

Regrowth Kurri Kurri - Residential and Employment Rezoning

Application Number: 01657

Commencement Date: 14/02/2023

Status: Locked

1. About the project

1.1 Project details

1.1.1 Project title *

Regrowth Kurri Kurri - Residential and Employment Rezoning

1.1.2 Project industry type *

Commercial Development

1.1.3 Project industry sub-type

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1.1.4 Estimated start date *

01/10/2023

1.1.4 Estimated end date *

31/12/2035

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The Project area forms part of a large site within the Cessnock and Maitland Local Government Areas (LGAs) that was used for the former Hydro Aluminium Kurri Kurri Smelter (the smelter site) and adjacent buffer lands (buffer land). The Hydro smelter ceased operations in September 2012, with Hydro formally announcing its closure in May 2014. The Project area includes approximately 1,752 ha of land of which approximately 270 ha would be disturbed as a result of the proposed action, 716 ha would be avoided and 766 ha would be retained and conserved under a biodiversity stewardship site (BSS) agreement (refer to Att D, Project Area. PDF).

A portion of the former Hydro site has recently been rezoned by Cessnock City Council for employment and residential purposes. Given the scale and strategic location of the Hydro land, the proposal has the potential to play a key role in achieving the economic, employment and environmental objectives for the Hunter Region identified in the NSW State Plan 2021, Hunter Regional Plan 2036 and the Greater Newcastle metropolitan Plan 2036.

McCloy Project Group Pty Ltd (the proponent) is proposing to develop approximately 270 ha of the former Hydro site for purposes permitted under the new land zones (the proposed action). The proposal would include the development of residential, business, employment and public recreation areas as well as transport links and community infrastructure. Impacts within the 270 ha development

footprint would include the clearing of approximately 111 ha of native vegetation as well as the disturbance of 104 ha of exotic grassland, 48 ha of cleared land and 6 ha of constructed ponds and dams (for information on vegetation clearing refer to Att A Biodiversity Certification Assessment Report, Section 45-49 and Section 8.2, pp 141). The 111 ha of native vegetation that is proposed to be impacted includes habitat for a range of threatened biota listed under the EPBC Act (refer to Att A, Biodiversity Certification Assessment Report, Section 7.6, pp 120-121).

Activities associated with the proposal that would result in direct disturbance to native vegetation and fauna habitat include vegetation clearing, excavation activities, construction activities associated with access roads, water and electrical infrastructure as well as residential and employment infrastructure. Potential indirect impacts associated with the proposed action may include disturbance associated with noise, light and vibration during construction, potential spread of pests and pathogens, erosion and sedimentation and pollution (information on potential indirect impacts associated with the proposed action are described in Att A-Biodiversity Certification Assessment Report, Section 7.2, pp 109-102).

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

Yes

1.2.5 Provide information about the staged development (or relevant larger project).

The proposal will be developed in four separate stages as shown in Figure 9.1 of the project BCAR (Att A, Biodiversity Certification Assessment Report, Section 9.2.2, pp 147). This referral considers the potential impacts to MNES associated with all four stages of the proposed action.

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The planning proposal for the project was lodged in 2015 to amend the Cessnock City Council Local Environmental Plan 2011 to rezone parts of the former Hydro Aluminum site for future employment and residential development and subject to a Gateway determination under Section 56 of the Environmental Planning and Assessment Act 1979 (EPA Act). The rezoning was gazette in December 2022.

The *NSW Biodiversity Conservation Act 2016 (BC Act)*, together with the *Biodiversity Conservation Regulations 2017*, provides a mechanism to address impacts on biodiversity from land clearing associated with development, clearing or conferral of biodiversity certification. Under this legislation, there are provisions for a Biodiversity Offsets Scheme (BOS), which includes a framework to avoid, minimise and offset impacts of development on biodiversity.

As part of the rezoning an application for Biodiversity Certification under the Part 8 of the NSW BC Act has been submitted to the Biodiversity, Conservation and Science Directorate of the NSW Department of Planning and Environment (DPE). Biodiversity certification provides for a streamlined biodiversity assessment process for strategic or large developments.

Provisions to apply for biodiversity certification are contained within Section 8 of the BC Act.

Steps involved in biodiversity certification include:

- Planning and design of the development, including identifying the specific area that will be subject to the biodiversity certification application.
- Consultation with BCD and relevant local council/s.
- Preparation of a formal application. This involves an accredited assessor applying the BAM to the area subject to the biodiversity certification proposal and preparation of a BCAR to assess the impacts on biodiversity values of conferring biodiversity certification on the subject site and to quantify and describe the biodiversity credits required to offset the impacts of conferral of biodiversity certification on biodiversity values.
- Public consultation and notification of the proposal and response to any submissions.
- Determination of the application by the Minister for the Environment.
- Ongoing review and auditing of compliance activities.

After biodiversity certification is conferred on an area of land, development may proceed without the usual requirement under the *NSW Environment, Planning and Assessment Act 1995* (EP&A Act) for site-by-site threatened species assessment and no further assessments of threatened biota listed under the BC Act are required to accompany future Development Applications (DA's).

Parties to biodiversity certification are responsible for the implementation of the proposed conservation measures for the duration of the certification. Formal approval of the proposal cannot be granted until the approved conservation measures and required offsets have been secured (i.e. the approval of future DA's and Construction Certificates (CC's) can't be issued until approval conditions associated with the BCAR are met).

A Biodiversity Certification Assessment Report (BCAR) has been prepared in accordance with the Biodiversity Assessment Methodology (BAM) to support the planning proposal for the rezoning. The BCAR describes the ecological values at the site, with particular emphasis on Plant Community Types (PCTs), threatened ecological communities, populations and species. It assesses the impact of the proposal on biodiversity values, contains measures to avoid and minimise impacts to biodiversity values, describes and quantifies the biodiversity credits required to offset the residual impacts on biodiversity values. The BCAR has been uploaded as a supporting document for this Referral (Att A - Biodiversity Certification Assessment Report).

Other legislation relevant to the project includes:

NSW Biosecurity Act 2015

The *Biosecurity Act 2015* provides for risk-based management of biosecurity in NSW. It provides a statutory framework protect the NSW economy, environment and community from the negative impacts of pests, diseases and weeds. Two flora species listed as priority weed species in the Hunter Region were recorded in the project area (*Senecio madagascariensis* (Fireweed) and *Lantana camara* (Lantana)). In addition several high threat exotic weeds were also recorded within the project area. Mitigation measures to ameliorate potential impacts of priority and high threat weeds are provided in the project BCAR (Att A, Biodiversity Certification Assessment Report, Section 6.3.1, page 98).

NSW Fisheries Management Act 1994 (FM Act)

The objectives of the (FM Act) are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations. It provides for the listing of threatened species, populations and ecological communities, key threatening processes and requirements or otherwise for the preparation of a SIS. It is considered highly unlikely that the proposed action would impact on any threatened species or communities listed under the FM Act.

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act provides Significant impact guidelines for the assessment of MNES. The Protected Matters Search Tool (PMST) has been used to check which protected matters the proposal might affect. The project would involve potential impacts to several listed threatened species communities, described through this referral.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Engagement and consultation with public

Keeping the community informed about activities at the former Aluminum smelter and the future of the Hydro Land has been an integral activity in the development of the Project area. Several community engagement activities have been undertaken to inform the community about the proposed action and to identify the community's concerns and issues.

These include:

- Information and Feedback Mechanisms

A community website and means of contact have been established to provide the community with a range of ways to contact the Project team, gain access to information and provide comment on various aspects of the project. Information about the proposed action continues to be uploaded onto the project website to provide the community ready access to information about the Project.

- Community Reference Group

A Community Reference Group was established in 2014. The group is comprised of local community representatives with the following aims:

1. Create a forum for discussion and exchange of information on topics related to the Project.
2. Assist Hydro to understand the values, aspirations and preferences that the community has for the project area and identify related local issues that will need to be taken into consideration in the development, environmental assessment and management, construction/demolition and rezoning/divestment phases of the project.
3. Act as a communication link between Hydro, the community and other stakeholders. The first meeting of the Community Reference Group was held in July 2014 and it continues to meet on a bi-monthly basis. Minutes of the Community Reference Group meetings are posted on the Regrowth Kurri Kurri website (<https://regrowthkurrikurri.com.au/>)

- Community Drop-In Sessions

Community drop in sessions were held on 23 April 2015 (the former Smelter Site), 28 May 2015 (Weston), 2 June 2015 (Gillieston Heights) and 10 June 2015 (Kurri Kurri). The drop-in sessions were held to allow interested parties to ask questions about the Project and raise any concerns.

- Community Information Notices and Fact Sheets

Several Community Information Notices and Information Newsletters have been developed on the various aspects of the future of the Hydro Land, including the proposed action. This has included:

1. Information Notices in the Cessnock Advertiser and Maitland Mercury providing information on the future land uses at the Smelter and the Hydro Land.
2. Information Newsletters were placed on the Regrowth Kurri Kurri website.

