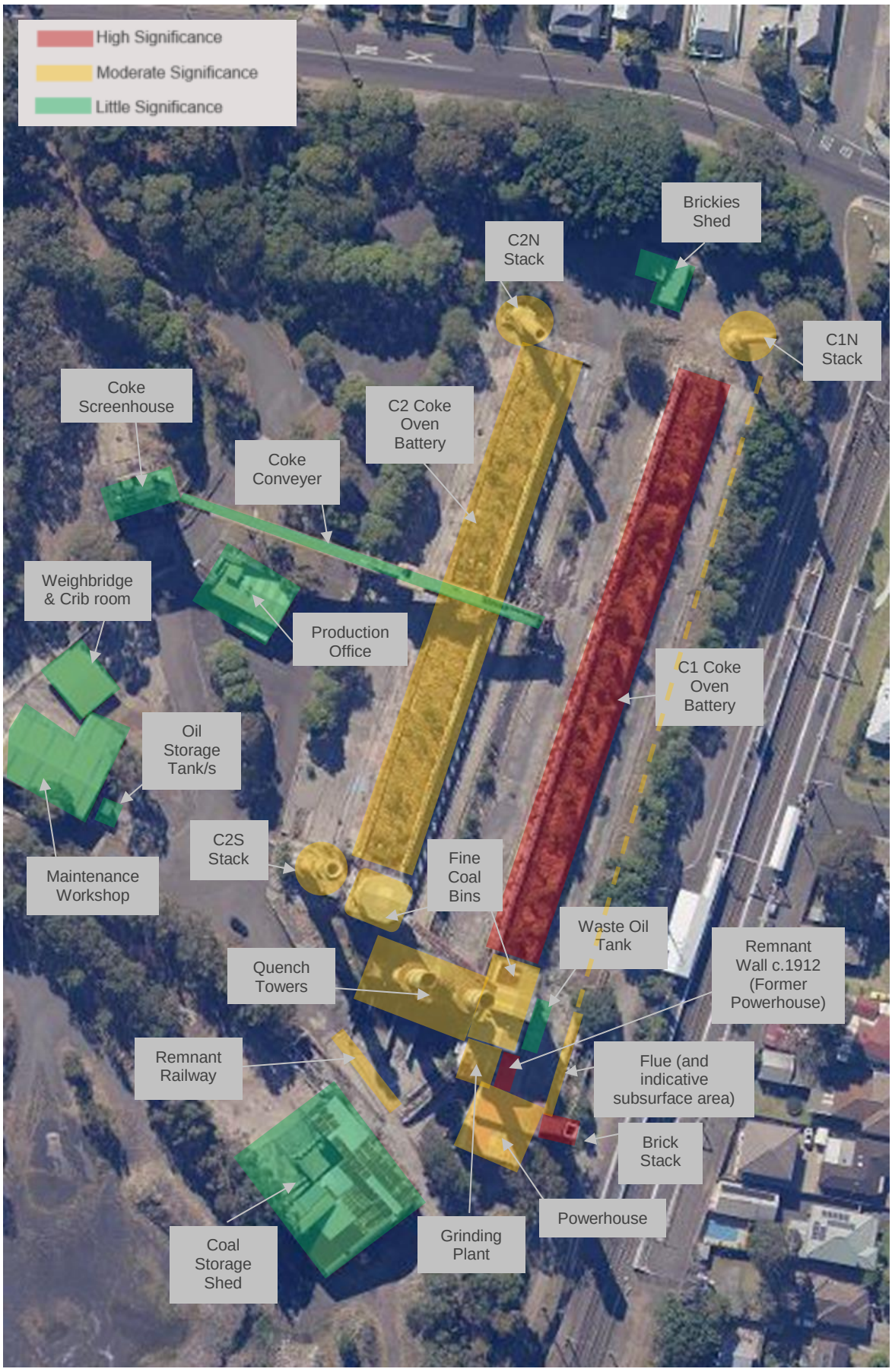


Figure 82 - Former Coke Works Significance Map - Detail

Source: Six Maps

6. CURTILAGE ANALYSIS

This Curtilage Analysis has been prepared in accordance with the NSW Heritage Branch guideline contained in their publication '*Heritage Curtilages'*.

CURTILAGE	
Describe the physical curtilage of the item	The Heritage Division of the NSW Office of Environment and Heritage defines heritage curtilage as the area of land surrounding an item or area of significance which is essential for retaining and interpreting its heritage significance. Heritage curtilage is classified into four types: • Lot Boundary Heritage Curtilage: for places where the heritage curtilage is defined by the legal boundary of the allotment. The allotment should contain all significant related features, for example outbuildings and gardens, within its boundaries. • Reduced Heritage Curtilage: for places where the heritage curtilage is defined as an area less than the total allotment. This classification is applicable when not all parts of a property are associated with its significance, for example contemporary additions. • Expanded Heritage Curtilage: 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 place are of significance • Composite Heritage Curtilage: for larger areas that include a number of separate related places, such as heritage conservation areas based on a block, precinct or whole area. The subject site is proposed to have a reduced heritage curtilage as outlined below. This 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.

Table 10 – General Principles for establishing a heritage curtilage.

The below principles should be satisfied where the curtilage of the item is not defined by allotment.

Principle	Discussion
Has the significance of the original relationship of the heritage item to its site and locality been conserved?	In determining a reduced heritage curtilage, we have considered the key elements which provide the industrial heart of the former Coke Works. The coking technology and process used at the site (in simple terms) included: • Coal being brought to site (via railway/tramway and later, road). • Coal loaded from charging cars on rail tracks into the ovens. • Coal being heated in the ovens until transformed into coke. • Coke being rammed from one side of the oven to the other and out, then taken to the quenching towers to be cooled. • Coke removed from site to be used in industrial manufacturing. • Sub-surface underground flue systems.

Principle	Discussion
	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. Built, sculptural interpretations and interpretation media should be concentrated located within this precinct.
Has an adequate setting for the heritage item been provided, enabling its heritage significance to be maintained?	The proposed reduced heritage curtilage provides for the early industrial centre of the former coke works to be retained and interpreted. The heritage significance of the recommended reduced heritage curtilage is derived from the use of the site as a coking plant for over 100 years. During that period, substantial layers of change have occurred in both technology, layout and fabric. A number of elements remain, including the c.1912 brick chimney stack, a remnant of the c.1912 former powerhouse and the c.1912 C1 Coke Battery and associated coke production elements. The proposed reduced heritage curtilage retains, conserves and interprets the brick chimney stack, underground flue and alignment, the remnant powerhouse, associated rail tracks and alignments, quenching towers and coke ovens. In addition, the reduced curtilage incorporates the spatial length and width of the C1 Coke Battery, associated ram car tracks and C1N steel stack. These factors, along with interpretation strategies within the reduced heritage curtilage and across the wider development site, enable the significance of the site to be interpreted, within an adaptive re-use context.

Principle	Discussion
Have adequate visual catchments or corridors been provided to the heritage item from major viewing points and from the item to outside elements with which it has important visual or functional relationships?	The identified heritage significant elements of the former Corrimal Coke Works will be retained, conserved and adapted throughout the reduced heritage curtilage. Currently, significant views and vistas across the site are limited due to restricted access to the site and vegetation surrounding the site. However, some elements, including the brick chimney stack (c.1912), steel stacks (post-1960s) and quenching towers are visible from the surrounding township of Corrimal, particularly from the railway station and road bridge across rail tracks to the south. It is recommended to retain the brick chimney stack and at least one steel stack (or an interpretation of one, pending structural advice) on the northern portion of the site. 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.
Are buffer areas required to screen the heritage item from visually unsympathetic development or to provide protection from vibration, traffic noise, pollution or vandalism?	The industrial heritage significance of the site should be respected and sympathetically considered within the architectural design, layout and material selection of any future development. The reduced heritage curtilage will ensure early significant industrial fabric and structures be retained, conserved, adapted and interpreted as visually distinctive forms.

Figure 83 – Proposed reduced heritage curtilage – site view (approximate).

Source: Six Maps

Figure 84 – Proposed reduced heritage curtilage – detail view (approximate).

Source: Six Maps

7. HERITAGE LISTINGS & STATUTORY OBLIGATIONS

There are no existing statutory heritage listings on the site, nor in the vicinity of the site. This CMS has recommended 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 Wollongong Local Environmental Plan 2009.

There are no known non-statutory heritage listings on the site.

8. CONSERVATION RECOMMENDATIONS

Conservation recommendations explains the principles to be followed to retain, conserve, restore or reveal the heritage significance of a place, and how that significance can be enhanced and maintained. This relies on a full understanding of the significance of the place, and a review of the constraints and opportunities arising from that significance.

8.1. ADOPTION, IMPLEMENTATION & REVIEW

Adoption of Conservation Management Strategy

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.

Recommendations

Recommendation 1	This conservation management strategy should be adopted by present and future owners and occupants of the place, and used as a guide for management and conservation, and in conjunction with any proposals for future development or adaptive re-use of the place. A copy of this conservation management strategy should be provided with the sale of the place and retained on-site at all times, for the use by those responsible for the management and conservation of the place.
Recommendation 2	This CMS should be submitted to the Wollongong Council as part of any application for new development or adaptive re-use proposals. Where appropriate or requested, it should be accompanied by a heritage impact statement that assesses the specific impacts of the proposal against relevant legislation and recommendations in this CMS.

Endorsement of Conservation Management Strategy

This CMS is to be submitted to Wollongong City Council for endorsement. 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.

Recommendations

Recommendation 3	This CMS should be reviewed and updated every 5-10 years, or alternatively in conjunction with any major adaptive re-use or development proposal, to remain relevant to ongoing change and use of the place, and statutory compliance. Irrespective of the requirement to review the document every 5-10 years, the CMS should continue to be used for on-going heritage management until such reviews are completed.

Guidelines

- This CMS should be reviewed and updated every 5-10 years, or alternatively in conjunction with any major adaptive re-use or development proposal, to remain relevant to ongoing change and use of the place, and statutory compliance.
- Reviews of the CMS should be based on The Burra Charter and other guidelines by the NSW OEH Heritage Division. Reviews should also take into account any other relevant legislation, planning frameworks and widely recognised conservation practices and procedures.
- Reviews should be undertaken by experienced conservation practitioners in conjunction with relevant ownership and management representatives.

8.2. MANAGING HERITAGE SIGNIFICANCE

Statement of 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.

