

**STRATFORD  
COAL**

**STRATFORD COAL MINE MODIFICATION**  
Statement of Environmental Effects

July 2003



ResourceStrategies

STRATFORD COAL MINE MODIFICATION  
STATEMENT OF ENVIRONMENTAL EFFECTS

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## 1 INTRODUCTION

Situated approximately 100 kilometres (km) north of Newcastle in New South Wales (NSW) (Figure 1) and approximately 20 km north of the Duralie Coal Mine (Figure 2), the Stratford Coal Mine (SCM) is defined by mining leases (ML) 1360, 1409 and 1447 (Figure 3). SCM is owned by Stratford Coal Pty Ltd (SCPL) on behalf of Stratford Joint Venture Partners, Gloucester Coal Limited (90%) and ICA Coal Pty Ltd (10%).

This Statement of Environmental Effects (SEE) assesses the proposed modification of the SCM. The modification comprises an extension of the existing Roseville Pit to enable the completion of mining of economic coal reserves within the Roseville Seam north of Bowens Road. The Roseville Pit extension concept is described in Section 3 and is summarised in Table 1.

**Table 1**  
**Roseville Pit Extension**

Category	Description
Proposed Modifications	Extension of the Roseville Pit boundary by approximately 600 metres (m) to the north of Bowens Road and extension of a haul road and associated bunding, requiring the disturbance of approximately 10 hectares (ha) of SCPL owned land.
Resource	0.25 million tonnes (Mt) (bringing total resource mined from the Roseville Pit to 0.55 Mt).
Duration	Approximately 12 months.
Operating Hours	7.00 am to 10.00 pm only (i.e. no night-time operations).
Plant	1 x 200 tonne (t) hydraulic excavator. (1 x 100 t hydraulic excavator or smaller to be used during coaling). 2-4 x haul trucks depending on size.
Blasting	Limited blasting would be required. Nominally 1-2 blasts per week.
Rehabilitation	Mine waste rock from the Roseville Pit extension would be used for the rehabilitation of the existing Roseville Pit. Remaining mine waste rock would be backfilled within the Roseville Pit extension.

Source: SCPL (2003)

A summary of the land tenure for the SCM area is presented on Figure 4.

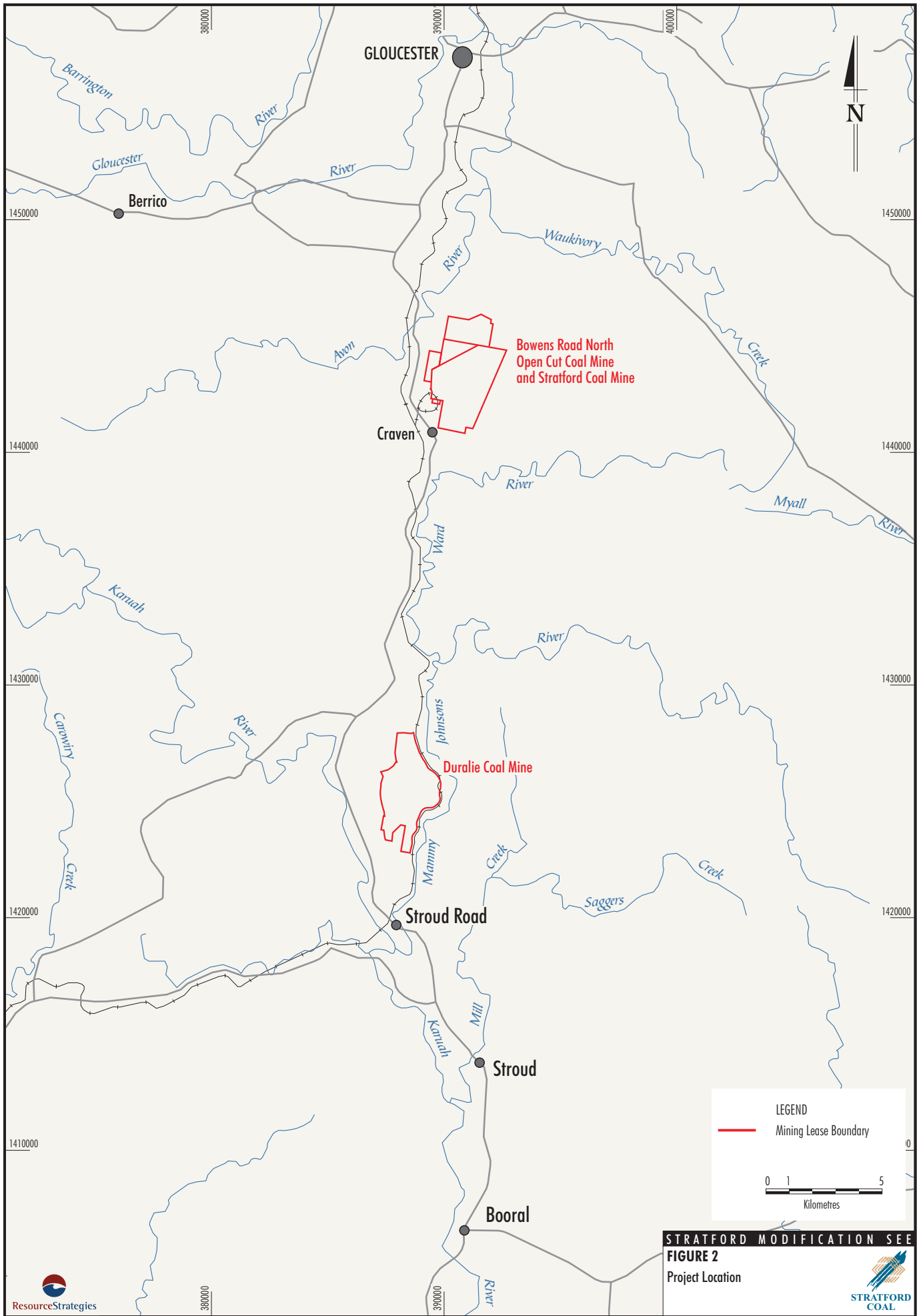
The SCM operates under Development Consent DA 23-98/99 (Appendix A), which was granted in February 1999 by the Minister for Urban Affairs and Planning. This application to modify DA 23-98/99 is made under section 96(2) of the *Environmental Planning and Assessment Act, 1979* (EP&A Act), which states:

*“A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:*

- (a) it is satisfied that the development to which the consent as modified relates is substantially the same development for which consent was originally granted and before that consent as originally granted was modified (if at all) under this section.”*

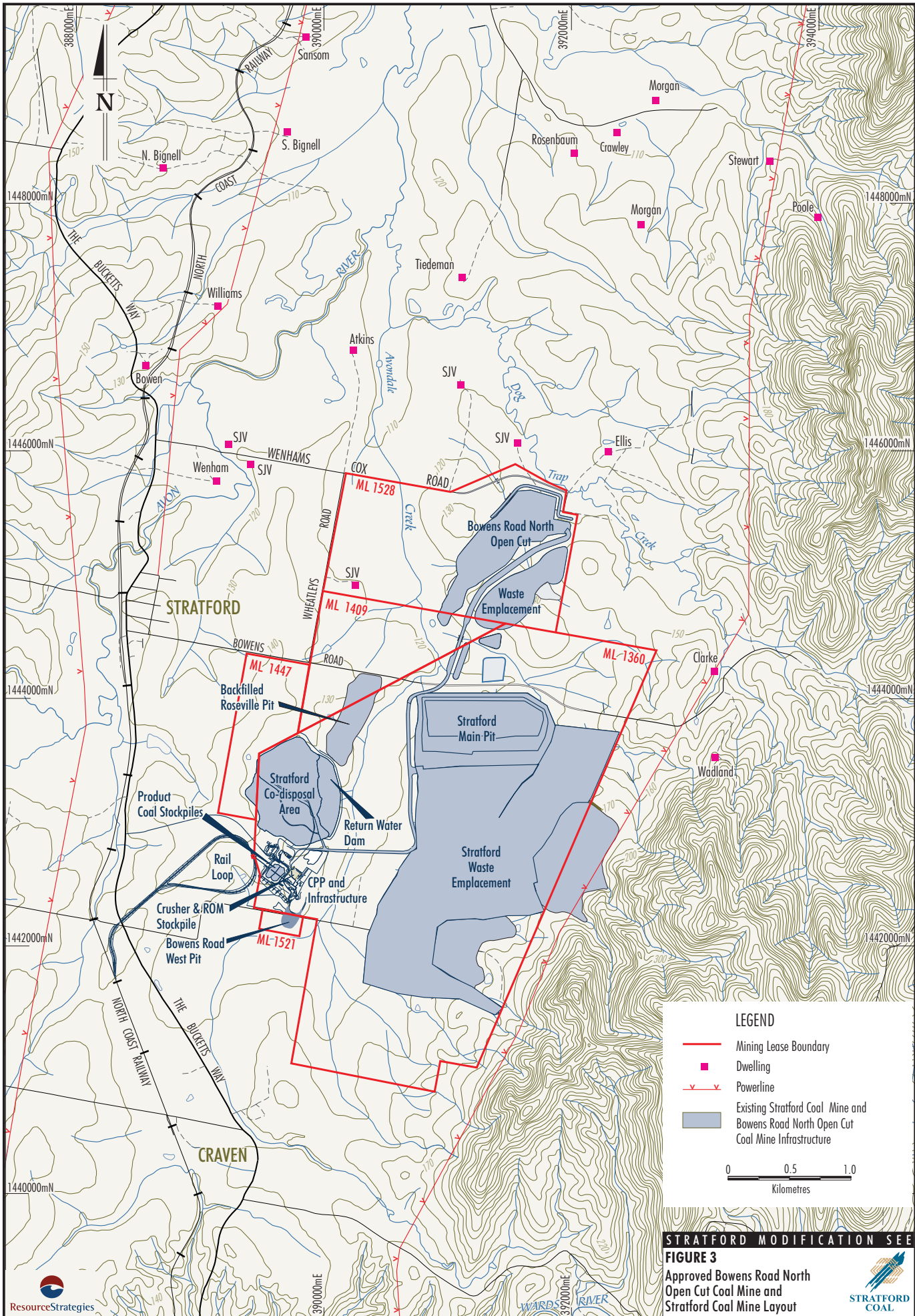
The extension of the Roseville Pit does not substantially change the SCM as originally consented by DA 23-98/99 and does not pose any material change to the environmental impacts of the SCM as assessed in the SCM Environmental Impact Statement (EIS) (SCPL, 1994) and subsequent assessment documents.

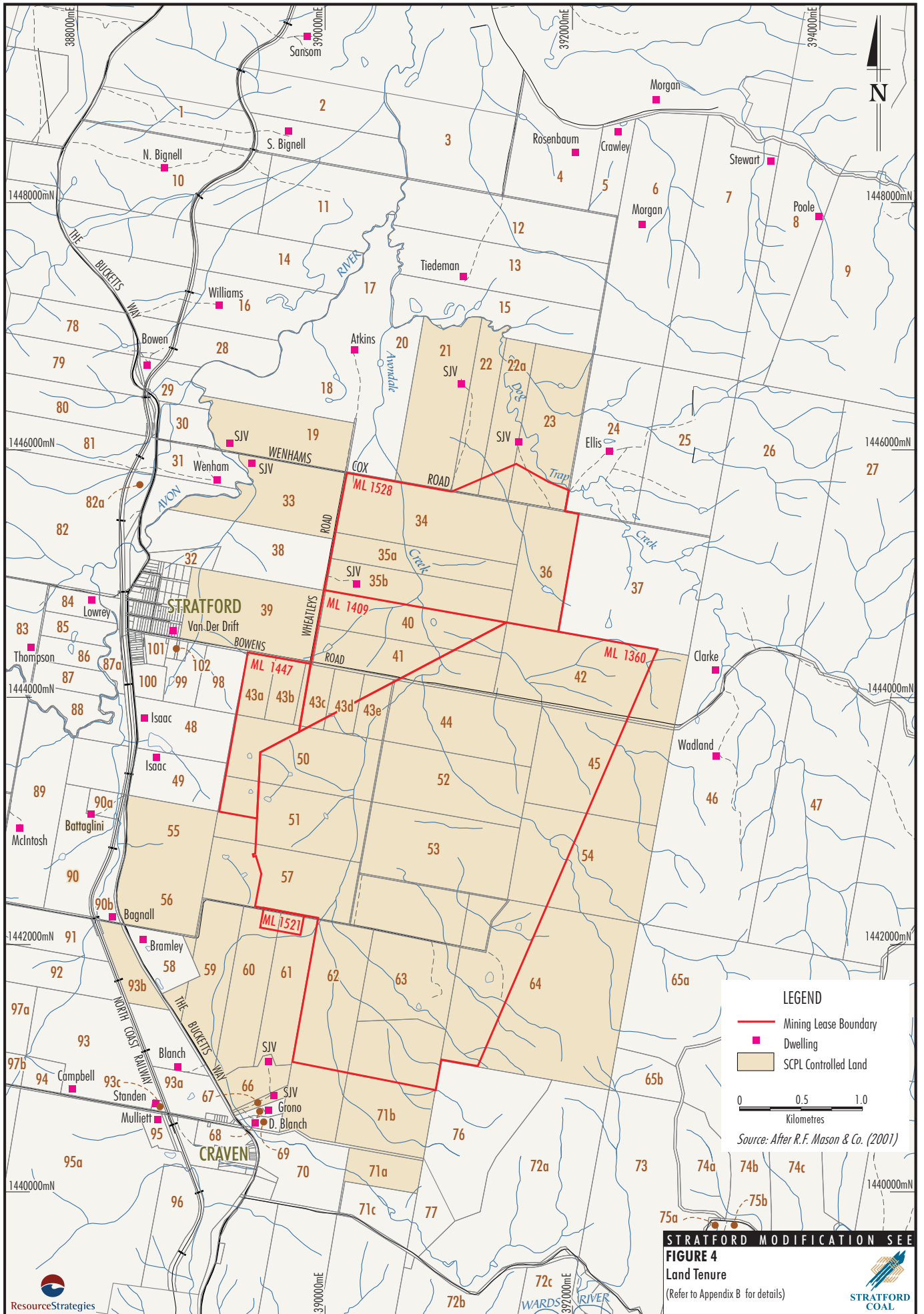




STRATFORD MODIFICATION SEE  
**FIGURE 2**  
 Project Location









In addition to the above, this SEE seeks to modify Development Consent DA 23-98/99 such that it references the Stratford Coal Mine – Domestic Production Modification Statement of Environmental Effects (Resource Strategies, 2000). The Stratford Coal Mine – Domestic Production Modification Statement of Environmental Effects (Resource Strategies, 2000) modified the original SCM Development Consent DA 73/94 to allow the production of up to a total of 2.3 million tonnes per annum (Mtpa) of product coal from the washing of both Duralie Coal Mine and SCM run-of-mine (ROM) coal.