Engagement and Consultation with Indigenous stakeholders

Aboriginal community consultation for the project's planning proposal was undertaken in accordance with OEH's Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010b) (the Consultation Requirements).

This extensive consultation process included several stages (described below). The results of the consultation process undertaken are summarised below, with further detail provided in the Aboriginal Cultural Heritage Assessment for the project (AECOM 2014) (Att B, Aboriginal Cultural Heritage Assessment _Part 1 Section 3, pp 14-22).

Stage 1 Notification and Registration The aim of Stage 1 of the Consultation Requirements was to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the Project area. This involved detailed consultation with Regulatory Agencies including:

- OEH - Hunter Central Coast Region Office
- Mindaribba Local Aboriginal Land Council (Mindaribba LALC)
- Office of the Registrar, Aboriginal Land Rights Act 1983 (NSW)
- The National Native Title Tribunal (NNTT)
- NTSCORP Limited
- Maitland Shire Council
- Cessnock Shire Council and
- Hunter-Central Rivers Catchment Management Authority (HCR CMA).

A public notice was also placed in the Maitland Mercury on 11 March 2014. The closing date for registration via this notice was 25 March 2014, which provided the necessary minimum 14 day period for expressions of interest. No responses to the notice were received prior to or after this date.

On 11 March 2014, a letter inviting expressions of interest and containing summary information on the project was sent to all Aboriginal persons and organisations identified by the regulatory agencies. A total of 75 Aboriginal stakeholders were invited to register an interest in being consulted. This resulted in a total of 27 parties registering an interest in the assessment. An additional five parties registered an interest after this date and were included in the consultation process. Summary information on all RAPs, including registration dates, is provided in Table 2 of the Aboriginal Cultural Heritage Impact Assessment (Att B- Aboriginal Cultural Heritage Assessment_Part 1, Section 1.8, pp 15).

Stage 2 - Presentation of Information about Project The aim of Stage 2 of the Consultation Requirements was to provide RAPs with information about the scope of the proposed project and the proposed cultural heritage assessment process. Presentation of information about the Project area and Hydro's planning proposal was provided to RAPs as part of the registration of interest process detailed above. Basic information on the proponent and planning proposal was included in the EOI letter mailed on 11 March 2014.

Stage 3 Gathering Information about Cultural Significance Stage 3 of the Consultation process involved consultation with RAPs regarding the cultural heritage values of the Project area including:

- A request with the draft assessment methodology for any initial comments regarding the Aboriginal cultural heritage values of the Project area
- Discussion of cultural heritage values during fieldwork; and
- The provision of a draft report to all RAPs for comment prior to finalisation.

Stage 4 - Review of Draft Assessment Report The aim of Stage 4 of the Consultation Requirements is to prepare and finalise an Aboriginal cultural heritage assessment report with input from RAPs. In accordance with Section 4.4.2 of the Consultation Requirements, on 7 November 2014, all RAPs were sent a draft of the Aboriginal Cultural Heritage Assessment for review and comment. The specified closing date for comments was 8 December 2014, which provided the necessary minimum 28 day review period. Two responses to the draft report were received from RAPs: one written and one verbal. Both responses are summarised in Table 5 of the Aboriginal Cultural Heritage Assessment (Att B, Aboriginal Cultural Heritage Assessment_Part 1, Section 3.5, pp 22). Written RAP responses to the draft report are attached as Appendix F within the Aboriginal Cultural Heritage Assessment (Att B, Aboriginal Cultural Heritage Assessment_Part 3, Appendix F).

Community consultation on BCAR

The project BCAR was placed on public exhibition from Monday 12 of September 2022 to Friday 14 October 2022. The public consultation included advertisements placed in the Sydney Morning Herald on the 12 September 2022 and the Cessnock Advertiser on 14th of September 2022. The BCAR document was available for public viewing through the Regrowth Kurri Kurri website (regrowthkurri.com.au/statutory-information) as well as the BCD have your say page (environment.nsw.gov.au/get-involved/have-your-say). A total of four public submissions were received through the BCD have your say page, these submissions are included in the response to public consultation document provided to BCD on 21 October 2022 (Att C - BCAR_response to public submissions).

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint. Alternatively, email us at privacy@awe.gov.au.

Confirm that you have read and understand this Privacy Notice *

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

| | |
|-----------------------------|---|
| ABN/ACN | 39008488373 |
| Organisation name | GHD PTY LTD |
| Organisation address | Level 3, 24 Honeysuckle Drive, Newcastle, NSW, 2300 |

Referring party details

| | |
|------------------|--|
| Name | Arien Quin |
| Job title | Senior ecologist |
| Phone | 0405443341 |
| Email | arien.quin@ghd.com |
| Address | 105 Hume Street, Wodonga, Victoria, 3690 |

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

| | |
|-----------------------------|-----------------------------------|
| ABN/ACN | 41613410450 |
| Organisation name | MCCLOY PROJECT MANAGEMENT PTY LTD |
| Organisation address | 2300 NSW |

Person proposing to take the action details

| | |
|------------------|--|
| Name | Harry Thomson |
| Job title | Development Manager |
| Phone | 02 4945 7500 |
| Email | harry@mccloygroup.com.au |
| Address | Suite 2, Ground Floor, 317 Hunter Street, Newcastle 2300 |

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

McCloy Management Pty Ltd has a satisfactory record of responsible environment management and does not have any history of irresponsible environmental management including any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

McCloy Management Pty Ltd do not currently have an environmental policy and planning framework documentation.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN 41613410450
Organisation name MCCLOY PROJECT MANAGEMENT PTY LTD
Organisation address 2300 NSW

Proposed designated proponent details

Name Harry Thomson
Job title Development Manager
Phone 02 4945 7500
Email harry@mccloygroup.com.au
Address Suite 2, Ground Floor, 317 Hunter Street, Newcastle 2300

1.3.4 Identity: Summary of allocation

✔ Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN 39008488373
Organisation name GHD PTY LTD
Organisation address Level 3, 24 Honeysuckle Drive, Newcastle, NSW, 2300
Representative's name Arien Quin
Representative's job title Senior ecologist
Phone 0405443341
Email arien.quin@ghd.com
Address 105 Hume Street, Wodonga, Victoria, 3690

✔ Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN 41613410450
Organisation name MCCLOY PROJECT MANAGEMENT PTY LTD

| | |
|----------------------------|--|
| Organisation address | 2300 NSW |
| Representative's name | Harry Thomson |
| Representative's job title | Development Manager |
| Phone | 02 4945 7500 |
| Email | harry@mccloygroup.com.au |
| Address | Suite 2, Ground Floor, 317 Hunter Street, Newcastle 2300 |

✔ Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

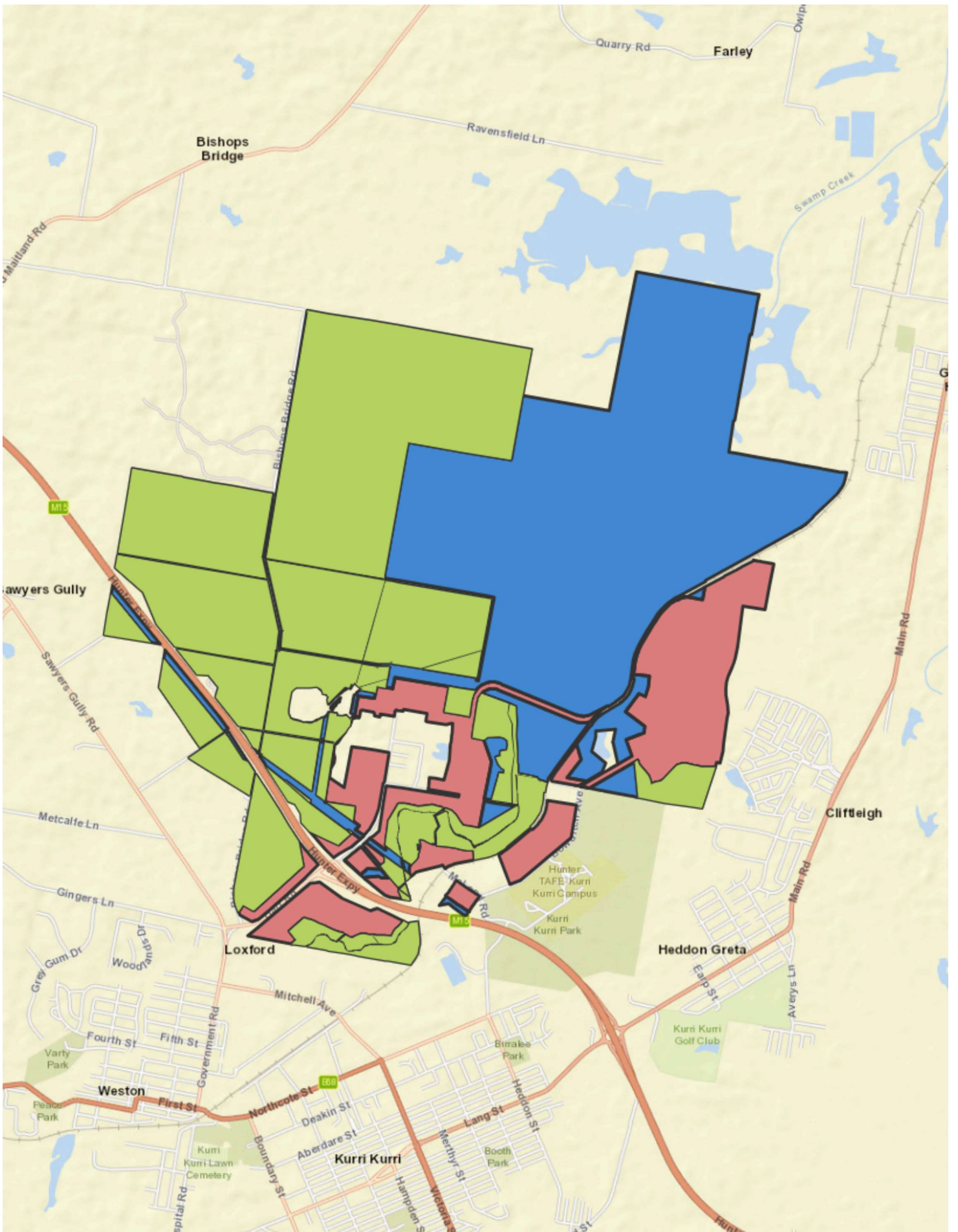
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Hart Road, Loxford, NSW

