Rail Freight Terminal and Distribution Centre, Pt Lot 14 Baile Road, Canning Vale

Specialized Container Transport

Report and recommendations
of the Environmental Protection Authority

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Summary and recommendations

Specialized Container Transport (SCT) proposes to develop a rail freight terminal and distribution centre on Lot 1 of Part Lot 14 Baile Road, Canning Vale.

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for the Environment on the environmental factors, conditions and procedures relevant to the proposal.

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.

Environmental Factors

It is the EPA's opinion that the following are the environmental factors relevant to the proposal:

a) Noise - impact of transport equipment noise on residents;

b) Air quality - impact of discharges from engines;

c) Particulates and dust - impact of dust during construction and operation;

d) Surface and groundwater quality - protection of water resources from contamination;

e) Light overspill - impact on resident's from lighting;

f) Social surroundings - impact on resident's amenity and aesthetics; and

g) Transport - impact from additional rail and road transport.

Conclusion

The EPA concluded that the environmental factor of greatest relevance to the assessment of the SCT proposal was the impact of transport and equipment noise on the nearby residents. In assessing this factor the EPA adopted noise level criteria consistent with the noise levels "not to be exceeded" contained in the Environmental Protection (Noise) Regulations 1997.

The EPA has considered in detail the noise information provided by both the proponent and the Department of Environmental Protection (DEP), and has concluded that the proposal as set out in the Consultative Environmental Review document could not meet the EPA's objective for the noise environmental factor.

During the course of the assessment the EPA, as well as officers of the DEP on behalf of the EPA, had a number of meetings with the proponent to discuss measures which the proponent may care to consider. This approach is in accord with the guide to environmental impact assessment in Western Australia which included the statement "Throughout the process, the EPA will advise and help proponents to improve or modify their proposals so that the environment will be protected".

The EPA has concluded that the additional data made available during the assessment suggests that the introduction of an appropriate noise barrier, acoustical treatment of equipment and special operating procedures could reduce the noise levels in the residential area to within the criteria set. On this basis, the EPA has concluded that it would be open for the Minister to provide conditional approval but with some very stringent conditions which should include the requirement for the proponent to prepare a Noise Management Plan (NMP). The NMP would need to provide sufficient information and data so as to clearly describe the proposed noise attenuation measures and confirm that predicted noise levels from the proposal are within the criteria set by the EPA and are as low as reasonably achievable.

The EPA has concluded that the NMP proposed by the EPA should be subject to public review prior to the EPA's and the Minister for the Environment's consideration, and be subject to approval by the Minister before any construction was permitted to commence.

An approach, which would be outside the capacity of the proponent but which may be available to government, would be to have an appropriate barrier wall constructed to the south of the existing through-line as future use of the Kewdale to Kwinana rail line could be expected to increase and a suburban line on the same easement may be developed. The EPA has concluded that such a noise barrier, appropriately designed and constructed, could address the situation which has arisen as a result of residences being built in close proximity to land zoned for industrial use.

Other Advice

The EPA received an extremely large number of public submissions expressing strong concerns regarding the impacts of this proposal on the Waratah and Livingstone Estate residential areas.

In undertaking the assessment of this proposal, the EPA was acutely aware that the need for this assessment has arisen as a direct result of the failure of the planning process to provide an adequate separation between the residential subdivision and the general industrial area and transport corridor. Provision of such a separation could have been addressed either at the time of setting aside of the industrial area or during consideration of the rezoning of the residential areas.

The EPA is mindful that use of the Environmental Protection Act to attempt to address problems caused by poor planning often tends to result in unsatisfactory outcomes rather than solutions that meet the requirements of either proponents or adjacent land users.

The EPA is of the view that the Government should give serious consideration to shielding the residential areas from some of the noise and visual impacts of these proposals by constructing a substantial noise barrier on the southern side of the railway reserve, preferably within the residential 'buffer' strip. With proper design, such a barrier could substantially avert the deterioration of the general amenity of the residential areas which will otherwise arise from these activities and, at the same time, avoid many of the constraints recommended by the EPA in respect of the SCT proposal.

The EPA is of the view that, unless effective action is taken to manage noise from existing and proposed sources, the Government will receive on-going complaints from the community even though the proposals would be complying with the recently gazetted *Environmental Protection (Noise) Regulations 1997*, where they apply. Action to deal with this may require the participation of a number of government agencies, local government and the proponent.

Recommendations

The EPA recommends that:

1. The Minister for the Environment considers the report on the relevant environmental factors of noise and vibration (3.2); air quality (3.3); particulates and dust (3.4) surface/ground water quality (3.5); light overspill (3.6); social surrounds (3.7); and transport (3.8).
2. That the Minister notes that the EPA has concluded that the proposal as described in the CER could not meet the EPA's objective for noise as a relevant factor.
3. That the Minister notes that with the exception of noise as a relevant factor, the proposal can be managed to meet the EPA's objectives.
4. That the Minister notes that additional data made available during the assessment suggests that appropriate noise attenuation measures could be introduced so as to reduce the noise levels in the residential area to within the criteria set by the EPA to meet the objectives for this factor.

5. That the Minister notes that in the opinion of the EPA it would be open for the Minister to grant conditional approval for implementation of the proposal subject to a Noise Management Plan being produced by the proponent demonstrating to the satisfaction of the Minister that the criteria set by the EPA for the noise objective can be met.

6. That the Noise Management Plan referred to in (5) above be made available to the public for review, and be subject to approval by the Minister before any construction be permitted to commence.

7. That in addition to conditions in relation to a Noise Management Plan, the Minister imposes the conditions set out in Appendix 3 of this report.

Conditions

The EPA recommends that the proposal be subject to the conditions and procedures set out in Appendix 3, and summarised below, if the Minister determines that the proposal may be implemented, but noting that such implementation should involve the submission of an NMP to the requirements of the Minister:

(a) the proponent shall fulfil the commitments in the Summary of Commitments statement set out as an attachment to the recommended conditions in Appendix 3;

(b) in order to manage the relevant factors and EPA objectives contained in this bulletin, and subsequent conditions and procedures authorised by the Minister for the Environment, the proponent shall be required to prepare, prior to implementation of the proposal, environmental management system documentation with components such as those adopted in Australian Standards AS/NZ ISO 14000 series;

(c) The proponent shall ensure shunting operations carried out by the proponent, using its own locomotive on the Westrail siding comply with noise criteria consistent with those presented in the Environmental Protection (Noise) Regulations, 1997;

(d) The proponent shall ensure that mainline locomotives associated with the proponents operations, which are standing stationary on the Westrail siding for periods exceeding 2.4 minutes comply with noise criteria consistent with those presented in the Environmental Protection (Noise) Regulations, 1997;

(e) Prior to construction, the proponent shall prepare a Noise Management Plan to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

This Plan shall include:

1. the location, dimensions and form of noise barriers to be constructed for the project;
2. the sound power levels for equipment to be used for the project and details of acoustical treatment to be applied;
3. special procedures necessary to restrict activities under weather conditions that increase noise propagation toward the residential area; and
4. routine operating procedures to be adopted for particular operations to control noise emanating from the project.

The proponent shall make the Noise Management Plan available for public comment for a period of two weeks prior to the Environmental Protection Authority finalising its consideration of the Plan.

1. Introduction

This report is to provide the Environmental Protection Authority (EPA) advice and recommendations to the Minister for the Environment on environmental factors relevant to the proposal by Specialized Container Transport (SCT) to establish and operate a rail freight terminal and distribution centre on Lot 1 of Part Lot 14 Baile Road in the Canning Vale Industrial Estate.

The proposal was referred to the EPA in November 1996. The EPA determined that the proposal should not be formally assessed under the environmental Protection Act 1986. In making this decision the EPA considered the following matters:

(i) the land was zoned for industrial uses;

(ii) the company's operations on the terminal and distribution centre would be subject to noise regulations and the company was legally required to adhere to these; and

(iii) the issue of noise from the adjacent rail reserve could be addressed by planning decisions to ensure that adequate noise barriers were placed between the reserve and the residential area.

The EPA was concerned, however, that previous planning decisions had allowed residential development so close to the rail reserve.

The EPA's decision was appealed and the Minister for the Environment determined in April 1997 that the level of assessment should be set at Consultative Environmental Review (CER). The Consultative Environmental Review report (Alan Tingay & Assoc, 1997), referred to hereafter as the CER, was made available for public review between 7 July 1997 and 4 August 1997. The EPA received 247 submissions from the public and agencies on the proposal.

Further details on the proposal are given in Section 2 of this report. Section 3 discusses environmental factors relevant to the proposal and the EPA's assessment. Conditions and procedures to which the proposal should be subject if the Minister determines that it may be implemented are discussed in Section 4. Section 5 provides advice to the Minister on matters related to the EPA's assessment. The EPA's conclusion is in Section 6 and Section 7 presents the EPA's recommendations to the Minister for the Environment.

A list of people and organisations that made submissions is included in Appendix 1. References cited in the report are provided in Appendix 2, and recommended conditions and procedures and proponent's commitments are provided in Appendix 3.

The DEP's summary of submissions and the proponent's response to those submissions has been published separately and is available in conjunction with this report (SCT, 1997).

2. The proposal

The proposal is located in the Canning Vale Industrial Estate (Figure 1). Lot 1 of Part Lot 14 Baile Road, hereafter referred to as the "SCT site", is zoned for industrial use under the Metropolitan Region Scheme and for General Industry use under the City of Canning Town Planning Scheme No. 40. The industrial estate has been substantially developed for general industrial purposes. The site of the proposal is in the southern part of the estate. Industrial land and existing industries are to the north, east and west and a railway line connecting Forrestfield and Kwinana is to the south (Figure 2).

To the south of the railway reserve are the residential estates of Waratah and Livingston (Figure 2). The nearest houses in the estate are about 100m from the southern boundary of the SCT site and approximately 60m from the railway siding which will be used to service the rail freight facility.

The proposal by SCT is described by the proponent in its CER, and summarised in Table 1 below and the layout shown in Figure 3. Essentially the proposal comprises:

(i) a warehouse and associated office buildings on the SCT site to hold the freight and operate as a distribution centre using semi-trailers and small trucks.

(ii) rail sidings on the SCT site, referred to as the "SCT sidings" comprising six 500 m tracks. The northern most of these tracks is referred to as the "container line".

(iii) rail sidings within the rail reserve, referred to as the "Westrail sidings", comprising two 1600 m tracks branching from a through line connecting Forrestfield and Kwinana.

Table 1. Summary of the proposal

Proposal aspect	Description
Site location and area	• Lot 1 of Part Lot 14 Baile Road within the Canning Vale Industrial Estate comprising 12 ha. • Railway reserve.
Site facilities	• 16,000m^2 transit warehouse initially with a further 23,000m^2 warehouse in future; • rail sidings with six 500m tracks initially and provision for a further five, referred to as the SCT sidings; • the northern most of the above tracks is referred to as the container line; • hard-stand container area adjacent to the SCT sidings; • associated office buildings and car parks.
Associated facilities	• 1600m, two-track rail siding on Westrail land south of the site, referred to as the Westrail sidings.
Train arrival and break-up	• mainline locomotives deliver trains to the "Westrail sidings", un-couple and depart; • initially three trains per week arriving at night (approx 2.00 am) with provision for up to seven per week; • train is broken into convenient units which are moved to the transit warehouse or to SCT sidings using a small, noise attenuated shunting locomotive.
Train unloading	• some containers are transferred directly from the container line using a large forklift to trucks for delivery or are stored on the container hardstand area; • remaining containers are unloaded in the transit warehouse and the contents transferred to trucks for delivery; • rail vans are unloaded in the transit warehouse.
Train loading	• some containers are transferred from trucks to rail wagons on the container line using a large forklift; • some containers are loaded in the transit warehouse; • rail vans are packed in the transit warehouse.
Train make-up and departure	• shunting locomotive moves rolling stock onto "Westrail siding" and couples them into a train for collection; • completed trains are coupled to mainline locomotives and, following brake testing and other checks, departing during the daytime or evening (7.00 am - 10.00 pm).
Road transport	• semi-trailers and tray-body trucks are used to dispatch containers and/or goods to and from the warehouses.

Proposal aspect	Description
Summary of noise management measures presented in the CER	• ensure on site operations comply with the Environmental Protection Act and Environmental Protection (Noise) Regulations; • construct an acoustic barrier approximately 7 m high and 60 m long within the rail reserve south of the "Westrail siding" to attenuate idling locomotives while preparing a departing train; • trains not departing between 10.00 pm - 7.00 am; • noise control on the shunting locomotive; • enclosing train brake air compressor; and • assess noise associated with the proposal every two years, commencing three months after full operation, and publicly reporting to the DEP and City of Canning.

Operational procedures at the rail freight facility will involve:

- freight trains arriving at the "Westrail siding" where the two locomotives will uncouple from the wagons and depart to Forrestfield;
- breaking of the train into sets of wagons to enable a smaller shunting locomotive to move wagons into the transit warehouse or onto the SCT sidings;
- unloading in the warehouse of the freight in rail vans by small forklifts for storage and dispatch;
- unloading of containers from the rail wagons on the container line by a 30 tonne container forklift operating adjacent to the SCT sidings and dispatch of those containers by truck;
- dispatch of freight on semi-trailers and smaller trucks via the site access road to Baile Road;
- loading of vans or container wagons which will be shunted onto the "Westrail siding" and coupled together to form a train ready for departure; and
- arrival of two locomotives from Forrestfield to couple up with the rail vans or rail wagons and then depart.

The facility will operate 24 hours per day, initially with three arrivals and departures each week and potentially increasing to daily arrivals and departures. The CER indicates that train arrival and departure times will be governed by national timetables. Train arrivals are likely to be at night between 10.00 pm and 7.00 am. Departures are scheduled for daytime and evening (7.00 am - 10.00 pm) only.

The locomotives delivering freight initially will be Westrail L Class but it is probable that these will be replaced in the near future by newer Australian National/National Rail locomotives. The smaller shunting locomotive which will move sets of wagons between the "Westrail siding" and the SCT site will be a noise attenuated Westrail H Class locomotive owned and operated by SCT.

SCT will construct a noise barrier within the rail reserve and between the Westrail sidings and the main line where locomotives would be idling for extended periods while brake checks are conducted.

