



# Great Northern Highway Muehea to Wubin Upgrade - Stage 2

MAIN ROADS WESTERN AUSTRALIA

## Walebing to Wubin | Environment | CPS 7231/2 Amendment - Supporting Information Document

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## Document Control

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## Current Issue

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4	11 December 2018

Prepared by	Reviewed by	Reviewed by	Approved by
Document Owner	Contract Lead	Internal Technical Reviewer	Project Director
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## Issue summary

Revision	Date	Issue description	Distribution
1	21-11-2018	Draft	Cross Discipline Review / Technical Review
2	04-12-2018	Draft	PAG Review
3	10-12-2018	Draft	Revised Document Issued for PAG review
4	11-02-2018	Final	Issued to Main Roads for submission

## Contents

Glossary .....	1
1. Introduction.....	2
2. Description of Clearing Activities.....	3
3. Existing Environment .....	5
3.1 Flora and Vegetation .....	5
4. Potential Impacts .....	8
4.1 Vegetation Associations .....	8
4.2 Remnant Native Vegetation.....	8
4.3 Flora.....	8
5. Clearing Principles Assessment .....	9
6. References .....	24

## Tables

Table 3-1: Vegetation Associations within Pithara Boundary Amendment Area .....	5
Table 3-2: Vegetation Representation for Vegetation Types within the Amendment Areas .....	5
Table 5-1: Clearing Principles Assessment .....	22

## Figures

Figure 2-1: Pithara Amendment Location .....	4
Figure 3-1: Vegetation Associations .....	6

## Glossary

Abbreviation	Description
<b>BAM Act</b>	<i>Biosecurity and Agriculture Management Act 2007 (WA)</i>
<b>DWER</b>	Department of Water and Environmental Regulation (WA)
<b>EP Act</b>	<i>Environmental Protection Act 1986 (WA)</i>
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
<b>GNH</b>	Great Northern Highway
<b>ha</b>	Hectare
<b>m</b>	Metre
<b>Main Roads</b>	Main Roads Western Australia
<b>NVCP</b>	Native Vegetation Clearing Permit
<b>PEC</b>	Priority Ecological Communities
<b>TEC</b>	Threatened Ecological Communities
<b>WC Act</b>	<i>Wildlife Conservation Act 1950 (WA)</i>
<b>WoNS</b>	Weeds of National Significance

## **1. Introduction**

The Western Australian (WA) Department of Water and Environmental Regulation (DWER) granted a Native Vegetation Clearing Permit (CPS 7231) to Main Roads Western Australia (Main Roads) on 26 October 2017. This permit allows for a total of 68.5 ha of native vegetation to be cleared to facilitate upgrading of sections of the Great Northern Highway (GNH), between Walebing and Wubin in the Wheatbelt region of WA. In February 2018 an amendment was requested to correct administrative errors identified in Conditions 3(a) and 7(a). This amendment was granted on 25 May 2018.

Since the grant of CPS 7231/2, a location has been identified during construction of the Pithara section that requires a change to the permit boundary due to a clash between the road design and adjacent Water Corporation infrastructure. A minor change to the permit boundary is required in this location to allow for a safe working environment. No increase in the overall clearing required under the permit is requested.

This document has been prepared to support an application to amend CPS 7231/2 under Section 51K of Part V of the *Environmental Protection Act 1986* (EP Act).

## 2. Description of Clearing Activities

The application for CPS 7231/2 described the proposed clearing in terms of four distinct sections:

- Walebing SLK 147.7 to SLK 165.6
- Miling Bypass SLK 177.5 to SLK 186.7
- Pithara SLK 207.8 to SLK 223.4
- Dalwallinu to Wubin SLK 223.4 to SLK 258

This amendment seeks to adjust the permit boundary at a specific location within the Pithara section of the original application.

The boundary change will increase the overall size of the permit by 0.032 ha to 825.032 ha. No additional clearing allowance is requested.

### 2.1.1 Description of Proposed Clearing

Construction of the Pithara section of the GNH requires relocation of a pressurised pipe owned by the Water Corporation. Clearing of native vegetation to facilitate this relocation was accounted for in the original clearing areas approved through CPS 7231/2. However, now that construction has commenced it has been determined that the current boundary of CPS 7231/2 does not provide sufficient space to undertake the works required without being in conflict with the GNH upgrade works. To this end Main Roads is seeking to extend the permit boundary for CPS 7231/2 to provide adequate, unencumbered working space such that construction of all elements of the project can be undertaken safely.

The proposed change will result in an additional 320 m<sup>2</sup> (0.032 ha) being included within the boundary of CPS 7231/2 as shown in **Figure 2-1**.

