



Carmichael Coal Mine and Rail Project Supplementary Environmental Impact Statement

Volume 4, Appendix C3d – Vegetation Reports for SP1 Rail Alignment

Containing

- SP1 Rail Alignment Vegetation Reports:
 - Part 1:
 - NCA Permit Application
 - NCA Permit Report

Application form

Threatened Species

Section 15(a) – Nature Conservation (Administration) Regulation 2006

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FILE REF

PROJECT REF

COMPLETE FORM

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ADMINISTERING DISTRICT

ENTERED BY [SIGNATURE]

DATE

Clearing permit (protected plants)

Important information for applicants

This form is to be used to apply for a clearing permit. You need a clearing permit if your proposed activity involves the legitimate taking or destruction of protected plants in the wild, except where an exemption applies. Information requested will enable your application to be processed as prescribed by the *Nature Conservation Act 1992*. Your application must be assessed and a permit granted by the chief executive before you can proceed with the proposed activity. Your application may take up to 40 days to process.

Before completing your application please read the information materials included with your application kit. Before lodging this application you should be familiar with the requirements of the Nature Conservation Act available on the Office of the Queensland Parliamentary Counsel website <http://www.legislation.qld.gov.au>. If you have queries about how to complete this form correctly or need guidance contact Permit and Licence Management on **1300 130 372**.

Applicant information

A permit may only be granted to an individual or corporation. Please tick the appropriate box:

- ☐ **AN INDIVIDUAL** → **Complete Section 1 applicant details — then complete sections 3 to 9**
- ☒ **A CORPORATION** → **Complete Section 2 applicant details — then complete sections 3 to 9**

1. Applicant details for an individual

APPLICANT'S FAMILY NAME		TITLE
APPLICANT'S GIVEN NAME/S		DATE OF BIRTH
RESIDENTIAL ADDRESS (NOT A POST OFFICE BOX)		POST CODE
TELEPHONE (BUSINESS HOURS)	MOBILE	FACSIMILE

Application form – Part B (if applicable)
Clearing permit (protected plants)

TELEPHONE (AFTER HOURS)	EMAIL
POSTAL ADDRESS (WRITE 'AS ABOVE' IF SAME AS RESIDENTIAL ADDRESS)	POST CODE

2. Application details for corporations

REGISTERED LEGAL ENTITY NAME (NOT A BUSINESS TRADING NAME) Adani Mining Pty Ltd	
TRADING NAME/S (IF APPLICABLE)	
REGISTERED BUSINESS ADDRESS (NOT A POST OFFICE BOX) Level 25, 10 Eagle Street, Queensland	POST CODE 4000
TELEPHONE (BUSINESS HOURS) (07) 3223 4800	FACSIMILE (07) 3223 4850
EMAIL	WEBSITE www.adanimining.com
POSTAL ADDRESS (WRITE 'AS ABOVE' IF SAME AS BUSINESS ADDRESS) GPO Box 2569, Brisbane, Queensland	POST CODE 4001
ABN / ACN / AN, OR TITLE AND SECTION OF LEGISLATION UNDER WHICH CORPORATION HAS LEGAL STATUS ACN 145 455 205	
NAME OF PRINCIPAL OF CORPORATION Harsh Mishra	
SIGNATURE OF PRINCIPAL OF CORPORATION (or person authorised to sign on their behalf)	DATE

Details of nominated person in charge where the authorised activity is to be undertaken

NOMINATED CONTACT PERSON'S FAMILY NAME To be provided		TITLE
NOMINATED CONTACT PERSON'S GIVEN NAME/S		DATE OF BIRTH
RESIDENTIAL ADDRESS (NOT A POST OFFICE BOX)		POSTCODE
TELEPHONE (BUSINESS HOURS)	MOBILE	FACSIMILE
TELEPHONE (AFTER HOURS)	EMAIL	
POSTAL ADDRESS (WRITE "AS ABOVE" IF SAME AS RESIDENTIAL ADDRESS)		POSTCODE

3. Have you previously held this type of permit?

This may include permits in other States.

Yes ☒ No ☐ If yes, state the permit number (if known)

4. Protected plant details

What species of protected plant does the application refer to?

(If you require more space, please attach a separate sheet)

SCIENTIFIC NAME	COMMON NAME	SCHEDULE NUMBER (IF KNOWN)	QUANTITY
Please refer to attached Carmichael Coal Project (Rail) - NCA Vegetation Clearing Permit - Separable Portion 1 (SP1)			

5. What property or properties do you intend to take protected plants from?

PROPERTY NAME OR LOT ON PLAN DESCRIPTION LOT 662 ON PH1491; LOT 3 ON BL26; LOT 637 ON PH1980; LOT 1 ON SP147546; LOT 4 ON SP116046; LOT 3235 ON PH752; LOT 10 ON BL49; LOT 1 ON SP118814	
LOCAL GOVERNMENT NAME ISAAC REGIONAL COUNCIL	PARISH NAME TALKI
PROPERTY OWNER'S OR OCCUPIER'S FAMILY NAME	PROPERTY OWNER'S OR OCCUPIER'S GIVEN NAME/S
PROPERTY OWNER'S OR OCCUPIER'S SIGNATURE (OWNER'S SIGNATURE MAY NOT BE REQUIRED, CHECK WITH DEPARTMENT REPRESENTATIVES)	IF A SIGNATURE IS NOT OBTAINABLE, DO YOU HAVE THE PROPERTY OWNER'S OR OCCUPIER'S PERMISSION? <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="checkbox"/> YES <input type="checkbox"/> NO </div>

6. Where is the clearing to be conducted?

Provide the street address, real property description(s) of the land(s) in which the project is located and local government area. If you require more space, attach a separate sheet.

STREET ADDRESS PLEASE REFER TO ATTACHED CARMICHAEL COAL PROJECT (RAIL) - NCA VEGETATION CLEARING PERMIT - SEPARABLE PORTION 1 (SP1)	
LOT	PLAN
LOCAL GOVERNMENT AREA	

If possible, provide a specific location within the property, a property name or attach a map with the project area clearly delineated. Also include the map name/details.

SPECIFIC LOCATION/PROPERTY NAME PLEASE REFER TO ATTACHED CARMICHAEL COAL PROJECT (RAIL) - NCA VEGETATION CLEARING PERMIT - SEPARABLE PORTION 1 (SP1)
GEOGRAPHICAL COORDINATES PLEASE REFER TO ATTACHED CARMICHAEL COAL PROJECT (RAIL) - NCA VEGETATION CLEARING PERMIT - SEPARABLE PORTION 1 (SP1)

7. Reason for clearing

Provide details of the clearing activity including the reason for the clearing and alternatives investigated, and any planned mitigation measures.

(If you require more space, attach a separate sheet)

DETAILS OF THE CLEARING ACTIVITY PLEASE REFER TO ATTACHED CARMICHAEL COAL PROJECT (RAIL) - NCA VEGETATION CLEARING PERMIT - SEPARABLE PORTION 1 (SP1)

8. What are the approximate start and completion dates for the project?

START DATE APRIL 2014 (TO BE CONFIRMED)	END DATE OCTOBER 2014 (TO BE CONFIRMED)
--------------------------------------------	--------------------------------------------

9. Provide the name(s) of the person(s) operating under this permit

FAMILY NAME TO BE ADVISED	GIVEN NAME
FAMILY NAME	GIVEN NAME

Application form – Part B (if applicable)
Clearing permit (protected plants)

FAMILY NAME	GIVEN NAME
FAMILY NAME	GIVEN NAME
FAMILY NAME	GIVEN NAME
FAMILY NAME	GIVEN NAME
FAMILY NAME	GIVEN NAME

10 Attachments

List all attached documents, including maps containing information supporting this application in the space below. If there are no attachments mark 'N/A'.

ATTACHMENTS (LABEL ALL ATTACHMENTS ALPHABETICALLY E.G. "ATTACHMENT A")

Please refer to attached Carmichael Coal Project (Rail) - NCA Vegetation Clearing Permit - Separable Portion 1 (SP1)

11. Applicant suitability

The permit may be granted if the applicant is an appropriate person to hold the permit, that is, if the applicant has the ability to carry out the activity under the authority in a competent and ethical way.

QUESTIONS		DETAILS
1. During the past 10 years have you ever (in Queensland or elsewhere) been found guilty of any criminal offence or entered a plea of guilty in a Court? (Note: does not include simple traffic offences such as parking, speeding.) If yes, provide details of the offence/s.	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
2. Have you ever had an equivalent permit from another State or country that was suspended and/or cancelled? If yes, provide details about the permit, the date it was suspended and/or cancelled and reasons for suspension/cancellation.	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

12. Declaration

Note: If you have not told the truth in this application you may be liable for prosecution under the relevant Acts or Regulations.

- I do solemnly and sincerely declare that the information provided is true and correct to the best of my knowledge and I make this solemn declaration conscientiously believing the same to be true.

Application form – Part B (if applicable)
Clearing permit (protected plants)

- I understand that all information supplied on or with this application form may be disclosed publicly in accordance with the *Right to Information Act 2009* and the *Evidence Act 1977*.

APPLICANT'S NAME	
APPLICANT'S SIGNATURE	DATE
IF APPLICANT IS A CORPORATION, WHAT IS YOUR POSITION IN THE CORPORATION?	

13. Applicant checklist

- ☐ Application form completed and signed
- ☐ Supporting information attached
- ☐ Landholder statement completed and signed

Please return your completed application to:

Permit and Licence Management
Department of Environment and Heritage Protection

GPO Box 2454
Brisbane Qld 4001

Enquiries: **1300 130 372**
Facsimile: (07) 3896 3342
E-mail: palm@ehp.qld.gov.au

Code of Practice or guidelines may be obtained from the EHP website <http://www.ehp.qld.gov.au> or by contacting the EHP Referral Centre on 1300 130 372.

environmental management



Carmichael Coal Project (Rail) NCA Vegetation Clearing Permit

Separable Portion 1 (SP1)

6867
10 July 2013
Adani Mining Pty Ltd





Document Control

Title	Carmichael Coal Project (Rail) – NCA Vegetation Clearing Permit – Separable portion 1 (SP1)
Job Number	6867
Client	Adani Mining Pty Ltd

Document Issue

Issue	Date	Prepared By	Checked By
Draft	26.10.2012	Nick Christofis	Ross Marshall
Final V1	26.10.2012	Nick Christofis	Stevie Armstrong
Final V2	10.07.2013	David Havill	Dr Andrew Davies

Disclaimer

This report has been prepared for **Adani Mining Pty Ltd**. **Saunders Havill Group** cannot accept responsibility for any use of or reliance upon the contents of this report by any third party.

Reports and/or Plans by Others

Reports and/or plans by others may be included within this Environmental Management report to support the document.



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Introduction

The *Environmental Management Division* of the **Saunders Havill Group** was engaged by **Adani Mining Pty Ltd** to prepare this *Nature Conservation Act, 1992* (NCA) vegetation clearing permit application to enable clearing for the Carmichael Coal Project (Rail) Separable Portion 1 (SP1) section.

The Carmichael Coal Project (Rail) involves the construction of a rail line connecting the Carmichael Mine site to the existing Goonyella and Newlands rail systems to provide for the export of coal via the Hay Point and Abbot Point coal terminals. The proposed Mine is projected to have a total output capacity of 60 million tonnes per annum.

The Project has been declared a 'significant project' under the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and as such, an Environmental Impact Statement (EIS) is required. The rail line is divided into two (2) components as follows:

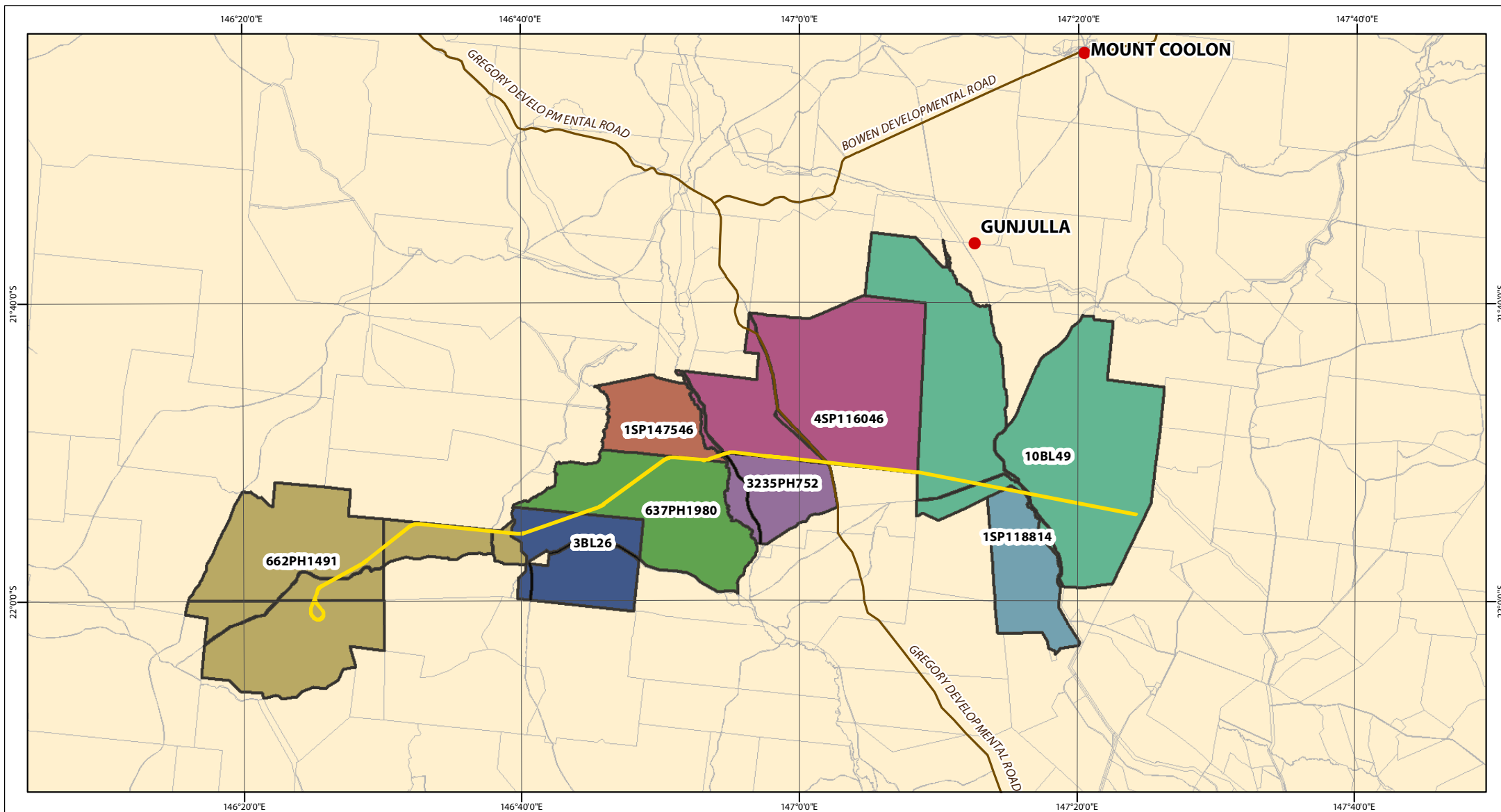
- **Separable Portion 1 (SP1)** – known as 'west rail' which traverses approximately 120 km from the Mine site East towards Moranbah; and
- **Separable Portion 2 (SP2)** – known as 'east rail' which connects 'west rail' with the existing Goonyella rail system and provides access to Dalrymple Bay and Hay Point coal terminals.

This report is prepared to accompany the EIS and seek approval to clear 'Least Concern' plants along the 95 m wide rail corridor. This document applies only to SP1 of the rail alignment with separate documents provided for clearing associated with the SP2 alignment and temporary works areas.

Adani Mining Pty Ltd is aware of a number of processes and exemptions under the *Nature Conservation Act 1992* which may lead to the ability to clear 'Least Concern' plants for the Carmichael Coal Project (Rail). These processes and exemptions are discussed in further detail within this report, however include:

- Various exemptions listed under S41(1) of the *Nature Conservation (Protected Plants) Conservation Plan 2000*;
- Receipt of a clearing permit for the clearing of Least Concern Plants

In support of this clearing application detailed information regarding the type and approximate numbers of Least Concern plants present within the SP1 Rail corridor is provided.



Legend

- Place Name
- Major Roads
- Rail Alignment Corridor (SP-1)
- QLD DCBD

Plan 1 Rail Project Overview (SP-1)

File ref. 6396 E 01 Rail Project Overview A

Date 9/07/2013

Project Carmichael Coal Rail Project

0 2 4 6 8 10 20 km
Scale (A4): 1:650,000 [GDA 1994 MGA Z55]



adani **SH** **saunders havill group**

THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL GROUP CANNOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWING BY ANY THIRD PARTY.



I. Nature Conservation Act, 1992

The *Nature Conservation Act 1992* (NCA) provides for the conservation of nature including important natural areas such as national parks and conservation parks or resource reserves as well as flora and fauna considered to be 'extinct in the wild', 'endangered', 'vulnerable', 'near threatened' and 'least concern wildlife'.

The Carmichael Coal Project (Rail) requires the clearing of 'Least Concern' Plants within a 95 m wide corridor in order to construct the Rail. The clearing for the rail line can be facilitated in two ways under the NCA. This includes:

1. The receipt of a clearing permit for the clearing of 'Least Concern' Plants; and/or
2. Agreement to a process under S41 of the *Nature Conservation (Protected Plants) Conservation Plan 2000* (NC Plan).

S41 of the NC Plan provides a number of exemptions that may be applicable to the Carmichael Coal Project (Rail) including:

- 1) *'A clearing permit is not needed for taking a protected plant if –*
 - a) *The taking happens in the course of an activity under an authority, other than a mining lease or petroleum lease, made, granted or given under another Act by—*
 - i. *the Governor in Council; or*
 - ii. *someone else and the chief executive approves the taking in the course of the activity; or*
 - b) *the taking happens in the course of an activity under a mining lease; or*
 - c) *the taking happens in the course of an activity under a petroleum lease; or*
 - d) *for a least concern plant on private land—the person taking the plant is the landholder of the land.*
- 2) *For subsection (1)(a)(ii), the chief executive's approval may be given –*
 - a) *for a particular activity or class of activity; and*
 - b) *with or without conditions; and*
 - c) *only if the chief executive is satisfied the taking will not adversely affect the survival in the wild of the plant.*

Under S41 of the NC Plan an exemption for the project could be facilitated in a number of ways, subject to the final tenure / lease arrangement for the corridor. It is requested that the clearing of 'Least Concern' Plants for the Carmichael Coal Rail corridor is either facilitated through an exemption under S41 described above, or through the issue of a 'Clearing Permit'.

This document provides information to support the issuing of a clearing permit and to demonstrate that the clearing will not adversely affect the continued survival of identified plant species in the wild.



2. Application Details

The rail alignment is located within a nominal 95 metre (m) wide corridor that runs from the Mine approximately 189 km eastwards to connect with existing Aurizon National Goonyella Coal Rail System (**Plan 1**).

The Rail (West) portion is designed to accommodate a dual gauge (i.e. narrow gauge and standard gauge) with a capacity up to 100 Mtpa. This will allow for future connections to other existing and/or proposed third party rail infrastructure via standard and/or narrow gauge lines. The Rail (East) will be a narrow gauge track with capacity assessed at 60 Mtpa.

The 95 m wide rail corridor is required to facilitate the construction of the rail including earthworks (cut and fill), drainage, associated utilities, access roads and fencing.

Table 1: Application Details

Applicant	Adani Mining Pty Ltd
Location	SP1 Rail Corridor
RPD	Lot 662 on PH1491 Lot 3 on BL26 Lot 637 on PH1980 Lot 1 on SP147546 Lot 4 on SP116046 Lot 3235 on PH752 Lot 10 on BL49 Lot 1 on SP118814
Local Government	Isaac Regional Council
Clearing Purpose	Establishment of Carmichael Coal Mine rail infrastructure

2.1. Land Tenure

Adani Mining Pty Ltd own 'Moray Downs station' (Lot 662 on PH1491) and as a result, clearing of Least Concern Native species on Moray Downs will be undertaken by the landowner and does not require a Nature Conservation Permit. The remainder of the SP1 rail line is located within either freehold, leasehold, unallocated State land or road reserve and is not currently controlled by **Adani Mining Pty Ltd**. It is not yet known what the final tenure arrangement for the rail line will be, therefore this report addresses clearing associated with all properties along the SP1 alignment except 'Moray Downs'. Refer to **Attachment A** – Tenure Plan for further information.



3. Clearing Extent & Methodology

3.1. Clearing extent

Clearing for construction of the rail corridor is required along the length of SP1 within the following properties:

- Lot 3 on BL26
- Lot 637 on PH1980
- Lot 1 on SP147546
- Lot 4 on SP116046
- Lot 3235 on PH752
- Lot 10 on BL49
- Lot 1 on SP118814

The proposed clearing encompasses a 95 m corridor along the length of the SP1 rail alignment.

