Addendum Ecological Report
For
Northern Lands, Minmi/Link Road – Preferred Project Report

Prepared by:

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Prepared for:

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Job No: 24530-2
Date: September 2009

Document Status

Version	Purpose of Document	Orig	Review	Review Date	Format Review	Approval	Issue Date
Draft	Draft for Client Review	AP	MD			MD	9-9-09
Final	Final for PPR Submission	AP	MD	21-9-09	JH 21-9-09	MD	21-9-09

Disclaimers

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1.0 INTRODUCTION

RPS Harper Somers O'Sullivan Pty Ltd (RPS HSO) has been commissioned by Coal & Allied (C&A) to undertake an *Addendum Ecological Report* following the public exhibition process over the Minmi/Link Road development and conservation estates. The ecological amendments and modifications herewith have been utilised in conjunction with the previously submitted EAR to inform the preparation of a final concept plan and Preferred Project Report.

The proposed Conservation Estates include areas of high conservation value in the nominated regional green corridors that will be dedicated to the public. The Conservation Estates are similarly identified in the Lower Hunter Regional Conservation Plan (LHRCP) prepared by the DECC.

Note: This report must be read in conjunction with the Minmi/Link Road EAR submitted as a component of the Environmental Assessment. The amendments and revisions outlined herewith supersede that documented within the EAR, however any items not stipulated within this report remain current as reported in the EAR for Minmi/Link Road (RPS HSO, 2009).

1.1 Qualifications and Certification

Qualifications

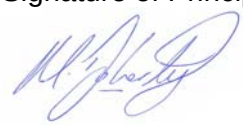
The principal author of this addendum report was Matthew Doherty (BLMC) of RPS Harper Somers O'Sullivan Pty Ltd, with additional input from Craig Anderson (BAppSc (EAM)) and Alexandra Picton (BEnvSc). The academic qualifications and professional experience of all RPS HSO staff involved in the project are documented in Appendix 1.

Certification

As the principal author, I, Matthew Doherty make the following certification:

The results presented in the report are, in the opinion of the principal author and certifier, a true and accurate account of the ecological factors considered likely to occur within the site.

Signature of Principal Author and Certifier:



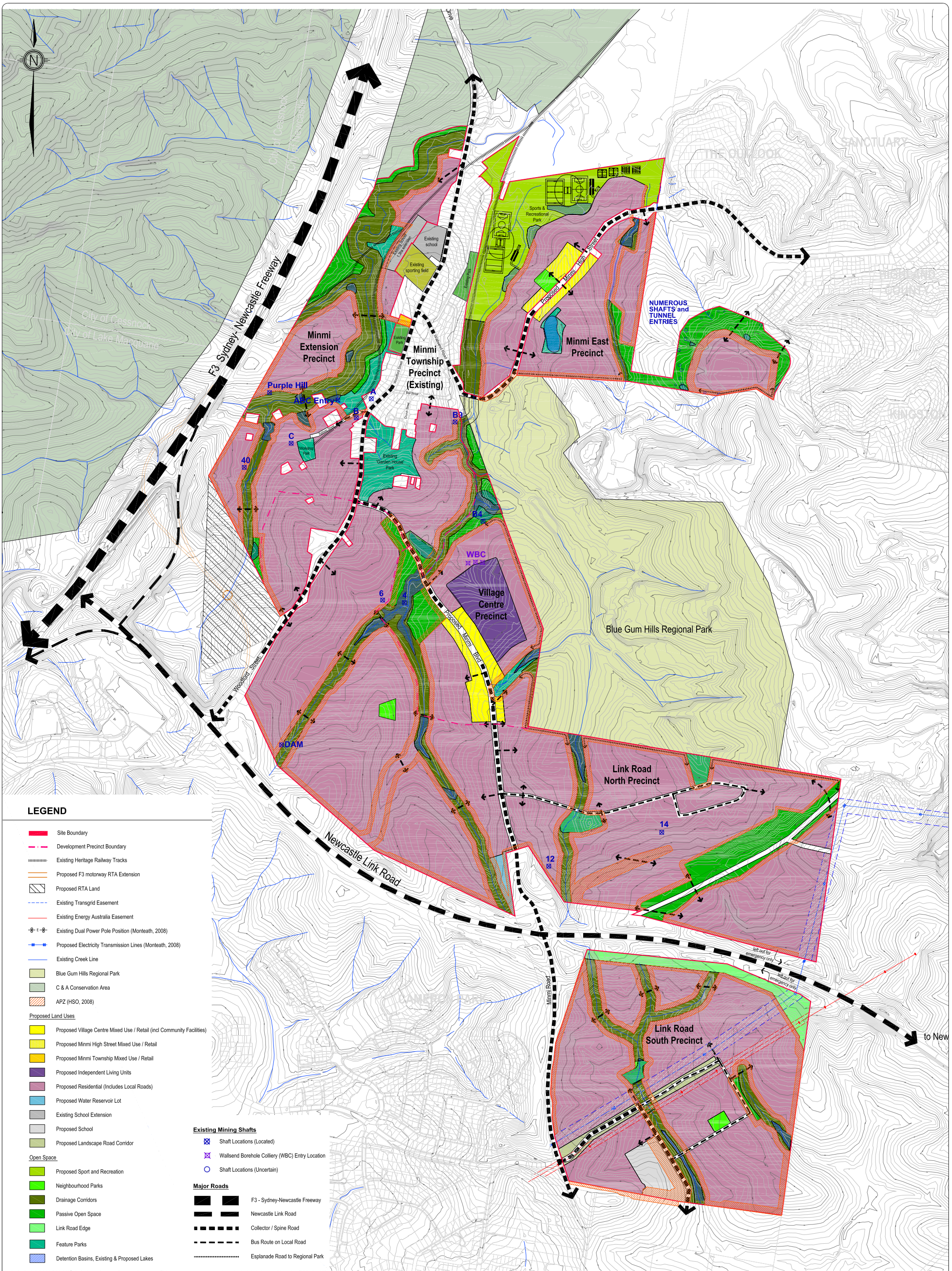
Matthew Doherty
Environmental & GIS Manager
RPS Harper Somers O'Sullivan
September 2009

2.0 PUBLIC EXHIBITION KEY ISSUES

The public exhibition process identified several issues that required further investigation and assessment in relation to the proposal. The abovementioned issues and updates alluded to herewith are considered in this report under the following headings:

- Corridors
- Habitat Mapping
- Flora and Fauna (Biodiversity)
- SEPP 44 Koala
- Blue Gum Hills Regional Park

Refer to Figure 2-1: Amended Concept Plan.



LEGEND

- Site Boundary
- Development Precinct Boundary
- Existing Heritage Railway Tracks
- Proposed F3 motorway RTA Extension
- Proposed RTA Land
- Existing Transgrid Easement
- Existing Energy Australia Easement
- Existing Dual Power Pole Position (Monteath, 2008)
- Proposed Electricity Transmission Lines (Monteath, 2008)
- Existing Creek Line
- Blue Gum Hills Regional Park
- C & A Conservation Area
- APZ (HSO, 2008)

Proposed Land Uses

- Proposed Village Centre Mixed Use / Retail (incl Community Facilities)
- Proposed Minmi High Street Mixed Use / Retail
- Proposed Minmi Township Mixed Use / Retail
- Proposed Independent Living Units
- Proposed Residential (Includes Local Roads)
- Proposed Water Reservoir Lot
- Existing School Extension
- Proposed School
- Proposed Landscape Road Corridor

Open Space

- Proposed Sport and Recreation
- Neighbourhood Parks
- Drainage Corridors
- Passive Open Space
- Link Road Edge
- Feature Parks
- Detention Basins, Existing & Proposed Lakes

Existing Mining Shafts

- Shaft Locations (Located)
- Wallsend Borehole Colliery (WBC) Entry Location
- Shaft Locations (Uncertain)

Major Roads

- F3 - Sydney-Newcastle Freeway
- Newcastle Link Road
- Collector / Spine Road
- Bus Route on Local Road
- Esplanade Road to Regional Park

Note:

All dimensions and areas are approximate only, and are subject to survey and Council approval.