During its assessment of the CER, and having regard to advice from the DEP and matters raised in public submissions, the EPA determined that further work was necessary to more accurately quantify the potential noise impacts, and identify further noise attenuation measures which could be adopted to reduce noise levels in the residential area. SCT's consultants carried out further noise modelling of the noise impacts from the proposal in consultation with the DEP, and provided further information on noise attenuation measures which could be applied to the

proposal. This work is reported in the proponent's Response to Submissions (SCT, 1997). The EPA has had regard to this work in providing this report.

The CER included information on alternative sites for the proposal. A large number of public submissions expressed concern about the adequacy of this information. During its assessment the EPA determined that further information was required and SCT provided the EPA with further information about other areas which the company considered as alternative sites to that in the Canning Vale Industrial Estate. This information is also included in the proponent's Response to Submissions (SCT, 1997). The matter is discussed further in Section 5 of this report. The company informed the EPA that the other sites were not suitable for its purposes.

3. Environmental factors

3.1 Relevant environmental factors

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 environmental factors relevant to the proposal were identified from the EPA's consideration and review of all environmental factors generated from the EPA's guidelines (preliminary factors), the proponent's CER document, the submissions received, the proposal characteristics (including significance of the potential impacts), the adequacy of the proponent's response and commitments, and the effectiveness of current management. The identification outcome is summarised in Table 2.

It is the EPA's opinion that the following are the environmental factors relevant to the proposal, which require detailed evaluation in this report:

a) Noise - impact of transport and equipment noise on residents;

b) Air quality - impact of discharges from engines;

c) Particulates and dust - impact of dust during construction and operation;

d) Surface and groundwater quality - protection of water resources from contamination;

e) Light overspill - impact on residents from lighting;

f) Social surroundings - impact on residents amenity and aesthetics; and

g) Transport - impact from additional rail and road transport.

The relevant environmental factors are discussed in Sections 3.2 to 3.8 of this report, and are summarised in Table 3.

3.2 Noise

Description

The operations proposed to be carried out on the site will generate noise. The most significant noise sources are likely to be:

- the operation of a large forklift used to handle containers;
- the operation of smaller forklifts used to handle pallets of goods;
- trucks arriving, departing and moving around the site;

- the operation of the shunting locomotive; and
- the coupling and de-coupling of rail wagons.

Noise will also be generated by activities on the adjacent "Westrail siding". The most significant of these are likely to be:

- the arrival and departure of trains;
- the stationary locomotives idling prior to train departure while brake checks are being conducted;
- the operation of the shunting locomotive; and
- the coupling and de-coupling of rail wagons.

The level of noise received in the adjacent residential area will depend upon the various combinations of these operations. The proposal presents noise management measures to be adopted by the proponent (see Table 1).

Almost all public submissions received on the CER objected to the level and nature of the disturbance to the residential area arising from the proposal. A summary view of those submissions is that the proposal would significantly and adversely add to the existing noise levels received within the adjoining residential areas.

Many public submissions expressed concern that the CER noise modelling did not include all likely noise sources and does not provide confidence that the proposal would result in acceptable noise levels. Many submissions also queried the practicability of reducing the noise from the shunting locomotive to the extent suggested in the CER.

Assessment

The area considered for assessment of this relevant environmental factor is the Canning Vale Industrial Estate and the adjacent residential Waratah and Livingston Estates.

The EPA's objective in regard to this relevant environmental factor is to "ensure that the noise from the operation of the terminal does not unreasonably affect the welfare and amenity of nearby residents" by meeting acceptable noise standards.

In assessing whether the proposal could be designed and operated to meet this objective, the EPA addressed the following:

(i) what noise level criteria should the EPA adopt in relation to its objective?

(ii) did the information in the CER adequately demonstrate that the proposal could meet these criteria? and

(iii) if the information presented in the CER did not adequately demonstrate that acceptable noise criteria could be met, what additional noise attenuation measures were necessary to achieve acceptable levels?

These matters are discussed below.

(a) Acceptable noise criteria

The government has recently gazetted new regulations setting the noise levels which are not to be exceeded in relation to nearby residences. The regulations, which were developed over a number of years, were recommended by the EPA, and have been applied to industrial and most other noise emitting activities in the State. They are considered to define an acceptable level of impact on people in terms of amenity and welfare. The *Environmental Protection (Noise) Regulations 1997*, hereafter referred to as the "noise regulations", require the following noise levels to be met in residential areas adjacent to industrial areas.

Time of day	Noise level not to be exceeded *		
	L_{A10} the noise level exceeded for 10% of any 4hr measurement period.	L_{A1} the noise level exceeded for 1% of any 4hr measurement period.	L_{Amax} the maximum noise level
0700 hrs to 1900 hrs Monday to Saturday.	45 to 50 dB(A)	55 to 60 dB(A)	65 to 70 dB(A)
0900 hrs to 1900 hrs Sunday and public holidays.	40 to 45 dB(A)	50 to 55 dB(A)	65 to 70 dB(A)
1900 hrs to 2200 hrs all days.	40 to 45 dB(A)	50 to 55 dB(A)	55 to 60 dB(A)
2200 hrs on any day to 0700hrs Monday to Saturday and 0900 hrs Sunday and public holidays.	35 to 40 dB(A)	45 to 50 dB(A)	55 to 60 dB(A)

* Levels are shown as ranges to reflect the differing levels assigned to different locations:
- the lowest level applies to those residences more than 450m from the railway and major roads;
- the highest level applies to those residences closest to the proposed facility.

If the SCT proposal were to be implemented, it would be subject to the noise regulations. However the noise regulations do not apply to trains and there are presently no statutory regulations or criteria relating to train operations in Western Australia. Some elements of the proposal, such as those involving the trains on the Westrail sidings, would therefore not be subject to the regulations.

The EPA considers that noise levels from some of the operations proposed on the Westrail sidings would be unacceptable if specific noise criteria were not applied. The EPA has therefore adopted criteria consistent with the noise regulations which would be applied when assessing the Westrail sidings involving activities such as the decoupling of rail wagons, and the shunting of wagons to and from the SCT site and mainline locomotives standing idling on the Westrail sidings for extended periods of time.

The proposal would also result in noise from trains arriving and departing the Westrail sidings. The DEP has assessed the likely noise from an arriving train in comparison to a train passing the site on the Forrestfield - Kwinana main lines. This is presented graphically as Figure 4. The period of noise from an arriving train (three minutes per pass-by) would be longer than for a passing train (one minute per pass-by), but the maximum noise level would be expected to be less. The EPA considers that the noise from an arriving train would not be particularly more intrusive than that of trains passing the site, and thus has not adopted a criteria for this activity.

Departing trains would require the locomotives to be standing idling on the Westrail sidings for more than one hour while brake testing was carried out. The proponents have proposed that this be given attention by having trains depart only during the day or evening (7 am to 10 pm) and not overnight. However the EPA considers that there would still be a potential for excessive noise from locomotives standing idling on the Westrail sidings. Accordingly, the EPA has defined idling as a mainline locomotive standing for more than 2.4 minutes (1% of any 4 hour period). Idling locomotives would be assessed using the criteria consistent with the noise regulations.

In summary, the EPA has adopted the information on the noise levels "not to be exceeded" contained in the noise regulations as being the noise level criteria for the EPA objective in assessing the SCT proposal except for trains actually arriving and departing on the Westrail sidings.

(b) Assessment of the proposal presented in the CER

The noise information presented in the CER was assessed by noise specialists from the DEP to determine whether the proposal as presented would meet the noise criteria specified in (a) above. The DEP also carried out some noise measurements on equipment typical of that proposed to be used by SCT, and the DEP also performed noise modelling in relation to the proposal.

Based on its review of the information in the CER, the DEP advised:

- the sound power levels attributed to various items of equipment in the modelling appear to be generally lower than those calculated by the DEP. As an example, DEP measurements of the sound power levels generated by the forklifts suggest that the noise emissions indicated in the CER have been underestimated in SCT's modelling. In addition the level of attenuation that could be achieved on the locomotive is likely to be less than that used in the CER modelling, resulting in higher noise levels;
- noise generated by trucks moving on the site was not included in the CER modelling;
- the noise modelling has not taken account of weather conditions when light winds are blowing from the north – such conditions occurred, for instance, on about 50 days in 1993;
- the noise modelling appears to have assumed no openings in the south walls of the warehouses, despite substantial openings being shown in Figures 10 and 11 of the CER; and
- the noise levels predicted for some operations are dependent on active noise management requiring continuous and unerring application of noise abatement procedures.

Recognising these limitations, the DEP undertook noise modelling on a number of scenarios related to SCT's proposed operations which would generate noise. The scenario that the DEP believes is representative of the proposal presented in the CER has the following significant noise sources:

(i) shunter with a level of attenuation the DEP believes is achievable, on the Westrail sidings;

(ii) large forklift (Hyster 650) as measured by the DEP, operating near the container line;

(iii) small forklift (Nissan 25) operating south of the warehouse;

(iv) transit warehouse which includes noise from 6 small forklifts, 2 medium forklifts and 2 shunting sirens operating inside the warehouse;

(v) truck as measured by the DEP, moving east of the warehouse;

The results of the modelling indicated that the combination of operations included in this scenario would result in noise levels in excess of the relevant acceptable noise criteria described in section **(a)** above. Figure 5 shows the noise levels predicted by the DEP's modelling. The figure shows that the night time L_{A10} criterion of 35-40 dB(A) would be exceeded over a significant part of the adjacent residential area.

In particular noise from the large forklift and trucks have a significant effect.

The DEP also expressed concerns that while noise levels from coupling operations met the relevant L_{A1} criteria (level which is not to be exceeded for more than 1% of any 4 hour period), these operations would be a source of potential annoyance, particularly during the night time (10 pm to 7 am).

Based on the DEP's information, the EPA has concluded that the proposal as reported in the CER could not meet the EPA's objective for this factor.

(c) Assessment of additional noise attenuation measures.

Having regard to the DEP's findings on the noise information presented in the CER, and to the public submissions, the EPA advised SCT that it needed to carry out further work to more accurately quantify noise impacts from the proposal, and identify additional noise attenuation measures to reduce noise levels in the residential area to acceptable levels.

The DEP has discussed with the proponent the feasibility of employing more passive noise management strategies in the proposal design. One of these strategies was to re-design the layout of the facility to re-locate the SCT sidings and container handling area to the north of the site. Such a layout would move some of the shunting activities and the operation of the large forklift further away from the residential area and the warehouses would act as a significant

noise (and visual) screen. However, SCT raised concerns about operational and safety issues associated with this option.

SCT's consultants carried out further noise modelling and this is reported in the proponent's response to submissions (SCT, 1997). In carrying out the revised modelling, SCT identified a number of additional noise attenuation measures which could be adopted to reduce noise levels in the residential area. SCT also provided a consolidated list of noise attenuation measures incorporating additional measures to those contained in the CER. This list is included at Appendix 3 of this report.

The DEP reviewed the modelling and advised that it considered the revised sound power levels adopted to be realistic, and the predicted noise levels for the operating scenarios modelled to represent typical noise levels which would occur in the residential area.

Of particular note is an option to construct a 4 metre high barrier wall between the container line and the remaining SCT sidings within the SCT site. Placement of a noise barrier in this location would reduce noise from the large fork lift and trucks operating in the container area. Data from the modelling work suggests that the 4 metre noise barrier, together with adequate acoustical treatment of the shunting locomotive and procedures to control noise from coupling and decoupling, could reduce the noise levels in the residential area to within the noise criteria specified in section **(a)** above. The proponent's additional modelling indicated the following noise levels in the residential area (Figure 6 and 7).

Location	Predicted noise levels		Noise regulations criteria	
	LA_1	LA_{10}	LA_1	LA_{10}
Nearest Lot South of warehouse.	46 dB(A)	39 dB(A)	50 dB(A)	40 dB(A)
Waratah Boulevard/Woodspring Trail	38 dB(A)	33 dB(A)	47 dB(A)	37 dB(A)
Kingia Way/Akania Way	35 dB(A)	30 dB(A)	46 dB(A)	36 dB(A)

Based on the revised modelling and the additional noise attenuation options identified, it is the EPA's opinion that the proponent has demonstrated that the proposal could, with appropriate design and special management, achieve noise levels in the residential area which are at or below the criteria set in relation to its objectives.

Achievement of these noise levels would require a combination of:

- construction of noise barriers;
- acoustical treatment of equipment, particularly the shunting locomotive and large forklift; and
- adoption of special operating procedures to control noise from particular operations, especially coupling and de-coupling of rail wagons and shunting locomotives.

In particular, adherence to the special operating procedures would be critical to achieving acceptable criteria at all times. SCT has provided various information on noise attenuation measures which could be adopted for the proposal in its CER and the additional work has been undertaken during the assessment. The EPA recommends that if the proposal is given conditional approval to be implemented, one of the conditions should be that the proponent be required to prepare a comprehensive Noise Management Plan (NMP) prior to construction. The NMP would need to provide information on:

- the location, dimensions and form of noise barriers to be constructed for the project;
- the sound power levels for equipment to be used for the project and details of acoustical treatment to be applied;
- special procedures necessary to restrict activities under weather conditions that increase noise propagation toward the residential area; and

- routine operating procedures to be adopted for particular operations to control noise from the project's operations.

The NMP should adopt all reasonable and practicable noise attenuation measures and provide sufficient information and data to confirm that predicted noise levels from the proposal are within the criteria set by the EPA and are as low as reasonably achievable. It is recommended this Plan be prepared to the satisfaction of the Minister for the Environment on advice from the EPA. The NMP should be made available for public review.

The NMP should include a more detailed monitoring programme, as the proponent has not provided sufficient detail to satisfy the EPA that the proposed monitoring is adequate. The EPA is of the view that noise monitoring should achieve three objectives:

- to provide guidance to the proponent in addressing problems which arise during the early phase of operation;
- to provide confidence that noise objectives and regulations are being met on an on-going basis; and
- to provide data in response to concerns raised by the public from time to time.

The EPA recognises that even with all reasonable and practicable noise attenuation measures, the proposal if implemented would still result in a degree of noise impact in the adjoining residential area and thus lead to complaints from the community.

