Hunter Economic Zone

Species Impact Statement
For the

Pelaw Main By-pass
to
Hunter Economic Zone

Reference 20675 - April 2006

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Project: Species Impact Statement for the Pelaw Main By-pass to the Hunter Economic Zone	
Client:	*HEZ Pty Ltd*
Our Ref.	*20675*
Date:	*April 2006*
Approved by:	*Michael Roderick*
Signature:	
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EXECUTIVE SUMMARY

This Species Impact Statement (SIS) has been prepared for the proposed Pelaw Main By-pass to the Hunter Economic Zone (HEZ). The road is proposed to connect the main road entry to the HEZ (crossing Leggetts Drive) to John Renshaw Drive, just to the south of Stanford Merthyr, by-passing the village of Pelaw Main. The area subject to this SIS is a 491.3ha remnant patch of bushland that occurs to the south and east of the townships of Stanford Merthyr and Pelaw Main (hereafter referred to as the 'study area'). This SIS report has been devised to provide information and clarification of study area characteristics as requested by Department of Environment and Conservation (DEC) and other relevant government departments. Assessments made herewith have been made pertaining to the NSW *Threatened Species Conservation Act 1995 (TSC Act 1995).* Due regard has also been afforded to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act 1999*), given that referrals relating to the proposal have already been made in conjunction with the broader HEZ project (Harper Somers O'Sullivan 2006).

The proposal is for 2.1km of roadway, whilst a 25m buffer either side of the proposed edge of vegetation removal is the area that will be directly affected by the proposed road. As the area of direct vegetation removal (i.e. within the defined road corridor) will be on average 50m wide, this 25m buffer will effectively create a 100m wide 'ecological footprint corridor'. The area considered within this report as being likely to be affected by the proposal has also included works that may impact upon the ecology of the area such as the installation of sediment detention basins, powerline easements, stockpile areas and work compounds. Allowance has also been made for clearing to accommodate intersections on the two existing road interfaces. It has been calculated that the total area considered likely to require vegetation removal is 9.1ha. Given the 25m buffer and subsequent 100m ecological footprint corridor, the area likely to be directly affected by the road has been calculated to be 18.7ha.

Habitat surveys have revealed a relatively diverse array of features for native flora and fauna species, although past and ongoing land-uses including mining, firewood collection, selective logging, rubbish dumping, trails and a frequent fire history has degraded some parts of the study area. Four (4) vegetation communities have been delineated within the study area, being Kurri Sand Swamp Woodland (KSSW), Lower Hunter Spotted Gum / Ironbark Forest (LHSGIF), Grey Gum / Scribbly Gum Forest (GGSGF) and a small area of Freshwater Wetland Complex (FWC). Cleared / disturbed areas are also scattered throughout. KSSW dominates the study area, comprising approximately 399ha of the total 491.3ha and is the largest known mapped occurrence of this community (Biosis 2001). The vegetation communities traversed by the proposed road alignment are KSSW and LHSGIF (as well as a cleared area). Both of these communities are listed as Endangered Ecological Communities (EEC's) within the *TSC Act 1995*.

It is considered that the most significant ecological impact of the proposed road is likely to be that upon the KSSW community and the various threatened flora species recorded within this community along the alignment. In the context of the total known distribution of KSSW, the area to be removed is 0.28% of the total known area whilst the total area to be affected represents 0.56% of the total known area. In terms of the amount of KSSW that will be removed / affected with regards to both the study area patch size and total known area, such levels of removal / impact may not be regarded as being significant. However, as the stand of KSSW within the study area is the largest remaining patch of the community anywhere, it must be recognised as being of high conservation value. However, as much of the remainder of KSSW within the study area has been earmarked for conservation (as part of current negotiations between landholders, the RTA and the DEC), a favourable conservation outcome for this community would be achieved. At this stage, negotiations are underway for

lands situated to the east of an existing (paper) crown road reserve (i.e. to the east of the proposed alignment) to become a conservation reserve to be administered by the DEC in the future. The majority of the remainder of the road alignment supports a LHSGIF community, also listed as an EEC. The proposed Pelaw Main By-pass would result in the direct impact upon approximately 5.4ha or 0.017% of the total estimated community area.