2.2.2 Where is the primary jurisdiction of the proposed action? *

New South Wales

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The project area is comprised of privately owned Freehold land. The site is currently covered by R2 (Low-density Residential), IN1 (General Industrial), B7 (Business Park), RU2 (Rural Landscape), SP2 (Infrastructure), E2 (Conservation) and RE1 (Public Recreation) land zones (refer Att A- Biodiversity Certification Assessment Report, Section 1, Figure 1.2, pp7).

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The project area is located off Hart Road, Cessnock Road and Bowdich Avenue in the suburb of Loxford, NSW. It lies approximately 30 km northwest of and 5 km southwest of Maitland in the Lower Hunter Valley of NSW. The Hunter Express Way runs beneath Hart Road and traverses the southwestern portion of the project area while the Aberdare Railway, which comprises part of the South Maitland Railway traverses the eastern third of the site (refer to Att A, Biodiversity Certification Assessment Report, Section 1, Figure 1-1, pp 6).

The area is currently zoned R2 (Low-density Residential), IN1 (General Industrial), B7 (Business Park), RU2 (Rural Landscape), SP2 (Infrastructure), C2 (Conservation) and RE1 (Public Recreation).

Swamp Creek, a fifth order stream, runs through the project area. This waterway drains in a northerly direction into a large wetland known as Wentworth Swamp (Att A- Biodiversity Certification Assessment Report, Section 1, Figure 1-1, pp 6). Additional drainage lines flow into this wetland area, including Black Waterholes Creek to the north-west of the subject site and Bishops Creek to the north. A small section of the creek intersects with the disturbance footprint near a proposed rail spur.

The north-eastern portion of the project area comprises large areas that have been historically cleared and utilised for cattle grazing. This land forms part of an agricultural property called Wangara that has been predominantly cleared and subject to long term cattle grazing. The north-eastern portion of the site contains scattered remnants of disturbed woodland as well as several patches of intact or relatively intact woodland.

To the northwest, the project area contains native vegetation that extends through to Werakata National Park which is located to the west and southwest of the project area, although connectivity to this park has been impacted by the construction of the Hunter Expressway. The large vegetated area in the northwestern portion of the project area will form a significant proportion of the proposed offset area for the proposed action (retention area).

The project area also contains several smaller rural residential lots, a small number of farm dams within the cleared agricultural lands as well as several constructed waterbodies associated with stormwater collection surrounding the former Hydro smelter site.

Refer to Att D - Project area figure for outline of Project area, disturbance footprint, retention area and avoidance area.

3.1.2 Describe any existing or proposed uses for the project area.

The project area forms part of an approximate 1900 ha land parcel within the Cessnock and Maitland Local Government Areas (LGAs) that was used for the former Hydro Aluminium Kurri Kurri Smelter and adjacent buffer lands. The Smelter ceased operations in September 2012, with Hydro formally announcing its closure in May 2014. Since 2014 remediation and demolition works have occurred within and surrounding the former smelter site.

The north-eastern portion of the project area comprises large areas that have been historically cleared and are currently utilised as part of an agricultural property called Wangara that has been subject to long term cattle grazing. The site also contains scattered remnants of disturbed woodland as well as several patches of intact or relatively intact woodland and open forest. There are a small number of farm dams within the cleared agricultural lands as well as several constructed waterbodies associated with stormwater collection surrounding the former smelter site.

The current land uses across the site include administration activities associated with the smelter site and cattle grazing across a large portion of the buffer land located in the northeast of the subject site. There is also several tracks and trails with evidence of informal recreational use including motorbike riding and walking. In the north, within patches of native vegetation there are a network of overgrown and unmaintained access trails.

Land uses surrounding the project area include RE1 (General residential), RE2 (Low density residential) and RE5 (Large lot (Rural) Residential). RU2 (Rural) lands occur to the north and west and RE1 (General residential), RE 5 (Large lot (Rural) Residential), IN2 (Light Industrial), IN 3 (Heavy Industrial) areas to the south and south east. Part of Wentworth swamp, which is zoned C2 (Environmental Conservation) are located in the north-east of the project area. This large swamp extends further to the north of the site (refer to land zoning map).

Surrounding townships include Abermain to the west- southwest, Heddon Greta and Cliftleigh to the southwest, Weston to the southwest and Gillieston Heights to the northeast. Parks and reserves in the surrounding area, include the Werakata National Park to the west and southwest, Cessnock State Forest to the west, the Lower Hunter National Park to the south and the Heddon Greta Reserve to the southeast.

Future land uses within the proposed action area would be consistent with land zoning under the local LEP including residential and industrial areas, a business park, community open space and transport infrastructure. A large portion of the project area (approximately 765 ha) is proposed to be conserved as a biodiversity stewardship site that would be established to offset impacts associated with the proposed action and to protect and improve biodiversity values.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The project area does not include any outstanding or unique natural features but contains native vegetation of conservation value, including threatened ecological communities and habitat for threatened species and migratory species (refer to Attachment A, Section 5, pp 76-93).

Nature reserves within the local area include the Werakata National Park, located approximately 5 km to the west of the proposed action area and Sugarloaf State Conservation Area, located approximately 7 km to the south.

There are no outstanding natural features or unique values that have been identified within the project area.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The project area is located within the Central Lowlands subregion of the Hunter Valley and cross cuts the “Lower Hunter Plain” and “East Maitland Hills” physiographic regions defined by Matthei (1995).

The topography of the project area typically consists of flat to low undulating hills in the northwest and south of the site that grade into low-lying swampy floodplains surrounding Wentworth Swamp in the north-central portion of the site. This swamp forms a large freshwater wetland system that covers an area of approximately 1,300 ha downstream of Kurri Kurri, part of which is situated within the north-eastern portion of the project area, approximately 1.2 km north of the proposed action.

In the southern half of the project area, flood prone creek flats occur in association with Swamp and Black Waterholes Creeks, as well as two of their unnamed higher order tributaries.

Several elevated flats, are also present within the project area, with the largest and most prominent of these occurring where the former Hydro smelter site was located. Low undulating hills within the easternmost portion of the project area form part of a larger, north-north-easterly trending belt of elevated undulating terrain that forms the watershed between the Swamp Creek and Wallis Creek catchments.

Elevations within the Project area range from 2 to 47 m AHD providing a total local relief of up to 45 m. Slopes are predominantly very gently (1-3%) to gently (1-10%) inclined.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Detailed biodiversity surveys have been completed across the affected areas of the project area as part of the project BCAR (Attachment A). In addition to these, surveys have been completed across the proposed Biodiversity Stewardship Site (retention area). Numerous historical ecological assessments have also been completed across the wider project area. These historical assessments were reviewed and used to help inform the ecological assessments completed for the proposed action.

Staged surveys of the proposed action area were conducted for the project BCAR with reference to the NSW Biodiversity Assessment Method (BAM) and appropriate threatened species survey guidelines for targeted species. Site surveys have included:

- Initial site stratification, preliminary investigation of biodiversity values and vegetation mapping
- Vegetation integrity plots
- Incidental threatened flora surveys
- Opportunistic fauna surveys
- Habitat assessments
- Targeted surveys for threatened flora
- Targeted surveys for threatened fauna.

Further detail regarding methods and effort associated with ecological surveys completed within the project area in accordance with the BAM are provided in the project BCAR (Attachment A, Section 2, pp 9-35).

Flora

A total of 196 flora species from 54 families were recorded within the proposed action area, comprising 151 native and 45 exotic species (seven of which are classified by the BAM as high threat weeds). The Poaceae (grasses, 34 species, 22 native), Myrtaceae (shrubs and trees, 27 species, all native), Fabaceae (Faboideae) (shrubs and other groundcovers, 19 species, 15 native) were the most diverse families recorded.

