Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	CPS 8848/2
Permit type:	Area permit
Applicant name:	City of Armadale
Application received:	14 July 2021
Application area:	1.71 hectares (ha)
Purpose of clearing:	Road construction and upgrades
Method of clearing:	Mechanical
Property:	Skeet Road reserve (PINs 11869113, 12334398, 12334404, and 12334401)
Location (LGA area/s):	City of Armadale
Localities (suburb/s):	Harrisdale and Forestdale

1.2. Description of clearing activities

This amendment is to change the permit requirement to commence revegetation within 12 months following completion of clearing to 24 months following the completion of the clearing. CPS 8848/1 allowed the clearing of 1.71 hectares, of which 0.473 hectares consists of native vegetation, along both sides of Skeet Road Harrisdale, between Reilly Road and Ranford Road, to facilitate an upgrade to Skeet Road. The proposed clearing area is an approximately 650 metre strip within road reserves on both sides of Skeet Road.

1.3. Decision on application and key considerations

Decision:	Granted
Decision date:	17 August 2021
Decision area:	1.71 hectares of native vegetation as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit amendment application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Water and Environmental Regulation (DWER) on 14 July 2021. DWER advertised the application for public comment for seven days and no submissions were received.

In making this decision to amend the permit, and in accordance with section 51O of the EP Act, the Delegated Officer has given consideration to the Clearing Principles in Schedule 5 of the EP Act (Appendix C), flora survey submitted in support of the application, an environmental management plan provided by the applicant, relevant planning instruments, and any other pertinent matters they deemed relevant to the assessment (Section 3).

The Delegated Officer noted the constrains faced by the applicant in meeting the revegetation requirement for local provenance seed and propagating material in time for winter 2021 planting and considered that the revegetation requirement to be extended to 24 months following the completion of clearing was reasonable, and that it would ensure that the revegetation would be done at an appropriate standard, using correct species at an optimal time for planting.

It is noted that no modifications to the clearing footprint or approved clearing area have been proposed. The assessment of environmental impacts of the proposed clearing has not changed since the assessment for CPS 8848/1. In determining to amend the clearing permit subject to conditions pertaining to fencing, revegetation, and dieback and weed management, the Delegated Officer considered that the proposed amendments to conditions 4 and 5 is not likely to change the mitigation measures required by the permit and determined that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

1.5. Site map

Figure 1. Map of the application area. The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.3), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

1. the precautionary principle;
2. the principle of intergenerational equity; and
3. the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant for CPS 8848/1, demonstrating mitigation measures that adequately demonstrated that all reasonable efforts had been taken to minimise potential impacts of the clearing on environmental values. The applicant has submitted an Environmental Management Plan (City of Armadale 2019b) and Stormwater Management Strategy (City of Armadale 2019c). Both documents have had the input and support of the DBCA. The Environmental Management Plan commits to a Revegetation Plan also provided by the City of Armadale (2020).

The Environmental Management Plan (City of Armadale 2019b) details management actions to address and mitigate potential impacts to environmental values that may occur during construction and post clearing including:

- Drawings of the approved clearing area to be supplied to the clearing contractor with approved clearing areas clearly demarcated with fencing prior to the commencement of clearing.
- Any temporary facilities such as site offices, access tracks, and temporary storage areas to utilise existing cleared areas.
- Erosion and sediment control.
- Revegetation of the Skeet Road reserve between the road and the adjacent Bush Forever Site 342 incorporating a nutrient-stripping bio-retention swale.
- Weed and dieback hygiene strategies.
- Water run-off strategies during construction with stormwater management addressed via the Stormwater Management Strategies of City of Armadale (2019c).
- Access control including the installation of permanent steel cable fencing along the north-eastern to south-eastern boundary to prevent unauthorised access to the adjacent Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland).
- Control of rubbish drift.

