

Geraldton Southern Transport Corridor

Main Roads Western Australia

**Report and Recommendations
of the Environmental Protection Authority**

**Environmental Protection Authority
Perth, Western Australia
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1. Introduction

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on the environmental factors relevant to a proposal by Main Roads Western Australia (MRWA) to construct and operate a road/rail corridor to provide direct access to the Port of Geraldton from the Geraldton-Mt Magnet Road, Walkaway Road and North West Coastal Highway.

The proposal was formally submitted to the EPA in November 2000 by MRWA. Based on the information provided in the proponent's "Geraldton Southern Transport Corridor Environmental Protection Statement" document (EPS document), associated appendices, and the community and stakeholder consultation undertaken by the proponent, the EPA determined that it is capable of being implemented in an environmentally acceptable manner. Consequently, the EPA has set the level of assessment at EPA-Initiated Environmental Protection Statement (EPS) in accordance with the *Environmental Impact Assessment Administration Procedures Amendment 1999*.

Any person who disagrees with the EPA's decision on the level of assessment may lodge an appeal with the Minister for the Environment within 14 days of the date of the decision being placed in the public record.

A separate right of appeal exists for any person who disagrees with the content of, or any recommendations in this report, also within 14 days of release of the report.

The proponent has prepared an EPS document that accompanies this report and describes the project, its environmental impacts and the proposed approach to their management in greater detail (MRWA 2001). This document is available through the DEP library in Perth and the DEP office in Geraldton.

2. The proposal

The proposal involves the construction and operation of a road/rail corridor, and associated infrastructure, to provide direct access to the Port of Geraldton from the Geraldton-Mt Magnet Road, Walkaway Road and North West Coastal Highway (Figure 1). The implementation of this proposal would allow removal of the current rail line along the city foreshore (Figure 2), allowing redevelopment of this area, and remove existing social and environmental effects associated with this rail line alignment through Geraldton and the use of local roads by heavy transport traffic.

The key components of the proposal are:

- A new single rail alignment from the Narngulu Industrial Area to the Geraldton Port;
- A new east-west road link from the Geraldton Airport to the Geraldton Port; and
- Associated interchanges and connections to the local road system.

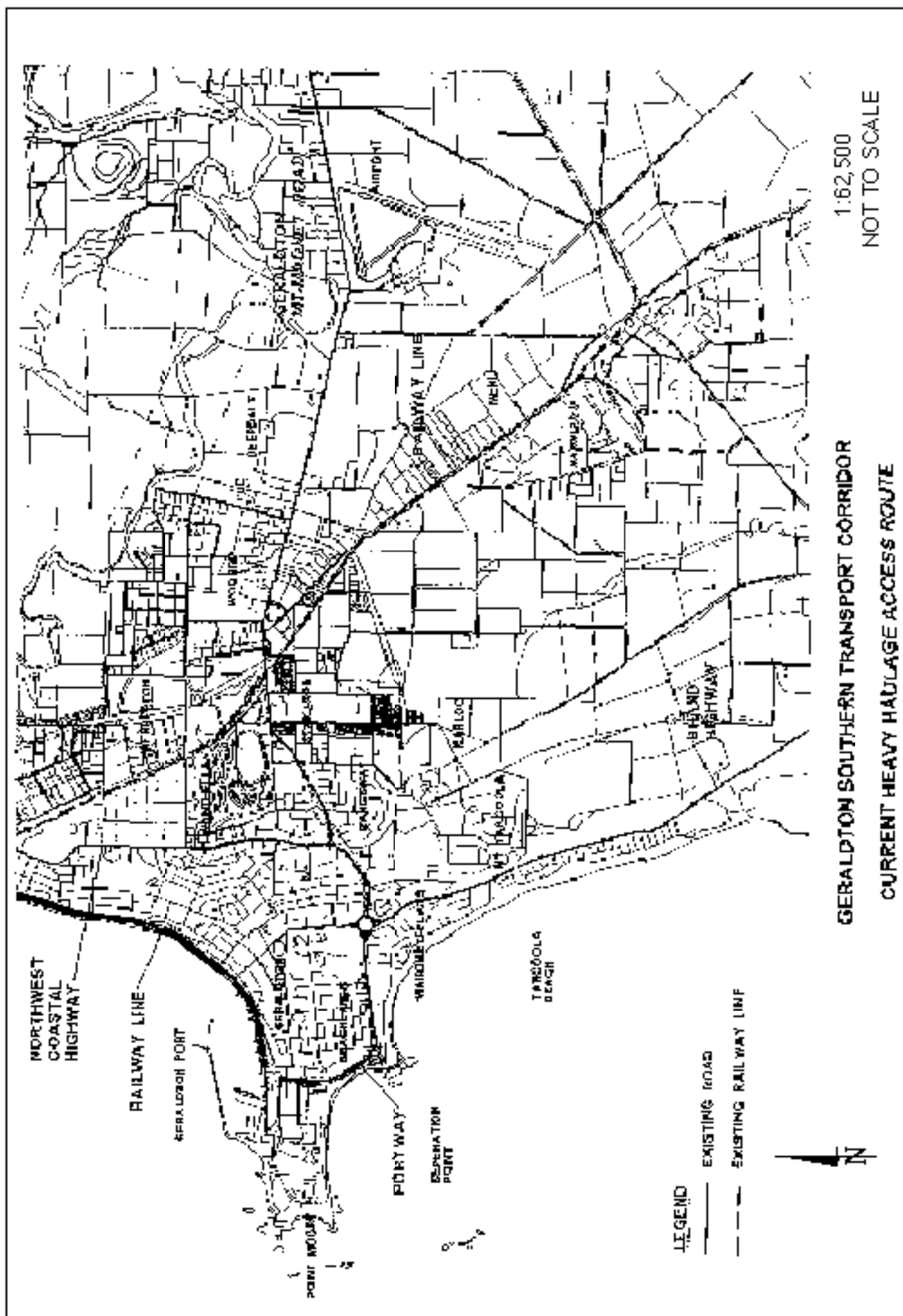


Figure 2. Current Heavy Haulage Access Route (Source: Main Roads Western Australia).

