Regional Resource Recovery Centre, Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale

Southern Metropolitan Regional Council

Report and recommendations
of the Environmental Protection Authority

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Summary and recommendations

The Southern Metropolitan Regional Council, proposes to build and operate a Regional Resource Recovery Centre on Pt Lot 78 and Pt Lot 85 Bannister 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 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.

Relevant environmental factors

Although a number of environmental factors were considered by the EPA in the assessment, it is the EPA's opinion that the following are the environmental factors relevant to the proposal, which require detailed evaluation in the report:

(a) Vegetation Communities - clearance of remnant vegetation and habitat;

(b) Odour - management of emissions; and

(c) Noise - levels in residential areas.

Conclusion

The EPA has considered the proposal by the Southern Metropolitan Regional Council to build and operate a Regional Resource Recovery Centre on Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale.

The EPA notes that the proposal represents a significant step toward achieving the State Government's goal of "reducing the amount of waste disposed to landfill by 50%" and commends the Southern Metropolitan Regional Council on its proactive approach to waste management.

The EPA has concluded that the proposal can be managed in an environmentally acceptable manner such that it is most unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Section 4, including the proponent's commitments.

Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the project being assessed is a Regional Resource Recovery Centre on Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale;
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3;
3. That the Minister notes that the EPA has concluded that it is most unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Section 4, including the proponent's commitments.
4. That the Minister imposes the conditions and procedures recommended in Appendix 3 of this report.

Conditions

Having considered the proponent's commitments and information provided in this report, the EPA has developed a set of conditions which the EPA recommends be imposed if the proposal by the Southern Metropolitan Regional Council to build and operate a Regional Resource Recover Centre is approved for implementation. These conditions are presented in Appendix 3. Matters addressed in the conditions include the following:

(a) that the proponent be required to fulfil the commitments in the Consolidated Commitments statement set out as an attachment to the recommended conditions in Appendix 3.

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1. Introduction

This report provides Environmental Protection Authority (EPA) advice to the Minister for the Environment on the environmental factors relevant to the proposal by the Southern Metropolitan Regional Council to build and operate a Regional Resource Recovery Centre for the separation/processing of waste on Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale, approximately 14 kilometres south of the Perth CBD (Figure 1).

The proposal was referred to the EPA in May 1998 and due to the proposed introduction of technology new to W.A. and the public's apprehension about waste processing facilities, the level of assessment was set at Consultative Environmental Review (CER).

The CER report "Proposed Regional Resource Recovery Centre", hereafter referred to as the CER (AT&A, 1999), was made available for public review for 4 weeks from 25 January 1999 to 22 February 1999. Eight submissions were received by the DEP.

Further details of the proposal are presented in Section 2 of this Report. Section 3 discusses environmental factors relevant to the proposal. The Conditions and procedures to which the proposal should be subject, if the Minister determines that it may be implemented, are set out in Section 4. Section 5 presents the EPA's Conclusions and Section 6, the EPA's Recommendations.

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

Appendix 4 contains a summary of the public submissions and the proponent's response. The summary of public submissions and the proponent's response is included as a matter of information only and do not form part of the EPA's report and recommendations. The EPA has considered issues arising from this process relating to identifying and assessing relevant environmental factors.

2. The proposal

The proposed site is situated adjacent to the Ranford Road landfill, Ken Hurst Park and the Canning Vale General Industry area. The nearest residences are 300 metres to the northeast of the site boundary and the reserve for the Roe Highway extension passes between the site and the residential area (Figure 2).

The proposal is for the construction and operation of a Regional Resource Recovery Centre for the separation/processing of waste. This development is an integral part of the Southern Metropolitan Regional Council's Regional Waste Management Strategy for managing waste in the local government area.

The proposed operation incorporates three separate facilities which are shown on Figure 3 and described below:

1) In-Vessel Composting Facility

The majority of waste delivered to the site will be Municipal Solid Waste (MSW) collected each week from residences in the municipalities. This waste stream will be mixed with biosolids and liquid wastes and processed using a vessel composting system.

The in-vessel composting plant will consist of an enclosed waste receival area where waste collection vehicles tip the waste onto a push floor so that it can be progressively pushed into a feed hopper for the composting plant. The waste will be sorted to remove oversized and other items not suitable for the composting process, and then directed into rotary compost vessels via a screw conveyor. The waste spends 3 days in the composting vessel where it is broken down by bacteria before having any inorganic material removed. The resulting compost is then left to mature in windrows inside the building.