Recommendations

Recommendation 4	Elements of **exceptional** significance are rare or outstanding elements that directly contribute to the place's overall heritage significance; they retain a high degree of integrity and intactness in fabric or use; any change is to be minimal and retain significant values or fabric Elements of **high** significance have a high degree of original fabric; they demonstrate a key aspect of the place's overall heritage significance and must be retained and conserved; retention should be considered in-situ; change is allowed as outlined within this report, so long as significant values and fabric are retained and conserved. Elements of **moderate** significance have been altered or modified or do not demonstrate a key aspect of the significance of the place; they contribute to the place's overall heritage significance however change (including removal) is allowed so long as it does not adversely affect values and fabric of exceptional or high significance. Elements of **little** significance do not substantially add to the significance of the place in a positive way, though neither do they detract from its overall significance. Elements of little significance may also reflect fabric that is reproduction or may have been substantially altered or modified or may reflect non-significant phases of development. Changes (including removal) are allowed so long as it does not adversely affect values and fabric of exceptional or high significance. **Intrusive** elements are damaging to the place's overall heritage significance; they should be considered for removal or alteration.
Recommendation 5	All repair, conservation and reconstruction works to elements of exceptional or high significance, must be undertaken with appropriate supervision by a suitably qualified heritage specialist or relevant materials specialist or conservator, with reference to historical documentation, and in accordance with any relevant legislative or statutory constraints.

Recommendation 6	The Statement of Significance set out in this report is to be accepted as the basis for future conservation of the fabric and values of the place. All future works to the place should be cognisant of the significant built elements, fabric and spaces identified in this CMS, together with any additional detailed research and assessment.
Recommendation 7	**Unless otherwise stated in these recommendations**, surviving original and early elements and fabric identified as exceptional or high should be retained intact, and conserved.
Recommendation 8	Where elements of exceptional or high significance have been damaged, they are to be repaired with sympathetic materials in preference to replacement. Significant elements should be repaired in-situ wherever possible.
Recommendation 9	If changes to elements of exceptional or high significance are required, they should be carefully considered. and the approach should be one of minimal intervention, unless otherwise stated in this report.
Recommendation 10	Intervention for purposes other than conservation of the fabric is to occur in areas of lower rather than higher significance.
Recommendation 11	Any elements of significance proposed for demolition, removal or alteration, should be subject to archival photographic recording, copies of which should be retained on site and provided to the relevant consent authorities (Wollongong Council). Archival recordings should be undertaken in accordance with the NSW OEH Heritage Division's Guidelines for *'Photographic Recording of Heritage Items Using Film or Digital Capture'*.

Guidelines

- Owners, occupiers and stakeholders responsible for and involved in the maintenance and management of the place should be aware of the identified significance and aim to conserve and enhance this significance as well as identified significant internal and external fabric and spaces.

Best Practice Heritage Management (The Burra Charter)

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.

Recommendations

Recommendation 12	The future conservation and management of the place should be carried out in accordance with the principles of the Burra Charter. The Burra Charter advocates a cautious approach to change: *do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained*.

Recommendation 13	All contractors, consultants and project managers engaged to work on conservation work to significant masonry structures within the reduced heritage curtilage, should have appropriate conservation skills, experience and techniques appropriate to the trade, fabric or services, and should work within the guidelines of this CMS.
Recommendation 14	A heritage impact statement should be prepared for all proposals for new development within the recommended reduced heritage curtilage.

Guidelines

- Management of the place should generally follow the principles and conservation methodology of the *ICOMOS Burra Charter* (revised 2013). The document provides the methodology under which works to significant places should be undertaken, and provides the guidelines for the management of heritage significance.
- Any works to the place should be carried out in accordance with the relevant Local Environmental Plan, Development Control Plan and the NSW OEH Heritage Division requirements, and be cognisant of the *Heritage Act 1977* and the *Environmental Planning and Assessment Act 1979*. A heritage impact statement or archaeological assessment may be required to assess future works to the place.
- Any works to the place for Building Code of Australia (BCA) / National Construction Code (NCC) compliance purposes may require a heritage impact statement in accordance with the NSW OEH Heritage Division guidelines, and deemed-to-comply solutions may be appropriate. Works should be cognisant of the significance of the place.
- All personnel engaged in works with the potential to have an impact on the heritage values of the place should generally have proven experience and qualifications in the relevant field of heritage conservation. This includes both professionals and tradespeople.
- Fabric of exceptional and high significance must be retained, conserved and maintained in accordance with the Burra Charter.

8.3. CONSERVATION & 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.

Recommendations

Recommendation 15	Maintenance works and repairs should be undertaken in compliance with the minimum standards of maintenance and repair under Section 118 of the Heritage Act 1977 as specified in the Heritage Regulations 2012, and the Standard Exemptions under Section 57(2) of the Heritage Act 1977. Advice of a heritage consultant should be sought to establish what constitutes minor work for Standard Exemptions.
Recommendation 16	Any reconstruction or restoration works should be based on historical documentation rather than speculation.
Recommendation 17	Materials used for repair and reconstruction should preferably be traditional materials used in the construction of the place. Missing or damaged fabric will be replaced observing the ‘like for like’ principle. For example, replace with similar fabric (e.g. timber with timber) or replace with new fabric of similar appearance, or replace with different fabric of similar profile and dimensions (whilst remaining apparent as new work).

Guidelines

- Maintenance should aim to conserve and enhance the identified heritage values of the place.
- Fabric identified as of exceptional and high significance is to have priority works undertaken when required. Impact on significant fabric is to be considered and the appropriate approvals sought.
- Maintenance work should be prioritised according to the heritage significance and vulnerability to deterioration of individual elements and fabric.
- Management and maintenance of the place should aim to conserve its heritage significance to the greatest extent feasible. Works are to be sympathetic to exceptionally and highly significant fabric and repairs are to be undertaken instead of replacement, where possible.
- The minimum standards of maintenance and repair under Section 118 of the *Heritage Act 1977* and as specified in the Heritage Regulations 2012, are recommended to be applied to the place to ensure its long-term conservation. The minimum standards refer to weatherproofing, fire protection, security and essential maintenance, to ensure that the significance of the place is retained.
- A schedule of cyclical and ongoing maintenance and schedule of conservation works should be prepared to guide the conservation of fabric of the place. The schedule should be adopted as minimum requirement for maintenance works. It is noted that this schedule will need to be supplemented by further physical investigation into the fabric to identify additional required works and latent conditions.
- Maintenance works to the buildings should be undertaken on a regular basis to avoid the need for substantive conservation works.

8.4. FUTURE USE, ALTERATIONS & 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.

Recommendations

Recommendation 18	The recommended heritage curtilage outlined in this report should be adopted and subsequently included as an item of local heritage significance within Schedule 5, Wollongong LEP 2009.
Recommendation 19	The Brick Stack, assessed as having high heritage significance, is conserved/stabilised and retained in situ. The stack is a significant local landmark and views to and from the stack should be conserved.

Recommendation 20	The C1 Coke Oven Battery has been assessed as having high heritage significance. Structural Engineers advice has confirmed that the ovens are in poor condition and require significant remediation work to retain to ensure they are safe. Due to the size of and substantial deterioration of the C1 Coke Oven Battery, it is recommended that a representational section of the C1 Coke Oven Battery be conserved/stablished and retained in situ. A representational section of ovens should be retained adjacent to each other. For practical reasons, this is likely to be at the northern end of the existing battery. At least 5 ovens should be stablised and retained in full. Ovens towards the southern end are understood to be in particularly poor condition. An opportunity exists for partial reconstruction/interpretation (using a mix of original and new materials) of a number of ovens in this section. This would allow a better appreciation of the coke making process. This opportunity should be included within the Heritage Interpretation Strategy for the site. Interpretation of the spatial length and width of the full battery, including ram car tracks to the east should be included. This could be achieved using sculptural or built form elements or landscape elements such as paving, plantings etc. Given the state of the ovens, some alteration to allow for stabilisation of the retained sections is appropriate. Later added metal flues and hoods should be salvaged, conserved and retained, if possible. Where not possible, an interpretation of these metal elements should be included. Salvaged elements, such as oven doors and oven identifiers, should be considered for use within any future development. A graphic of the proposed/possible interpretation of the C1 Coke Oven Battery is contained in Appendix A of this CMS.
Recommendation 21	C1N, which is included within the recommended reduced heritage curtilage, should be retained or interpreted. This element has been assessed as having moderate significance. It would allow greater understanding of the coke making process. It would be a visible landmark to demonstrate the spatial length of the C1 Coke Oven Battery. It would provide landmark views and be a counterbalance for the Brick Stack. It is noted that further structural assessment is required to determine the suitably of retention or interpretation. A graphic of the proposed/possible interpretation of the C1 Coke Oven Battery is contained in Appendix A of this CMS.
Recommendation 22	The remnant wall of the former Power House has been assessed as having high significance. This wall should be conserved/stabilised and retained in situ. A sympathetic structure should be considered which would incorporate this remnant wall, including adaptive re-use of the wall.
Recommendation 23	The C2 Coke Oven Battery has been assessed as having moderate significance. However, given the higher significance of the C1 Coke Oven Battery, interpretation of the battery should be included within an Interpretation Strategy for the site.
Recommendation 24	Significant views and vistas to the Brick Stack should be retained. These include the view from Corrimal Railway Station, the Towradgi Road Overpass and view corridors from Railway Street.

Recommendation 25	The Brick Stack should remain the dominant built element on the site. The maximum building height should be 25 metres. New development, excluding re-use and interpretation of existing structures, should have a setback of 6-9 metres from the Brick Stack and retained C1 Coke Ovens. An upper level setback above 4 storeys should be provided on the development site to the south of the Brick Stack.
Recommendation 26	Further investigation and documentation of the subsurface elements of the site, within the recommended reduced heritage curtilage, should be undertaken at Development Application stage and prior to further construction works'. Of particular note is the underground flue linking the C1N and Brick Stacks to the C1 Coke Ovens. There is potential for the retention of a section of this flue.
Recommendation 27	A Heritage Interpretation Strategy for the site should be undertaken and include information and displays on the coke making process and technology used at the site.

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[Note: Some government departments have changed their names over time and the above publications state the name at the time of publication.]