Exposed areas of the batter between the road (including associated paths and drainage infrastructure) and the adjacent Bush Forever Site 342 will be revegetated. The objective of the Revegetation Plan (City of Armadale 2020) is to establish locally endemic vegetation reflecting adjacent vegetation communities. The revegetation will consider two zones reflecting differing planting prescriptions:

- Zone 1: Roadside bio-retention swales
- Zone 2: General revegetation of the batter

Species selected for the batter revegetation (Zone 2) have been informed by a species list of adjacent areas (Natural Areas 2019). The objective for the roadside bio-retention swales (Zone 1) is to ensure successful establishment of native sedge and shrub species that will also fulfil a nutrient-stripping function as per the *'Vegetation Guidelines for*

stormwater biofilters in the south-west of Western Australia' (Monash University 2014). These species may not have been recorded by Natural Areas (2019) but occur within the local region (City of Armadale 2020).

Ongoing unauthorised access and rubbish dumping is occurring in the adjacent Bush Forever Site 342 and it is expected that the proposed road upgrades and associated fencing and environmental management actions outlined within the Environmental Management Plan will result in an improvement in adjacent environmental values. The preparation and implementation of the Environmental Management Plan (City of Armadale 2019b), Stormwater Management Strategies (City of Armadale 2019c) and Revegetation Plan (City of Armadale 2019b) will facilitate the minimisation of impacts to environmental values as a result of the proposed clearing.

3.2. Assessment of environmental impacts

A review of current environmental information (Appendix A) identified that the assessment against the clearing principles has not changed from the Clearing Permit Decision Report CPS 8848/1.Given the above, the Delegated Officer considered that the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values, also remains unchanged from the original assessment and can be found within Clearing Permit Decision Report CPS 8848/1.

The City of Armadale (the City) advised the request to amend the permit conditions 4 and 5 which requires commencement of revegetation "within 12 months following completion of clearing" is extended to 24 months would allow the City to satisfy the revegetation requirements associated with the clearing permit as part of a larger package of landscaping/revegetation work. The City further advised that efforts to engage a suitably qualified contractor have been prolonged as a result of the broader implications of the work, which is to be funded through a Developer Contribution Scheme. Whilst the City is supportive of conditions 4 and 5 in principle, its requirement for local provenance seed and propagating material means that short-term procurement of planting stock in time for winter 2021 planting is not realistic. It is therefore on this basis that the extension to February 2023 is sought (City of Armadale, 2021a).

The Delegated Officer was satisfied that the City's request is reasonable as it would allow for the revegetation work to be carried out to a good standard, ensuring only local provenance seed and propagation material are sourced and planting is undertaken at an optimal time. It would ensure the longevity of the revegetation works and result in a better environmental outcome.

3.3. Relevant planning instruments and other matters

Assessment of planning and other relevant matters have not changed since the assessment of CPS 8848/1.

The clearing permit amendment application was advertised on the Department of Water and Environmental Regulation's (DWER) website on 6 August 2021, inviting submissions from the public within a 7 day period. No submissions were received in relation to this application.

Appendix A – Additional information provided by applicant

Summary	Reference
Phone conversation confirming that the extension of revegetation requirement to 24 months following the completion of clearing should be extended condition 5.	(City of Armadale, 2021b)

Appendix B – Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

1. Site characteristics

Site characteristic	Details
Local context	The application area consists of 1.71 hectares along an approximately 650 metre strip on both sides of Skeet Road Harrisdale, between Reilly Road and Ranford Road. Of the 1.71 hectares, 0.473 hectares consists of native vegetation with the remainder (1.237 hectares) either the current road base, or land clear of native vegetation (see Figure 1, Section 1.5). Immediately adjacent to the application area to the south-east is Jandakot Regional Park, incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland). A Conservation Category Wetland (sumpland) intersects a small proportion of the application area (0.086 hectares). Native vegetation in this section is either non existent or completely degraded. Spatial data indicates that approximately 20.3 per cent of the original native vegetation cover is retained within a ten kilometre radius of the proposed clearing area.
Vegetation description	Regional vegetation mapping intersects the application area as: • Southern River Complex (42) which is described as an open woodland of *Corymbia calophylla* (Marri) - *Eucalyptus marginata* (Jarrah) - Banksia species with fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca rhaphiophylla* (Swamp Paperbark) along creek beds (Heddle et al. 1980). Natural Areas (2019) described and mapped the following vegetation types over the application area.