The boundaries shown on this plan should not be used for final detailed engineers design.

Base information derived from DCDB.

AMENDMENTS

Level Datum	Date	18 SEP 2009
Origin	Surveyed	
	Comp By.	KCH/JWP/CWC
	DWG Name.	24311-CONCEPT
Scale 1:5000@A0	Local Authority	Newcastle/Lake Macquarie
	Job Reference	24311

CLIENT
COAL & ALLIED

CONCEPT PLAN

PROJECT
PROPOSED SUBDIVISION

Plan Reference
24311-15D

CONICS (BRISBANE) PTY LTD
A.C.N. 010370448
A.B.N. 81591046588
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PO BOX 1559,
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TELEPHONE 07 3237 8699
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web: www.conics.com.au

3.0 ECOLOGICAL AMENDMENTS

3.1 Green Corridors

Government and community comments received in relation to the green corridor along Link Road expressed concerns over the ecological value of the buffer and the effects of the development upon this area.

The development of land at Minmi-Link Road coupled with future Hunter Freeway- Link Road upgrade works will result in a reduction to the existing green corridor that runs adjacent to Link Road. The green corridor is part of the Western Corridor Strategy with the intention of maintaining avifauna and highly mobile faunal guild movements along Link Road, whilst allowing development of the land to the north and south. The green corridor was not instituted for the purposes of maintaining a diverse range of habitats for local species. Conservations lands within Stockrington and Tank Paddock realise these biodiversity outcomes. The Concept Plan provides a "green corridor" and will function in the capacity of maintaining avifauna and highly mobile faunal guild movements.

The Link Road cross section shown in Appendix 2 shows the green corridor on both the northern and southern sides of Link Road. As a result of Council concerns regarding Asset Protection Zones being situated on publicly owned land, APZ's have been moved to sit within private landholders lots. The sitting of these APZ's within private lots will contribute a substantial portion of vegetation to maintain functionality of the green corridor.

Development of the areas adjacent to the green corridor is expected to have minimal impact upon the ecological value of the corridor given due regard to sediment and erosion control and ecologically sensitive construction is undertaken.

Due to the linear nature of the proposed green corridor, edge effects could potentially affect the integrity of the corridor. Due to the contrasting nature of the vegetation to the road there is the potential for weed invasion, pest invasion, micro climatic changes and noise variations. The proper management of the corridor will ensure that the corridors functions are improved and maintained such that the long-term viability of the habitat is maintained.

3.2 Habitat Mapping

Inconsistencies between habitat mappings were apparent within the EAR and EIR. Amendments have been made to these maps and correct versions can be seen in Appendix 3. Habitat removal/retention calculations have not been affected by the minor changes.

3.3 Flora and Fauna (Biodiversity)

Government and community comments indicated that impact assessment for threatened species was insufficient considering the removal of habitat from the development estate and that development would sever vegetation remnants and wildlife corridors within the locality.

Assessment within the EAR determined that whilst there will be a direct impact upon some individual threatened species due to the removal of vegetation, habitat retention within larger tracts of conservation offsets would ensure threatened species within the locality would not be significantly impacted .

The proposal is fundamental to achieving the outcomes of the Lower Hunter Regional Strategy and Lower Hunter Regional Conservation Plan. These guiding policies have been developed in consultation with local and state government agencies along with the wider community. As such planning has taken into account the environmental, economic and social parameters operating in the Lower Hunter. Negotiations between the NSW government and Coal & Allied are targeting best practice development over a portion of land in order to secure a substantial amount of land for conservation. Therefore on a landscape scale these strategies coupled with this proposal deliver a sound environment conservation outcome.