DISCLAIMER

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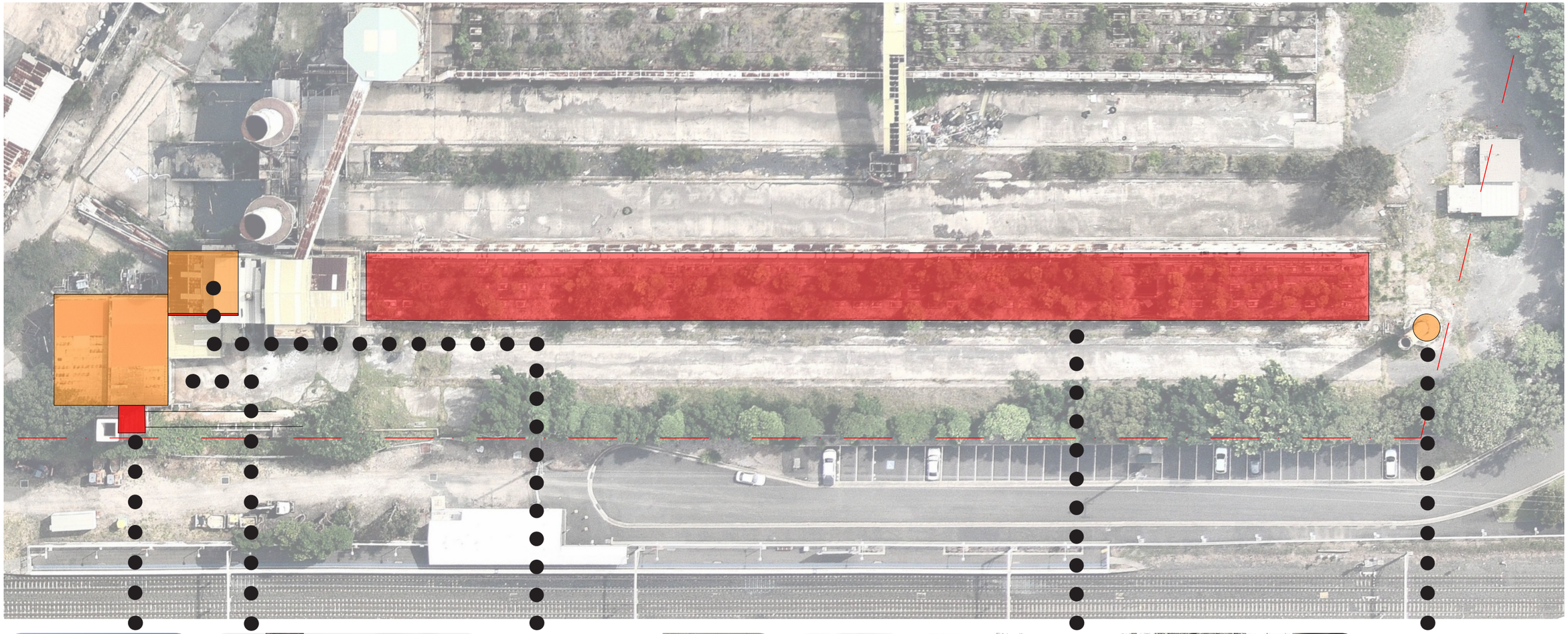
APPENDIX A HERITAGE STRATEGY DRAWINGS



1912 BRICK STACK

SAW-TOOTH ROOM
POWERHOUSE BUILDING

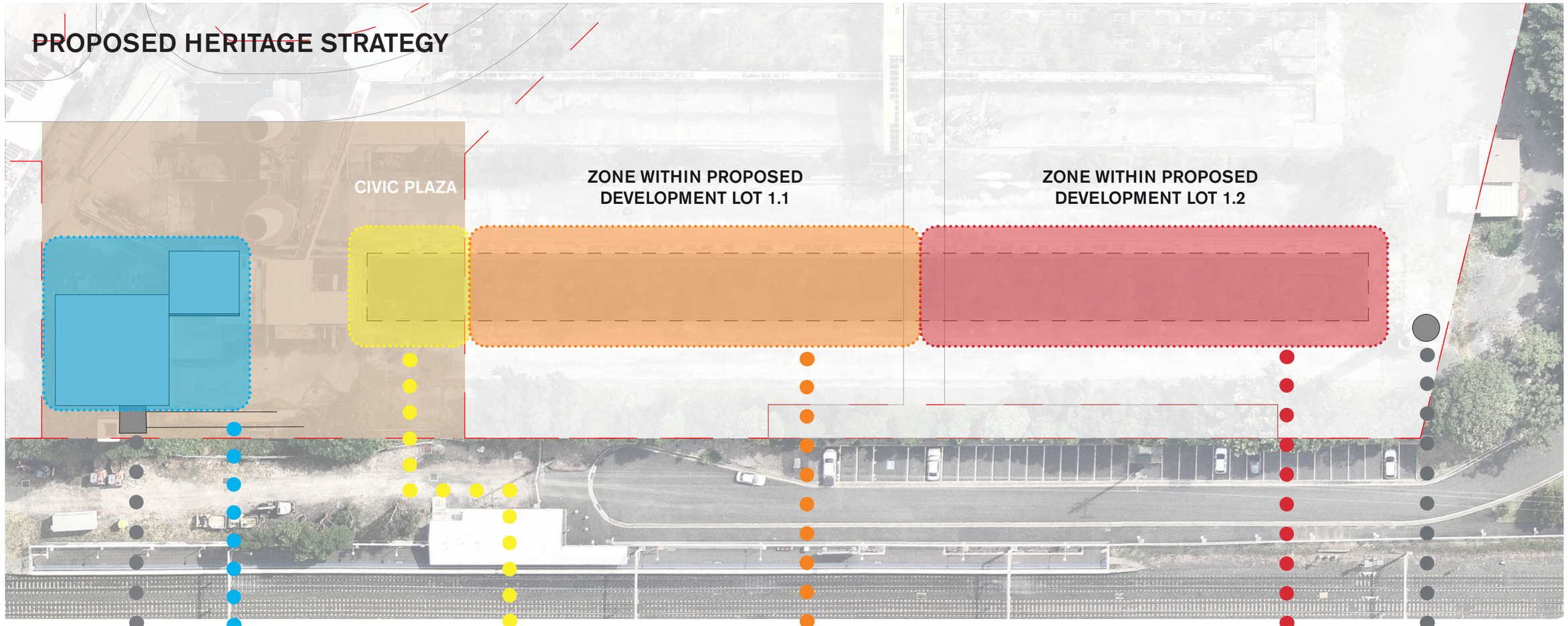
REMNANT POWERHOUSE AND
REMNANT 1912 POWERHOUSE
GABLE WALL

C1 COKE BATTERY

NORTHERN C1 STACK

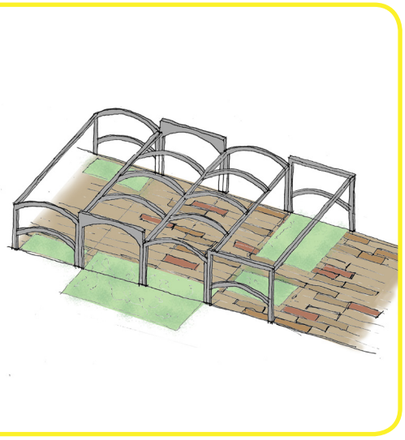
DKO ARCHITECTURE | E8URBAN | CLOUSTON ASSOCIATES | URBIS | CORRIMAL COKE WORKS
WOLLONGONG | LEGACY PROPERTY | PROJECT
11877 | 02/04/19

PROPOSED HERITAGE STRATEGY

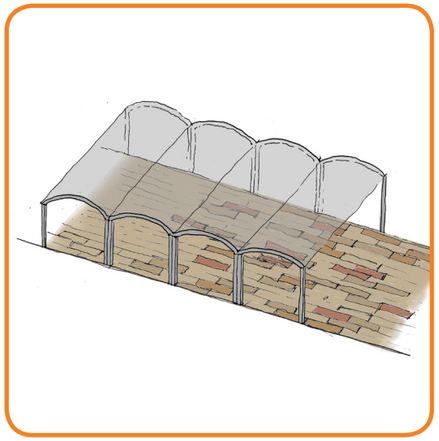


RETENTION OF 1912 BRICK STACK

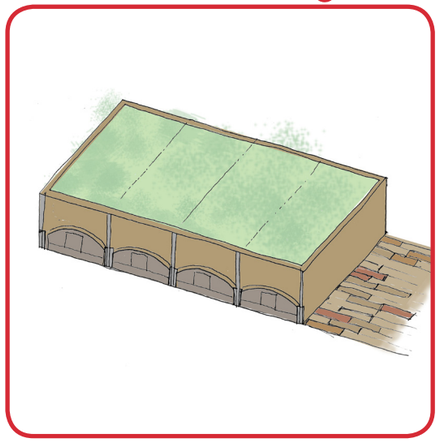
ADAPTIVE RE-USE OF POWERHOUSE BUILDINGS



PORTION OF DECONSTRUCTED INTERPRETATION OF COKE OVENS AND BRICK PAVING IN FOOTPRINT OF OVENS



PORTION OF INTERPRETIVE ELEMENTS REFERENCING COKE OVEN ELEMENTS AND/OR BRICK PAVING IN FOOTPRINT OF OVENS

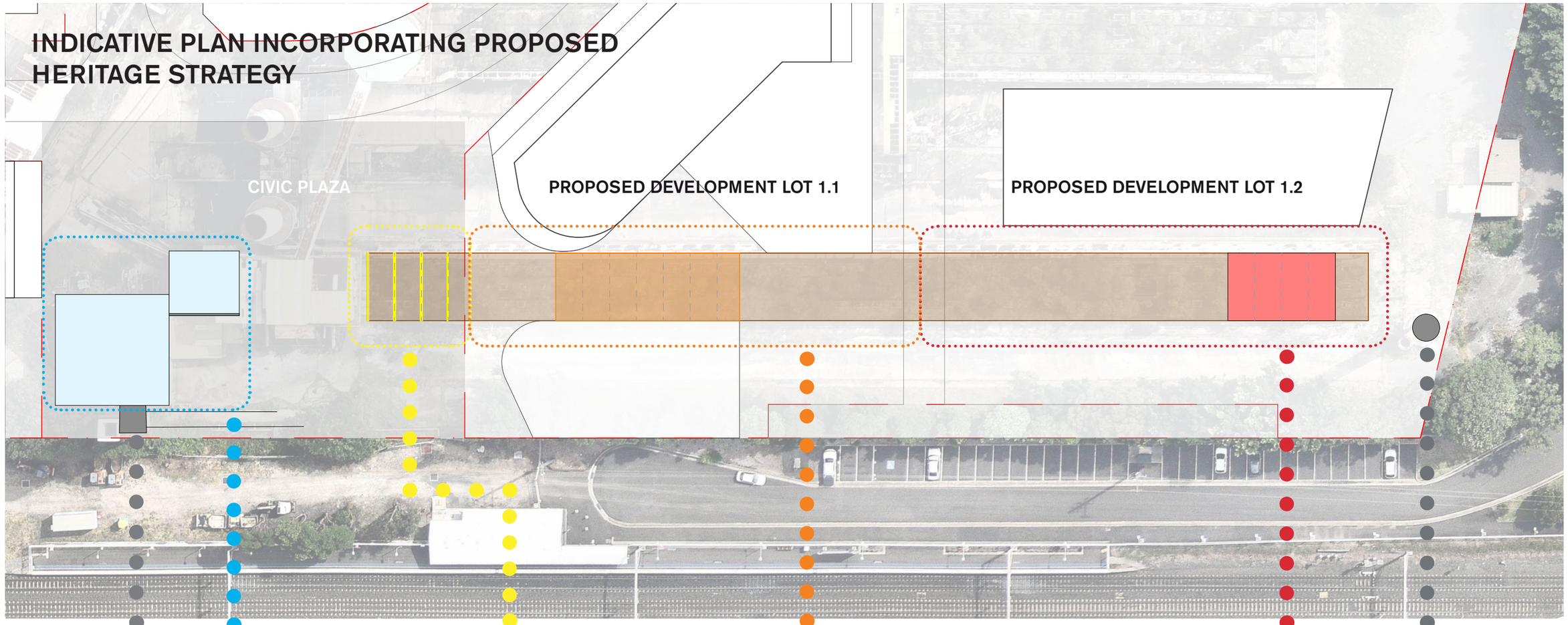


PORTION OF RECONSTRUCTION/ IN SITU RETENTION OF COKE OVENS AND BRICK PAVING IN FOOTPRINT OF OVENS

RETENTION OR INTERPRETATION OF NORTHERN C1 STACK

DKO ARCHITECTURE | E8URBAN | CLOUSTON ASSOCIATES | URBIS | CORRIMAL COKE WORKS WOLLONGONG | LEGACY PROPERTY | PROJECT 11877 | 02/04/19