Vegetation type	Area (ha)	Percentage of application area
Native vegetation not present	0.535	53.1 %
Low Woodland of *Melaleuca rhaphiophylla* and *M. viminea,* few emergent *M. preissiana.* Understorey of **Ehrharta calycina, *Cynodon dactylon* and **Cenchrus clandestinus; Lepidosperma longitudinale, Astartea scoparia* and *Regelia ciliata* in less degraded areas.	0.250	24.8 %
Tall Shrubland of *Melaleuca viminea, M. incana and M. lateritia* over **Cynodon dactylon* and **Cenchrus clandestinus*. Native sedge layer of *Juncus pallidus, Lepidosperma longitudinale, Baumea articulata and Leptocarpus coangustatus* in less degraded areas.	0.177	17.6 %

Site characteristic	Details		
	Low Woodland of *Banksia attenuata* and *B. menziesii* over **Ehrharta calycina, *E. longiflora*, with scattered *Phlebocarya ciliata* and *Dasypogon bromeliifolius.*	0.046	4.5 %
		1.008	
Vegetation condition	Natural Areas (2019) described and mapped vegetation condition over the application area consistent with (Keighery 1994). Approximately 0.007 hectares, or less than one percent of the application area represents vegetation in good condition, with the remainder completely degraded or degraded (Natural Areas 2019). The full Keighery condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.		
Soil description	The application area consists of Bassendean soils associated with the Bassendean System (212Bs). Two phases of the Bassendean System have been mapped over the application area (Schoknecht et al. 2004).		
Land degradation risk	Mapped degradation risks over the application area are summarised below (DPIRD 2017).		

Condition (Keighery 1994)	Area (ha)	Percentage of application area
Native vegetation not present	0.535	53.1 %
Completely Degraded	0.332	32.9 %
Degraded	0.134	13.3 %
Good	0.007	0.7 %
Total	1.008	100

Bassendean Phase	Description
212Bs_B1	Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m; banksia dominant.
212Bs_B4	Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.

	South-West area		North-East area	
	Bassendean B1 Phase		Bassendean B4 Phase	
Wind Erosion	H1	High	M1	Medium
Water-logging	L2	Low	H2	High
Water Erosion	L1	Low	L1	Low
Salinity	L1	Low	L1	Low
Phosphorus export	H2	High	H2	High
Subsurface acidification	H2	High	H2	High

Site characteristic	Details
	Acid Sulfate Soil: Moderate to Low risk / High to Moderate risk Flood Risk: Low / Low Groundwater Salinity: 500-1,000 mg/L (TDS) / 500-1,000 mg/L (TDS)
Waterbodies	No drainage lines or watercourses intersect the application area. The majority of the application area is located within a Multiple Use Category Wetland (dampland - UFI 14404 and13347). A small component (0.086 hectares, or less than 10 percent of the application area) is located within the Conservation Category Wetland (sumpland - UFI 14880), a component of the Balannup Lake complex. Vegetation condition in this section is either non-existent or completely degraded.
Conservation areas	Immediately adjacent to the application area to the south-east is Jandakot Regional Park, incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland).
Climate and landform	The proposed clearing is located within the Bassendean System (212Bs) that occurs on the Swan Coastal Plain from Busselton to Jurien. The system is described as sand dunes and sandplains with pale deep sand, semi-wet, and wet soil, with Banksia-paperbark woodlands and mixed heaths (DPIRD 2017). The climate in of the proposed clearing area is warm and temperate. The winter months have higher rainfall than summer months with an annual rainfall of approximately 859 millimetres (BOM 2020).

2. Flora, fauna and ecosystem analysis

With consideration for the site characteristics set out above, relevant datasets (see Appendix F), and biological survey information (Natural Areas 2019) an analysis of relevant ecosystem, flora, and fauna factors are presented below.

Ecological Linkages: No significant mapped linkages within or adjacent to the application area.