Two of the flora species recorded as listed as threatened species under EPBC Act:

- Small-flower Grevillea (*Grevillea parviflora* subsp. *parviflora*), which is listed as a vulnerable species under the BC Act and EPBC Act.
- Earp's Gum (*Eucalyptus parramattensis* subsp. *decadens*) which is listed as a vulnerable species under the BC Act and EPBC Act.

One additional threatened flora species (Bynoe's Wattle (*Acacia bynoeana*)) which is listed as a vulnerable species under the EPBC Act) has previously been recorded within the proposed action area. Although not recorded during targeted surveys completed for the BCAR, this species is assumed to be present given it can be inconspicuous and may persist in the soil seed bank.

Fauna

A total of 131 fauna species (126 native and five exotic) were recorded within the proposed action area. The faunal assemblage comprises 87 bird species, ten frog species, six reptile species and 28 mammal species.

The following EPBC listed species were recorded at the site (foraging habitat only):

- Grey-headed Flying-fox (*Pteropus poliocephalus*) (listed as a vulnerable species)
- Large-eared-Pied Bat (*Chalinolobus dwyeri*) (listed as a vulnerable species).

The project area or its surrounds does not contain any cliff lines, extensive rock outcrops, caves or disused mines that would provide roosting/breeding habitat for microbats, including the Large-eared Pied Bat.

The project area contains suitable foraging habitat for two additional EPBC listed threatened species:

- Swift Parrot (*Lathamus discolor*) (listed as a critically endangered species)
- Regent Honeyeater (*Anthochaera phrygia*) (listed as a critically endangered species).

The proposed action area includes a small section of Swamp Creek, which may provide a small amount of breeding, foraging and shelter resources for common frogs, reptiles, birds and some species of microbats. The creekline is not likely to provide habitat for threatened fish as none are known to occur in the Wallis Creek catchment (DPI 2023).

Detailed descriptions of the flora and fauna values within the proposal site are provided in the Project BCAR (Appendix A, Section 4, pp 46-75).

Plant Communities

Field surveys confirmed the presence of five PCTs within the proposed action area. These include:

- Cabbage Gum – Rough-barked Apple grassy woodland on alluvial floodplains of the lower Hunter (PCT 1594)
- Grey-Gum – Rough-barked Apple shrubby open forest of the lower Hunter (PCT 1591)
- Spotted Gum – Red Ironbark – Narrow-leaved Ironbark – Grey Box shrub grass open forest of the lower Hunter (PCT 1600)
- Parramatta Red Gum – Narrow-leaved Apple – Prickly-leaved Paperbark shrubby woodland in the Cessnock-Kurri Kurri area (PCT 1633)
- *Typha* rushland (PCT 1737).

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Vegetation

The proposed action area is located at the western extent of the Hunter delta, which includes a broad expanse of floodplains, swamps and channels extending 35km inland from the coast at Newcastle.

The area includes patches of woodland and open forest as well as areas of predominantly exotic grassland that have resulted from land clearing associated with historic and ongoing grazing practices as well as disturbed areas around the former smelter site.

There is a total extent of approximately 111 ha of native vegetation within the proposed action area. Of this 65.11 ha is comprised of intact remnant woodland patches and 45.71 ha has been substantially modified. There is a further 104 ha of mixed grassland that is predominantly exotic grasses and forbs with a small number of native species present and does not comprise "native vegetation" according to the BAM.

The condition of native vegetation patches within the site varies from relatively intact to highly disturbed. Plant communities within the project area are further described and mapped within project BCAR, (Attachment A, Section 4 pp 47-73)

Threatened Ecological Communities (TECs)

Four endangered ecological communities (EECs) listed under the *Biodiversity Conservation Act 2016* (BC Act) and one critically endangered ecological community (CEEC) listed under the EPBC occur within the proposed action area.

- Vegetation mapped as PCT 1594 comprises an occurrence of River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner Bioregions EEC. Parts of this community also meet the condition thresholds for the CEEC listed under the EPBC Act as River-flats Eucalypt Forest on Coastal floodplains of southern NSW and eastern Victoria.
- Vegetation mapped as PCT 1491 comprises part of an occurrence of Hunter Lowland Red Gum Forest in the Sydney Basin and New South Wales North Coast Bioregions which is listed as an EEC under the BC Act.

- Vegetation mapped as PCT 1600 comprises part of an occurrence Lower Hunter Spotted Gum – Ironbark Forest in the Sydney Basin and NSW North Coast Bioregions which is listed as an EEC under the BC Act.
- Vegetation mapped within the site as PCT 1633 comprises part of an occurrence of Kurri Sand Swamp Woodland in the Sydney Basin Bioregion which is listed as an EEC under the BC Act.

A detailed discussion and mapping of TECs within the development footprint are provided in the project BCAR (Attachment A, Section 5, pp 88-91).

A figure showing the occurrence of River-flat Eucalypt Forest on Coastal floodplains of southern NSW and eastern Victoria CEEC is included as Figure 5.2 of the project BCAR (Attachment A, Section 5, pp 92).

Habitat Resources

Vegetation at the site provides the following habitat features and resources:

- Mature canopy trees that provide nectar, fruits, leaves and foraging, roosting or nesting substrates, including supporting invertebrate prey diversity for insectivorous fauna
- High cover of blossom-bearing trees, including highly productive Eucalyptus species
- Several small farm dams that would provide foraging and breeding habitat for a range of species including waterbirds, amphibians and some species of microbat
- Large, hollow-bearing trees, including hollows in a range of size classes from <5 cm up to >50 cm diameter hollow
- Leaf litter and fallen logs, which provide foraging and shelter substrate for small terrestrial animals
- Presence of drainage lines and pools of standing water surrounded by vegetation
- Presence of culverts which provide potential roost sites for microbats
- Burrows, dens and warrens as well as scattered patches of dense understorey shrubs providing refuge habitat for small terrestrial animals
- Flowering myrtaceous trees, specific food trees (e.g. *Allocasuarina*) and shrubs which provide foraging habitat for a range of arboreal mammals and birds
- Approximately a third of the site (107 ha) consists of cleared land used for grazing that would provide foraging habitat for macropods, raptors and some species of microbats.

Soil conditions

Four soil landscapes have been mapped within the development footprint including Neith (S1560nh), Bolwarra Heights (9232bh), Bolwarra Heights variant a (9232bha) and Hunter (S1560hu). Soil landscapes reports pertaining to the project area and surrounding buffer area indicate that soils associated with the landscape have a minor to severe potential for erosion. The areas of severe potential for erosion are associated with the grey solodic soils common in areas of undulating low rises and swamps. Areas mapped as having minor potential for erosion area associated with the well-drained conglomerate soils which can be characteristic of tall-open forests (DPIE 2020c). The project area is also located within a mine subsidence district, with occasional pockets of the site being subject to apparent mine subsidence (DFS - Spatial Services, 2012). This has led to erosion of some areas over time, where water has naturally collected and caused increased surface runoff and subsequent soil erosion. There is a high probability that Acid Sulphate Soils occur within small areas within the project area (DPIE, 1998; Naylor et al., 1998). These occurrences have been estimated to occur from 2-4 m below ground surface.

Details regarding the soils and geomorphology of the project area can be found in the project BCAR (Attachment A, Section 3, pp 39) and the Aboriginal Cultural Heritage Assessment (Attachment B, Section 4.5, pp 29-33).

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

A Historic Heritage Assessment and Statement of Heritage Impact Report was undertaken to assess the heritage significance of the proposed action area and the impact the proposed redevelopment of the Hydro land (RPS 2015) (refer to Att D -Historic Heritage Assessment). Several historic heritage and potential historic heritage items were investigated as part of the assessment including:

- The Hydro Aluminium Kurri Kurri Smelter Plant
- The South Maitland Railway
- The Stanford Railway
- Glen Ayr Colliery
- The Weston Soldier Settlement
- A rubbish depot.

The heritage significance assessment determined none of the above sites required retention and that there were no items of State or National heritage significance in the project area.

For further detail on heritage values of the project area refer to the Historic Heritage Assessment and Statement of Heritage Impact Report (RPS 2015) (Att E- Historical Heritage Assessment).

3.3.2 Describe any Indigenous heritage values that apply to the project area.

An Aboriginal cultural heritage assessment was completed across the Hydro Aluminium Smelter Site and associated buffer land as part of the rezoning planning proposal. This includes the proposed action area and associated retained lands (proposed stewardship site) (AECOM 2014) (refer to Att B - Aboriginal Cultural Heritage Assessment).

The Aboriginal cultural heritage assessment was compiled with reference to the NSW Office of Environment and Heritage's (OEH) Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) (see Att F -Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW) and Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b) (the 'Code of Practice') (see Att G Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales). Archaeological survey of project area was undertaken over an eight day period between 23 June 2014 and 2 July 2014 by a combined field team of two archaeologists and up to six rostered Registered Aboriginal Party (RAP) field representatives per day.