This SEE has been prepared in accordance with section 96(2) of the EP&A Act and the SEE requirements provided by the Department of Infrastructure, Planning and Natural Resources (DIPNR), and is structured as follows:

- |           |   |
|-----------|---|
| Section 2 | Provides a summary of operations at the SCM, the Bowens Road West Deposit and Bowens Road North Open Cut Coal Mine.           |
| Section 3 | Provides a description of the Roseville Pit extension, including a comparison of the SCM and the SCM as modified by this SEE. |
| Section 4 | Assesses the potential environmental impacts of the Roseville Pit extension and presents mitigation measures.                 |
| Section 5 | Describes rehabilitation and environmental management and monitoring strategies for the SCM.                                  |
| Section 6 | Describes consultation undertaken by SCPL in relation to the SCM and the Roseville Pit extension.                             |
| Section 7 | References.   |

## **2 STRATFORD COAL MINE**

In accordance with DA 23-98/99 the SCM comprises:

- development of an open cut coal mine based on the Stratford Main Deposit;
- development of a coal preparation plant (CPP) and ROM and product coal stockpiles;
- construction and operation of a rail loop to facilitate transport of product coal to Newcastle;
- mining of 325,000 t of coal from the Bowens Road West Deposit;
- mining of ROM coal at a rate of up to 3.4 Mtpa, comprising 2.1 Mtpa from SCM and an additional 1.3 Mtpa from the Duralie Coal Mine;
- unloading, loading, processing and washing of coal from the Duralie Coal Mine;
- emplacement of CPP rejects, including those generated by the processing of Duralie Coal Mine ROM coal, within the SCM site; and
- mining of up to 500,000 t of ROM coal from the Roseville Seam between the hours of 7.00 am and 10.00 pm.

SCM Development Consent DA 73/94 was modified under section 96(2) of the EP&A Act in July 2000 to facilitate overall coal production at a rate of up to 2.3 Mtpa as described in the Stratford Coal Mine – Domestic Production Modification Statement of Environmental Effects (Resource Strategies, 2000).

A history of consents, licences and approvals is provided in the 2002 Annual Environmental Management Report (AEMR) (HWE, 2002).

### **2.1 BOWENS ROAD WEST DEPOSIT**

The SCM included the development of the Bowens Road West Pit to enable the mining of in the order of 325,000 t of coal from the Bowens Road West Deposit. In 2002 Development Consent DA 93-4-2002-i was granted by the Minister for Urban Affairs and Planning to enable the mining of a further 45,000 t of coal from the Bowens Road West Pit (Figure 3), bringing the total resource mined from the Bowens Road West Pit to 295,000 t.

### **2.2 BOWENS ROAD NORTH OPEN CUT COAL MINE**

Situated to the north of the SCM the Bowens Road North Open Cut Coal Mine (Figure 3) involves the open cut mining of coal over a period of approximately six and a half years. Coal from the Bowens Road North Open Cut Coal Mine is hauled to the SCM for crushing via a haul road that crosses Bowens Road to the east of the Roseville Pit (Figure 3). Product coal is then loaded onto trains using SCM train loading infrastructure for transport to market. The Bowens Road North Open Cut Coal Mine was granted Development Consent (DA 39-02-01) by the Minister for Urban Affairs and Planning in mid-2001 with operations commencing in early 2003.

### 3 ROSEVILLE PIT EXTENSION

The SCM Development Consent (DA 23-98/99) approved the extraction of approximately 500,000 t of ROM coal from the Roseville Seam between the hours of 7.00 am and 10.00 pm. The Roseville Pit (Figure 3) was developed to provide an additional source of low ash coal to the CHPP and provide a suitable area for the co-disposal of CPP reject material. During 1998 and 1999 some 300,000 t of ROM coal were extracted from the Roseville Pit.

SCPL propose to extend the existing Roseville Pit to recover remaining economic coal reserves within the Roseville Seam north of Bowens Road (Figure 5). The Roseville Pit extension would include:

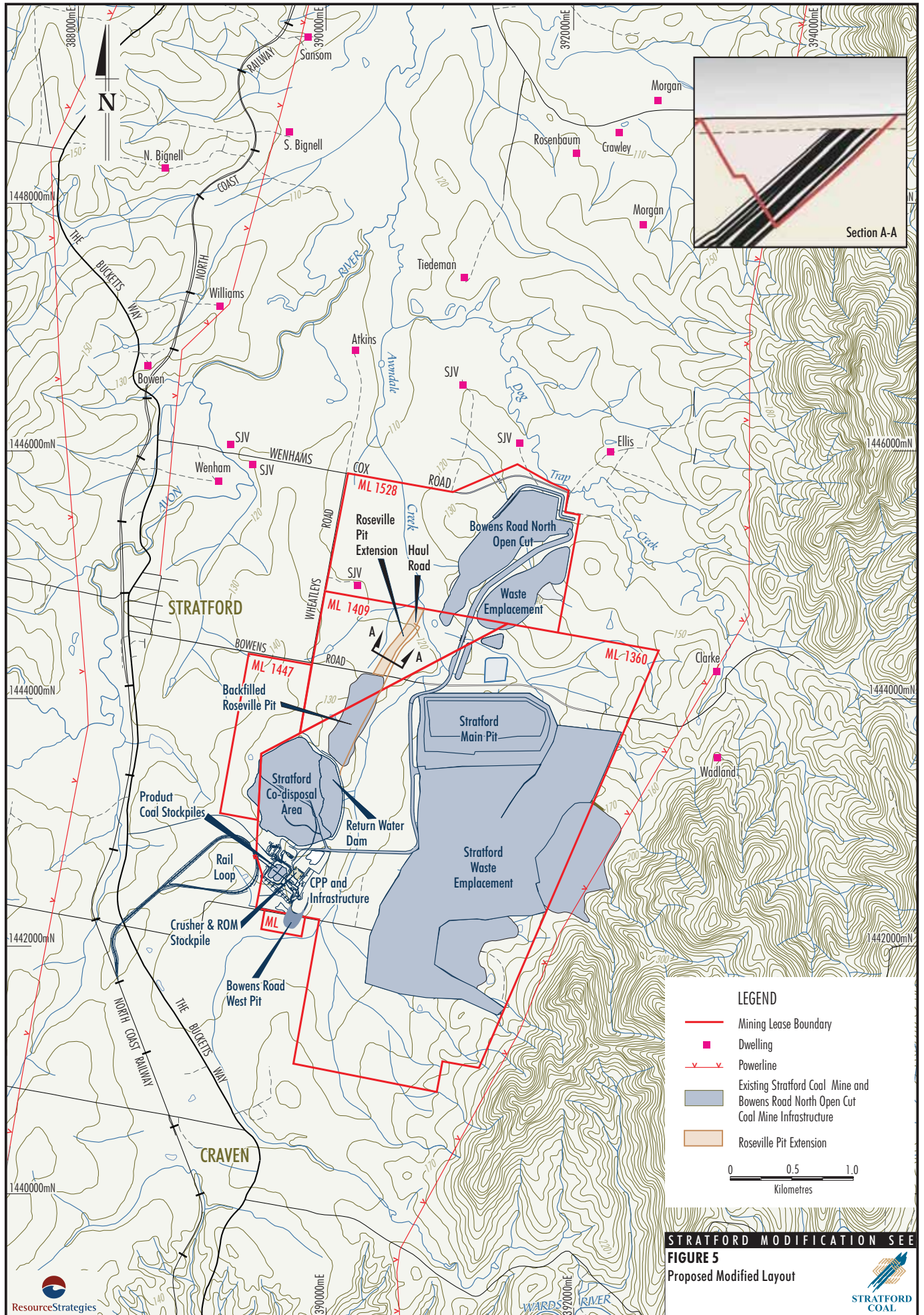
- development of the Roseville Pit to the north of Bowens Road, extending approximately 600 m;
- disturbance of approximately 10 ha of predominantly cleared grazing land owned by SCPL;
- mining of approximately 0.25 Mt of ROM coal at a rate of approximately 0.36 Mtpa;
- use of a nominal 1-2 blasts per week for the removal of overburden;
- use of mine waste rock from the Roseville Pit extension for the rehabilitation of the existing Roseville Pit;
- use of remaining mine waste rock for backfilling of the Roseville Pit extension;
- as per the existing Roseville Pit, extension of bunds, as necessary, around the limit of the open cut to control noise emissions from mobile plant and to prevent the entry of floodwaters (where practicable this bund would be contiguous with the haul road embankment and would have a crest level at the 1 in 100 year flood level); and
- construction of a haul road linking the SCM and the Roseville Pit extension, and including a haul road crossing of Bowens Road.

Development of the Roseville Pit extension would coincide with significant reductions of open cut mining within the Stratford Main Pit and would operate concurrent with the Bowens Road North Open Cut Coal Mine.

As production from the Stratford Main Pit will be completed by August 2003, the extension of the Roseville Pit would not require additional mining equipment or staff. The Roseville Pit extension is located wholly within ML 1409 and within lands owned by SCPL and listed in the schedule of DA 23-98/99 (Appendix A). Mining of the Roseville Pit extension would be completed within approximately 12 months, and prior to the expiration of DA 23-98/99.

Table 2 provides a comparison with the operations approved by DA 23-98/99 and those proposed by this SEE. The comparison presented in Table 2 demonstrates that the SCM, as modified by this SEE, is substantially the same as the originally consented SCM.

Section 4 assesses potential impacts arising from the development of the Roseville Pit extension and presents measures designed to mitigate any potential impacts.



**STRATFORD MODIFICATION SEE FIGURE 5**  
**Proposed Modified Layout**

**Table 2**  
**Comparison of Original and Modified Stratford Coal Mine**

<b>Project Feature</b>	<b>Original SCM</b>	<b>Modified SCM</b>
Resource	<ul style="list-style-type: none"> <li>Mining of approximately 23.5 Mt of ROM coal, including approximately 0.5 Mt of ROM coal from the Roseville Seam.</li> </ul>	Additional 0.05 Mt of ROM coal from the Roseville Seam.
Production	<ul style="list-style-type: none"> <li>Mining of up to 2.1 Mtpa of ROM coal from the SCM.</li> <li>Processing of up to 3.4 Mtpa of ROM coal from the SCM and Duralie Coal Mine to produce up to 2.3 Mtpa<sup>1</sup> of product coal.</li> </ul>	Unchanged.
Total Area of Disturbance	Disturbed areas within the SCM area are in the form of pit/dump areas (including the Roseville Pit), rejects disposal area, dams and water diversions, access roads, rail loop and CPP.	Additional disturbance of approximately 10 ha of predominantly grazing land resulting from the extension of the Roseville Pit, haul road and bunding.
Operating Hours	Mine and CPP operated 24 hours per day, 6 days per week. Note: Roseville Seam only mined between 7.00 am and 10.00 pm.	Unchanged.
Water Management	Extensive clean water diversion and dirty water collection system. Excess water managed by SCM water management system.	Unchanged.
Infrastructure	ROM coal processed through a dedicated CPP and stored in product coal stockpile prior to being railed off-site for export. The ROM coal area/CPP includes: <ul style="list-style-type: none"> <li>A dense media bath.</li> <li>Bath rejects crusher.</li> <li>Reclaim hopper and associated conveyor.</li> <li>Reject pipeline and associated bund from the CPP to the existing Roseville Pit.</li> <li>Train unloading hopper, ROM stockpile and conveyor for the processing of coal from the Duralie Coal Mine.</li> </ul>	Extension of the existing haul road to connect the Roseville Pit extension and the CPP, including an intersection crossing of Bowers Road.  Extension of bunding, as necessary, around the limit of the open cut to control noise emissions from mobile plant and to prevent the entry of floodwaters.
Coal Transportation	Product coal transported to the Port of Newcastle on 3,150 t capacity trains. ROM coal from the Duralie Coal Mine is transported to the SCM via 1,600 t capacity trains resulting in approximately 1,020 train movements per annum to/from the SCM.	Unchanged.
Mine Fleet	Approximately 20 items. Note: The mine fleet is being progressively reduced as the Stratford Main Pit is completed.	Unchanged.
Waste Management	<ul style="list-style-type: none"> <li>Total overburden quantity of 69 million bulk cubic metres (Mbcm).</li> <li>CPP rejects, including those generated from the processing of Duralie Coal Mine ROM coal, are disposed of in co-disposal cells, waste emplacements and/or within the Bowers Road West Pit and Roseville Pit.</li> <li>Occasional haulage of coarse bath rejects to the Roseville Pit for construction of decant structures.</li> </ul>	Additional movement of approximately 1.0 Mbcm of overburden (less than 2% increase).  Mine waste rock from the Roseville Pit extension would be used primarily for the rehabilitation of the existing Roseville Pit. Any remaining mine waste rock would be backfilled within the Roseville Pit extension.

