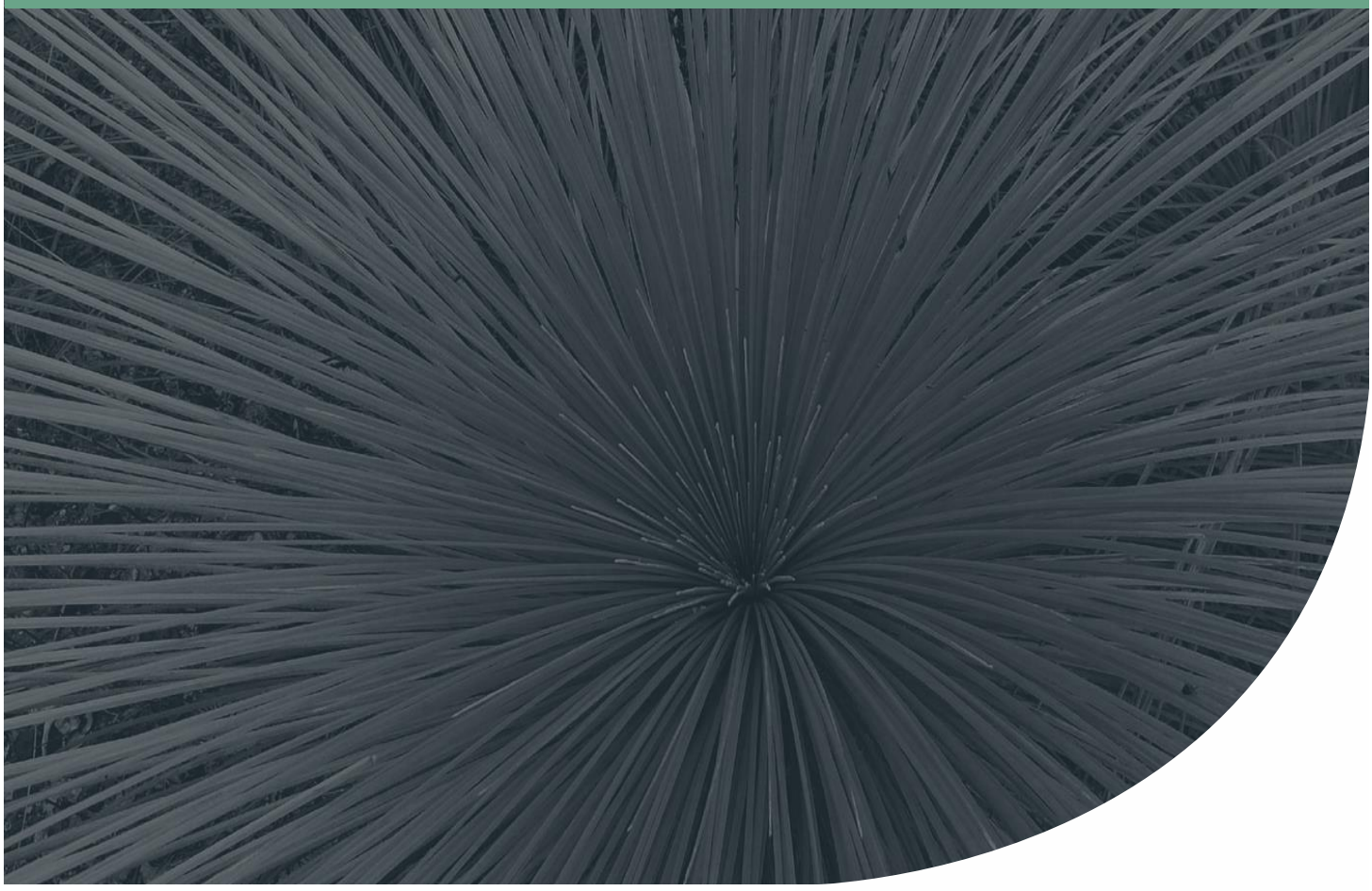
Environmental Risk Assessment

Hamersley Residential Development and Conservation

Project No: EP24-129(08)

Prepared for BAI Communications Pty Ltd
July 2025



Document Control

Doc name:	Environmental Risk Assessment Hamersley Residential Development and Conservation				
Doc no.:	**EP24-129(08)—015a EKB**				
Version	**Date**	**Author**		**Reviewer**	
1	May 2025	Emma Bentley	EKB	Adrian Vlok	ASV
	Submitted to client				
A	July 2025	Emma Bentley	EKB	Adrian Vlok	ASV
	Updated post client review and submission as attachment to EPA documentation package				

1 Purpose

This risk assessment has been prepared as an appendix to the Environmental Review Document- Hamersley Residential Development and Conservation (ERD) (Emerge Associates 2025). It identifies and assesses the potential onsite and offsite risks and resulting consequences (impacts) on the key environmental factors (EPA factors), as a result of the implementation of the proposal as outlined in the ERD.

