



Bushfire Threat Assessment – Lower Hunter Lands

Minmi-Link Road

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Executive Summary

INTRODUCTION

RPS Australia East Pty Ltd (RPS) has been engaged by Coal & Allied Industries Limited (Coal & Allied) to undertake a Bushfire Threat Assessment (BTA) over land at Minmi/Link Road. For the purposes of this assessment the development estates have been separated into six main areas that are approximately 520ha within the Lake Macquarie and Newcastle's (LGA). They are:

- Development Estate 1 – The parcels of land to the east of Minmi township.
- Development Estate 2 – The parcel of land to the west of Minmi township.
- Development Estate 3 – The parcel immediately north of Link Road west end.
- Development Estate 4 – The parcel to the east of Blue Gum Hills Regional Park.
- Development Estate 5 – The parcel of land to the north of Link Road east end.
- Development Estate 6 – The parcel of land to the south of Link Road.

This assessment will inform an Environmental Assessment (EA) submission and provides information on measures that will enable the development to comply with 'Planning for Bushfire Protection' (RFS, 2006) (hereafter referred to as 'PBP') and Australian Standard 3959 (2009) – Building in Bush Fire Prone Areas. This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to this proposal, and to outline the mitigative measures that would be required in accordance with the provisions of the *Environmental Planning and Assessment Amendment (Planning for Bush Fire Protection) Regulation 2007* and the *Rural Fires Amendment Regulation 2007 (RF Amendment Regulation, 2007)*. This assessment has been made based on the bushfire hazards in and adjacent to the development estate.

VEGETATION

The vegetation in and around the development estate boundaries, to a distance of 140m, has been assessed in accordance with PBP (RFS, 2006). The vegetation in all directions from the development estate is classified as Open Forest.

SLOPE

A slope class map has been produced for land within 140m of the development estate.

The development estate has a predominately northerly aspect, with elevation ranging from approximately 100m AHD in the southern steep ridge lines of Development Estate 5, down to approximately 10m AHD in the more northern sections of Development Estates 1 and 2.

ASSET PROTECTION ZONES

Asset Protection Zone's (APZ's) from 10 metres to 64 metres will be required from vegetation external to the development estate. The Concept Plan indicates proposed roadways around parts

of the development to provide a buffer between the adjacent vegetation and the development estate. The proposed perimeter and public roads within the development estate are therefore likely to provide for the majority of the required APZs, with the remainder of the APZ being accommodated within the allotments.

WATER SUPPLY

Following any kind of development upon the land, it is expected that water mains will be extended into the development estate. Access to this supply should be provided for fire-crews in the form of readily accessible and easily located fire hydrants. Fire hydrant spacing, sizing and pressure should comply with AS 2419.1 – 2005. Where this cannot be met, the RFS will require a test report of the water pressures anticipated by the relevant water supply authority. In such cases, the location, number and sizing of hydrants shall be determined using fire engineering principles. Hydrants are not located within any road carriageway. All above ground water and gas service pipes external to the building are metal, including and up to any taps.

ACCESS / EGRESS

PBP (RFS, 2006) recommends a perimeter road be designed for any future residential development. The Concept Plan indicates that a perimeter road has been proposed for the majority of the development estate. This complies with PBP 2006. The perimeter road will allow a defensible space between vegetation and housing whilst also acting as an APZ. The exception to this occurs on land where infrastructure design could not allow for perimeter roads.

The Concept Plan provides for internal public roads within the development estate. Many of the proposed internal public roads are dead ends, and thereby will need to comply with the PBP requirements. The proposed design of the road network will need to comply with the requirements of PBP 2006. Any lessening of these requirements will require a performance-based assessment to be undertaken at the future project application stage.

DWELLING DESIGN AND CONSTRUCTION

Assessment of the proposed Concept Plan in accordance with AS3959-2009 Construction of Buildings in Bushfire-prone Areas (AS3959-2009) has indicated that future dwellings within the proposed allotments will be able to comply with this standard if the required APZs are established.

SUMMARY OF RECOMMENDATIONS

In summary, the following key recommendations have been generated to ensure that the Concept Plan for the development estate meets the relevant legislative requirements:

- APZ's from 10 metres to 60 metres will be required between the bushland and urban interface (dwellings). For the majority of the development a perimeter road has been implemented between bushfire hazards and future dwellings, this will form all or part of the required APZ's. Any remaining APZ or part of APZ will be established within allotments where required. A strategic approach was undertaken over the concept design process to predictively design allotments to provide for an adequate building

envelope within allotments requiring an APZ.