3.2. Construction & Clearing Methodology

It is expected that construction of the Project (Rail) will commence in early to middle of 2014 for a period of approximately two years. The construction schedule currently indicates that construction activities in the first year are largely concerned with the undertaking of civil works (earthworks and structures), such as the establishment of watercourse crossings. Yard works are also scheduled during this period. Earthworks are planned to commence in 2014 and continue through 2015. Track laying, followed by ballasting and tamping, will commence in 2015 and are scheduled for completion in 2016.

The Construction Environmental Management Plan will detail the various requirements for the clearing, earthworks and construction phase aspects of the project. Specific to the requirements for clearing activities are:

- Planning and sequencing of clearing activities;
- Requirements for site stabilization and erosion and sediment control; and
- Specific management strategies within sensitive areas (e.g. watercourse and wetland areas).

3.3. Fauna Spotter

A fauna spotter will be present throughout the clearing process. The fauna spotter will check proposed access tracks for fallen logs, nests and other potential animal breeding places and as per any conditions required under the NCA and *Nature Conservation (Wildlife) Regulation 2006*.

It is intended that the proponent will operate under a Species Management Program (whether specifically prepared or generic), which allows for the tampering of animal breeding places and can be obtained under Section 88 of the NCA and Section 332 of the *Nature Conservation (Wildlife Management) Regulation 2006*.



3.4. Threatened Flora

This NCA Permit report does not seek approval to clear Listed Endangered, Vulnerable or Near Threatened (EVNT) species. Prior to the commencement of clearing activities, additional field investigations will be conducted within potential habitat areas to confirm the absence of listed species. Should any EVNT species be encountered, approval to clear relevant species will be sought.



4. Audit of proposed clearing

The following provides an audit of Least Concern Plants within the proposed clearing footprint. The density and number of plants have been determined using standard assessment methods which detail the numbers of individuals per hectare. This information correlates to detailed vegetation mapping within the SP1 corridor to determine numbers of each species requiring removal within various vegetation community types. It is noted that in a number of instances, the estimates of individual plants to be removed by the clearing exercise is likely to be less than identified within the schedules.

Reporting is on a property basis with species schedules coinciding with mapped vegetation polygons. The following properties are included within the audit.

- Lot 3 on BL26
- Lot 637 on PH1980
- Lot 1 on SP147546
- Lot 4 on SP116046
- Lot 3235 on PH752
- Lot 10 on BL49
- Lot 1 on SP118814

The plant audit information provided within this document demonstrates that the clearing will not adversely affect the continued survival of identified plant species in the wild. This is evident when comparing the minor clearing required for the rail corridor in comparison to the vast areas of similar mapped vegetation that will remain within the local and regional landscape. This information may also provide confidence that appropriate exemptions under S41 of the NC Plan may be relevant to the project.

Extensive vegetation surveys have been completed along the SP1 rail corridor resulting in the reclassification of remnant vegetation at the property scale. A Property Map of assessable Vegetation (PMAV) report is submitted within EIS documentation demonstrating proposed changes to RE mapping and should be read in conjunction with this report. Species and areas of Regional Ecosystem clearing contained within this report reflect the results of the PMAV survey. Where there are inconsistencies between the Regional Ecosystem mapping and the field survey results, this has been detailed for the relevant location. The original Version 6.1 of Regional Ecosystem mapping is used within the Vegetation Community mapping within **Attachment A**.



5. SPI Rail Alignment – Road Reserve

5.1. Location 1 (Moray Carmichael Boundary Road) – Mapped Non Remnant (1.2ha)

- Field survey confirmed Regional Ecosystem mapping Version 6.1.
- Refer to **Attachment B** – NCA Permit Plan 1

Table 2: Location 1 (Moray Carmichael Boundary Road) Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus brownii</i>	Reid River Gum	Least Concern	Not Listed	10
	D	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	20
	A	<i>Archidendropsis basaltica</i>	Dead Finish	Least Concern	Not Listed	5
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	5
Forbs and Grasses	D	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	50m ²
	A	<i>Heteropogon contortus</i>	Black Spear Grass	Least Concern	Not Listed	50m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Moray Carmichael Boundary Road Reserve

5.2. Location 2 (Moray Bulliwallah Road) – Mapped Non Remnant (0.6ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Refer to **Attachment B** – NCA Permit Plan 2

Table 3: Location 2 (Moray Bulliwallah Road) Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus brownii</i>	Reid River Gum	Least Concern	Not Listed	10
	D	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	20
	A	<i>Archidendropsis basaltica</i>	Dead Finish	Least Concern	Not Listed	5
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	5
Forbs and Grasses	D	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	50m ²



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Heteropogon contortus</i>	Black Spear Grass	Least Concern	Not Listed	50m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)

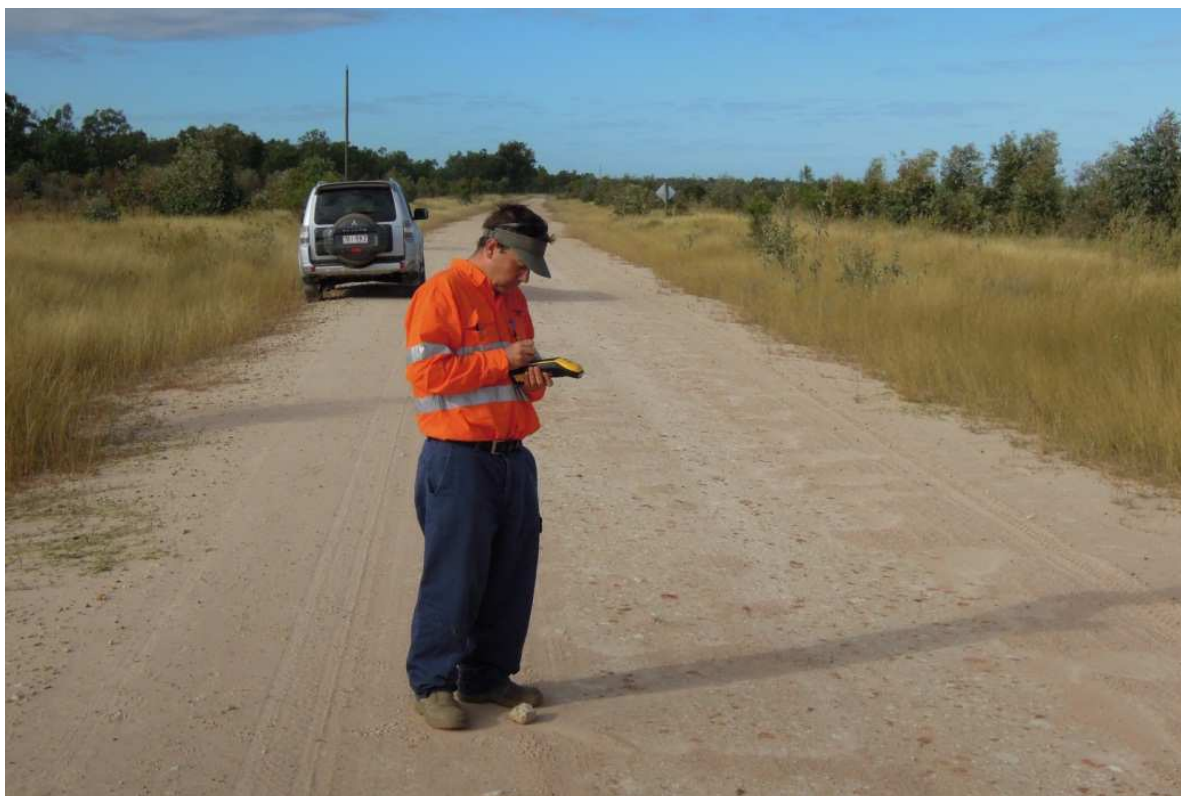


Photo: Vegetation within Moray Bulliwallah Road Reserve



6. SPI Rail Alignment – Lot 3 BL26

6.1. Location 3 – Lot 3 BL26 – Mapped RE II.3.IO (1.6ha)

- Field Survey confirmed Regional Ecosystem Mapping Version 6.1 within the 1.6ha area.
- Refer to **Attachment B** – NCA Permit Plan 2

Table 4: Location 3 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus brownii</i>	Reid River Gum	Least Concern	Not Listed	64
	D	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	64
	A	<i>Archidendropsis basaltica</i>	Dead Finish	Least Concern	Not Listed	112
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	32
	A	<i>Lysiphyllum hookeri</i>	Native Bauhinia	Least Concern	Not Listed	32
Forbs and Grasses	D	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	1600m ²
	A	<i>Chloris pectinata</i>	Comb Chloris	Least Concern	Not Listed	800m ²
	A	<i>Heteropogon contortus</i>	Black Spear Grass	Least Concern	Not Listed	800m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 3 mapped as RE11.3.10

6.2. Location 4 – Lot 3 BL26 – Mapped RE 11.3.25/11.3.37/11.3.1 (2.7ha)

- Field Survey identified composite Least Concern Regional Ecosystem 11.3.25 / 11.3.37 within the 2.7ha area.
- No species representing the Endangered Regional Ecosystem 11.3.1 were observed.
- Refer to **Attachment B** – NCA Permit Plan 2

Table 5: Location 4 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	108
	A	<i>Eucalyptus camaldulensis</i>	River Red gum	Least Concern	Not Listed	27
	A	<i>Eucalyptus populnea</i>	Poplar Box	Least Concern	Not Listed	27
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	81



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	67
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	269
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	27
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	27
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	54
Forbs and Grasses	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	2473m2
	A	<i>Bothriochloa ewartiana</i>	Desert Bluegrass	Least Concern	Not Listed	4946m2
	CD	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	3709m2
	CD	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	6182m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 4 identified as Least Concern Regional Ecosystem 11.3.25 / 11.3.37



6.3. Location 5 – Lot 3 BL26 – Mapped RE II.3.IO/II.3.7 (II.2ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1
- Sparse ground layer with large proportion containing limited ground layer species. Weed species confined to edge affects associated with open areas and edge of remnant polygon.
- Refer to **Attachment B** – NCA Permit Plan 3

Table 6: Location 5 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Eucalyptus brownii</i>	Reid River Gum	Least Concern	Not Listed	224
	A	<i>Corymbia clarksoniana</i>	Long-fruited Bloodwood	Least Concern	Not Listed	224
	A	<i>Corymbia dallachiana</i>	Ghost Gum	Least Concern	Not Listed	896
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	896
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	448
	A	<i>Grevillea striata</i>	Beefwood	Least Concern	Not Listed	224
	A	<i>Acacia excelsa</i>	Ironwood	Least Concern	Not Listed	2240
Forbs and Grasses	A	<i>Chloris pectinata</i>	Comb Chloris	Least Concern	Not Listed	5600m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	22400m ²
	A	<i>Chloris truncata</i>	Windmill Grass	Least Concern	Not Listed	5600m ²
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	2240m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	3360m ²
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	2240m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 5 identified as RE11.3.10/11.3.7

6.4. Location 6 – Lot 3 BL26 – Mapped RE 11.3.25/11.3.37/11.3.1 (1.6ha)

- Field Survey identified composite Least Concern Regional Ecosystem 11.3.25 / 11.3.37 within the 1.6ha area.
- No species representing the Endangered Regional Ecosystem 11.3.1 were observed.
- Refer to **Attachment B** – NCA Permit Plan 3

Table 7: Location 6 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	63
	A	<i>Eucalyptus camaldulensis</i>	River Red gum	Least Concern	Not Listed	16
	A	<i>Eucalyptus populnea</i>	Poplar Box	Least Concern	Not Listed	16
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	48
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	40



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	160
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	16
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	16
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	32
Forbs and Grasses	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	1465m ²
	A	<i>Bothriochloa ewartiana</i>	Desert Bluegrass	Least Concern	Not Listed	2931m ²
	CD	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	2198m ²
	CD	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	3663m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 6 identified as Least Concern Regional Ecosystem 11.3.25 / 11.3.37



6.5. Locations 7 & 8 –Lot 3 BL26 – Mapped RE II.3.3 (2.lha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1
- Refer to **Attachment B** – NCA Permit Plan 3

Table 8: Location 7 and 8 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	112
	CD	<i>Muehlenbeckia florulenta</i>	Tangled Lignum	Least Concern	Not Listed	560
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	560
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	112
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	168
	CD	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	112
	A	<i>Eremophila bigoniiflora</i>	Bignonia Emu-bush	Least Concern	Not Listed	56
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	420
Forbs and Grasses	A	<i>Chloris pectinata</i>	Comb Chloris	Least Concern	Not Listed	2800m ²
	D	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	14000m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	2800m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	2800m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 7 and 8 identified as Mapped RE 11.3.3

6.6. Lot 3 BL26 Balance Area – Non Remnant Areas (67.6ha)

- Ground layer in non-remnant areas dominated by *Pennisetum ciliare* (Buffel Grass) ($\approx 75\%$) and bare ground ($\approx 5\%$). These areas are heavily grazed and disturbed and have historically been cleared for cattle pastures or cropping. Calculations were based on 1000m² (50m x 20m) transects.
- Refer to **Attachment B** – NCA Permit Plan 3-5

Table 9: Lot 3 on BL26 Balance Area Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M2 of vegetation
Tree and Shrubs	A	<i>Acacia cambagei</i>	Stinky Wattle	Least Concern	Not Listed	453
	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	784
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	541
	A	<i>Apophyllum anomalum</i>	Warrior Bush	Least Concern	Not Listed	41
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	81



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M2 of vegetation
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	365
	A	<i>Citrus glauca</i>	Desert Lime	Least Concern	Not Listed	406
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	223
	A	<i>Eucalyptus brownii</i>	Reid River Box	Least Concern	Not Listed	41
	A	<i>Eucalyptus camaldulensis</i>	River Red Gum	Least Concern	Not Listed	128
	A	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	270
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	744
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	176
	A	<i>Terminalia oblongata</i>	Yellow-wood	Least Concern	Not Listed	744
Forbs and grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	10140m2
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	10140m2
	A	<i>Chloris pectinata</i>	Comb Chloris	Least Concern	Not Listed	10140m2
	A	<i>Chloris truncata</i>	Windmill Grass	Least Concern	Not Listed	20280m2
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	10140m2
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	10140m2
	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	10140m2
	A	<i>Muehlenbeckia florulenta</i>	Tangled Lignum	Least Concern	Not Listed	10140m2



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M2 of vegetation
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	20280m2
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	20280m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Non-remnant areas dominated by *Pennisetum ciliare* (Buffel Grass)



7. SPI Rail Alignment – Lot 637 PHI980

7.1. Location 9 – Lot 637 PHI980 – Mapped RE II.3.1/II.3.5 (4.9ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1
- Sparse ground layer with large proportion containing limited ground layer species. Weed species confined to edge affects associated with open areas and edge of remnant polygon. *Pennisetum ciliare* (Buffel Grass) and bare ground 80% of ground layer.
- Refer to **Attachment B** – NCA Permit Plan 5

Table 10: Location 9 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	20
	D	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	950
	A	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	10
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	40
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	20
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	120
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	40
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	2450m ²
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	2450m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	2450m ²
	A	<i>Sporobolus caespitosum</i>	Brigalow Grass	Least Concern	Not Listed	2450m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 9 identified as RE11.3.1/11.3.5

7.2. Location 10 – Lot 637 PHI980 – Mapped RE 11.3.3 (4.6ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1
- Pennisetum ciliare* (Buffel Grass) dominant within this remnant polygon (>50%).
- Refer to **Attachment B** – NCA Permit Plan 5

Table 11: Location 10 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	279
	A	<i>Eucalyptus camaldulensis</i>	River Red gum	Least Concern	Not Listed	64
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	43
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	86
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	86
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	86



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	86
Forbs and Grasses	D	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	4585m2
	A	<i>Cyperus bifax</i>	Sedge	Least Concern	Not Listed	2293m2
	A	<i>Cyperus gracilis</i>	Sedge	Least Concern	Not Listed	2293m2
	A	<i>Rhynchosia minima</i>	Native Sensitive Plant	Least Concern	Not Listed	2292m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 10 identified as RE11.3.3



7.3. Locations 11 & 12 – Lot 637 PHI980 – Mapped RE11.3.10 & RE 11.4.6 (Areas combined 3.5ha)

- Field survey confirmed Of Concern Regional Ecosystem 11.4.6 throughout the 3.5ha.
- Pennisetum ciliare* (Buffel Grass) dominant grass within vegetation polygon (>60%) remaining area predominantly bare ground. This site would be consistent with a reference site for this RE type except for the dominance of *Pennisetum ciliare* in the ground layer.
- Refer to **Attachment B** – NCA Permit Plan 5

Table 12: Location 11 and 12 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	1155
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	105
	A	<i>Eremophila bigoniiflora</i>	Bignonia Emu-bush	Least Concern	Not Listed	70
	A	<i>Apophyllum anomalum</i>	Warrior bush	Least Concern	Not Listed	40
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	65
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	3500m ²
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	3500m ²
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	3500m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 11 identified as Of Concern RE11.4.6

7.4. Location 13 – Lot 637 PHI980 – Mapped RE 11.3.1 (2.4ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1
- Sparse ground layer with large proportion containing limited ground layer species. Weed species confined to edge affects associated with open areas and edge of remnant polygon. *Pennisetum ciliare* (Buffel Grass) and bare ground 80% of ground layer.
- Refer to **Attachment B** – NCA Permit Plan 6

Table 13: Location 13 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	100
	D	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	950
	A	<i>Eucalyptus populnea</i>	Poplar Box	Least Concern	Not Listed	45



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	60
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	240
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	80
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	1225m2
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	1225m2
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	1225m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 13 identified as RE11.3.1



7.5. Locations I4 & I5 – Lot 637 PHI980 – Mapped RE II.5.3 & RE II.4.6. (Areas combined 5.2ha)

- Field survey confirmed Least Concern Regional Ecosystem 11.5.3 within the 5.2ha area.
- Sparse ground layer with large proportion containing limited ground layer species. *Pennisetum ciliare* (Buffel Grass) and bare ground 80% of ground layer.
- Refer to **Attachment B** – NCA Permit Plan 6

Table 14: Location 14 and 15 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Corymbia clarksoniana</i>	Long-fruited Bloodwood	Least Concern	Not Listed	156
	A	<i>Corymbia dallachiana</i>	Ghost Gum	Least Concern	Not Listed	52
	A	<i>Eucalyptus brownii</i>	Reid River Box	Least Concern	Not Listed	48
	A	<i>Archidendropsis basaltica</i>	Dead Finish	Least Concern	Not Listed	32
	CD	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	128
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	24
	A	<i>Grevillea striata</i>	Beefwood	Least Concern	Not Listed	12
	A	<i>Acacia excelsa</i>	Ironwood	Least Concern	Not Listed	12
	A	<i>Owenia acidula</i>	Emu Bush	Least Concern	Not Listed	12
	CD	<i>Petalostigma pubescens</i>	Quinine Bush	Least Concern	Not Listed	64
	A	<i>Citrus glauca</i>	Native Lime	Least Concern	Not Listed	52
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	5200m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	5200m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 14 and 15 identified as RE11.5.3

7.6. Location 16 – Lot 637 PHI980 – Mapped RE 11.4.8/11.4.6 (1.5ha)

- Field Survey identified Of Concern Regional Ecosystem 11.4.6 within the 1.5ha area.
- No species representing the Endangered Regional Ecosystem 11.4.8 were observed.
- Sparse ground layer with large proportion containing limited ground layer species. *Pennisetum ciliare* (Buffel Grass) and bare ground 70% of ground layer
- Refer to Attachment B – NCA Permit Plan 8

Table 15: Location 16 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	60
	CD	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	150
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	30
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	30
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	60
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	120
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	90



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	2250m ²
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	300m ²
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	2250m ²
	A	<i>Enneapogon nigricans</i>	Niggerhead	Least Concern	Not Listed	450m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photos: Vegetation within Location 16 is Of Concern RE 11.4.6

7.7. Location 17 – Lot 637 PHI980 – Mapped RE 11.5.3 (11.0ha)

- Field survey confirmed Least Concern Regional Ecosystem 11.5.3 within the 12.5ha area.
- Sparse ground layer with large proportion containing limited ground layer species. *Pennisetum ciliare* (Buffel Grass) and bare ground 80% of ground layer.
- Refer to **Attachment B** – NCA Permit Plan 9

Table 16: Location 17 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Corymbia clarksoniana</i>	Long-fruited Bloodwood	Least Concern	Not Listed	282
	A	<i>Corymbia dallachiana</i>	Ghost Gum	Least Concern	Not Listed	91