3. Consultation

The EPA considers that adequate consultation can be demonstrated by the proponent when stakeholders:

- are kept informed about the potential and actual environmental impacts of the proposal;
- are included in the consultation process and are able to make their concerns, in regard to environmental impacts, known to the proponent;
- receive well informed responses to concerns raised; and
- are able to have meaningful input into the proponent's management of environmental impacts.

During the preparation of the EPS document the proponent has undertaken considerable consultation with key stakeholders. This consultation was carried out in the form of:

- Technical reviews by State and Local Government representatives;
- Community and industry liaison;
- Public consultation;
- Liaison with the relevant authorities including the City of Geraldton, Shire of Greenough, CALM, Maritime Division of Department of Transport, Geraldton Port Authority, Ministry for Planning, Ministry of Education and the Mid-West Development Commission; and
- public displays.

A Community and Industry Liaison Group comprising representatives from a number of stakeholders was also established.

Key concerns that were raised in the community consultation undertaken related to:

- Noise – Concern was raised by the local community regarding traffic noise affecting their quality of life, in particular, night time noise. The Geraldton Secondary College also raised concerns regarding day time noise and its impact on the school's learning environment. Noise has been addressed as one of the environmental factors in the EPA's assessment, resulting in the development of noise levels criteria for the project to ensure that the amenity of nearby residents and sensitive land uses is protected from adverse noise impacts.
- Local traffic access – Concern regarding access from Mt Tarcoola into the city centre was raised. Furthermore, concern that access into the city centre from the current Brand Highway would be cut off was also raised. These issues will be addressed by MRWA through negotiation with the relevant local authorities.
- Impact on the pedestrians – Concern regarding the loss in existing pedestrian access to the foreshore was raised by the community. To ensure that access to the foreshore still remains, formal access to the foreshore area will be provided. The EPA recognises the community's concern but as this issue has been resolved it does not require assessment by the EPA.
- Landholder effects – Submissions received from people living in Mt Tarcoola, Mahomets Flats and Beachlands raised concerns regarding noise, aesthetics of the proposal and resultant impact on their quality of life. With regard to the concerns raised on noise, as stated before noise is addressed as one of the environmental factors in the EPA's assessment.
- Resultant constraints on future land development – Concerns raised regarding the constraints on future development of land were mainly in relation to the north-south alignment proposed in the Geraldton Region Plan, which was formally assessed by the EPA in 1998. It should be noted that the north-south alignment was not part of this assessment.

The specific methods of consultation and community response to this consultation are described in Section 3 of the EPS. The comments received and the proponent's response to these comments is included in Appendices 1, 3, 4, 5 and 6 of the EPS (*Geraldton Southern Transport Corridor Environmental Protection Statement, MRWA, 2001*).

4. Relevant environmental factors

In the EPA's opinion, the following are the environmental factors relevant to the proposal:

- 4.1 Noise - effects on adjacent residents and community facilities;
- 4.2 Vegetation - clearing of remnant vegetation;
- 4.3 Public Health and Safety - demonstration that the risk to public health and safety from the transport of dangerous goods is as low as reasonably practical; and
- 4.4 Foreshore (beach) - stability of the foredunes.

4.1 Noise

The EPA considers noise to be the most significant environmental issue associated with this proposal. This is due to the potential impact of rail noise, and the additional road noise associated with the proposed road/rail transport corridor, on an area that is currently experiencing relatively low levels of noise.

To address this concern the proponent has undertaken a detailed study of the current and potential future noise environment. The first stage of this work was to determine the existing noise levels in the study area. This was undertaken by measuring noise levels at 9 locations adjacent to the project area over a continuous 48-hour period during normal weekdays. This monitoring has shown that existing night-time noise levels average around 48dB_{Leq} with a range between 39dB_{Leq} and 52dB_{Leq} .

Based on projected traffic patterns, the Department of Environmental Protection (DEP) considers that the most sensitive times in terms of potential to affect the amenity of near by residences is overnight, from 10pm to 6am. For this project, the DEP, MRWA and Westrail have therefore established what they consider to be the "best practicable" approach to noise management. The project specific noise criterion agreed for this project for the overnight period (calculated over the period 10pm to 6am) is $55\text{dB}_{\text{Leq,8h}}$ applying to both road and rail traffic.

Because of the volume of road traffic during the day and evening (from 6am to 12pm) the DEP also considered that a "best practicable" approach should also apply to road traffic during this period. For this project, the DEP and MRWA have therefore agreed that the noise criterion for this project during the day and evening period (calculated over the period 6am to 12pm) is $63\text{dB}_{\text{LA10,18h}}$ applying to road traffic.

Consideration was given to allowing an increase of +3dB(A) for the above criteria when the existing background noise levels for a location were found to exceed the $52\text{dB}_{\text{Leq,8h}}$ (calculated over the period 10pm to 6am) and $60\text{dB}_{\text{LA10,18h}}$ (calculated over the period 6am to midnight). However, detailed modelling revealed that the application of this increase of +3dB(A) was not necessary due to background noise levels measured at the 9 locations being below the criteria levels.