- A Core Riparian Zone (CRZ) and Vegetated Buffer (VB) from 10 metres to 40 metres, inclusive, will be established for all riparian corridors along creeklines. This merit assessment will be based upon the order and riparian functionality of the watercourse, the site and long term land use. These corridors have been included within the Concept Plan and APZ designed upon these.
- Any proposed development should be linked to the existing mains pressure water supply and suitable hydrants clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure should comply with AS2419.1, 2005.
- Roads should be constructed in accordance with section 4.1.3 (1), PBP 2006 as outlined in section 6 of this report. Any lessening of these requirements will require a performance-based assessment to be undertaken with the future project applications for the subdivision of land.
- Any future dwelling within the development estate should have due regard to the specific considerations given in the BCA, which makes specific reference to the Australian Standard (AS3959 – 2009) construction of buildings in bushfire prone areas. Assessment of the Concept Plan in accordance with AS3959-2009 has shown that future dwellings within the development estate will be able to comply with this standard.
- It is recommended that a Fuel Management Plan (FMP) be prepared for the development estate. This plan will detail the required strategies to create the required APZ's and management of these APZ's in such a manner as to preserve the natural and cultural features of the development estate, while reducing the risk of bushfire.

Terms & Abbreviations

Abbreviation	Meaning
APZ	Asset Protection Zone
AS2419.1-2005	Australian Standard – Fire Hydrant Installations
AS3959-2009	Australian Standard – Construction of Buildings in Bush Fire Prone Areas
BCA	Building Code of Australia
BFPA	Bushfire Prone Area
BFPL	Bushfire Prone Land
BFPLM	Bushfire Prone Land Map
BFPA	Bushfire Prone Areas
BFPB	Bushfire Protection Measures
Coal & Allied	Coal & Allied Industries Limited
CCC	Cessnock City Council
Conservation OR Offset Lands	Land proposed for dedication to NSW Government
CRZ	Core Riparian Zone
Development Estate	Proposed Development Lands
DECCW	Department of Environment, Climate Change and Water
DGEAR's	Director General's Environmental Assessment Requirements
DoP	NSW Department of Planning
EA	Environmental Assessment
EAR	Ecological Assessment Report
EMP	Environmental Management Plan
EPA Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
FMP	Fuel Management Plan
ha	hectare
IPA	Inner Protection Area
LGA	Local Government Area
LHRS	Lower Hunter Regional Strategy
LMCC	Lake Macquarie City Council
NCC	Newcastle City Council
NSWG	NSW Government
OPA	Outer Protection Area
PBP	Planning for Bushfire Protection 2006
RF Amendment Regulation	Rural Fire Amendment Regulation 2007
RPS	RPS Australia East Pty Ltd
SSS	State Significant Site

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Slope Assessment Maps for Development Estates

I Introduction

RPS has been engaged by Coal & Allied Industries Limited (Coal & Allied) to undertake a Bushfire Threat Assessment (BTA) over land at Minmi/Link Road. The proposal is for a Concept Plan for the future development of land at Minmi and north and south of Link Road comprising new residential precincts and includes commercial, open space, community and educational land uses. The proposal is to be assessed under Part 3A of the *Environmental Planning and Assessment Act 1979*. For the purposes of this assessment the development estates have been separated into six main areas that total approximately 520ha within the Lake Macquarie and Newcastle (LGA). Refer to Appendix A. These are:

- Development Estate 1 – The parcels of land to the east of Minmi township.
- Development Estate 2 – The parcel of land to the west of Minmi township.
- Development Estate 3 – The parcel immediately north of Link Road west end.
- Development Estate 4 – The parcel to the east of Blue Gum Hills Regional Park.
- Development Estate 5 – The parcel of land to the north of Link Road east end
- Development Estate 6 – The parcel of land to the south of Link Road

This BTA report will assist in the concept planning phase of the development estate, taking into consideration the surrounding bushfire threats. This assessment will inform an Environmental Assessment (EA) submission and provides information on measures that will enable the development to comply with PBP 2006 and Australian Standard 3959 – Building in Bush Fire Prone Areas (AS3959 –2009).

