

CAMDEN COUNCIL

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Form NR-02

REVIEW OF ENVIRONMENTAL FACTORS

NOTE: This REF has an addendum that incorporates changes to the project that were approved on 28/06/2023 and are available as EDMS 23/349654.

NOTE: This REF is for projects that have minor or predictable impacts and require a Part 5 assessment.

Project Name:	Elizabeth Macarthur Reserve Rehabilitation Works	Proposal ID#:	
Project Location:	14 Martine Avenue CAMDEN SOUTH 2570	File Ref#:	23/66564

NOTE: This project is in accordance with section 4.11 of this REF. It has been developed in accordance with the Department of Planning and Environment *Guidelines for Division 5.1 assessments*.

CONSTRUCTION WORK MUST NOT COMMENCE UNLESS:

- The person completing the REF has signed the completed document, verifying that each of the steps has been satisfied and no further assessment or investigation is required; AND
- The Determining Officer has signed the REF report to verify that the assessment has been adequately completed, the conclusion as to the likely environmental impact of the project is reasonable and the project can proceed subject to the relevant control measures and conditions in any approvals, licences or permits; and
- The required approvals, licences and permits have been obtained; AND
- All relevant construction personnel are aware of:
 - Their responsibilities identified in the REF
 - The project's Environmental Impacts
 - The project's specific Safeguard/Management Measures
 - The project's environmentally sensitive areas
 - The conditions in any approvals, licences or permits
 - The project details and likely impact of the project on the community.

NOTE: If any environmental issues are identified or if any safeguard and/or management measures are required, the following is to occur:

- Where a construction drawing is prepared as part of the construction work pack, the safeguard and/or management measures should be listed in the schedule on that drawing, and for more complicated projects,
- The safeguard and/or management measures should be included in a project specific environmental management plan

NOTE: If any approvals, licences or permits are required then copies of these **MUST** be included in the construction work pack that is submitted to the Construction Manager for the project.

NOTE: Projects may require a more detailed assessment of particular issues (ecology report). In these cases, this document should accompany this assessment and its findings be considered in the assessment and identification of control



1. Introduction

Camden Council has been approached by Downer BMD Joint Venture on behalf of Sydney Water to rehabilitate an area of land as the result of vegetation clearing required as part of the West Camden Water Recycling Plant upgrade project. These proposed works are a requirement of Sydney Water's internal policy and are not a legislative requirement. The works are proposed to be undertaken through a Memorandum of Understanding partnership with Council.

An area of approximately 0.85 ha located within Elizabeth Macarthur Reserve, Camden South has been selected - Lot 2 DP 590777. The project works will include woody weed removal, mulching and spraying of weed regrowth, and replanting with native species. The project site will also be maintained for 12 months following the completion of planting on the site.

The on-ground works are planned to commence in May 2023 and be completed by September 2023 with maintenance continuing after this date.

This Review of Environmental Factors (REF) assesses the potential environmental impact associated with the Elizabeth Macarthur Riparian Restoration project and identifies safeguards that avoid or minimise potential impacts.

1.1 *Proposal identification*

Camden Council proposes to undertake works to restore a riparian area along an unnamed creek within Elizabeth Macarthur Reserve, Camden South.

The riparian area is currently heavily infested with a range of weed species, with only a very small number of native plants identified within the corridor. The works will be undertaken in the location identified in the map included in Section 3.2.

Works will include:

- Removal of woody and other weeds through mechanical means;
- Placement of erosion control measures;
- Maintenance weeding following clearing and prior to planting of the site;
- Mulching to remove safety hazards and ensure a suitable planting surface;
- Planting with local native plant species including a mixture of grasses, groundcovers, shrubs and trees; and
- Follow up maintenance including watering and weeding as required.

1.2 *Purpose of the report*

This Review of Environmental Factors (REF) has been prepared by Carmel Hamilton [Team Leader Sustainability], Robert Corby [Natural Resource Officer] and Michael McConville [Sustainability Cadet] on behalf of Camden Council. For the purposes of these works, Camden Council is the proponent and the determining authority under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The purpose of the REF is to describe the proposal, to document the likely impacts of the proposal on the environment, and to detail protective measures to be implemented.

The description of the proposed works and associated environmental impacts have been undertaken in context of clause 228 of the Environmental Planning and Assessment Regulation 2000, the Act), the Fisheries Management Act 1994 (FM Act), and the Australian Government's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). In doing so, the REF helps fulfil the requirements of section 111 of the EP&A Act, that Camden Council examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF will be considered when assessing:

- Whether the proposal is likely to have significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Infrastructure under Part 5.1 of the EP&A Act.
- The significance of any impact on threatened species as defined by the Biodiversity Conservation Act 2016 and/or FM Act, and therefore the requirement for a Species Impact Assessment.
- The potential for the proposal to significantly impact a matter of national environmental significance or commonwealth land and the need to make a referral to the Australian Government Department of Sustainability, Environment, Water, Population and Communities for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.

2. Need and options considered

2.1 Strategic need for the proposal

The project is a result of an approach by Downer BMD for non-legislative offsetting and seeks to rehabilitate the identified riparian area and enhance the biodiversity of the area to support native flora and fauna and promote a healthy waterway.

The project is consistent with the delivery of Council's Connecting Camden: Community Strategic Plan 2022-36 which seeks to provide sustainable and responsible solutions that enhance the natural environment. This includes action B1.1 to invest in environmental protection, restoration and urban greening, and action B1.5 to maintain and enhance the natural environment.

The project also aligns with actions identified in Council's Biodiversity Strategy to look for opportunities to develop partnerships and seek grant funding to enhance and expand the reach of Council's biodiversity programs, and in the Caring for the Nepean River: A guide for the Camden community document to remove weeds on public land along the corridor. The project is also consistent with actions within the Sustainability Strategy 2020 including NAT1.4, NAT1.5 that seek to restore habitats in bushland and waterways and increase the use of native flora for habitat connectivity.

2.2 Existing road/infrastructure

The site for proposed works is located within Elizabeth Macarthur Reserve, Camden South along an unnamed waterway. A map identifying the project areas is included in

section 3.2. Access to the site is via locked gates located at Ulmarra Avenue, Camden South and Brigalow Avenue, Camden South with vehicles accessing the site over existing mown grassed areas.

Other infrastructure that is present in the area is a shared use pathway that runs through the site from north to south. There are also stormwater pipes and one headwall located in the south-west portion of the site. These assets are marked in Figure 1. Installed Camden White Gums (*Eucalyptus benthamii*) are also located nearby.



Figure 1: Stormwater, public spaces, and transport infrastructure around the project site from Council's asset register.

2.3 Proposal objectives

The project will achieve the following objectives.

- Reduce the extent of priority and environmental weeds within the riparian corridor;
- Install native plants that are consistent with the endangered ecological community, River Flat Eucalypt Forest; and
- Enhance and provide connectivity for River Flat Eucalypt Forest along the Nepean River and its tributaries.

2.4 Alternatives and options considered

The only alternative is to not undertake the project; therefore no additional options have been assessed.

2.4.1 Identified options

Do Nothing

This option involves Council not partnering to remove weed species and restore local native vegetation on the site. This option would result in continued growth and seeding of the weed species into the waterway and soil, as well as spreading of weed seeds by birds and other fauna along the Nepean River corridor, and nearby open spaces and bushland. The deciduous trees are also contributing a significant leaf load to the waterway resulting in reduced water quality and shading of the waterway. This option does not meet the needs and objectives of the proposal.

Hand weed removal and restoration

This option involves Council staff and contractors removing the existing woody weed species using hand tools including chain saws. This option would result in less disturbance to neighbouring properties through reduced noise, however the project would take a significantly longer period of time and require additional resourcing. Mulching of the woody weeds would be required to be undertaken by a machine on the project site.

Mechanical weed removal and restoration

This option involves Council engaging a contractor to remove the existing woody weed species using an operator controlled machine with a tritter head. This option would result in increased noise over a defined period of time and include mulching of the material on the project site.