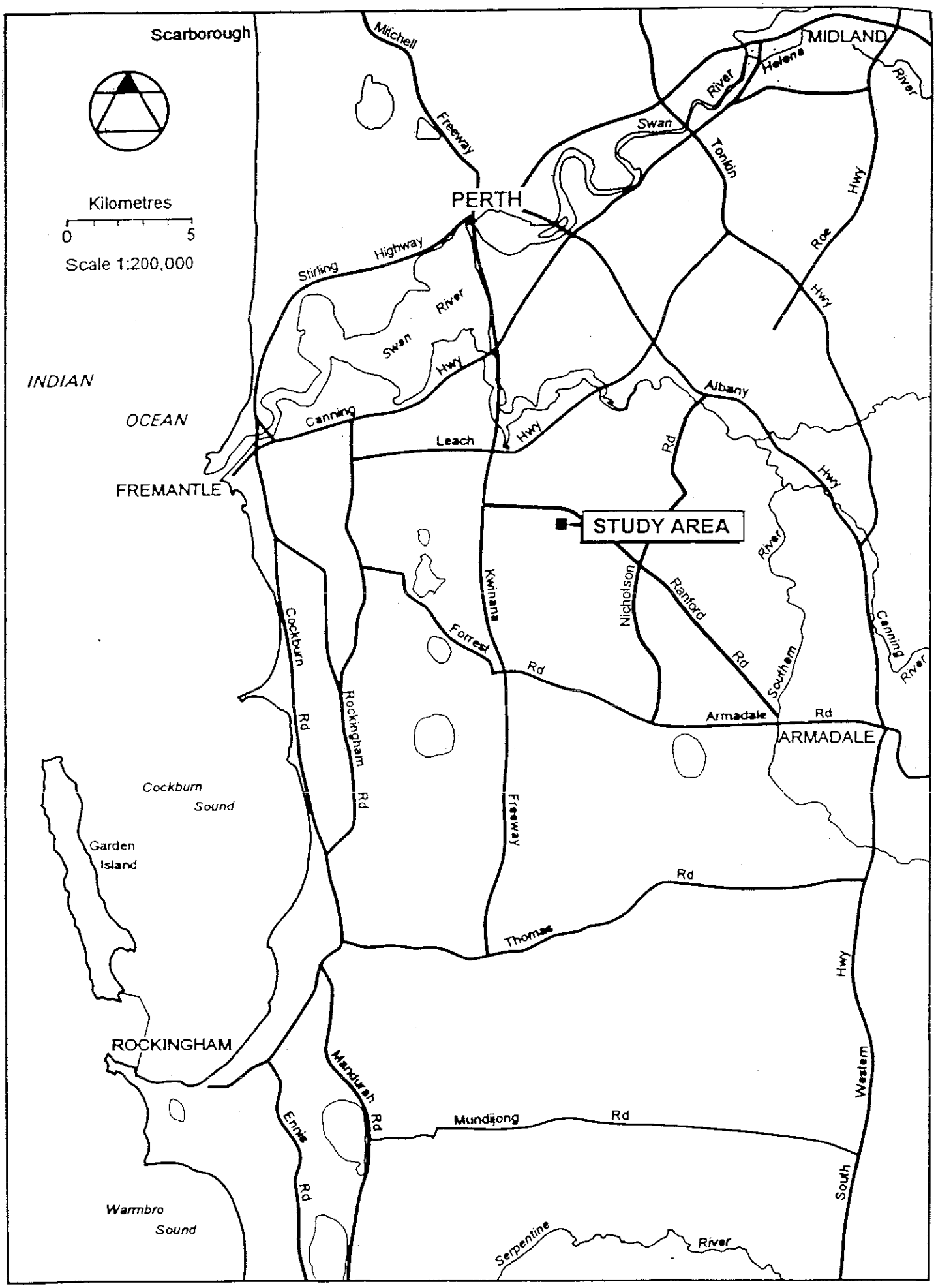

Figure 1. Regional location.

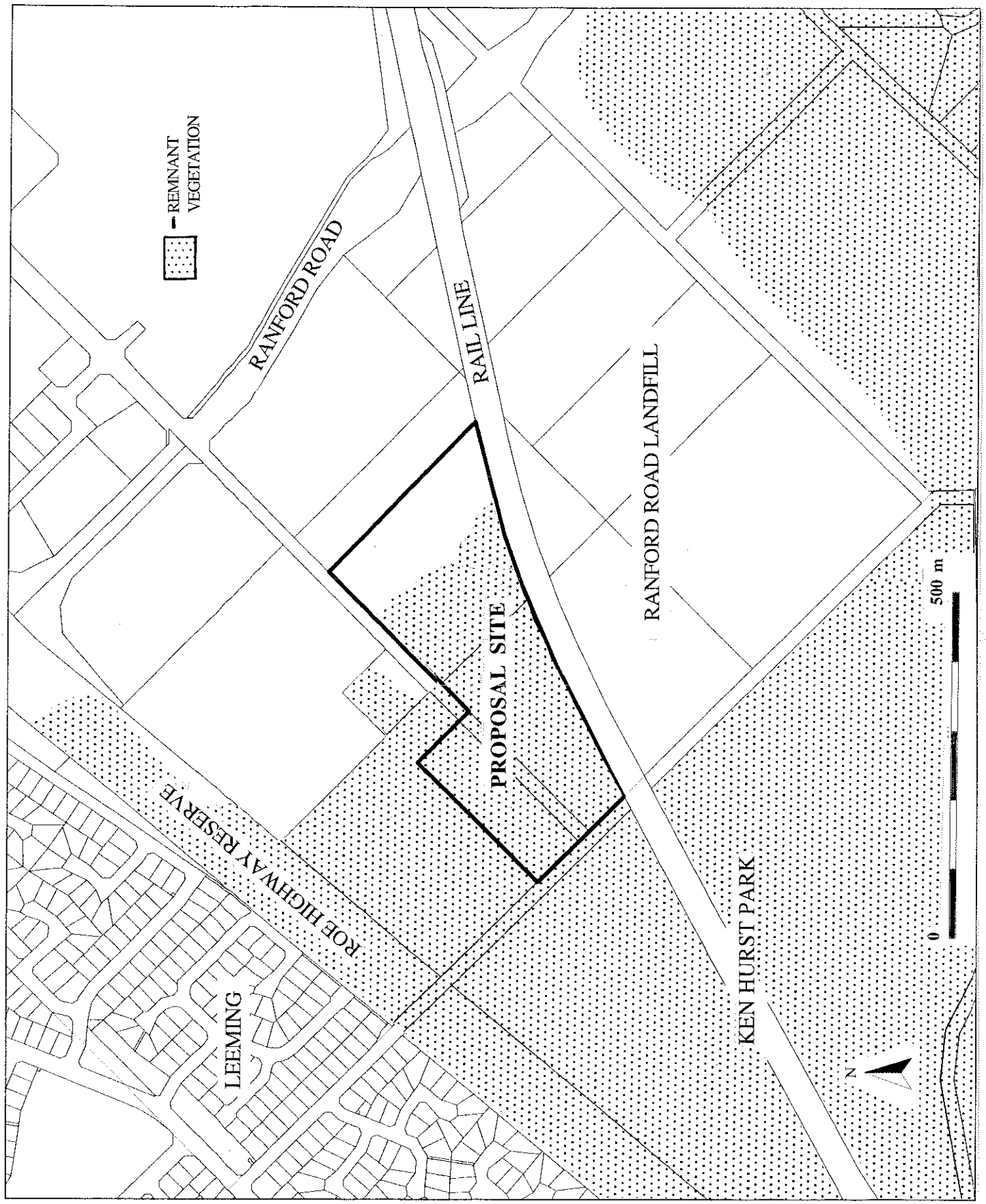

Figure 2. Proposed site.