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Eucalyptus brownii</i>	Reid River Box	Least Concern	Not Listed	59
	A	<i>Lysiphyllum hookeri</i>	Native Bauhinia	Least Concern	Not Listed	22
	CD	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	220
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	11
	A	<i>Grevillea striata</i>	Beefwood	Least Concern	Not Listed	8
	A	<i>Acacia excelsa</i>	Ironwood	Least Concern	Not Listed	9
	A	<i>Myoporum acuminatum</i>	Water Bush	Least Concern	Not Listed	9
	CD	<i>Petalostigma pubescens</i>	Quinine Bush	Least Concern	Not Listed	28
	A	<i>Citrus glauca</i>	Native Lime	Least Concern	Not Listed	16
	A	<i>Exocarpus latifolia</i>	Native Cherry	Least Concern	Not Listed	8
Forbs and Grasses	A	<i>Heteropogon contortus</i>	Black Spear Grass	Least Concern	Not Listed	11000m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	5500m ²
	A	<i>Themeda triandra</i>	Kangaroo Grass	Least Concern	Not Listed	5500m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 17 as Least Concern RE11.5.3

7.8. Lot 637 PH1980 Balance Area –Non Remnant Areas (127.8ha)

- Ground layer in non-remnant areas dominated by *Pennisetum ciliare* (Buffel Grass) (56.2%) and bare ground (15.56%). These areas are heavily grazed and disturbed and have historically been cleared for cattle pastures or cropping.
- Refer to **Attachment B** – NCA Permit Plan 9

Table 17: Lot 637 PH1980 Balance area Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	1482
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	690
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	153
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	422
Forbs and grasses	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	7029m ²
	A	<i>Chloris gayana</i>	Rhodes Grass	Least Concern	Not Listed	28499m ²
	A	<i>Heteropogon contortus</i>	Black Speargrass	Least Concern	Not Listed	35528m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	170357m ²



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Themeda triandra</i>	Kangaroo Grass	Least Concern	Not Listed	21343m2
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	21343m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Non remnant vegetation within Lot 637 on PH1980



8. SPI Rail Alignment – Lot I SPI47546

8.1. Location 18– Lot I SPI47546 – Mapped RE 11.3.3/11.3.5 (2.2ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Pennisetum ciliare* (Buffel Grass) dominant within this remnant polygon
- Refer to **Attachment B** – NCA Permit Plan 10

Table 18: Location 18 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	65
	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	30
	A	<i>Eucalyptus camaldulensis</i>	River Red gum	Least Concern	Not Listed	26
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	26
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	43
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	32
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	32
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	33
Forbs and Grasses	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	1100m ²
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	2200m ²
	D	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	4400m ²
	A	<i>Dactyloctenium radulans</i>	Button Grass	Least Concern	Not Listed	1100m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 18 mapped as RE11.3.3/11.3.5

8.2. Location 19 – Lot I SPI47546 – Mapped RE 11.3.25/11.3.37 (2.4ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1
- Pennisetum ciliare* (Buffel Grass) dominant within this remnant polygon
- Refer to **Attachment B** – NCA Permit Plan 10

Table 19: Location 19 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	CD	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	96
	A	<i>Eucalyptus camaldulensis</i>	River Red gum	Least Concern	Not Listed	24
	A	<i>Eucalyptus populnea</i>	Poplar Box	Least Concern	Not Listed	24
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	72
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	60
	CD	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	239
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	24
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	24



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	48
Forbs and Grasses	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	2198m ²
	A	<i>Bothriochloa ewartiana</i>	Desert Bluegrass	Least Concern	Not Listed	4396m ²
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	3297m ²
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	5495m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 19 identified as RE11.3.25/11.3.37

8.3. Location 20 – Lot I SPI47546 – Mapped RE II.3.3 (4.2ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Calculations derived from previous NCA permit approvals for this RE description, site photos, aerial maps and quaternary sites. *Pennisetum ciliare* (Buffel Grass) dominant within this remnant polygon.
- Refer to **Attachment B** – NCA Permit Plan 10

Table 20: Location 20 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	225



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	65
	A	<i>Eucalyptus camaldulensis</i>	River Red gum	Least Concern	Not Listed	65
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	50
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	83
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	58
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	58
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	62
Forbs and Grasses	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	2100m ²
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	4200m ²
	D	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	8400m ²
	A	<i>Dactyloctenium radulans</i>	Button Grass	Least Concern	Not Listed	2100m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 20 identified as RE11.3.3

8.4. Location 21 – Lot I SPI47546 & State Land - RE 11.3.25/11.3.37 (1ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- *Pennisetum ciliare* (Buffel Grass) dominant within this remnant polygon.
- Refer to **Attachment B** – NCA Permit Plan 10

Table 21: Location 21 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	CD	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	42
	A	<i>Eucalyptus camaldulensis</i>	River Redgum	Least Concern	Not Listed	11
	A	<i>Eucalyptus populnea</i>	Poplar Box	Least Concern	Not Listed	11
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	32
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	26
	CD	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	105



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	11
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	11
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	21
Forbs and Grasses	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	966m2
	A	<i>Bothriochloa ewartiana</i>	Desert Bluegrass	Least Concern	Not Listed	1924m2
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	1442m2
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	2404m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 21 identified as RE11.3.25/11.3.37



8.5. Lot I SPI47546 Balance Area – Mapped Non Remnant Areas (11.3ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Ground layer in non-remnant areas dominated by *Pennisetum ciliare* (Buffel Grass) (59.6%) and bare areas (25.4%). These areas heavily grazed and disturbed and have historically been cleared for cattle pastures or cropping.
- Refer to **Attachment B** – NCA Permit Plan 10

Table 22: Lot 1 SP147546 Balance Area Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	131
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	61
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	14
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	37
Forbs and grasses	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	5424m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	5876m ²
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	565m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	1921m ²
	A	<i>Heteropogon contortus</i>	Black Speargrass	Least Concern	Not Listed	2486m ²
	A	<i>Themeda triandra</i>	Kangaroo Grass	Least Concern	Not Listed	2486m ²
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	2486m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Non remnant vegetation within Lot 1 on SP147546



9. SPI Rail Alignment – Lot 3235 PH752

9.1. Location 22 – Lot 3235 PH752 – Mapped RE II.3.25/II.3.37 (1.1ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Pennisetum ciliare* (Buffel Grass) dominant within this remnant polygon.
- Refer to **Attachment B** – NCA Permit Plan 10

Table 23: Location 22 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	CD	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	42
	A	<i>Eucalyptus camaldulensis</i>	River Redgum	Least Concern	Not Listed	11
	A	<i>Eucalyptus populnea</i>	Poplar Box	Least Concern	Not Listed	11
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	32
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	26
	CD	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	105
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	11
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	11
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	21
	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	966m ²
Forbs and Grasses	A	<i>Bothriochloa ewartiana</i>	Desert Bluegrass	Least Concern	Not Listed	1924m ²
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	1442m ²



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	2404m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 22 identified as RE11.3.25/11.3.37

9.2. Location 23– Lot 3235 PH752 & Road Reserve – Mapped RE 11.3.5/11.3.3 (5ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Refer to **Attachment B** – NCA Permit Plan 10

Table 24: Location 23 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	CD	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	74
	CD	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	224
	A	<i>Corymbia dallachiana</i>	Ghost Gum	Least Concern	Not Listed	74



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Eucalyptus camaldulensis</i>	River Redgum	Least Concern	Not Listed	74
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	148
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	297
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	222
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	74
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	185
Forbs and Grasses	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	5185m2
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	18888m2
	D	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	37777m2
	A	<i>Dactyloctenium radulans</i>	Button Grass	Least Concern	Not Listed	9444m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 23 identified as RE11.3.5/11.3.3



9.3. Lot 3235 PH752 Balance Area - Mapped Non Remnant Areas (3.4ha)

- Ground layer in non-remnant areas is dominated by *Pennisetum ciliare* (Buffel Grass) (45%) and heavily grazed and disturbed. These areas have historically been cleared for cattle pastures or cropping.
- Refer to **Attachment B** – NCA Permit Plan 10

Table 25: Lot 3235 PH752 Balance Area Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	23
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	30
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	16
Forbs and grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	1309m2
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	6147m2
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	1309m2
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	391m2
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	4393m2
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	262m2
	A	<i>Astrebula lappacea</i>	Curly Mitchell Grass	Least Concern	Not Listed	1387m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Non remnant vegetation within Lot 3235 on PH752



IO. SPI Rail Alignment – Lot 4 SP I16046

IO.I. Location 24 – Lot 4 SPI16046 - Mapped RE 11.3.5 / 11.3.3 (7.1ha)

- Field survey confirmed Of Concern Regional Ecosystem 11.3.3 within 6.5ha with the balance of the mapped area, non-remnant vegetation.
- Refer to **Attachment B** – NCA Permit Plan 10

Table 26: Location 24 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	112
	CD	<i>Muehlenbeckia florulenta</i>	Tangled Lignum	Least Concern	Not Listed	560
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	560
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	112
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	168
	CD	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	112
	A	<i>Eremophila bigoniiflora</i>	Bignonia Emu-bush	Least Concern	Not Listed	56
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	420
Forbs and Grasses	A	<i>Chloris pectinata</i>	Comb Chloris	Least Concern	Not Listed	2800m ²
	D	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	14000m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	2800m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	2800m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 24 identified as RE11.3.3

10.2. Location 25 – Lot 4 SPII6046 – Mapped RE 11.3.5 / 11.3.1 / 11.3.10 (5.7ha)

- Field Survey identified Least Concern Regional Ecosystem 11.3.10 within the 5.7 ha area.
- No species representing the Endangered Regional Ecosystem 11.3.1 or Least Concern Regional Ecosystem 11.3.5 were observed within the 5.7ha area.
- Sparse ground layer with large proportion containing limited ground layer species. Weed species confined to edge affects associated with open areas and edge of remnant polygon.
- Refer to **Attachment B** – NCA Permit Plan 11

Table 27: Location 24 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Eucalyptus brownii</i>	Reid River Gum	Least Concern	Not Listed	224
	A	<i>Corymbia clarksoniana</i>	Long-fruited Bloodwood	Least Concern	Not Listed	224
	A	<i>Corymbia dallachiana</i>	Ghost Gum	Least Concern	Not Listed	896
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	896
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	448



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Grevillea striata</i>	Beefwood	Least Concern	Not Listed	224
	A	<i>Acacia excelsa</i>		Least Concern	Not Listed	2240
Forbs and Grasses	A	<i>Chloris pectinata</i>	Comb Chloris	Least Concern	Not Listed	5600m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	22400m ²
	A	<i>Chloris truncata</i>	Windmill Grass	Least Concern	Not Listed	5600m ²
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	2240m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	3360m ²
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	2240m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 25



IO.3. Lot 4 SP116046 Balance Area – Mapped Non Remnant and minor polygons of Remnant vegetation (189.9ha)

- Field survey confirmed balance area contains limited vegetation and should be mapped as non-remnant.
- Refer to **Attachment B** – NCA Permit Plan 11-12.
- Pennisetum ciliare* (Buffel Grass), *Parthenium hysterophorus* (Parthenium) and bare ground dominated the ground layer.
- Densities estimates derived from geotechnical field data and random quadrats and transects.

Table 28: Lot 4 SP116046 Balance Area Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	S	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	380
	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	11394
	A	<i>Atalaya hemiglauca</i>	Whitewood	Least Concern	Not Listed	11394
	S	<i>Apophyllum anomalum</i>	Warrior Bush	Least Concern	Not Listed	2089
	S	<i>Archidendropsis basaltica</i>	Dead Finish	Least Concern	Not Listed	190
	S	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	950
	S	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	4178
	S	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	380
	S	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	1139
	S	<i>Owenia acidula</i>	Emu Bush	Least Concern	Not Listed	1519
	S	<i>Citrus glauca</i>	Native lime	Least Concern	Not Listed	379
	A	<i>Leptochloa digitata</i>	Umbrella Cane Grass	Least Concern	Not Listed	35511m2
	A	<i>Themeda triandra</i>	Kangaroo Grass	Least Concern	Not Listed	23738m2



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Juncus prismatocarpus</i>	Sedge	Least Concern	Not Listed	16521m ²
	A	<i>Astrebla squarrosa</i>	Bull Mitchell	Least Concern	Not Listed	126663m ²
	A	<i>Cyperus gracilis</i>	Nutgrass	Least Concern	Not Listed	11964m ²
	A	<i>Aristida latifolia</i>	Feathertop Wire Grass	Least Concern	Not Listed	94950m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Non remnant vegetation within Lot 4 on SP116046



II.SPI Rail Alignment – Lot IO BL49

II.I. Location 26 – Lot IO BL49 - Mapped RE II.5.3/II.7.2/II.4.9 (II.5.3/II.7.2 not observed) (6.7ha)

- Field survey confirmed Endangered Regional Ecosystem 11.4.9 throughout the 6.7ha area.
- No species representing RE 11.5.3 and RE 11.7.2 were observed within the area. *Pennisetum ciliare* (Buffel Grass) dominant grass species within ground layer (>55%). Areas of bare ground approximately 24.4%.
- Refer to **Attachment B** – NCA Permit Plan 17

Table 29: Location 26 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	4824
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	1005
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	1139
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	469
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	536
	A	<i>Enchylaena tomentosa</i>	Ruby Saltbush	Least Concern	Not Listed	4020
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	134
	A	<i>Acacia decora</i>	Pretty Wattle	Least Concern	Not Listed	1005
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	10050m ²
	A	<i>Themeda triandra</i>	Kangaroo Grass	Least Concern	Not Listed	1742m ²
	A	<i>Enneapogon nigricans</i>	Niggerhead	Least Concern	Not Listed	2010m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 26 identified as RE11.4.9

II.2. Location 27 – Lot 10 BL49 - Mapped RE 11.4.9 (3.2ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Pennisetum ciliare* (Buffel Grass) dominant grass species within ground layer (>60%).
- Refer to **Attachment B** – NCA Permit Plan 17

Table 30: Location 27 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	2592
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	192
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	256
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	96
	A	<i>Enchylaena tomentosa</i>	Ruby Saltbush	Least Concern	Not Listed	64
	A	<i>Acacia decora</i>	Pretty Wattle	Least Concern	Not Listed	320
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	832m2



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Enneapogon nigricans</i>	Niggerhead	Least Concern	Not Listed	6784m ²
	A	<i>Aristida caput-medusae</i>	Many-headed Wiregrass	Least Concern	Not Listed	1792m ²
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	768m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 27 identified as RE11.4.9

11.3. Location 28 – Lot 10 BL49 – Mapped RE 11.4.9 (2.9ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Pennisetum ciliare* (Buffel Grass) dominant grass species within ground layer (>60%).
- Refer to **Attachment B** – NCA Permit Plan 17

Table 31: Location 28 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	2349
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	174



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	232
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	87
	A	<i>Enchylaena tomentosa</i>	Ruby Saltbush	Least Concern	Not Listed	58
	A	<i>Acacia decora</i>	Pretty Wattle	Least Concern	Not Listed	290
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	754m ²
	A	<i>Enneapogon nigricans</i>	Niggerhead	Least Concern	Not Listed	6148m ²
	A	<i>Aristida caput-medusae</i>	Many-headed Wiregrass	Least Concern	Not Listed	1624m ²
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	696m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 28 identified as RE11.4.9



II.4. Location 29 – Lot IO BL49 – Mapped RE II.3.3/II.3.37 (No II.3.37 observed) (1.4ha)

- Field survey confirmed Of Concern Regional Ecosystem 11.3.3 within the 1.4ha area.
- No Species representing Of Concern RE11.3.3 were observed throughout the 1.4ha area.
- *Acacia harpophylla* (Brigalow) in small concentrated patches.
- Refer to **Attachment B** – NCA Permit Plan 18

Table 32: Location 29 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	4
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	70
	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	280
	A	<i>Eremophila bigoniiflora</i>	Bignonia Emu-bush	Least Concern	Not Listed	28
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	70
Forbs and Grasses	D	<i>Lomandra leucocephala</i>	Woolly Mat-rush	Least Concern	Not Listed	12236m ²
	A	<i>Alternanthera nodiflora</i>	Common Joyweed	Least Concern	Not Listed	840m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 29 identified as RE11.3.3

11.5. Location 30 – Lot 10 BL49 - Mapped RE 11.3.3/11.3.25 (No RE 11.3.25) (2.6ha)

- Field survey confirmed Of Concern Regional Ecosystem 11.3.3 within the 2.6ha area.
- *Pennisetum .ciliare* (Buffel Grass) co-dominant grass with *Enteropogon acicularis* (Curly Windmill Grass)
- No Species representing Of Concern RE11.3.25 were observed throughout this area.
- Refer to **Attachment B** – NCA Permit Plan 20

Table 33: Location 30 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	104
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	520
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	156
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	104



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Eremophila bigoniiflora</i>	Bignonia Emu-bush	Least Concern	Not Listed	52
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	390
Forbs and Grasses	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	2600m ²
	A	<i>Aristida latifolia</i>	Feather-top Wiregrass	Least Concern	Not Listed	1300m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	1300m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 30



II.6. Location 31 – Lot IO BL49 and Amaroo Avon Road – Mapped RE II.4.II/II.4.9 (No II.4.9 present) (74.6ha)

- Field survey confirmed Of Concern Regional Ecosystem 11.4.11 within the 74.6 area.
- No Species representing Endangered RE 11.4.9 were observed throughout this area.
- Forb species consistent with those described for RE 11.4.11 and include *Abelmoschus ficulneus*, *Glycine latifolia*, *Rhynchosia minima*, *Hibiscus trionum*, *Ipomoea lonchophylla* and *Phyllanthus maderspatensis*. *Pennisetum ciliare* (Buffel Grass) codominant with *Dichanthium sericeum* (Queensland Bluegrass).
- Refer to **Attachment B** – NCA Permit Plan 20-23

Table 34: Location 31 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	CD	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	10800
	CD	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	1577
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	7599
	A	<i>Apophyllum anomalum</i>	Warrior Bush	Least Concern	Not Listed	70
	A	<i>Owenia acidula</i>	Emu Apple	Least Concern	Not Listed	70
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	2160
	A	<i>Archidendropsis basaltica</i>	Dead Finish	Least Concern	Not Listed	864
Forbs and Grasses	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	50728m ²
	D	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	218578m ²
	A	<i>Aristida latifolia</i>	Feather-top Wiregrass	Least Concern	Not Listed	74600m ²
	A	<i>Astrebula lappacea</i>	Curly Mitchell Grass	Least Concern	Not Listed	115600m ²
	A	<i>Forbs</i>		Least Concern	Not Listed	117868m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 31 (top to bottom)



II.7. Location 32 – Lot 10 BL49 – Mapped RE II.4.4 (8.8ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Forb species consistent with those described for RE 11.4.11 and include *Abelmoschus ficulneus*, *Glycine latifolia*, *Rhynchosia minima*, *Hibiscus trionum*, *Ipomoea lonchophylla* and *Phyllanthus maderspatensis*. *Pennisetum ciliare* (Buffel Grass) codominant with *Dichanthium sericeum* (Queensland Bluegrass).
- Refer to **Attachment B** – NCA Permit Plan 23

Table 35: Location 32 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs		ABSENT				
Forbs and Grasses	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	5984m ²
	D	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	25784m ²
	A	<i>Aristida latifolia</i>	Feather-top Wiregrass	Least Concern	Not Listed	8800m ²
	A	<i>Astrelba lappacea</i>	Curly Mitchell Grass	Least Concern	Not Listed	13640m ²
	S	Forbs		Least Concern	Not Listed	13816m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 32 identified as RE11.4.11

11.8. Location 33 – Lot 10 BL49 – Mapped RE 11.4.11/11.4.6 (0.5ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1. Of Concern Regional Ecosystem was confirmed within the 0.5ha area.
- Forb species consistent with those described for RE 11.4.11 and include *Abelmoschus ficulneus*, *Glycine latifolia*, *Rhynchosia minima*, *Hibiscus trionum*, *Ipomoea lonchophylla* and *Phyllanthus maderaspatensis*. Area dominated by *Pennisetum ciliare* (Buffel Grass). Densities determined from secondary transect data and photos.
- Refer to **Attachment B** – NCA Permit Plan 23

Table 36: Location 33 Species Audit

Growth Forms	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia harpophylla</i>	Brigalow	Least concern	Not Listed	40
	A	<i>Acacia cambagei</i>	Gidgee	Least concern	Not Listed	25
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least concern	Not Listed	20
	A	<i>Carissa ovata</i>	Currant Bush	Least concern	Not Listed	20



Growth Forms	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least concern	Not Listed	10
	A	<i>Muehlenbeckia florulenta</i>	Tangled Lignum	Least concern	Not Listed	10
Forbs and grasses	A	<i>Panicum decompositum</i>	Native Millet	Least concern	Not Listed	340m2
	D	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least concern	Not Listed	1465m2
	A	<i>Aristida latifolia</i>	Feather-top Wiregrass	Least concern	Not Listed	500m2
	A	<i>Astrelba lappacea</i>	Curly Mitchell Grass	Least concern	Not Listed	775m2
	S	<i>Forbs</i>		Least concern	Not Listed	785m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 33