2.4.2 Analysis of options

The options were assessed based on their merits, construction and post-construction impacts to the environment, and funding availability.

The “do nothing” option would be unfavourable to Council as the weed species would remain and contribute to poor water quality, and degradation of the natural environment.

The ‘hand weed removal and restoration’ option would achieve the project outcomes but would require significant additional resourcing from Council and its project partner to deliver the project. This option would also require additional time to complete the project and would result in programmed works at other Council owned bushland reserves to be either delayed or reprogrammed.

The ‘mechanical weed removal and restoration’ option would achieve the project outcomes within the identified project budget and timeframe. While the size of the machinery does not provide as much control over vegetation clearing as removal using hand tools the vegetation to be cleared consists almost entirely of priority and environmental weed species, with the ability to easily tag the small number of native plants to be retained. This method of weed control has been found to be effective in other similar locations.

2.5 Preferred option

The preferred option is to undertake ‘mechanical weed removal and restoration’ as this aligns with Council’s strategic objectives, the project budget and timelines, and will result in restoration of River Flat Eucalypt Forest plant species along the waterway on the project site. All disturbance to the site will be remediated for an overall beneficial environmental outcome.

2.6 Design refinements

No further design requirements are expected as this is a standard approach for the removal of woody weed vegetation and subsequent rehabilitation works.

3. Description of the proposal

3.1 The proposal

Stage 1 of this project involves the mechanical removal of woody weeds and maintenance weeding following clearing and prior to planting of the site. Stage 2 includes the planting of native species aligned with the River Flat Eucalypt Forest vegetation community through a community planting event. Stage 3 will involve follow up maintenance of the site, including watering and weeding as required.

3.2 The project site

The project site is owned by Camden Council and is known as Elizabeth Macarthur Reserve. The street address of the site is 14 Martine Avenue, Camden South (Lot 2 DP 590777). The site adjoins the Nepean River on the northern boundary, residential land on the southern and western boundaries and a wholesale nursery to the east as shown.

The extent of the works is shown by the blue polygons in Figure 2. Works in these areas will include removal of woody weeds and replanting with local native species from the River Flat Eucalypt Forest plant community.

Photographs of the project site are included in Appendix 5 showing the extent of large woody weeds within the riparian zone of the un-named waterway running through the project site.



Figure 2. Site Location – blue polygons show extent of project work and light orange shows site boundary.

3.3 Project activities

3.3.1 Work methodology

The Contractor and Council staff will be responsible for completing the work in accordance with the actions, safeguards and management measures within this REF, contract documentation and the Erosion and Sediment Control Plan. Work activities will include:

- Installation of erosion control measures as required;
- Mechanical removal of woody weeds using a tritter;
- Mulching and weed spraying;
- Replanting of suitable native plants species; and
- Follow-up maintenance of the site for 12 months including watering if required.

The works will also be completed in accordance with task-specific risk assessments and safe work method statements (SWMS).

3.3.2 Duration and working hours

Working hours will be standard hours (7am to 4pm) with no weekend work, with the exception of the community planting day which will be held on a Saturday. Works are expected to commence in May 2023 and to be completed by September 2023. Maintenance of the site will continue for an additional 12 months and will include weed control, watering, maintenance of erosion control measures and infill or additional planting that may be required to restore the site.

3.3.3 Plant and equipment

The specific plant and equipment required to complete the proposed works will be the responsibility of the Contractor. Examples of the types of equipment used include:

- Mulching / tritter head
- Minor plant
- Weed spraying equipment
- Shovels
- Tubestock
- Water cart
- 4WD utes

In all instances vehicles and machinery will comply with industry noise guidelines and any machinery or equipment not in use will be switched off.

Materials to be introduced and used on site will include:

- Erosion and sediment control materials – coir logs, hay bales, stakes, geofabric etc;
- Native plants with cardboard plant guards and timber stakes; and
- Alloy fabricated post and signs.

3.3.4 Earthworks

Nil.

3.3.5 Traffic management and access

Traffic management and access to the site will be the responsibility of the Contractor for the extent of the works. The project area will be the Contractor's responsibility and access to this area will be restricted during the completion of the woody weed removal works.

Identified access points include the end of Ulmarra Avenue, along Brigalow Avenue and Martine Avenue, Camden South via existing locked gates. Machinery will remain on the project site until completion of the woody weed removal to reduce the number of vehicle movements required and the impact on existing mown grassed areas.

Temporary fencing will be used to limit pedestrian access and establish an exclusion zone to be maintained during machinery movements and machinery operations. Signage and a spotter will also be in place to ensure safe vehicle and pedestrian and bicycle movement.

A community planting day will be held at the site as part of the project to celebrate National Tree Day in July 2023. This will be coordinated as a Council event, with traffic management implemented in accordance with Council standards. This is likely to include closing off the carparking area at the end of Ulmarra Avenue for the duration of the event.

3.4 Ancillary facilities

Small temporary stockpiles may be required for storage of items throughout the project however this is expected to be minimal due to the potential for damage and theft if the items are left unattended. Areas of mowed grass will be used for this purpose, with the exact location selected to minimise disturbance to any existing native vegetation and safety risks for users of the reserve.

There may also be a need for the mulching equipment / plant to be stored for a short period of time (<2 weeks). The carparking area at the end of Ulmarra Avenue can be used for this purpose if required.

3.5 Public utility adjustment

Nil.

4. Statutory and planning framework

4.1 State Environmental Planning Policies (SEPPs)

4.1.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The project is defined as 'environmental management works' being environmental protection works as per the definitions of the State Environmental Planning Policy (Transport and Infrastructure) 2021. Environmental management works are permitted without consent by or on behalf of Council on a public reserve (Division 12, Section 2.73, Part 3 (b)). In accordance with the requirements of the SEPP a Part 5 REF is required.

4.1.2 Other SEPPs

Chapter 2 of the SEPP (Biodiversity and Conservation) 2021 relating to vegetation in non-rural areas applies as the site is within the Camden LGA and is zoned RE1 Public Recreation.

The SEPP requires that no vegetation is cleared without a permit granted by Council (Part 2.2, 2.6 (1)). The trees to be cleared primarily consist of weed species which are exempt from requiring a permit, including Privet (*Ligustrum sp.*), African Olive (*Olea Africana*), Chinese Celtis (*Celtis sinensis*) and Honey Locust (*Gleditsia triacanthos*). In addition, as the work is permissible under the Transport and Infrastructure SEPP, a Council permit to clear vegetation under this SEPP is not required. Clearing of environmental weeds including Box Elder Maple (*Acer negundo*) will also be undertaken along with Mulberry (*Morus alba*).

Chapter 6 of the SEPP applies as the project site is located within the Hawkesbury-Nepean catchment, however as development consent is not required no specific requirements are identified. In keeping with the intent of this section measures will be put in place to ensure that the project has a neutral or beneficial effect on water quality and includes safeguards to minimise erosion and sedimentation and protect aquatic ecology.