The likely noise environment following implementation of the road/rail corridor was then modelled to determine the potential areas of impact. The noise prediction investigation suggested that the agreed noise criteria could be achieved through site specific noise mitigation strategies in the form of constructing a combination of noise barriers between 2 to 4 metres in height at the numerous locations determined to be potential areas of impact.

The design and location of noise mitigation measures will be validated at the completion of the design phase of the project and following an initial period of operation of the corridor to ensure the final design and construction meets the required criteria. Additionally, a noise monitoring and complaint resolution strategy will also be implemented by the proponent during the operational phase.

Given the proponent's response to concerns raised by the community, and its preparedness to seek a best practicable approach to noise management, the EPA considers that the proposal is capable of being managed to meet the EPA's objective for Noise, which is to protect the amenity of nearby residents and sensitive land uses from adverse noise impacts.

4.2 Vegetation

Surveys undertaken by the proponent reveal that the vegetation in the project area occurs as a narrow discontinuous corridor that leads into areas of urbanisation and agricultural clearing. This vegetation is one of the few vegetation remnants in the Geraldton area that links the range of vegetation associations found in the project area.

There are five discrete vegetation associations (Figure 3) within the project area:

- Coastal heath;
- *Acacia rostellifera* shrubland;
- *Acacia rostellifera* woodland;
- Mixed Eucalypt woodland; and
- Cleared land.

Generally, all of the vegetation communities within the project area with a predominant cover of native vegetation are in poor condition and a number of pasture and weed species, garden escapees and introduced grasses are also present. There is no evidence of the dieback fungus *Phytophthora sp.*

The implementation of the road and rail alignments would affect a total of 41.3 ha of remnant vegetation. This would include portions of 'Reserve 29729 – Public Recreation', 'Reserve 2562 – Esplanade and Recreation' and 'Reserve 20195 – Parks and Recreation' (Figure 3). For further detail on the Reserves exact location and area please refer to drawing numbers 9804-488 and 9804-489 within the Vegetation Impact Report prepared for MRWA by Connell Wagner (April, 2000).

Correspondence from CALM to MRWA supports the proponent's view that it would be unlikely that the proposed transport corridor would have any significant negative effect on vegetation communities represented in these reserves.

While much of the vegetation in the locality of the corridor has been cleared for agricultural and urban development, the vegetation affected by the proposal is generally fragmented and in poor condition. No DRF or significant flora/vegetation communities are likely to be affected.

MRWA has included a number of commitments to manage impacts on vegetation during construction activities and to minimise the net effect of the proposal on remnant vegetation in the area. These commitments include:

- preparation of an Environmental Management Plan for the proposal;
- the acquisition of 10.3 ha of land, containing vegetation of equal or better quality to that within the project area to compensate for vegetation loss;