Public submissions expressed particular concerns regarding noise impacts from activities on the Westrail sidings. As part of the additional noise modelling work carried out by SCT a barrier wall 4 m high and 1.6 km long within the reserve between the main rail line and the residential area was evaluated. Such a barrier wall would have the benefit of not only reducing noise impacts from the Westrail sidings if the SCT proposal was implemented, but also from general train traffic on the main lines. The modelling indicated that with such a barrier, noise levels could be reduced by several dB(A) in the residential area and be the most effective measure in reducing noise.

The establishment of a barrier wall to the south of the rail reserve is beyond the direct control of SCT. The desirability of establishing such a noise barrier is discussed further in Section 5 of this report on other advice.

3.3 Air Quality

Description

The only significant air emissions associated with the proposal are from rail and road vehicle exhausts. The emission source with the greatest potential to cause an adverse impact is the two mainline locomotives while they are stationary and idling for up to 70 minutes during train checking prior to departure of trains. Emissions from the operating shunter are likely to be similar but would be dispersed over a larger area as the shunter moves along the sidings when compared to the stationary locomotives.

Emissions from the locomotives would be carried towards the residential areas on north to north-easterly winds. Based on data from Canning Vale in 1993, the wind blows from the north (337.5° to 22.5°) for about 4% of the year; the winds are light (less than about 7 km/h) for about 1% of the year.

The emissions from diesel engines contain oxides of nitrogen and sulphur and various odorous gases which are the products of combustion.

Public submissions related to the adequacy of the air emission data and the effect emissions may have on the residents' health.

Assessment

The area considered for assessment of this relevant environmental factor is the Canning Vale Industrial Estate and the adjacent residential Waratah and Livingston Estates.

The EPA's objective in regard to this relevant environmental factor is to "ensure that gaseous emissions meet appropriate criteria and do not cause an environmental or human health problem".

Several public submissions expressed concern that emissions, particularly from the idling locomotive, could exceed air quality standards or cause nuisance odours.

The EPA notes that revised modelling (SCT, 1997) of emissions using data from the locomotives likely to be used shows lower levels than presented in the CER and indicates that air quality objectives for oxides of nitrogen and sulphur are unlikely to be exceeded in the adjacent residential areas.

No quantitative odour assessment has been undertaken. Dispersion of the diesel exhaust emissions from the stationary locomotives during checking of a departing train may result in a detectable odour under light north to north-easterly winds. Such winds occur between the hours of 7:00 am and 10:00 pm, when trains may be departing, on about one day in sixteen.

In relation to possible health effects, the proposal is unlikely to significantly add to atmospheric emissions discharged in the area. Several hundred train movements pass this site each week, and the Canning Vale industrial estate has numerous large vehicles moving around it each day. Further the prevailing winds are not usually from the direction of the Westrail Siding.

Having particular regard to:

(a) air quality standards;

(b) the low frequency of winds blowing towards the residential areas; and

(c) the low frequency and short duration of train movements,

it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

3.4 Particulates/Dust

Description

There is a potential for dust to be generated during construction of the facility and through the movement of trucks and forklifts on the site during operation.

The diesel exhaust emissions of the locomotives contain some particulate matter.

Assessment

The area considered for assessment of this relevant environmental factor is the Canning Vale Industrial Estate and the adjacent residential Waratah and Livingston Estates.

The EPA's objective in regard to this relevant environmental factor is to "ensure that dust and particulates arising from activities associated with the facility do not adversely impact on the welfare, amenity or health of adjacent residents".

The EPA notes that the site has been cleared and levelled and the surface stabilised. The proponent has undertaken in the CER to manage construction activities in accordance with the DEP's guidelines for land development sites (DEP, 1996).

The proposed intensive development of the site with buildings, pavement and landscaping would provide little opportunity for significant dust generation during operation provided that working areas are regularly swept and any spills of dusty materials cleaned up immediately.

Public submissions express concern that the emission of particulates from the diesel locomotives had not been addressed. In response, the proponent has advised that, although not presented in the CER, Sinclair Knight Merz had included particulates in their emission modelling and concluded that ground level concentrations would be well below those predicted for NO_2 and SO_2 and would therefore have minimal impact.

The EPA has recommended that an environmental management and monitoring plan be prepared and implemented for the facility. This should include site management and a spillage response plan.

Having particular regard to:

(a) air quality standards;

(b) the low frequency of winds blowing towards the residential areas;

(c) the low frequency and short duration of train movements;

(d) the proponent's commitment to site management during construction and operation; and

(e) the low levels of particulate emissions from diesel engines,

it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

3.5 Surface/Groundwater Quality

Description

The potential for surface and groundwater contamination arises from stormwater run-off from hard-standing areas and the discharge from the truck-wash and service facility.

The proposal lies within the Bannister Creek catchment. The area is relatively flat with surface water drainage being mostly via constructed channels. The site lies at the edge of the Jandakot groundwater mound (Figure 1). Groundwater beneath the site and adjacent areas flows generally north-westerly, is relatively shallow and of a quality suitable for domestic irrigation use. The soils at the site are sandy and any water discharged to the surface would rapidly soak through to the groundwater.

Water supply bores operated by the Water Corporation are located about 3 km south-west of the site. Groundwater beneath the site flows away from these bores so they cannot be affected by operations at the site.

Concern was expressed in public submissions that insufficient attention had been paid to the potential for groundwater contamination.

Assessment

The area considered for assessment of this relevant environmental factor is the area within a radius of five kilometres from the proposal.

The EPA's objective in regard to this relevant environmental factor is "to maintain or improve surface water and groundwater quality to ensure existing and potential users are protected".

The EPA notes that the proponent proposes to discharge all stormwater to a collection sump where it "will be allowed to percolate to the underlying groundwater". The proponent concludes that the risk of contamination of the groundwater is "negligible" since no potential contaminants would be stored on site and only "incidental and minor pollution [may occur] from leakage of hydrocarbon liquids from motor vehicle engines".

The Water and Rivers Commission has expressed concern that wastes from truck servicing and the truck-wash facility "have the potential to contaminate groundwater to the detriment of beneficial uses in the area".

The freight facility is not intended to handle hazardous materials or bulk supplies of materials likely to have the potential to pollute surface waters or groundwater. However, the CER makes no mention of the proposed means of disposal of waste-water from the truck-wash and service facility and does not address the response to an accident causing a significant spillage of diesel fuel resulting from, say, the puncturing of the fuel tank of a truck.

In responding to public submissions the proponent has committed to the installation of "pollutant traps and other water sensitive design best management practices".

DEP has advised that the truck-wash and service facility should be constructed and managed in accordance with the DEP "Environmental Code of Practice – Automotive Repair Industry". The proponent has committed to develop and implement a stormwater management plan for the facility including a spillage response plan, and to construct and operate the truck-wash and service facility in accordance with the DEP "Environmental Code of Practice – Automotive Repair Industry".

Having particular regard to:

(a) the nature of the materials likely to be handled through the facility;

(b) the nature of the work likely to be carried out in the truck service facility;

(c) the potential for accidental spillages; and

(d) the proponent's commitments,

it is the EPA's opinion that the proposal can be managed to meet the EPA's objective subject to construction and management of the truck wash and service facility in accordance with the DEP's Environmental Code of Practice - Automotive Repair Industry, and the development and implementation of an EMP including a spillage response plan.

3.6 Light overspill

Description

The facility is proposed to be operated continuously and there is therefore a need for external lighting at a level commensurate with the activities conducted outside buildings.

Lighting would be provided by 400W high pressure sodium lamps mounted on 10m poles and on buildings to illuminate the work areas on the site and the "Westrail siding".

Assessment

The area considered for assessment of this relevant environmental factor is the Canning Vale Industrial Estate and the adjacent residential Waratah and Livingston Estates.

The EPA's objective in regard to this relevant environmental factor is to "ensure that lighting associated with the facility does not unreasonably interfere with the welfare or amenity of adjacent residents".

The EPA notes that the proponent has committed to design the lighting requirements so that light overspill is managed to comply with Australian Standard AS4282 and that the light fittings to be used have provision for the installation of external baffles.

Having particular regard to:

(a) the need for lighting on the site;

(b) the proponent's commitment regarding design of the lighting system; and

(c) the ability to install additional baffles if necessary,

it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

3.7 Social surrounds

The proposal would impact on the social surrounds in a number of ways, particularly noise, air quality, lighting and visual amenity. The EPA's assessment of the impacts of noise, air quality and lighting are included in section 3.2, 3.3 and 3.6 respectively. The issue of visual amenity is addressed below.

Description

The warehouse buildings and trains operating on the "Westrail siding" would be visible from the residential areas. The buildings are to be constructed of concrete and 'colorbond' steel in accordance with normal building codes.

Operational activities on the SCT site would be shielded from view by the proposed landscaping of the existing bund. In addition, an acoustic barrier wall approximately 7m high and 60m long would be constructed immediately to the south of the "Westrail siding" near its eastern end. This is the point where the departing locomotive would be stationary for up to 70 minutes.

Assessment

The area considered for assessment of this relevant environmental factor is the Canning Vale Industrial Estate and the adjacent residential Waratah and Livingston Estates.

The EPA's objective in regard to this relevant environmental factor is to "ensure that the visual amenity of the adjacent residential area is not unreasonably affected".

The EPA notes that the nature of the proposed buildings is in keeping with normal expectations for an industrial site and that the railway rolling stock proposed to be used is similar to that generally in use. Further landscaping of the 30m buffer between the residential areas and the railway has the potential to reduce the visual intrusion of operations on the "Westrail siding".

Some public submissions expressed concern that the proposed buildings would obscure existing views of the city. The EPA is of the opinion that such changes to distant views are a normal consequence of the development of the area in accordance with its zoning.

As part of the additional noise investigations undertaken for the EPA by SCT, the effectiveness of a 4m high wall running the full length of the Waratah and Livingston Estates and located within the 30 m buffer on the southern side of the main rail lines has been modelled. This would be the most effective noise barrier in relation to management of noise generated from SCT's operations, as it would encompass all of SCT's activities.

Such a barrier in this location would also address possible noise issues associated with future suburban rail operations in this area, and may assist to resolve some of the concerns about the visual intrusion of structures associated with the proposal.

Concern was expressed in some public submissions that the 7 m by 60 m acoustic barrier wall would become an attraction for disfigurement by graffiti. There are a number of State and local government programmes aimed at dealing with this issue. A well designed wall could incorporate terracing and planting. Combined with appropriate landscaping , this could reduce the visual intrusion of the wall and restrict the potential for graffiti.

Having particular regard to:

(a) the nature of the proposed buildings and railway rolling stock;

(b) the pre-existing industrial zoning of the proposed site; and

(c) the potential for landscape screening,

it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

3.8 Transport

Description

The proposed development would add up to 14 train movements per week to the existing traffic of about 190 trains per week.

The proposed development would involve up to 240 truck movements per day; 60% of these (about 140 movements) would be involved in short haul (<3 km) deliveries within the Canning Vale Industrial Estate. There are currently about 12,000 truck movements per day associated with the Estate.

In SCT's current operation at Welshpool about 140 truck movements per day travel to Canning Vale, a distance of over 10 km.

Assessment

The area considered for assessment of this relevant environmental factor is the area within a radius of ten kilometres from the proposal.

The EPA's objective in regard to this relevant environmental factor is to "ensure that road and rail transport associated with the proposal does not result in unacceptable levels of service or safety on the existing networks".

The EPA notes the proposal would result in a small increase in rail traffic and is likely to result in a reduction in truck-kilometres travelled in comparison to the existing SCT operation.

The EPA also notes that the Canning Vale site is closer to SCT's major customers than are any of the alternative sites. This proximity to customers minimises the road transport distances and the associated impact on the road network and provides other environmental benefits through the consumption of less fuel and other operational consumables.

Concern was raised in public submissions that the slow moving trains entering and leaving the "Westrail siding" could cause delays to road traffic using nearby rail crossings. The proponent has estimated the maximum likely delay as four minutes at the Nicholson Road crossing. Under the movement schedule proposed, these crossings would occur outside peak road traffic periods and the EPA is of the view that such delays do not constitute unreasonable impacts on the level of service or safety.

Having particular regard to:

(a) the transport advantages of the proposed site;

(b) the current level of use and design capacity of the road and rail network; and

(c) the proposed schedule of train movements,

it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

4. Conditions and procedures

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.

In developing recommended conditions for each project, the EPA's preferred course of action is to have the proponent provide an array of commitments to ameliorate the impacts of the proposal on the environment. The commitments are considered by the EPA as part of its assessment of the proposal, and following discussion with the proponent the EPA may seek additional commitments.

The EPA recognises that not all of the commitments are written in a form which makes them readily enforceable, but they do provide a clear statement of the action to be taken as part of the proponent's responsibility for and commitment to continuous improvement in environmental performance. The commitments then form part of the conditions to which the proposal should be subject if it is to be implemented.

The EPA may, of course, also recommend conditions additional to that relating to the proponent's commitments.

As discussed in section 3.2, the EPA is of the opinion that the noise level associated with the proposal was unlikely to meet the EPA's objective but that the objective may be able to be met if additional noise measures were implemented. Accordingly the EPA's principal condition to which the proposal should be subject if it is to be implemented is that a Noise Management Plan (NMP) be prepared to the satisfaction of the Minister, and that the principal element of the NMP be that it provide in detail a modified approach to noise management such that the proponent can demonstrate the criteria adopted by the EPA for this factor can be achieved.

The EPA recommends that the proposal be subject to the conditions and procedures set out in Appendix 3, and summarised below, if the Minister determines that the proposal may be implemented, but noting that such implementation should involve the submission of an NMP to the requirements of the Minister:

(a) the proponent shall fulfil the commitments in the Summary of Commitments statement set out as an attachment to the recommended conditions in Appendix 3;

(b) in order to manage the relevant factors and EPA objectives contained in this bulletin, and subsequent conditions and procedures authorised by the Minister for the Environment, the proponent shall be required to prepare, prior to implementation of the proposal, environmental management system documentation with components such as those adopted in Australian Standards AS/NZ ISO 14000 series;

(c) The proponent shall ensure shunting operations carried out by the proponent, using its own locomotive on the Westrail siding comply with noise criteria consistent with those presented in the Environmental Protection (Noise) Regulations, 1997;

(d) The proponent shall ensure that mainline locomotives associated with the proponents operations, which are standing stationary on the Westrail siding for periods exceeding 2.4 minutes comply with noise criteria consistent with those presented in the Environmental Protection (Noise) Regulations, 1997;

(e) Prior to construction, the proponent shall prepare a Noise Management Plan to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

This Plan shall include:

1. the location, dimensions and form of noise barriers to be constructed for the project;
2. the sound power levels for equipment to be used for the project and details of acoustical treatment to be applied;
3. special procedures necessary to restrict activities under weather conditions that increase noise propagation toward the residential area; and
4. routine operating procedures to be adopted for particular operations to control noise emanating from the project.