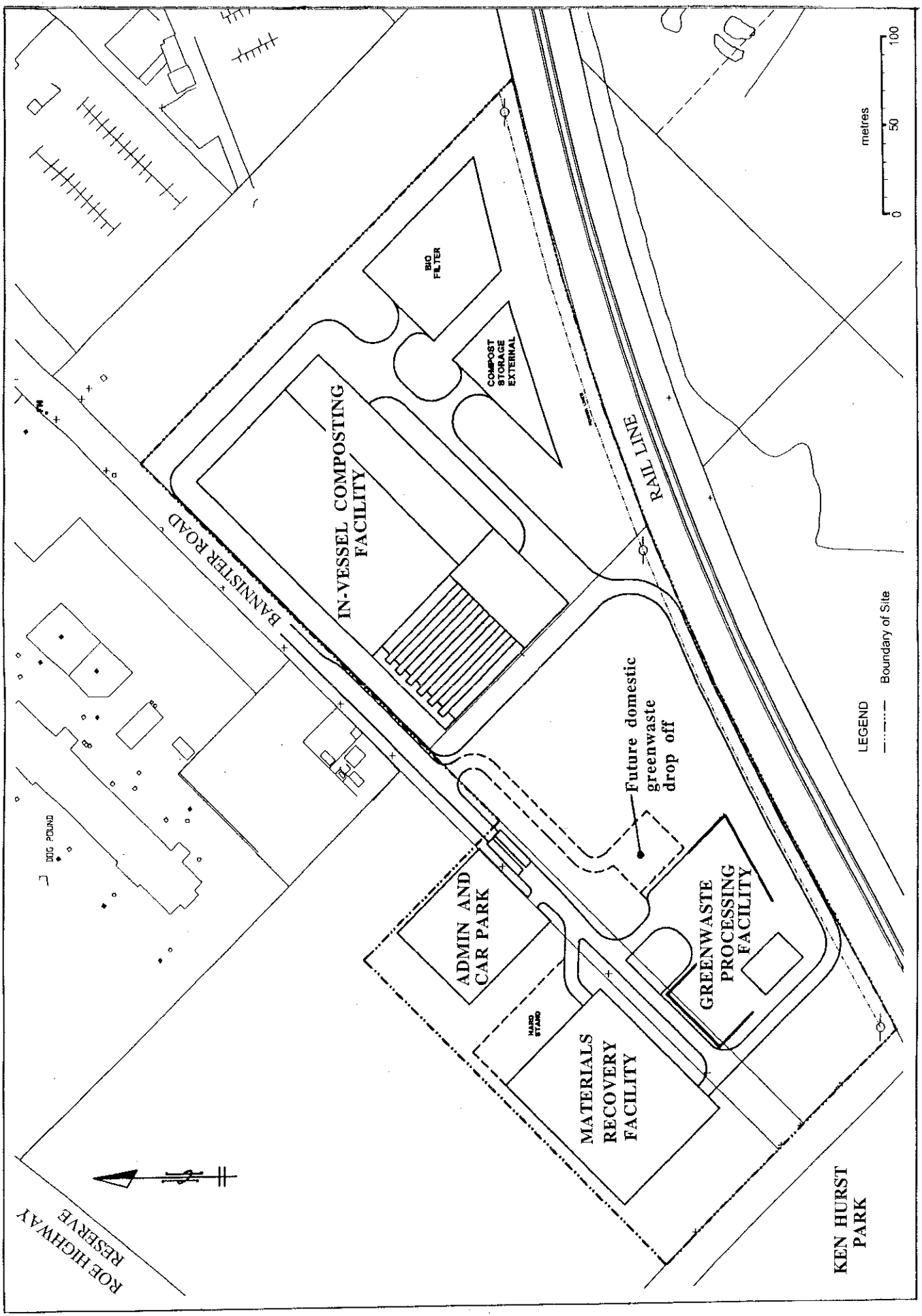

Figure 3. Plant layout.

All materials handling areas of the in-vessel composting plant would be enclosed and maintained under negative pressure, with the extracted air being directed to a biological filter (biofilter) to remove odour.

2) Material Recycling Facility (MRF)

The MRF is housed in a building with enclosed discharge and loading areas. Co-mingled recyclables (paper, plastic, glass, ferrous and non ferrous metals) collected from the municipalities are delivered to the MRF in dedicated trucks. The co-mingled recyclables then undergo a complex sorting process involving both automated mechanical and manual sorting. Once separated the recyclables, excluding the glass portion, are compacted into bales. They are then sent off site to their respective reprocessors where they are recycled.

3) Green Waste Processing Facility

This facility consists of a greenwaste grinder which is enclosed within a building. The grinder is used to process green waste from municipal verge side collections. The green waste would either be mulched or chipped, and then sold off site as mulch or further processed in the in-vessel composting facility.

A summary of the key characteristics of the proposal is presented in Table 1. A detailed description of the proposal is provided in Section 3 of the CER (AT&A, 1999).

Table 1. Summary of key proposal characteristics

Element	Quantities/Description
Location	Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale.
Nature of operation	Resource recovery, including recycling and waste processing.
Areas serviced by the facility (Note: this is indicative only as the areas may be subject to change)	• City of Fremantle; • Town of East Fremantle; • City of Melville; • City of Cockburn; and • City of Canning.
Total area of site	12 hectares.
Area to be cleared	approximately 11 hectares (see section 3.2).
Inputs	• municipal solid waste (MSW); • commercial putrescible waste; • co-mingled dry recyclables; • green waste; • biosolids; and • liquid wastes (categories 1-4).
Outputs/products	• stabilised compost; • segregated recyclables (paper, plastic, glass, ferrous and non ferrous metals); • chipped green waste; and • residual waste (to landfill).

In-vessel Composting Facility List of major components	• enclosed building of approximately 25 000 square metres, which is maintained under negative pressure; • four in-vessel composting digesters capable of composting 100 000 tonnes of waste and 50 000 tonnes of biosolids and liquid wastes (likely to be a 40:60 mix) per year; • associated conveyors and screening equipment; • internal compost maturation area of approximately 1 000 square metres; • external compost (mature) storage area of approximately 1 600 square metres; and • biofilter consisting of 5 cells, with each cell being approximately 60 metres by 6 metres.
Waste acceptance rate:	350 tonnes per day of municipal solid waste plus 160 tonnes per day of biosolids/liquid wastes.
Materials Recycling Facility List of major components	• building of approximately 8000 square metres with enclosed discharge and loading areas; and • automated and manual sorting equipment capable of sorting 30 000 tonnes of co-mingled recyclables per year.
Waste acceptance rate:	115 tonnes per day of co-mingled recyclables.
Greenwaste Processing Facility List of major components	• enclosed building of approximately 600 square metres; • a single greenwaste grinder capable of processing 30 000 tonnes of greenwaste per year; • external greenwaste receival area of approximately 2 400 square metres; and • external mulch storage area of approximately 1 600 square metres.
Waste acceptance rate:	100 tonnes per day of greenwaste.
Other infrastructure	• administration building; and • two weighbridges.

Since release of the CER, the proposed site layout has been revised by the proponent to the layout shown in figure 3. Environmental advantages of the revised layout include:

- the value of retained vegetation has been increased by moving the buildings away from the Ken Hurst Park boundary;
- an internal road has been relocated along an area already cleared for a powerline easement;
- the MRF building now provides additional acoustic screening for the greenwaste grinder plant which is a significant noise source;
- the in-vessel composting building provides additional acoustic screening for mobile equipment operating at the northern end of the site; and
- the continuous odour sources (biofilter and mature compost storage area) have been sited further away from the nearest residences.

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 the conditions and procedures, if any, to which the proposal should be subject. In addition, the EPA may make recommendations as it sees fit.

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) Vegetation Communities - clearance of remnant vegetation and habitat;

(b) Odour - management of emissions; and

(c) Noise - levels in residential areas.

The above relevant factors were identified from the EPA's consideration and review of all environmental factors (preliminary factors) generated from the CER document and the submissions received, in conjunction with the proposal characteristics (including significance of the potential impacts), the adequacy of the proponent's response and commitments, the effectiveness of current management and alternative approval processes which ensure that the factors will be appropriately managed. On this basis, the EPA considers that the factors fauna, groundwater quality, dust, greenhouse gases, wastes, public health and safety, communication and other issues raised in the submissions do not require further evaluation by the EPA because it has been demonstrated that they can be adequately managed. The identification process is summarised in Table 2.

Details on the relevant environmental factors and their assessment is contained in Sections 3.2 to 3.4. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal.

The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

A summary of the assessment of the environmental factors is presented in Table 3.