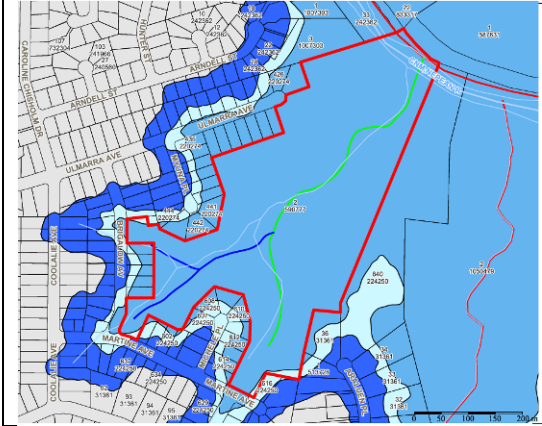
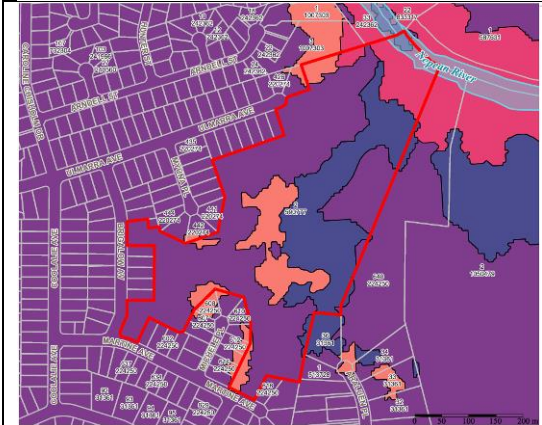
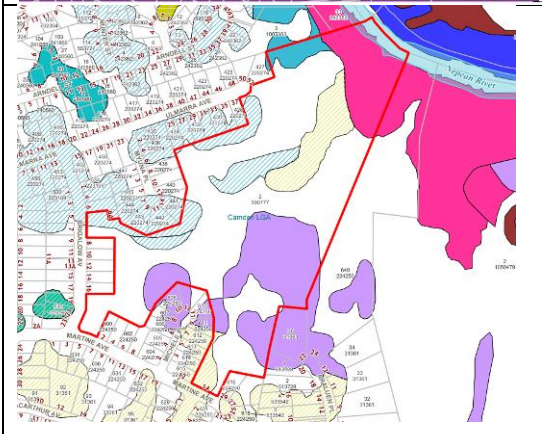
4.2 Camden Local Environmental Plan (LEP)

The project site is located on land zoned RE1 Public Recreation in the Camden Local Environmental Plan (LEP) 2010. The project aligns with the objectives of this zone, which are to:

- Enable land to be used for public open space or recreational purposes;
- Provide a range of recreational settings and compatible land uses; and
- Protect and enhance the natural environment for recreational purposes.

The following section collates a summary of relevant mapped planning regulations sourced from planning instruments applicable to the property, including the current Camden Local Environmental Plan and Camden Development Control Plan and associated mapping.

	<p>Land Zoning</p> <ul style="list-style-type: none"> • RE1 Public Recreation
	<p>Bushfire Prone Land</p> <ul style="list-style-type: none"> • Vegetation Category 1 (Red) • Vegetation Category 3 (Orange) • Vegetation buffer (Yellow)

	<p>Flood Prone Land</p> <ul style="list-style-type: none"> • Nepean River flood affected
	<p>Plant Community Type (PCT) Vegetation</p> <ul style="list-style-type: none"> • 3145 – Cumberland Bangalay x Blue Gum Riverflat Forest – Dark Pink • 3320 Cumberland Shale Plains Woodland (Light Orange) • 4025 Cumberland Red Gum Riverflat Forest (Dark Blue) • 0 – Non-native vegetation (Purple)
	<p>Environmentally Sensitive Land</p> <ul style="list-style-type: none"> • Cumberland Plain Woodland <ul style="list-style-type: none"> -Shale Hills Woodland ABC (Teal) -Shale Plain Woodland TXU (Hatched Yellow) -Shale Hills Woodland TXU (Hatched Teal) • River Flat Eucalypt Forest <ul style="list-style-type: none"> -Alluvial Woodland TX/TXR (Purple) -Riparian Forest/Woody weeds ABC (Dark Pink)

4.3 Other relevant legislation

- **National Parks and Wildlife Act 1974 and Heritage Act 1977**

An Aboriginal Heritage Due Diligence Assessment desktop search was conducted using the Aboriginal Heritage Information Management System (AHIMS) on 10 January 2023 to identify Aboriginal sites or places protected under the *National Parks and Wildlife Act 1974* and the *Heritage Act 1977*. The search results determined that no Aboriginal sites or places were identified within 50 metres of the boundary of the lot. AHIMS reference: REF – 10012023 (Appendix 3).

- **Biodiversity Conservation Act 2016 (BC Act)**

Under the BC Act, section 7.3 requires an assessment to determine if a proposed development or activity is likely to significantly affect threatened species, ecological communities or their habitats. Two Endangered Ecological Communities (EECs) are mapped on the site – River Flat Eucalypt Forest near the river, and Cumberland Plain Woodland through the centre, along the drainage lines of the site.

A desktop search of BioNet Atlas managed by NSW Department of Planning and Environment on 16 January 2023 to identify species listed under the Biodiversity Conservation Act 2016 indicated no threatened species or populations sighted at the project location.

A number of site inspections were conducted and the above mapped ecological communities did not occur at the sites to be cleared of vegetation. The vegetation was comprised of woody weeds except for a few remnant native trees, which in effect do not comprise a native vegetation community. Therefore it was determined that no native vegetation communities (including Endangered Ecological Communities) will be impacted. Individual remnant trees were assessed in regard to impacts. No roosts, active nests or burrows were identified within the project area. Based on this it was determined the project will have no significant impacts on flora and fauna; therefore, no further assessment is required.

The NSW Government's Biodiversity Values Map and Threshold Tool does not identify the project area as having biodiversity value (Appendix 2).

- ***Environmental Planning and Assessment Act 1979 (EP&A Act)***

Under the EP&A Act, Camden Council is classified as a 'proponent' and 'a determining authority' (under Part 5 of the EP&A Act) and must assess an activity under Part 5 of the EP&A Act if it may be permitted to be carried out without development consent. This REF meets the requirements of the EP&A Act in relation to the assessment of development under Part 5 of the EP&A Act.

- ***Protection of the Environment Operations Act 1997 (POEO Act)***

Any work potentially resulting in pollution must comply with the POEO Act. No licences for water, air, noise or land pollution for this project have been identified as being required.

- ***Fisheries Management Act 1994***

A permit under the FM Act is not required as the project does not involve activities involving dredging and reclamation work. It will not temporarily or permanently obstruct fish passage, does not involve the use of explosives or other dangerous substances and will not harm marine vegetation. No impacts under the FM Act have been identified as demonstrated in section 6 of this REF.

- ***Water Management Act 2000***

This Act establishes an approval process for controlled activities within waterfront land, including the removal of vegetation. Clause 41 of the *Water Management (General) Regulation 2018* provides an exemption for public authorities from section 91E(1) of the Act for all controlled activities it undertakes on waterfront land (Appendix 4).

- ***Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)***

Cumberland Plain Woodland (CPW) is mapped on site and listed as a Critically Endangered Ecological Community under the EPBC Act. A site inspection was conducted and it was determined that no CPW native vegetation is present at the project location, and no threatened species listed under the Act have been recorded on site.

4.4 Confirmation of statutory position

The proposal does not require development consent, is not State significant development or State significant infrastructure and is subject to Review of Environmental Factors under Division 5.1 of the EP&A Act. No further assessments or approvals are required under associated acts.

It is considered that these works are in the public interest, therefore the REF is legislatively required to be published on Camden Council's website or the NSW planning portal.

5. Stakeholder and community consultation

Council's approach to community and stakeholder consultation is guided by its Communications and Community Engagement Strategy.

This Strategy commits Council to seek feedback at various stages in project lifecycles in alignment with legislation and best practice. Council will also provide sufficient time for the community to have their say on changes in the Camden local government area. All communication and engagement should be open and inclusive, easy to understand, relevant, timely, meaningful and innovative.

When deciding on the type of engagement consideration is given to the complexity of the decision and the optimal time needed for people to respond. Community engagement is mainly used on major projects and when Council is planning on making a decision that may have a significant impact on stakeholders. Where appropriate we will also engage on projects of a lesser impact using tools and techniques suited to the information being shared and feedback sought.

A communications plan has been prepared for this project to ensure that the nearby residents and users of the shared pathway and reserve more broadly are provided with an overview of the project prior to its commencement. A direct point of contact within Council will also be made available to answer any questions or address any concerns that may be raised. This communications plan includes the use of temporary signage at the project site, a letterbox drop to nearby properties and provision of information on Council's website and social media channels.

6. Environmental Assessment

This chapter of the REF provides an analysis of all possible impacts from the proposed activity and a description of any proposed safeguards and or management measures.