The proponent shall make the Noise Management Plan available for public comment for a period of two weeks prior to the Environmental Protection Authority finalising its consideration of the Plan.

5. Other advice

5.1 Alternatives

Many public submissions expressed the view that the SCT project could and should be located at another site, away from residential areas and at a more appropriately zoned location.

The CER outlined reasons why sites at Forrestfield Rail Yard, Midland Rail Yard, Leighton Beach, Kwinana Marshalling Yards, Canning Vale west of Ranford Road and the Kewdale Westrail Facility were found not to be suitable CER (Alan Tingay & Assoc, 1997). SCT has expanded on this in its Response to Submissions (SCT, 1997) and has also further considered a detailed design option located at Forrestfield Rail Yard.

SCT has indicated that the Canning Vale site proposed in the CER is the only location that meets its infrastructure, commercial and timing requirements.

A review of sites for a road-rail intermodal freight terminal was published by the Department of Transport in August 1997 (Sinclair Knight Merz, 1997). Intermodal refers to the carrying of road trailers and containers on rail wagons. That report has recommended that a modified layout at the Kewdale Freight Terminal is the preferred site. In relation to the SCT proposal, the report acknowledges the Canning Vale proposal and points out that "Canning Vale is not an intermodal terminal but does contest the same market as road and rail intermodal" (Sinclair Knight Merz, 1997: Technical Report 1, p4)

SCT has outlined its reasons for preferring Canning Vale, and some of these, such as those related to commercial aspects, cannot be considered by the EPA.

The EPA has recently released a draft policy for environmental impact assessment on Industrial - Residential Buffer Areas. Transport depots should ideally be more than 200 metres from residential areas, however the policy recognises that premises may be closer where modelling and other studies have demonstrated acceptable criteria can be met. The EPA notes that most of the alternative sites are located at a greater distance from residential areas and therefore would be likely to result in lesser impacts on the community.

The EPA's assessment of this proposal highlights the need for government to plan for the provision of suitable sites for such activities which are sufficiently removed from residential areas. The matter of appropriate land planning is further addressed below.

5.2 Land Planning

As mentioned above, public submissions expressed the view that this is an inappropriate use of the Canning Vale site.

In undertaking the assessment of this proposal, the EPA is acutely aware that the need for this assessment has arisen as a direct result of the failure of the planning process to provide an adequate separation between the residential subdivision and the general industrial area and transport corridor. Provision of such a separation could have been addressed either at the time of setting aside of the industrial area or during consideration of the rezoning of the residential areas.

The EPA is mindful that use of the Environmental Protection Act to attempt to address problems caused by poor planning often tends to result in unsatisfactory outcomes rather than solutions that meet the requirements of either proponents or adjacent land users.

The proposal is situated in the Canning Vale Industrial Estate. The railway that passes to the south of the estate was completed in 1966 and the estate itself was established in the 1970s for general industry. The residential Waratah and Livingston Estates, adjacent to the railway on the southern boundary of the industrial estate, have been developed on land re-zoned from "rural" to "urban" in June 1989.

When the urban re-zoning was proposed the then Industrial Lands Development Authority (ILDA) expressed concern that urban development could constrain the range of industrial

activities in the industrial estate. Similar concerns were expressed by the City of Canning which opposed the re-zoning. In the absence of a clear indication from ILDA of the types of industry envisaged for the Canning Vale Industrial Estate, the EPA provided a list of indicative buffer distances considered appropriate for a range of industries and suggested to ILDA that it should "actively plan for the incorporation of buffer zones within industrial estates".

Measurements of noise from the existing rail activities, the Metropolitan Markets, Swan Brewery and Coles Distribution Centre indicated that noise guidelines for residential areas could be met but the noise consultant warned that "heavy" or noisy industries should not be allowed to develop in the industrial estate.

In approving the re-zoning the State Planning Commission decided that the issue of noise from the industrial estate could be "adequately dealt with in conjunction with the subdivision of the land... and the subdivision and development of the industrial land".

Approval for subdivision of the land was given by the State Planning Commission in October 1989 on the basis of a subdivision plan which included a 30 m landscaped buffer between the subdivision and the railway reserve.

Recent changes to the planning and environmental laws do provide better opportunities for addressing this issue, but there is still a general reluctance to accept the fact that many industrial/commercial activities are, by their nature, incompatible with the rising expectations of the community in respect of the overall amenity of residential areas. There are, however, commercial, recreational, and light industrial activities which are compatible with both residential and general industry which, with appropriate attention to detailed planning, could be used to provide appropriate separation.

The EPA suggests that the Minister for the Environment draw the attention of the Minister for Planning to this report and seek that minister's advice on how best to employ the planning process to avoid the time and cost associated with environmental assessment and the measures necessary to sustain the amenity of residential areas.

During this assessment the EPA has been made aware of two additional proposals which would further impinge on the amenity of the residential areas of Waratah and Livingston Estates, viz:

- a proposed electrified passenger rail service; and
- a Western Power 132kV power line,

adjacent to the existing rail line.

The EPA is of the view that the Government should give serious consideration to shielding the residential areas from some of the noise and visual impacts of these proposals by constructing a substantial noise barrier on the southern side of the railway reserve, preferably within the residential 'buffer' strip. With proper design, such a barrier could substantially avert the deterioration of the general amenity of the residential areas which will otherwise arise from these activities and, at the same time, avoid many of the constraints recommended by the EPA in respect of the SCT proposal.

The EPA is of the view that, unless effective action is taken to manage noise from existing and proposed sources, the Government will receive on-going complaints from the community even though the proposals would be complying with the recently gazetted *Environmental Protection (Noise) Regulations 1997*, where they apply. Action to deal with this may require the participation of a number of government agencies, local government and the proponent.

6. Conclusions

The EPA concluded that the environmental factor of greatest relevance to the assessment of the SCT proposal was the impact of transport and equipment noise on the nearby residents. In assessing this factor the EPA adopted noise level criteria consistent with the noise levels "not to be exceeded" contained in the Environmental Protection (Noise) Regulations 1997.

The EPA has considered in detail the noise information provided by both the proponent and the Department of Environmental Protection (DEP), and has concluded that the proposal as set out in the Consultative Environmental Review document could not meet the EPA's objective for the noise environmental factor.

During the course of the assessment the EPA, as well as officers of the DEP on behalf of the EPA, had a number of meetings with the proponent to discuss measures which the proponent may care to consider. This approach is in accord with the guide to environmental impact assessment in Western Australia which included the statement "Throughout the process, the EPA will advise and help proponents to improve or modify their proposals so that the environment will be protected".

The EPA has concluded that the additional data made available during the assessment suggests that the introduction of an appropriate noise barrier, acoustical treatment of equipment and special operating procedures could reduce the noise levels in the residential area to within the criteria set. On this basis, the EPA has concluded that it would be open for the Minister to provide conditional approval but with some very stringent conditions which should include the requirement for the proponent to prepare a Noise Management Plan (NMP). The NMP would need to provide sufficient information and data so as to clearly describe the proposed noise attenuation measures and confirm that predicted noise levels from the proposal are within the criteria set by the EPA and are as low as reasonably achievable.

The EPA has concluded that the NMP proposed by the EPA should be subject to public review prior to the EPA's and the Minister for the Environment's consideration, and be subject to approval by the Minister before any construction was permitted to commence.

An approach, which would be outside the capacity of the proponent but which may be available to government, would be to have an appropriate barrier wall constructed to the south of the existing through-line as future use of the Kewdale to Kwinana rail line could be expected to increase and a suburban line on the same easement may be developed. The EPA has concluded that such a noise barrier, appropriately designed and constructed, could address the situation which has arisen as a result of residences being built in close proximity to land zoned for industrial use.

7. Recommendations

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 submits the following recommendations to the Minister for the Environment:

1. That the Minister considers the report on the relevant environmental factors of noise and vibration (3.2); air quality (3.3); particulates and dust (3.4) surface/ground water quality (3.5); light overspill (3.6); social surrounds (3.7); and transport (3.8).
2. That the Minister notes that the EPA has concluded that the proposal as described in the CER could not meet the EPA's objective for noise as a relevant factor.
3. That the Minister notes that with the exception of noise as a relevant factor, the proposal can be managed to meet the EPA's objectives.
4. That the Minister notes that additional data made available during the assessment suggests that appropriate noise attenuation measures could be introduced so as to reduce the noise levels in the residential area to within the criteria set by the EPA to meet the objectives for this factor.
5. That the Minister notes that in the opinion of the EPA it would be open for the Minister to grant conditional approval for implementation of the proposal subject to a Noise Management Plan being produced by the proponent demonstrating to the satisfaction of the Minister that the criteria set by the EPA for the noise objective can be met.

6. That the Noise Management Plan referred to in (5) above be made available to the public for review, and be subject to approval by the Minister before any construction be permitted to commence.

7. That in addition to conditions in relation to a Noise Management Plan, the Minister imposes the conditions set out in Appendix 3 of this report.

Table 2: Identification of Relevant Environmental Factors

PRELIMINARY ENVIRONMENTAL FACTOR	PROPOSAL CHARACTERISTIC	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT ENVIRONMENTAL FACTORS
POLLUTION			
Noise	• Up to seven trains would arrive each week between 10 pm-7 am. • Up to seven trains would depart each week between 7 am-10 pm. • Trains would be split up and hauled from the Westrail siding to the SCT sidings using a shunting locomotive. • One large forklift and other smaller forklifts would move containers and pallets on-site. • trucks would arrive and depart at all hours to distribute goods.	• DEP considered that the noise modelling was based on incorrect sound power levels, leading to wrong predictions. • Public submissions objected to the level and nature of the disturbance to the residential area arising from the proposal. • Public submissions queried the practicability of reducing the noise from the shunting locomotive to the extent suggested in the CER. • Some public submissions expressed concern that the activities associated with the proposal may cause vibration with the potential to damage houses.	**Considered to be a relevant factor**
Vibration	As above.	• Public submissions expressed concern that the activities associated with the proposal may cause vibration with the potential to damage houses.	The vibration from SCT's operations would be less than passing trains and well below the level that could damage houses. **Factor does not require EPA evaluation**
Air quality	Locomotives, forklifts and trucks on the site would discharge exhaust gas.	Several public submissions expressed concern that emissions, particularly from the idling locomotive, could exceed air quality standards or cause nuisance odours.	**Considered to be a relevant factor**
Particulates and dust	Much of the site, and all trafficable areas, would be sealed.	Public submissions expressed concern that the emission of particulates from the diesel locomotives had not been addressed.	**Considered to be a relevant factor**
Surface and ground water quality	Storm water and a truck wash and service facility would be directed to a infiltration sump on-site.	The WRC has expressed concern that wastes from truck servicing and the truck-wash facility "have the potential to contaminate groundwater to the detriment of beneficial uses in the area". Concern was expressed in public submissions that insufficient attention had been paid to the potential for groundwater contamination.	**Considered to be a relevant factor**

PRELIMINARY ENVIRONMENTAL FACTOR	PROPOSAL CHARACTERISTIC	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
Light overspill	Lighting of the SCT site and Westrail siding would be installed.	Some submissions indicated concerns about the effect of the project lighting.	**Considered to be a relevant factor**
SOCIAL SURROUNDINGS			
Social surroundings		Public submissions expressed concerns about the impact of the proposal on the amenity on the area through cumulative effects of noise, air quality, lighting and visual intrusion. Public submissions expressed concern that the proposed buildings would obscure existing views of the city. Concern was expressed in some public submissions that the acoustic barrier wall would become an attraction for disfigurement by graffiti.	**Considered to be a relevant factor**
Transport	• Up to an additional 14 train movements per week. • Up to 240 truck movements per day although approximately 140 of these already enter the Canning Vale industrial estate.	Concern was raised in public submissions that the slow moving trains entering and leaving the "Westrail siding" could cause delays to road traffic using nearby rail crossings.	**Considered to be a relevant factor**
OTHER ADVICE			
Alternatives		Public submissions expressed the view that other sites, such as at Forrestfield and Kewdale, were more appropriate for this development.	**Requires comment in EPA Report**
Land planning		Public submissions expressed the view that this proposal is an inappropriate use of the Canning Vale site.	**Requires comment in EPA Report**

Table 3: Summary of Assessment of Relevant Environmental Factors

RELEVANT FACTOR	RELEVANT AREA	EPA OBJECTIVES	EPA ASSESSMENT	EPA'S ADVICE
Noise	The land bounded by Bannister Road, Nicholson Road and Ranford Road	Protect the amenity of nearby residents from noise impacts resulting from activities associated with the proposal by ensuring that noise levels meet statutory requirements and acceptable standards.	There is a significant risk that noise levels generated by activities on-site and off-site (ie Westrail siding) related to the SCT proposal presented in the CER would exceed the noise regulation levels at times. Based on modelling of additional noise management options, it is expected that an acceptable noise management strategy can be implemented to ensure that a modified proposal would meet the EPA's noise criteria. The EPA's noise criteria should apply to all operations within the SCT site and also to the shunter at all times and locomotives which are stationary for an excessive period when operating on the Westrail siding. Proponent commitments include: • Ensure that noise levels from the warehousing and shunting operations comply with the Environmental Protection Act, 1986 and noise regulations. • Ensure that noise levels from trains would comply with Part V of the Environmental Protection Act, 1986. • Measure noise levels of SCT and related train operations every 2 years commencing within 3 months of the facility being fully operational and provide results to DEP and Local Authority. • The H Class shunting locomotive to be used on the premises would have noise control applied to the exhaust, cooling fan, lining within the engine enclosure and to openings in the engine covers as required, so that the emitted noise complies with the requirements of the Environmental Protection (Noise) Regulations, 1997. • The air compressor used to pressurise the brake systems of the train would be housed in an acoustic enclosure. Noise levels from such an enclosure would ensure compliance with the regulations.	In relation to the proposal presented in the CER, and having particular regard to: • the likely exceedence of relevant noise criteria by aspects of the proposal at times, it is the EPA's opinion that the proposal presented in the CER could not meet the EPA's objective. The EPA considers that the proponent has demonstrated that a revised proposal could, with appropriate design and special management meet the EPA's objectives, provided that SCT prepare an Noise Management Plan, to the requirements of the Minister on advice of the EPA, which includes public comment.