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to such a proposal, and to outline the minimum mitigative measures which would be required in accordance with the provisions of the *Environmental Planning and Assessment Amendment (Planning for Bush Fire Protection) Regulation 2007* and the *Rural Fires Amendment Regulation 2007 (RF Amendment Regulation, 2007)*. This assessment has been made based on the bushfire hazards in and around the development estate at the time of the site inspection (June 2007 – July 2008). The aim of PBP is to use the NSW development assessment system to provide for the protection of human life (including fire-fighters) and to minimise impacts on property from the threat of bush fire, while having due regard to development potential, on site amenity and protection for the environment.

More specifically, the objectives are to:

- Afford occupants of any building adequate protection from exposure to a bush fire;
- Provide for a defensible space to be located around buildings;
- Provide appropriate separation between a hazard and buildings which, in combination

with other measures, prevent direct flame contact and material ignition;

- Ensure that safe operational access and egress for emergency service personnel and residents is available;
- Provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ); and
- Ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bush fire fighting).

In circumstances where the aim and objectives as detailed are not met, then the construction requirements for bushfire protection will need to be considered. Some of the proposed future uses for the site will require referral to Rural Fire Services at DA stage. Child care or a hotel/motel are defined as special fire protection purposes and as such will need to be assessed under Planning for Bushfire Protection 2006 (NSW Rural Fire Service, 2006) (hereafter referred to as 'PBP 2006').

In order to determine whether the proposed development is bushfire-prone, and if so, which setbacks and other relevant Bush Fire Protection Measures (BFPM) will be appropriate, this assessment adheres to the methodology and procedures outlined in PBP 2006.

1.1 Description of the Proposal

It is proposed that the entire Coal & Allied owned Minmi/Link Road and Stockrington sites be rezoned/listed as a 'State Significant Site' (SSS) in Schedule 3 of State Environmental Planning Policy (Major Development). A draft Schedule 3 listing will be prepared with the Concept Plan Application.

The development and conservation of the Coal & Allied land holdings, has been collectively classified into 'Southern Lands' and 'Northern Lands'. The Northern Lands encompass the Black Hill and Minmi Link Road Development Estates and the Tank Paddock and Stockrington Conservation Estates. Refer to Figure 1-1 and Figure 1-2.

The Concept Plan for a residential subdivision and conservation land transfer will apply to the entire 537ha Minmi/Link Road and 1561ha Stockrington site. The key parameters for the future development of the site are as follows:

- Dedication of 1561ha of conservation land to the New South Wales Government (NSWG) that is identified in the Lower Hunter Regional Strategy and Lower Hunter Regional Conservation Plan, comprising 1544ha of the Stockrington site and approximately 17ha of the Minmi/Link Road site.
- Maximum dwelling yield of 3,300 dwellings over approximately 520ha.
- Indicative development staging. The number of lots and extent of staging for release areas will be largely dictated by the service infrastructure requirements as well as responding to market forces.

- The provision of associated infrastructure.
- Torrens title subdivision of the Minmi/Link Road site. The Torrens title subdivision of Coal & Allied land will enable the following:
 - » To dissect land on either side of the F3 Freeway and to separate the development lot from the conservation land.
 - » The transfer of approximately 17ha of land at Minmi/Link Road to the North of the Minmi Rural Fire shed to NSWG for conservation purposes.