Source: Gloucester Coal Limited

<sup>1</sup> Approved in July 2000 in accordance with a modification made to the SCM under section 96(2) of the EP&A Act as described in the Stratford Coal Mine – Domestic Production Modification Statement of Environmental Effects (Resource Strategies, 2000).



## **4 ASSESSMENT OF POTENTIAL IMPACTS**

The SCM EIS (SCPL, 1994) considered potential impacts on topography, landuse, hydrology, air quality, acoustics, transport, visual amenity, flora, fauna, archaeology and socio-economics arising from the construction and operation of the Stratford Main Pit, Bowens Road West Pit, CPP and associated infrastructure. Potential impacts were also assessed as part of the Proposed Modifications to Stratford Coal Mine Statement of Environmental Effects (Resource Strategies, 1998).

The Bowens Road North Project EIS (SCPL, 2001) assessed potential cumulative environmental impacts arising from the construction and operation of the Bowens Road North Open Cut Coal Mine and the continued operation of the SCM.

As outlined in Section 3 this modification involves the extension of the Roseville Pit by approximately 600 m and the disturbance of in the order of 10 ha of SCPL-owned land. Potential environmental impacts associated with the Roseville Pit extension would therefore be limited and would relate primarily to noise and blasting, air quality, transport, flora and fauna, landuse, hydrology, visual amenity and archaeology.

Mitigation measures detailed in the SCM EIS (SCPL, 1994) and implemented to date (as detailed in the 2002 AEMR [HWE, 2002]) would be adopted where appropriate to cover the Roseville Pit extension.

### **4.1 NOISE AND BLASTING**

An assessment of potential noise and blasting impacts arising from the development of the SCM was presented in the SCM EIS (SCPL, 1994). This assessment was conducted prior to the introduction of the Environment Protection Authority (EPA) Industrial Noise Policy (INP).

The Bowens Road North Project EIS (SCPL, 2001) included an assessment of potential operating and transportation noise and blasting impacts associated with the development of the Bowens Road North Open Cut Coal Mine. This assessment was conducted in accordance with the INP and included characterisation of background noise levels and an assessment of the cumulative noise impacts associated with the concurrent operation of the Bowens Road North Open Cut Coal Mine and the SCM.

The Roseville Pit extension does not require additional mine fleet when compared to the existing SCM operations, nor does it require an increase in the overall rate of coal washing or frequency of rail movements. The Roseville Pit extension would not increase potential noise impacts due to the following factors:

- extension of the Roseville Pit would coincide with significant reductions of open cut mining within the Stratford Main Pit;
- the Roseville Pit extension would be mined at a rate of approximately 0.36 Mtpa and would not alter the overall SCM ROM coal production rate of 2.1 Mtpa;
- mining of the Roseville Pit extension would be conducted between the hours of 7.00 am and 10.00 pm and would be completed within approximately 12 months; and
- the Roseville Pit extension would be mined with items from the existing SCM mining fleet.

In addition to the above, the Roseville Pit extension is located within the extent of the existing development of the SCM and does not significantly alter the relative distance between mining operations and a potential receptor.

The blast regime for the mining of the Roseville Pit extension would be as per the previous mining of the Roseville Seam with in the order of 1-2 blasts per week. Potential blasting-related impacts on Bowens Road are addressed in Section 4.3.

### **Mitigation Measures**

Noise mitigation measures that are currently in place at the SCM include (HWE, 2002):

- where possible restriction of dumping at night (10.00 pm to 7.00 am) to the lower, more protected levels of the in-pit dump;
- completion of a reversing alarm study that resulted in:
  - setting of reversing sirens on mobile plant at minimum levels consistent with mine safety regulations;
  - setting of start-up alarms on CPP conveyors at minimum levels consistent with mine safety regulations;
- modification of dumping operations such that trucks with tray body exhausts lower their trays before moving off when tipping on the waste dump at night;
- modification of operations such that the ROM loader reverses away from nearby residences to minimise directional noise emissions (e.g. reversing beeper, engine noise);
- construction of acoustic barriers (i.e. noise bunds) along the northern side of the main haul road, the western side of the western haul road and the western side of the Roseville haul road to control noise emissions from mobile plant. Noise bunds were also constructed on the western side of the southern external dump access ramp and the northern side of the eastern external dump access ramp;
- implementation of building modifications at the Standen residence (Figure 4); and
- reduction of the duration of noise emissions associated with the pushing of product coal through the acquisition of a larger dozer which requires comparatively less time on the product coal stockpiles.

The above mitigation measures would be employed where applicable during the development of the Roseville Pit extension.

A total of 27 noise related complaints were recorded in the SCM AEMR for the year ending 30 June 2002. Twenty-six of these complaints were received from one complainant and a majority were during the night. The AEMR (HWE, 2002) states that:

*“The majority of these complaints were in relation to noise emissions from the mine during night time hours (EPA definition of ‘night time’ being from Monday to Saturday 10.00 pm to 7.00 am and for Sunday 10.00 pm to 8.00 am).”*

Mining operations within the Roseville Pit would be conducted between the hours of 7.00 am and 10.00 pm (i.e. not during the night).

## 4.2 AIR QUALITY

Potential air quality impacts associated with the development of the SCM were assessed in the SCM EIS (SCPL, 1994). Air quality impacts, including dust deposition and suspended particulates, were also considered as part of the Bowens Road North Project EIS (SCPL, 2001), which assessed the likely impact of the Bowens Road North Open Cut Coal Mine on local air quality and included an assessment of the cumulative impacts arising from the continued operation of the SCM.

Emissions from the SCM and Bowens Road North Open Cut Coal Mine include particles that are derived primarily from the operation of mine fleet and mechanical disturbance of soils, overburden and coal. Mining emissions would also include particles from diesel exhausts in activities where diesel powered equipment is used.

The Roseville Pit extension would not increase potential air quality impacts due to the following factors:

- additional surface disturbance would be minor (i.e. approximately 10 ha);
- mining of the Roseville Pit extension would coincide with significant reductions in open cut mining operations within the Stratford Main Pit;
- the Roseville Pit extension would be mined at a rate of approximately 0.36 Mtpa and would not alter the overall SCM ROM coal production rate of 2.1 Mtpa; and
- the Roseville Pit extension would be mined with plant items from the existing SCM mining fleet (i.e. no new plant items required), which is being progressively reduced as the Stratford Main Pit is completed.

A total of two dust related complaints were received during the previous AEMR reporting period (HWE, 2002). The SCM AEMR (HWE, 2002) stated that:

*“monitoring results to date (high volume air sampling and dust deposition gauges) indicate that dust emissions from the mine site are not significant and are below permitted levels.”*

### **Mitigation Measures**

Measures that are currently in place at the SCM to control dust emissions include (HWE, 2002):

- regular watering of in-service haul roads during dry weather;
- management of mining operations, including topsoil stripping, to minimise the potential for dust generation;
- management of operations to minimise overloading of trucks and spillage onto haul roads;
- installation of dust suppression equipment on drills;
- regular maintenance of haul roads; and
- prompt rehabilitation of disturbance areas.

The above mitigation measures would be employed where applicable for the Roseville Pit extension.

## 4.3 TRANSPORT

Potential transport impacts associated with the development of the SCM were assessed in the SCM EIS (SCPL, 1994) including mine traffic generation and the local road network. The Bowens Road North Project EIS (SCPL, 2001) also considered potential impacts associated with traffic generation and the local road network and in particular the intersection between the Bowens Road North Open Cut Coal Mine haul road and Bowens Road.

The Bowens Road North Open Cut Coal Mine Development Consent (DA 39-02-01) reads:

**“Condition 7.2 Road Construction**

- (b) *Design plans and environmental management plans for the Bowens Road/haul road intersection are to be submitted to GSC for approval by the Director of Technical Services. Plans are to be prepared in accordance with GSC’s “Standard Conditions for Engineering Works”. The design is to incorporate the following matters:*
- (i) *Bowens Road is to be bitumen sealed for a distance of twenty (20) metres on the approach and departure sides of the intersection with the haul road;*
  - (ii) *Traffic calming on Bowens Road is to include:*
    - *speed restriction signs to forty (40) kilometres per hour from fifty (50) metres on the approach side to fifty (50) metres on the departure side of the haul road intersection,*
    - *road narrowing to single lane (with appropriate signage) across the haul road,*
    - *Give Way signs on each side of the haul road,*
    - *lighting in accordance with relevant Australian Standards is to be provided at the intersection during all times that the haul road is in use after official sunset and before official sunrise;*
  - (iii) *The haul road is to be bitumen sealed across Bowens Road and for a distance of twenty (20) metres on both the approach and departure sides of the intersection.*
  - (iv) *The Applicant shall install devices to control the movement of mine haul trucks at the intersection of Bowens Road and the haul road, to the satisfaction of GSC, prior to the commencement of haulage on the haul road.”*

The Roseville Pit extension would involve the construction and operation of a haul road crossing of Bowens Road to the west of the Bowens Road North Open Cut Coal Mine haul road crossing (Figure 5).

Temporary closure of Bowens Road may also be required when blasting is undertaken in the vicinity of Bowens Road.

As the Roseville Pit extension would not increase employment levels or the current rate of transportation of coal or consumables, transport related impacts would remain unchanged.

**Mitigation Measures**

The existing Bowens Road North Open Cut Coal Mine haul road crossing of Bowens Road is managed in accordance with the Bowens Road Traffic Management Plan (BRTMP) (SCPL, 2002). The BRTMP has been prepared in accordance with Condition 7.2 of the Bowens Road North Open Cut Coal Mine Development Consent (DA 39-02-01) to ensure the safety of members of the public at the haul road crossing and to minimise any inconvenience as a result of road closure (SCPL, 2002).

The BRTMP would be revised in consultation with the Gloucester Shire Council (GSC) to incorporate the Roseville Pit extension haul road crossing of Bowens Road. Management of the haul road crossing would include controls such as:

- construction of a gate/fence across the haul road that would be secured when haul road operations were not occurring; and
- placement of appropriate signage at the haul road gate and on Bowens Road on approach to the haul road crossing.

Consultation with GSC and members of the local community has identified trafficability of Bowens Road during wet weather as an important management issue. SCPL would manage waters in the vicinity of the haul road intersection with Bowens Road in order to maintain acceptable levels of service and trafficability.

In relation to blasting in the vicinity of public roads the Bowens Road North Open Cut Coal Mine Development Consent (DA 39-02-01) provides:

**“Condition 6.3 Blast Management and Monitoring**

- (i) *The Applicant shall, in consultation with GSC and RTA, prepare a Road Closure Management Plan to the satisfaction of the Director-General prior to the commencement of any blasting within 500 m of any public road (including but not limited to Wenhams Cox Road and Bowens Road). The Plan shall include, but not be limited to, the following matters:*
  - (i) *details of the proposed safety management measures during the period of the road closure and blast;*
  - (ii) *details of the procedure for closing the relevant road and the period which the road will be closed during blasting activities;*
  - (iii) *methods for ensuring the safety of road users and the general public during the blast period;*
  - (iv) *strategies for informing road users and the local community of the proposed road closure;*
  - (v) *details of the procedures for permitting the passage of emergency vehicles during the road closure. This shall also include details of the proposed methods for sufficiently notifying emergency service providers of the proposed times and period of the road closures;*
  - (vi) *methods for clearing the road of any debris resulting from a blast; and*
  - (vii) *details of the disruptions that are likely to occur during the closure period.*

In accordance with Condition 6.3 of the Bowens Road North Open Cut Coal Mine Development Consent (DA 39-02-01), a Road Closure Management Plan (RCMP) (SCPL, 2003) has been prepared with the objectives of ensuring the safety of members of the public during blasting, permitting the passage of emergency vehicles during road closure and minimising any inconvenience to the public as a result of road closure (SCPL, 2003). The RCMP would be revised in consultation with the GSC and RTA to incorporate potential blasting-related closures of Bowens Road arising from the development of the Roseville Pit extension.