RELEVANT FACTOR	RELEVANT AREA	EPA OBJECTIVES	EPA ASSESSMENT	EPA'S ADVICE
Noise (cont.)			• SCT will not proceed with the operation of the proposal until the Minister for the Environment is satisfied that activities associated with the proposal (excluding train arrivals and daytime and evening train departures) do not exceed 40 dB_{LA10} (night time), 45 dBL_{A10} (evening) and 50 dBL_{A10} (daytime), and SCT will design and implement a plan to the satisfaction of DEP.	
Air quality	The land bounded by Bannister Road, Nicholson Road and Ranford Road	Ensure that gaseous emissions do not adversely affect the environment or health , welfare and amenity of nearby land users by meeting statutory requirements and acceptable standards.	The main sources would be stationary locomotives, the shunter and trucks. Wind conditions are likely to blow towards the houses from the SCT site approximately 5 per cent during the year.	Having particular regard to: (a) air quality standards; (b) the low frequency of winds blowing towards the residential areas; and (c) the low frequency and short duration of train movements, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.
Particulates/dust	The land bounded by Bannister Road, Nicholson Road and Ranford Road	Ensure that dust and particulate levels generated by the proposal do not adversely impact upon welfare and amenity or cause health problems by meeting statutory requirements and acceptable standards.	There would be little opportunity for significant dust generation during operation provided that working areas are regularly swept and any spillages of dusty materials cleaned up immediately. Proponent commitments include: • Site works would include spraying of water from tankers in dry conditions.	Having particular regard to: (a) air quality standards; (b) the low frequency of winds blowing towards the residential areas; (c) the low frequency and short duration of train movements, (d) the proponent's commitment to site management during construction and operation; and (e) the low levels of particulate emissions from diesel engines, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

RELEVANT FACTOR	RELEVANT AREA	EPA OBJECTIVES	EPA ASSESSMENT	EPA'S ADVICE
Surface and ground water quality	The proposal site, the adjoining railway line and the associated drainage catchment of Bannister Creek	Maintain or improve the quality of surface water and groundwater to ensure that existing and potential uses, including ecosystem maintenance, are protected, consistent with the draft WA Guidelines for Fresh and Marine Waters (EPA 1993).	The truck-wash and service facility should be constructed and managed in accordance with the "Environmental Code of Practice – Automotive Repair Industry". A commitment should be given to this effect Proponent commitments include: • The proponent will develop and implement an Stormwater management plan for the facility which will include a spillage response plan and to construct and operate a truck-wash in accordance with the DEP Environmental Code of Practice - "Automotive Repair Industry".	Having particular regard to: (a) the nature of the materials likely to be handled through the facility; (b) the nature of the work likely to be carried out in the truck service facility; (a) the potential for accidental spillages; and (b) the proponent's commitments, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.
Light overspill	The land bounded by Bannister Road, Baile Road, Nicholson Road and Ranford Road	Manage potential impacts from light overspill and comply with acceptable standards.	Designing lighting consistent with AS 4282 should minimise off-site lighting impacts. Proponent commitments include: • design the lighting so that light overspill is managed to comply with the requirements of AS 4282.	Having particular regard to: (a) the need for lighting on the site; (b) the proponent's commitment regarding design of the lighting system; and (c) the ability to install additional baffles if necessary, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

RELEVANT FACTOR	RELEVANT AREA	EPA OBJECTIVES	EPA ASSESSMENT	EPA'S ADVICE
Social surrounds	The land bounded by Bannister Road, Nicholson Road and Ranford Road	Ensure that the visual amenity of the adjacent residential area is not unreasonably affected	Landscaping should reduce the visual intrusion of the proposal. Noise management structures would need to be designed to reduce visual impacts without affecting their noise attenuation effectiveness. This should be addressed through a Noise Management Plan. Noise management structures off-site could be referred to the EPA for consideration. Proponent commitments include: • SCT will landscape the site in accordance with landscape plans; • LandCorp will plant the buffer strip on the north side of the railway line.	Having particular regard to: (a) the nature of the proposed buildings and railway rolling stock; (b) the pre-existing industrial zoning of the proposed site; and (c) the potential for landscape screening, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.
Transport	The land bounded by Bannister Road, Nicholson Road and Ranford Road	Ensure that road and rail transport associated with the proposal does not result in unacceptable levels of service or safety on the existing networks	There would be a small increase in rail traffic and is likely to result in a reduction in truck-kilometres travelled in comparison to the existing SCT operation.	Having particular regard to: (a) the transport advantages of the proposed site; (b) the current level of use and design capacity of the road and rail network; and (c) the proposed schedule of train movements, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective.

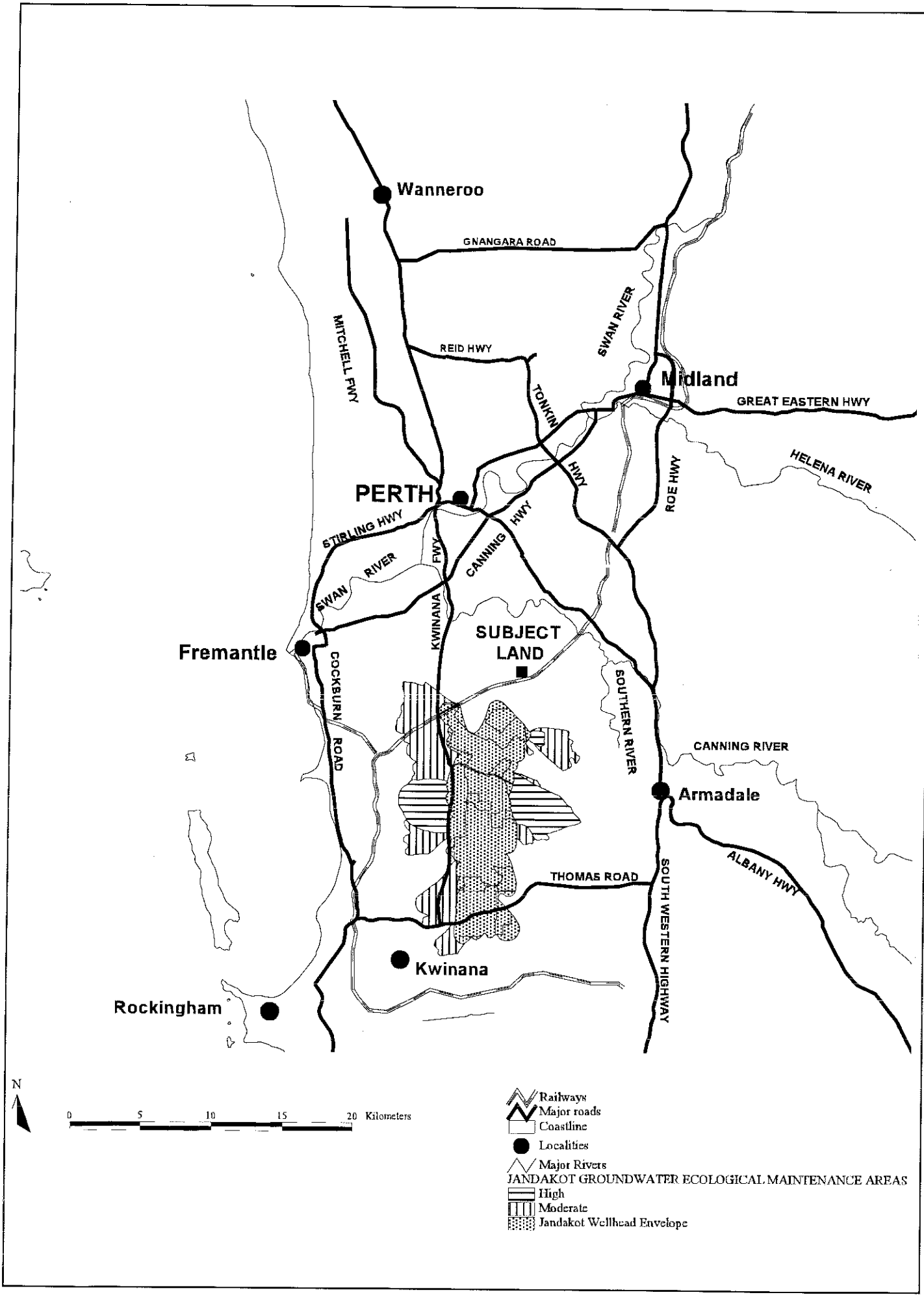


Figure 1. Proposed SCT Rail Freight Facility Regional Location.

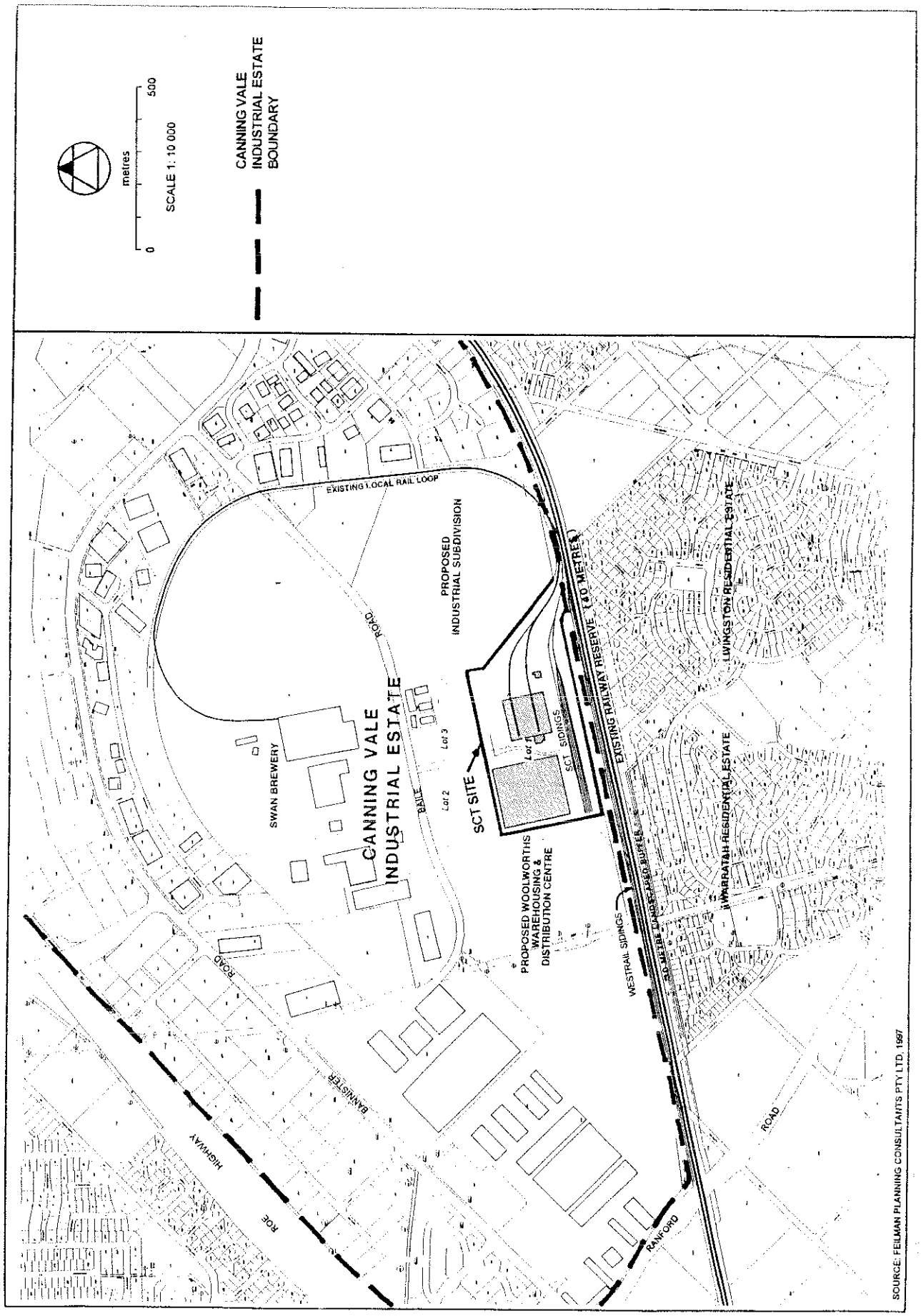


Figure 2. SCT Rail Freight Facility Site Development Plan.