II.9. Lot 10 BL49 Balance Area - Mapped Non Remnant Areas (133.7ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Ground layer in non-remnant areas dominated by *Pennisetum ciliare* (Buffel Grass) (45%) and heavily grazed and disturbed. These areas have historically been cleared for cattle pastures or cropping.
- Refer to **Attachment B** – NCA Permit Plan 17-23

Table 37: Lot 10 BL49 Balance Area Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	14707
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	8022
	A	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	2407
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	936
	A	<i>Atalaya hemiglauca</i>	White Wood	Least Concern	Not Listed	1337
	A	<i>Lysiphyllum carronii</i>	Native Bauhinia	Least Concern	Not Listed	1337
	A	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	1070
	A	<i>Owenia acidula</i>	Emu Apple	Least Concern	Not Listed	535
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	20055
	A	<i>Apophyllum anomalum</i>	Warrior Bush	Least Concern	Not Listed	1070
Forbs and grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	51475m2
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	241729m2
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	51475m2
	A	<i>Sporobolus caroli</i>	Fairy Grass	Least Concern	Not Listed	15376m2



	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	172740m2
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	10294m2
	A	<i>Astrebla lappacea</i>	Curly Mitchell Grass	Least Concern	Not Listed	54550m2

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Non remnant vegetation within Lot 10 on BL49



12. SPI Rail Alignment – Lot I SPII8814

12.1. Location 34 – Lot I SPII8814 - Mapped RE II.4.6 (5.5ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Pennisetum ciliare* (Buffel Grass) dominant grass within vegetation polygon (>80%) remaining area predominantly bare ground. Densities determined from secondary transects and photographic/aerial records. This site would be consistent with a reference site for this RE type except for the dominance of *Pennisetum ciliare* in the ground layer
- Refer to **Attachment B** – NCA Permit Plan 20

Table 38: Location 34 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	1760
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	605
	A	<i>Eremophila bigoniiflora</i>	Bignonia Emu-bush	Least Concern	Not Listed	220
	A	<i>Apophyllum anomalum</i>	Warrior Bush	Least Concern	Not Listed	110
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	110
Forbs and Grasses	S	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	2750m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 34 identified as RE11.4.6

12.2. Location 35 – Lot I SPII8814 - Mapped RE11.3.3/11.3.37 (5.9ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- *Pennisetum ciliare* (Buffel Grass) dominant grass within vegetation polygon (>50%)
- No species representing Least Concern RE11.3.37 were observed within the 5.9ha area.
- Refer to **Attachment B** – NCA Permit Plan 20

Table 39: Location 35 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	D	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	236
	A	<i>Muehlenbeckia florulenta</i>	Tangled Lignum	Least Concern	Not Listed	1180
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	1180



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	236
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	354
	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	236
	A	<i>Eremophila bigoniiflora</i>	Bignonia Emu-bush	Least Concern	Not Listed	118
	A	<i>Carissa ovata</i>	Currant Bush	Least Concern	Not Listed	885
Forbs and Grasses	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	17700m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	5900m ²
	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	5900m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Vegetation within Location 35 as RE11.3.3/11.3.37



12.3. Lot 1 SP118814 Balance Area - Mapped Non Remnant Areas and a minor polygon of Endangered REII.4.9/II.4.6 proposed as non-remnant. (8.3ha)

- Ground layer in non-remnant areas dominated by *Pennisetum ciliare* (Buffel Grass) (approx. 70-80%) and bare ground (3%). These areas are heavily grazed and disturbed and have historically been cleared for cattle pastures or cropping. Calculations based on 2 4mx5m quadrats plus additional random quadrats and transects.
- Refer to **Attachment B** – NCA Permit Plan 17-23

Table 40: Lot 1 SP118814 Balance Area Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Acacia harpophylla</i>	Brigalow	Least Concern	Not Listed	830
	S	<i>Carissa ovate</i>	Currant Bush	Least Concern	Not Listed	199
	S	<i>Capparis lasiantha</i>	Wait-A-While	Least Concern	Not Listed	175
	S	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	83
	S	<i>Apophyllum anomalum</i>	Warrior Bush	Least Concern	Not Listed	58
	S	<i>Atalaya hemiglauca</i>	White Wood	Least Concern	Not Listed	12
	S	<i>Terminalia oblongata</i>	Yellow Wood	Least Concern	Not Listed	107
	S	<i>Flindersia dissosperma</i>	Leopard Wood	Least Concern	Not Listed	33
Forbs and grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	4150m ²
	A	<i>Panicum decompositum</i>	Native Millet	Least Concern	Not Listed	1743m ²
	A	<i>Bothriochloa bladhii</i>	Forest Bluegrass	Least Concern	Not Listed	581m ²



Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
	A	<i>Dichanthium sericeum</i>	Queensland Bluegrass	Least Concern	Not Listed	9462m ²
	A	<i>Astrebla squarrosa</i>	Bull Mitchell	Least Concern	Not Listed	4150m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)



Photo: Non remnant vegetation within Lot 1 on SP118814



13. SPI Rail Alignment – Logan Creek (Unallocated State Land)

13.1. Location 36 – Logan Creek (Unallocated State Land) – Mapped RE 11.3.25 (0.52ha)

- Field survey confirmed Regional Ecosystem Mapping Version 6.1.
- Pennisetum .ciliare* (Buffel Grass) co-dominant grass with *Enteropogon acicularis* (Curly Windmill Grass).
- Refer to **Attachment B** – NCA Permit Plan 20

Table 41: Location 36 Species Audit

Str.	Rel. dom.	Scientific Name	Common Name	Conservation Status (NCA92)	EPBC Status	Number or M ² of vegetation
Tree and Shrubs	A	<i>Eremophila mitchellii</i>	False Sandalwood	Least Concern	Not Listed	10
	A	<i>Eucalyptus camaldulensis</i>	River Redgum	Least Concern	Not Listed	30
	A	<i>Eucalyptus coolabah</i>	Coolabah	Least Concern	Not Listed	7
	A	<i>Acacia stenophylla</i>	Shoestring Acacia	Least Concern	Not Listed	5
	A	<i>Acacia salicina</i>	Sally Wattle	Least Concern	Not Listed	5
	D	<i>Acacia cambagei</i>	Gidgee	Least Concern	Not Listed	78
	A	<i>Geijera parviflora</i>	Wilga	Least Concern	Not Listed	10
	A	<i>Terminalia oblongata</i>	Yellowwood	Least Concern	Not Listed	5
	A	<i>Carissa ovate</i>	Currant Bush	Least Concern	Not Listed	25
Forbs and Grasses	A	<i>Aristida latifolia</i>	Feathertop Wiregrass	Least Concern	Not Listed	244m ²
	A	<i>Leptochloa digitata</i>	Umbrella Cane grass	Least Concern	Not Listed	162m ²
	A	<i>Enteropogon acicularis</i>	Curly Windmill Grass	Least Concern	Not Listed	2194m ²

Plant Species (D – Dominant; CD – codominant; A – associated; S – Suppressed)

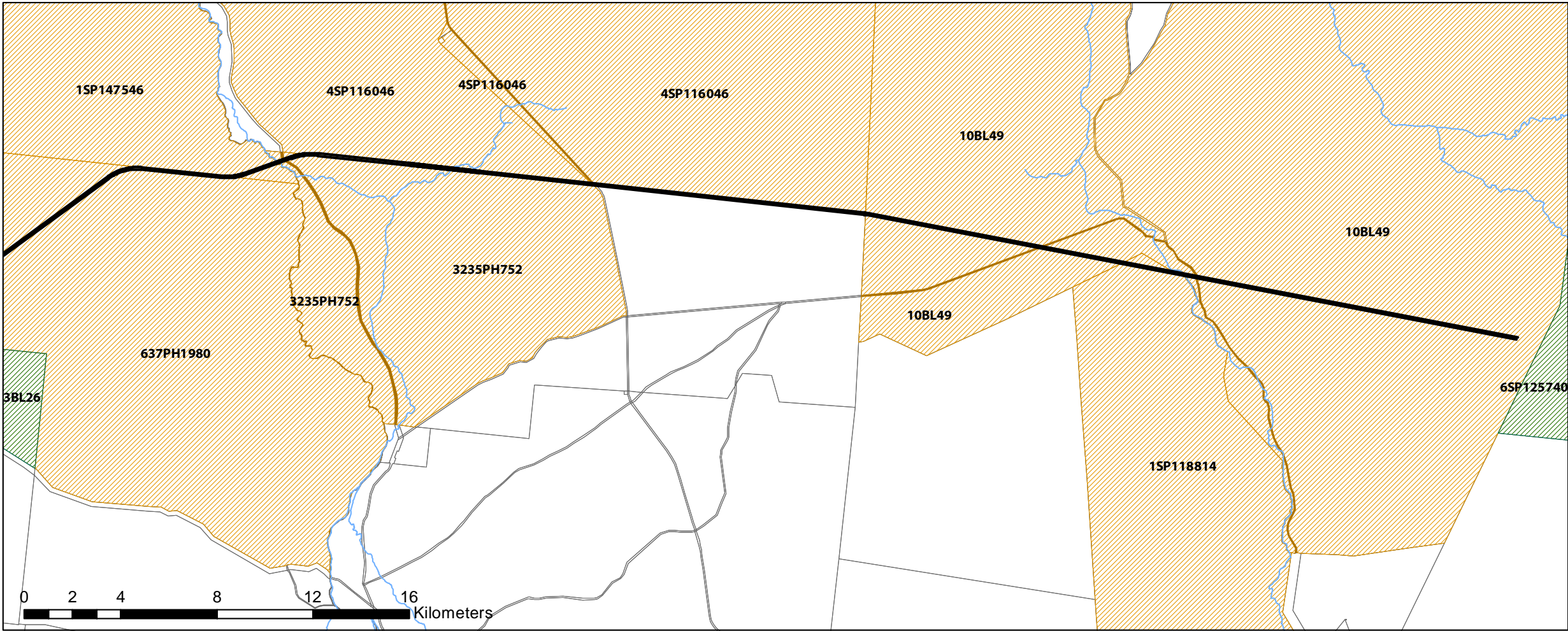
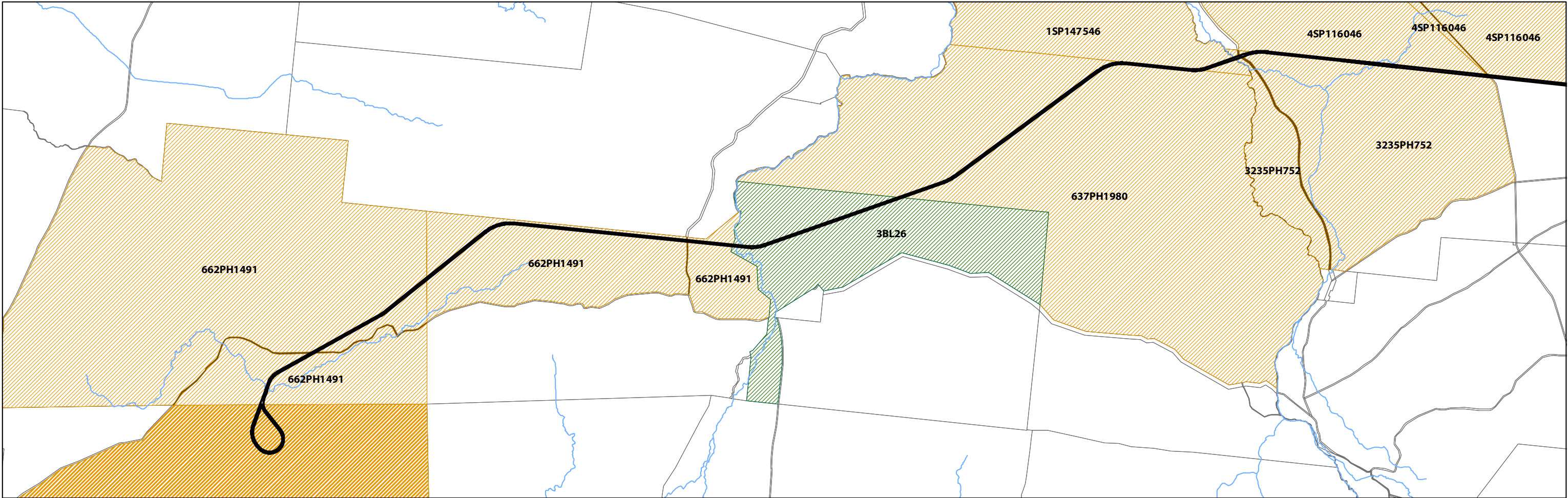


Photo: Logan Creek Vegetation



Attachment A

Tenure Plan



Legend

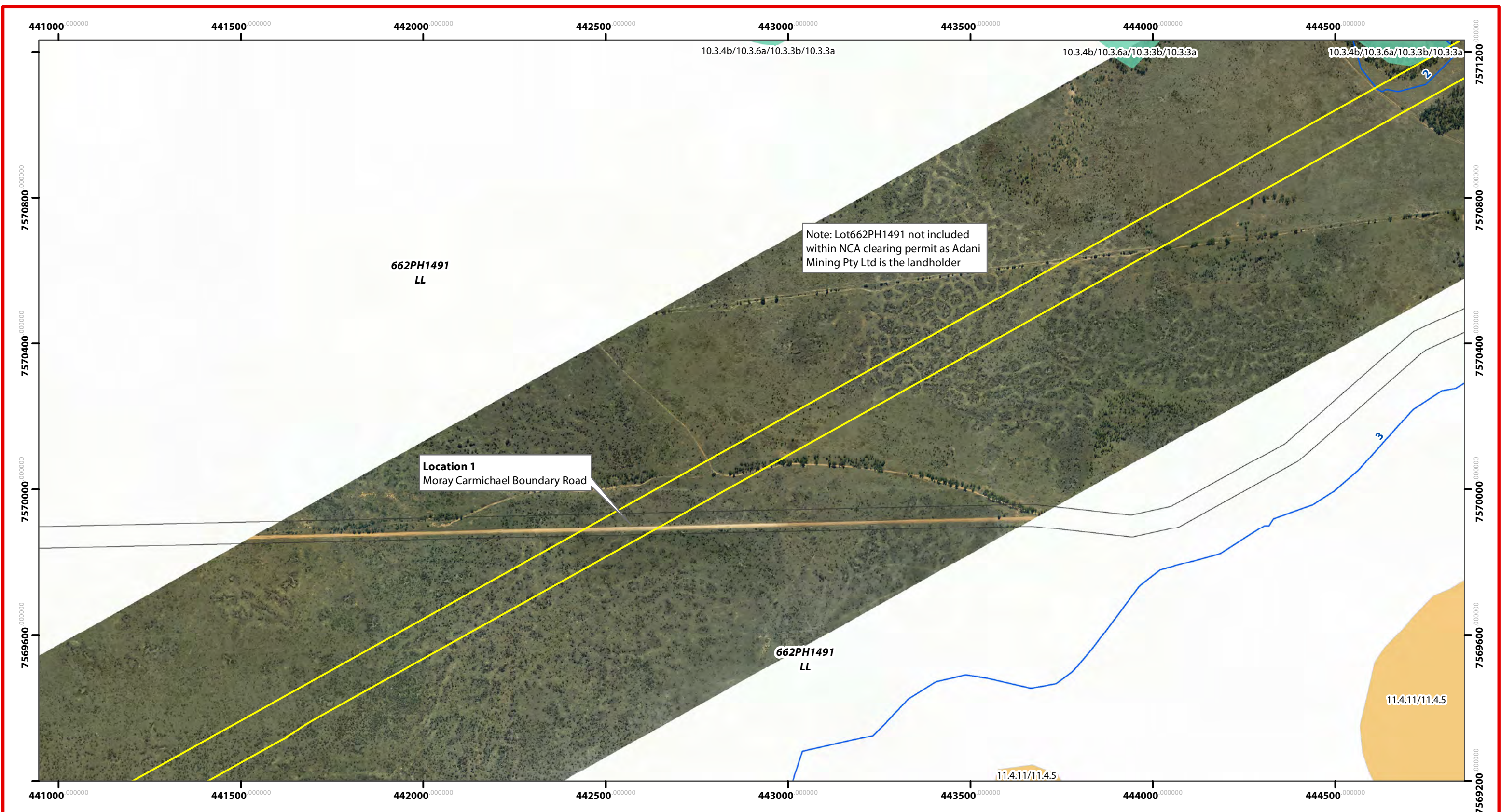
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- Isaac Regional Council DCDB
- TENURE
 - Other (incl Road Reserves, Watercourses)
 - Freehold
 - Leasehold

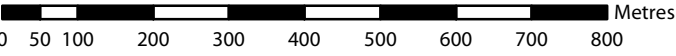
0 2 4 8 12 16 Kilometers




Attachment B

Vegetation Community Plans






0 50 100 200 300 400 500 600 700 800 Metres



N

SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000


Scale 1:10,000@ A3
Data Information:
Universal Transverse Mercator
GDA 1994 MGA Zone 55



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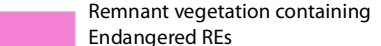

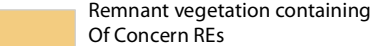

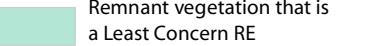
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A	24/10/2012	NCA Permit	RM

CLIENT: Adani Mining Pty Ltd
PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF: 6396

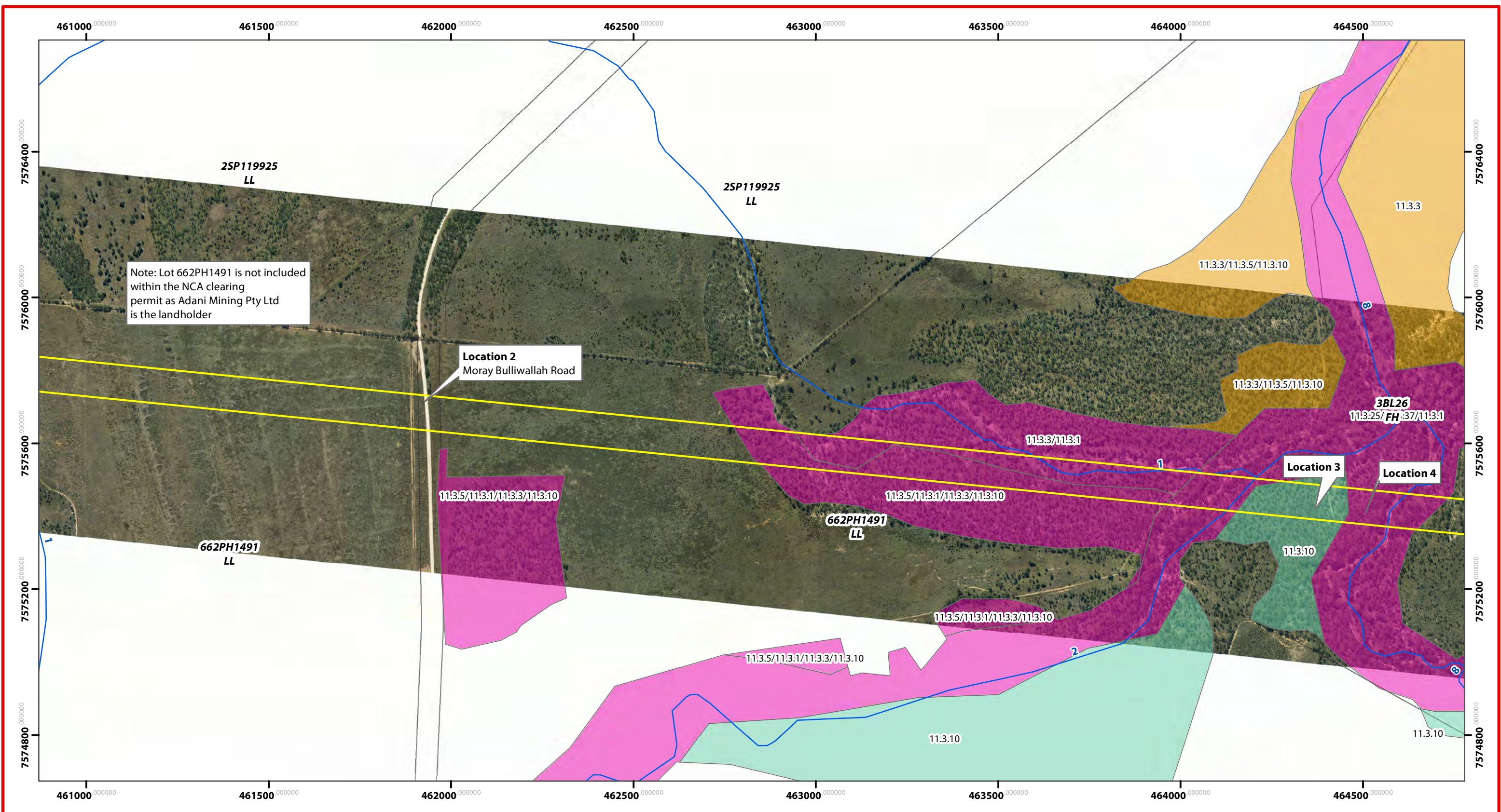
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DRAWN: SA