3.2 Vegetation Communities

Description

The vegetation on the site is generally in good condition although some areas have been significantly disturbed by human activity. The proposal site occupies approximately 12 hectares of the larger area of Lots 78 and 85 Bannister Rd, Canning Vale and is situated adjacent to Ken Hurst Park (Figure 2). The remnant vegetation belongs to the Bassendean Complex - Central and South (AT&A, 1999) and 24% of the original area of this complex remains on the Swan Coastal Plain portion of the Perth Metropolitan Region (Government of Western Australia, 1998).

The vegetation on the site is of local significance but is not of regional significance and therefore the site was not included in Perth's Bushplan. The adjacent Ken Hurst Park however, is of regional significance and is included in Perth's Bushplan.

The proposed facility would result in the clearing of approximately 11 hectares of remnant vegetation. Once construction was completed, there would be some revegetation and landscaping of the site using native species indigenous to the area.

The site is presently zoned for "public purposes waste processing" under the Metropolitan Region Scheme of the City of Canning Town Planning Scheme No. 40.

Table 2. Identification of relevant Environmental Factors

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
BIOPHYSICAL				
Vegetation Communities	Proposal site of approximately 12 hectares.	Vegetation on the site is generally in good condition although some areas have been significantly disturbed by human activity. The site is not included in Perth's Bushplan. The proposal would result in the clearing of approximately 11 ha of remnant vegetation. There would be some revegetation and landscaping of the area using native species indigenous to the area. The site is presently zoned for public purposes waste processing under the Metropolitan Region Scheme of the City of Canning Town Planning Scheme No. 40.	**Government**: The DEP notes the proposed design had the buildings spread out over the development site. Locating the buildings closer together and away from Ken Hurst Park would maximise the value of the retained vegetation. The Department of Conservation and Land Management (CALM) note there is suitable habitat for 2 declared rare orchid species, one of which may not have been flowering due to lack of recent fires. **Public:** The Conservation Council of WA (CCWA) believes the proposed site is unsuitable due to the loss of remnant vegetation.	**Considered to be a relevant factor.**
Fauna	Proposal site of approximately 12 hectares.	Clearing of remnant vegetation would result in habitat loss. Proponent proposes to trap and relocate fauna of particular significance such as the Southern Brown Bandicoot.	**Government**: CALM advises that their preference is for the in-situ conservation of fauna where possible, and state that the proponent should liaise with CALM over the requirements for on site survey and suitability of a translocation program. **Public:** The CCWA believes the relocation of fauna is not a solution for siting developments inappropriately (ie on land with remnant vegetation).	Proponent has committed to prepare a Fauna Management Plan to the satisfaction of CALM. Impact on habitat is discussed in factor, vegetation communities. **Factor does not require separate EPA evaluation.**
POLLUTION				
Groundwater Quality	Proposal area and superficial aquifer down hydraulic gradient from the plant within the site boundaries.	Site is underlain by sandy soils and a shallow unconfined aquifer at depths of 1-15m. Groundwater flows north and west toward the Canning River. All waste handling facilities (and internal roads) would be sealed. All process areas would be enclosed and bunded with drainage sumps to collect leachate for treatment. The biofilter has a sump to collect excess water. Monitoring bores would be installed upstream and downstream of the facility.	**Government**: The Water and Rivers Commission (WRC) note that the proposal should be carried out in accordance with the DEP's Draft Guidelines for the Storage, Processing and Recycling of Organic wastes (December 1997). **Public:** The CCWA notes that the site is underlain by a shallow unconfined aquifer and believes the site is unsuitable for a waste handling facility.	Proponent committed to complying with the DEP's Draft Guidelines for the Storage, Processing and Recycling of Organic wastes (December 1997). The design features of the plant include having all process areas in enclosed buildings which have impermeable floors and leachate collection. This makes the possibility of Groundwater contamination unlikely. **Factor does not require further EPA evaluation.**

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
POLLUTION				
Odour	Proposal area and surrounding properties including nearby residences.	All waste handling facilities would be enclosed. Exhaust air from potential odour sources would be ducted to a biofilter. The facility incorporates multiple digesters, blowers and biofilter cells to allow continued operation if one item fails or is down for maintenance.	**Government:** The DEP considered odour to be manageable, but sought clarification and further information relating to odour emissions and odour management. **Public:** No comments received from the public.	**Considered to be a relevant Factor.**
Dust	Proposal area and surrounding properties.	**Construction:** Construction activities have the potential to create dust emissions. **Operation:** All waste handling facilities would be enclosed and all internal roads would be sealed. The moisture content of compost stored in the mature compost storage area would be maintained with misting sprays to prevent the compost drying out and generating dust.	**Government:** The DEP notes that dust emissions can be managed with the measures proposed. Western Power were concerned about dust depositing on transmission lines and whether SMRC would mitigate any impact on the transmission line. **Public:** No comments received from the public.	Can be managed under Part V of the *Environmental Protection Act 1986.* Proponent states that no dust problems are expected and SMRC commits to implement additional dust suppression measures if dust impacts prove unacceptable. **Factor does not require further EPA evaluation as factor managed by Part V of the *Environmental Protection Act 1986.***
Greenhouse gases	Western Australia.	The facility would divert green waste from landfill. Composting garden waste gives off carbon dioxide whereas landfilling the same waste results in methane gas. Since methane has 21 times more Global Warming Potential than carbon dioxide, the proposal would result in a positive outcome.	**Government:** The DEP notes the positive effect the proposal would have on greenhouse gas emissions. **Public:** No comments received from the public.	**Positive effect so factor does not require further EPA evaluation.**
Noise	Proposal area and surrounding properties including nearby residences.	The facility has three main buildings which contain significant noise sources along with several items of mobile equipment. The noisiest items are; the green waste grinder, the trommels and the mobile equipment. Plant operating hours are such that only the digesters, the maturation blowers and the biofilters would operate at night. Additional noise modelling would be provided once the detailed design has been finalised to demonstrate compliance during the works approval process.	**Government:** The DEP notes that the modelling has been performed in accordance with the Draft "Guidance for EIA No. 8 - Environmental Noise". The DEP accepts that the modelling shows that the proposal can comply with the noise regulations at all times as long as the plant operating hours stated in the CER are adhered to. **Public:** The Canning Vale Progress Association is concerned about the maximum predicted noise levels of 48 dB(A) occurring at night, given that the facility could operate 24 hours a day.	**Considered to be a relevant Factor.**