Environmentally Sensitive Areas (ESA): The entire application area is located within an ESA.

Ecological Community	Status (WA / EPBC Act)	~Distance of closest record to application area (kilometres)	Suitable vegetation type? (flora, ecological community)	Surveys adequate? (Y, N, N/A)
Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	P3 / EN	Within 10 metres to the south-east	Does not meet condition thresholds. Degraded condition - very small area	Y
SCP10a. Shrublands on dry clay flats (floristic community type 10a as originally described in Gibson *et al.* (1994)). A component of the Clay Pans of the Swan Coastal Plain.	EN / CR	1.1 kilometres to the south	No	Y
Shrublands and woodlands on Muchea Limestone of the Swan Coastal Plain	EN / EN	1.1 kilometres to the east	No	Y

Taxon	Status (WA)	Suitable soil type / comments	Likeli-hood (Broader survey area) (Y / N)	Surveys adequate? (Y, N, N/A)
Andersonia gracilis	VU	Soil type and drainage may be suitable, occurs in adjacent LGA	Y	Y
Aponogeton hexatepalus	P4	Within extent, area may be wet enough to support this species	Y	Y
Austrostipa jacobsiana	CR	Found on roadside. One population nearby	Y	Y
Byblis gigantea	P3	Soil type and drainage suitable	Y	Y
Caladenia huegelii	CR	Soil type suitable and site is within the species natural distribution, with population found in Forrestdale, an adjacent suburb. Soil may be too wet	Y	Y
Diuris purdiei	EN	Soil type and drainage suitable. Site is near known populations	Y	Y
Diuris micrantha	VU	Drainage suitable, but site outside of range and soil type may not be suitable	N	Y
Drakaea elastica	CR	Soil type suitable and site is within the species natural distribution	Y	Y
Drakaea micrantha	EN	Soil type may not be suitable	N	Y
Drosera occidentalis	P4	Soil types and drainage suitable, found in City of Armadale	Y	Y
Eucalyptus x balanites	CR	Soil type unsuitable, drainage unsuitable	N	Y
Grevillea curviloba subsp. *incurva* (Narrow curved-leaf Grevillea)	CR	Drainage suitable, but well outside recorded extent	N	Y
Jacksonia gracillima	P3	Occurs nearby, soil type suitable	Y	Y
Jacksonia sericea	P4	Soil type not suitable. Typically occurs towards coast	N	Y
Lepidosperma rostratum	EN	Soil type, drainage and location may be suitable.	Y	Y
Ornduffia submersa	P4	Found in Forrestdale and Kenwick, soil type and drainage suitable	Y	Y
Schoenus capillifolius	P3	Soil conditions suitable, found within LGA	Y	Y
Stylidium aceratum	P3	Soil type suitable, occurs within City of Armadale	Y	Y

Taxon	Status (WA)	Suitable soil type / comments	Likeli-hood (Broader survey area) (Y / N)	Surveys adequate? (Y, N, N/A)
Stylidium longitubum	P4	Soil type suitable, occurs within the City of Armadale	Y	Y
Synaphea sp. Fairbridge Farm (D. Papenfus 696)	CR	Drainage suitable but soil type unsuitable	N	Y
Synaphea sp. Serpentine (G.R. Brand 103)	CR	Drainage suitable, but occurs further to the south in narrow geographic range	N	Y
Thysanotus glaucus	P4	Soil type and drainage unsuitable	N	Y
Tripterococcus sp. Brachylobus (A.S. George 14234)	P4	Found in Armadale LGA, soil type and drainage may be suitable	Y	Y
Verticordia lindleyi subsp. *lindleyi*	P4	Occurs in nearby locations, drainage and soil type suitable	Y	Y