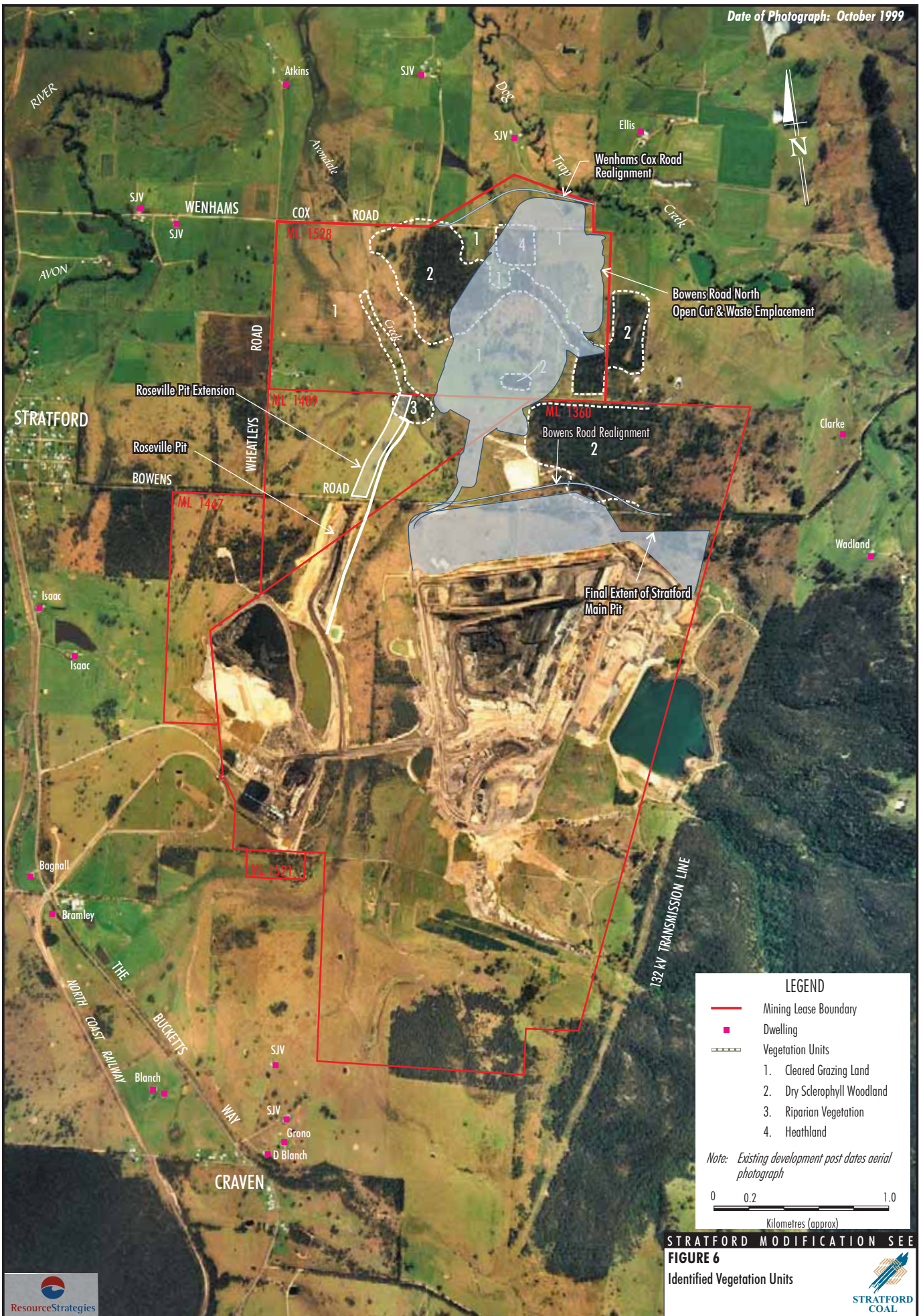
#### **4.4 FLORA AND FAUNA**

An assessment of the impact of the SCM on flora and fauna was conducted as part of the SCM EIS (SCPL, 1994). Flora and fauna assessments were also conducted as part of the Bowens Road North Project EIS (SCPL, 2001). The majority of the area comprising the SCM and Bowens Road North Open Cut Coal Mine, including remnant woodland vegetation, has been disturbed by past activities. Clearing of vegetation, pasture grazing and logging has created a landscape dominated by grassland with isolated trees and woodland remnants (Figure 6).

SCM lands are described in the SCM EIS as follows (SCPL, 1994):

*“The Project Area comprises cleared farmland with isolated low to medium density stands of trees across the site, primarily along drainage lines or dams, or planted as a visual buffer to the west”.*





**LEGEND**

- Mining Lease Boundary
- Dwelling
- Vegetation Units
  - 1. Cleared Grazing Land
  - 2. Dry Sclerophyll Woodland
  - 3. Riparian Vegetation
  - 4. Heathland

*Note: Existing development post dates aerial photograph*

0      0.2      1.0  
Kilometres (approx)

**STRATFORD MODIFICATION SEE**  
**FIGURE 6**  
 Identified Vegetation Units





Surveys were also conducted to assess the potential impact of the SCM on local fauna. Fauna surveys conducted for the SCM EIS (SCPL, 1994) generally identified species considered common within their broader distribution. Schedule 12 species located include the Common Bentwing Bat (*Miniopterus schreibersii*), Squirrel Glider (*Petaurus norfolcensis*), Green-thighed Frog (*Litoria brevipalmatra*) and Glossy Black-Cockatoo (*Calyptorhynchus lathami*).

Discussions with regional authorities, relating to the results of flora and fauna studies, concluded (SCPL, 1994):

*“The overall ‘low significance’ status of the Project Area is a result of modification by grazing animals and land clearing. A detailed management plan for the further assessment of presence and, if necessary, management of any Schedule 12 species of fauna (notably bats) to minimise impact on these populations by the Project has been devised in consultation with NPWS in August 1994.”*

The SCM EIS further concluded:

*“The poor density and lack of structural variation in the flora is reflected in the low conservation value of the Project Area. No endangered plant species were observed in the 1981-1982 Studies.*

*NPWS (1994) database records did not indicate any species of significance that may be likely to occur on the site.”*

The area to be disturbed by the Roseville Pit extension was assessed in both the SCM EIS (SCPL, 1994) and Bowens Road North Project EIS (SCPL, 2001). As a result of these assessments flora and fauna management plans have been developed that contain procedures for the management of vegetation clearance.

The Roseville Pit extension would result in the disturbance of approximately 10 ha of predominantly cleared grazing land and including a small patch of riparian vegetation (approximately 1 ha) on the northern boundary of ML 1409 (Figure 6). Measures currently in place at SCM, including creation of vegetation corridors, revegetation of disturbed areas and pre-clearance surveys of remnant vegetation, would be employed to mitigate potential impacts on flora and fauna arising from the extension of the Roseville Pit.

#### **4.5 LANDUSE**

The SCM EIS (SCPL, 1994) included an assessment of the potential impact of the SCM on land resources including an examination of topography, land capability and landuse.

The Roseville Pit extension would result in the following changes to landuse at the SCM:

- disturbance of approximately 10 ha of SCPL owned land predominantly suited to grazing; and
- creation of a final landform comprising a backfilled and reprofiled mine waste rock emplacement and a small final void.

#### ***Mitigation Measures***

The total area of disturbance would be minimised through the use of waste rock materials generated as a result of the Roseville Pit extension for the rehabilitation of the existing Roseville Pit. Remaining mine waste rock would be backfilled within the Roseville Pit extension.

The small final void that is likely to remain following the completion of operations in the Roseville Pit would be fenced and bunded to minimise the potential for accidental ingress of people and/or stock. Drainage and bunding would be arranged such that the void does not discharge water and revegetation of bunding and surrounding areas would assist in the blending of the void into the landscape.

Consistent with existing practice at the SCM, rehabilitation details for the Roseville Pit extension would be developed in consultation with the DMR and other relevant authorities.

## **4.6 HYDROLOGY**

### ***Surface Water***

Surface water runoff from mine landforms and disturbed areas has the potential to contain sediments, dissolved solids or oil, grease and fuels (from mine vehicle spills). The potential surface water quality impacts associated with mining at the SCM were assessed in the SCM EIS (SCPL, 1994). Potential surface water impacts resulting from the Roseville Pit extension would be limited to an increase in the mine catchment area (i.e. approximately 10 ha) and a subsequent increase in mine water volumes to be handled.

Additional water generated as a result of the proposed Roseville Pit extension would be managed in accordance with the SCM water management system. Excess waters generated from the Roseville Pit extension would be disposed of in the Stratford Main Pit consistent with the management of excess waters from the SCM and the Bowens Road North Open Cut Coal Mine.

SCPL would limit the extent of the Roseville Pit extension and associated works such that they would not encroach within 40 m of the bank of Avondale Creek.

SCM erosion and sediment controls would be extended to accommodate activities associated with the Roseville Pit extension. This may include the construction of a sediment dam within the natural drainage line to the immediate west of the Roseville Pit extension. Where practicable, extension of noise/flood bunding around the perimeter of the Roseville Pit extension would be undertaken such that the bund would serve as a sediment dam until the void is developed. Silt fences would also be placed on the outer batters of the bund to control sediment migration until such time as the bunds have been stabilised/revegetated.

### ***Groundwater***

Potential groundwater impacts would revolve around potential seepage into the Roseville Pit extension and the consequent potential for an increase in the current groundwater drawdown regime around the existing pit. Potential impacts arising from the processing of coal and subsequent disposal of rejects have been assessed as part of the SCM EIS (SCPL, 1994) and more recently in the Proposed Modifications to Stratford Coal Mine Statement of Environmental Effects (Resource Strategies, 1998).

Gilbert and Sutherland (1998) report that there is little groundwater movement in the vicinity of the mine and that the direction of this movement is from the Stratford Township area toward the mine. Gilbert and Sutherland (1998) also report negligible drawdown effects around the SCM area indicating that there is relatively little water movement in the local groundwater system.

In addition to the above, the Roseville Pit extension would be significantly shallower than the adjacent Stratford Main Pit. It would also be shallower than the previous open cut workings within the Roseville Pit to the immediate south.

#### **4.7 VISUAL**

The Roseville Pit extension would require limited clearing of remnant vegetation. The dominant feature of the landscape would remain the SCM, including the main void, associated infrastructure and waste emplacements.

Existing visual amenity would not change significantly as a result of the Roseville Pit extension.

#### **4.8 ARCHAEOLOGY**

##### ***Aboriginal Heritage***

Aboriginal heritage assessments were conducted across SCM over a period between 1981 and 1984 with updated surveys conducted in 1994. Two isolated artefacts and an open site were identified by these surveys (refer Figure 2-16 of the SCM EIS). The isolated artefact site identified during the 1984 surveys is listed on the National Parks and Wildlife Service (NPWS) Cultural Heritage Register in the Gloucester/Stratford area. No other sites in the Gloucester Shire are included on the NPWS Cultural Heritage Register (SCPL, 1994).

The SCM EIS (SCPL, 1994) concludes:

*“An ongoing management plan for Aboriginal heritage has been designed in consultation with NPWS following their site inspection on 26 August 1994. This will involve some inspection of pre-strip areas and avoidance of the two isolated artefact sites where possible.”*

Approximately 10 ha of land would be disturbed by the Roseville Pit extension. This area of disturbance would not impact on the identified artefacts and the open site. Should any Aboriginal objects be found during topsoil removal operations, works in the immediate area would cease and the NPWS would be advised as required by SCM Development Consent (DA 23-98/99) Condition 3.2(ii) and Bowens Road North Open Cut Coal Mine Development Consent (DA 39-02-01) Condition 3.3(g).

##### ***European Heritage***

Surveys conducted during the preparation of the SCM EIS concluded (SCPL, 1994):

*“There are no European heritage items located within the Project Area or adjacent. The closest items are located in Gloucester township, 15 km to the north of the Project Area.”*

The Roseville Pit extension would therefore have no impact on European heritage values of the area.

## 5 REHABILITATION & ENVIRONMENTAL MONITORING

### 5.1 REHABILITATION

Rehabilitation objectives for the Roseville Pit extension would remain consistent with the objectives of the SCM rehabilitation programme.

The primary objectives of the SCM rehabilitation programme are the minimisation of erosion and reinstatement of pre-mining land capability (HWE, 2002). The secondary objectives of rehabilitation at the SCM are (HWE, 2002):

- the generation of a final rehabilitated landform that is consistent with general landforms in the area and which would blend in with the hills to the east;
- to provide a landform which is suitable for the primary final land uses of grazing, forestry and faunal habitat enhancement;
- to plan mining and overburden handling operations to minimise rehandling, reshaping and contouring;
- to minimise the amount of disturbed land awaiting rehabilitation; and
- to provide for the safe and environmentally acceptable disposal of CPP rejects.

The SCM rehabilitation programme is described in detail in Section 4.10 of the SCM EIS (SCPL, 1994). Rehabilitation performance to date is documented in the 2002 AEMR (HWE, 2002).

Specific rehabilitation activities at the Roseville Pit extension would include the use of mine waste rock for the rehabilitation of the existing Roseville Pit. Remaining mine waste rock would be backfilled within the Roseville Pit extension followed by the application of topsoil to facilitate revegetation. Approximately half of the Roseville Pit extension volume is expected to remain as a void at the completion of rehabilitation activities.