Four (4) threatened flora species have been identified within the study area, namely *Acacia bynoeana, Eucalyptus parramattensis* ssp. *decadens, E. glaucina* and *Grevillea parviflora* ssp. *parviflora.* Of these, *A. bynoeana, E. p. decadens* and *G. p. parviflora* occur along the proposed road alignment. Up to fourteen (14) individuals of *A. bynoeana* may be affected by the proposal. The status of this species in the vicinity of the road alignment is unclear at this stage, although due to the difficulty in locating the species (particularly within the dense grassy understorey where it was located) it is probable that additional plants exist therein, and indeed, within KSSW throughout the study area. Notwithstanding, this figure is unlikely to be high and it is apparent that few plants will be removed / affected as a result of the proposal. Given that only a relatively small number of individuals are to be affected and that large areas of potential and occupied habitat are to be protected within the study area in the future, the net impacts are unlikely to be significant.

G. p. *parviflora* was found to occur in abundance as a groundcover shrub within large sections of the study area, including along the proposed alignment. Given the estimated study area population (over one million flowering stems) and the proportion likely to be affected, it would be difficult to conclude that the proposed road would result in any local extinction of this species. *E. p*. *decadens* was found to occur commonly throughout the study area, largely in association with KSSW. Detailed investigations undertaken along the proposed impact corridor found that approximately 311 individuals of *E. p. decadens* will be either removed or directly affected by the proposal. As for KSSW, such a large stand of *E. p. decadens* representing an unbroken gene pool resource must be regarded as significant in conservation terms and any level of impact therein should also be regarded as being potentially significant. As a favourable conservation outcome should been achieved for the KSSW community within much of the remainder of the study area, it follows that a similar conservation outcome has been realised for these threatened flora species.

Field surveys have revealed two threatened fauna species recorded within the study area. A number of other species are considered likely to utilise sections of the study area due to the type and extent of habitats present and also due to noted records from adjacent, similar habitat (in particular the HEZ study area). The two threatened fauna species recorded in the study area include *Chthonicola sagittata* (Speckled Warbler) and *Petaurus norfolcensis* (Squirrel Glider). Neither of these species are considered likely to be significantly affected by the proposal, given that suitable mitigation measures are undertaken, as outlined within the recommendations made herewith. No other threatened fauna species known from the vicinity of the study area (including those recorded previously during the numerous studies undertaken within the HEZ) are considered likely to be significantly affected, again given that the suite of recommendations are duly considered.

Given that potential ecological impacts are associated with the alignment of the Pelaw Main By-pass to the HEZ, a number of recommendations have been formulated. Such recommendations have been created to offset / minimise potential ecological impacts of the proposed road. These recommendations include, but are not limited to, the provision of such factors as the proposed conservation lands to the east of the alignment, the KSSW Recovery Planning process, pre-clearing ecological surveys, clearing minimisation strategies and hydrological management considerations.

Conclusion

Flora and fauna investigations undertaken along the proposed Pelaw Main By-pass to the HEZ have led to the production of this SIS. These investigations have revealed that the development as proposed has the potential to impact upon threatened flora, three Endangered Ecological Communities and to a lesser extent, threatened fauna species. However, such impacts should be offset by conservation outcomes (for each of ecological attributes that will be affected) that are currently being negotiated between landholders and government agencies for formal conservation of the land to the east of the alignment for environmental protection. In addition, the extensive conservation / land reservation outcome achieved by the HEZ LEP formulation should be considered in any assessment. This is particularly the case given that it has always been identified that the Pelaw Main By-pass is a fundamental component of the overall HEZ project.

SPECIES IMPACT STATEMENT

This statement has been prepared on behalf of HEZ Pty. Ltd. to accompany a Development Application for road construction works and associated vegetation clearing for the Pelaw Main By-pass to the Hunter Economic Zone (HEZ), Kurri Kurri, Cessnock LGA.

Certification

Michael Roderick & Craig John Anderson of Harper Somers O'Sullivan Pty. Ltd., Newcastle, hereby certify that this Statement has been prepared from data gathered by Harper Somers O'Sullivan and other relevant sources such as Harper Somers O'Sullivan (2002) and the various references cited therein.

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CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

1 FORM OF THE SPECIES IMPACT STATEMENT

This Species Impact Statement (SIS) has been formulated to meet all the matters specified in Sections 109 and 110 of the *Threatened Species Conservation Act 1995 (TSC Act 1995*) as well as the specific Director-General's requirements for the proposal.

This report reflects in structure and content, the Director-General's requirements for the proposal, as shown in Appendix A. Where relevant, the requirements of Sections 109 and 110 of the *TSC Act 1995* are repeated in *italics* at the beginning of each section heading.