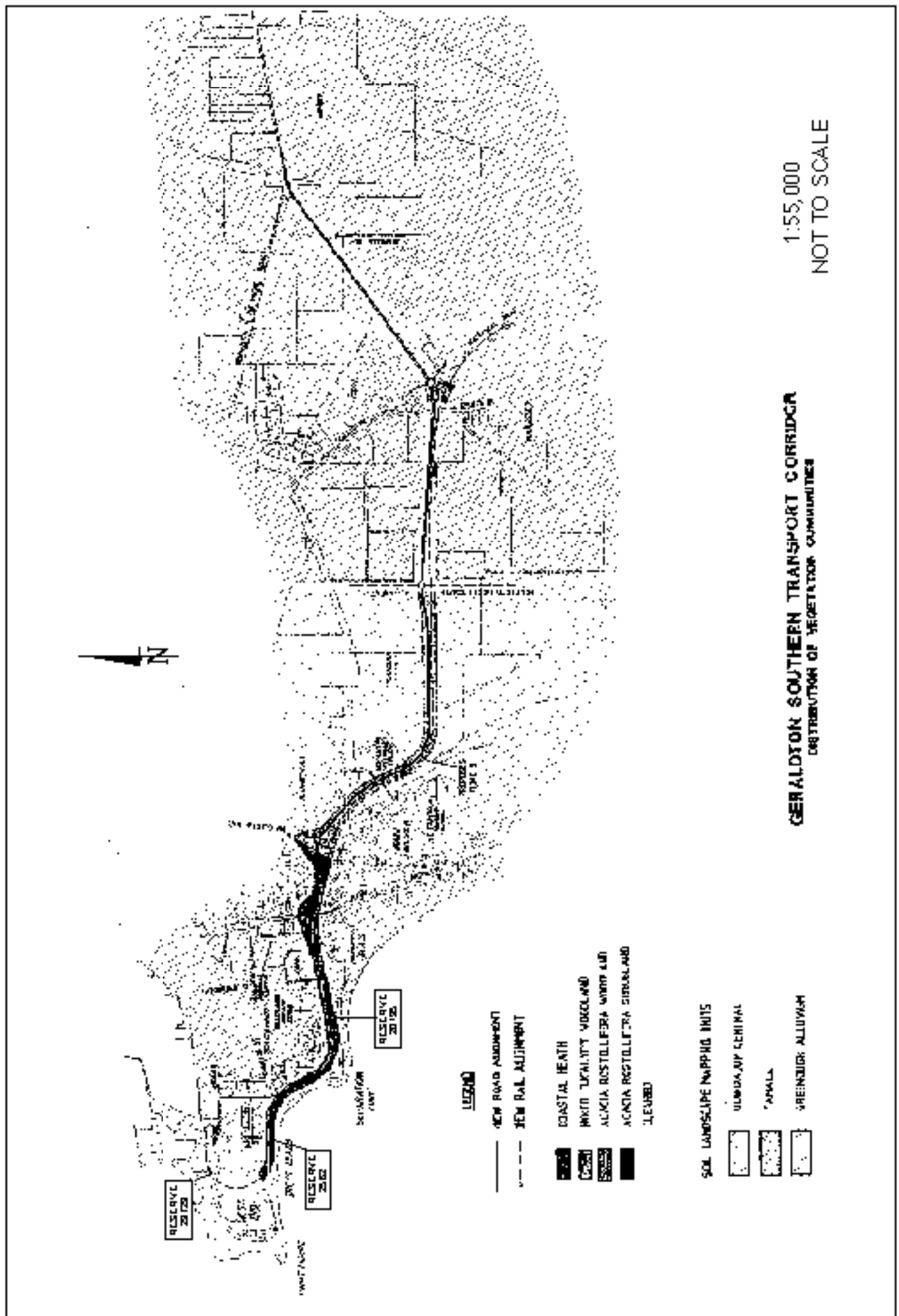


Figure 3. Vegetation and topography (Source: Connell Wagner Pty Ltd, November 2000).

- revegetation of all areas that are cleared during the construction phase not forming part of the final road/rail structure, protection of existing vegetation outside the construction zone within the corridor during construction and enhancing it during rehabilitation, restoration of the former natural vegetation within the corridor in areas cleared for agriculture, rehabilitation of the area currently occupied by the Separation Point Caravan Park, and fencing of the corridor; and
- implementation of a rehabilitation program based on local native plant species with the objective of improving the diversity of plant species and communities within the corridor.

Having regard for the proponent's commitments to minimise impacts on vegetation, to acquire an area of vegetation to compensate for loss of vegetation due to implementation of the proposal, to revegetate disturbed areas, and to rehabilitate areas within the corridor with local native vegetation the EPA considers that the proposal is capable of being managed to meet the EPA's objective for Vegetation, which is to maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities.

4.3 Public Health and Safety

All transport of dangerous goods from the Port of Geraldton to areas east of Geraldton is currently carried out on a route along Portway and North West Coastal Highway. The traffic then follows a route along Utaarra Road to the Geraldton-Mount Magnet Road. This route passes through a residential area with 15 intersections in between the North West Coastal Highway and the point where this proposal will join the Geraldton-Mount Magnet Road (Figure 2).

In addition, about six eastbound and six westbound trains per day enter or leave the Port of Geraldton.

The dangerous goods transported from the Port of Geraldton (371,000 tonnes in 1998) are predominantly petroleum products (diesel and petrol) totalling 356,000 tonnes in 1998 (or 93.4% of all dangerous goods transported). The remaining 6.6% (25,000 tonnes) was made up of other dangerous goods, including compressed gases, flammable solids, oxidisers, poisons, corrosives and miscellaneous products.

In order to assess and manage risk to public health and safety associated with changes in the transport of dangerous goods associated with the proposal, MRWA undertook a detailed risk assessment using EPA guidelines for assessment of individual and societal risk. The key findings of this study were:

3. the proposed road/rail corridor will result in general improvements to safety due to improved road and rail alignment, grade separation and geometry, a direct route into the Port area, and the removal of the majority of the dangerous goods vehicles from the local residential areas where the risk of accident is high and the effects of such accidents is also high;
4. the most significant areas likely to be affected are the residential area and motel 10 metres from the GSTC On Ramp (East), and the TAFE campus at the corner of Portway and Fitzgerald Street (Figure 4); and
5. all residential areas and sensitive facilities lie below the EPA's criteria for individual risk. For societal risk, the sensitive facilities that lie between the bounds of negligible risk and intolerable risk are the Hacienda Motel and the TAFE facility. Both will require further actions to reduce the risk to below the upper bound of negligible risk.

MRWA has provided commitments to reduce levels of risk associated with the transport of dangerous goods to a level that is as low as reasonably practical. To achieve this level MRWA will:

- Construct basins with a capacity of 100m³ and an impermeable liner to capture contaminants prior to discharge to infiltration basins in zones of environmental threat;
- Advise emergency services of basin location and operation;
- Provide turn pockets and storage for turning vehicles in the median at the Fitzgerald Street intersection;
- Construct a noise barrier adjacent to the TAFE campus to provide additional blast protection; and
- Reduce societal risk to as low as reasonably practical in the vicinity of the On Ramp (East).

The EPA notes that for the location of risk sensitive areas adjacent to the proposal, acceptable individual risk levels have been demonstrated. With regard to the two major receivers of societal risk (the Motel and TAFE), the commitment to reduce levels of risk associated with the transport of dangerous goods to a level that is as low as reasonably practical has been demonstrated in the studies undertaken by the proponent. Therefore, on advice from the DEP, the EPA considers that the proposal is capable of being managed to meet the EPA's objective for Public Health and Safety, which is to ensure that public risk is managed to meet the EPA's criteria for individual fatality risk and is as low as reasonably practical.

4.4 Foreshore (beach)

The proposal traverses three distinct topographical units (Figure 3). These units are :

- Coastal (western) zone of dunes and sandy flats (Quindalup Dune System);
- A central area of gently undulating dunes (Tamala Limestone Association); and
- An extensive alluvial plain to the east (Bootenal Alluvial Plain).