INDICATIVE PLAN INCORPORATING PROPOSED HERITAGE STRATEGY



RETENTION OF 1912 BRICK STACK

ADAPTIVE RE-USE OF POWERHOUSE BUILDINGS

PORTION OF DECONSTRUCTED INTERPRETATION OF COKE OVENS

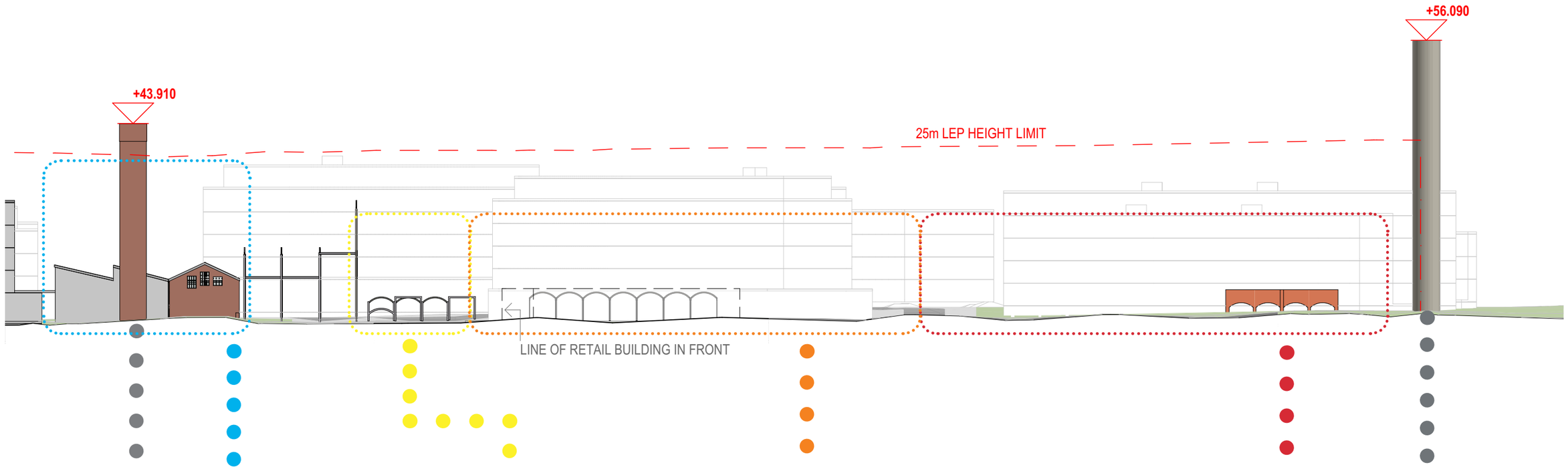
PORTION OF INTERPRETIVE ELEMENTS REFERENCING COKE OVEN ELEMENTS

PORTION OF RECONSTRUCTION/ IN SITU RETENTION OF COKE OVENS

RETENTION OR INTERPRETATION OF NORTHERN C1 STACK

DKO ARCHITECTURE | E8URBAN | CLOUSTON ASSOCIATES | URBIS | CORRIMAL COKE WORKS WOLLONGONG | LEGACY PROPERTY | PROJECT 11877 | 02/04/19

INDICATIVE ELEVATION INCORPORATING PROPOSED HERITAGE STRATEGY



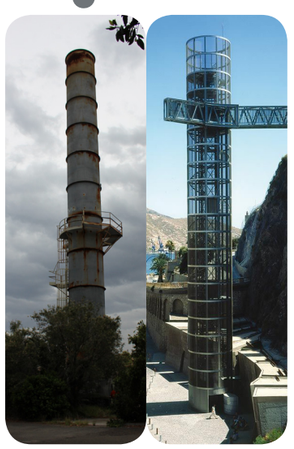
RETENTION OF 1912 BRICK STACK

ADAPTIVE RE-USE OF POWERHOUSE BUILDINGS

PORTION OF DECONSTRUCTED INTERPRETATION OF COKE OVENS

PORTION OF INTERPRETIVE ELEMENTS REFERENCING COKE OVEN ELEMENTS

PORTION OF RECONSTRUCTED/ IN SITU RETENTION OF COKE OVENS



RETENTION OR INTERPRETATION OF NORTHERN C1 STACK

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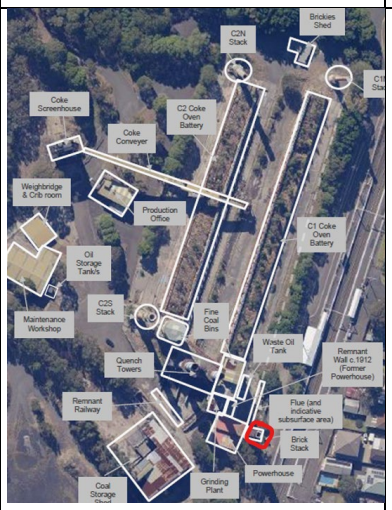
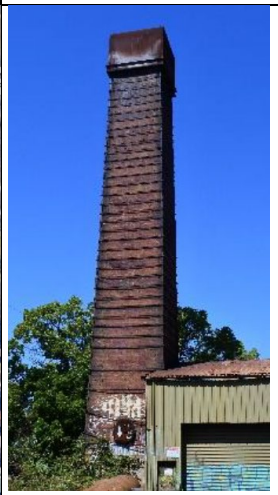
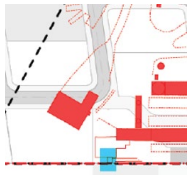
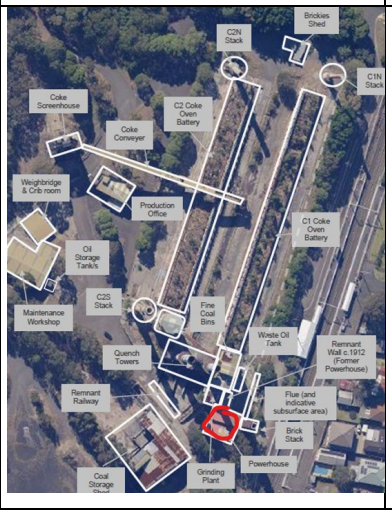
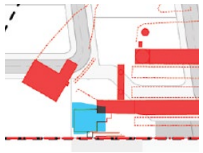
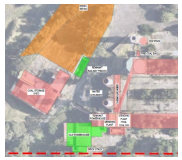
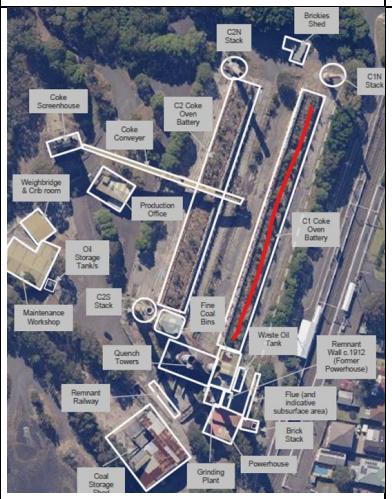
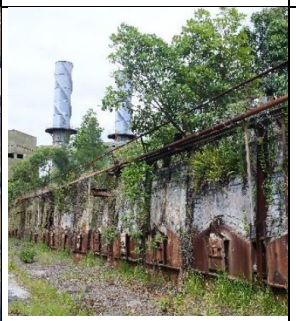
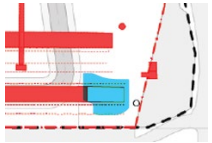
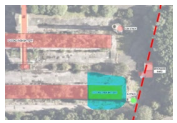
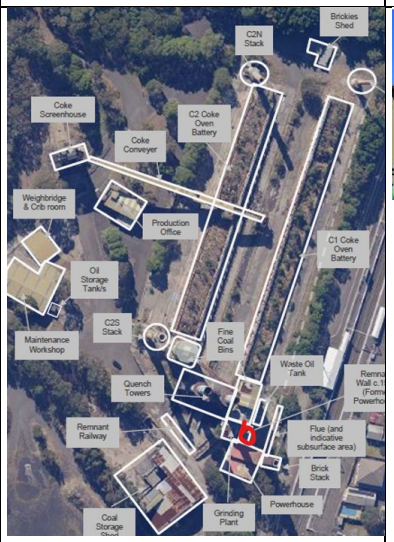
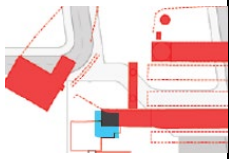
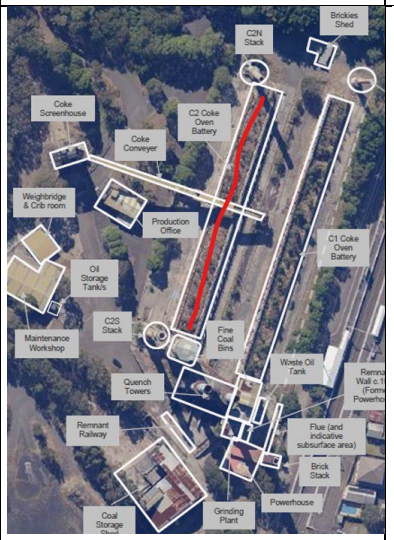
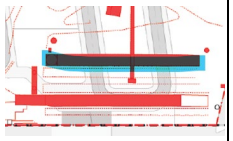
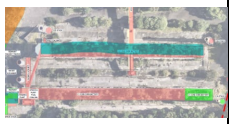
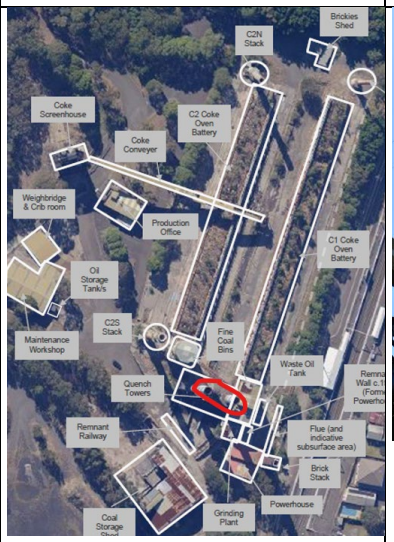
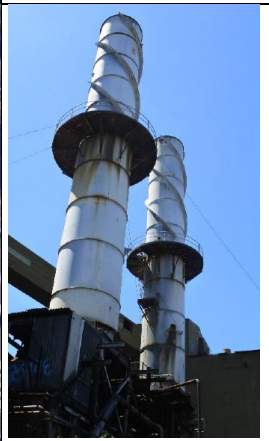
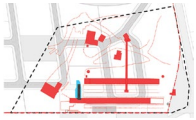
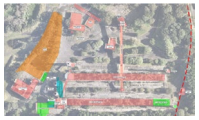
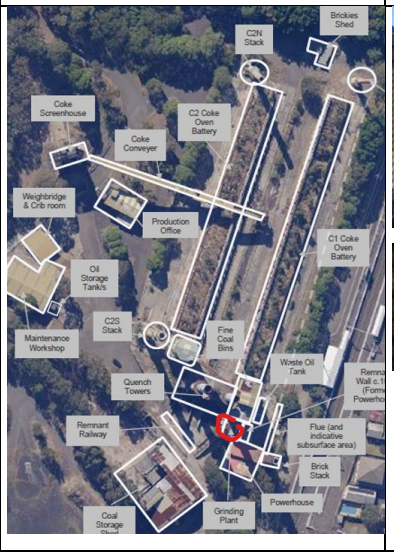
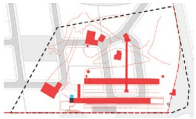
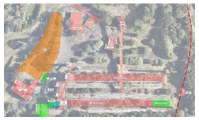
ATTACHMENT 8 – INTERPRETATION AND SALVAGE TABLE