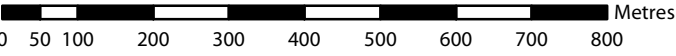
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 DCDB	Regional Ecosystem v6.1
 Adani Mine EPC	 Remnant vegetation containing Endangered REs
 95m Clearing Corridor	 Remnant vegetation containing Of Concern REs
 Watercourses	 Remnant vegetation that is a Least Concern RE

PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 1 SP1 NCA PermitA







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Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
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
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DRAWN:


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Legend

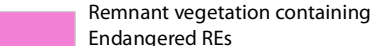
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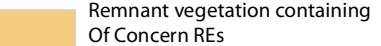
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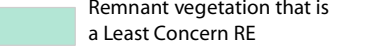
 95m Clearing Corridor

 Watercourses

Regional Ecosystem v6.1

 Remnant vegetation containing Endangered REs

 Remnant vegetation containing Of Concern REs

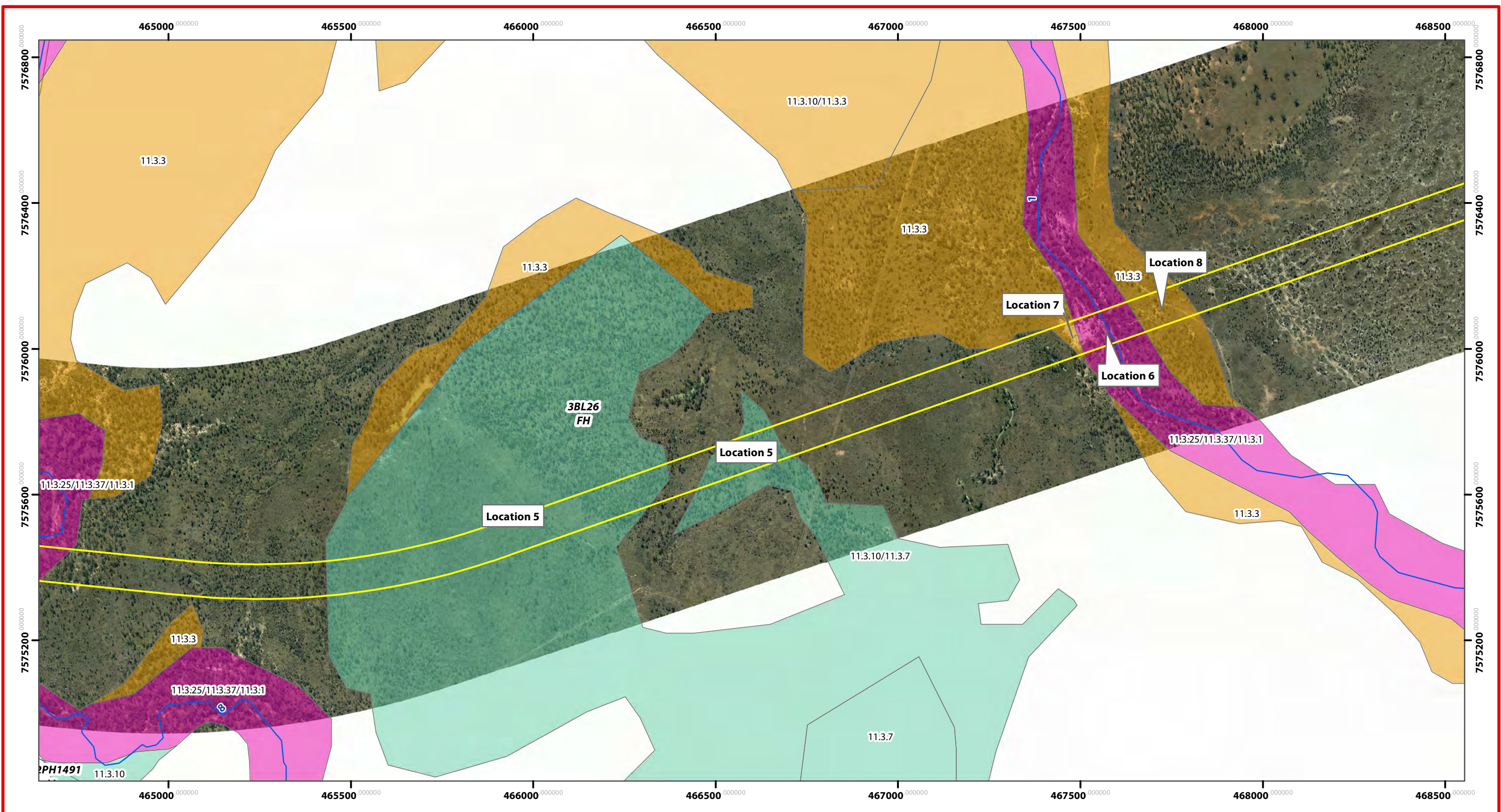
 Remnant vegetation that is a Least Concern RE

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6396 E 2 SP1 NCA Permit A



SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
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DRAWN: SA

Legend

Coordinates

DCDB

Adani Mine EPC

95m Clearing Corridor

Watercourses

Regional Ecosystem v6.1

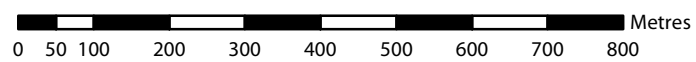
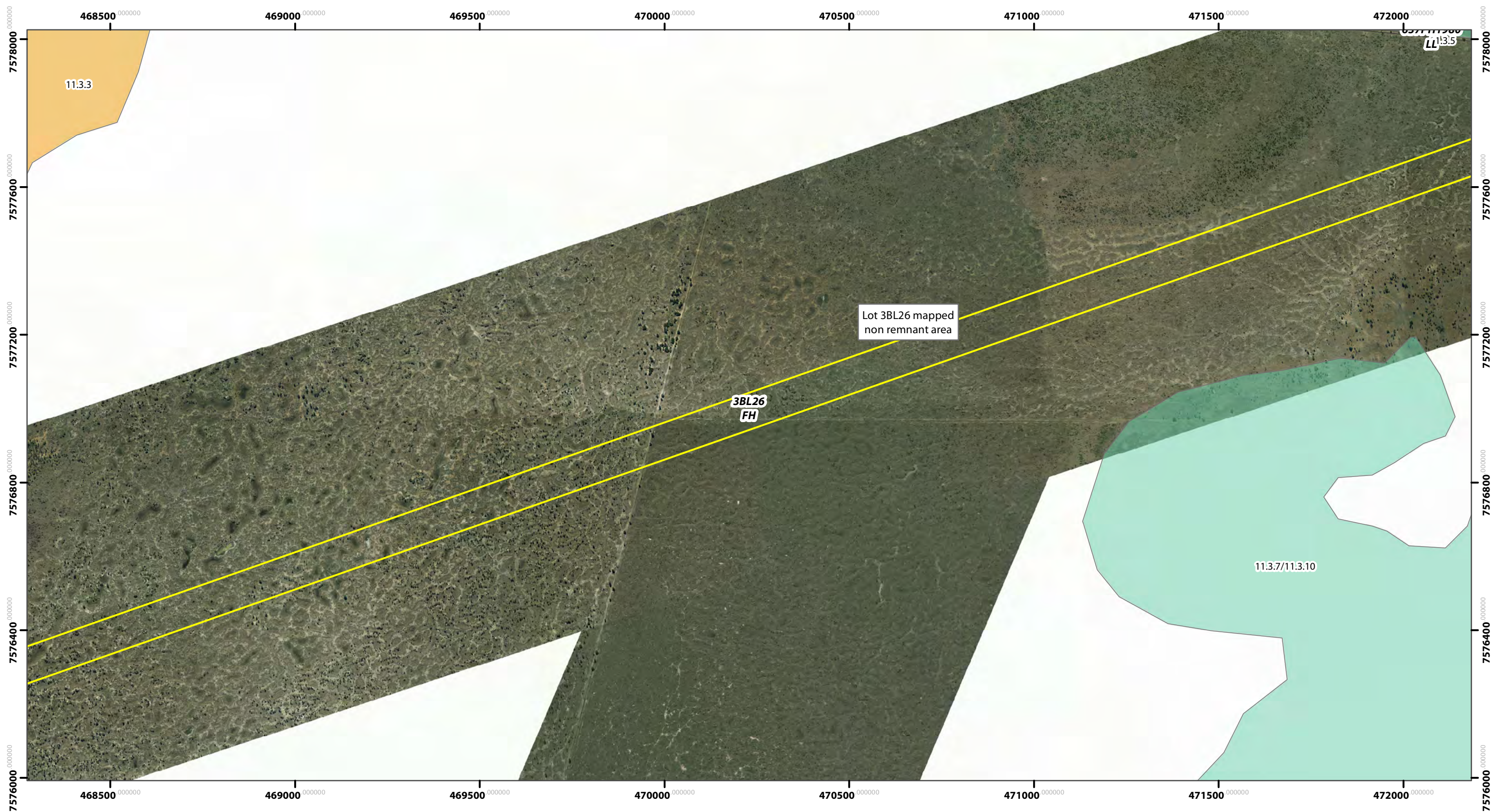
Remnant vegetation containing Endangered REs

Remnant vegetation containing Of Concern REs

Remnant vegetation that is a Least Concern RE

PLAN OF: Carmichael Coal Rail Alignment - Vegetation Communities

PLAN No.: 6396 E3 SP1 NCA Permit A



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Regional Ecosystem v6.1 - DERM (2011)
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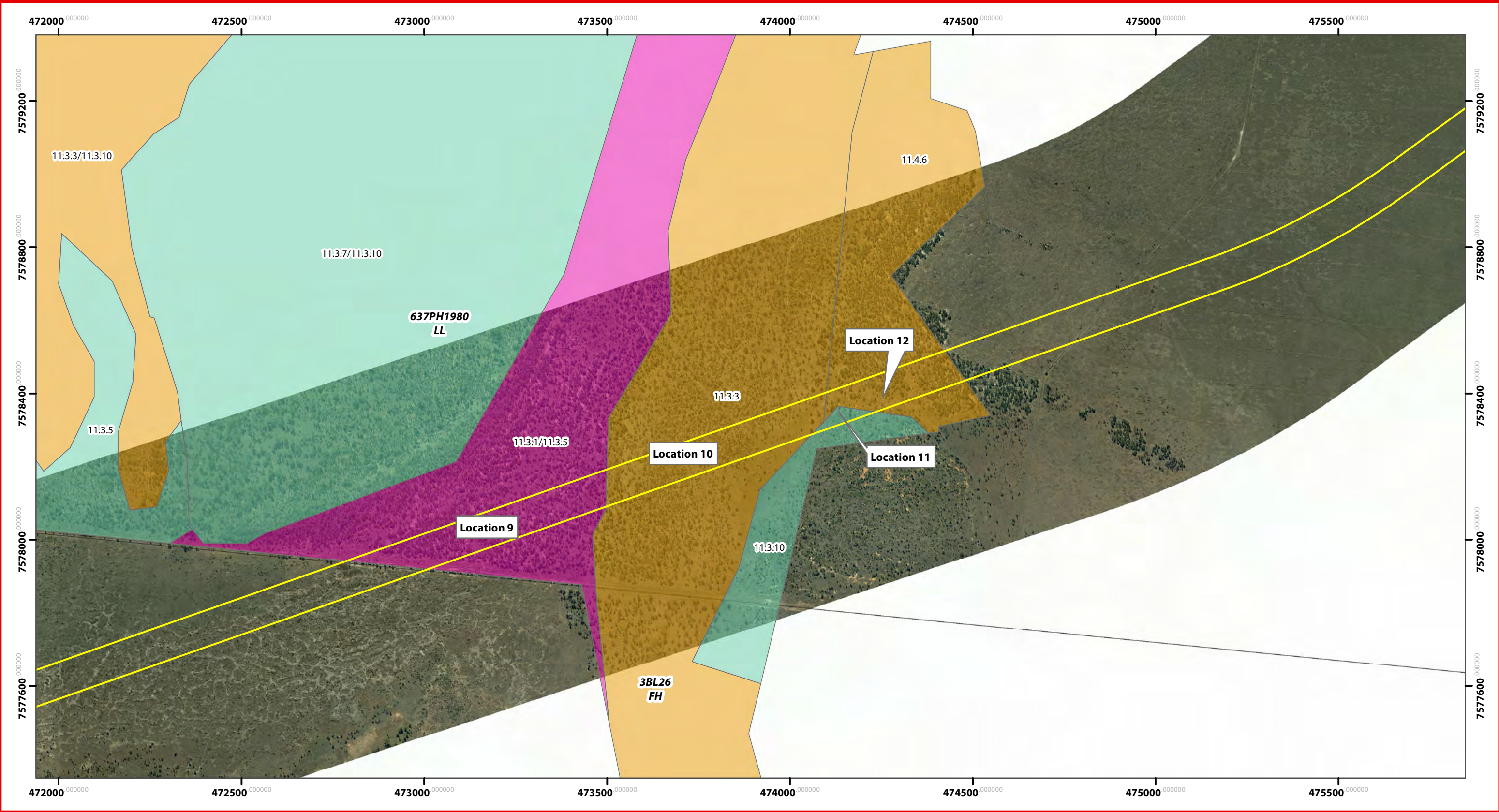
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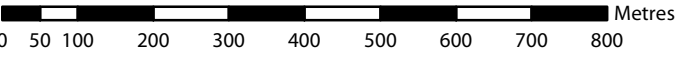
Legend:

- DCDB
- Adani Mine EPC
- 95m Clearing Corridor
- Watercourses
- Regional Ecosystem v6.1
- Remnant vegetation containing Endangered REs
- Remnant vegetation containing OF Concern REs
- Remnant vegetation that is a Least Concern RE


PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 4 SP1 NCA Permit A






0 50 100 200 300 400 500 600 700 800 Metres



N

SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
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
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CLIENT: Adani Mining Pty Ltd
PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF: 6396

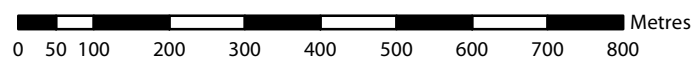
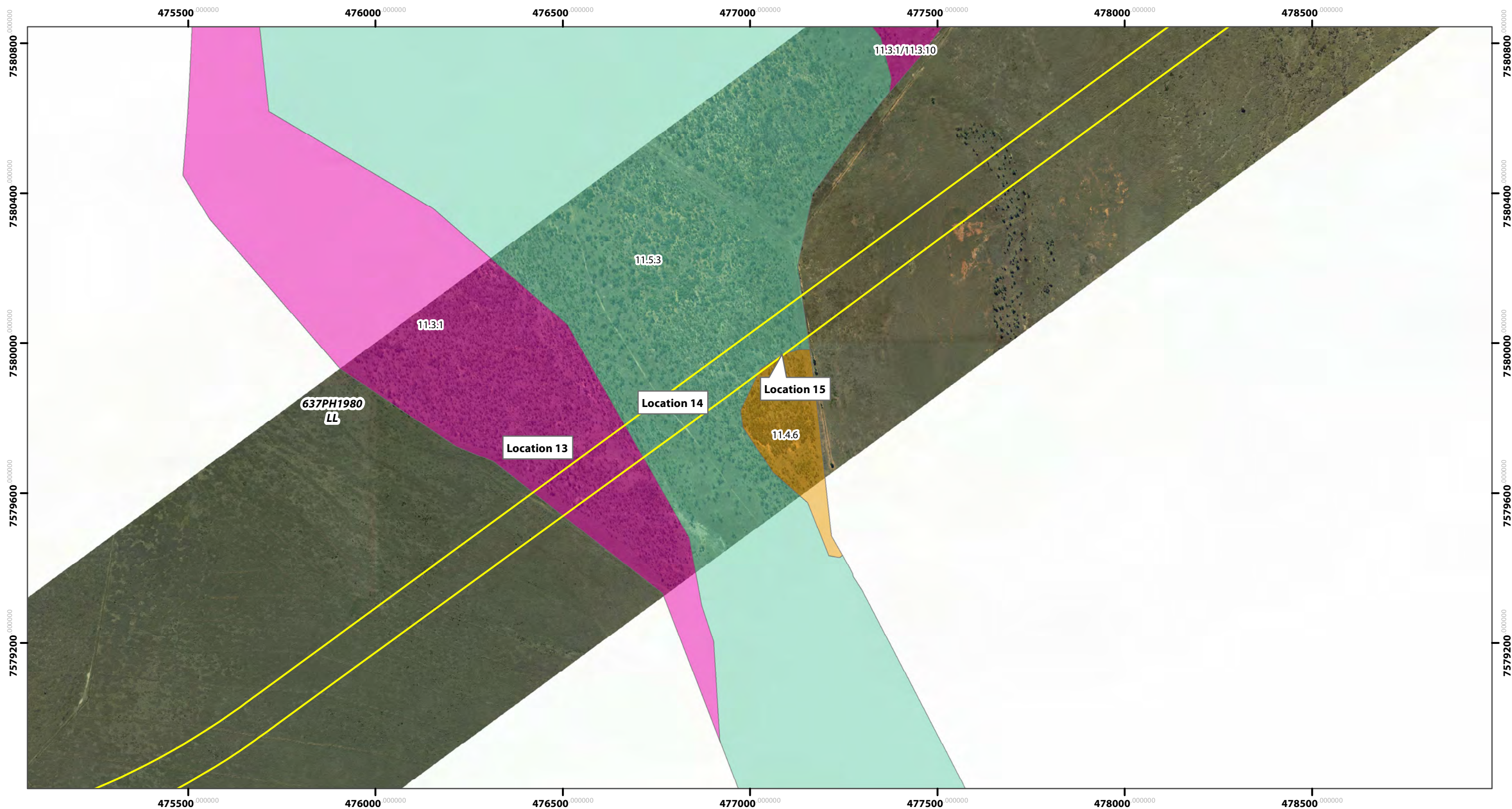
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Legend

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 95m Clearing Corridor	 Remnant vegetation containing Of Concern REs
 Watercourses	 Remnant vegetation that is a Least Concern RE

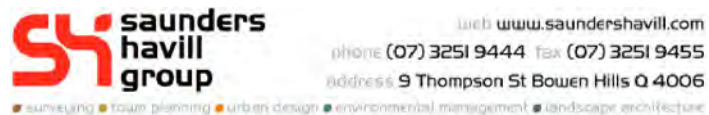
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SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
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DATE:	October 2012	CHECKED:	RM
CLIENT REF.:	6396	DRAWN:	SA