The location of the project has the potential to affect the erosion-accretion cycle if disturbance of the foredunes occurs during project construction. The potential worst case scenario for beach erosion is in the vicinity of the Grey's Beach (Figure 3).

In correspondence to MRWA, the Department of Transport (DoT) has recommended that the proposal maintain a setback of not less than 74m from the shore vegetation line. MRWA has revised the project to be consistent with this advice.

DoT has also accepted that there are significant difficulties in further reducing the radius of curvature of the rail line to increase the setback from the foredunes. To this end DoT has indicated that a design where the centre line of the rail component of the proposal is no closer than 74m from the shore vegetation line would be acceptable. Further, DoT has indicated that discharge of runoff directly onto the active beach face would be considered unacceptable due to the potential for damage.

MRWA has provided a commitment to ensure the placement of the proposal is beyond the coastal development zone buffer. This commitment will be implemented on the advice of the Maritime Branch of the DoT through revision of the road/rail alignment prior to the commencement of the design phase.

Having regard to the proximity of the foredunes, difficulties associated with further reducing the rail line curvature, and the MRWA commitment to ensure the final design is consistent with DoT requirements, the EPA considers that the proposal is capable of being managed to meet the EPA's objective for Foreshore (beach) which is to maintain the foreshore processes.

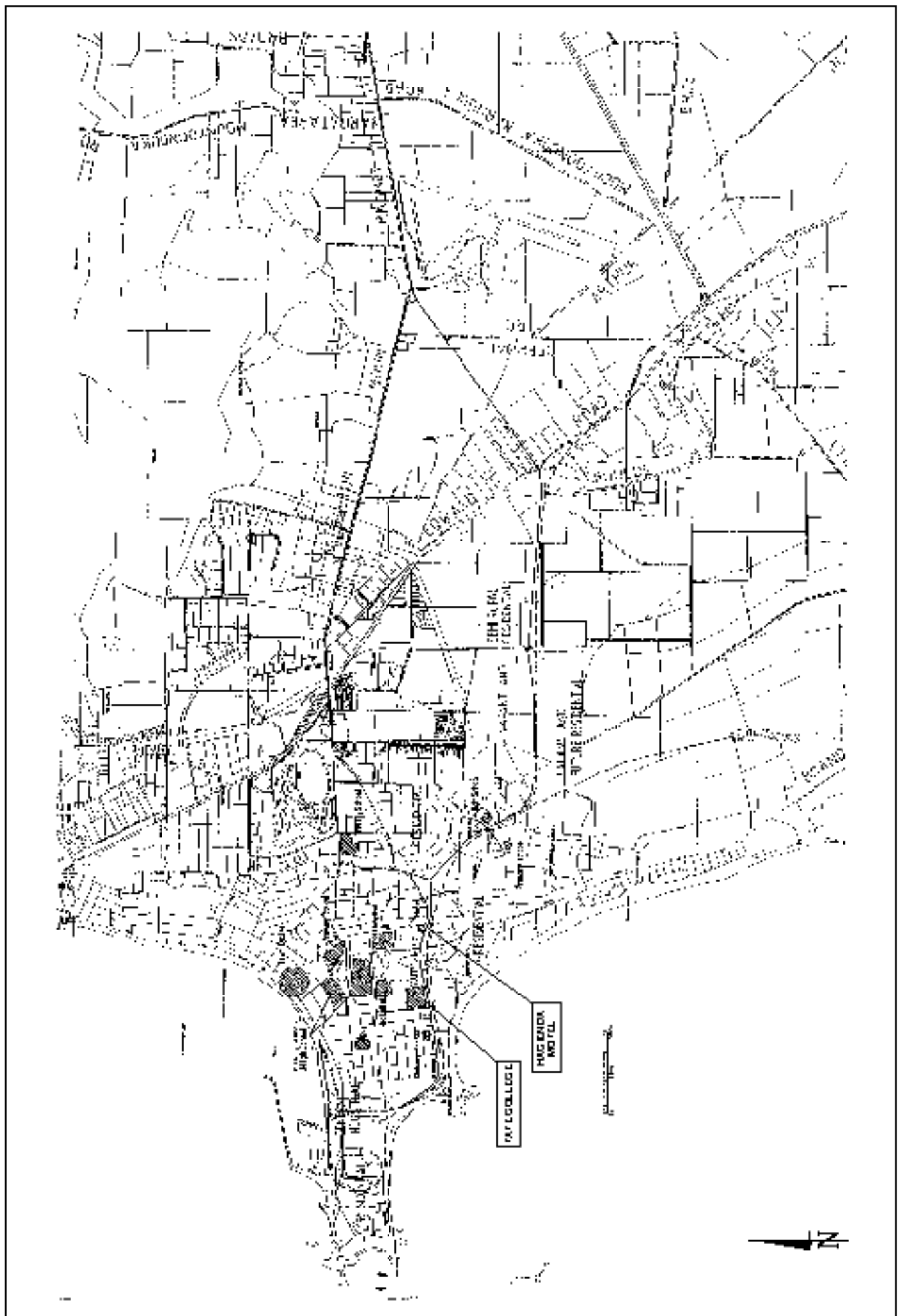


Figure 4. Sensitive Facilities (Source: Connell Wagner Pty Ltd, November 2000).

5. Conclusions

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

The EPA concludes that the project to construct and operate a road and rail corridor, and associated infrastructure, providing direct access to the Port of Geraldton from the Geraldton-Mt Magnet Road, Walkaway Road and North West Coastal Highway is capable of being managed in an environmentally acceptable manner such that the EPA's objectives would not be compromised, provided there is satisfactory implementation of the proponent's commitments and the proposed Ministerial Conditions.