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
POLLUTION				
Wastes	Surrounding communities serviced by the facility.	The facility would result in a 50-85% reduction in the amount of domestic waste going to landfill. Co-mingled dry recyclables (paper, plastic, glass, ferrous and non ferrous metals) would be segregated for recycling. Putrescible wastes would be reprocessed into compost and sold. The remaining residue would be disposed of to landfill. The proponent has committed to prepare a Compost End Use Plan which details the compost quality criteria to be met and the end use of the compost to ensure that relevant standards are complied with.	**Government:** The DEP notes that the proposal would significantly contribute to the State Government's goal of reducing waste to landfill by 50%. The WRC notes that the compost produced would aid water conservation on Perth's sandy soils. **Public:** The Canning Vale Progress Association are concerned about the introduction and storage of large quantities of sewage in the Canning Vale area. The CCWA suggested that there should be a waste analysis prior to the facility being built and suggested clean organic waste should be sought as an input. The Environment Centre of Western Australia (ECWA) states that the inclusion of even small amounts of radioactive material (ie smoke detectors) was a concern, and believed all radioactive material should be excluded.	The biosolids would be delivered to the site by tanker and pumped directly into enclosed vessels. This unloading would take place within a fully enclosed and bunded building that is maintained under negative pressure with the exhaust air ducted to the biofilter. The vessels themselves are also located within this building and are ducted directly to the biofilter. These vessels would contain only small quantities (approximately 300 cubic metres) of biosolids and the majority of biosolids would be progressively processed the same day as they are received. Facility is intended primarily for the processing of domestic waste whose composition is known, additional waste would only be sought if capacity was available. The Radiation Health Branch of the Health Department advise that low yield radioactive sources such as domestic smoke detectors commonly found in domestic waste, are not considered a hazard. **Factor does not require further EPA evaluation.**

SOCIAL SURROUNDINGS				
Public Health and Safety	Proposal area and surrounding areas including nearby roads, markets and residences.	**Road Traffic** Site is accessed by major roads, and approximately 150 trucks per day would enter the facility. Note: Approximately 12 000 trucks per day enter the adjacent Canning Vale Industrial Estate. **Flammable/Explosive gases** Under abnormal (anaerobic) conditions methane could be produced in the digesters. Contingency measures for upset events included to reduce the possibility of anaerobic conditions occurring. As an added precaution flammable gas detectors will be installed and linked to an alarm system.	**Government:** The DEP notes that the additional transport does not represent a significant increase. **Public:** The CCWA notes that there has been a fire in a similar facility and questions what fire suppression measures would be installed.	Fire suppression measures as required by the relevant Australian codes and statutes would be installed. **Factor does not require further EPA evaluation.**
Communication	Surrounding community.	Potential for adverse public reaction to waste handling facilities. Proponent carried out a community consultation program.	**Government:** The DEP notes that the proponent undertook a comprehensive public information campaign. **Public:** No comments received from the public.	**Factor does not require further EPA evaluation.**

Table 3. Summary of assessment of relevant factors

FACTOR	RELEVANT AREA	EPA OBJECTIVES	EPA's ASSESSMENT	EPA's ADVICE
Vegetation Communities	Proposal site of approximately 12 hectares.	To maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities.	The EPA notes the remnant vegetation on the proposed site is not regionally significant. The layout in the CER has the buildings spread out over the development site, but considers the proponent's intention to refine the final layout in consultation with DEP and CALM will allow the value of retained vegetation to be maximised. Proponent's commitments: • Clearing of remnant vegetation will be minimised as far as possible. The final layout of the facility will be developed in discussion with government agencies to maximise the value of uncleared vegetation; • Vegetation on the site adjacent Ken Hurst Park will be retained where feasible. In this area, fences will be placed as close as possible to buildings in order to minimise disturbance to vegetation and permit free access for fauna to the larger area of vegetation at Ken Hurst Park; and • The landscape plan for the site will utilise vegetation types indigenous to the area in order to return the site as far as possible to its natural state. The landscape plan will be prepared in discussion with the DEP.	Having particular regard to: • the remnant not being included in Perth's Bushplan; • the zoning of the site; and • the proponent's commitments, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective provided that the proponent's commitments are made legally enforceable.
Odour	Proposal area and surrounding properties including nearby residences.	To ensure that odour emissions do not cause nuisance to surrounding land users.	The EPA notes the design measures incorporated in the plant to minimise odour emissions particularly; the enclosed nature of the plant with those parts of the facility handling odorous material enclosed with exhaust air ducted through a biofilter, and the design features including multiple digesters, blowers and biofilter cells. The backup/standby features in the plant design gives assurance that should any item fail or be down for maintenance, the odour control system would continue to function. During out of hours operation, a responsible person would be automatically notified of upset conditions by pager. The DEP advise that the Queensland odour criterion proposed in the CER of 2.5 OU's (99.5% 3 min average) for a source with building wake effects is appropriate for this proposal. This criterion is set to prevent odour from causing a nuisance to the public. The proponent has provided odour modelling which predicts 2.5 OU contour falls about 300 metres from the closest residences. Proponent's commitments; • Any equipment or process that has the potential to generate significant odours or dust will be housed in enclosed buildings or undertaken in enclosed vessels which are ducted to the biofilters; • The performance of the biofilters and other odour sources will be assessed by odour monitoring and the results reported to the DEP; • The facility supervisor will inspect the digester facility and biofilters at least twice per shift to make a qualitative assessment of odours; • The majority of MSW waste will be processed within 24 hours; and • Where an odour source is identified, the actions specified in the site management plan will be immediately implemented to ensure that odour is addressed.	Having particular regard to: • the design features of the plant; • the odour modelling submitted by the proponent; • the DEP's advice on the acceptability of the odour levels; and • the proponent's commitments, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective provided that the proponent's commitments are made legally enforceable.

FACTOR	RELEVANT AREA	EPA OBJECTIVES	EPA's ASSESSMENT	EPA's ADVICE
Noise	Proposal area and surrounding properties including nearby residences.	To protect the amenity of nearby residences from noise impacts by ensuring noise levels meet the *Environmental Protection (Noise) Regulations 1997.*	The EPA notes that the DEP's advice that the noise modelling is consistent with the "Draft Guidelines for EIA No. 8 - Environmental Noise" and that use of the default meteorological values gives a worst case prediction. Proponent's commitments: • The facility will be designed and operated to comply with the assigned levels in the *Environmental Protection (Noise) Regulations 1997*; • Additional assessment and modelling of the final plant configuration will be conducted once the design is finalised; • The plant purchased will have a sound power level rating equal to or less than the values provided in the CER, unless the additional modelling shows compliance using plant with higher sound power levels; • Construction activities limited to between 0700 and 1900 hours; • Noise levels will be monitored during construction; and • The plant used will be well maintained.	Having particular regard to: • the criteria in the *Environmental Protection (Noise) Regulations 1997*; • the advice from the DEP on the acceptability of the noise modelling; • the proponent's commitment to conduct further noise modelling of the detailed design during the Works Approval process; and • Part V of the *Environmental Protection Act 1986*, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective provided that the proponent's commitments are made legally enforceable.

The proponent has provided a revised site layout which increases the value of retained vegetation by moving the buildings away from the Ken Hurst Park boundary. An internal road has also been relocated along an area that is already cleared for a powerline easement. The proponent has also made a commitment to review the site layout for reasonable opportunities to preserve additional vegetation.

Submissions

Concerns were raised in submissions about the loss of remnant vegetation and the submitters suggested that the facility should be built on land that was already cleared such as the Ranford Road landfill site. The Department of Conservation and Land Management (CALM) note that suitable habitat exists for a declared rare orchid species *Diuris purdiei,* but it is unlikely to be flowering due to the lack of recent fires.