1.1 Purpose

The purpose of an SIS is to:

- Allow the applicant or proponent to identify threatened species issues and provide appropriate amelioration for adverse impacts resulting from the proposal;
- Assist consent and determining authorities in the assessment of a development application under Part 4 or request for Part 5 approval under the *Environmental Planning and Assessment Act 1979* (*EP&A Act*);
- Assist the Director-General in deciding whether or not concurrence should be granted for the purposes of Parts 4 or 5 of the *EP&A Act*;
- Assist the Director-General or the Minister for the Environment when consulted for the purposes of Parts 4 or 5 of the *EP&A Act*; and
- Assist the Director-General in the assessment of Section 91 Licence applications lodged under the *TSC Act*.

1.2 Definitions

The definitions given below are relevant to the Director-General's requirements:

'development' has the same meaning as in the *Environmental Planning and Assessment Act 1979*.

'activity' has the same meaning as in the *Environmental Planning and Assessment Act 1979*.

'proposal' is the development, activity or action proposed.

'the subject site' refers to the area directly affected by the proposal – in this case the proposed road alignment, incorporating the actual area to be cleared and associated earthworks / noise buffers / drainage control works etc. To this end, 'the subject site' is hereafter referred to as **'the road alignment'**. For the purposes of this assessment, a 25m wide buffer has been applied to the proposed edge of the area from which vegetation will be removed, in this case identified as being the actual road surface, batters and sediment detention basins. With an average vegetation clearance width of 50m, this creates a 'footprint corridor' of 100m width. Additionally, areas that will require vegetation removal during the construction of the road (such as the stockpiling area and works compound) have been

included under the definition of 'road alignment'. The total area of the road alignment footprint is approximately 18.7ha.

'study area' includes the road alignment and any additional areas that may be indirectly affected by the proposal. This has been identified by the NPWS (DEC) as a remnant patch of bushland that occurs to the south / east of the townships of Stanford Merthyr and Pelaw Main. The study area is approximately 491.3ha in size.

The area previously subject to ecological investigations during an Ecological Constraints Study (ECS) (Harper Somers O'Sullivan 2002a) was confined to the 'north-west quadrant' of the study area. This area is hereafter referred to as 'the ECS study area'. The ECS study area was approximately 188.3ha in size.

'locality' is the area within a 10km radius of the road alignment.

'subject species' refers to those threatened species that are known or considered likely to occur in the study area.

All other definitions are the same as those contained in the *TSC Act 1995*.

2 CONTEXTUAL INFORMATION

2.1 Description of proposal, road alignment and study area

A species impact statement must include a full description of the action proposed, including its nature, extent, location, timing and layout (Section 110(1))

2.1.1 Proposal

In order to facilitate the required heavy vehicle movements from the Hunter Economic Zone (HEZ) to the Sydney / Newcastle Freeway (F3) to the east, it has been determined that a link road will ultimately be required to connect the HEZ from Leggetts Drive (MR195) to John Renshaw Drive. This 'Pelaw Main By-pass' is proposed to run from the main entry point to the HEZ development area (along Leggetts Drive), passing approximately 500m to the south and west of the village of Pelaw Main and linking with John Renshaw Drive (MR 588) approximately 400m to the east of the BP service station at Stanford Merthyr. This has been deemed necessary in order to avoid potential impacts on the amenity of Pelaw Main through which heavy vehicles would need to pass through with the road system in its current state. Furthermore the size and condition of the existing Pelaw Main bridge is not considered to be sufficient to support the tonnage and frequency of heavy vehicles accessing and leaving the HEZ study area en-route to John Renshaw Drive. The design and location of the proposed Pelaw Main By-pass also gives consideration to the potential future alignment of an extension of the F3 Freeway from Seahampton to Branxton.

Preliminary investigations over the area across which the Pelaw Main By-pass is proposed to traverse (Harper Somers O'Sullivan 2002a), revealed a number of ecological constraints throughout the site. These included threatened flora and fauna species, one Endangered Ecological Community (listed at that time) and several regionally significant vegetation / habitat features. Based on these potential constraints and other site characteristics a 'Broad Preferred Road Corridor' was generated. Subsequently, a 'Preferred Road Alignment' has been forwarded, taking into consideration recent amendments to the alignment due to noise constraints pertaining to the village of Pelaw Main. As a result, several further specific ecological surveys have been undertaken as components of this Species Impact Statement both along the alignment of the road itself and in adjacent areas. Allowance has also been made for clearing to accommodate intersections on the two existing road interfaces.