### 5.2 ENVIRONMENTAL MONITORING

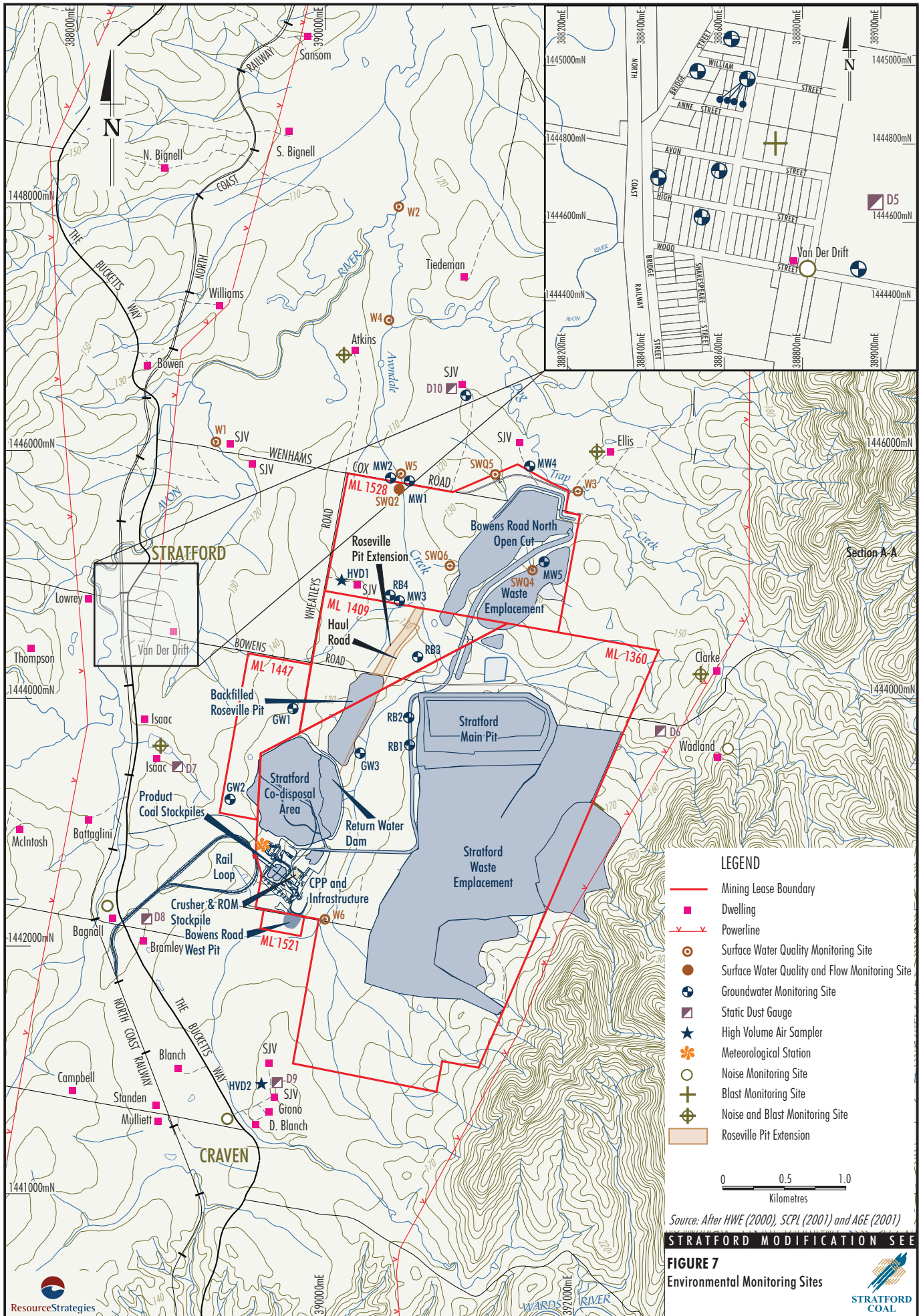
A comprehensive environmental management and monitoring programme is currently in operation at the SCM. This programme commenced in 1993/1994 and was developed in consultation with relevant authorities. The SCM monitoring and management programmes are detailed in the SCM EIS (SCPL, 1994) and the 2002 AEMR (HWE, 2002). Elements of the monitoring and management system are listed below.

#### ***Noise Monitoring***

SCPL is required to undertake quarterly noise monitoring surveys in accordance with Development Consent conditions at locations specified by the EPA. Locations specified by the EPA may change over time due to changes in land tenure or project modifications. The present monitoring locations and the results of the monitoring programme as compared to the permitted noise levels can be found in the 2002 AEMR (HWE, 2002). The locations of the SCM and Bowens Road North Open Cut Coal Mine noise monitoring sites are presented on Figure 7.

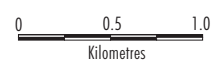
No changes to the noise monitoring programme are required as potential noise impacts arising from the extension of the Roseville Pit would be covered by the existing monitoring network.





**LEGEND**

- Mining Lease Boundary
- Dwelling
- x-x- Powerline
- Surface Water Quality Monitoring Site
- Surface Water Quality and Flow Monitoring Site
- ⊕ Groundwater Monitoring Site
- Static Dust Gauge
- ★ High Volume Air Sampler
- ✻ Meteorological Station
- Noise Monitoring Site
- + Blast Monitoring Site
- ⊕ Noise and Blast Monitoring Site
- ▭ Roseville Pit Extension



Source: After HWE (2000), SCPL (2001) and AGE (2001)

**STRATFORD MODIFICATION SEE**  
**FIGURE 7**  
 Environmental Monitoring Sites

### **Water Management**

Details of the surface water and groundwater monitoring programmes are set out in the SCM EIS (SCPL, 1994) and the 2002 AEMR (HWE, 2002). The SCM surface water monitoring programme includes water quality and/or flow monitoring from a network of sites on the Avon River, Dog Trap Creek and Avondale Creek. The SCM groundwater monitoring programme includes water levels and water quality from bores GW1-GW5, GW7 and GW8, RB1, RB2, RB3 and RB4 (HWE, 2002). These sites, and the sites added to monitor the impact of the Bowens Road North Open Cut Coal Mine, are presented on Figure 7.

Results from both the surface water and groundwater monitoring programmes are reported in the AEMR.

The existing SCM surface water and groundwater monitoring programme, combined with the additional Bowens Road North Open Cut Coal Mine monitoring sites, provides comprehensive coverage of the SCM area (including the Roseville Pit). Potential surface water and groundwater impacts arising from the extension of the Roseville Pit would be covered by the existing monitoring network. No changes to the site water management strategy and monitoring programme are proposed.

### **Other Environmental Management and Monitoring Provisions**

The locations of SCM and Bowens Road North Open Cut Coal Mine environmental monitoring sites are presented on Figure 7.

The existing environmental management and monitoring programme would cover potential impacts of the Roseville Pit extension. No changes are proposed to the environmental management and monitoring programme, which encompasses the following elements:

#### *Meteorological Monitoring*

- Rainfall
- Evaporation
- Wind speed and direction
- Temperature

#### *Vibration and Airblast*

- Control procedures
- Monitoring airblast overpressure
- Monitoring ground vibration

#### *Air*

- Dust monitoring, both static and high volume
- Dust control procedures

#### *Hazardous and Explosives Material Management*

- Material safety data sheets register
- Emergency response procedures

#### *Coal Washery Rejects/Reject Management*

- Handling and disposal procedures
- Characterisation of residues
- Disposal area rehabilitation monitoring
- Monitoring and maintenance of disposal facilities

#### *Other Waste Management and Recycling*

- Sewage treatment and disposal
- Fuel containment
- Oil and grease containment and disposal
- Rubbish disposal

## 6 CONSULTATION

SCPL is committed to an ongoing and open consultation policy. The key objectives of the consultation programme developed by SCPL are to:

- inform government and public stakeholders about the progress and nature of the Project;
- present information to stakeholders to permit an informed assessment of any proposed modifications;
- recognise local concerns or interests in the Project; and
- continue constructive dialogue between SCPL and stakeholders.

Ongoing consultation with the local community has been conducted by SCPL since 1994. This process has included consultation in regard to the SCM, Bowens Road North Open Cut Coal Mine and the modifications presented in this SEE.

A Community Consultative Committee (CCC) comprising representatives of SCPL and local landholders, the GSC, members of the public and representatives of local community groups was established in 1995 in cooperation with the GSC. CCC meetings are undertaken quarterly and provide a forum to keep the community informed of activities at the SCM.

Information on SCPL activities continues to be disseminated to the local community through the CCC. In addition to CCC functions, consultation between SCPL and local landholders is ongoing in the form of informal discussions and responses to queries.

The modifications described in Section 3 will be presented to the SCM CCC at a meeting that is currently scheduled for early August 2003.

Further consultation specific to the modifications presented in this SEE will occur as a result of public exhibition of this SEE, review of the SEE by the CCC and ongoing discussions with local landholders.

Consultation with relevant regulatory authorities, including the DIPNR and GSC, has been undertaken during the preparation of this SEE. Further consultation with regulatory authorities will be undertaken during the exhibition of the SEE.

## 7 REFERENCES

Gilbert and Sutherland (1998) *Stratford Coal Project Life of Mine Rejects Disposal Plan*. Unpublished report prepared for Stratford Coal Pty Limited.

Henry Walker Eltin (HWE) (2002) *Annual Environmental Management Report*. Unpublished report.

Resource Strategies Pty Ltd (1998) *Proposed Modifications to Stratford Coal Mine Statement of Environmental Effects*.

Resource Strategies Pty Ltd (2000) *Stratford Coal Mine – Domestic Production Modification Statement of Environmental Effects*

Stratford Coal Pty Limited (SCPL) (1994) *Stratford Coal Mine EIS*.

Stratford Coal Pty Limited (SCPL) (2001) *Bowens Road North Project EIS*.

Stratford Coal Pty Limited (SCPL) (2002) *Bowens Road Traffic Management Plan*.

Stratford Coal Pty Limited (SCPL) (2003) *Bowens Road North Project Road Closure Management Plan*.

APPENDIX A

STRATFORD COAL MINE DEVELOPMENT CONSENT (DA 23-98/99)



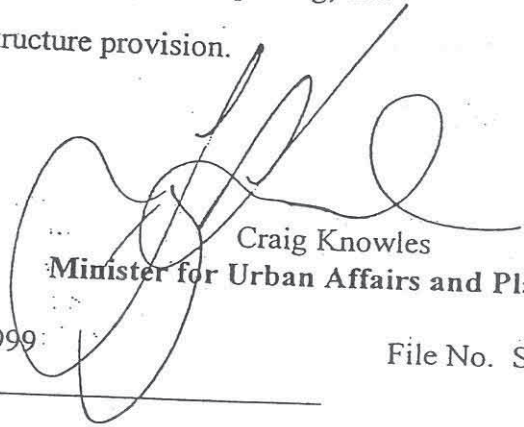
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

**INTEGRATED STATE SIGNIFICANT DEVELOPMENT  
DETERMINATION OF DEVELOPMENT APPLICATION  
PURSUANT TO SECTIONS 76(A)9 & 80**

I, the Minister for Urban Affairs and Planning, pursuant to Sections 76(A)9 & 80 of the Environmental Planning and Assessment Act, 1979 ("the Act") determine the development application ("the application") referred to in Schedule 1 by granting consent to the application subject to the conditions set out in Schedule 2.

The reasons for the imposition of the conditions are to:

- (i) minimise the adverse impact the development may cause through water and air pollution, noise and visual disturbance;
- (ii) provide for environmental monitoring and reporting; and
- (iii) set requirements for infrastructure provision.

  
Craig Knowles  
Minister for Urban Affairs and Planning

Sydney,

5.2. 1999

File No. S98/01495

Schedule 1

**Application made by:** Stratford Coal Pty Ltd (ACN 064 016 164)  
("the Applicant").

**To:** Gloucester Shire Council (DA 23-98/99)

**In respect of:** Land described in Schedule "A"

**For the following:** Construction of facilities for the unloading, loading, processing and washing of coal from the Duralie coal mine and emplacement of Duralie coal rejects within the Stratford mine site, and the continued operation of the Stratford coal mine ("the Development").

**BCA Classification:** Class 10A (hoppers and conveyors)

**NOTE:**

- 1) To ascertain the date upon which the consent becomes effective, refer to section 83 of the Act.
- 2) To ascertain the date upon which the consent is liable to lapse, refer to section 95 of the Act.
- 3) Section 97 of the Act confers on an Applicant who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of a

**SCHEDULE "A"**

**LAND TO BE DEVELOPED**

- Crown Grant Volume 13945 Folio 25 Lot 2 in DP 241780 Parish of Avon County of Gloucester
- Block 70 of Avon Subdivision Parish of Avon County of Gloucester - Registered No. 108 Book 3445
- Part Lot 69 Avon Subdivision Parish of Avon County of Gloucester - Registered No. 964 Book 3568
- Lots 57, 58 and 59 of Avon Subdivision Parish of Avon County of Gloucester - Registered No. 458 Book 3569
- Block 74 in Avon Subdivision Parish of Avon County of Gloucester - Registered No. 73 Book 3570
- Lot 76 of Avon Subdivision Parish of Avon County of Gloucester - Registered No. 419 Book 3568
- Lots 45, 56A, 56B and 56C of Avon Subdivision Parish of Avon County of Gloucester- Registered No. 420 Book 3568
- Lot 41 of Avon Subdivision Parish of Avon County of Gloucester - Registered No. 418 Book 3568
- Lot 1 in DP 241780 Volume 13784 Folio 164 Parish of Avon County of Gloucester
- Part Lot 53 of Avon Subdivision Parish of Avon County of Gloucester - Registered No. 966 Book 3568
- Lot 71 of Avon Subdivision Parish of Avon County of Gloucester - Registered No. 965 Book 3568
- Lot 1 in DP531023 Certificate of Title Volume 15207 Folio 225 Parish of Avon County of Gloucester
- Lots 54, 55, 56D, 56E, 72, 73 and 75 of Avon Subdivision Parish of Avon County of Gloucester - Registered No. 625 Book 3569
- Lots 60 and 61 Parish of Avon County of Gloucester - Registered No. 208 book 3559
- Part of Lots 52 and 53 of Avon Subdivision Parish of Avon County of Gloucester
- 1/194728 Lot 1 in DP 194827 Parish of Avon County of Gloucester
- 52/979859 Lot 52 in DP 979859 Parish of Avon County of Gloucester
- Lot 64 in DP979859 Certificate of Title 64/979859 Parish of Avon County of Gloucester



## SCHEDULE 2

S98/01495

### DEFINITIONS

**Director-General** – Director-General or nominee of the Department of Urban Affairs and Planning

**EPA** – Environment Protection Authority

**DLWC** – Department of Land and Water Conservation

**DMR** – Department of Mineral Resources

**NPWS** – National Parks and Wildlife Service

**Council** – Gloucester Shire Council

### 1. GENERAL

- (a) In accordance with section 80A(5) of the Environmental Planning and Assessment Act 1979, and clause 68 of the Environmental Planning and Assessment Regulation 1994, the Applicant shall, prior to commencement of construction of development proposed in the Statement of Environmental Effects dated 28 August 1998, surrender to the Minister for Urban Affairs and Planning, the development consent for the Stratford coal mine issued by the Minister for Planning to Stratford Coal Pty Ltd on 19 December 1994, as modified by the Minister for Urban Affairs and Planning on 17 July 1996.
- (b) The EPA's general terms of approval contained in Attachment A also form part of these conditions of consent as incorporated.