Assessment

The area considered for assessment of this factor is the proposal site of approximately 12 hectares.

The EPA's environmental objective for this factor is to maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities.

The proponent advised that the Ranford Road landfill site was not suitable for the Regional Resource Recovery Centre due to the difficulty in constructing the required infrastructure over consolidating landfills, problems with methane gas emissions and the continued operation of the landfill.

The proponent advised that only a very small proportion of the site has wetland habitat suitable for *Diuris purdiei* and if the area was to be burnt prior to construction, the proponent would undertake a further spring survey of the wetland area.

In assessing this environmental factor, the EPA recognises that the proponent elected to lease only the minimum area of land necessary to accommodate the facility, and this limits the amount of vegetation that can be retained.

The EPA notes that the remnant vegetation is not of regional significance and is not included in Perth's Bushplan. The EPA notes that the land is zoned for the intended use.

The EPA further notes the proponent's commitments to review the plant layout for reasonable opportunities to preserve additional remnant vegetation on the site and to use local species in the landscaping of the facility.

Summary

Having particular regard to the:

(a) remnant not being included in Perth's Bushplan;

(b) zoning of the land; and

(c) proponent's commitments to review site layout for reasonable opportunities to preserve additional vegetation on the site and the use of local species in landscaping of the facility,

it is the EPA's opinion that the proposal is capable of being managed to meet the EPA's environmental objective for vegetation communities, provided that the proponent's commitments are made legally enforceable.

3.3 Odour

Description

The proposed waste for the in-vessel composting facility is inherently odorous and has the potential to cause nuisance to persons on surrounding properties. Proposed measures to manage the odorous compounds are outlined in the CER. These include:

- all waste handling and processing operations to be conducted in enclosed buildings;
- the building to be kept as airtight as possible and maintained under negative pressure;
- the doors to be kept closed except when trucks are entering or leaving the building;
- exhaust air from potential odour sources and off-gases from the digesters to be ducted to a biofilter;
- backup/standby design features including multiple digesters, blowers and biofilter cells along with a standby power supply to be incorporated into the design; and
- the compost maturation area to be enclosed (external storage area only to be used for mature compost).

The nearest residences are 300 metres from the site boundary. The Draft Guidelines for the Storage, Processing and Recycling of Organic Wastes (DEP, 1997) specifies a buffer distance of 150 metres for a composting operation using an in-vessel system with sophisticated odour control. The 150 metre buffer distance falls within a mixed business/general industry/public purposes zoning.

Impacts of odour can be predicted by the dynamic olfactometry method in terms of Odour Units (OUs) which are based on the sensitivity of the human nose. A concentration of 1 OU is the level at which 50% of test panellists can just smell an odour. Traditionally odour criteria have focussed on a single odour concentration for use across all types of odourants. This approach does not recognise the nature of different odourants and may lead to different perceived odour intensities for different odourants. The EPA now considers that an acceptable odour criterion could be based on an intensity classification system which takes into account the perceived intensities of different odour sources at the same concentration (EPA, 1999) but such an approach has not yet been formally adopted for W.A.

As interim criteria, the DEP will accept the Queensland odour criteria for the assessment of new proposals. The relevant Queensland criterion specifies that the odour concentration should be less than 2.5 OUs at odour sensitive premises when predicted as a 3 minute ground level concentration for 99.5% of the time. This criterion takes into account area sources and point sources with building wake effects, such as the biofilters, truck entry door (while open) and compost storage area.

The proponent has provided odour modelling which predicts the 2.5 OU contour falls approximately 300 metres from the nearest residences (Figure 4). The odour modelling was based on sampling conducted at a similar plant in the USA, and on samples from a composting operation in Perth. The proponent has provided a revised site layout which moves the continuous odour sources (biofilter and the mature compost storage area) away from the nearest residences. This would shift the 2.5 OU contour further away from residences and the proponent has made a commitment to provide additional odour modelling during the Works Approval process once the detailed design is completed to confirm compliance.

Submissions

The DEP considered odour to be manageable, but sought clarification and further information relating to odour emissions and odour management.

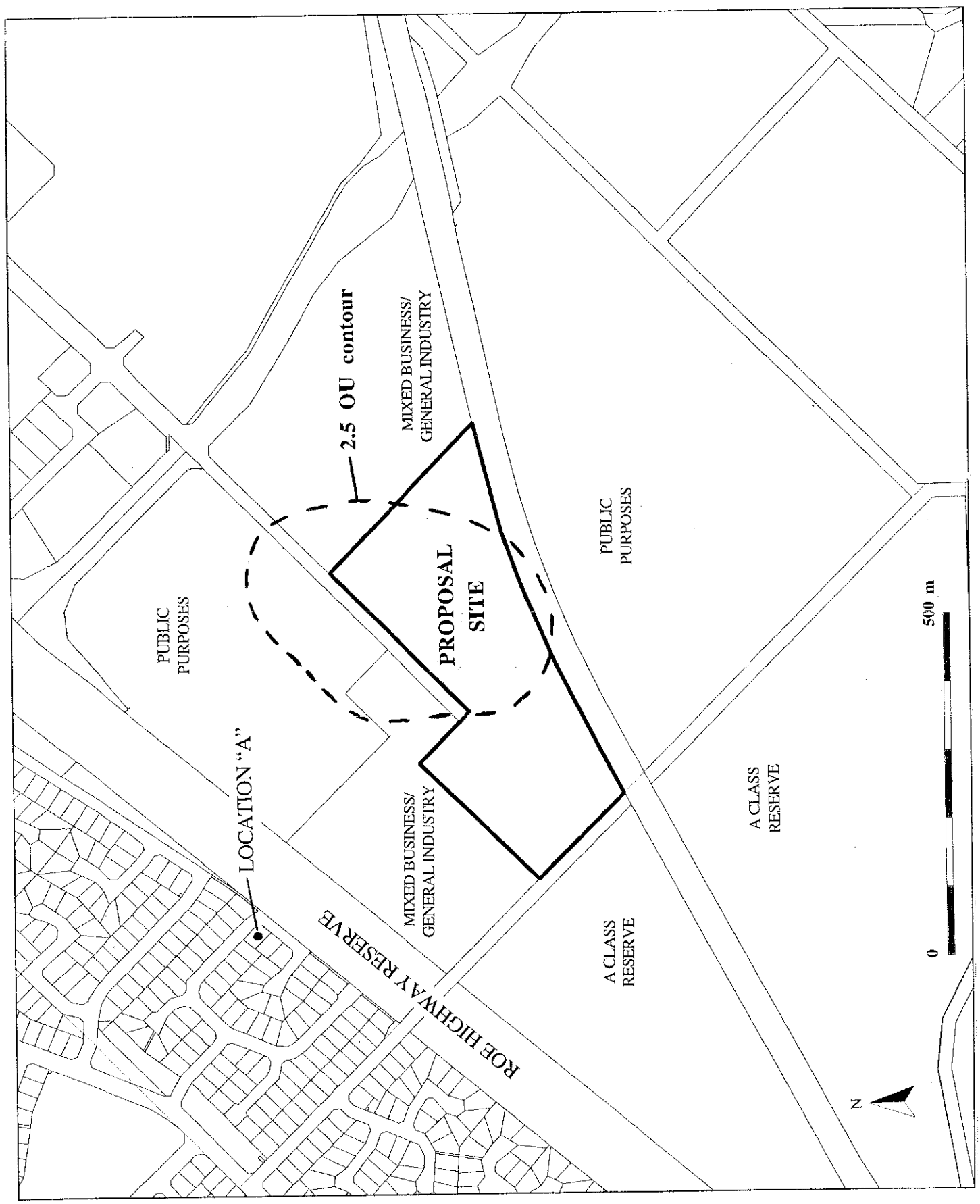

Figure 4. Odour contour.