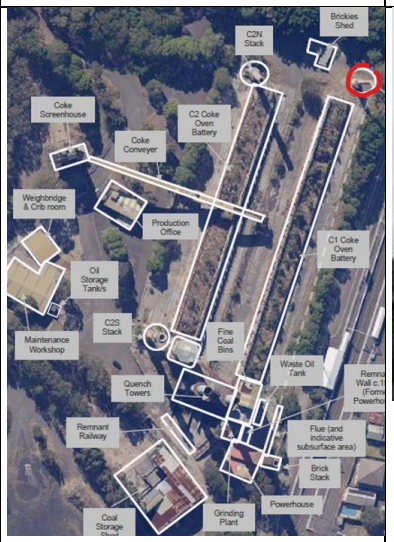
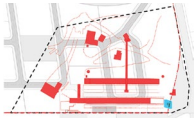
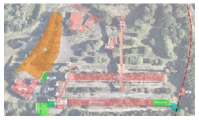
Built form interpretation

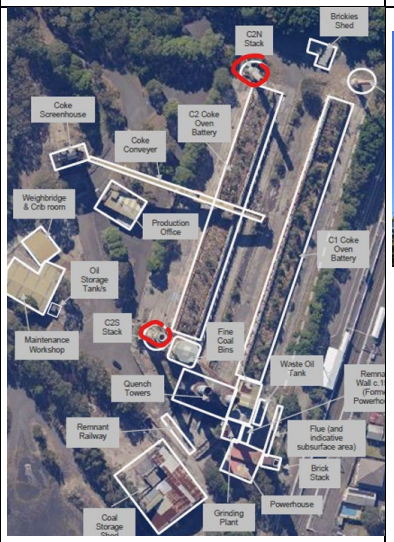
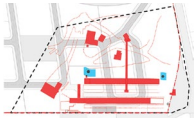
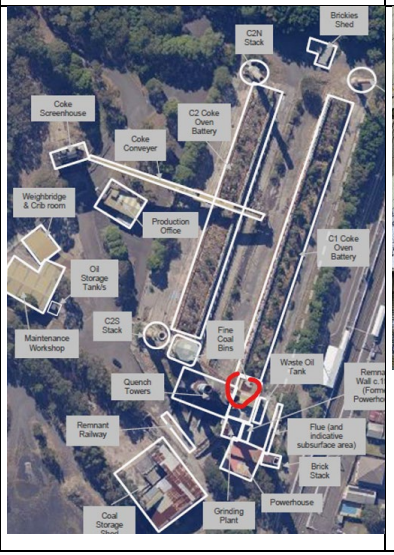
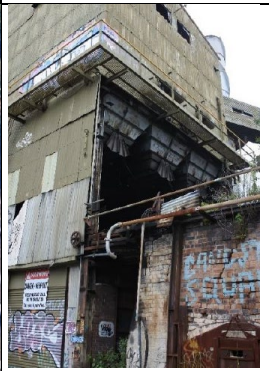
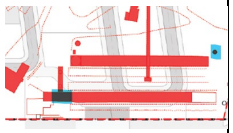
Element	Location	Photo	Site Specific Exemption (SSE) / Proposed Demolition plan	Significance	Heritage Interpretation Strategy Interpretive device	Conditions / comment / further investigation
Brick Stack			SSE  Demolition plan 	High	Retain and conserve	The item is proposed to be retained. The submission includes a structural assessment of chimney and ovens – dated 21 January 2019 prepared by BG&E.
Old Powerhouse			SSE  Demolition plan 	Medium	Retain and conserve	The item is proposed to be retained and repurposed as part of the Heritage Plaza development application for a future commercial use.

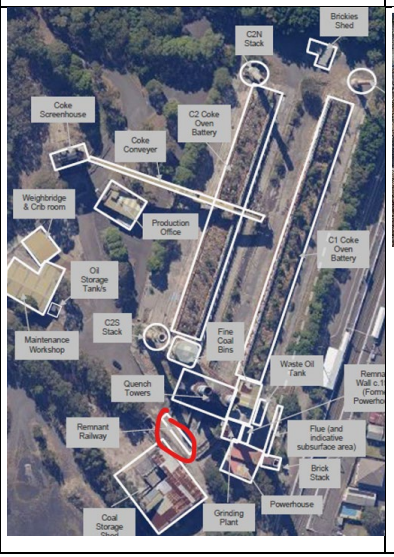
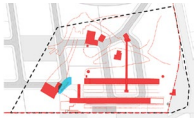
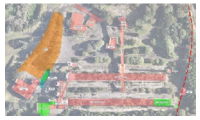
Element	Location	Photo	Site Specific Exemption (SSE) / Proposed Demolition plan	Significance	Heritage Interpretation Strategy Interpretive device	Conditions / comment / further investigation
C1 Coke Battery		 	SSE  Demolition 	High	Retain and conserve a representational sample of the C1 Coke Oven Battery (minimum 5) to the northern of the battery. Remove all remaining ovens, retaining oven numbers to be reused on site. Interpret the footprint and repetition of the ovens on the ground plane through the centre section of the battery. Interpret the steel structural framing elements and repetition to the southern end of the C1 Coke Oven Battery. The representational section will include ram car tracks (to the east) and hot car tracks (to the west). Interpretative coke ovens at the southern end of the battery could include a series of deconstructed ovens showing the form and internal elements of the existing ovens. Interpretative/sculptural elements will include both original and new fabric from the C1 Coke Oven Battery. Atmospheric lighting may be incorporated for evening illumination of ovens. To demonstrate the spatial length of the C1 Coke Oven Battery, the footprint / alignment of the C1 Coke Oven Battery should be interpreted with paving, landscaping or other interpretive feature/s. Figure 26 provides a graphic representation of the possible appearance of these elements. Signage to be located within the vicinity of retained and deconstructed ovens. Signage to provide historic information as text and graphics. Signage to feature diagrams of coke making process and oven construction and maintenance.	The proposal retains the northern 5 coke ovens. Interpretation of oven footprint into the heritage plaza will be resolved via the heritage plaza application. Ram car tracks and hot car tracks are to be salvaged and stored for future use in the heritage plaza. Interpretation of coke ovens at the southern end of the battery will occur in the heritage plaza application. Concept plans have been provided of this and are currently the subject of assessment under that application. Lighting will be addressed as part of the heritage Plaza application. The conditions require archival photographic recording of the elements to be demolished. The specific location and content of the signage will be resolved as part of the heritage plaza DA. Further investigation with regard to the C1 Coke Oven Battery and structural adequacy, visual appearance, security, compatibility with public square elements, CPTED and the like will occur as part of the heritage plaza DA.

Element	Location	Photo	Site Specific Exemption (SSE) / Proposed Demolition plan	Significance	Heritage Interpretation Strategy Interpretive device	Conditions / comment / further investigation
Remnant Powerhouse Wall			SSE  Demolition 	High	Retain and conserve remnant wall of former Powerhouse Building. There is potential for the wall to be incorporated within a new structure. Potential uses of the Powerhouse structure could include tele-working office, start-up space and retail. Signage in the vicinity of this element should focus on the history and technology used at the site to generate electricity for the local community.	This element is retained. Detail of integration into the heritage plaza is to be provided in the heritage plaza DA.
C2 Coke Oven Battery			SSE  Demolition 	Medium	Remove C2 Coke Oven Battery and interpret, where practical, on the ground plane using paving, landscaping or other interpretive feature/s. The retention of some materials such as some bricks, oven doors and numbers are possible. See Section 6.4 Material Salvage Plan for more information. Note: The reuse of existing material is not necessary for the interpretation of the battery.	C2 Coke Oven Battery is to be removed. Potential for interpretation into the ground plane is the subject of assessment in the heritage plaza DA. The proposal involves salvage and storage of approximately 600m² or 23,000 bricks on 45 pallets. Potential re-use in public landscaping in the heritage precinct and within private open space in development lots. 10 oven doors are to be retained and stored for future use in heritage precinct or other publicly accessible area. Oven numbers are all to be salvaged for future incorporation into heritage precinct.

Element	Location	Photo	Site Specific Exemption (SSE) / Proposed Demolition plan	Significance	Heritage Interpretation Strategy Interpretive device	Conditions / comment / further investigation
Quench Towers			SSE  Demolition 	Medium	Remove Quench Towers with opportunity to interpret the former structure on the ground place. This could include a water feature, public artwork, paving and landscaping.	The quench towers are proposed to be demolished. Possible interpretation is subject to future assessment in the heritage precinct DA.
Grinding Plant		 	SSE  Demolition 	Medium	Remove Grinding Plant structures. Note: BG&E have assessed the structures as having major steel corrosions, structural elements need widespread replacement; potentially at risk of major failure. Partridge who reviewed the aforementioned plan have stated that the structures are unsound and are at risk of collapse. Demolition should be considered as a matter of public safety.	The Grinding plant is to be demolished.

Element	Location	Photo	Site Specific Exemption (SSE) / Proposed Demolition plan	Significance	Heritage Interpretation Strategy Interpretive device	Conditions / comment / further investigation
C1N Steel Stack			SSE  Demolition 	Medium	Further structural assessment of this structure to be undertaken. Where the structure is not able to be retained and conserved, an interpretive/sculptural representation may be substituted. Any substitute could be of metal construction, of comparable form and height. No other steel stack or tower are proposed to be retained on the site. The retention of the stack is also subject to the exact location of the base structure in relation to the boundary as the land included Lot 125 DP598190 will be transferred to Council ownership. Note: BG&E's Structural Condition Assessment and Partridge's review of the report both concur that the C1N Steel Stack is in poor condition but possibly viable for preservation through remediation of the base fixings and footing as well as strengthening of the stack. However further detailed structural analysis needs to be undertaken.	This item is identified for retention. A concept strengthening works plan has been submitted for this structure. The stack is located entirely within private property.