Consideration of the distribution of identified Aboriginal archaeological sites in relation to the Masterplan for the site indicates that 50 sites, including five out of eight sites assessed as being of moderate scientific significance, are located in conservation, rural land use and riparian corridor areas (or combinations thereof). These sites are unlikely to be directly impacted by future residential and employment-related development works within the project area. A further four sites, two of which have been assessed as being of moderate scientific significance, extend into areas earmarked for employment land uses but are located principally in conservation or riparian corridor areas. While recognising the potential for site impacts through environmental management works and ongoing rural land use activities, collectively, these 54 sites are considered to represent a significant preservation outcome for the surface Aboriginal archaeological record across the site.

Compared with residential and employment-related development works, environmental management (proposed stewardship site) and ongoing rural land use activities are deemed significantly less likely to result in the destruction of identified sites. All remaining Aboriginal archaeological sites within the Project area (n = 31) are likely to be directly impacted by the proposed action. Impacted sites include 30 sites of low scientific significance and one site of moderate scientific significance. Archaeologically, the potential loss of these sites is considered to be offset by the retention, in conservation, rural land use and riparian corridor areas, of fifty-four sites of equal or greater scientific significance. The Aboriginal Heritage assessment consider the suitability of the Preliminary Masterplan with respect to the archaeological sensitivity of land within the project area and determined that it would result in a significant preservation outcome for land of high archaeological sensitivity, with the majority comprising conservation and rural land use land that will not be impacted by the proposed action.

In particular, the majority of the highly sensitive land associated with Black Waterholes Creek, Swamp Creek and Wentworth Swamp will be retained in conservation, rural land use and riparian corridor areas. Land of low archaeological sensitivity will also be well represented in areas zoned for conservation and continuing rural land use activities.

The proposed development footprint within the project area correspond principally with areas of low to nil archaeological sensitivity (AECOM 2014). Management recommendations for identified Aboriginal heritage constraints within the project area are provided in the Aboriginal cultural heritage assessment for the project (AECOM 2014) (Att B- Aboriginal Cultural Heritage Assessment- Part 2, Section 10, pp 127-129).

Subject to the implementation of these management and mitigations measures, it is predicted that the impact of the proposed action on the identified Aboriginal cultural heritage values of the project area will be low on both a local and regional scale (AECOM 2014) (Att B- Aboriginal Cultural Heritage Assessment- Part 2, Section 9).

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Hydro landholdings are situated within the Swamp Creek catchment of the Hunter Valley, with the exception of a small portion of the landholdings in the east that fall into the Wallis Creek catchment at Testers Hollow. The Swamp Creek catchment extends from Abernathy in the south, west to Kearsley, Neath and Sawyers Gulley, and from Elrington through to Kurri Kurri and Clifftleigh in the east. Swamp Creek

joins with Wallis Creek in the north at Louth Park, before joining the Hunter River near Horseshoe Bend and Lorn. The project area also contains the southern part of the regionally significant Wentworth Swamp, a permanent wetland system, that covers an area of approximately 1,300 hectares downstream of Kurri Kurri.

Named watercourses within the project area include Black Waterholes Creek and Swamp Creek, both of which discharge into Wentworth Swamp. Black Waterholes Creek enters the Project area to the west of the former Hydro smelter site as a 3rd order stream, while Swamp Creek enters it to the southeast of the smelter site as a 5th order stream. Swamp Creek joins Wallis Creek at Louth Park approximately 3.4 km northeast of the Project area which, in turn, discharges into the Hunter River at Horseshoe Bend approximately 6 km northeast of the site. Both creeks are susceptible to flooding from the Hunter River, particularly in their lower reaches.

Other mapped drainage lines within the project area consist principally of ephemeral 1st and 2nd order streams that are best described as drainage depressions. Notable exceptions include the unnamed 2nd order stream that borders the Hydro smelter complex to the west, the unnamed 2nd order tributary of Bishops Creek in the north-western portion of the project area and the unnamed 2nd order stream that discharges into Wentworth Swamp in the easternmost portion of the site. Other significant watercourses in the vicinity of the project area include Bishops Creek to the north and Wallis Creek to the east.

Swamp Creek flows adjacent to the proposed action area to the east and crosses through the development footprint at one narrow point where a proposed rail spur would be constructed to the east of the smelter site. The development footprint would not impact on the Wentworth Swamp which is located approximately 1.2 km to the north west of the development footprint.

Several smaller first and/or second order unnamed ephemeral waterways that flow into Swamp Creek occur within the proposed action area.

There are no natural wetlands within the proposed development footprint although there are several constructed ponds surrounding the former smelter site that contain wetland vegetation.

The Hunter estuary wetlands that are identified as nationally important wetlands are located approximately 17 km to the south-east of the project footprint. These wetlands would not be impacted by the proposal.

Figures 1-1 and 1-2 of the project BCAR identify the hydrology features that intersect and within the Project area (Att A- Biodiversity Certification Assessment Report, Section 1 pp 6-7).

A flooding and stormwater assessment was completed as a supporting document to the planning proposal to rezone the Hydro land. This assessment is provided as Attachment J to this referral (Att J - Flooding and Stormwater Assessment)

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

| EPBC Act section | Controlling provision | Impacted | Reviewed |
|------------------|--|----------|----------|
| S12 | World Heritage | No | Yes |
| S15B | National Heritage | No | Yes |
| S16 | Ramsar Wetland | No | Yes |
| S18 | Threatened Species and Ecological Communities | Yes | Yes |
| S20 | Migratory Species | No | Yes |
| S21 | Nuclear | No | Yes |
| S23 | Commonwealth Marine Area | No | Yes |
| S24B | Great Barrier Reef | No | Yes |
| S24D | Water resource in relation to large coal mining development or coal seam gas | No | Yes |

| EPBC Act section | Controlling provision | Impacted | Reviewed |
|------------------|---------------------------------------|----------|----------|
| S26 | Commonwealth Land | No | Yes |
| S27B | Commonwealth Heritage Places Overseas | No | Yes |
| S28 | Commonwealth or Commonwealth Agency | No | Yes |

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action is not located within proximity to any World Heritage properties.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no National Heritage properties in the vicinity of the project area

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

| Direct impact | Indirect impact | Ramsar wetland |
|---------------|-----------------|-------------------------|
| Yes | | Hunter Estuary Wetlands |

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

One Ramsar wetland (the Hunter estuary wetlands) is located approximately 17 km to the southeast of the proposed action area. It is highly unlikely that the proposal would result in any impacts to these wetlands given the distance from the proposed action area and the limited impacts that the proposed action would have on hydrology. To further ensure that potential indirect impacts to the Hunter estuary wetlands are avoided mitigation measure to prevent indirect impacts to waterways within the vicinity of the development footprint would be developed and implemented as part of the project CEMP, this would include but not be limited to the following.

- Erosion and sediment control plans would be prepared in accordance with Volume 2D of Managing Urban Stormwater: Soils and Construction (DECC 2008d). The erosion and sediment control plans would be established prior to the commencement of construction and be updated and managed throughout as relevant to the activities during the construction phase.
- Erosion and sediment control controls would be regularly inspected, particularly following rainfall events, to ensure their ongoing functionality.
- Stabilised surfaces should be reinstated as quickly as practicable after construction.
- All stockpiled material would be stored in bunded areas and kept away from waterways to avoid sediment or contaminants entering the waterway.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

| Direct impact | Indirect impact | Species |
|---------------|-----------------|------------------------|
| Yes | Yes | Acacia bynoeana |
| Yes | Yes | Anthochaera phrygia |
| No | No | Botaurus poiciloptilus |

| Direct impact | Indirect impact | Species |
|----------------------|------------------------|--|
| No | No | <i>Caladenia tessellata</i> |
| No | No | <i>Calidris ferruginea</i> |
| No | No | <i>Callocephalon fimbriatum</i> |
| No | No | <i>Calyptorhynchus lathami lathami</i> |
| Yes | Yes | <i>Chalinolobus dwyeri</i> |
| No | No | <i>Charadrius leschenaultii</i> |
| No | No | <i>Climacteris picumnus victoriae</i> |
| No | No | <i>Cryptostylis hunteriana</i> |
| No | No | <i>Cynanchum elegans</i> |
| No | No | <i>Dasyurus maculatus maculatus</i> (SE mainland population) |
| No | No | <i>Delma impar</i> |
| No | No | <i>Erythroriorchis radiatus</i> |
| No | No | <i>Eucalyptus glaucina</i> |
| Yes | Yes | <i>Eucalyptus parramattensis</i> subsp. <i>decadens</i> |
| No | No | <i>Euphrasia arguta</i> |
| No | No | <i>Falco hypoleucos</i> |
| No | No | <i>Grantiella picta</i> |
| Yes | Yes | <i>Grevillea parviflora</i> subsp. <i>parviflora</i> |
| No | No | <i>Hirundapus caudacutus</i> |
| Yes | Yes | <i>Lathamus discolor</i> |
| No | No | <i>Litoria aurea</i> |
| No | No | <i>Melanodryas cucullata cucullata</i> |
| No | No | <i>Neophema chrysostoma</i> |
| No | No | <i>Numenius madagascariensis</i> |
| No | No | <i>Persicaria elatior</i> |
| No | No | <i>Persoonia hirsuta</i> |
| No | No | <i>Petauroides volans</i> |
| No | No | <i>Petaurus australis australis</i> |
| No | No | <i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT) |
| No | No | <i>Potorous tridactylus tridactylus</i> |
| No | No | <i>Prasophyllum</i> sp. <i>Wybong</i> (C.Phelps ORG 5269) |

| Direct impact | Indirect impact | Species |
|---------------|-----------------|----------------------------------|
| No | No | <i>Pseudomys novaehollandiae</i> |
| Yes | Yes | <i>Pteropus poliocephalus</i> |
| No | No | <i>Pterostylis gibbosa</i> |
| No | No | <i>Rhizanthella slateri</i> |
| No | No | <i>Rhodamnia rubescens</i> |
| No | No | <i>Rhodomyrtus psidioides</i> |
| No | No | <i>Rostratula australis</i> |
| No | No | <i>Rutidosis heterogama</i> |
| No | No | <i>Stagonopleura guttata</i> |
| No | No | <i>Syzygium paniculatum</i> |
| No | No | <i>Thesium australe</i> |