Best practice urban design has been incorporated into the concept plan in order to acknowledge, where possible, the corridor requirements of local and state government agencies and the wider community. Whilst the proposal will sever some vegetation remnants within the locality, efforts have been made during the planning phase of the development to incorporate green corridors for the purposes of retaining connectivity. The result, a matrix of linear riparian corridors, green buffers, patches of retained vegetation and public open space is provided by the proposed concept plan. The riparian corridors serve a number of functions including biodiversity connectivity, ecological enhancement, corridor, habitat, heritage, visual and stormwater detention / treatment devices. Whist the riparian corridors within the development estate are not exclusive conservation areas, they do provide local connectivity for arboreal and mobile fauna. Cross section figures in Appendix 3 show riparian corridors and green buffers in detail. Furthermore a hierarchy of roads has been proposed with appropriate treatment

of adjacent parks and riparian corridors. Refer to the landscape documentation for more information.

Whilst biodiversity will be strengthened where possible the green corridors have been incorporated into development plans largely to buffer creek lines and aid mobile fauna species movements throughout the area. These important corridors will provide links to the larger, habitat diverse lands at Stockrington and Tank Paddock that are to be secured as valuable conservation lands.

3.4 SEPP44 Koala

DECC and LMCC Council commented on the SEPP44 assessment as incomplete and that the single male identified on site could not be classified as an isolated record and would form part of a viable local population.

Nevertheless a detailed desktop and site assessment relating to SEPP 44 has been provided within the EAR. Assessment of the development estate consisted of SAT plots, habitat assessments and targeted surveys. No evidence was found that indicated a Koala population occurs on site and the single male sighting is considered to be an isolated record. The assessment determined that the development estate could not be considered 'Core Koala Habitat' due to the lack of local records and direct and secondary observations.

Subsequent to the public exhibition process, additional consultation with DECC and LMCC has been carried out. Additional information was forwarded by the DECC in relation to local records from the Native Animal Trust Fund, most of which revealed recent records were found to occur to the west of the development estate in close proximity to the Stockrington conservation lands. A further DECC Atlas search revealed that records were located in close proximity to conservation lands. Discussions with LMCC regarding their comments related to anecdotal evidence of Koala activity and public records of Koala road kill mortalities and/or injuries.

The overarching conclusion in regard to the Koala activity in the locality based on initial and follow up investigations as detailed herewith indicate the site is not considered 'Core Koala Habitat'. Furthermore it is considered that any Koala activity in the locality would be representative of a low density population.

3.5 Blue Gum Hills Regional Park

Submissions form Council, DECC and the general public outlined concerns over the impacts that development would place upon Blue Gum Hills Regional Park. The following outlines mitigation measures proposed by Coal & Allied in order to minimise impacts upon the park.

Erosion and Sediment Control

Appropriate erosion and sedimentation control measures will be implemented prior to construction. These erosion and sediment controls will be maintained for the duration of construction and remain in force until soil is stabilised post construction, ensuring that runoff is appropriately managed.

Sedimentation control will comply with the relevant guidelines ('Managing Urban Stormwater – Soils and Construction, Volume 1' (Landcom 2004)) preventing sediment flow from the development site onto DECC land.

The soils on site are potentially erodible. Mitigation measures such as silt fences, revegetation/reshaping batters, drainage structures (catch drains), sediment traps and sedimentation basins will be constructed (as deemed necessary) to ensure erosion and sedimentation are minimised.

All future works will be guided by appropriate management plans that reflect current industry best practice at that time.

Stormwater Runoff

Water sensitive urban design techniques will be employed to maximise natural site hydrology and ensure high water quality of stormwater with no excessive export of sediments and nutrients.

It is envisaged that stormwater runoff treatment will be addressed on housing lots prior to discharge into the road system and riparian corridors. The retention of riparian vegetation (along and surrounding creeklines and drainage channels) will assist in trapping sediments prior to entering watercourse(s).

Infrastructure associated with stormwater treatment will not be located on any part of the DECC land.

Management Implications, Pets, Weeds, Edge Effects

As the development is adjacent to DECC land, it is important that future residents and the general public are educated in regard to the impacts of weeds, pets and rubbish dumping etc. on surrounding conservation lands.

Individual control, regulation and monitoring of the public with regard to pets, weeds and dumping are difficult to achieve, therefore community education will

be the main focus to manage these issues. Pamphlets and information sheets can be distributed or attached to sale documents advising potential buyers of the advantages of having conservation reserves close to new homes, and advising them of the responsibilities and potential impacts associated with weeds, pets and rubbish dumping in these conservation areas.