Assessment

The area considered for assessment of this factor is the proposal area and surrounding properties including nearby residences.

The EPA's environmental objective for this factor is to ensure that odour emissions to not cause unreasonable impact, including nuisance to surrounding land users.

The EPA notes the design features of the in-vessel composting facility, specifically it being fully enclosed and kept under negative pressure with all exhaust air passed through a biofilter. The facility also meets the recommended buffer distance of 150 metres which is secure within appropriate zoning.

The EPA believes that in order to meet community expectations for a facility of this type and location that extra vigilance is required to ensure that odour does not cause a nuisance. The EPA notes the plant design incorporates multiple digesters, extraction fans and biofilter cells along with a standby power supply, which allows the odour control system to continue to function in the event that any one item fails or is down for maintenance. An automated alarm and out of hours notification system is included to notify a responsible person in the event of upset conditions. The EPA considers that these features provide the necessary assurance that the odour control system can function adequately at all times.

The EPA considers the DEP's recommended odour criterion can be used as an acceptable standard for this assessment and notes the DEP's advice that the modelling undertaken by the proponent is acceptable and that the modelling predicts the facility can comply with the 2.5 OU criterion at the nearest residences.

The EPA notes the proponent's commitment to provide a further assessment of odour emissions from the final plant configuration to demonstrate compliance with the odour criterion and to prepare an Odour Monitoring Plan which would include an initial dynamic olfactometry assessment, regular qualitative assessments of odour from the facility along with a odour complaint registration and investigation system.

Summary

Having particular regard to the:

(a) design features of the plant;

(b) odour modelling submitted by the proponent;

(c) DEP's advice on the acceptability of the odour levels; and

(d) proponent's commitments to prepare an Odour Monitoring Plan, including complaints management and the provision of additional odour modelling.

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for odour, provided that the proponent's commitments are made legally enforceable.

3.4 Noise

Description

The Regional Resource Recovery Centre has three separate facilities, each of which is housed in a separate building. Each of these buildings contains significant noise sources and there are several types of mobile equipment operating both inside and outside the buildings. The CER indicates that the major noise sources are the greenwaste grinder, the three MRF trommels and the mobile equipment. Lesser noise sources include the digesters, the in-vessel facility trommels and the various blowers associated with the digesters and biofilters.

The CER included noise modelling which predicts that the facility can comply with the assigned noise levels in the *Environmental Protection (Noise) Regulations 1997* at all times provided the

operating scenario specified in the CER is adhered to, ie. only the digesters, the maturation blowers and the biofilters would operate at night. Figures 12A, 12B and 13 in the CER show the relevant noise contours. Table 4 below gives the noise levels predicted at the nearest residence.

Table 4. Assigned levels and predicted noise levels at the nearest residence (location "A" in Figure 4).

Time of Day	LA10 assigned level *	LA10 predicted level
0700 - 1900 Monday - Saturday	47 dB(A)	46 dB(A)
0900 - 1900 Sunday & public holidays	42 dB(A)	35 dB(A)
1900 - 2200 all days	42 dB(A)	33 dB(A)
2200 - 0700 Monday - Saturday	37 dB(A)	33 dB(A)
2200 - 0900 Sunday & public holidays	37 dB(A)	33 dB(A)

* assigned level will be 6 dB(A) higher after the completion of the Roe Highway extension.

The DEP advised that the modelling has been carried out in accordance with the Draft "Guidance for the Assessment of Environmental Factors No. 8 - Environmental Noise" and that the use of the default meteorological conditions gives a worst case prediction.

The completion of the Roe Highway extension which is anticipated to occur around 2004 would result in the assigned noise levels at the nearest residences being increased by a "transport factor" of 6 dB(A).

The proponent has provided a revised site layout. This should result in reduced noise levels since in the new layout the MRF building provides acoustic screening for the greenwaste grinder plant which is a significant noise source and the in-vessel composting building provides some acoustic screening for mobile equipment operating at the northern end of the site. Additional noise modelling will be provided by the proponent during the Works Approval process once the detailed design has been finalised in order to confirm compliance.

Submissions

The Canning Vale Progress Association was concerned that the night time assigned levels could be exceeded if the facility was operated 24 hours per day.

The DEP discussed the issue of operating hours with the proponent and understands that the proponent does not want to commit to time restrictions since they may prove unnecessary if the final design incorporates quieter equipment or the applicable assigned levels are increased by the completion of the Roe Highway extension.

Assessment

The area considered for assessment of this factor is the proposal site and surrounding properties including nearby residences.

The EPA's environmental objective for this factor is to protect the amenity of nearby residences from noise impacts by ensuring noise levels meet the assigned levels in the *Environmental Protection (Noise) Regulations 1997*. Provided that the assigned levels are met, the EPA does not consider restrictions on operating hours are necessary.

The EPA notes the DEP's advice that the modelling undertaken by the proponent is acceptable and that the use of the default meteorological conditions has provided a worst case prediction.

The EPA notes the proponent's commitment to provide further noise modelling of the final plant configuration to demonstrate compliance with the assigned noise levels and to purchase plant that has a sound power level equal to or less than that used in the modelling.

The EPA also notes the proponent's commitment to meet the assigned noise levels in the noise regulations and the provisions of Part V of the *Environmental Protection Act 1986* which provide a mechanism to restrict operating hours if the assigned noise levels were being exceeded.

Summary

Having particular regard to the:

(a) requirements of the *Environmental Protection (Noise) Regulations 1997*;

(b) advice from the DEP on the acceptability of the noise modelling;

(d) proponent's commitment to meet the assigned noise levels and to conduct further noise modelling of the detailed design during the Works Approval process; and

(e) ability of Part V of the *Environmental Protection Act 1986* to restrict operating hours if necessary,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for noise, provided that the proponent's commitments are made legally enforceable.

4. Conditions and commitments

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, modified if necessary to ensure they are enforceable, 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 those relating to the proponent's commitments.

4.1 Proponent's commitments

The proponent's commitments as set in the CER and subsequently modified, as shown in Appendix 3, should be made enforceable conditions.