Ecological communities

| Direct impact | Indirect impact | Ecological community |
|---------------|-----------------|--|
| No | No | Central Hunter Valley eucalypt forest and woodland |
| No | No | Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community |
| No | No | Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland |
| No | No | Hunter Valley Weeping Myall (<i>Acacia pendula</i>) Woodland |
| Yes | Yes | River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria |
| No | No | White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland |

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Protected Matters Search Tool report for the proposed action area (including a 10 km buffer from the edge of the development footprint) identifies a total of 56 listed threatened species, eight listed threatened ecological communities (TECs) and 18 migratory species which are known, likely or have the potential to occur within the PMST search area (DCCEEW 2023) (Att H, Protected Matters Search).

Field surveys and an evaluation of habitat within and adjacent to the development footprint was completed as part of the project BCAR. These assessments determined that the proposed action is likely or has the potential to have direct and/or indirect impacts on the following threatened species and communities listed under the EPBC Act that are either known to occur within or are likely to use habitat within the proposed action area:

- Small-flower Grevillea (*Grevillea parviflora* subsp. *parviflora*), listed as a vulnerable species under the EPBC Act.
- Earp's Gum (*Eucalyptus parramattensis* subsp. *decadens*) listed as a vulnerable species under the EPBC Act.
- Bynoe's Wattle (*Acacia bynoeana*) listed as a vulnerable species under the EPBC Act.
- Grey-headed Flying-fox (*Pteropus poliocephalus*) listed as a vulnerable species under the EPBC Act.
- Large-eared-Pied Bat (*Chalinolobus dwyeri*) listed as a vulnerable species under the EPBC Act.

- Swift Parrot (*Lathamus discolor*) listed as critically endangered under the EPBC Act
- Regent Honeyeater (*Anthochaera phrygia*) listed as critically endangered under the EPBC Act.
- River-Flats Eucalypt Forest on coastal floodplains of the southern NSW and eastern Victoria (listed as a CEEC under the EPBC Act)

Potential direct and indirect impacts on these threatened species and communities are described below. Further information regarding impacts on these species is provided in the MNES significant impact assessments provided as Attachment I to this referral (Att I - Assessments of Significance).

Direct Impacts

Small-flower Grevillea (*Grevillea parviflora* subsp. *parviflora*)

The proposed action would result in the removal of up to 1495 Small-flower Grevillea stems that occur within 10.87 ha of occupied habitat. Some of these stems however are likely to be intergrades with *Grevillea humilis* subsp. *humilis* (Pers com Andrew Orne, NSW National Herbarium). The stems were recorded within several patches of PCT 1633 Parramatta Red-Gum – Narrow-leaved Apple – Prickly-leaved Paperbark shrubby woodland that occur to the north-east and west of the former Hydro Smelter Site. The plants within the development footprint form part of an important regional population that extends east to Heddon Greta, north through the Hydro buffer land to near Bishops Bridge, west to near Ettalong and south to near Stanford Merthyr.

Clearing activities associated with the proposal would result in a decrease, in the size of this important population, however this impact would be small relative to the size of the regional population (approximately 0.21 percent).

Earp's Gum (*Eucalyptus parramattensis* subsp. *decadens*)

The proposed action would result in the clearing of up to 3224 Parramatta Red Gum individuals within 47.2 ha of occupied habitat (including 1064 adults, 1612 juveniles and 548 seedlings). These plants are considered to be part of an important population due to the endemic nature of the species which indicates that the entire Kurri Kurri/Cessnock regional population is likely to be considered an important population for maintaining genetic diversity of the species within the region. The proposal would remove approximately 8 percent of the population within the former Hydro site. The remaining 92 percent would be conserved within a proposed biodiversity stewardship site located adjacent to the proposed action area.

Bynoe's Wattle (*Acacia bynoeana*)

A total of six *Acacia bynoeana* (Bynoe's Wattle) individuals have been previously recorded within the subject site during surveys completed in 2015 (ELA 2016). These plants were recorded within a patch of PCT 1633 Parramatta Red Gum – Narrow-leaved Apple – Prickly-leaved Paperbark shrubby woodland located to the east of the former Hydro Smelter Site. Multiple targeted surveys completed for the project BCAR were unable to relocate any of these individuals or verify their occurrence within the project area. For the purpose of this assessment it has been assumed that there is potential habitat within the site for Bynoe's Wattle and that the species may persist within the soil seed bank of the site.

The proposed action would potentially result in the clearing of six Bynoe's Wattle individuals (although their presence could not be confirmed during recent surveys) and removal of potential habitat.

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

The proposed action area contains critical foraging habitat for this species and is located within approximately 10 kms west of a nationally important camp (located at Kurri Kurri). Habitat within the site includes vegetation types that contain several tree species that flower in winter and would provide potential foraging habitat for this species during times of the year when food is generally scarce. PCTs that occur within the subject site that are associated with the Grey-headed Flying-fox are PCT 1600, 1591, 1594 and PCT 1633. The total area of potential foraging habitat for this species within the proposed development footprint is 109.06 ha. This habitat however represents a very small proportion of the alternative foraging habitat available in the locality which includes up to 700 hectares of critical habitat located within lands within the project area that would form a biodiversity stewardship site.

No known breeding or roosting habitat would be removed or adversely impacted by the proposed action.

Large-eared-Pied Bat (*Chalinolobus dwyeri*)

Calls of the Large-eared Pied Bat (*Chalinolobus dwyeri*) were recorded within the development footprint during surveys completed for the project BCAR. This species is likely to be utilising the site for foraging habitat only as there is no suitable breeding habitat (i.e. caves, scarps, cliffs, rock overhangs or disused mines) present within or nearby to the project area (within 2 km).

Approximately 84.1 ha of woodland and forest vegetation within the proposed action area would provide potential foraging habitat for this species.

Large-eared Pied Bats that are utilising the proposed action area for foraging are not likely to be part of an important population as the site is not located within or within close proximity to sandstone escarpments or the limit of the species range and are not likely to be part of a key source population of breeding or a population necessary for maintaining genetic diversity.

Important habitat for the Large-eared Pied Bat has been identified as roosting areas within foraging habitats (vegetated riparian corridors) in close proximity. As roosting habitat does not occur within or surrounding the development footprint the proposed action site is not considered important habitat for the species.

Swift Parrot (*Lathamus discolor*)

No Swift Parrot individuals have been recorded within the project area during any of the many surveys that have been completed within the project area.

A total of 84.1 ha of potential foraging habitat would be impacted by the proposed action. The potential foraging habitat within the proposed action area includes areas in poor condition due to clearing and under-scrubbing for agricultural purposes to more intact, good quality remnants

An expert report prepared by a species expert determined that the site is only likely to provide low-moderate value potential foraging habitat and it is not likely to be critical habitat for the species (refer to Att K Swift Parrot and Regent Honeyeater expert report, Section 3.2, pp 9 and Section 5 pp 23).

Regent Honeyeater (*Anthochaera phrygia*)

Although no Regent Honeyeater individuals have been recorded within the project area during any of the many surveys that have been completed within the Hydro site there are numerous records nearby and the site contains suitable foraging habitat for the species. An expert report prepared by a species expert determined that the site is only likely to provide low-moderate value potential foraging habitat and it is not likely to be critical habitat for the species (refer to Att K Swift Parrot and Regent Honeyeater expert report, Section 3.2, pp 9 and Section 5 pp 23).

The proposed action would result in direct impacts to approximately 36.4 ha of potential foraging habitat for the species. No breeding habitat would be impacted.

River-Flat Eucalypt Forest on coastal floodplains of the southern NSW and eastern Victoria

The proposed action would result in the removal of up to 7.6 ha of vegetation commensurate with the EPBC listing for River Flat Eucalypt Forest on coastal floodplains. River-flat Eucalypt Forest within the development footprint is comprised of numerous patches ranging in size and condition. With approximately 7.07 ha in good condition and 0.53 ha in moderate condition (according to condition thresholds specified in the conservation advice for the CEEC).