Fauna Species (Birds)		Status (WA)	Habitat present? (Y / N)	Likelihood (application area) (Y / N)	Surveys adequate? (Y, N, N/A)
Baudin's Cockatoo	*Calyptorhynchus baudinii*	EN	N	May overfly application area without utilising any particular habitat	Y
Carnaby's Cockatoo	*Calyptorhynchus latirostris*	EN	Edge of degraded Banksia woodland	May overfly application area and utilise surrounding Banksia woodland habitat	Y
Forest Red-tailed Black Cockatoo	*Calyptorhynchus banksii naso*	VU	N	May overfly application area without utilising any particular habitat	Y
Peregrine Falcon	*Falco peregrinus*	OS	N	May overfly application area without utilising any particular habitat	Y
Fork-tailed Swift	*Apus pacificus*	IA	N	May overfly application area without utilising any particular habitat	Y
Barking Owl (Southwest)	*Ninox connivens connivens*	P3	N	N	Y
Letter-winged Kite	*Elanus scriptus*	P4	N	N	Y
Blue-billed Duck	*Oxyura australis*	P4	N	May utilise adjacent wetlands	Y
Australasian bittern	*Botaurus poiciloptilus*	EN	N	May utilise adjacent wetlands	Y
Numerous water and shorebird species (migratory waders) protected under International Agreements (particularly the Families: Scolopacidae, Charadriidae, and Glareolidae)		IA	N	May utilise adjacent wetlands	Y

Fauna Species (Mammals)		Status (WA)	Habitat present? (Y / N)	Likelihood (application area) (Y / N)	Surveys adequate? (Y, N, N/A)
Numbat	*Myrmecobius fasciatus*	EN	N	N	Y
Chuditch	*Dasyurus geoffroii*	VU	N	N	Y
Quokka	*Setonix brachyurus*	VU	N	N	Y
Brush-tailed phascogale (Southwest)	*Phascogale tapoatafa wambenger*	CD	N	N	Y
Western false pipistrelle (Bat)	*Falsistrellus mackenziei*	P4	N	N	Y
Water-rat	*Hydromys chrysogaster*	P4	N	N	Y
Quenda	*Isoodon fusciventer*	P4	Y	Yes. May utilise adjacent wetlands	Y
Western Brush Wallaby	*Notamacropus irma*	P4	N	May utilise adjacent bushland	Y

Fauna Species (Reptiles)		Status (WA)	Habitat present? (Y / N)	Likelihood (application area) (Y / N)	Surveys adequate? (Y, N, N/A)
Southern Death Adder	*Acanthophis antarcticus*	P3	N	N	Y
Coastal Plains Skink	*Ctenotus ora*	P3	N	N	Y
Perth Slider	*Lerista lineata*	P3	N	N	Y
Black-striped Burrowing Snake	*Neelaps calonotos*	P3	N	N	Y
Dell's Skink	*Ctenotus delli*	P4	N	N	Y

3. Vegetation extent

	Pre-European Extent (ha)	Current Extent (ha)	Remaining (%)	Current Extent Protected for Conservation (ha)	Current percentage remaining within lands Protected for Conservation (%)
Regional Vegetation (Government of Western Australia 2019a, b)					
Southern River Complex (42) (Heddle *et al.* 1980)	58,781	10,832	18.4 %	692	1.2 %
Bassendean Association (1001) (Shepherd *et al,* 2001)	53,284	11,394	21.4 %	1,603	3.0 %
IBRA bioregion (Government of Western Australia 2019a)					
Swan Coastal Plain (SWA)	1,501,222	579,813	38.6 %	153,955	10.3 %

Local remnant vegetation extent	Current Extent (ha)	Remaining (%)
10 km radius of application area	6,656.2	Approximately 20.3 %
5 km radius of application area	1,912.9	Approximately 22.4 %