Furthermore, the EPA has recommended that the proposal should be subject to the preparation and implementation of an Environmental Management System.

6. Recommendations

The EPA considers that the proponent has demonstrated, in the "Geraldton Southern Transport Corridor Environmental Protection Statement" document and by its commitments, that the proposal can be managed in an environmentally acceptable manner and provides the following recommendations to the Minister for the Environment:

1. That the Minister notes that this report follows a decision by the EPA to set a level of assessment as EPA-initiated Environmental Protection Statement because:
 - The proponent's commitments in relation to the environmental factors identified needed to be made legally binding through the environmental conditions set in accordance with Part IV of the *Environmental Protection Act 1986*.
 - The proposal is not of the magnitude to warrant a full environmental impact assessment under Part IV of the *Environmental Protection Act 1986*.
2. That the Minister considers the report on the relevant environmental factors as set out in Section 4.
3. That the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions and proponent commitments as set out in Appendix 2.
4. That the Minister imposes the conditions recommended in Appendix 2 of this report.

Appendix 1

References

Connell Wagner (2000b) *Geraldton Southern Transport Corridor Vegetation Impact Report*, Perth. Report prepared for Main Roads Western Australia.

Connell Wagner (2000c) *Geraldton Southern Transport Corridor Risk Study*; *Connell Wagner*, Perth. Report prepared for Main Roads Western Australia.

ERM Mitchell McCotter (2001) *Geraldton Southern transport Corridor – East-West Alignment Night-time Noise Assessment*, Perth. Report prepared for Main Roads Western Australia.

Main Roads Western Australia. (2001) *Geraldton Southern Transport Corridor*, Environmental Protection Statement. unpub.

Appendix 2

Recommended Environmental Conditions and Proponent's Commitments

RECOMMENDED ENVIRONMENTAL CONDITIONS

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE ENVIRONMENTAL PROTECTION ACT 1986)

GERALDTON SOUTHERN TRANSPORT CORRIDOR

Proposal: This proposal is for the construction and operation of a road/rail corridor to provide direct access to the Port of Geraldton from the Geraldton/Mount Magnet Road, Walkaway Road and North West Coastal Highway.

Proponent: Main Roads Western Australia

Proponent Address: PO Box 6202, EAST PERTH WA 6892

Assessment Number:

Report of the Environmental Protection Authority: 1013

The proposal to which the above report of the Environmental Protection Authority relates may be implemented subject to the following environmental conditions and procedures:

1 Implementation

- 1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.
- 1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.
- 1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

2 Proponent Commitments

- 2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.
- 2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

3 Proponent

- 3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.
- 3-2 Any request for the exercise of that power of the Minister referred to in condition 3-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.
- 3-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

4 Commencement

- 4-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.
- 4-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.
- 4-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 4-1 and 4-2.
- 4-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

5 Compliance Auditing

- 5-1 The proponent shall submit periodic Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.
- 5-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.
- 5-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

6 Environmental Management System

- 6-1 In order to manage the environmental impacts of the project, and to fulfil the requirements of the conditions and procedures in this statement, prior to ground-disturbing activity, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:
 - 1 An environmental policy and corporate commitment to it;
 - 2 Mechanisms and processes to ensure:
 - (1) planning to meet environmental requirements;
 - (2) implementation and operation of actions to meet environmental requirements;
 - (3) measurement and evaluation of environmental performance; and
 - 3 Review and improvement of environmental outcomes.
- 6-2 The proponent shall implement the environmental management system referred to in condition 6-1.

Schedule 1

The Proposal

The Geraldton Southern Transport Corridor project involves the design, construction and operation of an east/west transport corridor from the Geraldton - Mount Magnet Road to the Geraldton Port. The ultimate design of the project consists of 12.5km of dual carriageway, 11.6km of single rail alignment, the construction of eight bridges and removal of one bridge.

Key Characteristics Table

Element	Quantities/Description	
Period of construction	May 2002 – November 2004	
Project purpose	Provide efficient and safe long term access to the Geraldton Port through an upgraded heavy haulage road and rail system.	
Locality	City of Geraldton and Shire of Greenough.	
Major Components Proposed Road	12.5km	Dual Carriageway at ultimate stage. (6.5km at Stage 1).
	3 Bridges	Spanning the east west alignment at the Cathedral Av/Brand Hwy Interchange, Durlacher St and Highbury St.
	Removal of 1 Bridge	North West Coastal Hwy over Durlacher St.
	On and Off Ramps	Linking Brand Hwy/Cathedral Avenue Interchange to the east west road alignment.
	3 Roundabouts	Linking the east west road alignment to North West Coastal Hwy, Geraldton Walkaway Road and the proposed Road B.
	Refer to Figure 1 Locality Plan.	
Major Components Proposed Rail	11.6km	Single Rail Alignment from Narngulu Industrial Area to the Geraldton Port.
	5 Bridges	Spanning the railway alignment on Brand Hwy/Cathedral Avenue Interchange (2), Durlacher St, Highbury St and proposed Road B.
	Refer to Figure 1 Locality Plan.	
Noise Barriers	Minimum height of 3.0m and maximum of 4.0m along southern end of Elliot St between Crowther St and Central West College of TAFE. Minimum height of 2.0m and a maximum of 4.0m at other locations where noise level criteria are exceeded.	
Containment Basins	Construction of 2 stage spill containment basins in areas of environmental risk.	
Foreshores Set Back	The GSTC will be placed outside the coastal development zone buffer.	
Area of disturbance	117.2ha – total land requirement excluding existing road reserves.	
Area of vegetation clearing	41.3ha of remnant vegetation.	
Rehabilitation and revegetation	29ha to be revegetated Acquisition of 10.3ha to be permanently retained for conservation.	

