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Department of Water and Environmental Regulation
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To Whom it May Concern,

RE – Hairpin Road upgrade - Clearing Permit Application

Please find herein information pertaining to a clearing permit (purpose) application on behalf of the City of Busselton.

Background

The City of Busselton are proposing to upgrade Hairpin Road (4.15 km in length) between North Jindong Road, North Jindong and Kaloorup Road, Jindong (herein referred to as the subject site) (refer to **Figure 1**). The subject site is located in the municipality of the City of Busselton, approximately 15 km from the Busselton town centre.

Hairpin Road is a State Black Spot Program funded project. The funded section covers SLK2.88 to SLK5.88 where the incidents warranting the reconstruction/widening have occurred. The section from SLK5.88 to SLK7.01 has been funded by the City to complete the full section of Hairpin Road.

The road is currently condition rated at 10 (1 being brand new and 10 being completely failing) so intervention/reconstruction is required.

In relation to Hairpin Road, it was determined that the predominate crash pattern is off-carriageway crashes. Although the hit object (tree) is the resultant outcome, it is possible that the narrow-sealed surface does not provide sufficient manoeuvring room to correct an errant vehicle. The widening of the narrow-sealed road from its existing width to 6.2m provides a significantly increased area of predictable road surface.

This road section is a narrow-sealed road with a high severity crash history from vehicles leaving the carriage way and hitting an object (tree). The only pattern with the recorded crashes is that they occurred on a straight section of road (the road is predominately straight) and travelling East-West, there are no other distinguishable patterns (such as daylight/darkness, setting sun).

The design includes a portion of land that the City are in the process of acquiring to construct a safer alignment. This design will minimise clearing impacts on the intersection of McDonald and Taylor Road and adjacent areas while accommodating a significant portion of mitigation planting in both the acquired land section (currently paddocks) and the defunct road section.

Following a detailed assessment of application area, the City has managed to reduce the number of trees to be cleared to a total of 87 native trees. Any further reductions do not comply with Austroads guidelines and is considered likely to compromise human safety.

The roadside vegetation has been subject to flora and vegetation, and fauna surveys to ensure that areas of conservation significance are avoided as far as practicable (refer to **Attachment A** and **B**).

To enable the progression of the project, a clearing permit pursuant to the *Environmental Protection Act 1987* is required. A description and photograph of the trees subject to clearing are provided below in **Attachment C**.

Minimisation and Mitigation Measures

The road reserve has been purposefully surveyed to determine the minimum clearing requirements, whilst ensuring public safety. As far as practicable, roadside vegetation has been retained. The 87 trees are required to be cleared to reduce the incidence and intensity of vehicle crashes. Failure to remove these trees presents an imminent danger to the public.

There are no alternatives to the removal of these trees, as these trees have been identified as being dangerously close to the road or are significantly impacting sightlines. On this basis, alternatives such as bollards are not feasible and will actually require more vegetation clearing.

To avoid any direct or indirect impacts to other vegetation within or adjacent to these trees, the applicant has committed to the following mitigation measures:

- Prior to clearing commencing, the 87 trees will be clearly demarcated with flagging tape;
- No vehicular access or parking within vegetated areas in the reserve; and
- No stockpiling of cleared vegetation or storage of equipment within the reserve.

The applicant has also committed to planting the following tubestock within the existing road reserve:

- 170 *Corymbia calophylla* trees; and
- 15 *Agonis flexuosa* trees.

Impact Assessment

Any clearing of native vegetation requires a permit in accordance with Part V of the *Environmental Protection Act 1986* (EP Ac), except where an exemption applies under Schedule 6 of the Act or is prescribed by regulation in the *Environmental Protection (Clearing Native Vegetation) Regulations 2004*.

The clearing of native vegetation for the purpose of upgrading Hairpin Road will require an approved clearing permit. Clearing applications are assessed against the Ten Clearing Principles outlined in Schedule 5 of the EP Act. These principles aim to ensure that all potential impacts resulting from the removal of native vegetation can be assessed in an integrated manner.

An examination of the Ten Clearing Principles applied against a desktop investigation and site-specific investigations is provided below.

Table 1: Assessment against the Ten Clearing Principles.