Appendix C – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: None of the threatened and priority flora and ecological communities recorded in the local area are likely to occur within the application area. The P3 *Jacksonia gracillima* was recorded immediately adjacent to the application area. The application area does not contain significant habitat for fauna and unlikely to comprise a high level of biodiversity.	Not likely to be at variance	*(unchanged from the decision report for CPS 8848/1)*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The application area comprises suitable habitat for the P4 Quenda which is relatively common in the local area and requires dense vegetation. A very small area of degraded Banksia woodland occurs that potentially provides a feeding resource for the endangered Carnaby's Cockatoo. Noting the shape and extent of the proposed clearing, its location adjacent to large areas of protected remnant vegetation (including Banksia woodland), and the predominantly degraded to completely degraded vegetation, proposed clearing is unlikely to comprise a significant habitat for these or other native fauna.	Not likely to be at variance	*(unchanged from the decision report for CPS 8848/1)*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: Noting the type and condition of the vegetation, the application area is unlikely to be necessary for the continued existence of threatened flora.	Not likely to be at variance	*(unchanged from the decision report for CPS 8848/1)*
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community."* Assessment: There are no known TECs or PECs within the application area. Noting the composition and condition of the vegetation within the application area, vegetation present is unlikely to be representative of, or be necessary for the maintenance of, a TEC.	Not at variance	*(unchanged from the decision report for CPS 8848/1)*
Environmental values: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."*	Not likely to be at variance	No

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Assessment: The mapped Southern River Complex (42) (Heddle et al. 1980) has 18.4 per cent of vegetation retained when compared to its pre-European extent (Government of Western Australia 2019a), which is inconsistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia 2001). The Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region within the Metropolitan Regional Scheme to be a constrained area, within which a minimum ten per cent representation threshold for ecological communities is recommended (EPA 2008). Approximately 20.3 per cent of native vegetation is retained within the local area of a ten kilometre radius of the application area. The size of the proposed clearing is negligible with vegetation predominantly in a degraded to completely degraded condition and is not considered to be a significant remnant, nor considered to be part of a significant ecological linkage in the local area.		
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Proposed clearing is immediately adjacent to Jandakot Regional Park, incorporating Bush Forever Site 342 (Anstey-Keane Damplands and adjacent bushland). Given the proximity to a conservation area, the proposed clearing could potentially impact on the environmental values of the adjacent conservation area. However, clearing will not encroach into the conservation area, and fencing and management prescriptions will ensure that the conservation area is not impacted.	Not likely to be at variance	*(unchanged from the decision report for CPS 8848/1)*
Environmental values: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The majority of the application area is located within a Multiple Use Category Wetland (dampland), and a small component (0.086 hectares) is located within a Conservation Category Wetland (sumpland). Vegetation proposed to be cleared includes species considered riparian, however riparian vegetation has been assessed at degraded or completely degraded.	At variance	*(unchanged from the decision report for CPS 8848/1)*
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped B1 Phase soils are prone to wind erosion, and the mapped B4 Phase soils are susceptible to water erosion. There is also a risk of phosphorus export (eutrophication) and acid sulphate soils is considered a moderate to high risk in the B4 Phase soils. An Environmental Management Plan (City of Armadale 2020b) and Revegetation Plan (City of Armadale 2020d) have been prepared detailing mitigation actions. Noting the extent of the proposed clearing, the condition of the vegetation, and management prescription employed proposed clearing is not likely to cause appreciable land degradation.	Not likely to be at variance	*(unchanged from the decision report for CPS 8848/1)*
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: No water courses, drainage lines or Public Drinking Water Sources Areas are within the vicinity of the application area. The majority of the application area is located within a Multiple Use Category Wetland (dampland) with a small component within a Conservation Category Wetland	Not likely to be at variance	*(unchanged from the decision report for CPS 8848/1)*

Assessment against the Clearing Principles	Variance level	Is further consideration required?
(sumpland). Groundwater has been mapped as 'Fresh' at 500 to 1,000 mg/L TDS. An Environmental Management Plan (City of Armadale 2019b) and storm water strategies (City of Armadale 2019c) have been prepared detailing actions relating to hydrology and drainage. Noting the extent of the proposed clearing, and management prescription employed, proposed clearing is not likely to cause deterioration in the quality of surface or underground water.		
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The application area is not located within a mapped floodplain area, and the mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.	Not likely to be at variance	No

Appendix D – Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Measuring Vegetation Condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very Good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E – Biological survey information

The following information has been obtained from the survey undertaken by Natural Areas (2019).