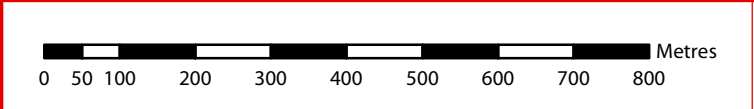
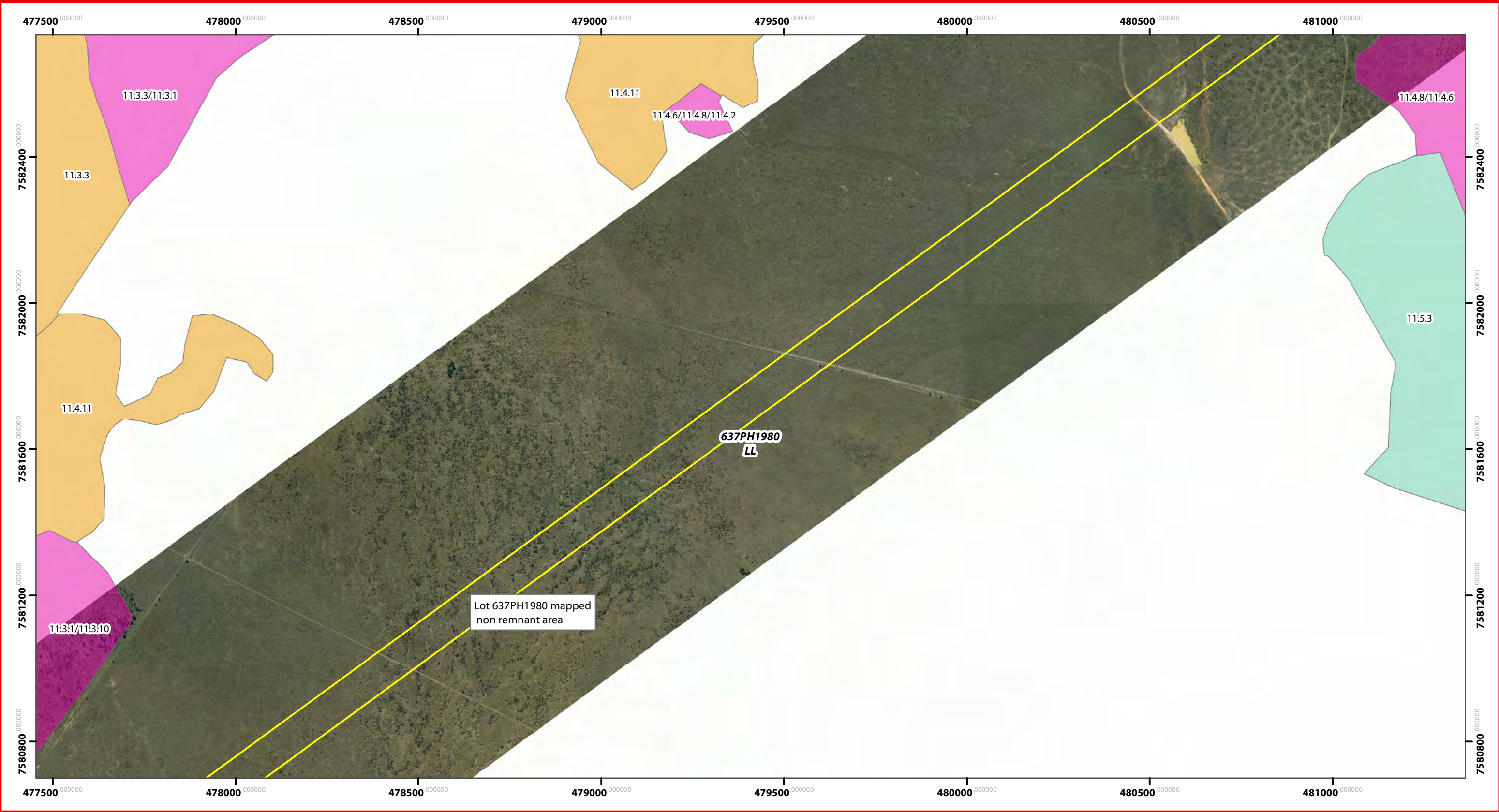
Legend

Legend:

- DCDB
- Adani Mine EPC
- 95m Clearing Corridor
- Watercourses
- Regional Ecosystem v6.1
- Remnant vegetation containing Endangered REs
- Remnant vegetation containing Of Concern REs
- Remnant vegetation that is a Least Concern RE

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- Vegetation Communities

PLAN No.: 6396 E 6 SP1 NCA Permit A



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Regional Ecosystem v6.1 - DERM (2011)
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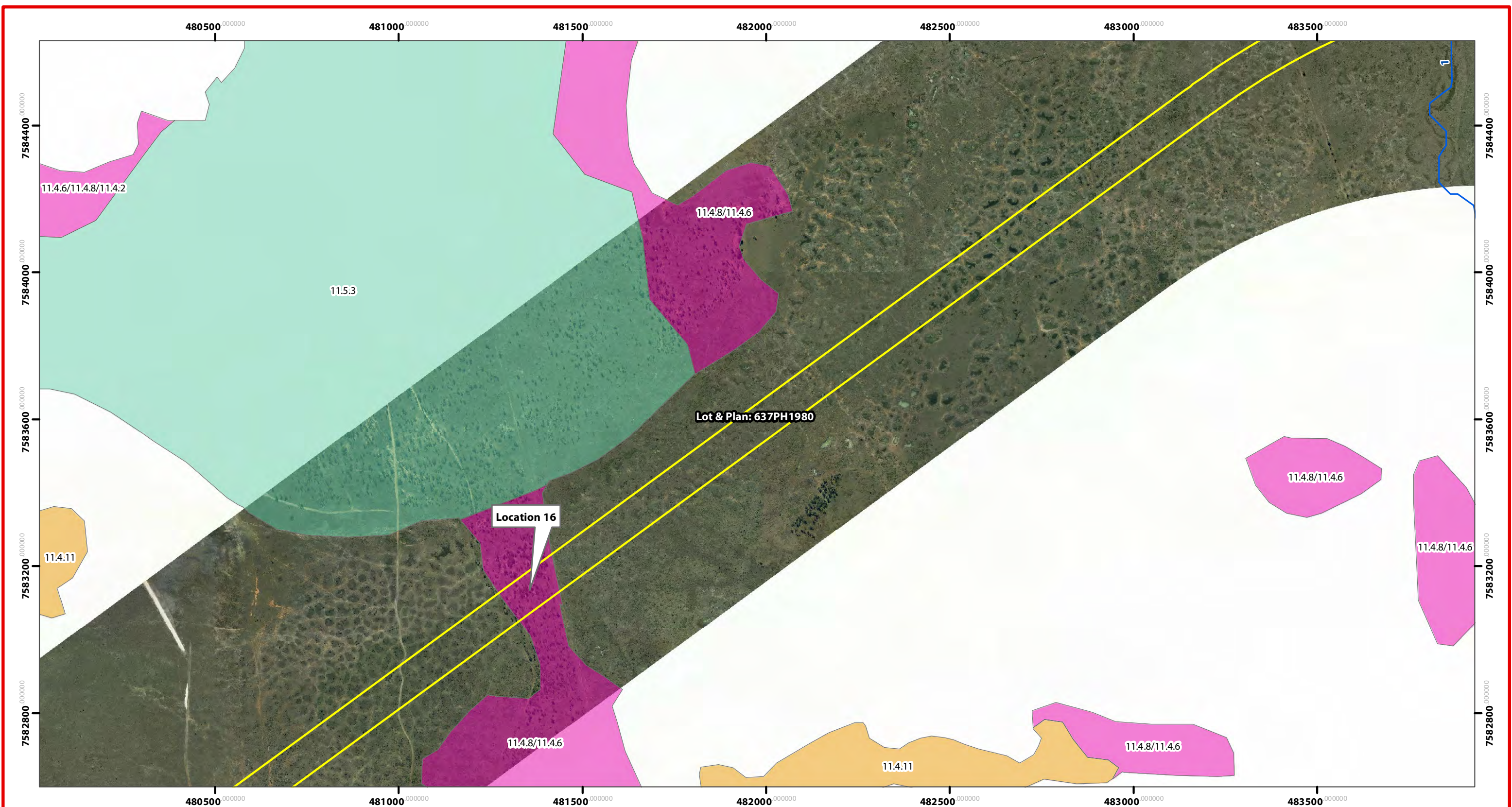
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Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
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DATE: October 2012

CLIENT REF: 6396

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Legend

DCDB

Adani Mine EPC

95m Clearing Corridor

Watercourses

Regional Ecosystem v6.1

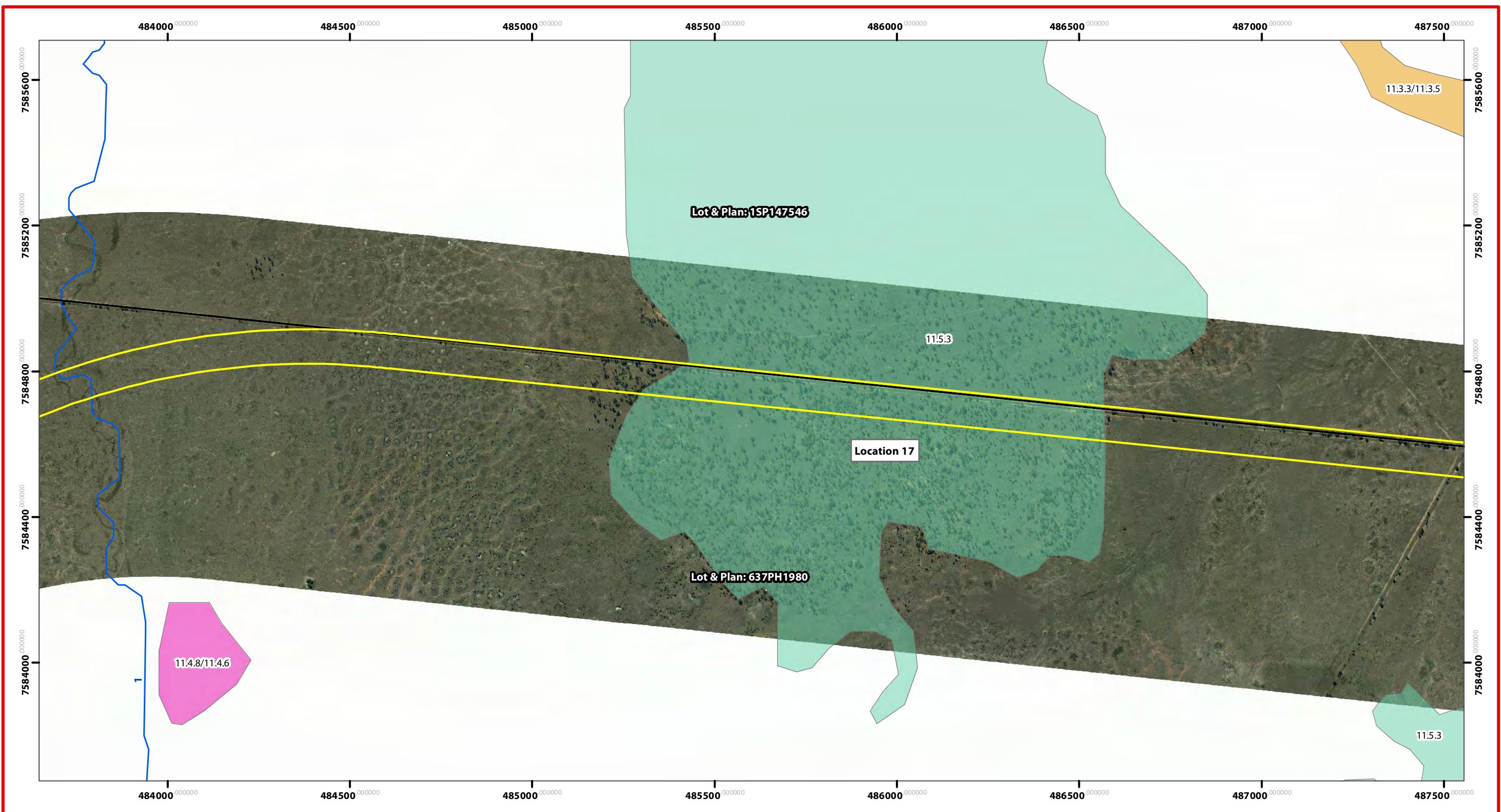
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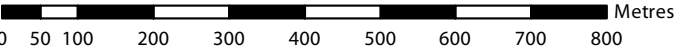
Remnant vegetation containing Of Concern REs

Remnant vegetation that is a Least Concern RE


PLAN OF: Carmichael Coal Rail Alignment - Vegetation Communities

PLAN No.: 6396 E 8 SP1 NCA Permit B






0 50 100 200 300 400 500 600 700 800 Metres



N

SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000


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Data Information:
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






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A	24/10/2012	NCA Permit	RM
B	5/07/2013	NCA Permit	RM

CLIENT: Adani Mining Pty Ltd
PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF: 6396

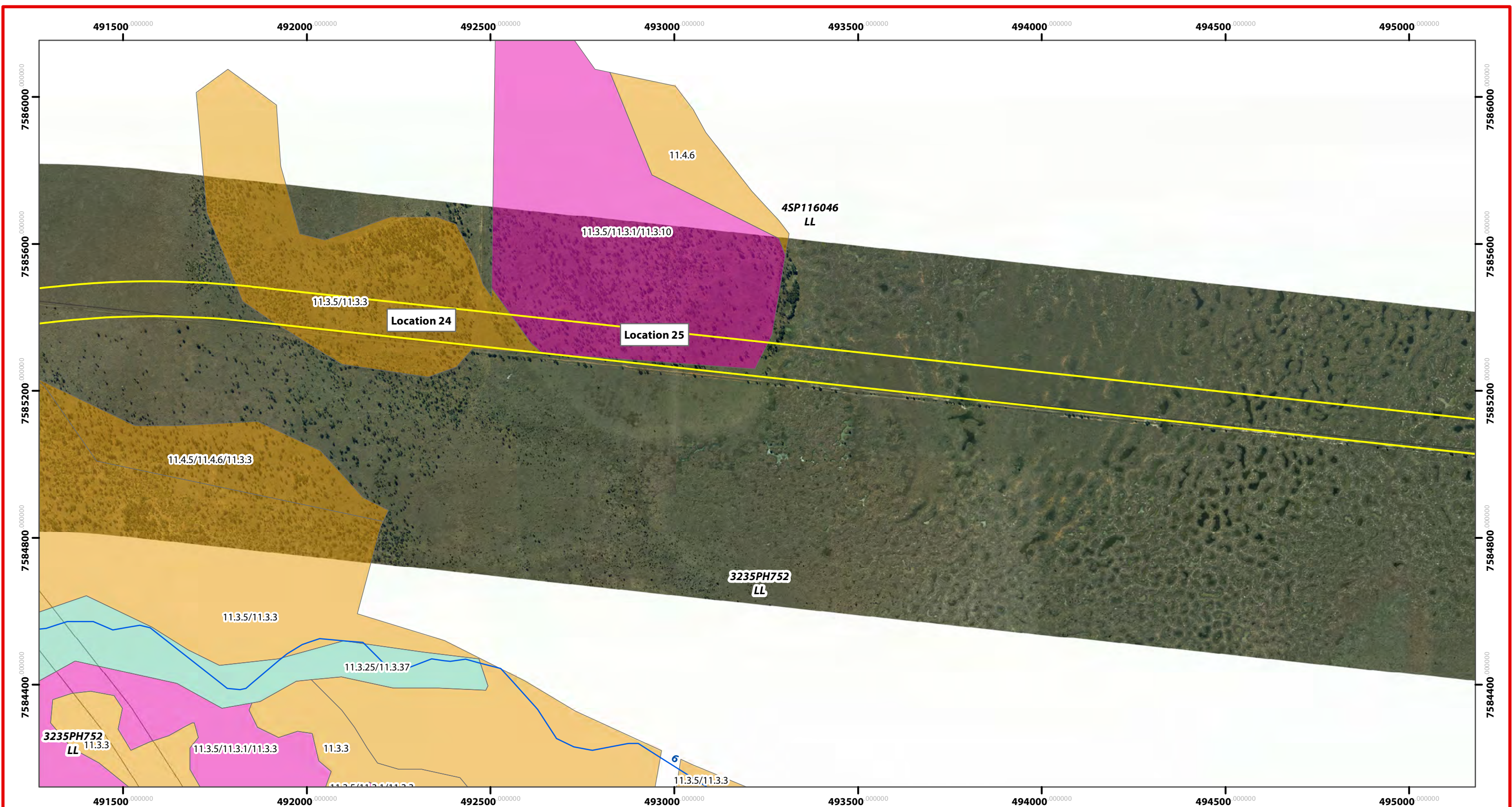
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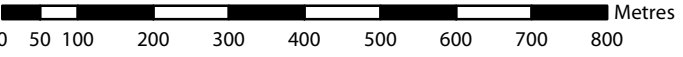
Legend

 DCDB	Regional Ecosystem v6.1
 Adani Mine EPC	 Remnant vegetation containing Endangered REs
 95m Clearing Corridor	 Remnant vegetation containing Of Concern REs
 Watercourses	 Remnant vegetation that is a Least Concern RE


PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 9 SP1 NCA Permit B






0 50 100 200 300 400 500 600 700 800 Metres



N

SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
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DATE: October 2012
CLIENT REF: 6396

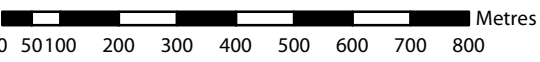
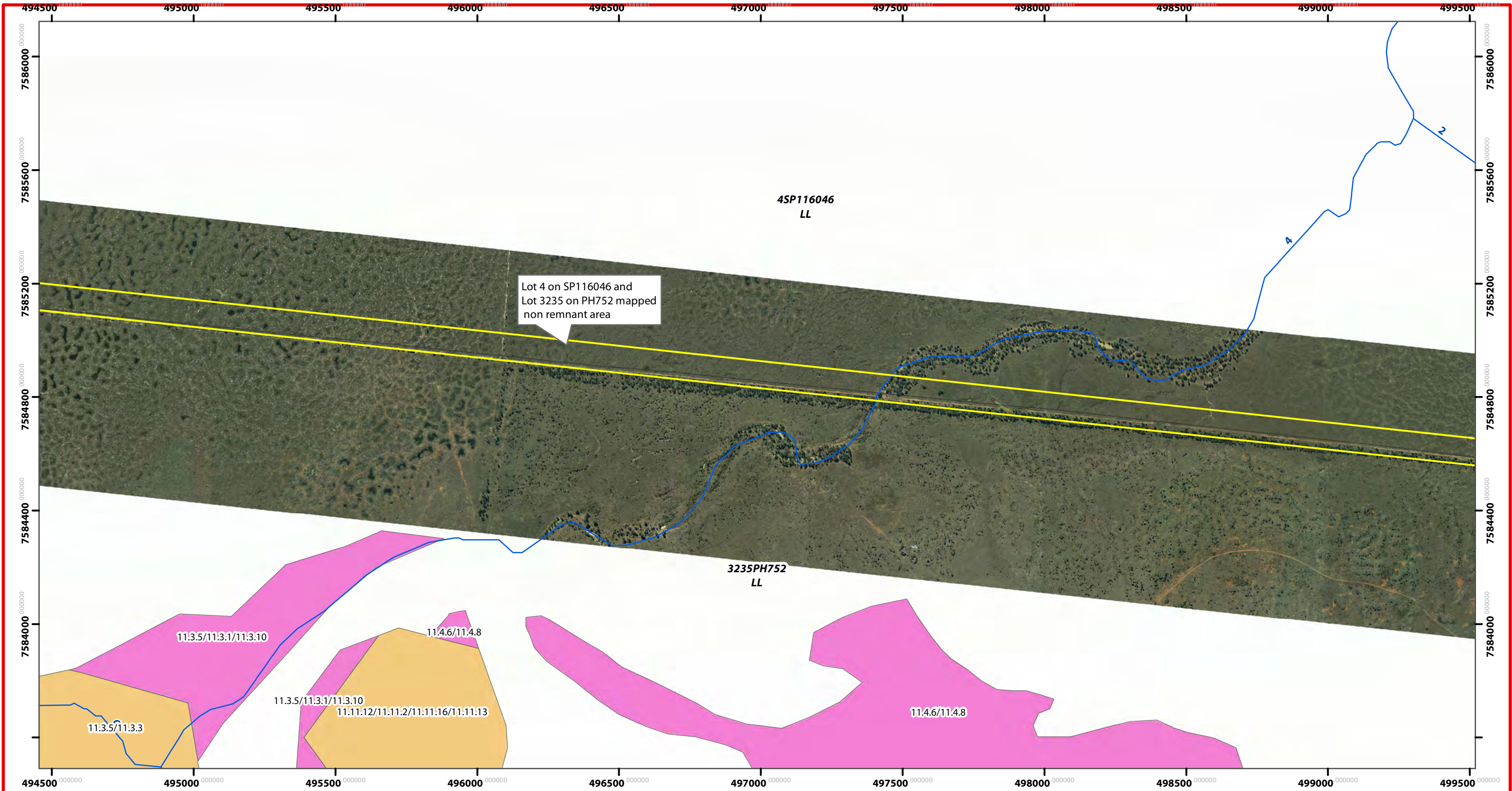
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Legend

 DCDB	Regional Ecosystem v6.1
 Adani Mine EPC	 Remnant vegetation containing Endangered REs
 95m Clearing Corridor	 Remnant vegetation containing Of Concern REs
 Watercourses	 Remnant vegetation that is a Least Concern RE

PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 11 SP1 NCA Permit A



SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000

Scale 1:12,956@ A3
Data Information:
Universal Transverse Mercator
GDA 1994 MGA Zone 55