Flora and fauna	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Is any vegetation going to be impacted due to the works (ie removal of trees and shrubs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Woody weed vegetation		<input checked="" type="checkbox"/>			<p>Mechanical removal of woody weeds over an area of approximately 0.85 hectares.</p> <p>Vegetation removal will involve exotic species only. No native vegetation will be cleared.</p> <p>Mature native trees will be retained.</p>	<p>Limits of vegetation clearing defined to the minimum area required to complete the project.</p> <p>Native trees and vegetation will be tagged and retained, including previously planted <i>Casuarina cunninghamiana</i>.</p> <p>Prior to work commencing an assessment for nests, roosts and other fauna will be conducted. If identified, work will be stopped, and Council's Natural Resource Officer contacted for advice.</p>
Are the works likely to require removal of any mature trees with a girth of more than 100mm?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Removal of woody weed tree species		<input checked="" type="checkbox"/>			<p>Mechanical removal of woody weed trees over an area of approximately 0.85 hectares.</p> <p>Mature native trees will be retained.</p>	<p>Native trees and vegetation will be tagged and retained, including previously planted <i>Casuarina cunninghamiana</i>.</p> <p>Limits of vegetation clearing defined to the minimum area required to complete the project.</p>

Flora and fauna (cont'd)	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Are there known threatened species, endangered ecological communities, critical habitat etc in or near the likely project footprint?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cumberland Plain Woodland (CPW) and River Flat Eucalypt Forest (RFEF)	<input checked="" type="checkbox"/>				<p>No native vegetation is currently on site. CPW and RFEF are located adjacent to the site.</p> <p>Native trees and vegetation will be tagged and retained, including previously planted <i>Casuarina cunninghamiana</i></p> <p>Control the location of stockpile sites to existing mown grassed areas to minimise impacts to vegetation and habitat.</p> <p>Replanting of native species local to the site will be undertaken to rehabilitate these ecological communities.</p>	
Are the works in or near a bio-certified area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Are the works in or near land identified on the Biodiversity Values (BV) Map?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Biodiversity Values land adjacent to project site.	<input checked="" type="checkbox"/>				<p>The project site is not identified on the BV Map, although land adjacent to the site is mapped.</p> <p>Limits of clearing will be defined to prevent encroachment onto land identified on BV map.</p> <p>Native trees and vegetation will be tagged and retained, including previously planted <i>Casuarina cunninghamiana</i></p>	

Are the works on or near bushfire prone land?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bushfire Prone Land. Vegetation category 1, category 3 and vegetation buffer.	<input checked="" type="checkbox"/>				Proposed works will not impact on bushfire ratings as the project is replacing existing exotic vegetation with native vegetation.	Woody weeds will be mechanically removed before the establishment of native plants.
Are the works in an asset protection zone (APZ)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Are the works likely to disturb natural waterways or aquatic habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>			Mechanical woody weed removal will occur near natural waterways to allow for planting of native species.	<p>Sediment controls will be established before and after weed removal in accordance with the Erosion and Sediment Control Plan.</p> <p>Sediment fencing and / or jute matting may be installed if there are extensive areas of exposed soil following weed removal works.</p> <p>Mulched vegetation will be spread on exposed soil as a short-term control measure.</p> <p>Planted native vegetation will provide protection in the mid to long term.</p> <p>Refilling of machinery and weed-spraying tanks is to be conducted 50 metres away from any waterway to prevent contamination.</p> <p>Any occurrence of a pollution incident will be reported to the NSW EPA.</p>

*If yes, all columns need to be completed.

Soil and water	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Are there any sensitive receiving environments that are located in or nearby the likely project footprint or that would likely receive stormwater discharge from the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nepean River		<input checked="" type="checkbox"/>			<p>The project will not alter existing stormwater systems.</p> <p>Sediment controls will be established before and after weed removal in accordance with the Erosion and Sediment Control Plan.</p> <p>Sediment fencing and / or jute matting may be installed if there are extensive areas of exposed soil following weed removal works.</p> <p>Refilling of machinery and weed-spraying tanks is to be conducted 50 metres away from any waterway to prevent contamination of run-off.</p> <p>Any occurrence of a pollution incident will be reported to the NSW EPA</p>	

Soil and water (cont'd)	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
Would the works be carried out near a waterway (i.e. within 50 metres)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Un-named creek		<input checked="" type="checkbox"/>			Un-named creek forms part of the riparian area being rehabilitated.	As above.
Is the location known to flood or be prone to water logging	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nepean River Floodplain	<input checked="" type="checkbox"/>				The project will not alter the flood risk of the site as there will be no modification of existing waterways and stormwater drainage.	Monitor site after rain events and ensure that plant guards are secured and waterway is not obstructed. Bio-degradable plant guards and timber stakes will be used to limit potential flood debris from the project.
Is the proposal likely to impact on soil quality or land stability?	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>			Only applicable if a flood event occurs prior to the establishment of native vegetation.	The root systems of woody weeds will not be removed to maintain soil stability prior to the establishment of native vegetation
Is there any evidence within or nearby the likely project footprint of potential contamination? This might include dip sites, service stations, fuel storage, industrial land uses nearby the land.	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Is the location known to be subject to acid sulfate soils?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Is the location known to be affected by mine subsidence?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Is the location known to be affected by salinity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

Are the works likely to result in more than 2.5ha (area) of exposed soil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Is there sufficient land available as part of the likely project footprint that would allow the future implementation of appropriate erosion and sedimentation control measures (eg basins)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

*If yes, all columns need to be completed.

Aboriginal heritage	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Would the likely works involve any disturbance in any area that has not been subject to previous ground disturbances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>						AHIMS reference: REF – 10012023 (Appendix 3)	Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales to be followed.
Will the likely works disturb the ground surface or any culturally modified trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>				No remnant native trees have been identified in the project area. No culturally modified trees have been located on site. Minimal ground disturbance usually confined to disturbance of groundcover by machinery.	Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales to be followed.
Will the likely works affect known Aboriginal objects or Aboriginal places?	<input type="checkbox"/>	<input checked="" type="checkbox"/>						AHIMS reference: REF – 10012023 (Appendix 3)	Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales to be followed.

*If yes, all columns need to be completed.

Non-Aboriginal heritage	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Are works likely to occur in or near a listed heritage item or conservation area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Are works likely to occur near a potential heritage item or conservation area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Are works likely to occur in or near features that may indicate potential archaeological remains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

*If yes, all columns need to be completed.

Noise and vibration	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Are there any residential properties or sensitive receivers within 200 metres of the likely project footprint?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Exposure of residential properties surrounding site to noise.		<input checked="" type="checkbox"/>			Works will occur less than 100 metres from some residential properties. Noise emitted during project works will comply with standard work hours.	Working hours will be standard hours (7am to 4pm) with no weekend work. Machinery and equipment will be switched off when not in use to reduce noise and comply with industry noise guidelines. Smaller machinery to be used to reduce the noise impacts for nearby residents and users of the shared pathway.
Will the likely works alter the line or level of an existing carriageway?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Will the likely works result in a change in traffic flow?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Is it likely that the works would require activities to be carried out outside standard working hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

*If yes, all columns need to be completed.

Air quality	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Will the likely works involve the emission of dust or odours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dust and vehicle emissions		<input checked="" type="checkbox"/>			<p>Dust may be generated during woody weed removal works.</p> <p>Emissions produced from machinery and vehicles.</p>	<p>Activities are to comply with the POEO Act 1997 and Clean Air Regulation 2022.</p> <p>Activities will be limited during windy conditions to minimise the generation of dust. Soil moisture should be high due to seasonal rain. Water suppression will be implemented if required through use of a water cart.</p> <p>Stockpiles and disturbed ground is to be covered if high winds are predicted.</p> <p>Machinery complies with industry standards and to be operated in an efficient manner.</p>
Will the likely works involve exposure of large areas of soil (greater than 2.5ha)	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Will the likely works involve the generation or disposal of gaseous, liquid or solid wastes or emissions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

*If yes, all columns need to be completed.