Element	Location	Photo	Site Specific Exemption (SSE) / Proposed Demolition plan	Significance	Heritage Interpretation Strategy Interpretive device	Conditions / comment / further investigation
C2N and C2S Steel Stacks			SSE  Demolition 	Medium	Remove structures	These structures are proposed to be demolished.
Fine Coal Bins			SSE  Demolition 	Medium	The Fine Coal Bins will be removed from the site. The structure has been assessed in both BG&E's Structural Condition Assessment and Partridge's review of that report as being unviable for retention. Possible interpretation using structural steel framing/elements comprising original fabric, new fabric or both. These to be located within the footprint of the C1 Fine Coal Bin. Signage in the vicinity of the deconstructed coke ovens will include images and diagrams of the coke making process, including the Fine Coal Bins.	These structures are to be demolished. The Heritage Impact Statement found that the fine coal bins were in a "poor to very poor condition" and that "The removal of these built forms, therefore, would not adversely impact the significance of the site while improving safety outcomes". Photographic recording of the structures for incorporation into signage is addressed by conditions.

Element	Location	Photo	Site Specific Exemption (SSE) / Proposed Demolition plan	Significance	Heritage Interpretation Strategy Interpretive device	Conditions / comment / further investigation
Remnant Railway Tracks			SSE  Demolition 	Medium	Carefully remove and store existing railway tracks, located south of the Quench Towers. Re-lay railway tracks along the original alignment at a revised Reduced Level (RL).	This item is to be salvaged and stored and conditions apply.

Material Salvage Plan (from Heritage Interpretation Strategy)

Element		Number	Potential reuse / storage	Other considerations	Comment / conditions
C1 and C2 Fine Coal Bin – Hoppers including mechanisms		6	Possible interpretation within public landscaping in the heritage precinct of the site and within private open space in development lots using structural steel framing/elements comprising of original fabric, new fabric or both.	Public safety, fit for purpose (safety in design) and maintenance.	6 hoppers are to be salvaged and stored. The exact location for reuse or interpretation is not yet established.
C2 Exhaust Hoods and flues		Minimum 10 ovens	To be reused within public landscaping within the heritage precinct.	Public safety, fit for purpose (safety in design) and maintenance.	10 exhaust hoods and flues are to be salvaged. The exact location for reuse or interpretation is not yet established.
C1 and C2 Coke oven numbers		All	To be reused within public landscaping in the heritage precinct and within private open space in development lots and the retail lot as shop numbers.	Public safety, fit for purpose (safety in design) and maintenance.	All coke over numbers are to be salvaged for reuse in the heritage precinct.

Element		Number	Potential reuse / storage	Other considerations	Comment / conditions
C1 and C2 Coke oven doors		10 doors	To be reused within public landscaping in the heritage precinct.	Public safety, fit for purpose (safety in design) and maintenance.	10 coke oven doors are to be salvaged for reuse, most likely in the heritage precinct.
C1 and C2 Oven bricks		Approx. 600m2 or 23,000 bricks on 45 pallets	To be reused within public landscaping in the heritage precinct and within private open space in development lots.	Public safety, fit for purpose (safety in design) Note: Bricks not suitable for road paving.	Approx. 600m2 or 23,000 bricks on 45 pallets are to be salvaged. The exact location for reuse or interpretation is not yet established.
Coke screen house hoppers including mechanisms (similar to C2 hoppers but larger).		4	To be reused within public landscaping in the heritage precinct and within private open space in development lots.	Public safety, fit for purpose (safety in design) and maintenance.	4 Coke screen house hoppers including mechanisms are to be salvaged. The exact location for reuse or interpretation is not yet established.
C1 Ram car and Hot car tracks		Minimum 5 ovens of the hot car tracks, all of the ram car tracks	To be reused within public landscaping in the heritage precinct.	Public safety, fit for purpose (safety in design) and maintenance.	5 ovens of the hot car tracks, all of the ram car tracks are to be salvaged. The exact location for reuse or interpretation is not yet established.
Remnant railway tracks to the south of the quench towers		All	Reinstate within the new paving in the same location.	Public safety, fit for purpose (safety in design) and maintenance.	The railway tracks are to be salvaged and reinstated under the heritage precinct DA.

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city of innovation

WOLLONGONG CITY COUNCIL

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ATTACHMENT 9 – DRAFT CONDITIONS (DA-2022/1249)

For Office Use Only – Do Not Mail

Consent has been granted subject to the following conditions:

1. Approved Plans and Supporting Documentation
Development must be carried out in accordance with the following approved plans and supporting documentation (stamped by Council), except where the conditions of this consent expressly require otherwise.

Plan No	Revision No	Plan Title	Drawn By	Dated
MKR00452-00-SK025	P6	Building Demolition Layout Plan	Maker Eng	30 May 2023
MKR00452-00-SK027	P6	Existing Building & Structure Layout Plan	Maker Eng	30 May 2023

Document Title	Version No	Prepared By	Dated
Heritage Impact Statement	03	Urbis	1 November 2022
Heritage Interpretation Strategy	06	Urbis	25 February 2022
Conservation Management Strategy	04	Urbis	
Demolition Noise & Vibration Management Report (TK577-03F02)	1	Renzo Tonin & Associates	3 March 2023
Demolition Work Plan	02	Liberty Industrial	28 September 2022
Corrimal Cokeworks Microbat Management Plan	3	ecological Australia	19 April 2023
Preliminary Hazardous Materials Assessment	1	Reditius	27 September 2022

In the event of any inconsistency between the approved plans and the supporting documentation, the approved plans prevail. In the event of any inconsistency between the approved plans and a condition of this consent, the condition prevails.

Note: an inconsistency occurs between an approved plan and supporting documentation or between an approved plan and a condition when it is not possible to comply with both at the relevant time.

General Conditions

2. Project Ecologist
A project ecologist shall be engaged for the duration of the works and oversee all demolition and associated works that may disturb or harm threatened species across the broader site, including Grey-headed Flying-foxes and Large Bent-winged Bats.

3. Timing of Demolition Works
The timing of the demolition works shall be managed to ensure that bat exclusion activities, as outlined in the Microbat Management Plan (Ecological Australia, 19 April 2023), occurs only between the months of October to March, when bats have finished hibernation and females have generally left the over-winter roosts for maternity caves.

4. Microbat Management Plan
The Microbat Management Plan, prepared by Ecological Australia and dated 19 April 2023, is to be implemented in its entirety under the supervision of the project ecologist. Exclusion works are to occur only between the months of October to March, when bats have finished hibernation and females have generally left the over-winter roosts for maternity caves.

5. Report from Supervising Ecologist
Within two (2) weeks of the completion of demolition works, the supervising ecologist shall submit a written report to Council's Environmental Assessment Officer. The report shall include details on the implementation of the microbat exclusion operation, and any observations and actions related to the Grey-headed Flying-foxes during the demolition works.

6. Tree Removal
This consent authorises removal of vegetation on structures approved for demolition and within the area identified as "Berm L" on the endorsed Demolition Plan only.

Prior to the Commencement of Work

7. Appointment of Principal Certifier
Prior to commencement of work, the person having the benefit of the Development Consent and a Construction Certificate must:

a. appoint a Principal Certifier and notify Council in writing of the appointment irrespective of whether Council or a Registered Certifier is appointed; and

b. notify Council in writing of their intention to commence work (at least two [2] days notice is required).

The Principal Certifier must determine when inspections and compliance certificates are required.

8. Updated Heritage Interpretation Strategy and Detailed Plan for Demolition Stage
An updated Heritage Interpretation Strategy (HIS) for the whole site and detailed Heritage Interpretation Plan for the consent area is to be prepared and provided to Council's Heritage Staff for written approval prior to works commencing.

The updated document will need to respond to the Heritage Interpretation Strategy, (Urbis, 2022) the NSW Heritage Site Specific Exemptions, as well as providing further detail about the materials proposed to be salvaged, their safe storage and proposed reuse on the site as part of future redevelopment works. The proposed outcomes should be clearly indicated for each stage of the development and include information on the indicative timing for the installation work(s).

The document should include detail on the following outstanding matters (non-exhaustive):

- Response to Table 6.4 of the HIS, which provides specific details on a range of materials to be savaged following demolition;
- Details on the removal, secure storage and reinstallation of the remnant railway track(s);
- Removal, secure storage and reinstallation of some materials to interpret the Grinding Plant in a publicly accessible location within the site;

The document should also respond to the recommendations of the Waters (2023) Cultural Values Report and provide for culturally appropriate Aboriginal Cultural Interpretation outcomes across the site.

The document will be required to be further development into a detailed Heritage Interpretation Plan for the broader site as the staged development progresses.

9. Structural Assessment and Protection of Structures
Further structural assessment and controls are required to be provided by a suitably qualified structural engineer to Council's Heritage Staff for written approval, prior to works commencing.

a. A suitably qualified structural engineer is to design, document, and sign off appropriate protection for retention of the following structures during demolition including the Brick

Chimney and the C1 Stack as well as provide recommendations for their stabilisation until a future development application is lodged for their interpretation or reuse;

b. A suitably qualified structural engineer is to design, document, and sign off the methodology for the retention of C1 Coke Ovens, including exhaust hoods identified during, and following the demolition works, including securing the hoods as well as provide recommendations for their stabilisation until a future development application is lodged for their interpretation or reuse;

c. A suitably qualified structural engineer is to design, document, and sign off details in relation to the retention of the Remnant Powerhouse including securing and retaining on site during and following demolition, prior to any new supporting structure being constructed as part of a future development application. This documentation is required to provide satisfaction that this wall can be safely and securely retained without its structural integrity being compromised.

10. Updated Demolition Management Plan

The Demolition Works Plan (Appendix F) Provided by Liberty Industrial is to be updated and provided to Council's Heritage staff for written approval prior to works commencing to address the following:

a. Reflect the updated Demolition Plan prepared by Maker Eng plan MKR00452-00-SK027, A1 revision P6 that includes retention of the whole Powerhouse Building.

b. Retention of railway lines in situ.

c. Provide detail of how materials identified for reuse or interpretation will be salvaged, and stored to ensure compliance with the endorsed Heritage Interpretation Plan and not damaged during demolition. This should include details relating to safe storage, including consideration of proposed subdivision and potential future title arrangements;

d. Integrate the recommended safeguards and the approved methodology for protection and retention of the C1 Stack, Brick Chimney and C1 Coke Ovens as per the endorsed structural engineering advice.

e. Provide detailed guidelines and Safeguards in consultation with a suitably qualified archaeologist in relation to limiting ground disturbance as per recommendations of the Historic Archaeological Report to ensure that potential Archaeological components including underground components of the early flue network are retained and not impacted by the proposed work (this will require archaeological input). The potential impacts of machinery use, vehicle access, construction activities, associated vibration and other site activities should be considered.

11. Historic Archaeological Report

A historic archaeological report, or written archaeological advice prepared by a suitably qualified archaeologist that directly responds to Recommendation 26 of the Conservation Management Strategy (Urbis 2021) is required to be prepared and provided to Council's Heritage Staff prior to the commencement of works.