#### 1.1 Adherence to terms of EIS, DA, SIS, etc.

The development is to be carried out generally in accordance with the Environmental Impact Statement (EIS) dated 12 September 1994 and prepared by Peter Anthony Ryan and Christopher Julian Raymond Ellis certified in accordance with section 77(3) of the Act, as modified by the application to vary development consent dated 24 April 1996; information contained in the letter and supporting information from the applicant dated 20 April 1996, including the following reports:

- Proposal to Increase Saleable Coal Production to 1.7 Mtpa – Stratford Coal Pty Ltd, April 1996
- Roseville Mine Plan – MineConsult (Job No. 1200), February 1996
- Proposed Production Variation – Assessment of Noise Emissions, Stratford Coal Project, Stratford NSW – Richard Heggie Associates Pty Ltd (Report 5083-R6), 19 April 1996
- Amendment to Assessment of Noise Emissions – Roseville Pit, Stratford Coal Project, Stratford NSW – Richard Heggie and Associates Pty Ltd, 19 July 1996
- Stratford Coal Mine Proposed Production Variation – Assessment of Water Balance and Management Plan – Woodward-Clyde (Project No. A3200569/1) April 1996;

and the Statement of Environmental Effects (SEE) dated 28 August 1998, prepared by Resource Strategies Pty Ltd,

or as may be modified by the conditions set out herein.

#### 1.2 Period of Approval

- (a) This consent is limited to a period of 14 years from the date of the mine lease approval for the Stratford coal mine.
- (b) At least two weeks prior to the commencement of construction of development proposed in the SEE, or within such period as agreed by the Director-General, the Applicant shall submit for the approval of the Director-General a compliance report detailing compliance with all the relevant conditions that apply prior to the commencement of construction of that development.

- (c) At least one month prior to washing of Duralie coal, or within such period as agreed by the Director-General, the Applicant shall submit for the approval of the Director-General a compliance report detailing compliance with all the relevant conditions that apply prior to washing of Duralie coal.

**1.3 Dispute Resolution**

In the event that the applicant and the Council or a Government body other than the Department, cannot agree on the specification or requirements applicable under this consent the matter shall be referred by either party to the Director or if not resolved, to the Minister, whose determination of the disagreement shall be final and binding on the parties.

**1.4 Security Deposits and Bonds**

Prior to commencement of washing of Duralie coal, security deposits and bonds will be paid as required by DMR.

## 2. MINE MANAGEMENT

### 2.1 Mine Management Plan, Operations and Methods

- (a) All practical measures must be taken to prevent and minimise harm to the environment as a result of the construction, operation, and where relevant, the decommissioning of the development.
- (b) The Applicant shall prepare and submit for the approval of DMR a Mining Operations Plan in accordance with guidelines (Document 08060002.GUI) issued by the DMR, prior to the commencement of processing coal from the Duralie coal mine. The plan is to cover mining operations for a period of five years.

### 2.2 Ore, Waste and Concentrate Production

- (a) The Applicant shall:
  - I. Meet the requirements of the DMR in respect to the disposal of coal washery rejects.
  - II. Dispose of fine rejects with coarse rejects, or otherwise only with the consent of Council and the approval of DMR.
- (b) There shall be no temporary out of pit storage for containment of Duralie washery rejects.
- (c) All co-disposal washery rejects from Duralie coal shall be emplaced subaqueously below the water table in pit voids, and in no other manner. Details of emplacement design, storage capacities, operational management and rehabilitation of these emplacement facilities are to be provided by the Applicant to the DMR in an application for Section 126 Emplacement Approval (pursuant to the Coal Mines Regulations Act 1982).
- (d) Within six months of Duralie coal production and coal washing at Stratford, the Applicant is to provide, in an application for Section 126 Emplacement Approval (pursuant to the Coal Mines Regulation Act 1982), details of emplacement design, storage capacities and operational management of Stratford coal rejects to the Eastern Emplacement Area, and for rehabilitation closure of the Western Emplacement Area. No further emplacement of Stratford co-disposal reject shall proceed at the Western Emplacement Area beyond February 2000.

### 2.3 Mine and Public Safety

The Applicant shall comply with the recommendations of the Preliminary Risk Assessment of the Stratford Coal Project – Australian Nuclear Science and Technology Organisation (ANSTO/C569; SR/73A), September 1998.

### 2.4 Limits on Production or Hours of Operation

All activities associated with mining of the Roseville pit shall be confined to the hours between 7.00am and 10.00pm.



### 3. LAND AND SITE ENVIRONMENTAL MANAGEMENT

#### 3.1 Appointment of Environmental Officer

The Applicant shall employ an Environmental Officer whose qualifications are acceptable to the Department of Mineral Resources responsible for ensuring that all environmental safeguards proposed for the development and as required by this consent and other statutory approvals, are followed and monitored.

#### 3.2 Heritage Assessment and Management

The Applicant shall:

- I. Ensure protection of the Aboriginal artefact scatter No. 31.1.8 to the satisfaction of NPWS.
- II. Monitor topsoil removal and immediately advise NPWS if aboriginal artefacts are found or observed and meet NPWS requirements.

#### 3.3 Flora and Fauna Assessment and Management

The Applicant shall:

- I. implement the approved plan of management in relation to the establishment of the Wildlife Corridor as proposed in the EIS (as originally required by condition 21 of the previous Stratford mine consent dated 19/12/94). The plan of management will, amongst other things, continue to identify the stages and timing of stages of the corridor;
- II. ensure the remnant area of vegetation of the Squirrel Glider habitat shall be protected from development;
- III. protect all additional areas of remnant vegetation and include these areas in the wildlife corridor;
- IV. continue to undertake a program of indicative biological monitoring within the colliery holding and in its proximity, in addition to the proposed monitoring of waterways.

#### 3.4 Site Rehabilitation Management

The Applicant shall carry out rehabilitation of all mine areas in accordance with the requirements of the DMR and as documented in the Mining Operations Plan.

#### 3.5 Visual Amenity and Landscaping

The Applicant shall:

- a) implement the approved landscaping plan for the mine site (as originally required by condition 17 of the previous Stratford coal mine consent dated 19/12/94), and amend the plan to cover all areas identified by the SEE for the maintenance of satisfactory visual amenity. The plan shall be amended to the satisfaction of Council within 3 months of this consent;
- b) engage a suitably qualified person to assist in preparing the amended landscaping plan. The plan shall provide for:
  - (1) the establishment of trees and shrubs and the construction of mounding or bunding.
  - (2) Details of the visual appearance of all buildings, structures, facilities or works (including paint colours and specifications). Buildings and structures shall be designed and constructed/renovated so as to present a neat and orderly appearance and to blend as far as possible with the surrounding landscape.
  - (3) A comprehensive plan of landscape management which shall include detailed plans, specifications and staged work programs to be undertaken, maintenance of all landscape works and maintenance of building materials and cladding.
- c) apply to landscaping areas exposed for 30 days or more a surface sealant, such as bitumen emulsion, straw or seed as may be directed by DLWC
- d) comply with the requirements of Council in respect to any supplementary tree planting and visual amenity enhancement works within or immediately outside the mining lease area that may be identified by the Council as necessary for the maintenance of satisfactory visual amenity in the local area.



**3.6 Bushfire and other Fire Controls**

The Applicant shall:

- I. Provide adequate fire protection works on site to include one fully equipped fire fighting unit on stand-by or alternative facilities specified by the Council.
- II. Undertake annual hazard reduction works in accordance with Council's Bushfire Management Plan.

**3.7 Land Management**

The Applicant shall:

- I. prepare and regularly update at its own expense, to the satisfaction of DLWC, a Land Management Plan for all its landholdings to provide for proper land management, according to objects of land care;
- II. prepare a design report for the eastern diversion that is to be submitted to DLWC for approval prior to commencement of work; and
- III. provide details of the soil tests on topsoil and subsoil samples from the Roseville pit site and forward the results of such tests to the DLWC. The applicant shall liaise with DLWC on the need for any required treatment for sodicity, salinity or pH problems.

#### 4. WATER MANAGEMENT

##### 4.1 Surface and Ground Water Management

- (a) The Applicant shall implement the water management plan for the site submitted to DLWC for information and approval of EPA prior to mining operations commencing on the site (as originally required by condition 10 of the previous Stratford coal mine consent dated 19/12/94). Prior to the commencement of operation of development proposed in the SEE, the Applicant shall amend the water management plan to include consideration of the Duralie coal processing on the mine site as described in the SEE and as modified by this consent. The amended plan is to be approved by the Director-General in consultation with DLWC, EPA and DMR prior to the commencement of development proposed by the SEE. The amended plan shall address, but not be limited to, the following matters:
- I. The quality and quantity of any water that may flow from the mine site;
  - II. Stormwater management within the site;
  - III. The quality of water in Avondale Swamp, Avondale Creek, Dogtrap Creek or the Avon River or other drainage paths from the mine such that waters shall maintain water quality within EPA water quality objectives in relation to any water flowing from the mine site;
  - IV. Investigation of possible adverse effects on water supply sources of surrounding landholders as a result of the mining operations;
  - V. The long term treatment of groundwater accessions to any final voids;
  - VI. Ensure that the capacity of mine water storage dams are such as to obviate the need for water discharge. If it is found that a discharge of mine water may be necessary, the Applicant shall investigate and where feasible implement options other than discharge. Any discharge shall comply with the water quality criteria applied by the EPA under a Pollution Control licence.
  - VII. If any water discharge from the mine's dirty water containment system is a possibility, the amended plan shall provide details of how the Applicant will ensure that the water to be discharged is within the water quality criteria applied by the EPA before that water is discharged, otherwise no discharge from the mine's dirty water containment system off site shall occur;
  - VIII. A detailed surface and ground water monitoring program for the information of Council and to the satisfaction of EPA and DLWC and including Atkins, Ellis and Bramley properties;
  - IX. Site water drainage;
  - X. Disposal of Duralie coal rejects.
- (b) The Applicant shall implement the land and water management plan prepared in liaison with, and to the satisfaction of, the DLWC, prior to commencement of construction of the Roseville Pit (as originally required by condition 10A of the previous Stratford coal mine consent dated 19/12/94, as modified 17/9/96). The plan shall continue to include details of:
- I. The uncontaminated water diversion system;
  - II. Contingency arrangements in the event that a discharge of water from the site is required; and
  - III. Erosion and sediment controls.
- (c) The Applicant shall liaise with the DLWC on the installation of surface and ground water monitoring bores in and around the mine site. The number, location and depth of such bores shall be determined by the DLWC.
- (d) The Applicant must design, construct and operate all plant, equipment and other facilities on the premises to ensure that waters are not polluted except as expressly permitted by a licence issued by the EPA.
- (e) All drainage from the Duralie coal receipt and handling area shall be directed to the dirty water containment system.
- (f) All drainage from the construction of the new facilities is to be directed to the dirty water containment facilities on the Stratford Mine site.

- (g) Sedimentation controls are covered under the existing pollution control systems on the site and by the EPA licence. The construction of new facilities on the site will be required to comply with these conditions.
- (h) Prior to emplacement of Duralie reject material in the Stratford mine final void, the Applicant shall:
- (i) demonstrate to the satisfaction of DLWC, by adequate on site demonstration projects of acidic stabilisation, that no change in ionic balance of reject leachate loss to stream systems will occur and that preferential use of acidic/mobilised metals will occur on site to reduce the volume of saline, acidic, high metal content water; and
  - (ii) develop contingency plans to the satisfaction of DLWC, for the containment of contaminated waters in reject areas to mitigate the risk of adverse impact from leachate and runoff on the surface and groundwater resources in proximity to the reject areas. In the case of any adverse impact the Applicant shall implement remediation works consistent with the approved contingency plans.
- (i) The Applicant shall continue to:
- I. consult with EPA, DLWC, and the Avon Valley Land Care Group to define measures necessary to control salinity impacts to groundwater, strategies to minimise dryland salinity and re-establishment of water tables.
  - II. Monitor existing groundwater bores now rated by Council in the Village of Stratford and other bores licensed by DLWC in the vicinity; and
  - III. In the event of any adverse impact to the water quality or reduction in levels of these bores attributable to mining, notify DLWC, carry out remedial measures as specified by DLWC and at the Applicant's own cost.  
(as originally required by condition 11 of the previous Stratford coal mine development consent dated 19/12/94).



## 5. AIR QUALITY, BLAST, NOISE AND LIGHT MANAGEMENT

### 5.1 Air Quality Management

The Applicant shall:

- I. Cease mining operations at any time when the driver visibility or traffic safety on Bucketts Way is adversely affected by dust from the site.
- II. Submit within 14 days of any dust episodes affecting residences, management plans for approval by the EPA giving air quality safeguards and operational procedures for dealing with such dust episodes.
- III. Implement the management plan in (II) above if the EPA is satisfied that adequate measures have been incorporated in the plan to minimise the occurrence and intensity of episodes of wind blown dust in adverse meteorological conditions.