### 2.1.2 Description of Location and Land Ownership

The permit boundary change requested for the Pithara amendment is located within Lot 2706 on Plan 88314 (Reserve 24671), Pithara, which is Crown Reserve vested in the Minister for Water Resources and managed by the Water Corporation. This property is currently listed under Condition 1 of CPS 7231/2. No additional properties are requested for the Pithara amendment.



**Legend**

- Design CN04
- Alignment Centreline - Pithara
- (CN04) Additional Proposed NVCP
- Boundary CPS 7231/2 boundary



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Data Source: Main Roads WA, Landgate

Coordinate System: GDA 1994 MGA Zone 50



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**Figure 2-1 : Pithara CPS7231 Amendment Location**

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Drawing Status / Other  
**Final**

Date 10/12/2018	By FK	Chkd GJ	Appd GJ
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### 3. Existing Environment

The existing environment of the project area was described in the Supporting Information Document that accompanied the original application for a permit to clear native vegetation (ASJV 2016). The area subject to this amendment application does not vary in climate, land use, soils, landforms, fauna or hydrology from that described in the original application. The following paragraphs describe the flora and vegetation at the location where the proposed amendment is located.

#### 3.1 Flora and Vegetation

The CPS 7321/2 permit area lies in the Avon Wheatbelt Bioregion as defined by the Interim Biogeographic Regionalisation of Australia (IBRA) (Thackway *et al*, 1995). Vegetation of the Avon Wheatbelt Bioregion comprises proteaceous scrub heaths, rich in endemics, and woodlands of Wandoo, York Gum and Salmon Gum with Acacia and Casuarina.

Phoenix Environmental Services Pty Ltd (Phoenix) completed an initial spring season flora and vegetation field survey in October 2014 covering an approximately 40 m wide survey area (the existing road reserve). Between February and June 2015, follow up assessments of the areas surveyed in spring were undertaken along with preliminary flora and vegetation assessments for areas not previously surveyed. Between September and December 2015, areas surveyed in the first half of 2015 but not surveyed in Spring 2014 were revisited (Phoenix, 2015; 2016). The Spring 2015 surveys did not include the Miling Bypass, and these were revisited in Spring 2016. These surveys completely cover the area within the Pithara section that is the subject of this amendment.

##### 3.1.1 Vegetation

Vegetation mapping by Phoenix (2015; 2016) identified 18 vegetation associations. Of those, one occurs within the Pithara amendment area (**Table 3-1; Figure 3-1**).

There are no Commonwealth Threatened Ecological Communities (TEC), State TECs or State Priority Ecological Communities (PEC) located within the area to be amended.

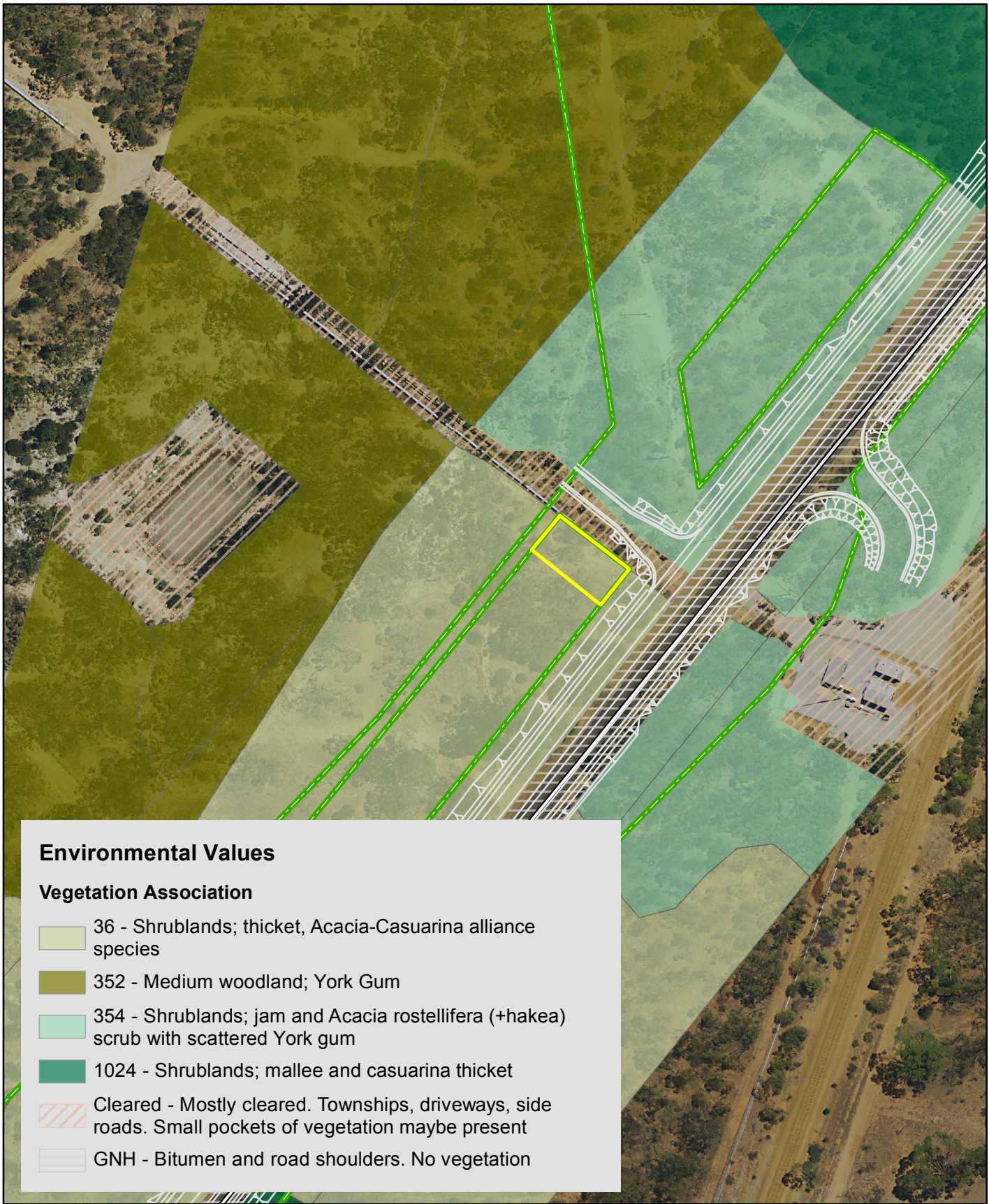
**Table 3-1: Vegetation Associations within Pithara Boundary Amendment Area**