Figure 2: Vegetation types and condition from the broader survey area of Nautural Areas (2019)

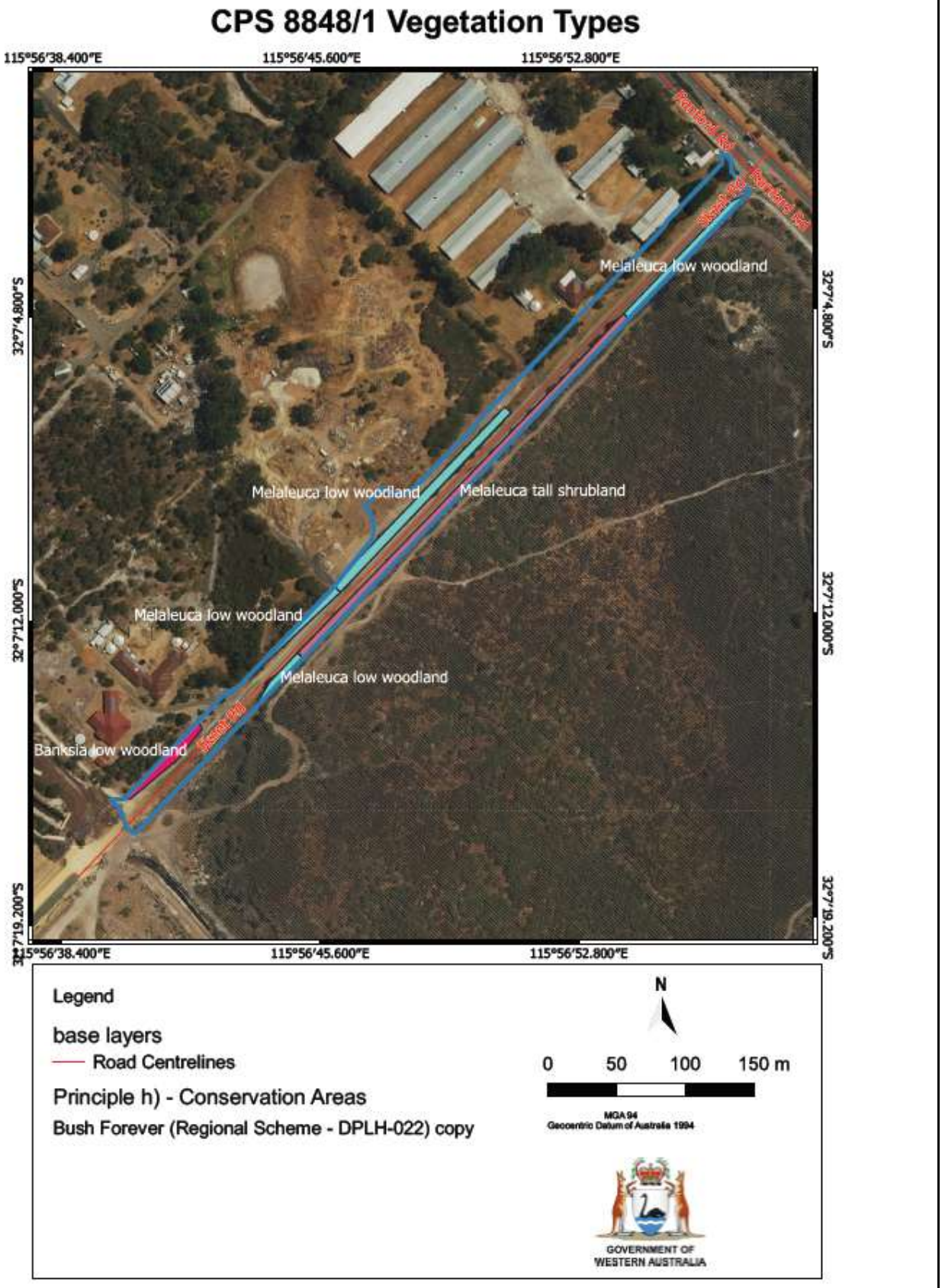

Figure 3. Vegetation Types (Nautural Areas 2019 data)