Principle	Assessment	Conclusion
a.) Native vegetation should not be cleared if it comprises a high level of biological diversity	Vegetation type and extent have been mapped at a regional scale by Beard (1979) who categorised vegetation into broad vegetation associations. Based on this mapping at a scale of 1:1,000,000, the Department of Primary Industries and Regional Development (DPIRD) has compiled a list of vegetation extent and types across WA (Shepherd et al. 2002). One vegetation association occurs within the survey area, namely 'Pinjarra 1136 (Medium woodland, marri with some jarrah, wandoo, river gum and casuarina)'. It is estimated 6.81% pre-European extent of the Pinjarra 1136, remains within the Swan Coastal Plain 02 subregion (Government of Western Australia 2019). The current extent protected for conservation in SWA02 is 0.10%. Accordingly, the vegetation association is underrepresented. The subject site ranges from being in a 'Degraded' to 'Completely Degraded' condition (Keighery 1994) due to the general absence of under and mid-storey vegetation, and the high degree of weed incursion (Botanical Consulting 2021). During the flora and vegetation survey, no flora species listed as Threatened under the EPBC Act or the BC Act were recorded within the survey area, and no Priority species listed by DBCA were recorded. Furthermore, no conservation significant ecological communities listed under the EPBC Act, the BC Act or by DBCA occur or were inferred to occur within the survey area. As discussed under Principle (b), the fauna habitats present are highly degraded with all areas appearing to have been subject to considerable disturbance. Much of the vegetation appears to be regrowth from historical clearing with most trees not containing hollows of any size due to their relatively young age (Harewood 2021). The clearing will result in the removal of one mature Peppermint tree (*Agonis flexuosa*) which is currently growing over a culvert (refer to Plate 10 of **Attachment C**). The removal of this tree is not considered likely to significantly impact on the biological diversity of the area.	Based on the extent of disturbance within the subject site, the condition of the trees to be removed and the limited clearing footprint, the subject site is not likely to comprise high biodiversity. However, it is noted that clearing of an underrepresented vegetation community will be required. Accordingly, the proposed clearing may be at variance with this Principle, however given that it is proposed to plant an additional 185 trees, the net area of vegetation will increase as a result of the project.

Principle	Assessment	Conclusion
	The removal of 72 juvenile *Corymbia calophylla* trees and 13 potential habitat trees (trees with a DBH>50cm but with no suitable hollows for breeding) will marginally reduce the local extent of foraging and breeding habitat for black cockatoos, however the impact is unlikely to be significant for fauna species of conservation significance. The proposal may be at variance to this Principle.	
b.) Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	Based on the information gathered during the site reconnaissance surveys and the documented distribution and habitat preferences of the species of conservation significance identified as potentially being present in the general area, their likelihood of occurrence has been assessed and is presented in Table 5 of the *Fauna Assessment* report (Harewood 2021). Two vertebrate fauna species of conservation significance (listed as State or Federal threatened/migratory species or as DBCA priority species) were positively identified as utilizing the survey area for some purpose during the survey period. These species are (Harewood 2021): • Baudin's Black-Cockatoo *Zanda baudinii*; and • Western Ringtail Possum *Pseudocheirus occidentalis*. Several additional species of conservation significance may also utilise the survey area, though, as no evidence of their presence was identified during the field survey, their status in the area remains uncertain. These species are (Harewood 2021): • Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso*; • Carnaby's Black-Cockatoo *Zanda latirostris*; • Peregrine Falcon *Falco peregrinus*; • Masked Owl *Tyto novaehollandae*; • Quenda *Isoodon fusciventer*; • South-western Brush-tailed Phascogale *Phascogale tapoatafa wambenger*; • Western False Pipistrelle *Falsistrellus mackenziei.*	Removal of vegetation within the subject site is not considered to be at variance with this principle as the limited clearing of low quality habitat will not impact the success of any fauna indigenous to Western Australia. Furthermore, the City of Busselton propose to plant 170 *Corymbia calophylla* trees and 15 *Agonis flexuosa* trees within the road reserve as a component of this project.

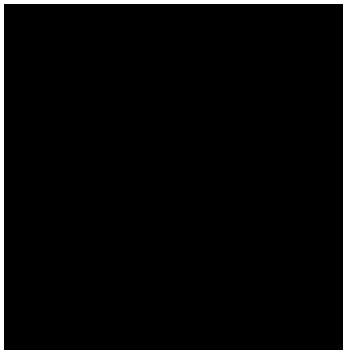
Principle	Assessment	Conclusion
	Overall, the fauna habitats present are highly degraded with all areas appearing to have been subject to considerable disturbance. Much of the vegetation appears to be regrowth from historical clearing with most trees not containing hollows of any size due to their relatively young age (Harewood 2021). Given the degree of disturbance, the original fauna assemblage within the survey area is likely to be depauperate in many aspects, in particular with respect to ground dwelling species which rely on dense native understory (midstorey and ground cover) vegetation, which is almost entirely absent (Harewood 2021). In the *EPBC Act referral guidelines for three threatened black cockatoo species* (2022), the Commonwealth DCCEEW identify flora species as potential breeding and foraging habitat for the three threatened species of black cockatoo. The proposed works will result in the removal of 13 trees with a DBH in excess of 50cm. During the fauna assessment, none of these trees were identified as containing hollows suitable for black cockatoo breeding (Harewood 2021). In terms of WRP habitat, the proposal will only require the removal of one *Agonis flexuosa* tree and the proposal will not result in fragmented habitat patches. The highly disturbed environment of the subject site and very small clearing footprint is unlikely to present a significant impact to any fauna species of conservation significance. It is noted that currently the vegetation onsite equates to approximately 6 ha. It is proposed to clear 0.87 ha which equates to approximately 14% of the onsite vegetation, and revegetate 1.85 ha, which will provide a net increase of 1 ha of vegetation. This will significantly improve the existing ecological corridor which is fragmented in areas identified as being in a 'Completely Degraded' condition. Given vegetation within the subject site is degraded and is limited in area, the subject site is not considered to provide significant habitat for conservation significant fauna recorded within the local area.	