### 5.2 Dust Suppression and Control

(a) The Applicant shall:

- I. Maintain sufficient equipment with the capacity to apply water to all unsealed trafficked areas at the rate of at least one litre per square metre per hour or apply an equally effective dust suppressant;
- II. Ensure the prompt rehabilitation of all disturbed areas to minimise the generation of wind erosion dust, in accordance with the requirements of DMR;
- III. Install automatic water sprays on the coal stockpiles such that the stockpiles are sprayed when the wind speed from any direction exceeds 5.6m/s.

(b) Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises and will meet the EPA's requirements for dust control. These will include but not be limited to:-

- a) All unsealed trafficable areas must be kept sufficiently wet so as to prevent or minimise windblown or traffic generated dust.
- b) All coal conveyors must be enclosed on three sides except where permanent openings are required for safety.
- c) Coal conveyors and transfer points must be fitted with water sprays capable of maintaining the coal in sufficient state of dampness to minimise the emission of dust.
- d) Water sprays must be fitted or installed on coal stockpiles.

### 5.3 Blast Management

The Applicant shall:

- I. Ensure that blasting practice is generally carried out in accordance with the recommendations of Australian Standard AS-2187-1993 and in terms of ANZEC Guidelines.
- II. Consult with residents whose properties are adjoining or adjacent to the development, with a view to determining the most reasonable and appropriate blasting times for the development. The Applicant shall give reasonable notice of proposed blasting times.
- III. Not blast when wind speed and direction is likely to carry dust onto adjoining properties or when wind speed is greater than 10 metres per second.
- IV. In the event of damage occurring to any properties or structures as a result of blasting at the mine site, be responsible for rectifying the damage to the satisfaction of the effected property owner and at the cost of the applicant.
- V. Not blast outside daylight hours.

### 5.4 Noise Control

(a) The Applicant shall:

- I. Measure and record the LA10, 15 min noise level over a 72 hour period at the Perrin, Isaacs, Atkins, Fragley properties and other locations specified by EPA, during normal operation of the mine, on a quarterly basis such that the 40dB(A) day time and 35dB(A) night time noise levels are able to be presented in respect of the mine site and surrounding area, or as otherwise

- required by EPA.
- II. Implement the management plan submitted for information of Gloucester Council ("Council") and approval by EPA as required by condition 4(ii) of the previous Stratford coal mine consent dated 19/12/94, giving noise safeguards and procedures for dealing with noise episodes which exceed the above LA10 noise levels, as required by EPA.
  - III. Institute appropriate noise attenuation measures, to the satisfaction of the EPA, to ensure the residents of the Fragley residence are not subject to offensive noise emitted from the mine.
  - IV. Implement the noise reduction program detailing an on going program of investigation and implementation of noise reduction measures, prepared in conjunction with the EPA, and to the satisfaction of the EPA (as originally required by condition 4(iv) of the previous Stratford coal mine consent dated 19/12/94, as modified 17/9/96).
- (b) The acoustic/visual barrier proposed for the Duralie coal handling area as detailed in the SEE shall be constructed to a height not less than the height of the ROM stockpile plus the height of machinery that will work on the top of that stockpile, unless otherwise agreed by the EPA.

**5.5 Light Emissions**

The Applicant shall screen all on-site flood lighting and vehicular lights within the development, to the satisfaction of the Council.



**6. TRANSPORT AND UTILITIES**

**6.1 Rail Transport**

- (a) The Applicant shall transport bulk samples and product coal from the site to the Port of Newcastle and regional customers by rail.
- (b) Rail transportation and unloading of ROM coal from the Duralie coal mine to the Stratford coal mine shall be confined to the hours between 7:00am and 10:00pm.

**6.2 Road Transport**

The Applicant shall:

- I. Restrict all traffic to the mine (including construction traffic) to the internal service road required by condition 16 of the previous Stratford coal mine consent dated 19/12/94.
- II. Undertake the necessary steps to divert that section of Bowens Road that will be subject to mining and divert Bowens Road and dedicate the land upon which the road is diverted as a public road.
- III. Submit detailed engineering plans in respect to the construction work involved in the diversion of Bowens Road for the approval of Council prior to the commencement of construction.
- IV. Ensure Bowens Road diversion is completed prior to mining of the existing road.
- V. Meet the costs involved in the diversion of Bowens Road including legal and survey costs for the closure of part of Bowens Road and the dedication of a new section of road as a public road.
- VI. Prepare all engineering plans in accordance with the following:
  - a) Plans to be endorsed by suitably qualified engineer,
  - b) Construction to be supervised by suitably qualified engineer,
  - c) Works as executed to be endorsed by the supervising engineer and submitted to Council,
  - d) All construction to be in accordance with RTA or Council's design standards and approved by the RTA or Council prior to work commencing.

## 7. MONITORING/ AUDITING

### 7.1 Meteorological

The Applicant shall utilise the meteorological monitoring station installed as specified by the EPA (as originally required by condition 6(i) of the previous Stratford coal mine consent dated 19/12/94), to provide representative data for the mine site, rural and residential properties that adjoin or are adjacent, and the village of Stratford.

### 7.2 Surface and Groundwater

(a) The EPA will require the continued monitoring of surface and groundwaters on and offsite subject to negotiation with the Applicant and consultation with DLWC and in accordance with the issues raised in the SEE and public submissions. The Applicant shall prepare a detailed surface and groundwater monitoring program concerning the development proposed in the SEE for the approval of the Director-General in consultation with DLWC and EPA, prior to the washing of any coal from the Duralie coal mine. The program shall include, but not be limited to, details of:

(i) monitoring the acidity of waters overlying any Duralie rejects disposal areas. (This requirement will be added to the Pollution Control Licence currently held by the Applicant); and

(ii) monitoring of mine void water quality and changes in water quality in Avondale Creek downstream of the mine, both during the mine life and for a period of post mine life to be determined by DLWC. The monitoring program shall be carried out to the satisfaction of DLWC and shall include monitoring of electrical conductivity (EC), pH, SO<sub>4</sub>, Na, Ca, and Al along with depth to water table levels, to provide an indication of conditions in the groundwaters of both rehabilitated voids, and to assess the potential for stratification by monitoring different depths.

(b) All monitoring results shall be contained in the annual environmental monitoring report (condition 9.2).

### 7.3 Air Quality and Dust

(a) The Applicant shall, unless otherwise agreed by the EPA:

- I. Relate the meteorological data collected from the meteorological monitoring station (condition 7.1) and characterisation to proposed schedules of mining operations, to minimise the potential for dust emission.
- II. Install dust deposition gauges and in each calendar month to determine the dust deposition rate in gm/m<sup>2</sup>/month at Perrin, Blanch, Isaacs, Atkins, Van der Drift properties and other locations specified by the EPA.
- III. Continue meteorological monitoring as well as the monitoring of dust deposition rates and concentrations of total suspended particulates for the life of the mine subject to condition 8.1.
- IV. Have two (2) high volume air samplers equipped to sample particles of less than 10 microns located in positions approved by the EPA. Sampling is to be undertaken on a 24hr 6 days per week cycle with averaging periods (annual means) as well as monitoring equipment/procedures to follow AS2724.3.
- V. Provide to the EPA and Council results and analysis of air quality monitoring on an agreed basis, and in the annual environmental monitoring report (Condition 8.2).

(b) Monitoring of the concentration of Total Suspended Particles (total and PM<sub>10</sub>) and dust fallout in ambient air will be required at locations agreed by the EPA..

### 7.4 Noise and Blast

The Applicant shall:

- I. Design all blasts based on the results of monitored blasts designed to minimise air blast overpressure and ground vibration using the Nonel or



equivalent system such that any one blast has less than a five (5) per cent probability of exceeding an air blast overpressure of 115dBA and vibration with a peak particle velocity of 5mm/sec at the closest residence outside the mining lease.

- II. Determine appropriate weather data by taking measurements immediately prior to blasting and from the data shall predict whether noise levels outside the mine site are likely to be increased above the levels expected under neutral meteorological conditions. The data shall be recorded by the Applicant as part of its monitoring data.
- III. Not blast if the predictions in sub-clause (II) here indicate that noise goals are likely to be exceeded or as otherwise advised by EPA.
- IV. Monitor all blasts and record the overpressure and peak particle velocity at the Isaac and Fragley residences and other locations specified by EPA and the DMR.

#### 7.5 Monitoring Committee

The Applicant shall:

- I. Participate and co-operate in the establishment by the Council of a Community Consultative Committee to monitor compliance with conditions of this consent during the term of the development. The Chairman, provided from the Council, shall convene representatives of the Applicant (2), representatives of landowners (3), Council (2), community groups (2) and government agencies (DMR, EPA, DLWC) as required in the event of unresolved issues. The Committee shall report to both the Council and the Applicant to bring to their respective attention matters related to the environmental performance of the development.
- II. The Applicant shall at its own expense:
  - a) Nominate 2 representatives to attend all meetings of the Committee;
  - b) Provide to the Committee the monitoring data as part of a report which includes interpretation and discussion by a suitably qualified person;
  - c) Promptly provide to the Committee such other information as the Chairman of the Committee may reasonably request concerning the environmental performance of the development;
  - d) Provide the AEMR (Condition 8.2a) to all members of the Committee detailing the measures the Applicant has adopted and the resources the Applicant has utilised over the preceding 12 months to ensure compliance with monitoring conditions;
  - e) Routinely provide wind data, results of dust and noise/vibration monitoring programs and the surface/groundwater monitoring program to all members of the Committee; and
  - f) Reimburse the Council and citizen members of the Committee for all reasonable expenses incurred in attending and in the case of the Council arranging and conducting Committee meetings and Committee site inspections, as may be required.
- III. Investigate the availability of short-term rental accommodation prior to the arrival of the construction workforce, and liaise with the Gloucester Council to establish a register of available short-term accommodation for the use of construction workforce on arrival; and
- IV. Liaise with the Gloucester Council to monitor local housing demand during the construction stage of the project and in the event of a shortage of rental accommodation at any stage liaise with the Council, with a view to provide other temporary accommodation facilities for use by the workforce.

#### 7.6 Third Party Monitoring/Auditing

- (a) At 3 year intervals, after commencement of processing Duralie coal, and any additional periods as the Director-General may direct, the Applicant shall conduct an environmental audit of the mining and infrastructure areas of the development in accordance with ISO 14010 - Guidelines and General Principles for Environmental Auditing, and ISO 14011 - Procedures for Environmental Auditing (or the current versions), and in accordance with any specifications required by the Director-General or his/her nominee, to assess its compliance with the requirements of this

development consent. Four (4) copies of the report shall be submitted to the Director-General who shall provide a copy to the Council and Community Consultative Committee.

- (b) The audit shall be carried out at the Applicant's expense and be undertaken by a duly qualified independent person or team approved by the Director-General in consultation with Council;
- (c) The Director-General may, after considering any submission made by Council and Community Consultative Committee on the report, notify the Applicant of any requirements with regard to any recommendations in the report. The Applicant shall comply with those reasonable requirements within such time as the Director-General may require.



## 8. REPORTING

### 8.1 Reports on Operations

The results of all monitoring will be required to be recorded and reported in a format agreed to by the EPA. The reports will be available to any member of the public who wishes to view them at the Gloucester Library within 14 days after the information is available.

### 8.2 Environmental Reporting

#### (a) The Applicant shall:

- I. Prepare and submit to DMR for approval an annual Environmental Management Plan Report. The report shall include:
    - a) Results of environmental monitoring in respect of air, water and noise pollution, which includes discussion by a suitably qualified person;
    - b) Short, medium and long-term mining plans;
    - c) Rehabilitation report in respect of open cut operations;
    - d) A review of effectiveness of environmental management of the colliery holding in relation to EPA and DLWC requirements;
    - e) A review of performance in terms of the conditions of development consent;
    - f) A listing of any variations obtained to approvals applicable to the mine during the previous year;
    - g) The outcome of the water budget for the year, the quantity of clean water used from water storages, and detailed data of the disposal of any contaminated water into water courses;
    - h) Set out environmental management targets for the next year.
  - II. Consult with the Director during report preparation concerning any additional requirements.
  - III. Ensure that copies of the annual Environmental Management Plan Report are submitted to the Director, EPA, DLWC, DMR, NPWS, Council and the Community Consultative Committee and be available for public inspection at the Council.
- (b) The Applicant shall provide the DLWC with interpreted results of mine void water and Avondale Creek water quality monitoring on a minimum monthly basis for assessment and archiving, from the date of this consent, unless otherwise agreed by the Director-General
- (c) Groundwater monitoring data in a form acceptable to DLWC shall be included in the annual environmental management report, relating groundwater quality parameters to contaminate loads being directed toward the creek or river.
- (d) The Applicant shall provide the DLWC with a monthly report of all surface water quality monitoring results for assessment and archiving from the date of this consent, unless otherwise agreed by the Director-General

### 8.3 Incident Reporting

The Applicant will be required to prepare and submit a written report to the EPA on any event that has or is likely to cause harm to the environment, whether the harm occurs on or off the premises, when requested to do so by the EPA.



9. **COMMUNITY CONSULTATION**

9.1 **Complaints**

The Applicant shall:

- (i) employ a person responsible for acting immediately on noise and dust complaints as a result of mining operations on a 24-hours per day, 7 days per week basis;
- (ii) install a telephone line dedicated to receiving noise and dust complaints and advertise the number publicly
- (iii) maintain a record of all noise and dust complaints and of the actions taken to control and mitigate all such complaints. A copy of the record shall be forwarded to Council fourteen days before the end of the month for public information.