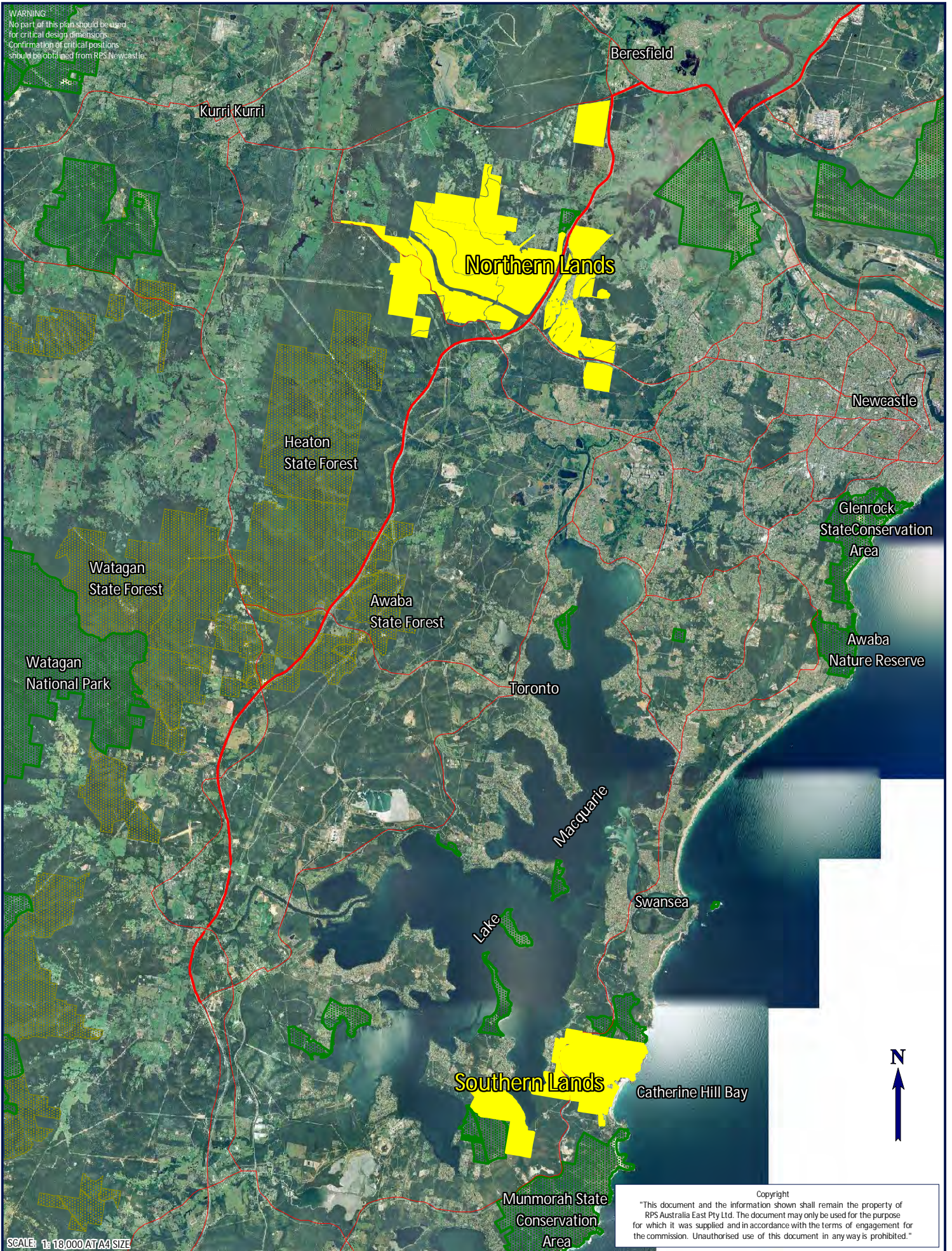
Approval will not be sought under the Concept Plan for a specific lot or road layout. An indicative lot layout will indicate how the maximum dwelling yield of 3,300 dwellings could be achieved on the site.

Similarly, approval will not be sought under the Concept Plan for subdivision or construction of individual houses. However, the desired future character of the proposed concept plan will be included in Urban Design Guidelines. Urban Design Guidelines will be prepared to inform the Concept Plan in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site.

It is proposed to dedicate land for conservation purposes as part of the Major Project Application via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG in accordance with s.93F of the Environmental Planning & Assessment Act, 1979 (EP&A Act).

A Concept Plan has been prepared for Minmi-Link Road site which will enable key site parameters associated with land use, infrastructure delivery and timing, and environmental conservation to be resolved up front, with subsequent detailed stages being submitted for approval progressively. Refer to Figure 1-3 and Figure 1-4.

WARNING
 No part of this plan should be used for critical design dimensions. Confirmation of critical positions should be obtained from RPS Newcastle.