Landscape and visual character	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Is the likely project footprint over or near to any important physical or cultural elements or landscapes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nepean River	<input checked="" type="checkbox"/>				The Nepean River is an important physical element of the landscape. Water quality entering the river will be managed through appropriate sediment and erosion controls on site.	
Is the likely project footprint over or near any valued landscape or urban area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Elizabeth Macarthur Reserve	<input checked="" type="checkbox"/>				Elizabeth Macarthur Reserve is a valued landscape in the locality. Works will improve the landscape through removal of weeds and rehabilitation using native species.	
Is it likely that the works will affect the visual or scenic landscape?	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>			Temporary presence of stockpiles, machinery, sediment controls and personnel during project works. Removal of woody weeds will alter the scenery of the area. Visual impacts will be remediated at the completion of the project through on-going planting and site maintenance. Nearby residents and users of the shared pathway to be notified prior to works commencing.	

*If yes, all columns need to be completed.

Flooding and Stormwater	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		

Is the likely project footprint over or near flood prone land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nepean River floodplain		<input checked="" type="checkbox"/>			Project site is mapped as Nepean River Floodplain and Flood Prone Land	<p>Work activities will not contribute to an increased likelihood of flooding.</p> <p>Monitor site after rain events and ensure that plant guards are secured and waterway is not obstructed.</p> <p>Bio-degradable plant guards and timber stakes will be used to limit potential flood debris from the project.</p>
Is the project likely to be impacted by flooding?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nepean River floodplain		<input checked="" type="checkbox"/>			<p>Project site is located on the Nepean River Floodplain with a tributary flowing into the Nepean River.</p> <p>Possible movement of mulch in a flood event in the initial 12 months following completion of the project.</p>	If flooding is predicted to impact the project site or surrounding area, work will cease until the site is deemed safe for work to recommence.
Is it likely that the works will contribute to flooding?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Is the project likely to impede urban run-off and stormwater	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

*If yes, all columns need to be completed.

Traffic and transport	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Will the likely project impact on the road environment – vehicle movement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				<p>Temporary local access restrictions during the movement of plant and machinery.</p> <p>Two vehicle access points will be used, located off Ulmarra Avenue and Brigalow Avenue.</p> <p>Slow speeds and hazard lights to be used while vehicles are moving in the area.</p> <p>Spotter to be used when vehicles and machinery are close to the bike and pedestrian path.</p>	
Will the likely project impact on pedestrian or cycle movement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temporary site access restrictions		<input checked="" type="checkbox"/>			<p>Pedestrian footpaths and cycleway will be impacted by temporary access restrictions on site as required to allow for the completion of works.</p> <p>Temporary signage will be installed for the duration of work to provide public awareness at the site.</p> <p>Surrounding properties will receive notification of the project through a communications plan developed by council.</p> <p>Access to the site will be the responsibility of the Contractor and will be restricted for periods during works.</p> <p>Pedestrian management measures will be implemented as required to</p>	

										allow for safe access including temporary fencing to restrict access from the exclusion zone.
Is it likely that the works will involve construction of a new bridge or intersection or result in a substantial change to the appearance of an existing bridge or intersection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

*If yes, all columns need to be completed.

Social and economic	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Will the likely project affect community services or infrastructure?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Community footpaths and open space.		<input checked="" type="checkbox"/>			<p>Pedestrian footpaths, cycleways and open space may be impacted by temporary access restrictions on site as required to allow for the completion of works.</p> <p>Pedestrian management measures will be implemented when restricting public access to the site.</p> <p>Access to the site will be the responsibility of the contractor for the duration of the project works</p>	
Does the likely project affect sites of importance to local or broader community for their recreational or other values or access to these sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Community recreation		<input checked="" type="checkbox"/>			As above	
Will the likely project reduce access or reduce visibility to any business or tourist destination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

<p>Will the likely project have an impact on the safety of the community</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Community Safety, WHS requirements</p>		<input checked="" type="checkbox"/>			<p>Temporary access restrictions will be implemented on site as required to allow for the completion of works.</p>	<p>Pedestrian management measures will be required when restricting public access to the site.</p> <p>Access to the site will be the responsibility of the contractor for the duration of the project works.</p> <p>Temporary fencing will be used to maintain an exclusion zone around the machinery and prevent unauthorised access.</p>
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*If yes, all columns need to be completed.

Land use and property	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Will the likely project influence land use changes in the locality or in response to emerging land use changes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Will the likely project impact on accesses to private property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Will the likely project reduce access or reduce visibility to any business, property or tourist destination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
Will the likely project have an impact on the safety of the community	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Community safety		<input checked="" type="checkbox"/>			Temporary access restrictions will be implemented on site when required to allow for the completion of works.	<p>Pedestrian management measures will be required when restricting public access to the site.</p> <p>Access to the site will be the responsibility of the contractor for the duration of the project works.</p> <p>Temporary fencing will be used to maintain an exclusion zone around the machinery and prevent unauthorised access.</p>

*If yes, all columns need to be completed.

Environment	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Will the likely project result in any long-term effects on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Restoration of the area with native vegetation from the River Flat Eucalypt Forest plant community			<input checked="" type="checkbox"/>		The environment will have positive long-term effects on the environment. A project outcome is to remove existing weed species and re-instate local native vegetation at the project site.	The project works will remain within scope through this REF document. The site will be protected using the mulched vegetation and erosion controls as required. The native species planted will assist in the stability of the bank and provide a long-term erosion and sediment control measure while also re-instate the original vegetation community to this riparian corridor.
Will the likely project degrade the quality of the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-					The project seeks to remediate and rehabilitate the quality of the environment.	-
Will the likely project risk the on-ground safety of the environment, such as public health or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-					The project seeks to reduce the risk of the on-ground safety of the environment by restoring native riparian vegetation at the project site.	-
Will the likely project risk the climate safety of the environment, such as storms, wind speeds, extreme heat, urban heat or climate change adaption?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Restoration of the area with native vegetation from the River Flat Eucalypt Forest plant community	<input checked="" type="checkbox"/>				The project will result in a slight improvement by providing native tree canopy in the future that will provide shade and cooling through evapotranspiration.	The project works will remain within scope through this REF document.

Environment	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Will the likely project reduce the range of beneficial uses of the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<p>The project will re-instate local native vegetation to replace existing weeds and exotic vegetation along the waterway.</p> <p>The site is primarily used for passive recreation including cycling and walking along the bike path and there will be no impact on this use following completion of the project.</p>	-
Will the likely project result in light pollution?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-					The project generates no light pollution.	-
Will the likely project have a cumulative environmental effect with other existing or likely future activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Weed removal and planting of local native vegetation along the waterway		<input checked="" type="checkbox"/>			<p>Council is progressively working to remove woody weeds in riparian areas and bushland reserves across the Camden LGA. This work seeks to prioritise areas where previous work has been undertaken, or in areas with high biodiversity value.</p> <p>At Elizabeth Macarthur Reserve this project links the recent planting of Camden White Gums and the native grass meadow located adjacent to the project area and will</p>	The removal of weeds and reinstatement of local native vegetation will have a positive cumulative environmental impact when combined with other restoration activities being undertaken within Elizabeth Macarthur Reserve and across the Camden LGA.

Environment	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
								restore a section of the waterway.	
Will the likely project impact on coastal processes and coastal hazards, including those projected under climate change conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-					The project is not based on the coast or estuary.	-

Resources	Applicable*	Not Applicable	Item	Likely impact				Reasoning	Safeguard and/or management measure
				Negligible	Low	Medium	High		
Will the likely project create environmental problems associated with the disposal of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-					No environmental problems will be created as waste is being generated from these project works. vegetation will be mulched and reused on the site.	
Will the likely project increase demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-					The project will not increase demand for any resources that are known to be in short supply.	

*If yes, all columns need to be completed.

7. Environmental Management

A number of safeguards and/or management measures have been identified in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the likely works. Should the proposal proceed, these safeguards/management measures will be incorporated into the detailed design and applied during the construction and operation of the proposal.