## 10. APPLICANTS OBLIGATIONS

### 10.1 Area of Affection – Land Acquisition

The Applicant shall:

- I. In the event that the impact of dust or noise from the mining operations at residences in the vicinity of Stratford is in excess of the amenity criteria of EPA, undertake such works or change mining practices so as to meet EPA's criteria. In the event that EPA subsequently ascertains that such works or changes to mining practices have not resulted in compliance with its criteria, purchase the affected land if requested to do so by the property owners on the basis of a mutually agreed acquisition price or by reference to clauses below.
  - II. In respect of a request to purchase land arising under subclause (I), the Applicant shall pay the owners a fair and reasonable acquisition price which shall take into account and provide payment for:
    - a) A sum not less than the current market value of the owner's interest in the land having regard to the existing use of the land whosoever is the occupier and all improvements thereon immediately prior to the granting of this consent as if the land was unaffected by the development proposal. The provisions of this subclause do not apply to the holder of an authority under the Mining Act, 1992.
    - b) The owners' reasonable compensation for disturbance allowance and relocation costs within the Local Government Area of Gloucester.
    - c) Current market value as defined in Section 70 of the Land Valuation Act.
    - d) The owners reasonable costs for obtaining legal advice and expert witnesses for the purposes of determining the acquisition price of the land and the terms upon which it is to be acquired.
  - III. In the event that the Applicant and any owner referred to in subclause (I) herein cannot agree within the time limit upon the acquisition price of the land and/or the terms upon which it is to be acquired, then:
    - a) Either party may refer the matter to the Director who shall request the President for the time being of the Australian Institute of Valuers and Land Economists to appoint an independent valuer a Fellow of the Institute, who shall determine after consideration of any submissions from the owners a fair and reasonable acquisition price as described and referred to in subclause (II) herein.
    - b) In the event of a dispute regarding outstanding matters that cannot be resolved, the independent valuer shall refer the matter to the Director, recommending the appointment of a qualified panel. The Director, if satisfied that there is need for a qualified panel, shall arrange for the constitution of the panel. The panel shall consist of:
      - 1) The appointed independent valuer,
      - 2) The Director, or her nominee, and/or
      - 3) The President of the Law Society of NSW or his nominee.
- The qualified panel shall determine:
- a) A fair and reasonable acquisition price as described and referred to in Clause (II)
  - a) The Applicant shall bear the costs of any valuation or survey assessment requested by the Director in accordance with subclauses (a) and (b) herein.
  - b) Upon receipt of a valuation arising pursuant to subclauses (a) and (b) herein, the Applicant shall offer to acquire the relevant land at a price not less than the said valuation. Should the Applicant's offer to acquire not be accepted by an owner within six months of the date of such offer, the Applicant's obligations to such owner pursuant to this Clause shall cease.
  - c) Upon settlement of the acquisition referred to in this Clause the Applicant shall also pay to the owner the costs and compensation assessed pursuant to subclause (III) herein including the owner's reasonable costs in the event of a

subdivision.

**10.2 Contributions to Council**

The Applicant shall pay a community infrastructure contribution of \$86,000 per annum (payable quarterly and indexed to CPI Sydney [all groups] index from 1998) to the Council, until completion of mining activities.

11. **FURTHER APPROVALS AND AGREEMENTS**

- (a) The Applicant shall ensure that all statutory requirements including but not restricted to those set down by the Local Government Act, 1993, Pollution Control Act, 1970, Clean Air Act, 1961, Clean Water Act, 1970, Noise Control Act, 1975, Protection of the Environment Administration Act, 1991, Water Act 1912, and all other relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices as well as the requirements of the Environment Protection Authority ("EPA"), Department of Mineral Resources ("DMR"), National Parks and Wildlife Service ("NPWS"), Department of Land and Water Conservation ("DLWC"), Roads and Traffic Authority ("RTA"), and State Rail Authority are fully met.
- (b) A pollution control approval must be obtained from the EPA prior to commencement of construction of the development described in the SEE.
- (c) The Applicant shall obtain licences from DLWC under Part V of the Water Act 1912 for any bores, excavations or other structures that intercept the groundwater table or for any extraction of groundwater from abandoned or disused mine pits or other structures and renew such licences as required.
- (d) The Applicant shall ensure that a construction certificate is issued for all buildings complying in all respects with the provisions of the Environmental Planning and Assessment Act 1979 and the Building Code of Australia, prior to construction works.



## ATTACHMENT A.

### ENVIRONMENT PROTECTION AUTHORITY

#### GENERAL TERMS OF APPROVAL FOR THE PROPOSED MODIFICATIONS TO STRATFORD MINE

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##### 1. General

Works to be undertaken in accordance with information supplied to the EPA.

1.1 The development must be undertaken in accordance with the proposal contained in:

(a) the development application DA 23-98/99 submitted to Gloucester Shire Council,

(b) the Statement of Environmental Effects dated 28 August 1998 relating to the development;

unless otherwise specified in these general terms of approval.

A pollution control approval must be obtained from the EPA prior to commencement of construction of the proposal.

##### Obligation to prevent and minimise harm to the environment

1.2 All practical measures must be taken to prevent and minimise harm to the environment as a result of the construction operation, and where relevant the decommissioning of the development.

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## 2. AIR POLLUTION

### Dust

2.1 Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises and will meet the EPA's requirements for dust control. These will include but not be limited to: -

a) All unsealed trafficable areas must be kept sufficiently wet so as to prevent or minimise windblown or traffic generated dust.

b) All coal conveyors must be enclosed on three sides except where



permanent openings are required for safety.

- c) Coal conveyors and transfer points must be fitted with water sprays capable of maintaining the coal in sufficient state of dampness to minimise the emission of dust.
- d) Water sprays must be fitted or installed on coal stockpiles

### Ambient Monitoring

- 2.2 Monitoring of the concentration of Total Suspended Particulates (total and PM10) and dust fallout in ambient air will be required at agreed locations.

### 3. WATER

- 3.1 The proponent must design, construct and operate all plant, equipment and any other facilities on the premises to ensure that waters are not polluted except as expressly permitted by a licence issued by the EPA.
- 3.2 All drainage from the Duralie coal receival and handling area shall be directed to the 'dirty' water containment system.
- 3.3 The interim surface Duralie coal reject containment system shall be designed and constructed such that water generated therein can overflow only to the co-disposal dam or any other approved containment structure on the Stratford Mine site
- 3.4 All drainage from the construction of the new facilities is to be directed to the dirty water containment facilities on the Stratford mine site.

### Stormwater/sediment control - Construction Phase

- 3.2 Sedimentation controls are covered under the existing pollution control systems on the site and by the EPA licence. The construction of new facilities on the site will be required to comply with these conditions.

### Monitoring Requirements

- 3.3 The EPA will require the continued monitoring of surface and groundwaters on and offsite subject to negotiation with the proponent and consultation with the Department of Land and Water Conservation and in accordance with the issues raised in the SEE and public submissions.
- 3.4 The EPA will require a program to monitor the acidity of the temporary holding pond for Duralie rejects and the waters overlying any rejects disposal areas. This requirement will be added to the Pollution Control Licence currently held by the proponent.

#### 4. Noise Pollution

- 4.1 The proposed acoustic/visual barrier proposed for the Duralie coal unloading area shall be constructed to a height not less than the height of the ROM stockpile plus the height of machinery that will work on the top of that stockpile.

#### 5. RECORDING AND REPORTING REQUIREMENTS

##### Recording and Reporting of Monitoring

- 5.1 The results of all monitoring will be required to be recorded and reported in an agreed format. The reports will be available to any member of the public who wishes to view them
- 5.2 The proponent will be required to prepare and submit a written report to the EPA on any event that has or is likely to cause harm to the environment, whether the harm occurs on or off the premises, when requested to do so by the EPA.
- 5.3 The EPA will require the reporting of any event that occurs on the premises that has, or could cause environmental harm on or off the premises.

APPENDIX B  
LANDHOLDER KEY

- |      |                                     |      |                          |      |                                       |
|------|-------------------------------------|------|--------------------------|------|---------------------------------------|
| 1.   | NE Bignell                          | 43a. | Stratford Joint Venture  | 74a. | MI Rounsley                           |
| 2.   | Yarrowonga Pastoral Company Pty Ltd | 43b. | Stratford Joint Venture  | 74b. | JA & DS Gartrell                      |
| 3.   | Farley (Gloucester) Pty Ltd         | 43c. | Stratford Joint Venture  | 74c. | NJ Porter                             |
| 4.   | DJ & DL Rosenbaum Pty Ltd           | 43d. | Stratford Joint Venture  | 75a. | AJ & LM Hancock                       |
| 5.   | CD & TA Crawley                     | 43e. | Stratford Joint Venture  | 75b. | PB Harrison                           |
| 6.   | PF & MJ Morgan                      | 44.  | Stratford Joint Venture  | 76.  | GJ & RM Wolfenden                     |
| 7.   | JE Woodford & MS Stewart (now Cobb) | 45.  | Stratford Joint Venture  | 77.  | GJ & RM Wolfenden                     |
| 8.   | SD Poole                            | 46.  | TW Wadland & YL Carter   | 78.  | WK Bowen                              |
| 9.   | AS Berecny                          | 47.  | RL Bagnall               | 79.  | WK Bowen                              |
| 10.  | NE Bignell                          | 48.  | AS Isaac                 | 80.  | FA Wenham                             |
| 11.  | NE Bignell                          | 49.  | AS Isaac                 | 81.  | FA Wenham                             |
| 12.  | J Tiedeman                          | 50.  | Stratford Joint Venture  | 82.  | GL Harris                             |
| 13.  | J Tiedeman                          | 51.  | Stratford Joint Venture  | 82a. | JH Pickett                            |
| 14.  | NJ Williams                         | 52.  | Stratford Joint Venture  | 83.  | M Thompson                            |
| 15.  | J Tiedeman                          | 53.  | Stratford Joint Venture  | 84.  | KJ & R Lowrey                         |
| 16.  | NJ Williams                         | 54.  | Stratford Joint Venture  | 85.  | KJ & R Lowrey                         |
| 17.  | SJ & LM Atkins                      | 55.  | Stratford Joint Venture  | 86.  | KJ & R Lowrey                         |
| 18.  | SJ & LM Atkins                      |      | Lease to BC & EA Bramley | 87.  | KJ & R Lowrey                         |
| 19.  | Stratford Joint Venture             | 56.  | Stratford Joint Venture  | 87a. | KJ & R Lowrey                         |
| 20.  | SJ & LM Atkins                      |      | Lease to BC & EA Bramley | 88.  | AS Isaac                              |
| 21.  | Stratford Joint Venture             | 57.  | Stratford Joint Venture  | 89.  | EAR & RK McIntosh                     |
| 22.  | Stratford Joint Venture             |      | Lease to BC & EA Bramley | 90.  | RK McIntosh                           |
| 22a. | Stratford Joint Venture             | 58.  | BC & EA Bramley          | 90a. | WJ & JM Battagliani                   |
| 23.  | Stratford Joint Venture             | 59.  | Stratford Joint Venture  | 90b. | KB Bagnall                            |
| 24.  | SG Ellis & Sons Pty Ltd             |      | Lease to BC & EA Bramley | 91.  | SH Morgan                             |
| 25.  | SG Ellis & Sons Pty Ltd             | 60.  | Stratford Joint Venture  | 92.  | SH Morgan                             |
| 26.  | RC & CA Clarke                      | 61.  | Stratford Joint Venture  | 93.  | AR & AM Campbell                      |
| 27.  | WK Bowen                            | 62.  | Stratford Joint Venture  | 93a. | LA Blanch                             |
| 28.  | WK Bowen                            | 63.  | Stratford Joint Venture  | 93b. | Stratford Joint Venture               |
| 29.  | WK Bowen                            | 64.  | Stratford Joint Venture  |      | Lease to BC & EA Bramley              |
| 30.  | FA Wenham                           | 65a. | TW Wadland & YL Carter   | 93c. | PA Standen                            |
| 31.  | FA Wenham                           | 65b. | TW Wadland & YL Carter   | 94.  | EA Yates                              |
| 32.  | KJ & ME Albert                      | 66.  | Stratford Joint Venture  | 95.  | ML Foxwell & MS Mulliett              |
| 33.  | Stratford Joint Venture             | 67.  | Stratford Joint Venture  | 95a. | R Smith & SC Davern                   |
| 34.  | Stratford Joint Venture             | 68.  | JJ Grono                 | 96.  | R Smith & SC Davern                   |
| 35a. | Stratford Joint Venture             | 69.  | DJ Blanch                | 97a. | LJ & IR Dillon                        |
| 35b. | Stratford Joint Venture             | 70.  | HM Bastian               | 97b. | GL & MF Wallace                       |
| 36.  | Stratford Joint Venture             | 71a. | Stratford Joint Venture  | 98.  | Crown Land - Forestry Reserve         |
| 37.  | SG Ellis & Sons Pty Ltd             | 71b. | Stratford Joint Venture  | 99.  | RV & LM Orlandi                       |
| 38.  | FA Wenham                           | 71c. | GJ & RM Wolfenden        | 100. | Crown Land - Travelling Stock Reserve |
| 39.  | Stratford Joint Venture             | 72a. | MJ Ellis                 | 101. | Gloucester Shire Council              |
| 40.  | Stratford Joint Venture             | 72b. | SS Ellis                 | 102. | Crown Land - Reserve for Cemetery     |
| 41.  | Stratford Joint Venture             | 72c. | C & C Bertolino          |      |                                       |
| 42.  | Stratford Joint Venture             | 73.  | W Mantle                 |      |                                       |

Source- After R.F. Mason & Co. (2001)

**STRATFORD MODIFICATION SEE**  
**Appendix B**  
**Landholder Key**