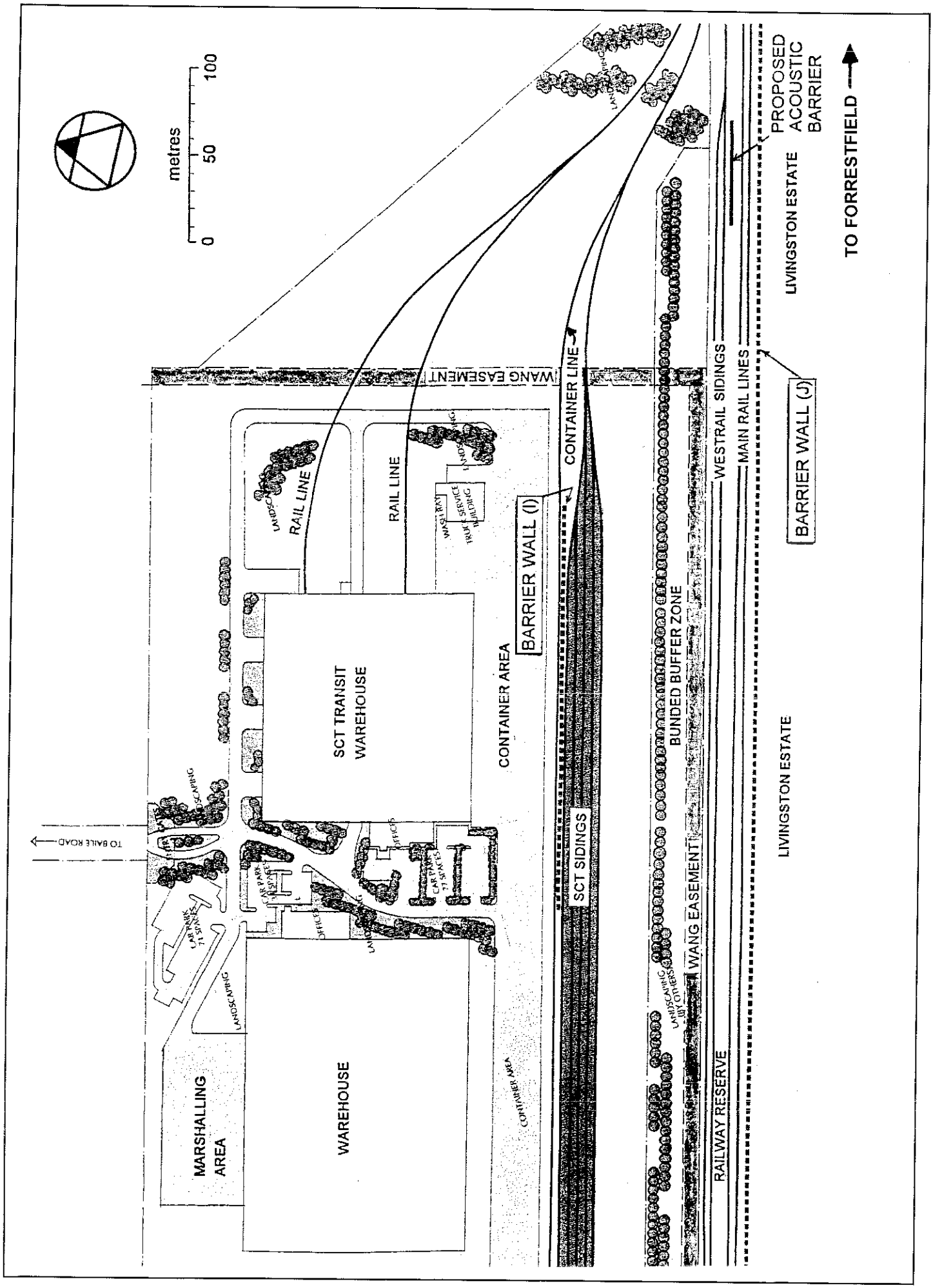


Figure 3. SCT Rail Freight Facility Proposed Location of Barrier Walls.

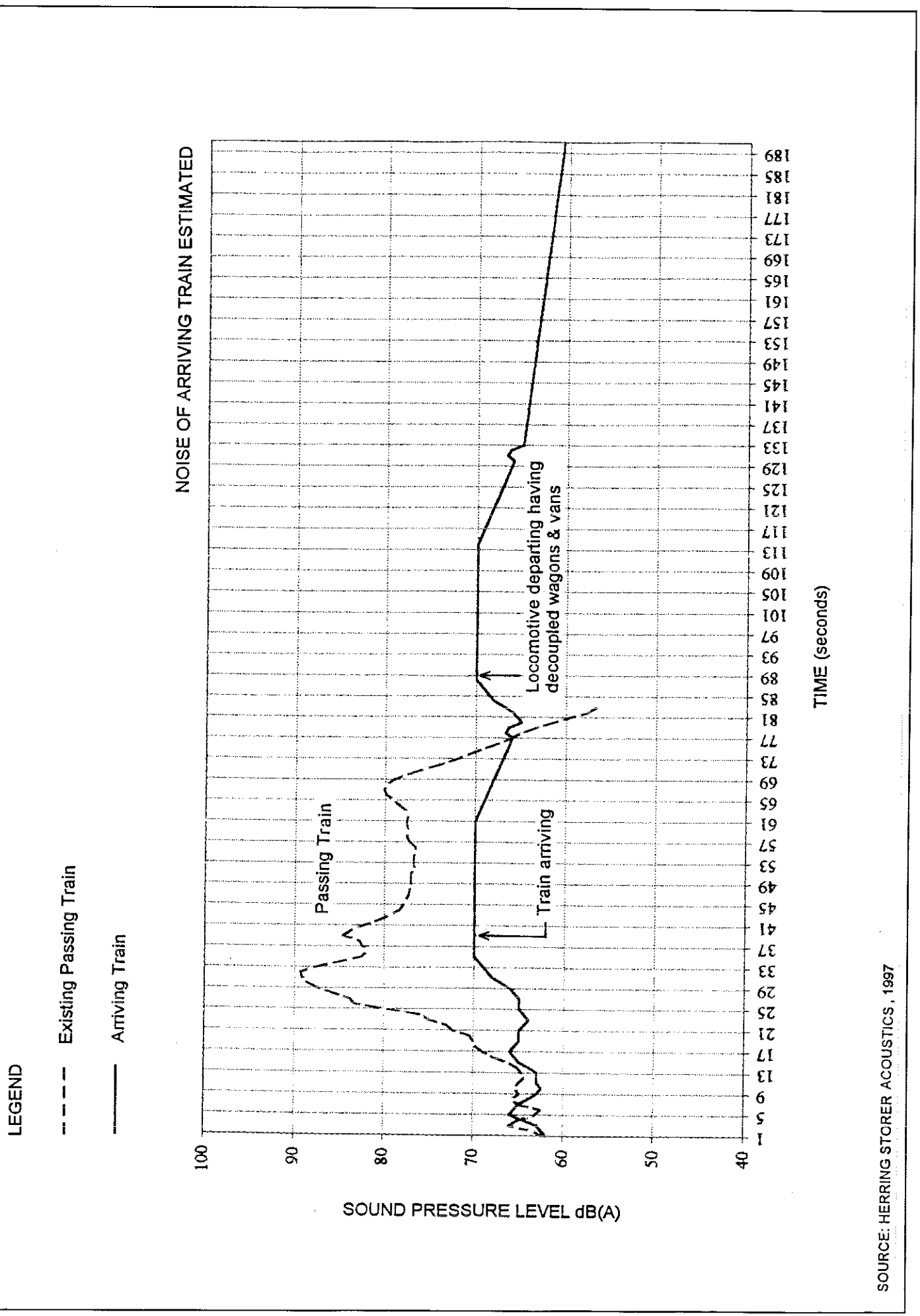


Figure 4. SCT Rail Freight Facility . Noise from an existing passing train at Livinstone Estate shown in seconds.

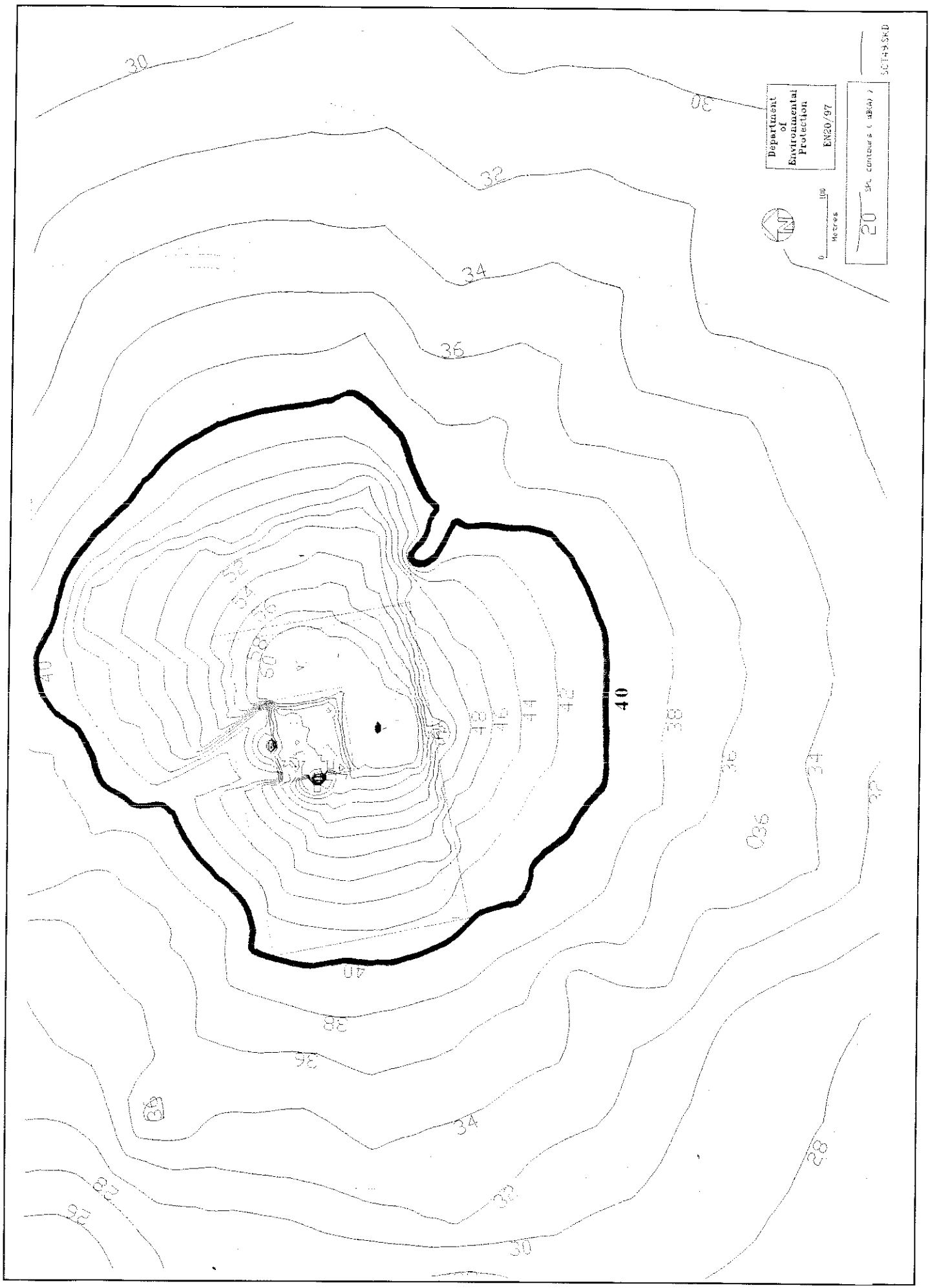


Figure 5. DEP modelling of CER proposal.

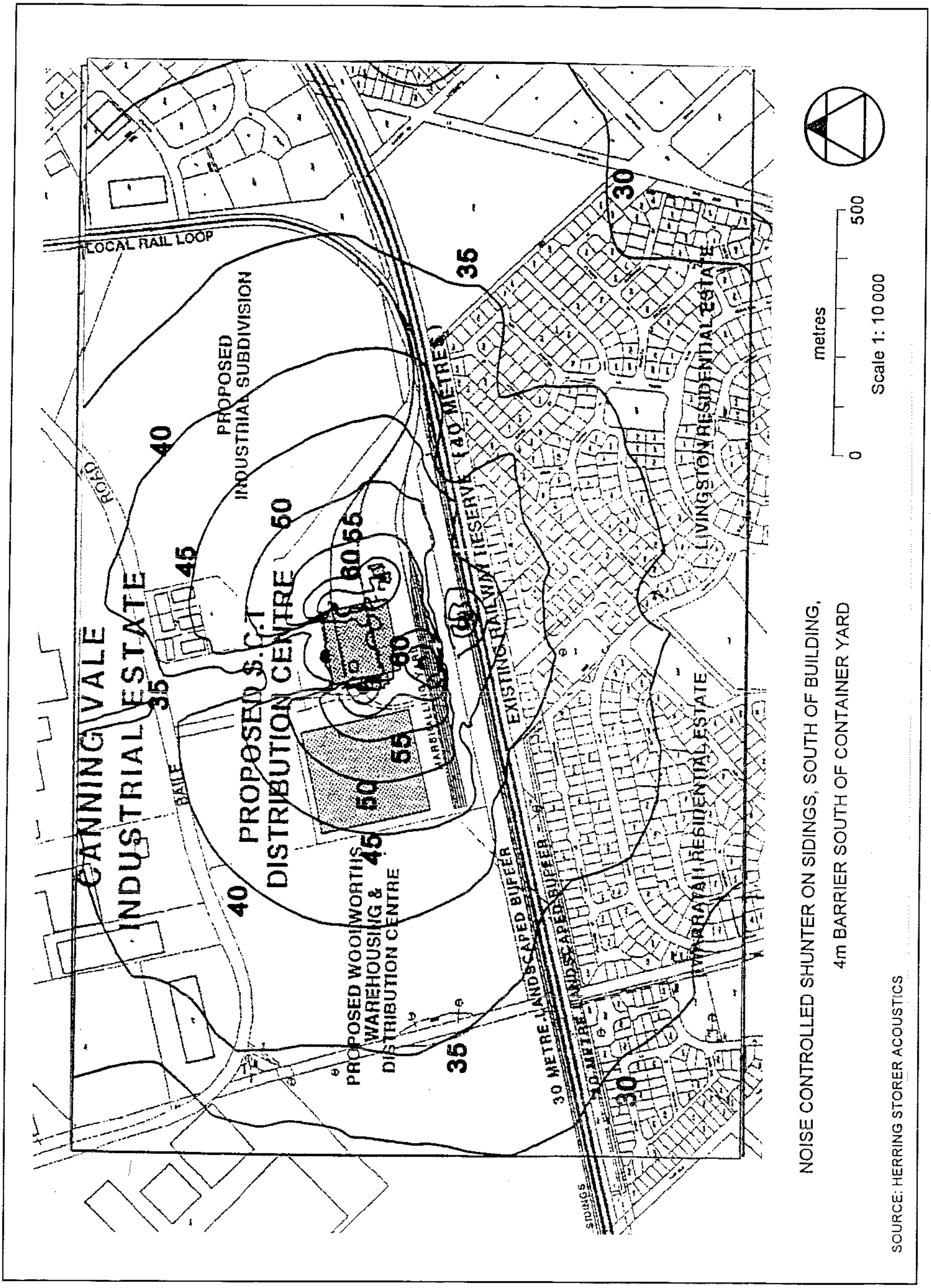
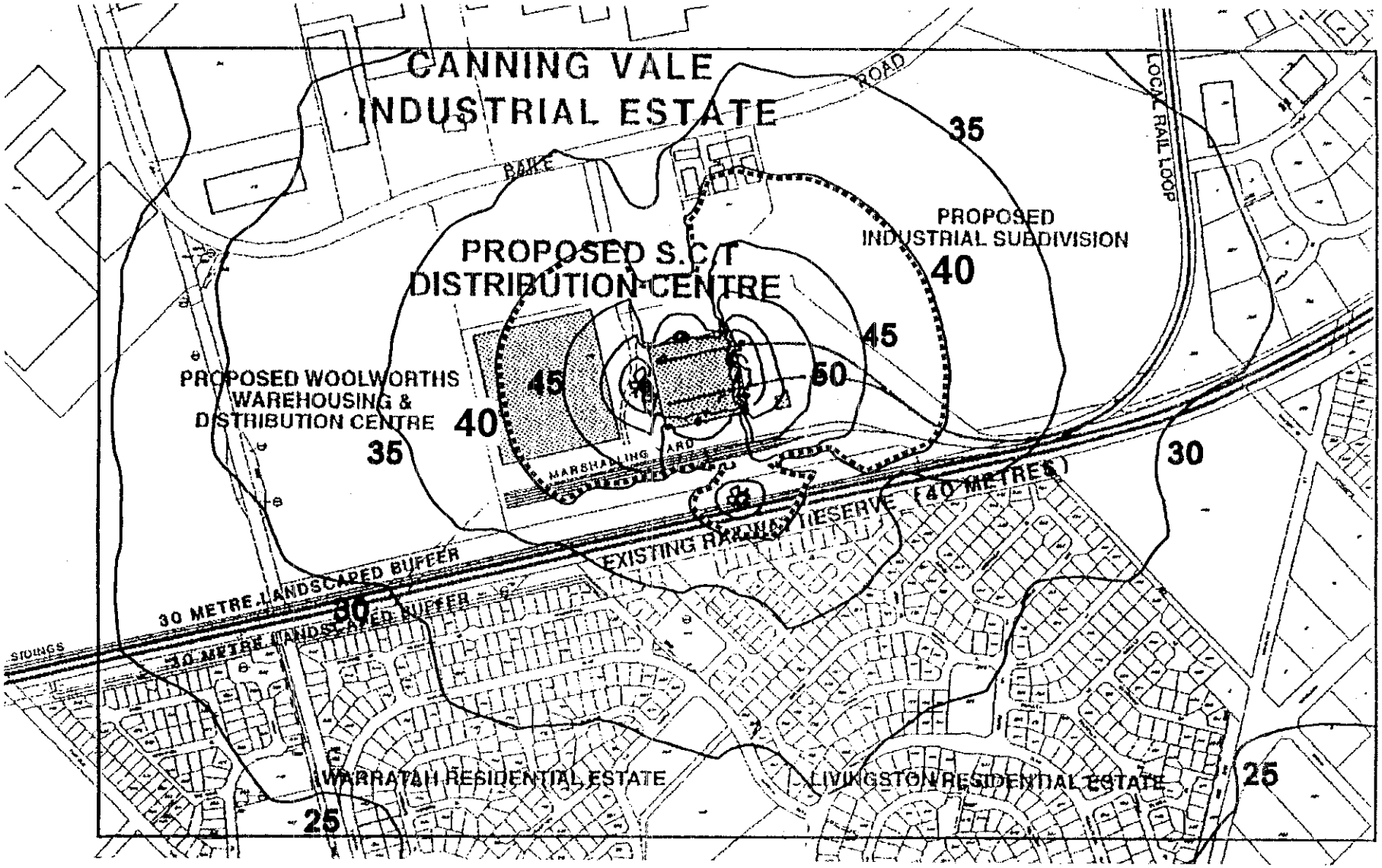