It is expected that road construction will occur as soon as possible after development approval.

<u>Pelaw Main By-pass Infrastructure</u>

- The proposed Pelaw Main By-pass intersects Leggetts Drive at the eastern entry to the HEZ development area, along Leggetts Drive. The Pelaw Main By-pass is approximately 2.1 kilometres of road, linking with John Renshaw Drive approximately 400m to the east of the BP service station at Stanford Merthyr.

- Sediment retention basins associated with the proposed road will be constructed to mitigate hydrological and water quality impacts of the proposed road.

- A works compound and temporary stockpile area will be required during the construction phase.

Installation and maintenance of utilities

- Any required utility installations will occur at the time of road construction and will occur within the identified road alignment corridor.

Changes in surface water flows

The proposal includes stormwater management facilities such as grassed swales, Gross Pollutant Traps and Water Quality Control Ponds to retain potential pollutants from road reserves prior to discharge of runoff into areas outside of the road alignment. Proposed retention storages located behind road embankments will mitigate the hydrological impact of the proposed infrastructure during major rainfall events, thus preventing exacerbation of any existing downstream flooding or erosion problems.

Any crossings of watercourses will include design features that minimise the impact of these crossings. These design features address the environmental sensitivity of downstream areas, geomorphologic considerations and the movement of fauna along the creeklines.

2.1.2 Subject Site

As alluded to earlier, the subject site refers to the area directly affected by the proposal – in this case the proposed road alignment, incorporating the actual area to be cleared and associated earthworks / drainage control works etc. For the purposes of this assessment, a 25m wide buffer has been applied to the proposed edge of the road alignment to form a 'site boundary' of the area likely to be directly affected. The area of the road alignment is approximately 18.7ha. In general, the subject site is hereafter referred to as 'the road alignment'.

The road alignment is predominantly within Crown Land, administered by the Department of Infrastructure Planning and Natural Resources (DIPNR), comprised generally of vacant native bushland. A small section of the road passes through land administered by the Mindaribba Local Aboriginal Land Council. The road alignment crosses established bush tracks that are used regularly by unauthorised motorbikes, 4WD's and to a lesser extent, horse riders. The area appears to be regularly used for illegal rubbish dumping.

2.1.3 Study Area

The 'study area' includes the road alignment and any additional areas that may be indirectly affected by the proposal. This has been identified as a remnant patch of bushland that occurs to the south / east of the townships of Stanford Merthyr and Pelaw Main. The study area is approximately 491.3ha in size.

2.2 Provision of relevant plans and maps

Where applicable, all pertinent information relating to the Pelaw Main By-pass and the Hunter Economic Zone, as well as specific details of surveys and assessments undertaken as part of this Species Impact Statement, are provided in a graphical or tabular form within this report. Depictions of the study area in a regional and local context are provided in Figure 2-1 and 2-2 respectively. A depiction of the proposed road alignment is provided in Figure 2-3. All other figures and tables required are contained within the relevant chapters / sections of this report.

2.3 Land tenure information

The study area comprises the following titles:

- Lot 88 DP 755259 (Crown Land);
- Lot 326 DP 822130 (Warrick and Robyn Griffiths);
- Lot 327 DP 822130 (Mindaribba Local Aboriginal Land Council); and
- Lot 7009 DP 1030081 (Mindaribba Local Aboriginal Land Council)
- Lot 7010 DP 1030081 (Crown Land);
- Crown Land Sewage Pumping Station 4611 3070;
- Land granted to Mindaribba Local Aboriginal Land Council under Aboriginal Land Claim 4242 (granted 4th October 2002; no title available); and
- Crown Land under Mining Lease (ML7; no title available).

Additionally, a part existing / part closed road also runs virtually north-south between John Renshaw and Leggetts Drives, being closed between John Renshaw Drive and the south-western corner of Lot 327.

Of these, the proposed infrastructure will occupy the following titles within the study area:

- Crown Land under Mining Lease (ML7).
- Lot 327 DP 822130 (Mindaribba Local Aboriginal Land Council); and
- Lot 88 DP 755259 (Crown Land);

A small section of the abovementioned existing / closed road will be traversed near the south-western corner of Lot 327.

The entire study area is currently zoned 1(a) Rural.