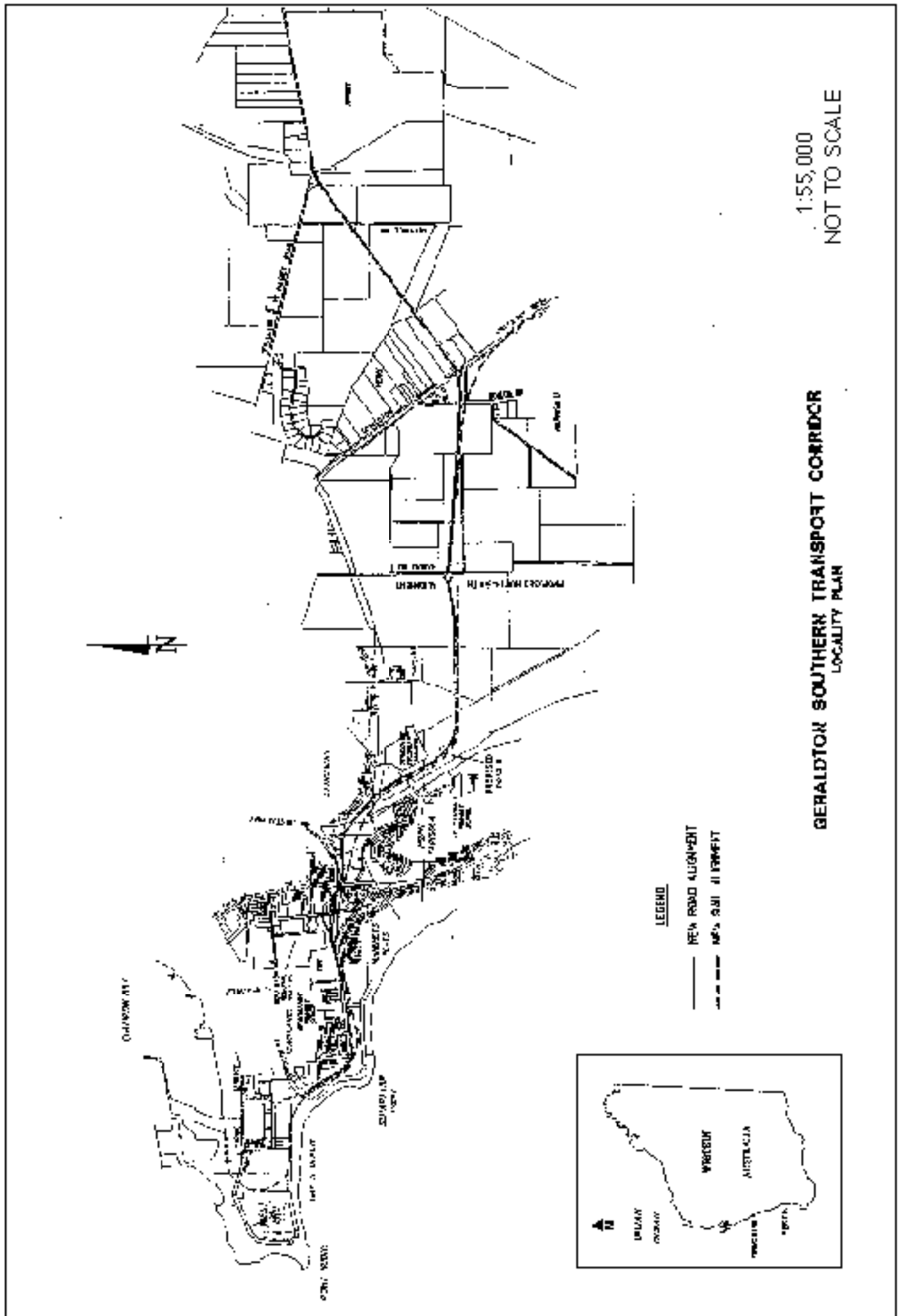


Figure 1. Locality Plan (Source: Main Roads Western Australia).

Proponent's Consolidated Environmental Management Commitments

May 2001
(Revised)

GERALDTON SOUTHERN TRANSPORT CORRIDOR

MAIN ROADS WESTERN AUSTRALIA

ENVIRONMENTAL MANAGEMENT COMMITMENTS

The proponent makes the following environmental management commitments:

No.	Topic	Action	Objective/s	Timing	Advice
1	Environmental management	<p>Prepare and implement Environmental Management Plans to address:</p> <ul style="list-style-type: none"> • Vegetation protection and replacement • Noise and Vibration • Dangerous Goods 	Minimise environmental effects in the construction and operation phases.	Prior to, during and post construction	
2	Vegetation loss	Acquire 10.3 ha of land containing vegetation adjacent to the Geraldton Southern Transport Corridor and manage for conservation purposes.	Protect vegetation to compensate for loss.	Prior to construction	CALM
3	Vegetation protection and replacement management plan	<p>Prepare a Vegetation Protection and Replacement Management Plan to address:</p> <ol style="list-style-type: none"> 1. Revegetation of all areas that are cleared with local native species during the construction phase, that do not form part of the final road/rail structure. 2. Protection of areas of existing vegetation outside the construction zone within the corridor during construction and enhance them during rehabilitation. 3. Restoration of the former natural vegetation within the corridor in areas cleared for agriculture. 4. Rehabilitation of the area occupied by the Separation Point Caravan Park. 5. Fencing of both sides of the Geraldton Southern Transport Corridor along its entire length. 6. A landscape rehabilitation program to replace vegetation cover lost during construction. 7. Use of local native species in rehabilitation. 	<p>Sustain, improve and replace the values of natural vegetation cleared.</p> <p>Improve the diversity of plant species and communities within and adjacent to the corridor.</p>	Prior to construction	CALM
	Implementation of Vegetation Protection and Replacement Management Plan	Implement the Vegetation Protection and Replacement Management Plan.	Ensure appropriate management, protection and rehabilitation of vegetation.	During and post-construction	CALM