Figure 6. SCT Rail Freight Facility (L_1 Noise Contour).



SOURCE: HERRING STORER ACOUSTICS

Figure 7. SCT Rail Freight Facility (L_{10} Noise Contour).

Appendix 1

List of submitters

1 Mr P Green, President, Canning Vale Progress Association Inc
2 Mr J & H Wass
3 Mr B & Ms L Dewar
4 Mr & Mrs Jayabalan
5 Mr & Mrs Bishop
6 B & J Woodford
7 C M Cohen
8 Mr C & Mrs M Thireau
9 Mr R Smith
10 Ms J Napohfaro
11 Mr N Linerf
12 N M Baldwin
13 D Bonemellli
14 Mr D Raston
15 O E Garland
16 T & A M Byrne
17 T & K Burford
18 F A & L L Ryan
19 D Willan
20 M Newbury
21 L P Anderson
22 M J Kazich
23 S E Marshall
24 M L Hale
25 G J Stapp
26 J & A Shue
27 K, C & T Smith
28 Mr D & Ms C Castle
29 Mr G & Ms G Casley
30 Ms M Casey
31 Ms C Nicholas
32 Ms A Goddard
33 Mr B & Ms K Smith
34 Ms K Ceager
35 Mr R Smyth
36 M Beattel
37 Ms B Mayers
38 L Gapia
39 Ms D Compton
40 Mr R & Ms L Casley
41 Ms L Casley
42 Mr K & Ms K Lynch
43 Mr M & Ms U Murray
44 Ms W Facagher
45 R A Sawyer
46 B G Chester
47 P M Lynch
48 N N Hiscox
49 D E Sawyer
50 T Compton
51 Mr W & Ms C Williamson
52 Mr D & Ms P Butler
53 Mr R & Ms C Maassen
54 L J & P Hunt

55 Mr G & Ms S Flood
56 W & I Standfield
57 Mr M Stubber
58 Mr D & Ms N Stiles
59 Mr G & Ms K Anderson
60 Mr S J & Mrs D D Jurinovich
61 Ms L Gollan-Neale
62 Mr & Mrs A T Hunt-Mills
63 R & C Henderson
64 T H & M E Claessen
65 Mr M & Ms S Bailey
66 T Skewes
67 Mr R & Mrs G Correia
68 L P & S Montague
69 Mr D & Mrs L Henton
70 Mr P & Ms P Crosbie
71 K C Teh
72 Mr & Mrs Letch
73 Mr G Taylor
74 A Gardon
75 V Smith
76 C & C Cassir
77 Mr J & Ms A Ellis
78 J Burgoyne
79 A Perry
80 S & C Brown
81 L J Garbutt
82 Mr D Horn
83 Mr & Mrs R A Marsh
84 Ms D Collier
85 J Lange
86 S Peci
87 Mr B Jones, Ms P Jones & P Jones
88 Ms T Harper
89 Ms A Gamble
90 Ms I Austin
91 Ms L Rawlinson
92 R Clarke
93 Mr K Pausin
94 W Barrett
97 Mr G W & Mrs L Jones
98 M Baxster
99 Ms P Mas
100 Mr I R & Ms J Argue
101 Mr R Paul
102 Ms A Hey
103 C Jackson
104 S R Batley
105 S K & J Parkin
106 C & N Bailey
107 B Horn
108 A Storey
109 Ms D Giles
110 Mrs S Sinfield
111 S J Brown
112 Mrs G Ahrens
113 Mrs K Riley
114 Mr & Mrs Diamond

115 Mr M Zappell
116 Mr & Mrs Scott
117 P J & C D Pocock
118 Mr & Mrs Nicholas
119 T & M A Smith
120 L Davey
121 Ms S Gard
122 Mrs T Hall
123 Mr Armstrong
124 C M Quinn
125 Ms C Daddow
126 Mr & Mrs Peci
127 Mr & Mrs P E Thomas
128 Mr & Mrs G A Gorey
129 M J & B J Bremmer
130 Mr & Mrs M K & E L Parry
131 Mr M Seaman & Ms S LeBreton
132 Ms Crutchley
133 Mr E & Mrs C Boniface
134 Mr N & Ms M DeSouza
135 Mr & Mrs Mazzini
136 Mr & Ms Little
137 Ms J Cheong
138 Mr D Evans
139 Mr S Evans
140 T M & J M Evans
141 Mrs R Champion
142 Mr & Mrs F Y Jing
143 Miss S Y Koh
144 Ms M Delaporte
145 Mrs R Hughes
146 Mr I & Mrs E Cook
147 Mr & Mrs Shaw
148 Miss J Prosser
149 Mrs S Z Pericles
150 Mrs C Orton
151 Mr & Mrs P J Cottrell
152 Ms M Hall
153 Ms D Cooper
154 Miss N E Gregory
155 Mrs S Varvell
156 Ms L Coolahan
157 Ms A Foster
158 M Armstrong
159 Mr B D & Mrs M Salisbury
160 Mr N & Mrs J Thom
161 Mr A Scott
162 Mr & Mrs A D Friesner
163 Mr H E Savik
164 Mr R Marsh
165 Mr R Pratley
166 Mr J P Flockton & Miss N A Hagan
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168 Mr G Perryman, General Manager, Amex Corporation Pty Ltd
169 Mr P & Mrs M Green
170 Ms J Baker et.al
171 Ms L Ho
172 J & J M Courtis

173 P McCarthy et.al, Canning Vale Primary School
174 Mr A & Ms J Hopson et.al
175 Mr A Bramley
176 Mr S & Ms C Baxter
177 Ms M Holmes, Member for Southern River
178 R B Laughton et.al
179 Mr D & Mrs T Dibble
180 R W Shuard et.al
181 A J & T Power
182 N B & S A Hunter
183 Mr J & Mrs J Rhodes
184 Mr M & Ms B Dippennaar
185 Dr R Dowling, Notre Dame
186 Mr D Pruden
187 Ms L Csorogi
188 B Rendell
189 D S Cheema & J J K Cheema
190 Mr D de Boer
191 Mr C & Ms K Dale
192 Ms H Claridge
193 Mr D& Ms L Warren
194 Mr D Ivey
195 M & A Glendenning
196 Ms A Herlihy
197 Mrs K I Napier
198 Mr M & Ms Balcomb
199 Mr B & Ms J Lynch
200 Mr D & Ms H Eldrid
201 Mr J & Ms V Pell
202 Mr D & Ms M Scott
203 Mr J Ironside, Westrail
204 Mr B Fisher
205 G Bramham
206 Chapman Family
207 M Meshgin, Director, Marena Holdings Pty Ltd
208 Ms D Tan
209 Mr B Mason
210 Mr E McCann
211 Mr R & Ms S Prineppi
212 Ms L Allgrove
213 L D Douglas
214 Mr C O'Neil, City of Canning
215 Mr R & Ms S Summerton
216 R J & J M Randall
217 Mr N Perryman
218 Mr M Furlong, National Logistics Manager, Pepsi-Cola Bottlers Australia
219 Ms C Cheetham
220 Mr A Lewis, Mr J Fisher & Mr W Duncan
221 C R & S Packman
222 Rendell Family
223 Mr & Mrs Gatt
224 Ms F Stevens
225 R & D J Marsh
226 Mr A W & Ms B J Walton
227 A E & C A Jupp
228 Mr P & Ms S Sparks
229 Mr N & Ms S Heath
230 Mr I C R McKenzie, Chairman, WESFI Limited

231 Dr A Stubbs, Minister, Armadale North Murray Parish
232 J L & C M Dols
233 Mr W & Ms I Standfield
234 Mr S Jardine City of Gosnells
235 Ms J Davidson, President, Parents & Citizens Canning Vale Primary School
236 Mr K &Ms A De Souza
237 Ms S McHale
238 Ms R Siewert, Coordinator, Conservation Council
239 Mr S & Ms D Anthony
240 Mr J Livingston
241 Ms J Robert, Chairperson, Swan Avon Integrated Catchment Management
242 K W McDonald
243 Mr D Lowe
244 Ms J Robert, Chairperson, Bannister Catchment Group
245 D R & P Andrews
246 Mr F J Bryant, Managing Director, BSD Consultants
247 Water and Rivers Commission

Appendix 2

References

(Alan Tingay & Assoc, 1997). *Proposed Rail Freight Facility, Canning Vale - Consultative Environmental Review.* Alan Tingay & Associates, July 1997.

(DEP, 1996). *Land Development Sites and Impact on Air Quality.* Department of Environmental Protection, Government of Western Australia, November, 1996.

(Sinclair Knight Merz, 1977). *Evaluation of Land Requirements for Road-Rail Intermodal Freight Terminal Facilities.* Sinclair Knight Merz, 1977.

(SCT, 1997). *Response to Public Submissions.* Specialized Container Transport, November, 1997.

Appendix 3

Recommended Environmental Conditions and Proponent's Commitments

RECOMMENDED MINISTERIAL CONDITIONS

RAIL FREIGHT TERMINAL AND DISTRIBUTION CENTRE,
CANNING VALE, CITY OF CANNING

SPECIALIZED CONTAINER TRANSPORT

1 Proponent Commitments

The proponent has made a number of environmental management commitments in order to protect the environment.

1-1 In implementing the proposal, the proponent shall fulfil the commitments made in the Consultative Environmental Review and subsequently during the environmental assessment process conducted by the Environmental Protection Authority and those made as part of the fulfilment of the requirements of conditions in this statement requiring the preparation of an environmental management plan; provided that the commitments are not inconsistent with the conditions or procedures contained in this statement.

In the event of any inconsistency, the conditions and procedures shall prevail to the extent of the inconsistency.

The attached consolidated environmental management commitments form the basis for consideration by the Chief Executive Officer of the Department of Environmental Protection for auditing of this proposal in conjunction with the conditions and procedures contained in this statement.

2 Implementation

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

2-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal.

2-2 Where, in the course of the detailed implementation referred to in condition 2-1, the proponent seeks to change the designs, specifications, plans or other technical material submitted to the Environmental Protection Authority in any way that the Minister for the Environment determines, on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

3 Proponent

These conditions legally apply to the nominated proponent.

3-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

4 Environmental Management System

The proponent should exercise care and diligence in accordance with best practice environmental management principles.

4-1 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 construction, the proponent shall prepare environmental management system documentation with components such as those adopted in Australian Standards AS/NZS ISO 14000 series, in consultation with the Department of Environmental Protection.

4-2 The proponent shall implement the environmental management system referred to in condition 4-1.

5 Noise Criteria

The proponent shall control noise generated by rail operations on land leased by or otherwise under the control of the proponent to meet defined noise criteria.

5-1 The proponent shall ensure shunting operations carried out by the proponent, using its own locomotive on the Westrail siding comply with noise criteria contained in schedule 1.

5-2 The proponent shall ensure that mainline locomotives associated with the proponents operations, which are standing stationary on the Westrail siding for periods exceeding 2.4 minutes comply with noise criteria contained in schedule 1.