Indirect impacts

Potential Indirect impacts to the above threatened species and communities associated with the construction and operation of the proposed action include:

- Introduction of weed propagules or pathogens during construction and/or operation.
- Pollution and contaminated runoff from use of chemicals.
- Fauna mortality as a result of collision with vehicles.
- Predation of local populations of fauna by pets (particularly cats and dogs).
- Generation of additional light and noise and associated changes to use of habitat by fauna such as disruption of nocturnal foraging activity in areas proximate to development.
- Increased risk of fire.
- Degradation of habitat as a result of rubbish dumping.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Assessments of Significance have been completed for the following threatened biota listed as MNES under the EPBC Act (refer to Att I - Assessment of Significance):

- River-flat eucalypt forest on coastal floodplains of southern NSW and eastern Victoria
- Small-flower Grevillea (*Grevillea parviflora* subsp. *parviflora*)
- Earp's Gum (*Eucalyptus parramattensis* subsp. *decadens*)
- Bynoe's Wattle (*Acacia bynoeana*)
- Grey-headed Flying-fox (*Pteropus poliocephalus*)
- Large-eared-Pied Bat (*Chalinolobus dwyeri*)
- Swift Parrot (*Lathamus discolor*)
- Regent Honeyeater (*Anthochaera phrygia*).

Conclusions of the Assessments of Significance indicate that proposed action may result in a potential significant impact on the following MNES:

- River-flat eucalypt forest on coastal floodplains of southern NSW and eastern Victoria
- Small-flower Grevillea (*Grevillea parviflora* subsp. *parviflora*)
- Earp's Gum (*Eucalyptus parramattensis* subsp. *decadens*)
- Regent Honeyeater (*Anthochaera phrygia*).

Reasons for considering that impacts on the above listed species may be significant are provide in the Assessments of Significance (induced as Attachment I of this referral) and are summarised below.

River-flat eucalypt forest on coastal floodplains of southern NSW and eastern Victoria CEEC

- The proposed action would removal of approximately 7.6 ha of this community which would reduce the extent of the CEEC
- The proposal would adversely impact habitat critical to the survival of the CEEC.
- The proposed action has the potential to interfere with the recovery of the CEEC.

Small-flower Grevillea (*Grevillea parviflora* subsp. *parviflora*)

- The proposed action may lead to a long-term decrease in an important population of Small-flowered Grevillea.
- The proposed action would result in a small reduction in the area of occupancy for an important population of Small-flowered Grevillea.

Earp's Gum (*Eucalyptus parramattensis* subsp. *decadens*)

- The proposed action may result in a small decrease in the size and area of occupancy of an important population of Parramatta Red Gum.

Regent Honeyeater (*Anthochaera phrygia*)

- The proposed action would result in the clearing of 36.4 ha of Regent Honeyeater habitat with potential to be critical to the survival of the species as it occurs within an area that has potential to be utilised a foraging habitat for the species. It should be noted however that an expert report prepared by a species expert determined that the site is only likely to provide low value potential foraging habitat and it is not likely to be critical habitat for the species (Crates 2022) (Refer to Att K, Swift Parrot and Regent Honeyeater expert report).

The proposed action is unlikely to result in a significant impact Bynoe's Wattle (*Acacia bynoeana*), Swift Parrot (*Lathamus discolor*), Grey-headed Flying-fox (*Pteropus poliocephalus*) or Large-eared-Pied Bat (*Chalinolobus dwyeri*) as it is unlikely that the proposed action would;

- Lead to a long-term decrease in the size of the population of Swift Parrot, Large-eared Pied Bat, Grey-headed Flying-fox or Bynoe's Wattle
- Reduce the area of occupancy of the population of Swift Parrot, Large-eared Pied Bat, Grey-headed Flying-fox or Bynoe's Wattle
- Fragment an existing population of Swift Parrot, Large-eared Pied Ba, Grey-headed Flying-fox t or Bynoe's Wattle into two or more populations
- Adversely affect habitat critical to the survival of the population of Swift Parrot, Large-eared Pied Bat or Bynoe's Wattle
- Disrupt the breeding cycle of the population of Swift Parrot, Large-eared Pied Bat, Grey-headed Flying-fox or Bynoe's Wattle
- Result in invasive species that are harmful to a critically endangered species becoming established in the critically endangered species' habitat of Swift Parrot, Large-eared Pied Bat, Grey-headed Flying-fox or Bynoe's Wattle
- Introduce disease that is likely to cause the population of Swift Parrot, Large-eared Pied Bat, Grey-headed Flying-fox or Bynoe's Wattle to decline
- Interfere substantially with the recovery of Swift Parrot, Large-eared Pied Bat, Grey-headed Flying-fox or Bynoe's Wattle.

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The proposed action has the potential to be a controlled action due to direct and indirect impacts that would occur as a result of the construction and operational aspects of the project.

The proposal would result in a reduction in an important population of Small Flowered Grevillea and Earp's Red Gum and loss of potential critical foraging habitat for the Regent Honeyeater.

The removal of 7.6 ha of River-flat eucalypt forest on coastal floodplains of southern NSW and eastern Victoria would also result in a small reduction in the extent of this CEEC.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The rezoning masterplan footprint for the proposed action underwent several revisions through the proposal planning and design process that have looked at how impacts to areas of higher conservation value within the project area could be avoided as far as is practical. Various iterations of the masterplan footprint have been developed and amended in response to detailed understanding of the site's biodiversity values and offsets requirements. The intention through the rezoning process and development of the preliminary masterplan was to avoid and minimise impacts on areas of the site with high biodiversity values within the site (including habitat for Swift Parrot and Regent Honeyeater). Amendments to the masterplan during the rezoning of the site has resulted in the avoidance of approximately 765 ha of vegetation, which includes large populations of Earp's Gum, Small Flower Grevillea, River-flat eucalypt forest CEEC as well as high quality habitat for the Swift Parrot and Regent Honeyeater., which will be secured as a biodiversity stewardship site (BSS)

Proposed measures to mitigate impacts would also be implemented during the construction and operational phases of the proposal, these would include the development and implementation of Construction Environmental Management Plan(s) (CEMP) for the construction phase of the project. CEMPs will specify environmental safeguards for the protection of biodiversity values on neighboring properties and waterways in accordance with relevant Government policy and guidelines and development conditions. Mitigation measures will typically include, as a minimum, industry-standard measures for the management of soil, surface water, weeds and pollutants, as well as site-specific mitigation measures and procedures to mitigate impacts on threatened communities, flora and fauna including:

- Communication with construction personnel of the conservation value of surrounding habitats and their responsibilities with regards to protecting these habitats during construction. This would include an environmental induction for all workers prior to starting work on site.
- A Flora and Fauna Construction Management Plan as a sub-plan of the CEMP would be developed and implemented, marking out of the construction impact boundary, clearly marking the limits of clearing and protecting Tree Protection Zones as required.
- Installation of erosion and sediment control measures prior to construction. Erosion and sediment control sub-plans should be prepared in accordance with Volume 2D of *Managing Urban Stormwater: Soils and Construction* (DECC 2008d) and the IECA Best Practice *Erosion and Sediment Control Manual*. The erosion and sediment control plans would be updated and managed throughout as relevant to the activities during the construction phase.
- Regular inspection of erosion and sediment controls, particularly following rainfall events, to ensure their ongoing functionality.
- Identification and management of priority and/or high threat weeds in accordance with the requirements of the *Biosecurity Act 2015* and relevant Weed Control Manuals and restricting access to native vegetation.
- Placement of stockpile areas in bunded areas away from drainage lines and above the 1% AEP Flood level wherever possible and under specific management requirements where it is not possible to do so.
- Hygiene procedures to prevent the introduction and spread of pathogens such as Phytophthora, Chytrid and Myrtle Rust in areas of native vegetation. These would include exclusion zones around retained areas of native vegetation and/or provision of machine and footwear washdown stations for all equipment and personnel working in areas of native vegetation. Hygiene procedures would be included in a weed and pest species management sub-plan.
- Measures to suppress dust and reduce noise and light pollution during clearing and construction.

Environmental Management Plans (EMPs) (or similar) would also be required for the operational life of the proposal and would be prepared prior to the issue of the subdivision certificates. Future plans would include, as a minimum, measures to appropriately manage matters such as stormwater infrastructure, open space and APZ's as well as industry-standard measures for the management of soil, surface water, weeds and pollutants. The proposed mitigation measures would include:

- Fauna speed limit signposting
- Asset Protection Zones managed to minimise edge effects
- Control of priority weeds
- Street lighting and security lighting to be designed to direct lighting away from adjoining bushland areas
- Erosion and sediment control measures
- An appropriate restriction on title be placed on lands through a Biodiversity Stewardship Agreement (BSA) The BSS will be managed to protect and enhance biodiversity values under the BSA.
- Identify and fence the proposed BSS along boundaries with the subject site in order to exclude unauthorised access and avoid indirect impacts. Boundaries with other areas of native vegetation should be left unfenced to allow for fauna movement and for firefighting activities. Install boundary fencing to provide a clear physical barrier to human access and incorporate appropriate signage; gates as appropriate to allow management activities; and a strip of silt fencing along the base to help mitigate

sedimentation and transmission of weeds. Ensure that site occupiers and visitors are aware of the biodiversity value and sensitivity of the BSS.