Legend

DCDB

Adani Mine EPC

95m Clearing Corridor

Watercourses

Regional Ecosystem v6.1

Remnant vegetation containing Endangered REs

Remnant vegetation containing Of concern REs

Remnant vegetation that is a Least Concern RE

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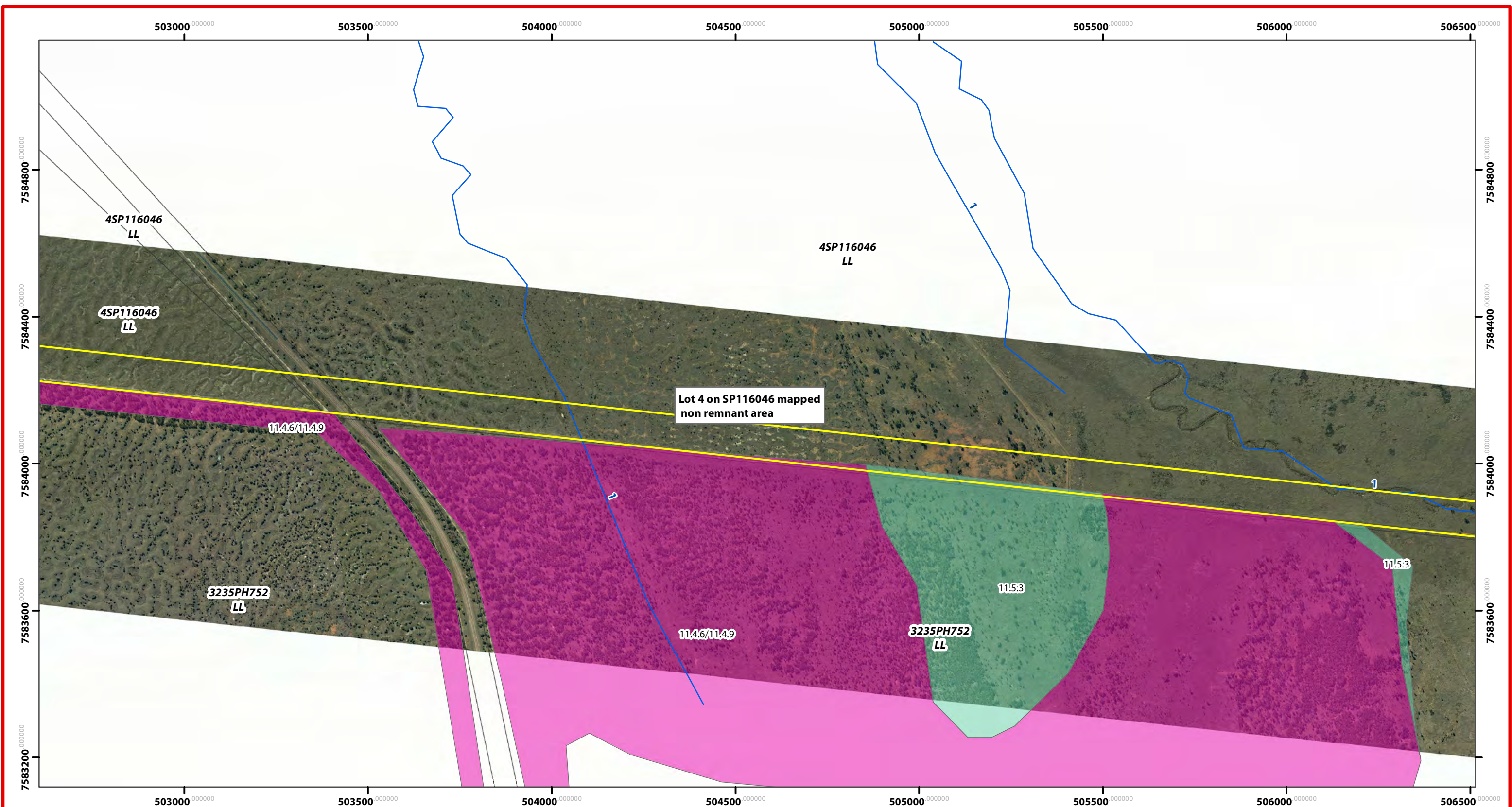
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Issue	Date	Description	Checked
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CLIENT:	Adani Mining Pty Ltd		
PROJECT:	Charmichael Coal Rail Project		
DATE:	October 2012	CHECKED:	RM
CLIENT REF:	6396	DRAWN:	SA

PLAN OF:	Carmichael Coal Rail Alignment - Vegetation Communities
PLAN No.:	6396 E 12 SP1 NCA Permit A



SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000

Scale 1:10,000@ A3
Data Information:
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CLIENT REF: 6396

CHECKED: RM
DRAWN: SA

Legend

DCDB

Adani Mine EPC

95m Clearing Corridor

Watercourses

Regional Ecosystem v6.1

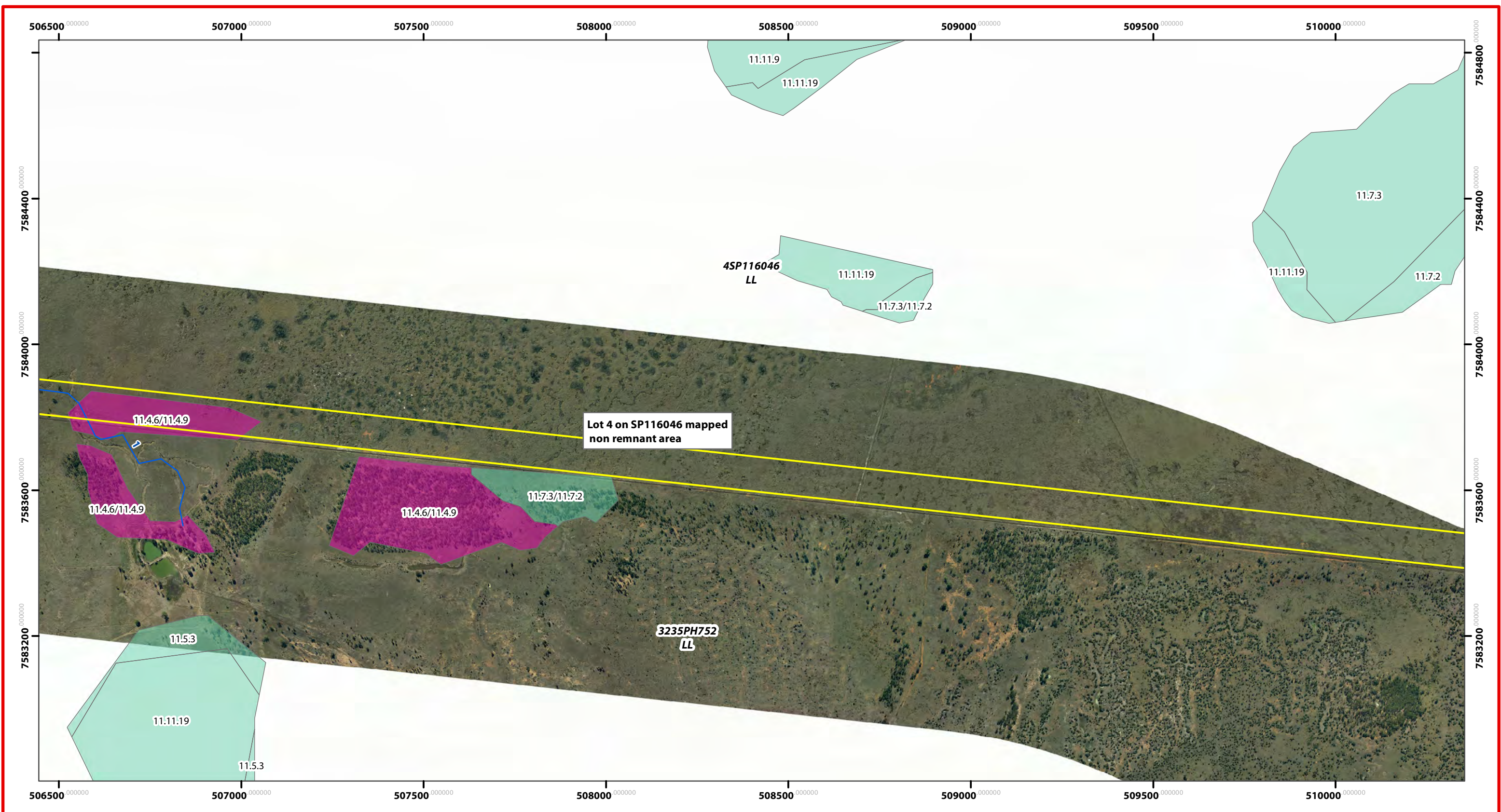
Remnant vegetation containing Endangered REs

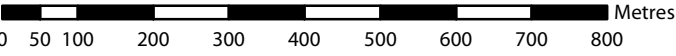
Remnant vegetation containing Of Concern REs

Remnant vegetation that is a Least Concern RE


PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 14 SP1 NCA Permit A






0 50 100 200 300 400 500 600 700 800 Metres



N

SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000


Scale 1:10,000@ A3
Data Information:
Universal Transverse Mercator
GDA 1994 MGA Zone 55



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






Issue	Date	Description	Checked
A	24/10/2012	NCA Permit	RM

CLIENT: Adani Mining Pty Ltd
PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF: 6396

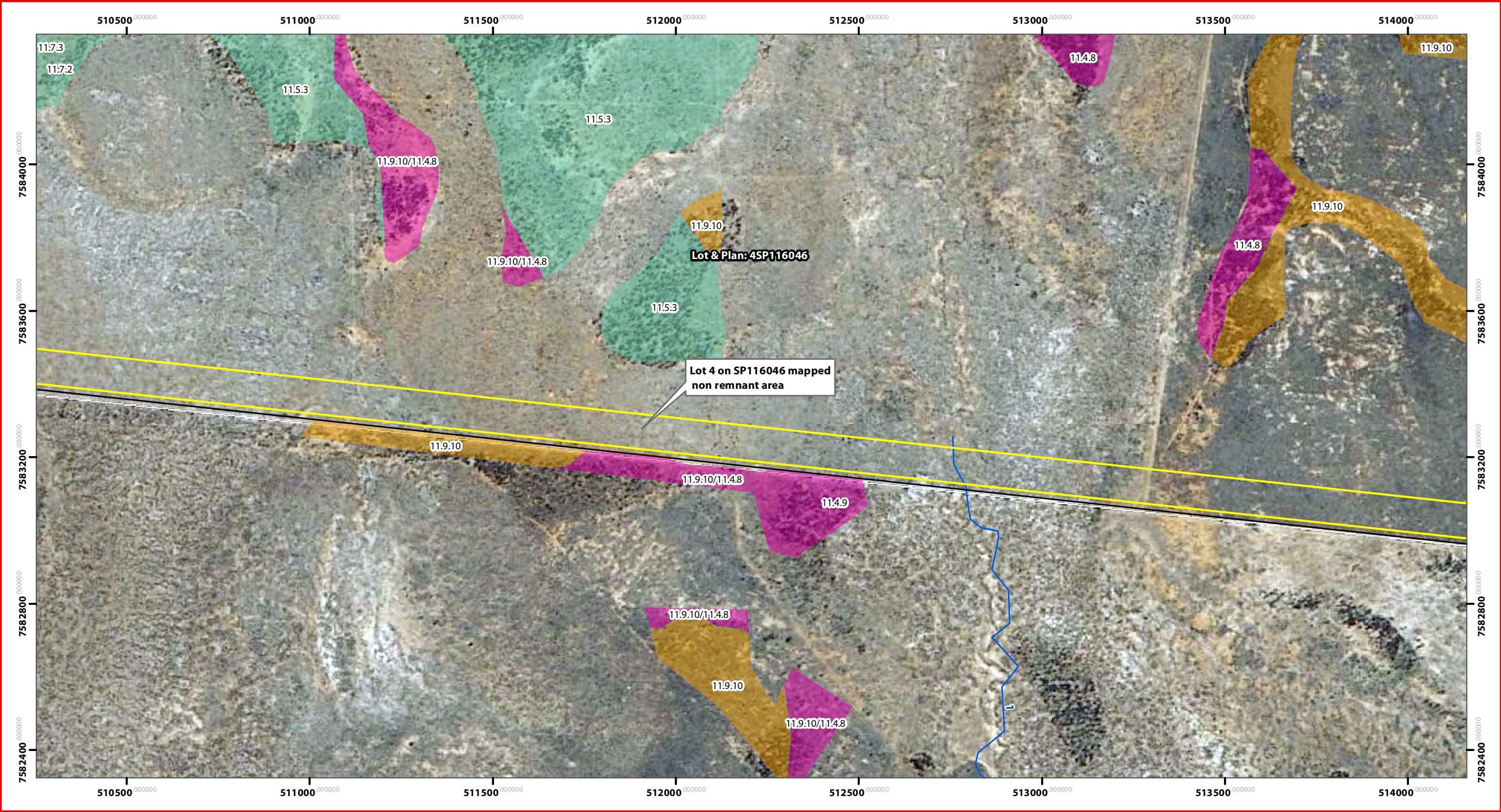
CHECKED: RM
DRAWN: SA

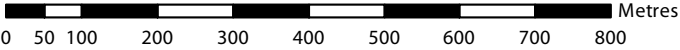
Legend

 DCDB	Regional Ecosystem v6.1
 Adani Mine EPC	 Remnant vegetation containing Endangered REs
 95m Clearing Corridor	 Remnant vegetation containing Of Concern REs
 Watercourses	 Remnant vegetation that is a Least Concern RE


PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 15 SP1 NCA Permit A






0 50 100 200 300 400 500 600 700 800 Metres



N

SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000


Scale 1:10,000@ A3
Data Information:
Universal Transverse Mercator
GDA 1994 MGA Zone 55



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






Issue	Date	Description	Checked
A	24/10/2012	NCA Permit	RM
B	5/07/2013	NCA Permit	RM

CLIENT: Adani Mining Pty Ltd
PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF: 6396

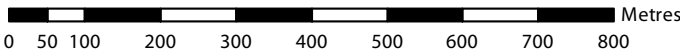
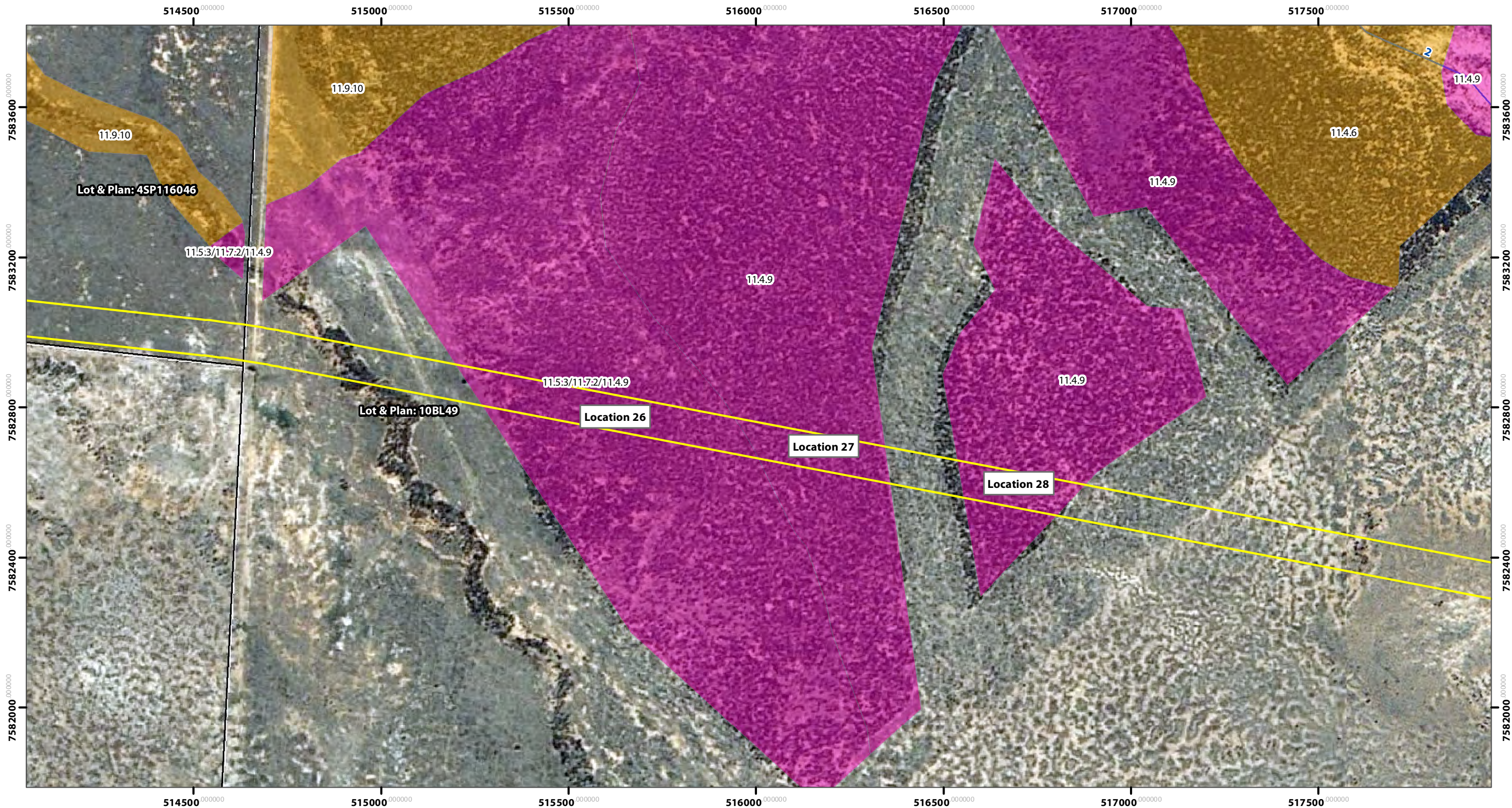
CHECKED: RM
DRAWN: SA

Legend

 DCDB	Regional Ecosystem v6.1
 Adani Mine EPC	 Remnant vegetation containing Endangered REs
 95m Clearing Corridor	 Remnant vegetation containing Of Concern REs
 Watercourses	 Remnant vegetation that is a Least Concern RE

PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 16 SP1 NCA Permit B



SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000

Scale 1:10,000@ A3
Data Information:
Universal Transverse Mercator
GDA 1994 MGA Zone 55

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Issue	Date	Description	Checked	
A	24/10/2012	NCA Permit	RM	
B	5/07/2013	NCA Permit	RM	

CLIENT: Adani Mining Pty Ltd
PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF: 6396

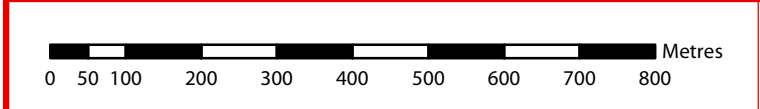
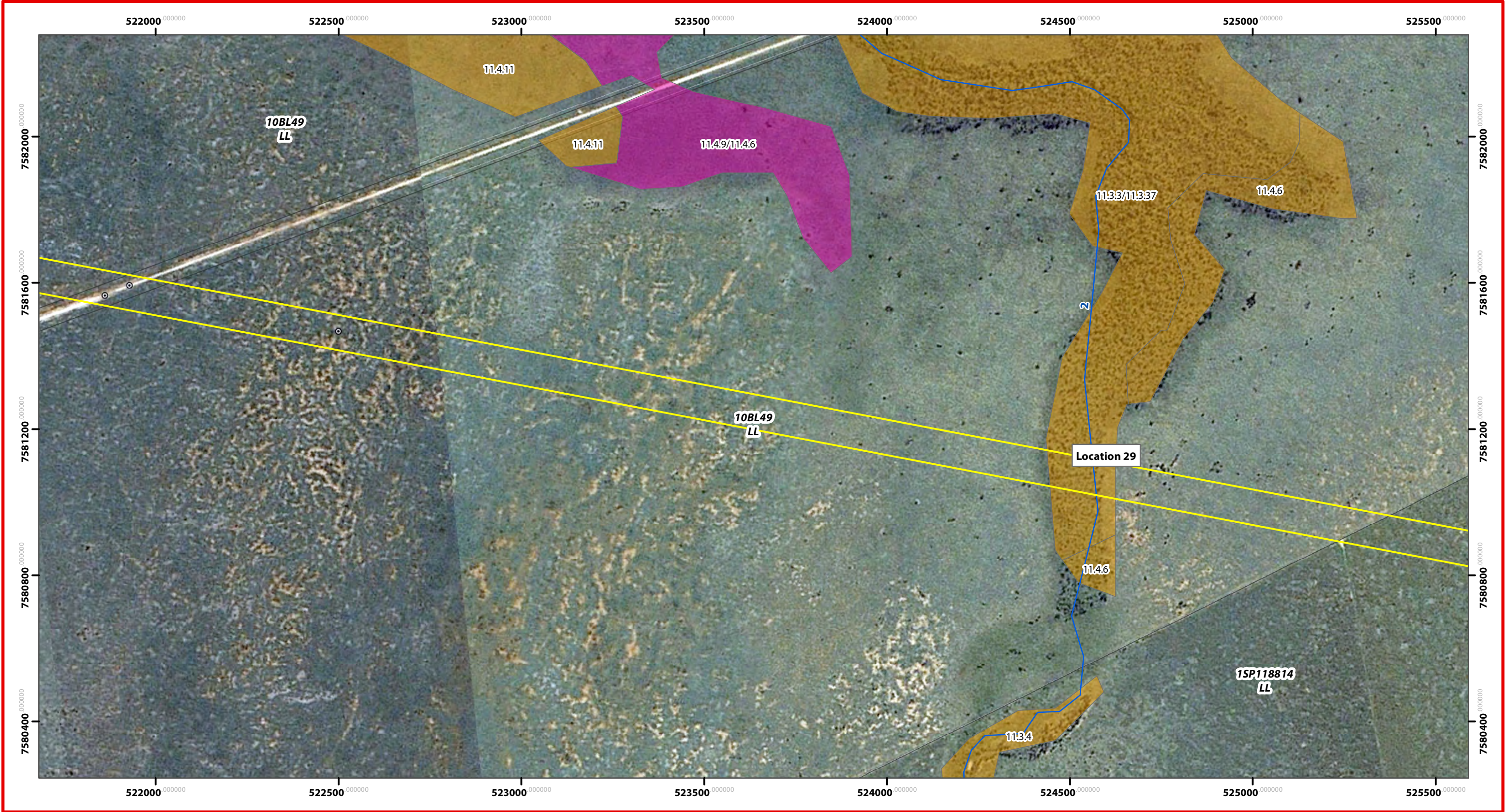
CHECKED: RM
DRAWN: SA