The Report is required to confirm details about the location, extent, nature and management of the flue network (and other subsurface elements) during the demolition works and should include mapping of any elements of archaeological potential and significance within the demolition works area.

12. No Ground Disturbance or Impact to Historic Archaeology

This consent does not authorise any ground disturbance in areas identified by the above Historic Archaeological Report as having archaeological potential relating to the flue network or any impacts to any archaeological features. A modification to the consent as integrated development under the NSW Heritage Act 1977, will be required if any impacts to this archaeology is proposed. This includes retention of the railway lines, which are not approved for removal/demolition under this consent or Figure 25 of the HIS.

13. Consultant Monitoring

The applicant is required to nominate a suitably qualified Heritage Consultant to Wollongong City Council to monitor the demolition of works on the site. The heritage consultant engaged must oversee the work with all relevant contractors to ensure the demolition process and salvage methodology is in accordance with the approved Demolition Management Plan.

14. Environmental Management Plan

The submission of a detailed Environmental Management Plan which addresses but is not limited to, the following issues:

a. Introduction.

b. Project Description.
This section should include:

   i. Timing and duration of works.
   ii. location of work sites offices, compounds, stockpiles and refuelling areas.
   iii. a description of the site and surrounds and location of environmentally sensitive areas.

c. Objectives of the CEMP.
This section should state what the CEMP is trying to achieve.

d. Context of the CEMP.
This section should specify how the CEMP fits into the planning process of the project.

e. Planning Project Environmental Actions.

f. Environmental Impact Assessment (EIA) Obligations.
This section should identify all EIA documentation related to this project.

g. Environmental Aspects.
This section should reference or describe the aspects and impacts associated with the construction activities. Each impact should be assigned a risk ranking of low, medium or high. Control measures should be selected for all impacts ranked as medium or high. Low risk impacts should be monitored to ensure that they do not increase.

h. Legal and Other Requirements.
This section should detail the legislative requirements of the work, and all other specifications.

i. Supplementary Environmental Plans.
These include:

   i. Erosion and Sediment Control Plan (ESCP) or Soil and Water Management Plan (SWMP).
   ii. Note: Requirements for ESCPs and SWMPs are provided in “Managing Urban Stormwater: Soils and Construction” Landcom, 2004.
   iii. Noise and Vibration Management Plan.
   iv. Landscaping and Revegetation Plan.
   v. Flora and Fauna Management Plan.
   vi. Traffic Management Plan/Traffic Control Plan (TCP).
   vii. Air Quality Management Plan.
   viii. Waste Management Plan.
   ix. Acid Sulfate Soil Management Plan (ASSMP).
   x. Indigenous and European Heritage Plan.
   xi. Contaminated Soil Management Plan.

j. Implementation.

k. On-site Structure and Responsibility.
This section should state the duties and responsibilities of all contractors and sub-contractors working on site and the relationship between these parties.

l. Training, Awareness and Competence.
This section should detail the environmental training that all site personnel are required to undertake. Environmental training should include:

i. Knowledge and understanding of the CEMP.
ii. Site induction, and may include:
- Emergency response training.
- Familiarisation with site environmental controls.
- Erosion and sediment control training.

m. Communication.
This section should include how the contractor plans to keep affected residents informed as to the nature and scope of works, the type of consultation and frequency. This section should identify and list details for relevant external stakeholders such as:

i. EPA.
ii. NPWS.
iii. NSW Fisheries.
iv. DPE.
v. Aboriginal Groups.
vi. Council.

This section should also detail the procedures for the notification of complaints and identify the person responsible for its maintenance and follow up action.

n. Emergency Planning and Response.
This section should detail the procedure to be followed in the event of an environmental emergency. An environmental emergency is any event that causes or has the potential to cause environmental damage. The procedure needs to include:

i. The names of key emergency response personnel.
ii. Personnel responsibilities and contact details.
iii. Contact details for emergency services (ambulance, fire brigade, spill clean-up services).
iv. The location of on-site information on hazardous materials, including SDSs and spill containment material.
v. The procedure to follow to minimise/control the emergency.
vi. Procedures for notifying the Superintendent, the public and/or EPA.

Emergency Response Contacts should be listed in table form.

o. Auditing and Monitoring.

p. Environmental Action Monitoring.
This section should detail how all environmental actions identified in Section 2 are going to monitored and verified. This section should also detail or refer to a procedure to ensure that all monitoring results that exceed set criteria are acted on quickly and that the appropriate regulatory authorities are notified.

q. Auditing.
This section should detail audit criteria, frequency and scope.

r. Non-Conformance and Corrective and Preventive Action.
This section should state how these items should be addressed.

s. Review of CEMP.
This section should detail the procedure and frequency of reviewing the CEMP and how those using it will be aware of changes.

t. Appendix 1 - Environmental Action Table.
The Environmental Action Table should provide sufficient information to ensure effective and efficient on-site environmental management. The Environmental Actions Table should include all environmental actions that were identified in Section 2.0 of the CEMP. The Environmental Actions Table must clearly convey what action is required, when it needs to be done and who is supposed to do it.

u. Appendix 2 - Environmental Action Monitoring Table.
This section should detail how all of the environmental actions listed in Appendix 1 are going to be monitored and verified. The monitoring must clearly convey what monitoring is required, when the monitoring is to take place and who is to do it.

15. Dust Suppression Measures
The submission of details of the proposed dust suppression measures for the demolition, excavation and construction phases of the development to the Principal Certifier prior to issue of works commencing.

16. Dust and Air Quality Management Plan
A detailed Dust and Air Quality Management Plan shall be submitted to the Principal Certifier for approval, prior to works commencing. The plan shall include provisions for real-time dust and air quality monitoring.

17. Demolition Noise & Vibration Management
Prior to commencement of any demolition works, the Demolition Noise & Vibration Management Report (Renzo Tonin & Associates, 3 March 2023) is to be revised and submitted to the Principal Certifier for approval. The revised plan shall ensure that attended and unattended noise monitoring is located at the points of the closest sensitive receivers. The plan is to also include physical barriers/acoustic hoardings around the site as a key measure to manage noise impacts.

18. Threatened Species Licence
Prior to the commencement of any works on site, the applicant shall obtain a valid Threatened Species Licence under Part 2 of the *Biodiversity Conservation Act 2016* from DPIE for potential impact to Grey-headed Flying-foxes at the site. The licence shall be valid for the entire duration of the works and all conditions of the licence must be adhered to.

A copy of the licence shall be provided to Council for their records, and to assist with responding to any community enquiries or concerns.

19. Dilapidation Report
The developer shall submit a Dilapidation Report recording the condition of the existing streetscape, street trees and adjoining reserve prior to work commencing and include a detailed description of elements and photographic record.

20. Works in Road Reserve - Minor Works
Approval, under Section 138 of the Roads Act must be obtained from Wollongong City Council's Development Engineering Team prior to any works commencing or any proposed interruption to pedestrian and/or vehicular traffic within the road reserve caused by the construction of this development.

The application form for Works within the Road Reserve – Section 138 Roads Act can be found on Council's website. The form outlines the requirements to be submitted with the application, to give approval to commence works under the Roads Act. It is advised that all applications are submitted and fees paid, five (5) days prior to the works within the road reserve are intended to commence. The Applicant is responsible for the restoration of all Council assets within the road reserve which are impacted by the works/occupation. Restoration must be in accordance with the following requirements:

a. All restorations are at the cost of the Applicant and must be undertaken in accordance with Council's standard document, "Specification for work within Council's road reserve".

b. Any existing damage within the immediate work area or caused as a result of the work/occupation, must also be restored with the final works.

21. Prior to Clearing

Prior to the commencement of any clearing works the extent of clearing as shown on the approved plans must be accurately surveyed/measured and marked on the ground with temporary barrier fencing or similar visible material to aid in the selection of trees to be retained. Temporary fencing must remain in place until all works are completed. Fencing must not encroach on existing vegetation.

22. Pre-Clearing Fauna Survey

A pre-clearance survey shall be undertaken to identify any roosting or nesting fauna (including drays and hollows) which are present within all trees proposed for removal or trimming. This work shall be conducted by an appropriately qualified and experienced ecologist on the afternoons and evenings prior to any vegetation clearing to collect and relocate any fauna.

The pre-clearance survey shall include flagging of all trees approved for removal or trimming.

All appropriate licences with respect to harming native fauna shall be obtained prior to any clearing.

In the case where any non-threatened fauna are observed a qualified wildlife carer shall be contacted to remove and relocate the animal/s prior to the clearance of these trees. In the event that any nesting threatened species are observed, clearance works shall be put on hold to allow for the chicks/young to fledge the nest.

23. Unexpected Contaminated Land and Asbestos Finds Procedure

The consent holder must ensure an Unexpected Contaminated Land and Asbestos Finds Procedure is prepared and submitted to the Principal Certifier before the commencement of works. The Unexpected Contaminated Land and Asbestos Finds Procedure must be followed should unexpected contaminated land or asbestos (or suspected contaminated land or asbestos) be excavated or otherwise discovered during the demolition works.

24. Signs regarding Contact Details for Demolition and Site Works Concerns

Prior to the commencement of works, signs are to be placed at key point on all site boundaries displaying the name and contact details of the Responsible Person(s) accountable for the following areas:

- General contact.
- Noise.
- Dust and air quality.
- Water quality and site runoff.
- Grey-headed Flying-foxes.
- Other fauna.

This information is to also be provided to all residents within a 300m radius by mail.

25. Demolition Works

The demolition of the existing structures shall be carried out in accordance with Australian Standard *AS 2601:2001: The Demolition of Structures* or any other subsequent relevant Australian Standard and the requirements of the SafeWork NSW, and with reference to the *Preliminary Hazardous Materials Assessment* prepared by Reditus and dated 27 September 2022 and any relevant detailed hazardous materials assessment for the site.

No demolition materials shall be burnt or buried on-site. The person responsible for the demolition works shall ensure that all vehicles leaving the site carrying demolition materials have their loads covered and do not track soil or waste materials onto the road. Hazardous and/or intractable wastes shall be disposed of in accordance with the Hazardous Materials Assessment and to the

satisfaction of Council. In the event that the demolition works may involve the obstruction of any road reserve/footpath or other Council owned land, a separate application shall be made to Council to enclose the public place with a hoarding or fence over the footpath or other Council owned land.

26. Demolition Works
Demolition works shall be carried out in accordance with the Demolition Work Plan approved by this consent.

27. Consultation with SafeWork NSW - Prior to Asbestos Removal
A licensed asbestos removalist must give written notice to SafeWork NSW at least five (5) days before any licensed asbestos removal work is commenced.