The risk assessment is based on the risk matrix provided in **Table 1**. The risk matrix uses the risk categories outlined in the Department of Water and Environmental Regulation's Risk Assessments Guidelines (DWER 2020) utilising the Australian Standard (AS) 4360:2004: Risk Management and AS 31000:2009 Risk Management – Principles and Guidelines.

Table 2 and **Table 3** provide the criteria to assess the 'consequences' and 'likelihood' of a risk event occurring.

The risk assessment is provided in **Table 4** and includes the initial and residual risk ratings, the identified controls (if required) which link to environmental management measures and a rationale for the rating of each impact pathway.

The outcome of the risk assessment demonstrates an overall reduction of environmental risk (where the initial risk rating doesn't remain) associated with the proposal when comparing initial risk to the residual risk subsequent the implementation of mitigation measures. The initial risk assessment identified 4 'low' and 1 'moderate' risks compared to 3 'very low' and 2 'low' residual risks subsequent the implementation of mitigation measures.

Table 1: Risk Assessment Matrix (AS 4360)

	Consequence/Impact				
Probability/Likelihood	**Slight (A)**	**Minor (B)**	**Moderate (C)**	**Major (D)**	**Severe (E)**
Almost certain (5)	Low	Moderate	High	Extreme	Extreme
Likely (4)	Low	Low	Moderate	High	Extreme
Possible (3)	Low	Low	Moderate	High	Extreme
Unlikely (2)	Very Low	Low	Low	Moderate	High
Rare (1)	Very Low	Very Low	Low	Moderate	Moderate

Table 2: Criteria to assess the consequence of a risk event occurring (based on DWER 2020)

Consequence	Criteria
Severe	• Onsite impacts**: catastrophic** • Offsite impacts local scale**: high level or above** • Offsite impacts wider scale: **mid-level or above** • **Mid to long-term or permanent impact to an area of high conservation value or special significance** • **Specific Consequence Criteria (for environment) are significantly exceeded**
Major	• Onsite impacts**: high level** • Offsite impacts local scale**: mid-level** • Offsite impacts wider scale**: low level** • **Short-term impact to an area of high conservation value or special significance** • **Specific Consequence Criteria (for environment) are exceeded**
Moderate	• Onsite impacts**: mid-level** • Offsite impacts local scale**: low level** • Offsite impacts wider scale**: minimal** • **Specific Consequence Criteria (for environment) are at risk of not being met**
Minor	• Onsite impacts: **low level** • Offsite impacts local scale: **minimal** • Offsite impacts wider scale: **not detectable** • **Specific Consequence Criteria (for environment) likely to be met**
Slight	• Onsite impact: **minimal** • **Specific Consequence Criteria (for environment) met**

Table 3: Criteria to assess the likelihood of a risk even occurring (based on DWER 2020)

Likelihood	Criteria
Almost certain	The risk event is expected to occur in most circumstances.
Likely	The risk event will probably occur in most circumstances.
Possible	The risk event could occur at some time.
Unlikely	The risk event will probably not occur in most circumstances.
Rare	The risk event may only occur in exceptional circumstances.