SCALE: 1:18,000 AT A4 SIZE

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TITLE: FIGURE 1-1 COAL & ALLIED SURPLUS LANDS

LOCATION: HUNTER REGION

DATUM: N/A
 PROJECTION: MGA ZONE 56 (GDA 94)

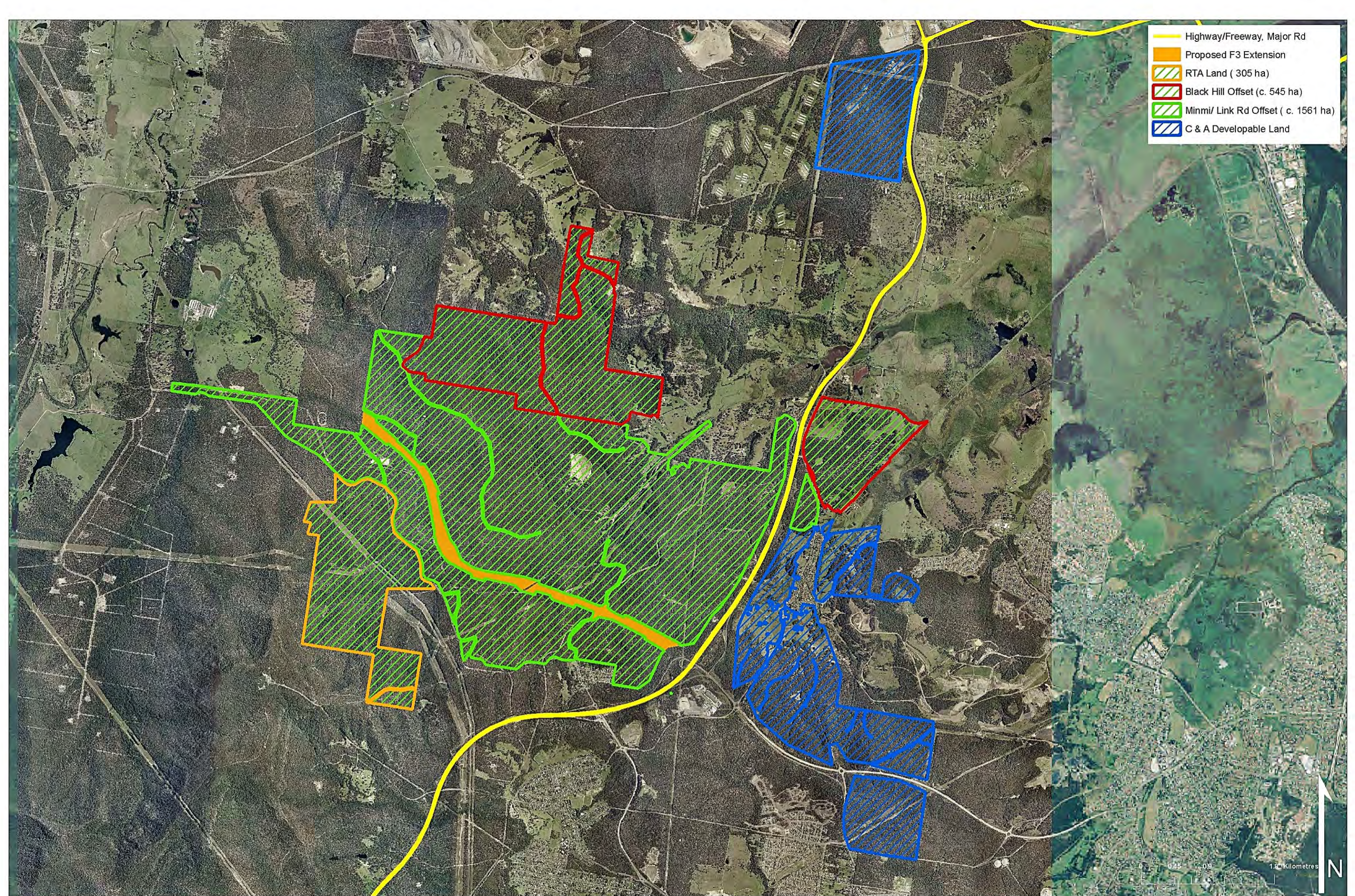
DATE: 7/02/2011
 PURPOSE: EAR

LAYOUT REF: J:\OBS\24k\24530 Hunter Valley\2010 Works\Drafting
 VERSION (PLAN BY): C (A.P.-M.D)

CLIENT: COAL & ALLIED INDUSTRIES PTY LTD
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- Highway/Freeway, Major Rd
- Proposed F3 Extension
- RTA Land (305 ha)
- Black Hill Offset (c. 545 ha)
- Minmi/ Link Rd Offset (c. 1561 ha)
- C & A Developable Land

NORTHERN AREA- FINAL DEVELOPMENT AND CONSERVATION AREAS