Vegetation Association	Vegetation condition	Additional Area Within Revised Boundary (ha)
36: Shrublands; thicket, Acacia-Casuarina alliance species	Good	0.032

Based on the information provided in the 2017 State-wide Vegetation Statistics (Government of Western Australia, Department of Biodiversity, Conservation and Attractions, 2018), the vegetation present is considered 'Vulnerable' as less than 30% of the pre-European extent remains in a regional context as shown in **Table 3-2**.







**Table 3-2: Vegetation Representation for Vegetation Types within the Amendment Areas**

Vegetation Type	Description (Shepherd <i>et al</i> . 2002)	Scale	Pre-European Extent (ha)	Current Extent (ha)	% Pre-European Extent Remaining	Vegetation Status
36	Shrublands; thicket, Acacia-Casuarina alliance species	State	495,430.67	226,242.18	45.67	
		Avon Wheatbelt	300,996.97	72,745.12	24.17	Vulnerable
		Merredin subregion	300,996.97	72,745.12	24.17	Vulnerable






## Environmental Values

### Vegetation Association

-  36 - Shrublands; thicket, Acacia-Casuarina alliance species
-  352 - Medium woodland; York Gum
-  354 - Shrublands; jam and Acacia rostellifera (+hakea) scrub with scattered York gum
-  1024 - Shrublands; mallee and casuarina thicket
-  Cleared - Mostly cleared. Townships, driveways, side roads. Small pockets of vegetation maybe present
-  GNH - Bitumen and road shoulders. No vegetation

### Legend

-  Design CN04
-  Additional Proposed NVCP Area
-  CPS 7231/2 boundary



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0 25 50 Scale at A4  
 Metres 1:1,500

Data Source: Main Roads WA, Landgate

Coordinate System: GDA 1994 MGA Zone 50



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### Figure 3-1 : Vegetation Associations

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Issue  
**C**

Drawing Status / Other  
**Final**

Date	By	Chkd	Appd
22/11/2018	FK	GJ	GJ

### 3.1.2 Flora

The desktop and literature review identified a total of 126 conservation significant flora species potentially present near the CPS 7231/2 permit area, of which 23 are listed as Threatened under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and 35 species are listed under the WA *Wildlife Conservation Act 1950* (WC Act) (including all of the EPBC Act listed species) (Phoenix, 2015; 2016). A further 91 species are listed as Priority flora by the WA Department of Biodiversity, Conservation and Attractions (DBCA) (17 Priority 1, 12 Priority 2, 48 Priority 3 and 14 Priority 4). None of the species listed under the EPBC Act or WC Act were recorded by Phoenix during the 2014 and 2015 surveys. Eight flora species listed on the DBCA Priority Flora list were recorded in the CPS 7231/2 permit area though none of these are located within, or near the area to be amended.