- Undertake noisy miner control within the adjoining BSS to reduce potential edge effect impacts. Noisy miner control will be undertaken as part of ongoing pest management obligations within the adjoining BSS for Regent Honeyeater and Swift Parrot.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Approximately 765 ha of the project area will be secured within two adjoining biodiversity stewardship sites (BSSs). The proposed BSSs will be protected and managed through the establishment of a Biodiversity Stewardship Agreement (BSA) under the BC Act. The biodiversity credits generated within the BSSs would represent like for like offsets for the majority of threatened biota impacted by the proposed action and would be used to meet the large majority of credit requirements for the proposed action. The small number of additional credits that would be needed to meet the credit requirements of the development in accordance with the BAM would be sourced from either alternative BSS site/s, purchased through the “open market” or via a payment into the Biodiversity Conservation Trust (BCT) in accordance with the trading rules associated with the BOS and the requirements for offsetting impacts to MNES under the Amending Agreement, as applicable.

The proposed BSS broadly occurs on land located in the north and west of the project area, but also includes parts of the vegetated riparian corridors along Swamp Creek. PCTs within the BSS are broadly reflective of the vegetation community’s that occur in the proposed action area. Figure 1.1 of the Project BCAR shows the proposed BSS areas (Att A, Biocertification Assessment Report, Section 1, pp 6).

The proposed BSS contains areas of high biodiversity values, including a large population of Earp’s Gum as well as Small-flowered Grevillea. The site also provides known foraging habitat for the Grey-headed Flying-fox and Large-eared Pied Bat, River-flat eucalypt forest CEEC and extensive areas of mapped important habitat for the Regent Honeyeater and Swift Parrot.

The proposed BSSs have been assessed in accordance with the BAM and a separate Biodiversity Stewardship Site Assessment Report (BSSAR) would be prepared that would describe the ecosystem and species credits generated at the site. Site Management Plans (SMPs) for each BSS will be prepared to describe the restoration and management actions required to be undertaken at the site to improve biodiversity values. The SMP would be accompanied by a Total Fund Deposit (TFD) amount which would determine the funds that would be required to implement the restoration and management program in perpetuity.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

| Direct impact | Indirect impact | Species |
|---------------|-----------------|--------------------------|
| No | No | Actitis hypoleucos |
| No | No | Apus pacificus |
| No | No | Calidris acuminata |
| No | No | Calidris ferruginea |
| No | No | Calidris melanotos |
| No | No | Charadrius leschenaultii |
| No | No | Cuculus optatus |
| No | No | Gallinago hardwickii |
| No | No | Hirundapus caudacutus |
| No | No | Monarcha melanopsis |
| No | No | Motacilla flava |

| Direct impact | Indirect impact | Species |
|---------------|-----------------|---------------------------|
| No | No | Myiagra cyanoleuca |
| No | No | Numenius madagascariensis |
| No | No | Pandion haliaetus |
| No | No | Rhipidura rufifrons |
| No | No | Symposiachrus trivirgatus |
| No | No | Tringa nebularia |

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No migratory species listed under the EPBC Act were identified during field surveys. There is potential habitat for White-throated Needletail within the site. This species is a predominantly aerial species and while the site may provide a small amount of foraging habitat it is unlikely that the removal of this habitat would impact the species.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

This project does not involve a nuclear action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth Marine Areas in the vicinity of the proposed action

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Great Barrier Reef is not in the vicinity of the proposed action.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action does not involve coal seam gas or a large coal mining development.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth heritage places within or within the vicinity of the proposed action.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth heritage places overseas within or within the immediate vicinity of the proposed action.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The proposed action footprint is based on multiple iterations over the project area that has been refined through detailed environmental assessment since 2014. The proposed action is consistent with permitted uses for the land zones across the proposed action area as outlined in the Cessnock City Council LEP.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

| | Type | Name | Date | Sensitivity | Confidence |
|-----|----------|--|------------|-------------|------------|
| #1. | Document | Att A - Biodiversity Certification Assessment Report.pdf Biodiversity Certification Assessment report prepared for proposed action area | 19/08/2022 | No | High |

1.2.7 Public consultation regarding the project area

| | Type | Name | Date | Sensitivity | Confidence |
|-----|----------|--|------------|-------------|------------|
| #1. | Document | Att B-Aboriginal Cultural Heritage Assess_Part2 - pp 46-97.pdf Aboriginal Cultural Heritage Assessment prepared by AECOM pp 46-97 | 12/12/2014 | No | Medium |
| #2. | Document | Att B-Aboriginal Cultural Heritage Assess_Part3 - pp 98-139, Appendix A-I.pdf Aboriginal Cultural Heritage Assessment prepared by AECOM pp 98-139, Appendix A-I | 12/12/2014 | No | Medium |
| #3. | Document | Att B-Aboriginal Cultural Heritage Assessment_Part4 Appendix I.pdf Aboriginal Cultural Heritage Assessment prepared by AECOM Appendix I | 12/12/2014 | No | Medium |
| #4. | Document | Att B-Aboriginal Cultural Heritage Assessment_Part1 - pp 1-45.pdf Aboriginal Cultural Heritage Assessment prepared by AECOM pp 1-45 | 12/12/2014 | No | Medium |
| #5. | Document | Att C-BCAR_response to public submissions_original.pdf Public submissions received on BCAR. Original with emails and names | 21/10/2022 | Yes | High |

included (not to be included for public exhibition)

| | | | | | |
|-----|----------|---|------------|----|------|
| #6. | Document | Att C-BCAR_response to public submissions_redacted.pdf Public submissions received on BCAR, redacted to exclude names and emails | 21/10/2022 | No | High |
|-----|----------|---|------------|----|------|

3.1.1 Current condition of the project area's environment

| Type | Name | Date | Sensitivity | Confidence | |
|------|----------|---|-------------|------------|------|
| #1. | Document | Att D - Project Area.pdf Figure showing project area, disturbance footprint, retention area and avoidance area | 25/05/2023 | No | High |

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

| Type | Name | Date | Sensitivity | Confidence | |
|------|----------|--|-------------|------------|--------|
| #1. | Document | Att E-Historic Heritage Assessment.pdf Historic heritage assessment and statement of heritage impacts prepared by RPS for Hydro Aluminium Kurri Kurri site. | 04/03/2015 | No | Medium |

3.4.1 Hydrology characteristics that apply to the project area

| Type | Name | Date | Sensitivity | Confidence | |
|------|----------|---|-------------|------------|--------|
| #1. | Document | Att J - Flooding and Stormwater Assessment.pdf Flooding and stormwater impact assessment that was completed for Hydro lands. | 02/12/2014 | No | Medium |

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

| Type | Name | Date | Sensitivity | Confidence | |
|------|----------|---|-------------|------------|------|
| #1. | Document | Att H- Protected Matters Search.pdf EPBC Act Protected Matters Report | 08/02/2023 | No | High |
| #2. | Document | Att I -Assessments of Significants.pdf Assessments of Significance for MNES known or with potential to occur within proposed action area. Note that these AoS have been reviewed and updated since the initial BCAR was undertaken and therefore the AoS in the BCAR (appendix H) will be superseded with these assessments. | 24/05/2023 | No | High |
| #3. | Document | Att K- Swift Parrot and Regent Honeyeater expert report.pdf Expert report prepared by Dr Ross Crates that assessors the Swift Parrot and Regent Honeyeater habitat within the project area. | 25/03/2022 | No | High |

5.2 Declarations

✔ Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

| | |
|----------------------|---|
| ABN/ACN | 39008488373 |
| Organisation name | GHD PTY LTD |
| Organisation address | Level 3, 24 Honeysuckle Drive, Newcastle, NSW, 2300 |

| | |
|----------------------------|--|
| Representative's name | Arien Quin |
| Representative's job title | Senior ecologist |
| Phone | 0405443341 |
| Email | arien.quin@ghd.com |
| Address | 105 Hume Street, Wodonga, Victoria, 3690 |

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

By checking this box, I, **Arien Quin of GHD PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

| | |
|----------------------------|--|
| ABN/ACN | 41613410450 |
| Organisation name | MCCLOY PROJECT MANAGEMENT PTY LTD |
| Organisation address | 2300 NSW |
| Representative's name | Harry Thomson |
| Representative's job title | Development Manager |
| Phone | 02 4945 7500 |
| Email | harry@mccloygroup.com.au |
| Address | Suite 2, Ground Floor, 317 Hunter Street, Newcastle 2300 |

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

I, **Harry Thomson of MCCLOY PROJECT MANAGEMENT PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

- Check this box to indicate you have read the referral form. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *
- I, **Harry Thomson of MCCLOY PROJECT MANAGEMENT PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *
- I would like to receive notifications and track the referral progress through the EPBC portal. *