7.1 Summary of safeguards and/or management measures

The safeguards/management measures are summarised in the table below.

No.	Impact	Safeguard/Management Measure	Responsibility	Timing
1	Flora and Fauna Impacted vegetation Ecological communities Bushfire prone land Biodiversity Values Aquatic habitat	<ul style="list-style-type: none"> • Limits of vegetation clearing defined to the minimum area required to complete the project. • Native trees and vegetation will be tagged and retained, including previously planted <i>Casuarina cunninghamiana</i>. • Prior to work commencing an assessment for nests, roosts and other fauna will be conducted. If identified, work will be stopped, and Council's Natural Resource Officer contacted for advice. • Control the location of stockpile sites to existing mown grassed areas to minimise impacts to vegetation and habitat. • Replanting of native species local to the site will be undertaken to rehabilitate these ecological communities. • Mulched vegetation will be spread on exposed soil as a short-term control measure. • Planted native vegetation will provide protection in the mid to long term. 	Contractor and Council Staff	Prior to the commencement of works and for the full duration of the project period.
2	Soil and Water Sensitive receivers Waterways	<ul style="list-style-type: none"> • Sediment controls will be established before and after weed removal in accordance with the Erosion and Sediment Control Plan. 	Contractor and Council Staff	Prior to the commencement of work and during project.

		<ul style="list-style-type: none"> • Sediment fencing and / or jute matting may be installed if there are extensive areas of exposed soil following weed removal works. • Refilling of machinery and weed-spraying tanks is to be conducted 50 metres away from any waterway to prevent contamination of run-off. • Any occurrence of a pollution incident will be reported to the NSW EPA. • Monitor site after rain events and ensure that plant guards are secured and waterway is not obstructed. • Bio-degradable plant guards and timber stakes will be used to limit potential flood debris from the project. • The root systems of woody weeds will not be removed to maintain soil stability prior to the establishment of native vegetation. 		
3	Aboriginal Heritage Ground disturbance	<ul style="list-style-type: none"> • Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales to be followed. 	Contractor and Council Staff	For the full duration of the project period.
4	Noise and Vibration Residential properties	<ul style="list-style-type: none"> • Working hours will be standard hours (7am to 4pm) with no weekend work. • Machinery and equipment will be switched off when not in use to reduce noise and comply with industry noise guidelines. • Smaller machinery to be used to reduce the noise impacts for nearby residents and users of the shared pathway. 	Contractor and Council Staff	For the full duration of the project period.
5	Air Quality Dust Vehicle emissions	<ul style="list-style-type: none"> • Activities are to comply with the POEO Act 1997 and Clean Air Regulation 2022. • Activities will be limited during windy conditions to minimise the generation of dust. 	Contractor and Council Staff	For the full duration of the project period.

		<ul style="list-style-type: none"> • Water suppression will be implemented if required through use of a water cart. • Stockpiles and disturbed ground is to be covered if high winds are predicted. • Machinery should be checked to ensure it complies with industry standards and be operated in an efficient manner. 		
6	Landscape and Visual Character Visual impacts Valued landscape	<ul style="list-style-type: none"> • Works will improve the landscape through removal of weeds and rehabilitation using native species. • Visual impacts will be remediated at the completion of the project through on-going planting and site maintenance. 	Contractor and Council Staff	For the full duration of the project period.
7	Flooding and Stormwater Flood prone land	<ul style="list-style-type: none"> • If flooding is predicted to impact the project site or surrounding area, work will cease until the site is deemed safe for work to recommence. • Monitor site after rain events and ensure that plant guards are secured and waterway is not obstructed. • Bio-degradable plant guards and timber stakes will be used to limit potential flood debris from the project. 	Contractor and Council Staff	For the full duration of the project period.
8	Traffic and Transport Pedestrian and cycle access Vehicle traffic	<ul style="list-style-type: none"> • Two vehicle access points will be used, located off Ulmarra Avenue and Brigalow Avenue. • Slow speeds and hazard lights to be used while vehicles are moving in the area. • Spotter to be used when vehicles and machinery are close to the bike and pedestrian path. • Temporary signage will be installed for the duration of work to provide public awareness at the site. • Surrounding properties will receive notification of the project through a communications plan developed by council. 	Contractor and Council Staff	Prior to the commencement of works and for the full duration of the project period.

		<ul style="list-style-type: none"> • Access to the site will be the responsibility of the Contractor and will be restricted for periods during works. • Temporary fencing will be used to maintain an exclusion zone around the machinery and prevent unauthorised access. • Pedestrian management measures will be implemented as required to allow for safe access. 		
9	Social and economic Community recreation Community safety	<ul style="list-style-type: none"> • A communications plan will be developed to advise the community of the project through on-site signage and a letterbox drop campaign. • Pedestrian management measures will be implemented when restricting access to the site. • Access to the site will be the responsibility of the contractor for the duration of the project works. • Temporary fencing will be used to maintain an exclusion zone around the machinery and prevent unauthorised access. 	Contractor and Council Staff	Prior to the commencement of works and for the full duration of the project period.
10	Land use and Property Community safety	<ul style="list-style-type: none"> • Pedestrian management measures will be implemented as required when restricting public access to the site. • Access to the site will be the responsibility of the contractor for the duration of the project works. • Temporary fencing will be used to maintain an exclusion zone around the machinery and prevent unauthorised access. 	Contractor and Council Staff	Prior to the commencement of works and for the full duration of the project period.

7.2 Guidelines, licences and approvals

Licence/Permit/ Notification/ Approval	Description	Further information
Biodiversity Conservation Act 2016	Nil.	Biodiversity legislation NSW Environment and Heritage
Environment Protection and Biodiversity Conservation Act 1999	Nil.	Referrals and environmental assessments under the EPBC Act - DCCEEW
National Parks and Wildlife Act 1974	Nil. Check for nests, roosts and burrows prior to the commencement of works.	Licences and permits NSW Environment and Heritage
Camden DCP 2019 Section 2.7 Bushfire Risk Management	Nil.	Bush Fire Risk Management » Camden Council Development Control Plan (nsw.gov.au)
Planning for Bushfire Protection 2019	Nil.	Planning for Bush Fire Protection - NSW Rural Fire Service
Camden DCP 2019 Section 2.4 Trees and Vegetation.	Nil. Measures put in place as detailed in this REF.	Trees and Vegetation » Camden Council Development Control Plan (nsw.gov.au)

8. Conclusion

The proposed woody weed removal and rehabilitation at Elizabeth Macarthur Reserve, Camden South is subject to assessment under Part 5 of the EP&A Act. This REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity.

The proposed activity is not likely to have a significant impact on the environment and therefore an EIS is not required.

The proposed activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a SIS and BDAR is not required.

9. Certification

This REF provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposal.



Name: Carmel Hamilton
Position: Team Leader Sustainability
Organisation: Camden Council
Date: 19/05/2023

I certify that I have reviewed and endorsed the contents of this REF document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.



Name:	Robert Corby
Position:	Natural Resource Officer
Organisation:	Camden Council
Date:	06/06/2023

Terms and acronyms used in this REF

Term/Acronym	Definition
AHIMS	Aboriginal Heritage Information Management System
BDAR	Biodiversity Development Assessment Report
BV	Biodiversity Values
CPW	Cumberland Plain Woodland
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
ISEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
LEP	Local Environmental Plan
NSW EPA	NSW Environmental Protection Authority
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
RFEF	River Flat Eucalypt Forest
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
SWMS	Safe Work Method Statement

Erosion Sediment Control Plan

Elizabeth Macarthur Reserve stormwater creek line



Introduction

Planning for erosion and sediment control is required for land that will be disturbed or cleared of vegetation due to the potential for erosion by stormwater runoff. Erosion of soil, including the topsoil layer, can result in the downslope transport of sediment, which can enter adjacent watercourses, wetlands and lands. Adverse environmental impacts can result from erosion and sedimentation including:

- Reduction in water quality, increased turbidity and nutrient enrichment of water bodies
- Damage to vegetation communities
- Disturbance to aquatic flora and fauna
- Reduction in recreational and aesthetic values of waterbodies
- Increased maintenance costs
- Promotion of weed growth

This erosion and sediment control plan (ESCP) aims to minimise on-site erosion and off-site sedimentation to prevent adverse environmental impacts.