No.	Topic	Action	Objective/s	Timing	Advice
5	Noise and Vibration Management	<ol style="list-style-type: none"> 1. The proponent shall implement the proposal such that noise and vibration emissions associated with the proposal are minimised as far as is practicable. 2. The proponent shall cause the project to be designed and constructed such that the operating noise levels received at noise sensitive premises do not exceed the following – <ol style="list-style-type: none"> a) In relation to road and rail traffic separately, a noise level of 55 dBL_{Aeq,8h} (over the period 10pm to 6am); and b) In relation to road traffic only, a noise level of 63 dBL_{A10,18h} (over the period 6am to midnight). Note: Noise predictions are to be carried out according to methodology used in the environmental assessment of this Project. 3. The maximum height of noise barriers designed to meet Commitment 2 will be 4.0 metres above existing ground level. 4. Where a noise barrier is required under Commitment 2, the minimum barrier height shall be as far as practicable 2.0m above existing ground level. 5. The proponent will cause a noise barrier to be constructed to a height of at least 3.0 metres above existing ground level on the southern side of Eliot Street, between Crowther Street and the Central West College of TAFE, excluding openings for existing street access. 6. The proponent shall validate the design and location of noise mitigation measures prior to construction to ensure compliance with noise criteria for the project. 	<p>Reduce noise levels to levels consistent with the noise level criteria agreed between MRWA/WAGR/DEP.</p> <p>Maintain a balance between noise control and aesthetic appeal.</p> <p>Ensure Design and Construct meets noise criteria</p>	<p>Prior to and during construction</p> <p>Prior to construction</p>	
6	Noise and Vibration Management Plan	<p>Prepare a Noise and Vibration Management Plan to address:</p> <ol style="list-style-type: none"> 1. Assessment of the potential for vibration prior to the design phase to predict areas susceptible to vibration. 2. Determination of the need for vibration suppression in the railway track. 3. A Property Condition Survey to be completed before construction on properties within 50 metres of any construction activity and on other nearby properties of heritage significance. 4. Construction noise and vibration impacts. 5. Operational noise and vibration impacts. 6. Monitoring and reporting on the effectiveness of barriers 6 months after completion of construction. 7. Measures to be undertaken if monitoring indicates that noise emissions exceed noise level criteria. 8. Noise and vibration complaint response and an ongoing noise and vibration monitoring program. 	<p>Reducing vibration in construction and operation.</p> <p>Avoiding damage to properties.</p> <p>Manage construction issues as they arise.</p> <p>Manage operational issues as they arise.</p> <p>Verify noise predictions.</p>	<p>Prior to construction</p> <p>Prior to construction</p> <p>Prior to construction</p> <p>Prior to construction</p> <p>Prior to construction</p> <p>Prior and during construction</p> <p>During and post-construction</p> <p>Post-construction</p>	

No.	Topic	Action	Objective/s	Timing	Advice
7	Implementation of Noise and Vibration Management Plan	Implement the Noise and Vibration Management Plan.	Ensure appropriate management of noise and vibration.	During and post-construction	
8	Coastal protection	<ol style="list-style-type: none"> Ensure the Corridor is placed beyond the coastal development zone buffer described by the Maritime Branch of the Department of Transport. No discharge of runoff to active beach face. 	<p>Protection of coast</p> <p>Protection of coast</p>	<p>Prior to construction</p> <p>Prior and during construction</p>	DoT
9	Dangerous Goods Management Plan	<p>Prepare a Dangerous Goods Management Plan to address:</p> <ol style="list-style-type: none"> Construction of basins with a capacity of 100m³ and an impermeable liner to capture contaminants prior to discharge to infiltration basins in zones of environmental threat. Advising emergency services of basin location and operation. Provision of turn pockets and storage for turning vehicles in the median at the Fitzgerald Street intersection. Construction of a noise barrier adjacent to the TAFE campus to provide additional blast protection. Reduction of societal risk to as low as reasonably practical for land uses in the vicinity of the On Ramp (East). 	<p>Prevent spread of spill into the environment.</p> <p>Reduce the potential for vehicle-vehicle interaction</p> <p>Reduce individual and societal risk.</p>	<p>During construction</p> <p>During construction</p> <p>Prior to construction</p> <p>During construction</p> <p>Prior to construction</p>	
10	Implementation of Dangerous Goods Management Plan	Implement the Dangerous Goods Management Plan.	Ensure appropriate management of public health and safety associated with transport of dangerous goods in the design and construction of the project.	During design and construction	

Note: EPA
 DEP
 CALM
 MRWA
 WAGR
 GSTC
 DoT
 Environmental Protection Authority
 Department of Environmental Protection
 Department of Conservation and Land Management
 Main Roads Western Australia
 West Australian Government Railways Commission
 Geraldton Southern Transport Corridor
 Department of Transport