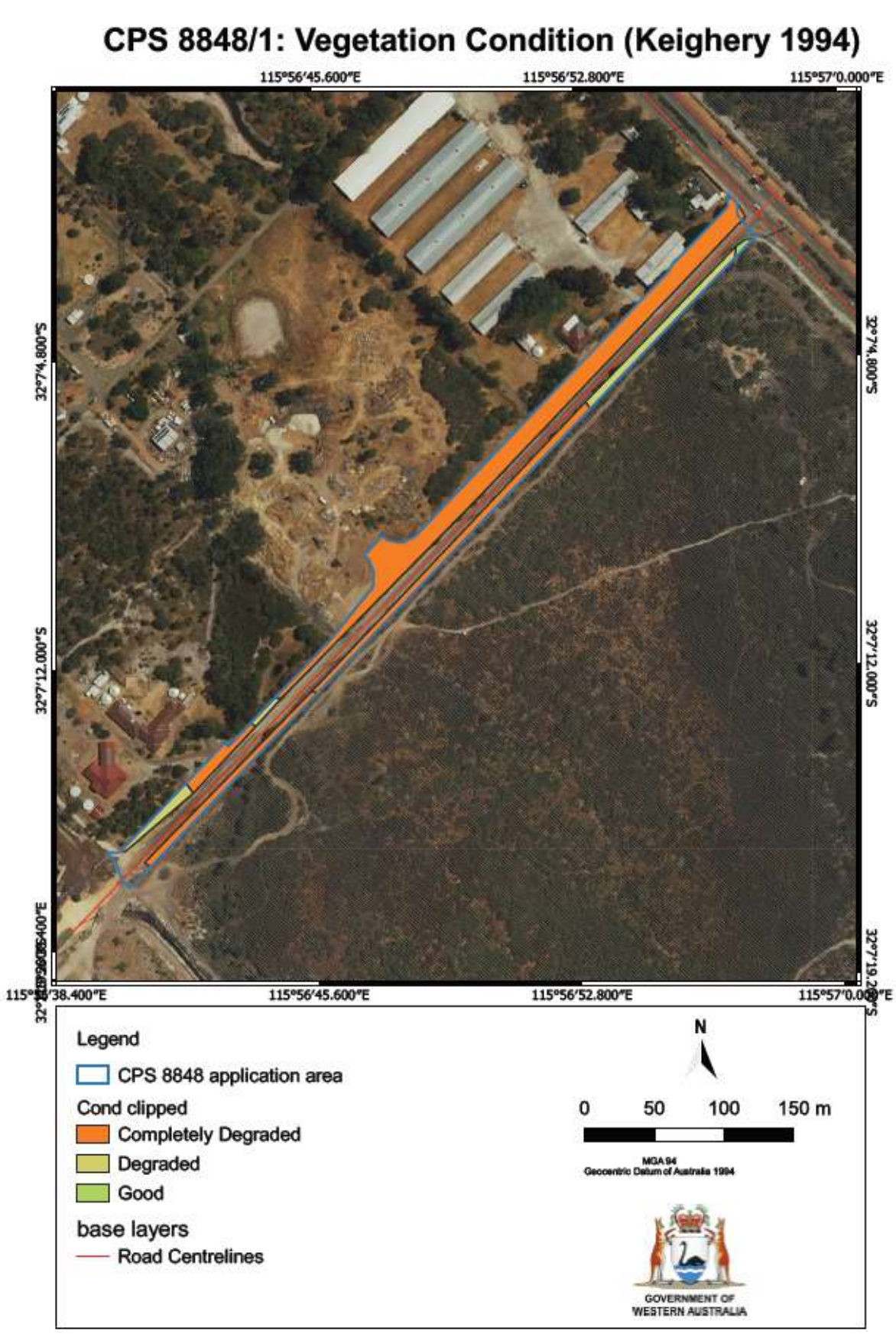

Figure 4. Vegetation Condition (Nautural Areas 2019 data)

Appendix F – References and databases

1. References

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2. GIS datasets

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- Aboriginal Heritage Places (DPLH-001)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Regional Parks (DBCA-026)
- Soil and Landscape Mapping – Best Available

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)