5-3 The proponent shall operate in accordance with the noise criteria required by conditions 5-1 and 5-2.

6 Noise Management Plan

6-1 Prior to construction, the proponent shall prepare a Noise Management Plan to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

This Plan shall include:

1 the location, dimensions and form of noise barriers to be constructed for the project;

2 the sound power levels for equipment to be used for the project and details of acoustical treatment to be applied;

3 special procedures necessary to restrict activities under weather conditions that increase noise propagation toward the residential area; and

4 routine operating procedures to be adopted for particular operations to control noise emanating from the project.

6-2 The proponent shall implement and operate in accordance with the Noise Management Plan required by condition 6-1.

6-3 The proponent shall make the Noise Management Plan required by condition 6-1 available for public comment for a period of two weeks prior to the Environmental Protection Authority finalising its consideration of the Plan.

7 Decommissioning

7-1 At least six months prior to decommissioning, the proponent shall prepare a decommissioning and rehabilitation plan.

7-2 The proponent shall implement the plan required by condition 7-1.

8 Commencement

The environmental approval for the substantial commencement of the proposal is limited.

8-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced.

Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period to the Minister for the Environment.

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.

9 Compliance Auditing

To help determine environmental performance and compliance with the conditions, periodic reports on the implementation of the proposal are required.

9-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit programme prepared by the Department of Environmental Protection in consultation with the proponent.

Procedure

1 Unless otherwise specified, the Department of Environmental Protection is responsible for assessing compliance with the conditions contained in this statement and for issuing formal clearance of conditions.

2 Where compliance with any condition is in dispute, the matter will be determined by the Minister for the Environment.

Note

1 The Environmental Protection Authority reported on the proposal in Environmental Protection Authority Bulletin 8XX [Date].

2 The proponent is required to apply for a Works Approval and Operational Licence for this project under the provisions of Part V of the Environmental Protection Act.

SCHEDULE 1

STANDARD FOR NOISE EMISSIONS FROM OPERATIONS CARRIED OUT ON THE WESTRAIL LAND

DEFINITIONS

(1) In this schedule -

"influencing factor", in relation to noise received at noise sensitive premises, means the influencing factor determined under clause 7;

"$L_{A\ max}$ assigned level" means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded at any time;

"$L_{A\ 1}$ assigned level" means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 1% of any 4 hour period;

"$L_{A\ 10}$ assigned level" means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 10% of any 4 hour period;

"noise-sensitive premises" means -

(i) premises occupied solely or mainly for residential or accommodation purposes;

(ii) premises used for the purposes of education, aged care, child care, public worship, a hospital having accommodation for less than 150 patients, and the like;

"commercial premises" means offices, shops, restaurants, service stations, hotels, health centres, community centres and the like;

"industrial and utility premises" means premises used for industrial purposes, transportation, sewerage, electricity, gas, drainage and the like;

"impulsiveness" means a variation in the emission of a noise where the difference between $L_{A\ peak}$ and $L_{A\ max\ slow}$ is more than 15dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that–

(a) is more than 3dB $L_{A\ fast}$ or is more than 3dB $L_{A\ Fast}$ in any one-third octave band;

(b) is present for at least 10% of any 4 hour period; and

(c) is regular, cyclic and audible;

"tonality" means the presence in the noise emission of tonal characteristics where the difference between–

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of any 4 hour period, or greater than 8dB at any time when the sound pressure levels are determined as $L_{A\ slow}$ levels;

"$L_{A\ Fast}$" means the reading in decibels (dB) obtained using the "A" frequency-weighting characteristic and the "F " time-weighting characteristic as specified in AS 1259.1-1990 with sound level measuring equipment that complies with DEP requirements;

"$L_{A\ peak}$" means the maximum reading in decibels (dB) obtained using the "A" frequency-weighting characteristic and "P" time-weighting characteristic as specified in AS 1259.1-1990 with sound level measuring equipment that complies with DEP requirements;

"$L_{Acq,T}$", means the equivalent continuous A-weighted sound pressure level in decibels (dB) as specified in AS 1055.1-1989 determined over measurement time period T with sound level measuring equipment that complies with DEP requirements;

"$L_{A\ Max\ slow}$" means the maximum reading in decibels (dB) obtained using the "A" frequency weighting characteristic and the "S" time-weighting characteristic as specified in AS 1259.1-1990 with sound level measuring equipment that complies with DEP requirements;

"one-third octave band" means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20 000 Hz inclusive as incorporated in a filter that complies with DEP requirements;

"transport factor" means–

(a) for a noise-sensitive premises within 100 metres of the road reserve of Ranford Road or Nicholson Road, a transport factor of 6 dB;

(b) for a noise-sensitive premises which is between 100 metres and 450 metres of Ranford Road or Nicholson Road, a transport factor of 2 dB.

ASSIGNED NOISE LEVELS

(2) Noise emitted from the Westrail land adjacent to the SCT site when received at other premises–

(a) must not cause, or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) must be free of–

(i) tonality;

(ii) impulsiveness; and

(iii) modulation,

when assessed under clause 6.

(3) For the purposes of (2) (a), a noise emission is taken to **"significantly contribute to"** a level of noise if the noise emission as determined under (4) exceeds a value which is 5 dB below the assigned level at the point of reception.

(4) A level of a noise emission may be determined by–

(a) measurement at its point of reception when, to the extent practicable, other noises that would contribute to the measured noise level are not present; or

(b) calculation of the level at its point of reception based on measurement of the noise

relationship between the noise emission as measured at the reference point and at the point of reception can be established.

(5) The assigned level for all premises is to be determined by reference to Table 1.

TABLE 1

Type of premises receiving noise	Time of day	Assigned level (dB)		
		L_{A10}	L_{A1}	$L_{A\ max}$
Noise sensitive premises at locations within 15 metres of a building directly associated with a noise sensitive use	0700 to 1900 hours Monday to Saturday	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises at locations further than 15 metres from a building directly associated with a noise sensitive use	All hours	60	75	80
Commercial premises	All hours	60	75	80
Industrial and utility premises	All hours	65	80	90

NOTE: The assigned levels in Table 1 apply outside of the buildings on the premises receiving the noise.

INTRUSIVE OR DOMINANT NOISE CHARACTERISTICS

(6) Noise is taken to be free of the characteristics of tonality, impulsiveness and modulation if–

(a) the characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of the noise emission; and

(b) the noise emission complies with the standard prescribed under (2) (a) after the adjustments in Table 2 are made to the noise emission as measured at the point of reception.

TABLE 2

Adjustment where noise emission is not music. These adjustments are cumulative to a maximum of 15 dB		
Where tonality is present	Where modulation is present	Where impulsiveness is present
+5 dB	+5 dB	+10 dB

INFLUENCING FACTOR

(7) The influencing factor for noise received on noise sensitive premises is to be determined as follows–

(a) using the City of Canning Town Planning Scheme No. 40 - Scheme Map - South, 2 concentric circles, having radii representing 100 metres and 450 metres, and centred on the measurement point on the noise sensitive premises are to be drawn;

(b) the land within the circles that is zoned as –

(i) Type A – General Industry or Light Industry; or

(ii) Type B – Shopping,

is to be identified as such by reference the map; and

(c) the area of each type of land is to be calculated as a percentage of the full area of each circle and used to determine the influencing factor to the nearest dB in accordance with the following formula–

Influencing Factor in dB = 1/10 (sum of type A percentages for both circles) +
1/20 (sum of type B percentages for both circles) +
transport factor.

(Note that the fractions of the land use types in the 100 metre radius circle are included in both circles).

MEASUREMENT OF NOISE LEVELS

(8) Measurement of noise levels on premises must be made in accordance with methods which are acceptable to the DEP.

Proponent's Environmental Management Commitments

26 November 1997

Rail Freight Terminal and Distribution Centre, Pt Lot 14 Baile Road, Caning Vale

(Assessment No. 1116)

Specialized Container Transport

TABLE A2

SCT RAIL FREIGHT FACILITY SUMMARY OF COMMITMENTS

COMMITMENT	OBJECTIVE	ACTION	TIMING	TO WHOSE REQUIREMENT	MEASUREMENT/COMPLIANCE CRITERIA
Noise 1) "The proponent will not proceed with the operation of the rail freight facility until it is able to advise the Minister for the Environment that additional acoustic treatment to those proposed in the CER and associated documents, have been implemented sufficient to confirm by approved noise modelling procedures that, as a result of activities associated with the facility (excluding train arrivals at any time and train departures during the daytime and evening), the following noise levels are not exceeded within the adjoining residential estate: Night time 40dB(A)L_{A10}; Evening 45dB(A)L_{A10}; Daytime 50dB(A)L_{A10} and other percentile criteria as required by the proposed	To protect amenity of nearby residents.	1) The proponent will ensure that additional acoustic treatments (such as a wall in an appropriate location) are constructed prior to the commencement of freight operations at the facility. 2) The proponent will construct an acoustic barrier to attenuate noise from the idling locomotives preparing a departing train. This barrier will be located immediately south of the siding line and will be approximately 7m high and 60m long and will provide not less than 10dB(A) noise attenuation. 3) The proponent will not depart a train (i.e. have locomotives idling at the siding) between 2200hrs and 0700hrs. Should future operations require train departures between 2200hrs and 0700hrs the company will submit the changes to the EPA for approval.	1, 2 Prior to operation of the facility 3, 4, 5, 6, 7, 8, 10, 11, 13, 15 During Operations. 9, 12, 14 During Construction.	Minister for the Environment DEP	1) Implementation of acoustic treatments sufficient to achieve specified noise levels in commitment. 2) Compliance with noise regulations. 3) Compliance with Part V of the Environmental Protection Act, 1986 in terms of the proposed noise regulations. 4) No significant change to present environmental noise levels. 5) Submission of bi-annual noise reports.

Environmental Protection (Noise) Regulations, 1997. The additional treatments will be submitted to the DEP for its approval prior to this advice being given. The proponent also will design and implement a monitoring program to the satisfaction of the DEP, to determine whether the treatments are effective and that the specific noise levels are not being exceeded, and will add further treatments if the monitoring indicates that these are necessary in order to ensure that the above noise levels are not exceeded." 2) SCT will ensure that noise levels from the warehousing and shunting operations comply with the Environmental Protection Act, 1986 and noise regulations. 3) SCT will ensure that noise levels from trains will comply with Part V of the Environmental Protection Act, 1986.		4) Every coupling/decoupling of rail wagons and vans will be supervised by a employee accredited using Westrail Standards to manage noise emissions. 5) The H Class shunting locomotive to be used on the premises will have noise control applied to the exhaust, cooling fan, lining within the engine enclosure and to openings in the engine covers as required, so that the emitted noise complies with the requirements of the Environmental Protection (Noise) Regulations, 1997. 6) The air compressor used to pressurise the brake systems of the train will be housed in an acoustic enclosure. Noise levels from such an enclosure will ensure compliance with the noise regulations. 7) Appropriate driving techniques and low friction brake shoes on the locomotive will be adopted wherever possible to minimise brake noise.			

4) SCT will measure noise levels of SCT and related train operations every 2 years commencing within 3 months of the facility being fully operational and provide results to DEP and Local Authority.		8) Noise emissions from emergency repairs to rail stock (if required) will comply with the requirements of the Environmental Protection (Noise) Regulations, 1997. 9) Noise from construction activities will comply with the requirements of the Environmental Protection (Noise) Regulations, 1997. 10) The public address system and associated broadcasting noise, two-way radios and whistles used for communication between train drivers and checkers will comply with regulatory requirements. Whistles will not be used by train drivers. The PA system speakers will be multiple units of low noise level where required and during night time will be limited to emergency use only. 11) SCT will use a low level Smart alarm for reversing alarms on all vehicles. 12) The interchange point will be designed and where appropriate, modified to ensure low noise level emissions from rail rolling stock.			

		13) SCT does not currently operate any refrigerated equipment but may do so in the future. In the event that SCT does use refrigerated equipment in the future, the refrigeration operation will be contained to a specific area so as to ensure compliance with the appropriate legislation. 14) Track construction techniques including the elimination of joints wherever possible and design of tracks that are not able to be welded will minimise wheel impact and therefore vibration on the site. 15) The proponent will install an Automatic Noise Data Logger (ANDL) to monitor the first month of operations at the Canning Vale site. Subsequently, at intervals of three months for the balance of the first year of operations, the proponent will install an ANDL for one week at a time. The proponent will notify all on-site operators of results of the monitoring program.			
Particulates/Dust SCT will implement dust control measures if there is potential for dust pollution.	To protect nearby land uses.	Site works will include spraying of water from tankers in dry conditions.	During construction.	DEP.	Implementation of dust control measures. No significant dust pollution off-site.

Surface/Groundwater Quality 1) To develop and implement a stormwater management plan including a spillage response plan. 2) To construct and operate the truck wash and service facility in accordance with the DEP Code of Practice - Automotive Repair Industry.	1) To maintain or improve surface/ groundwater quality. 2)To maintain or improve surface and groundwater quality to ensure existing and potential users are protected.	1) The final design will incorporate pollutant traps and other water sensitive design best management practices. Stormwater runoff from the site will be collected via a drainage system and directed through a collection sump located in the south-east sector. 2) The truck wash and service facility will be designed in accordance with the DEP Code of Practice-Automotive Repair Industry.	1) Prior to and during operation. 2) Prior to and during operation.	1) DEP on advice from WRC 2) DEP	1) Implementation of stormwater management plan. 2) Submission of design of truck wash and service facility. 3) Compliance with Part V of the Environmental Protection Act, 1986.
Light Overspill To design lighting requirements so that light overspill is managed to comply with Australian Standard AS4282 Interim Standard.	To manage potential impacts from light overspill.	Use of lighting specifically designed for area lighting with effective cutoff to minimise impact of glare on surrounding properties.	During operation.	DEP	Compliance with Part V of the Environmental Protection Act, 1986 and Australian Standard AS 4282 Interim Standard.
Visual Amenity Landscaping of SCT site.	Visual amenity of the area should not be unduly affected by the proposal.	1) SCT will landscape the site in accordance with landscape plans. 2) LandCorp will plant the buffer strip on the north side of the railway line.	After construction.	DEP	Compliance with Part IV of the Environmental Protection Act, 1986.