Principle	Assessment	Conclusion
c.) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	During the flora and vegetation survey, no flora species listed as Threatened under the EPBC Act or the BC Act were recorded within the survey area, and no Priority species listed by DBCA were recorded (Botanical Consulting 2021).	Removal of the vegetation within the subject site is not considered to be at variance with this principle as the subject site does not contain any threatened flora.
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.	No conservation significant ecological communities listed under the EPBC Act, the BC Act or by DBCA occur or were inferred to occur within the survey area (Botanical Consulting 2021).	Clearing of the subject site is not considered to be at variance to this Principle as vegetation consistent with the mapped TEC/PEC is not present within the clearing area.
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.	One vegetation association occurs within the survey area, namely 'Pinjarra 1136 (Medium woodland, marri with some jarrah, wandoo, river gum and casuarina)'. It is estimated 6.81% pre-European extent of the Pinjarra 1136, remains within the Swan Coastal Plain 02 subregion (Government of Western Australia 2019). The current extent protected for conservation in SWA02 is 0.10%. Accordingly, the vegetation association is underrepresented. The subject site ranges from being in a Degraded to Completely Degraded condition (Keighery 1994) due to the general absence of under and mid-storey vegetation, and the high degree of weed incursion (Botanical Consulting 2021). Whilst the vegetation onsite is unlikely to be representative of the abovementioned vegetation association, the City proposed replace the removal of 87 trees with: • 170 *Corymbia calophylla* trees; and • 15 *Agonis flexuosa* trees. This will ultimately increase the area of this vegetation association within the local area by 1 ha. The proposed clearing may be at variance to this Principle.	It is noted that clearing of an underrepresented vegetation community will be required. Accordingly, the proposed clearing may be at variance with this Principle, however given that it is proposed to plant an additional 185 trees, the net area of vegetation will increase as a result of the project.

Principle	Assessment	Conclusion
f.) Native vegetation should not be cleared if it is growing in, or in association with an environment associated with a watercourse or wetland.	The vegetation subject to clearing is not associated with riparian vegetation, and not growing in an environment associated with a watercourse or wetland. The proposed clearing is unlikely to be at variance to this principle.	Clearing within the subject site is not considered to be at variance with this principle as no riparian vegetation or clearing in proximity to a watercourse will be undertaken.
g.) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The subject site is located within the Abba Flats phase soil landscape system which consists of "Flats and low rises with sandy grey brown duplex (Abba) and gradational (Busselton) soils" (DPIRD 2021). Given the limited amount of vegetation subject to clearing it is very unlikely to cause appreciable land degradation in the form of wind or water erosion. The proposed clearing is not likely to be at variance with this Principle.	Clearing of the subject site is not considered to be at variance with this principle given the nature of the site and the proposed works.
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.	The proposed clearing will not result in any impacts to the environmental values of any conservation areas as there are none in proximity to the subject site. In consideration of the above, the clearing is not at variance to this Principle.	The proposed clearing is not considered to be at variance with this principle as there will be no direct or indirect impacts to conservation areas.
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.	Clearing within the subject site will not impact surface water run-off given the linear and very limited nature of the clearing area, and the short-term nature of the project. Alterations to surface water from the clearing will be extremely localized and will likely be diverted through the existing road stormwater system. The project will not result in any groundwater interactions. The proposed clearing is not likely to be at variance to this Principle.	The clearing is not considered to be at variance with this proposal as it is unlikely that the clearing will alter natural surface or groundwater interactions within the subject site.
j.) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	The subject site does not contain a watercourse. The limited clearing along a previously disturbed area is highly unlikely to substantially increase runoff and therefore the incidence or intensity of flooding. The proposed clearing is not likely to be at variance to this Principle.	Clearing within the subject site is not considered to be at variance with this principle as it is unlikely to increase run off and therefore intensity or incidence of flooding.

Summary

I trust this information is sufficient for your purposes. Should you have any queries or require further information, please do not hesitate to contact the undersigned.



FIGURES

ATTACHMENT A – FLORA SURVEY

ATTACHMENT B – FAUNA SURVEY

ATTACHMENT C – TREES SUBJECT TO CLEARING