Boundary Encroachments

No pre-construction, construction or post-construction activities will occur on DECC managed land. All material and works associated with construction will occur on the proposed development site.

All future works will be guided by appropriate management plans that reflect current industry best practice at that time.

Visual, Odour, Noise, Air Quality Impacts and Amenity

Coal & Allied has considered that visual, odour, noise and air quality impacts may occur to the BGHRP during the construction and post construction stages of development throughout the assessment process. Measures to avoid the magnitude of these impacts will be instigated.

All future works will be guided by appropriate management plans that reflect current industry best practice at that time.

Threats to Ecological Connectivity

The proposed development will reduce the amount of vegetation adjacent to BGHRP however a matrix of vegetation patches (largely public open space) and linear tracts (largely riparian corridors) throughout the development estate will ensure that habitat linkages are retained and provide corridor opportunities for highly mobile, less vulnerable faunal guilds and avifauna. These linkages will connect with land at Stockrington and Tank Paddock (that will be conserved as part of the proposal), together with other conservation lands surrounding the development.

4.0 CONCLUSION

This Addendum report has addressed the key issues and additional works required following the public review process of the initial EAR documentation and concept plan for the Minmi Link Road development estate.

It is considered that assessments contained within the previously submitted EAR (RPS HSO 2009) in conjunction with the issues and amendments addressed herewith are consistent with the conservation and development objectives outlined under the MoU.

APPENDIX 1

Personnel Qualifications

Curriculum Vitae

Name: Matthew Doherty

Office: RPS Harper Somers O'Sullivan

Position in Company: Environmental & GIS Manager

Qualifications / Memberships:

BLMC (Land & Water Conservation Major)
Bush Regeneration Cert II
Spikeless Tree Climbing Techniques
NSW Driver's Licence (Class C)
OH&S Induction Training (Green Card)
NPWS Scientific Investigation Licence
NSW Animal Ethics Research Authority
Senior First Aid
Fire Protection Association Australia (FPAA)

Areas of Expertise:
Project Design and Management, Environmental Impact Assessment and reporting. Liaison and Mediation with Clients, Stakeholders and Governing Bodies, Archaeological (European / Aboriginal Heritage) coordination and negotiation, Expert GIS/GPS for Project Design and Mapping, Ecological Flora, Fauna & Habitat Surveys, Interpretation and Application of Legislation and Policy, Property Vegetation Assessment and Plans, Bushfire Planning, Assessment and Negotiation, Tree Climbing to install, monitor and maintain supplementary habitat (nest boxes).

Recent Experience Includes:
Matt has seven years experience in the environmental industry with key skills in project management, survey design, GIS and client relations. In his position as Environment & GIS Manager, Matt manages environment department including the day to day running of projects, verification of reports and other outputs and ensures clients are well informed of project progress and key findings. Matthew's background in local government, state government and private consultancy gives him a high level of appreciation of the environmental and consultancy sector, thus allowing him to take a pragmatic approach to providing successful conservation and development outcomes whilst meeting the aims and objectives of clients and determining authorities.

Matt has excellent communication, management, marketing and negotiation skills as developed over the course of his varied work experience spanning numerous disciplines. Coupled with a high level of efficiency, solid work ethic and genuine commitment to self improvement and development, Matt's contributions continue to provide an asset to his company, staff and clients.

Matt has project managed and/or participated in numerous large-scale land development, mining, energy and infrastructure projects including Queensland Hunter Gas Pipeline (850km); Hunter Gas Pipeline; Rio Tinto Lower Hunter Lands Project; GIS biodiversity, large scale vegetation, habitat and predicative modelling mapping works; wind farms and coordination of environmental monitoring programs for mines.