Legend

- | | |
|-----------------------|-----------------------------------------------|
| DCDB | Regional Ecosystem v6.1 |
| Adani Mine EPC | Remnant vegetation containing Endangered REs |
| 95m Clearing Corridor | Remnant vegetation containing Of Concern REs |
| Watercourses | Remnant vegetation that is a Least Concern RE |

PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 17 SP1 NCA Permit B



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SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000

Scale 1:10,000@ A3
Data Information:
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GDA 1994 MGA Zone 55

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Issue	Date	Description	Checked
A	25/10/2012	NCA Permit	RM

CLIENT:

Adani Mining Pty Ltd

PROJECT:

Charmichael Coal Rail Project

DATE:

October 2012

CHECKED:

RM

CLIENT REF:

6396

DRAWN:

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Legend

DCDB

Adani Mine EPC

95m Clearing Corridor

Watercourses

Regional Ecosystem v6.1

Remnant vegetation containing Endangered REs

Remnant vegetation containing Of Concern REs

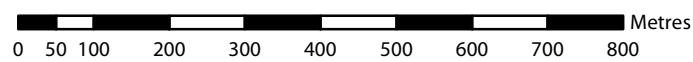
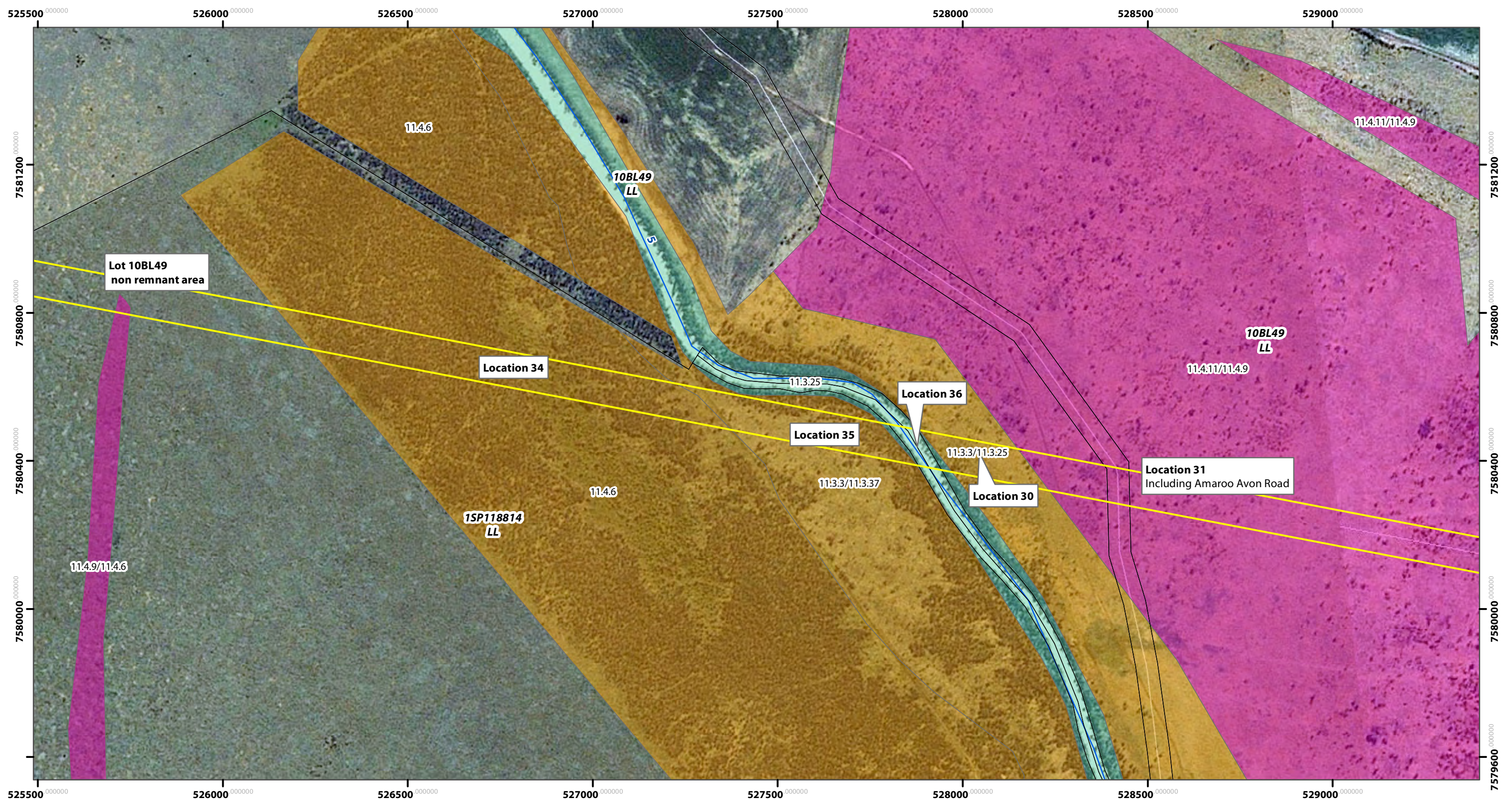
Remnant vegetation that is a Least Concern RE

PLAN OF:

Carmichael Coal Rail Alignment
- Vegetation Communities

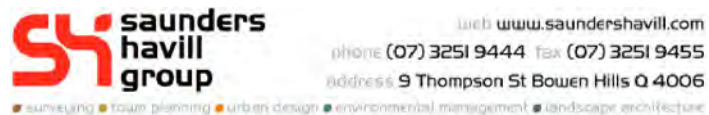
PLAN No.:

6396 E 19 SP1 NCA Permit A



SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
Datum & Map Grid - GDA94 MGA Zone 55
Scale @ A3 1:10,000

Scale 1:10,000@ A3
Data Information:
Universal Transverse Mercator
GDA 1994 MGA Zone 55



Issue	Date	Description	Checked
A	24/10/2012	NCA Permit	RM

CLIENT: Adani Mining Pty Ltd

PROJECT: Charmichael Coal Rail Project

DATE:	October 2012	CHECKED:	RM
CLIENT REF:	6396	DRAWN:	SA

Legend



— Adani Mine EPC



Watercourses

Regional Ecosystem v6.1

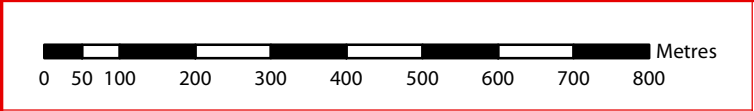
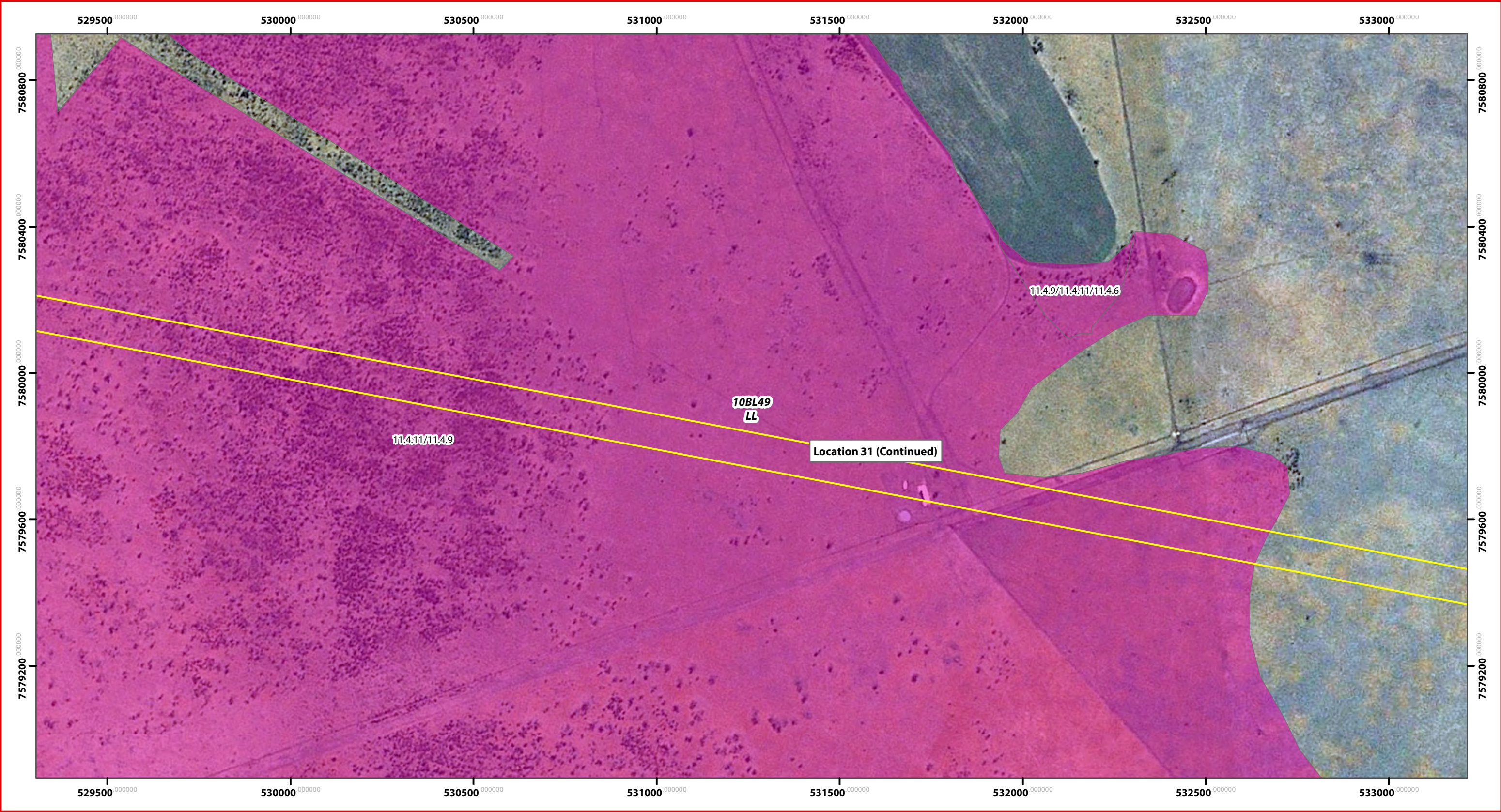
Remnant vegetation containing
Endangered REs

Remnant vegetation containing
Of Concern REs

Remnant vegetation that is a Least Concern RE

PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 20 SP1 NCA Permit A



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SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
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Scale 1:10,000@ A3
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Issue	Date	Description	Checked
A	24/10/2012	NCA Permit	RM

CLIENT: Adani Mining Pty Ltd
PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF: 6396

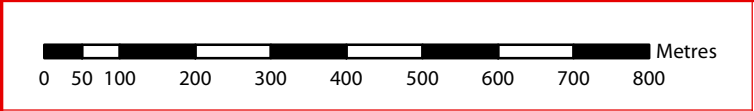
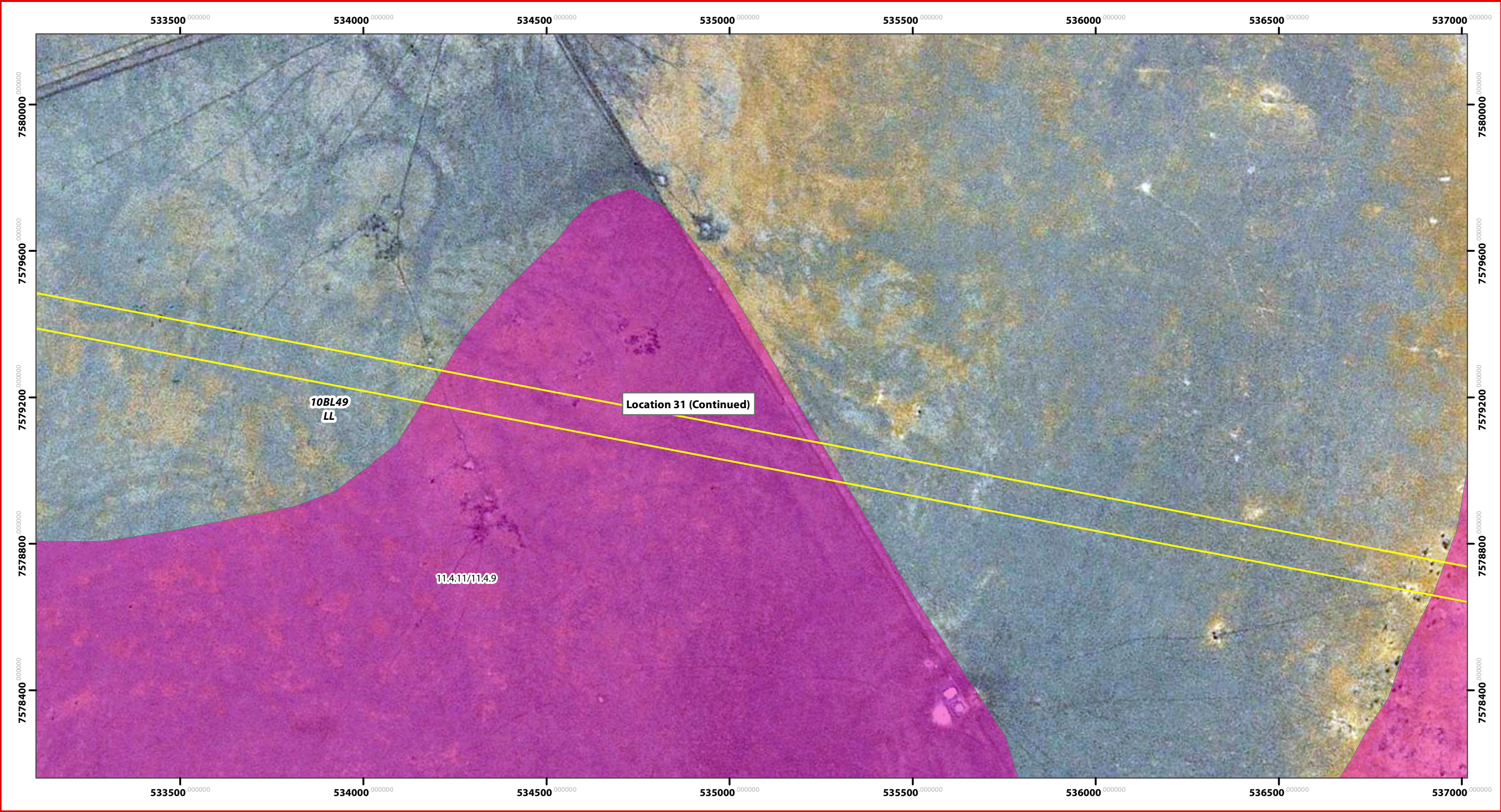
CHECKED: RM
DRAWN: SA

Legend

DCDB	Regional Ecosystem v6.1
Adani Mine EPC	Remnant vegetation containing Endangered REs
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PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 21 SP1 NCA Permit A



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SP1 Corridor - Vekta (2012)
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Issue	Date	Description	Checked
A	26/10/2012	NCA Permit	RM

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PROJECT: Charmichael Coal Rail Project

DATE: October 2012
CLIENT REF.: 6396

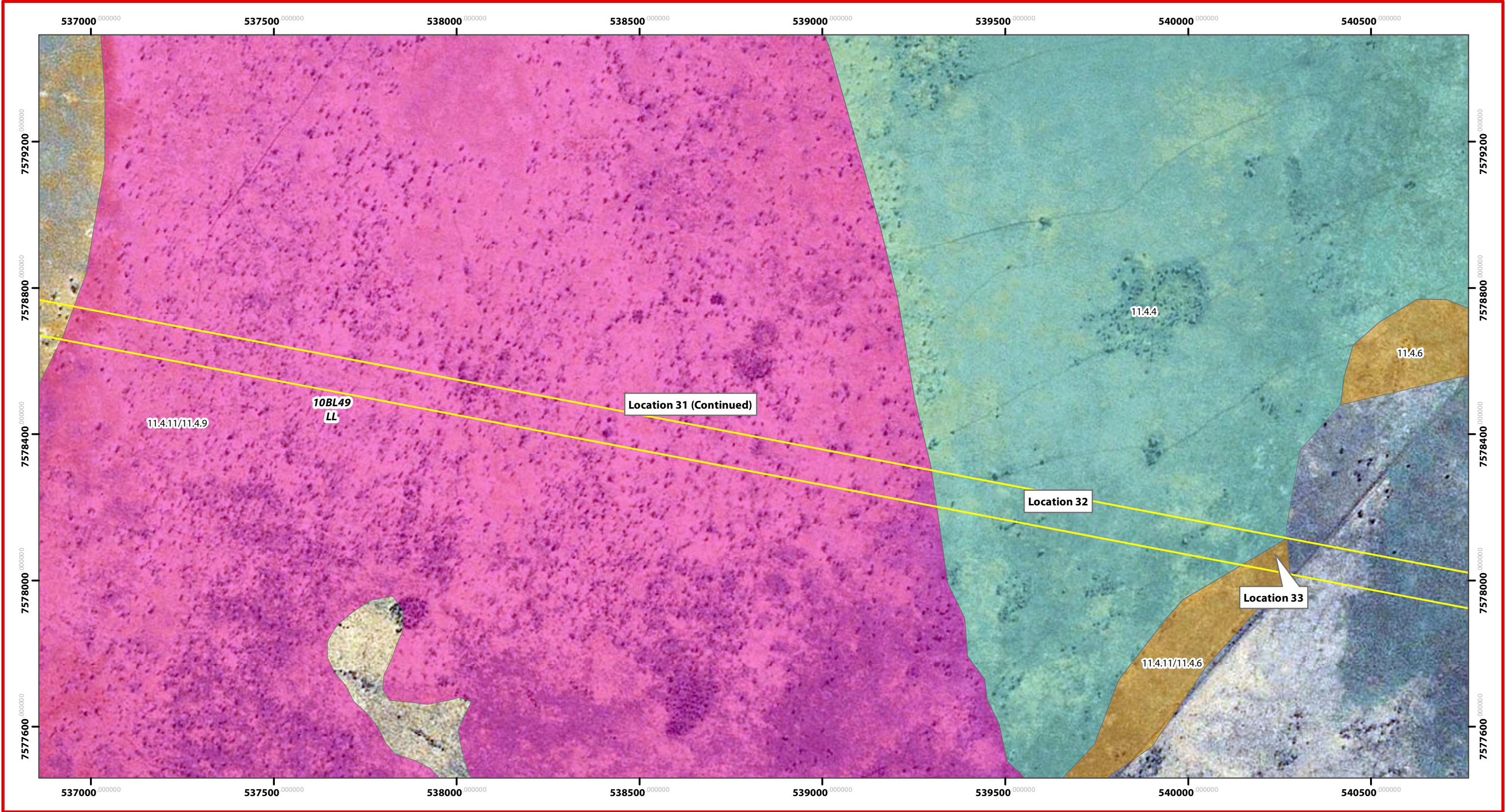
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DRAWN: SA

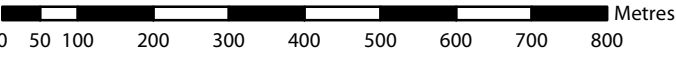
Legend

DCDB	Regional Ecosystem v6.1
Adani Mine EPC	Remnant vegetation containing Endangered REs
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PLAN OF: Carmichael Coal Rail Alignment
- Vegetation Communities

PLAN No.: 6396 E 22 SP1 NCA Permit A






0 50 100 200 300 400 500 600 700 800 Metres



N

SP1 Corridor - Vekta (2012)
Regional Ecosystem v6.1 - DERM (2011)
DCDB - QLD Gov (2012)
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






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CLIENT REF: 6396

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