Table 4: Aspect based impact pathway risk assessment

EPA Factor	Risk ID	Risk Event	Impact Pathway	Initial Risk			Mitigation	Residual Risk		
				Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Flora and Vegetation	FV1	Unapproved clearing of flora and vegetation	Direct impact through the loss of flora, vegetation and fauna habitat due to clearing activities or current broadcast transmission operations.	Possible	Moderate	Moderate	The impact mitigation measures for clearing activities will be outlined in form of a CEMP and include the mitigation measures and objectives in respect to the following potential impacts: • Clearly defining the extent of the clearing area before any clearing activities commence to ensure retained areas of vegetation external to the development envelope are maintained and not directly or indirectly adversely impacted as part of the proposal implementation. This will include demarcation measures demarcation measures such as fencing and signage i.e. demarcation of the residential development area, the APZ and the conservation area through temporary fencing, bunting and/or signage. • Provide inductions to all construction personnel regarding clearing areas. • Establishment of the APZ management area to act as a buffer between the conservation area and residential development area. The impact mitigation measures for broadcast transmission operations are outlined in the form of a CAMP and include mitigation measures including: • A conservation covenant will be enacted with a notice placed on the titles of Lot 803 and Lot 1 • The conservation area will be vested with a public authority and ceded to a public authority free of charge for ongoing future management • Restricting expansion or intensification of current operational and management works within the conservation area that would require clearing or disturbing native vegetation • Exploration and commitment by the proponent to low impact decommissioning methodology • Staff will be inducted regarding the conservation area and its environmental values. • Installation of signage to raise awareness of the conservation area and associated restoration areas.	Unlikely	Minor	Low
	FV2	Spread or introduction of weeds or pathogens	Indirect and direct impact through reduced extent or quality of flora, vegetation and fauna habitat in the conservation area due to clearing activities.	Possible	Minor	Low	The introduction and spread of weeds and pathogens from construction activities will be mitigated through implementation of the CEMP and include: • Restricting vehicles to the construction within the residential development areas • Machinery, vehicles and tools are to be cleaned down and inspected to limit the spread of weeds and disease • Provide inductions to all construction personnel on the mitigation of weeds or pathogens. Introduction and spread of weeds and pathogens as a result of broadcast transmission operations will be mitigated through implementation of the CAMP and include mitigation measures including: • Controlled access to the conservation area, including installation of fencing and establishment of 'no-access zones'. • Usual site operations (excluding in the event of an operations emergency) would include checking vehicles on a regular basis to ensure free of weeds and disease, and any personnel entering site to clean boots upon sign in. • Any additional vehicles required to promptly enter site in the event of an emergency to remain on existing access tracks and workers to remain within current operational area. • Weed and pest control.	Unlikely	Slight	Very Low
	FV3	Habitat fragmentation	Indirect and direct impact through reduced extent or quality of flora, vegetation and fauna habitat through increased edge effects and fragmentation due to construction activities.	Unlikely	Minor	Low	The risk of habitat fragmentation outside the development envelope will be mitigated through the implementation of standard construction management measures in form of a CEMP to control vegetation clearing. This will include conditioned demarcation measures such as fencing to avoid any accidental clearing outside the approved clearing area i.e. development envelope.	Unlikely	Slight	Very Low
	FV4	Bushfire within conservation area	Direct and indirect impact to remaining flora and vegetation through increased fire risk due to construction activities.	Possible	Minor	Low	There are multiple mitigation measures and long-term statutory planning requirements to address any potential changes to the local fire regime with the potential to impact on native vegetation. Further potential of accidental ignition of fires during the implementation of the proposal (construction phase) will be mitigated through the CEMP and CAMP.	Unlikely	Minor	Low

Table 4: Aspect based impact pathway risk assessment (continued)

EPA Factor	Risk ID	Risk Event	Impact Pathway	Initial Risk			Mitigation	Residual Risk		
				Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Terrestrial Fauna	TF1	Fauna interactions	Direct impact to fauna through injury or mortality due to clearing of vegetation within the residential development area.	Likely	Minor	Low	Fauna interactions can be mitigated through a range of precautionary and construction management measures, including: • Implementation of a pre-clearing trapping program in the proposal's development envelope to capture and then relocate fauna species out of the construction area prior to the commencement of clearing activities. This typically involves relocation of any captured fauna to nearby bushland or conservation reserves. The management actions associated with potential fauna trapping are also regulated by DBCA pursuant to *Biodiversity Conservation Act 2016*, which requires appropriate fauna handling licences to be in place. • Undertaking pre-clearing inspections of fauna habitats (including microhabitats such as logs, leaf litter and tree hollows) to ensure no fauna occur in the clearing area immediately prior to commencing clearing works. • During clearing works, having a suitably qualified and experienced fauna spotter/handler supervising the clearing activities, to actively search for fauna during clearing, relocate any opportunistically identified fauna, and attend to any injured fauna. • Stipulating limits on construction vehicle operating speeds and operating times (i.e. within daylight hours), to minimise the chance of vehicle strikes. • Undertaking clearing in a single direction, toward other areas of vegetation, to allow any remaining fauna to move themselves away from the area once works commence. • Providing training and inductions to construction personnel regarding fauna management. • Having a protocol in place to manage any fauna which might be injured, for example taking injured fauna to the nearest wildlife or veterinary clinic.	Unlikely	Slight	Very Low

References

Emerge Associates 2025, *Environmental Review Document - Hamersley Residential Development and Conservation*, EP24-129(08)--008 CSR.

This page has been left blank intentionally.