Curriculum Vitae

Name: Craig Anderson

Office: RPS Harper Somers O'Sullivan

Position in Company: Director - Environment

Qualifications / Memberships:

Bachelor Applied Science (Environmental Assessment & Management) University of Newcastle, NSW (1994)
Currently undertaking Graduate Diploma in Archaeological Heritage through UNE
Ecological Consultants Association of NSW (ECA)
Planning Institute of Australia (PIA)
Frog and Tadpole Study Group (FATS)
Hunter Birds Observers Club (HBOC) Committee Member 2008
Bird Observers Club of Australia (BOCA)
Hunter Heritage Network (HHN)
RFS/PIA NSW Consulting Planners Bushfire Training

Areas of Expertise:

- Production of complex ecological impact assessment documents
- Detailed understanding of environmental legislation
- Conflict resolution and environmental impact mediation
- Land and Environment Court hearings
- Flora, habitat, and fauna surveys including threatened species
- Bushfire Threat Assessment & Management reporting
- Project Management (including areas outside environmental concern)

Recent Experience Includes:

Craig is the Director of the Environment Division at RPS HSO, and has over 14 years experience in a wide range of environmental consulting. He has undertaken and managed commissions for a diverse range of projects, including State Significant Developments such as the Hunter Economic Zone (HEZ).

Extensive background in ecological field surveys, encompassing all aspects of flora and fauna identification, targeted surveying and mapping. Involved in the initial formulation of an Association of Consulting Ecologists for NSW in 1998. Has acted as an expert witness in several Land and Environment Court matters relating to ecology and bushfire assessment. An experienced negotiator of ecological / development outcomes, and has a detailed understanding of legislation related to ecological matters. Craig has been actively involved in representations to the Department of Environment on behalf of the NSW Urban Taskforce in regards to proposed changes to the NSW Threatened Species Conservation Act.

Craig has also been involved in submissions on bushfire legislation and represented industry groups such as the NSW Urban Taskforce and Urban Development Institute of Australia (UDIA) on matters relating to issues such as the proposed listing of endangered ecological communities, and regional environmental biodiversity strategies. Craig has also recently provided advice and submission material to the UDIA in relation to the Native Vegetation Act 2003 and the operations of the Catchment Management Authority (CMA).

Curriculum Vitae

Name: Alexandra Picton

Office: RPS Harper Somers O'Sullivan

Position in Company: Ecologist

Qualifications / Memberships

B. Applied Science
Waterways Authority Boating Licence
NSW Driver's Licence (Class C)
OH&S Induction Training (Green Card)
Member ORRCA
Member Native Animal Trust Fund
Volunteer Landcare Merewether

Areas of Expertise:

- Geographical Information Systems project design and mapping
- Bushfire Threat Assessment & Management reporting
- Bushfire Risk Management Plans
- Conducting Field Surveys for Flora, Fauna and Habitat Identification.
- Report Preparation including Fauna & Flora Assessments
- Detailed understanding of environmental legislation
- Tree Clearance Supervision and Fauna Handling
- Nestbox Installation & Maintenance

Recent Experience Includes:

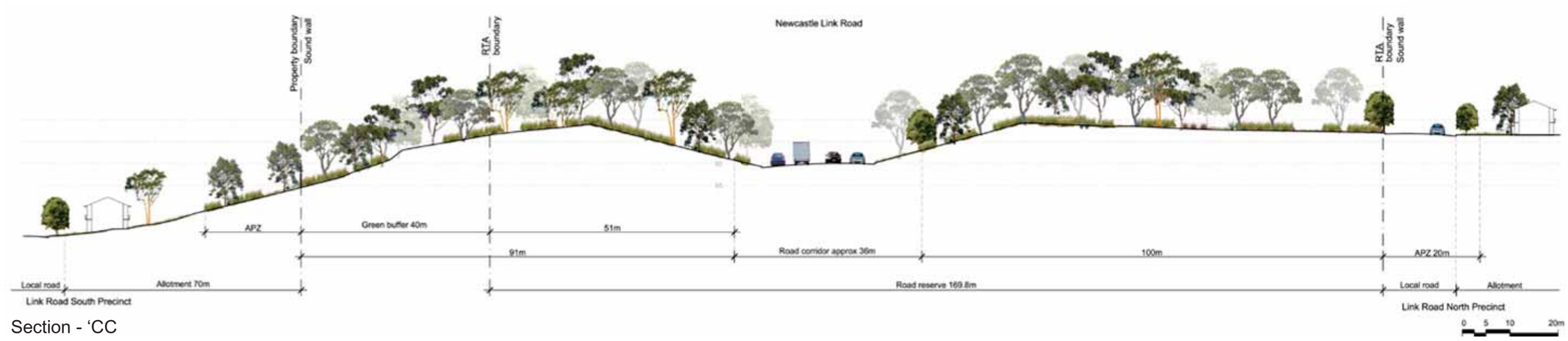
Alexandra Picton has a broad range of Ecological Assessment experience including both reporting and field experience. She has gained experience in Coastal and Eastern Australian Ecology ranging from NSW to Queensland.