Project description

Camden Council have identified an area of approximately 0.85 hectares that includes riparian areas within Elizabeth Macarthur Reserve that would be suitable for a revegetation project. The existing vegetation at the project site consists entirely of exotic / weed species and presents an opportunity to undertake restoration works that will result in planting of native species from the River Flat Eucalypt Forest plant community, which is identified as a Critically Endangered Ecological Community.

The works are consistent with actions identified within Council's Sustainability Strategy and Biodiversity Strategy and will significantly improve the biodiversity value of the reserve. They will complement projects that have already been delivered on this site, including the Connecting Camden White Gum project and the native meadow.

Project works will include:

- Woody weed removal through use of a mechanical tritter with material to be mulched onsite;
- Installation and maintenance of erosion control measures
- Site preparation including spraying of weeds and re-mulching to ensure the area is suitable for replanting;
- Planting of 2,000 native species from the River Flat Eucalypt Forest species palette;
- Maintenance for a period of six months including watering as required; and
- Installation of signage to share project information and identify the project partners.

The project will also be used for the delivery of Council's annual National Tree Day event in July 2023. This will provide an opportunity for the local community to get involved in a community tree planting event and actively contribute to restoration of the local environment.

Maintenance of the site will be undertaken until the end of 2023 with Council responsible for ongoing maintenance of the project after the completion of the project.

Supporting publications

This ESCP meets the requirements, guidelines and recommendations of:

- Landcom (2004). Managing urban stormwater: soils and construction, Volume 1 (Blue Book)
- Landcom (2004). Managing urban stormwater: soils and construction, Volume 2C Unsealed Roads (Blue Book)
- NSW Office of Environment and Heritage (2012) Erosion and sediment control on unsealed roads

Key strategies

The following sections outline the principles and control measures that will be employed on this project for minimising erosion and sedimentation.

Training and induction

Training and induction of all on-site personnel and subcontractors must be undertaken to ensure they are familiar with this ESCP, its implementation and their responsibilities. The importance of documenting erosion and sediment control during the project duration must be emphasised to ensure compliance with this ESCP. Regular toolbox meetings should be held during the course of the project to review this ESCP and address any arising matters relevant to erosion and sediment control. Any matters arising from a toolbox talk indicating insufficient erosion and sediment control should be revised and included in a progressive ESCP to ensure effective erosion and sediment control for the entire duration of the project.

General site principles

General site principles of erosion and sediment control:

- Heavy machinery use onsite will focus on above ground vegetation removal. All strata of vegetation will be mulched by the machinery and left onsite;
- Machinery will reduce the motion of scalping and removal of topsoil;
- The original bank and watercourse structure will not be altered by this vegetation removal;
- Areas within the work site that are sloping towards the stormwater creek bank will be subject to erosion control measures;
- Hay bales will be installed at defined locations of the un named creek to catch sediment or mulch runoff. These measures will be in place for the entirety of the project and act as a check dam location, which will undergo regular monitoring.
- Control dust by reducing vehicle speeds, limiting vehicle movements and limiting works during high winds;
- Reduce and if possible, limit the amount of machine movement over waterlogged grass within the reserve;
- Control the spread of sediment onto sealed public roads by washing down vehicles or limiting vehicle movements in wet conditions.

Minimising disturbance and clearing, and delineating limits of clearing

General measures should be implemented to ensure effective erosion and sediment control during works. These measures include:

- Timing machinery use and off-road driving to avoid wet weather
- Install instream sediment control measures (Hay bales) before machine use
- Minimising the extent and duration of soil disturbance
- Clearly mark the limits of vegetation clearing
- Progressively install erosion and sediment controls as areas of work are disturbed (e.g. installing coir logs after sections of vegetation have been mulched.)

Revegetation and site stabilisation

A revegetation program will be undertaken within 2 months of the completion of the machine works, including the installation of 2,000 native trees, shrubs and groundcovers. Natural regrowth of existing species will be

monitored regularly by councils Natural Areas Team to control exotic species regrowth, and to support native species which are more beneficial to the ecosystem.

Erosion and sediment control structures (e.g. coir logs) are to remain in place permanently. Coir, hay bales, and stakes are made of biodegradable materials, which will degrade over time with groundcover vegetation often growing over the coir logs.

Establishment of an inspection and maintenance program

The following procedures should be implemented to regularly inspect erosion and sediment control measures:

- Erosion and sediment control measures must be inspected regularly and following rain events to ensure they continue to function effectively. Any necessary maintenance to controls must be undertaken promptly.
- Document progress of erosion and sediment control measures and maintenance undertaken.

Conclusion

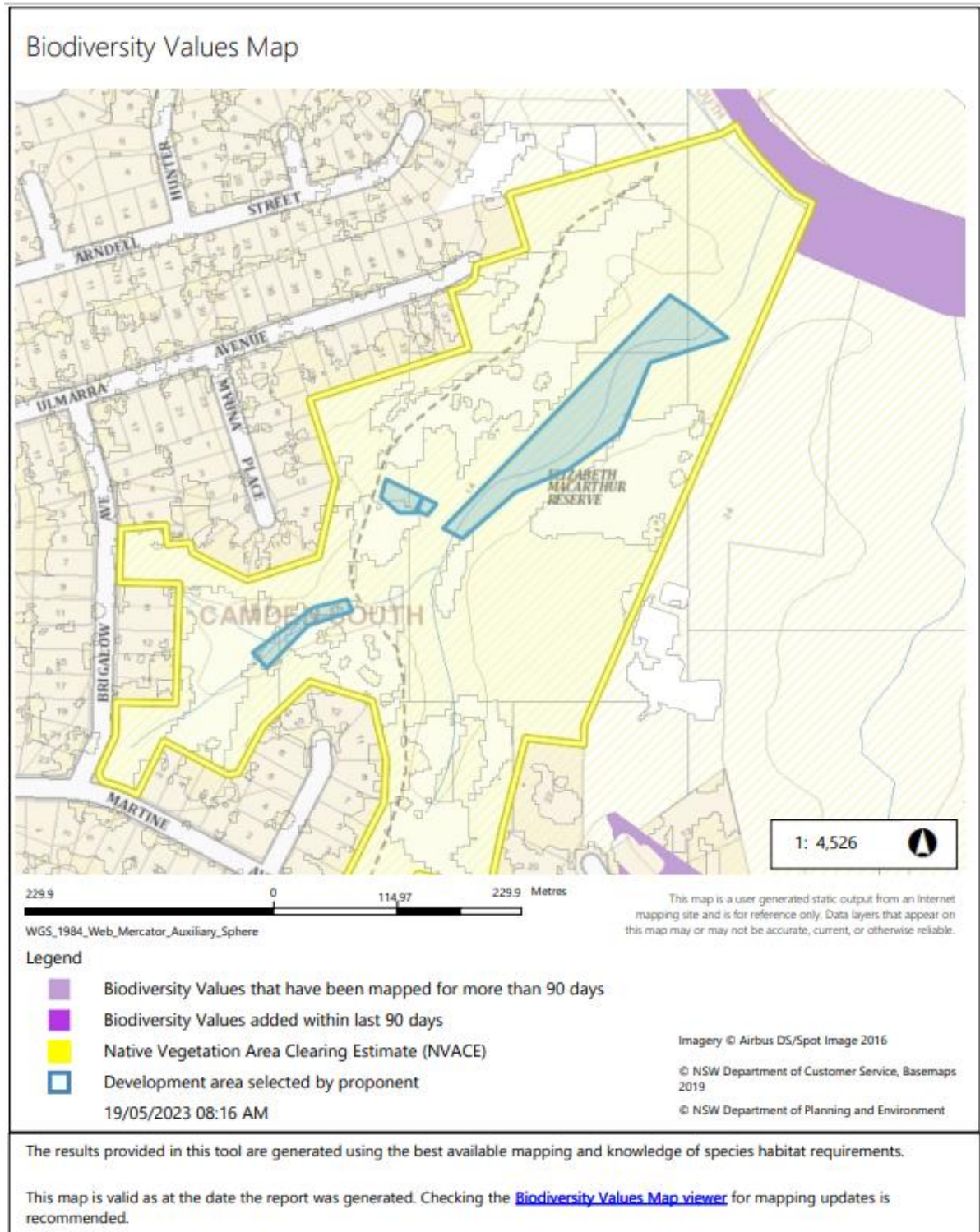
The strategies included in this plan will address erosion and sediment control issues appropriately and mitigate potential erosion and sedimentation impacts of the project. Planning, adhering to this ESCP, training and completing progressive ESCPs (if needed) will be key in ensuring good erosion and sediment control outcomes.