28. Hazardous Material Survey
At least one week prior to demolition, the applicant must prepare a detailed hazardous materials survey as recommended in the *Preliminary Hazardous Materials Assessment* prepared by Reditus and dated 27 September 2022. A report of the results of the survey must be submitted to Council. Hazardous materials includes, but are not limited to, asbestos materials, synthetic mineral fibre, roof dust, PCB materials and lead based paint. The report must include at least the following information:

a. the location of hazardous materials throughout the site;

b. a description of the hazardous material;

c. the form in which the hazardous material is found, e.g. AC sheeting, transformers, contaminated soil, roof dust;

d. an estimation (where possible) of the quantity of each particular hazardous material by volume, number, surface area or weight;

e. a brief description of the method for removal, handling, on-site storage and transportation of the hazardous materials, and where appropriate, reference to relevant legislation, standards and guidelines;

f. identification of the disposal sites to which the hazardous materials will be taken.

29. Demolition Notification - Large Scale Notification
At least five (5) days notice of the impending works must be given in writing to any residence or business within 300 metres of area of the site on which work is proposed. The written notice must include at least the following information:

a. A summary of the work plan and method for the demolition and a timetable for completion of works, including hours of operation, transport routes etc;

b. details of the primary contractor and/or company conducting the demolition works;

c. the name and telephone number for a person supervising the works to which residents can direct questions, comments and/or concerns about the works for the duration of the works.

30. Implementation of Dust and Air Quality Management Plan
The Dust and Air Quality Management Plan required and approved as part of this consent must be implemented in full.

31. Installation of Dust Deposition Gauges
The developer must install a network of dust deposition gauges at locations around the perimeter of the site determined in consultation with their air quality consultant. The gauges must be monitored daily with results submitted to Council on a weekly basis along with wind roses for each weekly monitoring period based on data from the nearest Bureau of Meteorology weather station.

32. Berm Removal
a. No materials generated as part of the berm demolition are to be re-used, buried or re-distributed onsite until:

i. The site's environmental practitioner validates the materials as suitable for all contaminants of potential concern;

ii. The samples must be in accordance with the NSW EPA Sampling Design Part 1 - Application, Contaminated Land Guidelines (August 2022);

iii. The site environmental practitioner provides stockpile validation reports confirming that the material is suitable to be re-used onsite;

iv. The stockpile validation reports are reviewed and the findings agreed to by the appointed NSW EPA Contaminated Land Site Auditor detailed within an Interim Site Audit Advice letter.

b. Soil materials generated as part of the berm demolition are to be stockpiled and appropriately protected in accordance with an endorsed sediment and erosion control plan.

c. Berm materials not suitable for re-use are to be incorporated into the remedial works proposed in the stage 1 bulk earthworks development application and detailed within the relevant Remediation Action Plan for that stage.

While Building Work is Being Carried Out

33. Trucks to be Covered
Trucks which are entering and leaving the premises and carrying loads must be sealed or covered at all times, except during loading and unloading.

34. Unexpected Finds of Aboriginal Cultural Heritage
If any Aboriginal object(s) is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must ensure:

a. No further harm is undertaken to the object(s);

b. Immediately cease all work at the particular location;

c. Secure the area so as to avoid further harm to the Aboriginal object(s);

d. Notify Heritage NSW as soon as practical by calling 131 555 or emailing: info@environment.nsw.gov.au, providing any details of the Aboriginal object(s) and its location;

e. Not recommence any work at the particular location unless authorised in writing by Heritage NSW;

f. If harm cannot be avoided, an Aboriginal Heritage Impact Permit (AHIP) under the NSW National Parks and Wildlife Act 1974 will be required prior to recommencing.

Wollongong City Council's Heritage Staff should also be notified by calling 4227 7111.

35. Disturbance of Grey-headed Flying-foxes – Stop Work
In the event that there is any unexpected or excessive disturbance or agitation of the Grey-headed Flying-foxes on the site during the demolition works, works are to cease immediately until advice and recommendations are obtained from the project ecologist. Disturbance may be signified by repeated lifting/flying of the bats, inability of the bats to settle, or re-lands or similar. Works are not to recommence until the project ecologist is satisfied that the bats will not be disturbed.

This condition does not override conditions or requirements of the Threatened Species Licence obtained for the works.

36. Construction Environment Management Plan Implementation
All works shall be carried out in accordance with the Construction Environment Management Plan approved by this consent. The CEMP (as revised from time to time) must be implemented for the duration of the works.

37. New Information/Unexpected Finds
In the event that demolition and/or construction works cause the generation of odours or the uncovering of previously unidentified contaminants or hazardous materials, works must immediately cease and the Principal Certifier and Council (in the event that Council is not the Principal Certifier) must be notified in writing within seven (7) days and an appropriately qualified

environmental consultant appointed to undertake an assessment of the potential contaminant and works required to make the site safe from potential human health and environmental harm.

38. Demolition Operations Not to Discharge Pollutants
Demolition operations must not lead to the discharge of materials into the stormwater drainage system or natural watercourse.

39. Demolition Materials - Disposal
All demolition materials not being reused on-site shall be disposed of only at a recycling or waste management facility that may lawfully receive that waste.

40. PCB Containing Electrical Equipment
If any metal cased capacitors are found during demolition works that were previously identified or unidentified, they shall be treated as containing Polychlorinated Biphenyls (PCBs). Details on storing, conveying and disposing of PCB material or PCB wastes can be found in *Polychlorinated Biphenyls Management Plan*, Environmental Protection & Heritage Council, Revised Edition April 2003.

41. Synthetic Mineral Fibre (SMF) Materials
All SMF containing materials must be removed in accordance with the National Standard for the Safe Use of Synthetic Mineral Fibres [National Occupational Health and Safety Commission:1004 (1990)] and the National Code of Practice for the Safe Use of Synthetic Mineral Fibres [National Occupational Health and Safety Commission:2006 (1990)].

42. Waste Inventory
A copy of the Waste Inventory which was maintained on-site during the demolition work and copies of relevant receipts of waste material being deposited at a waste disposal facility shall be forwarded to the Principal Certifier and Council's Regulation and Enforcement Division (in the event that Council is not the Principal Certifier), within fourteen (14) days of the completion of works.

43. Record of Dust Complaints and Incidents
A register is to be kept of all dust complaints and incidents for the duration of approved DA works. The register shall include, as a minimum:

- Date and time.
- Details of the complaint or incident.
- Identify cause(s).
- Record the measures taken to resolve the issue.

The register is to be made available to Council and the NSW EPA if requested.

44. Waste Inventory Report
A Waste Inventory Report must be maintained on-site during demolition work. The waste inventory is a register of all materials and waste removed from the site during the demolition work. The register must record each load or movement of material and waste from the site and must include at a minimum the following information:

a. The description of material (including identified hazardous material);

b. an estimate of the quantity by volume and weight;

c. the transporter and registration details of the relevant vehicle;

d. the intended destination of the material.

45. Site Management
Stockpiles of sand, gravel, soil and the like must be located to ensure that the material:

a. Does not spill onto the road pavement and

b. is not placed in drainage lines or watercourses and cannot be washed into these areas.

46. No Off-Site Effects of Dust
There shall be no noxious, dangerous, objectionable or offensive dust to the extent that it causes an adverse effect at or beyond the boundary of the site.

47. Implementation of Demolition Noise & Vibration Management Plan
The Demolition Noise & Vibration Management Plan revised and approved as part of this consent must be implemented in full.

48. Dust Suppression Measures
Activities occurring during the construction phase of the development must be carried out in a manner that will minimise the generation of dust.

49. Asbestos Clearance Certificate
The internal floor area affected or likely to be affected, by scattering of asbestos pieces, particles or fibres during demolition or cutting into the building, is to be cleaned by vacuuming by a contractor approved by SafeWork NSW. A Clearance Certificate to certify that the site area is free of asbestos is to be submitted to Council by a licensed asbestos assessor within 14 days of the completion of renovations (or prior to the Occupation Certificate being issued).

50. Asbestos Waste Collection, Transportation and Disposal
Asbestos waste must be prepared, contained, transported and disposed of in accordance with SafeWork NSW and NSW Environment Protection Authority requirements. Asbestos waste must only be disposed of at a landfill site that can lawfully receive this this type of waste. A receipt must be retained and submitted to the Principal Certifier, and a copy submitted to Council (in the event that Council is not the Principal Certifier), prior to commencement of the construction works.

51. Lead Based Paint
To prevent contamination of the soil and human health risks associated with lead dust, safeguards must be used when removing flaking paint or sanding paint surfaces that are suspected to contain lead.

52. Unexpected Archaeological Finds
Should an unexpected find be identified during ground disturbing works, work should cease and the area be cordoned off to prevent any further disturbance. The applicant should engage an archaeologist to assess the condition and significance of the find. Should the find be determined to be of heritage significance (local or State), the Heritage Council should be notified under s.146 of the NSW *Heritage Act 1977*. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area.

Works are not to recommence until advised in writing by Heritage NSW or Council's Heritage Staff.

53. Hours of Work
The Principal Certifier must ensure that building work, demolition or vegetation removal is only carried out between:

- 7:00am to 5:00pm on Monday to Saturday.

The Principal Certifier must ensure building work, demolition or vegetation removal is not carried out on Sundays and public holidays, except where there is an emergency.

Unless otherwise approved within a construction site management plan, construction vehicles, machinery, goods or materials must not be delivered to the site outside the approved hours of site works.

Any variation to the hours of work requires Council's approval.

Any request to vary the approved hours shall be submitted to the Council in writing detailing:

a. The variation in hours required (length of duration);

b. the reason for that variation (scope of works;

c. the type of work and machinery to be used;

d. method of neighbour notification;

e. supervisor contact number; and

f. any proposed measures required to mitigate the impacts of the works

Note: The developer is advised that other legislation, such as Noise Guidelines for Local Government January 2023, may control the activities for which Council has granted consent, including but not limited to, the *Protection of the Environment Operations Act 1997*.

54. Local Studies Library

Printed hard copies of the following documents, bundled together with a title page should be provided to Council for inclusion in the local studies library prior to the completion of works to the written satisfaction of Council's Heritage Staff.

- Archival Recording Prepared by Alexander Mayes.
- Historic Archaeological Report - to be prepared.
- Heritage Interpretation Plan - to be prepared.
- Connecting with Country and Cultural Values Report (Waters).
- Conservation Management Strategy (Urbis).
- Heritage Interpretation Strategy (Urbis).
- Final Works Report - to be prepared.

55. Final Works Report

The Heritage Consultant engaged is to provide a documented record of the works to Council on completion and a report setting out how the conditions of consent have been satisfied including retention and stabilisation of structures including C1 Stack, Brick Chimney, Powerhouse Building and Coke Ovens to the specifications of the structural engineering advice.

The storage of salvaged materials should also be clearly documented as per the approved Demolition Management Plan.

This record of works must be submitted to Council Heritage Staff's satisfaction prior to the completion of works.

Reasons

The reasons for the imposition of the conditions are:

1. To minimise any likely adverse environmental impact of the proposed development.
2. To ensure the protection of the amenity and character of land adjoining and in the locality.
3. To ensure the proposed development complies with the provisions of Environmental Planning Instruments and Council's Codes and Policies.
4. To ensure the development does not conflict with the public interest.