### 3.1.3 Weeds

Five flora species identified as Declared Plants under the WA *Biosecurity and Agriculture Management Act 2007* (BAM Act) have been recorded in the CPS 7231/2 permit area (\**Asparagus asparagoides* (Bridal Creeper), \**Echium plantagineum* (Patterson's Curse), \**Emex australis* (Spiny Emex) \**Lycium ferocissimum* (African Boxthorn) and \**Opuntia monacantha* (Barabary Fig)). \**Asparagus asparagoides*, \**Lycium ferocissimum* and \**Opuntia monacantha* are also Weeds of National Significance (WoNS). No Declared Plants have been recorded near the location subject to this amendment.

## 4. Potential Impacts

### 4.1 Vegetation Associations

This amendment application proposes to increase the boundary of CPS 7231/2 by a total 0.032 ha. No increase in the permitted amount of clearing is requested.

As described in **Table 3-1** vegetation at the amendment location consists of “36: *Shrublands; thicket, Acacia-Casuarina alliance species*” in Good condition. The proposed clearing will not have any additional or increased impact on these vegetation associations above that already been approved by CPS 7231/2 as only the boundary of the permit is proposed to be amended to allow for greater flexibility in the exact location of the clearing, providing for a safer work area.

None of the vegetation associations within the amendment areas are characteristic of any Commonwealth TEC, State TEC or State PEC.

### 4.2 Remnant Native Vegetation

**Table 3-2** shows that the vegetation association present within the boundary amendment is below 30% of its pre-European extent at both a bioregional and subregional level. However, no additional clearing is requested and no additional impact on remnant vegetation is likely to occur.

### 4.3 Flora

No Threatened or Priority flora have been recorded from the area to be included within the permit boundary.

## **5. Clearing Principles Assessment**

Schedule 5 of the EP Act defines ten Clearing Principles for native vegetation. These principles aim to ensure that all potential impacts resulting from removal of native vegetation can be assessed in an integrated way.

The inclusion of additional native vegetation within the permit boundary at Pithara has been assessed against the Clearing Principles.

**Table 5-1: Clearing Principles Assessment**

Principle		Assessment	Outcome
A	<b>Native vegetation should not be cleared if it comprises a high level of biological diversity.</b>	The additional vegetation to be included within the permit boundary is in Good condition. The vegetation type and condition is the same as that in adjacent areas and the inclusion of this area will not result in vegetation of a higher biological diversity being cleared than was originally proposed.	May be at variance
B	<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 indigenous to Western Australia</b>	The additional vegetation to be included within the permit boundary is not foraging or breeding habitat for Carnaby's Black Cockatoo. It is therefore not considered significant habitat for fauna indigenous to Western Australia	Not at variance
C	<b>Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.</b>	No Threatened (rare) flora have been recorded in or near the additional area to be included within the permit boundary.	Not at variance
D	<b>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.</b>	The additional vegetation to be included within the permit boundary does not represent a TEC.	Not at variance
E	<b>Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.</b>	CPS 7231/2 is located within the Avon Wheatbelt bioregion of WA. This area is recognised as a highly cleared landscape with remaining native vegetation generally considered to be under-represented.  Vegetation Association 36 currently has less than 30% of the pre-European extent remaining, however as the amendment is for a change to the boundary, not in increase the area to be cleared, no additional impacts to remnant native vegetation will occur.	May be at variance
F	<b>Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.</b>	The additional vegetation to be included within the permit boundary is not growing in, or in association with, an environment associated with a watercourse or wetland.	Not at variance

Principle		Assessment	Outcome
<b>G</b>	<b>Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.</b>	As no increase to the amount of clearing permitted is requested, this amendment will not result in appreciable land degradation.	Not at variance
<b>H</b>	<b>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.</b>	No conservation areas are adjacent to or nearby the proposed amendment areas.	Not at variance
<b>I</b>	<b>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.</b>	As no increase to the amount of clearing permitted is requested, this amendment will not result in deterioration in the quality of surface or underground water.	Not at variance
<b>J</b>	<b>Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.</b>	As no increase to the amount of clearing permitted is requested, this amendment will not cause, or exacerbate, the incidence or intensity of flooding.	Not at Variance

## 6. References

Arup Jacobs Joint Venture. 2016. Walebing to Wubin Purpose Permit to Clear Native Vegetation - Supporting Information.

Government of Western Australia. (2018). *2017 State-wide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017*. WA Department of Biodiversity, Conservation and Attractions, Perth. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>

Phoenix, 2015. Flora and fauna assessment for Lyons East road to Gatti Road study area. (Unpublished Report Prepared for the ASJV and Main Roads).

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Thackway, R. and Cresswell, I.D. (Editors), 1995. An Interim Biogeographic Regionalisation for Australia: a framework for establishing the national system of reserves (No. Version 4.0). Australian Nature Conservation Agency, Canberra.