The scope of works will result in limited disturbance of soil which can be managed effectively to mitigate erosion and sediment transport if this ESCP is adhered to. Mulch generated by the project will also be managed to protect the waterway and retain the mulch on site to stabilise the ground surface.

Attachments

Concept Erosion and Sediment Control Plans

Attachment 2 – Biodiversity Values Map for project site



Attachment 3 – Aboriginal Heritage Information Management System (AHIMS) report

Camden Council
70 Central Avenue
Oran Park New South Wales 2570
Attention: Michael McConville

Date: 10 January 2023

Email: michael.mcconville@camden.nsw.gov.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 2, DP:DP590777, Section : - with a Buffer of 50 meters, conducted by Michael McConville on 10 January 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette](https://www.legislation.nsw.gov.au/gazette) (<https://www.legislation.nsw.gov.au/gazette>) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Attachment 4 – Exemption under Water Management Act



Controlled activity exemption e-tool

This controlled activity exemption e-tool has been developed to help controlled activity applicants and consultants determine if a controlled activity approval is required under the provisions of the Water Management Act 2000. The tool can be used to help identify:

- if there is an exemption that applies to the site or proposed activity and
- provide support in the interpretation of exemptions

- the CAA exemption e-tool should be used in conjunction with the Waterfront land e-tool that helps you to identify if you are located on waterfront land. Please use the below link to use the Waterfront land e-tool.
https://docs.google.com/forms/d/1YtVIPPmxVdum8ZxZm_lmKQTqPYPmtAhr8u4CnF0ndVA/viewform?edit_requested=true
- If you require more information on controlled activities please use the below link:
<https://www.nrar.nsw.gov.au/how-to-apply/controlled-activities>

Using the tool

Multiple exemptions may apply to your property and/or proposed works. You must complete this e-tool separately for each applicable exemption.

You can go back at anytime after reading the further information provided in the questions.

Some of the questions in this tool can be answered using materials online. Depending on your circumstances, you may also need to visit the site of the proposed work in person to gather supporting evidence. There is a PDF factsheet on exemptions available that you can download and take into the field at:

https://www.nrar.nsw.gov.au/_data/assets/pdf_file/0009/386190/Controlled-activity-approval-exemptions-fact-sheet.pdf

Members of the general public who are planning works near waterfront land should seek professional advice.

When you complete the tool, **you must click Submit to save or print a pdf copy of your answers and your result**, which you must keep as a record of your decision-making. You must also keep all reference material and information used—including maps, photos and observations to answer the tool questions.

The Department of Planning and Environment—Water may request copies of the controlled activity exemption e-tool answers and supporting documents from landholders where works are carried out without a controlled activity approval under the Water Management Act 2000.

The controlled activity exemption e-tool will store your answers but it will not identify your location or any other personal details.

More Information

- about this tool, contact Department of Planning and Environment—Water via lodging an enquiry through NRAR Assist
<https://www.nrar.nsw.gov.au/nrar-assist>
- about controlled activity approvals, visit
<https://www.nrar.nsw.gov.au/how-to-apply/controlled-activities>

Disclaimer

- This tool is intended for guidance purposes only and cannot be used as evidence of compliance with the Water Management Act 2000.
- Users of this tool will be responsible for making their own assessment of the material and should verify all relevant representations, statements and information with their own professional advisers.
- This tool only applies to controlled activities on waterfront land—it does not apply to water access licences or water supply work and/or water use approvals.
- This is not an approval to undertake work on waterfront land and you will still need to obtain relevant approvals as required under the Water Management Act 2000 (WM Act).
- The use of this tool does not remove the obligation to obtain approval under any other relevant legislation.
- Users should also refer to the disclaimer on the department's website at:
<https://www.industry.nsw.gov.au/disclaimer>

Entity Types

1

Are you any of the following? *

- a Public Authority
- a State or Commonwealth body
- a Network operator

- None of the above

1. Public Authorities

Who is a public authority?

- Local Government Council
- Contractor undertaking works for Council where Council is responsible for the works
 - Examples:
 - Removing flood debris from a public culvert or
 - Removing vegetation from a watercourse
 - Construction of Council flood mitigation works
- NSW Public Service Agencies
- Sydney Water
- Hunter Water

Who is not a public authority?

- Landcom (Urban Growth)
- Private person or company undertaking works in kind for Council eg. Building a detention basin to be handed over to Council at completion of subdivision works.
- Private person or company undertaking works in kind for Sydney Water or Hunter Water eg. Construction of sewer line by developer as part of subdivision
- Universities
- Superannuation Administration Corporation.
- Energy operators

2

Using the above information which of the following public authorities are you? *

- Local Government Council
- Contractor undertaking works for Council, where Council has oversight and responsibility for the works
- NSW Public Service Agencies
- Sydney Water
- Hunter Water

1.1 Result - Public Authority - Local Government Council

Based on your answers, the result is:

EXEMPT - Controlled Activity Approval not required

Exemption under Clause 41 of the Water Management (General) Regulation 2018
<https://legislation.nsw.gov.au/view/html/inforce/current/sl-2018-0480#sec.41>

Statements

- You are a you are a Local Government Council

3

Is the above statement correct? *

Yes (Record keeping and disclaimer)

No (Restart Tool)

12. Record keeping and disclaimer

You MUST click Submit to save or print a pdf copy of your answers and your result.

Please ensure you keep the electronic and/or printed copies of all supporting evidence used to answer questions in this tool and the saved PDF you receive after clicking submit.

NOTE:

- The results given by this tool are generated using the answers you have provided. If any answers are incorrect or incomplete, the result produced may be incorrect.
- This tool is intended for guidance purposes only and cannot be used as evidence of compliance with the Water Management Act 2000.
- Users of this tool will be responsible for making their own assessment of the material and should verify all relevant representations, statements and information with their own professional advisers.
- Users should also refer to the disclaimer on the department's website at: industry.nsw.gov.au/disclaimer.

If ANY of your assessments identify that a controlled activity approval is required for your proposed works, you must complete the following tasks:

- For matters requiring a development application (DA) from Council, you should lodge your DA as Integrated Development.
- For matters NOT requiring a DA, please refer to NRAR Assist for instructions on how to apply for a Controlled Activity Approval:
<https://www.nrar.nsw.gov.au/nrar-assist>

Reminder: Multiple exemptions may apply to your property and/or proposed works. You must complete this e-tool separately for each applicable exemption.

4

You MUST click Submit to save or print a pdf copy of your answers and your result.

Please let us know whether you found this tool helpful and what we could do to make it better. Your comments will help us to improve the tool.

Thankyou for your feedback. *

Provide feedback then submit

Submit now

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Attachment 5 – Project Site Photos



Figure 1 - Aerial view of existing vegetation in largest project area.



Figure 2 - Aerial view of existing vegetation



Figure 3: Weed trees within the upper drainage line.



Figure 4: Main work zone adjacent to Camden White Gum (*Eucalyptus benthamii*) restoration planting.