Alexandra has a strong grounding in GIS and Bushfire Ecology. Prior to joining RPS HSO, Alexandra was employed as a GIS officer with the Department of Lands and is highly adept at the use of geographical information systems.

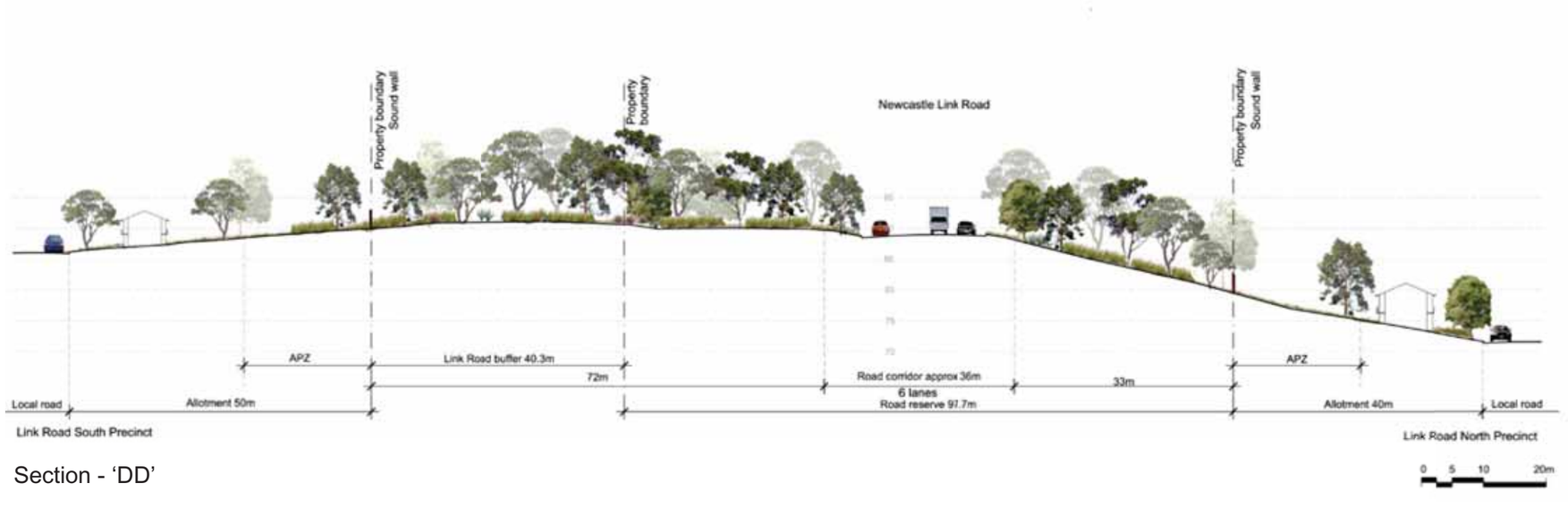
APPENDIX 2

Road Cross-Sections

Section - ‘BB’



Section - ‘CC



Section - ‘DD’

Project:
Coal & Allied Northern Estate
Minmi - Link Road

Section:
Newcastle Link road
Cross section 14-14 B, C & D

Date:
25.08.2009

Landscape Architect:

JMD design
131 Catherine Street
Leichhardt NSW 2040
T (02) 9564 1186 F (02) 9564 5303
info@jmddesign.com.au