4.2 Recommended conditions

Having considered the proponent's commitments and the information provided in this report, the EPA has developed a set of conditions which the EPA recommends be imposed if the proposal by the Southern Metropolitan Regional Council to build and operate a Regional Resource Recovery Centre on Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale, is approved for implementation. These conditions are presented in Appendix 3. Matters addressed in the conditions include:

(a) that the proponent be required to fulfil the commitments in the Consolidated Commitments statement set out as an attachment to the recommended conditions in Appendix 3.

5. Conclusions

The EPA has considered the proposal by the Southern Metropolitan Regional Council to build and operate a Regional Resource Recovery Centre on Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale.

The EPA notes that the proposal represents a significant step toward achieving the State Government's goal of "reducing the amount of waste disposed to landfill by 50%" and commends the Southern Metropolitan Regional Council on its proactive approach to waste management.

The EPA has concluded that the proposal can be managed in an environmentally acceptable manner such that it is most unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Section 4, including the proponent's commitments.

6. Recommendations

Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the project being assessed is a Regional Resource Recovery Centre on Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale;
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3;
3. That the Minister notes that the EPA has concluded that it is most unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Section 4, including the proponent's commitments; and
4. That the Minister imposes the conditions and procedures recommended in Appendix 3 of this report.

Appendix 1

List of submitters

Government Agencies:

Agriculture Western Australia
Conservation and Land Management
Water and Rivers Commission
Western Power

Organisations:

Canning Vale Progress Association
Conservation Council Of Western Australia
Environment Centre of Western Australia

Individual:

Mr David James

Appendix 2

References

AT&A (1999) *Proposed Regional Resource Recovery Centre, Consultative Environmental Review - Southern Metropolitan Regional Council.* Alan Tingay and Associates, January 1999.

DEP (1997) *Guidelines for the Storage, Processing and Recycling of Organic Wastes. Draft for Public Comment.* Department of Environmental Protection, Government of Western Australia, December, 1997.

EPA (1998) *Draft Guidance for the Assessment of Environmental Factors No. 8 - Environmental Noise.* Environmental Protection Authority, June, 1998.

EPA (1999) *Draft Guidance for the Assessment of Odour Impacts.* Environmental Protection Authority, May, 1999.

Govt of WA (1997) *Environmental Protection (Noise) Regulations.* Department of Environmental Protection, Government of Western Australia, October, 1997.

Govt of WA (1998) *Perth's Bushplan.* Government of Western Australia, December, 1998.

Appendix 3

Recommended Environmental Conditions and Proponent's Consolidated Commitments

RECOMMENDED CONDITIONS

REGIONAL RESOURCE RECOVERY CENTRE, BANNISTER ROAD, CANNING VALE

Proposal: The construction and operation of a Regional Resource Recovery Centre for the separation/processing of waste on Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale, as documented in schedule 1 of this statement.

Proponent: Southern Metropolitan Regional Council

Proponent Address: Almondbury Road, ARDROSS WA 6153

Assessment Number: 1221

Report of the Environmental Protection Authority: Bulletin 938

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

1 Implementation

1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.

1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.

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

2 Proponent Commitments

2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.

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

3 Environmental Management System

3-1 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 commissioning, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:

1 An environmental policy and corporate commitment to it;

2 Mechanisms and processes to ensure:

2.1 planning to meet environmental requirements;

2.2 implementation and operation of actions to meet environmental requirements;

2.3 measurement and evaluation of environmental performance; and

3 Review and improvement of environmental outcomes.

3-2 The proponent shall implement the environmental management system referred to in condition 3-1.

4 Decommissioning and Rehabilitation Management Plan

4-1 At least six months prior to decommissioning, the proponent shall prepare a Decommissioning and Rehabilitation Management Plan to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

This Plan shall address:

1 removal or, if appropriate, retention of plant and infrastructure;

2 rehabilitation of all disturbed areas to a standard suitable for agreed new land use/s; and

3 identification of contaminated areas, including provision of evidence of notification to relevant statutory authorities.

4-2 The proponent shall implement the Decommissioning and Rehabilitation Management Plan required by condition 4-1 until such time as the Minister for the Environment determines that decommissioning and rehabilitation are complete.

4-3 The proponent shall make the Decommissioning and Rehabilitation Management Plan required by condition 4-1 publicly available, to the requirements of the Environmental Protection Authority.

5 Performance Review

5-1 Each five years following the commencement of construction, the proponent shall submit a Performance Review to the Department of Environmental Protection:

- to document the outcomes, beneficial or otherwise;
- to review the success of goals, objectives and targets; and
- to evaluate the environmental performance over the six years;

relevant to the following:

1 environmental objectives reported on in Environmental Protection Authority Bulletin 9XX;

2 proponent's consolidated environmental management commitments documented in schedule 2 of this statement and those arising from the fulfilment of conditions and procedures in this statement;

3 environmental management system environmental performance targets;

4 environmental management programs and plans; and/or

5 environmental performance indicators;

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Note: The Environmental Protection Authority may recommend changes and actions to the Minister for the Environment following consideration of the Performance Review.

6 Proponent

6-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 1986 is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.

6-2 Any request for the exercise of that power of the Minister referred to in condition 6-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.

6-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

7 Commencement

7-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.

7-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.

7-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 7-1 and 7-2.

7-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

8 Compliance Auditing

8-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.

8-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.

8-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

Note

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

Schedule 1

The Proposal

The proposal is for the construction and operation of a Regional Resource Recovery Centre for the separation/processing of waste. The proposal has three main components; an In-Vessel Composting Facility, a Materials Recycling Facility and a Greenwaste Processing Facility.

The proposal site is Part Lot 78 and Part Lot 85 Bannister Road, Canning Vale.

Key Characteristics Table

Element	Quantities/Description
Location	Pt Lot 78 and Pt Lot 85 Bannister Road, Canning Vale.
Nature of operation	Resource recovery, including recycling and waste processing.
Total area of site	12 hectares.
Area to be cleared	11 hectares.
Inputs	• municipal solid waste (MSW); • commercial putrescible waste; • co-mingled dry recyclables; • green waste; • biosolids; and • liquid wastes (categories 1-4).
Outputs/products	• stabilised compost; • segregated recyclables (paper, plastic, glass, ferrous and non ferrous metals); • chipped green waste; and • residual waste (to landfill).
In-vessel Composting Facility List of major components	• enclosed building of approximately 25 000 square metres, which is maintained under negative pressure; • four in-vessel composting digesters capable of composting 100 000 tonnes of waste and 50 000 tonnes of biosolids and liquid wastes (likely to be a 40:60 mix) per year; • associated conveyors and screening equipment; • internal compost maturation area of approximately 1 000 square metres; • external compost (mature) storage area of approximately 1 600 square metres; and • biofilter consisting of 5 cells, with each cell being approximately 60 metres by 6 metres.
Waste acceptance rate:	350 tonnes per day of municipal solid waste plus 160 tonnes per day of biosolids/liquid wastes.

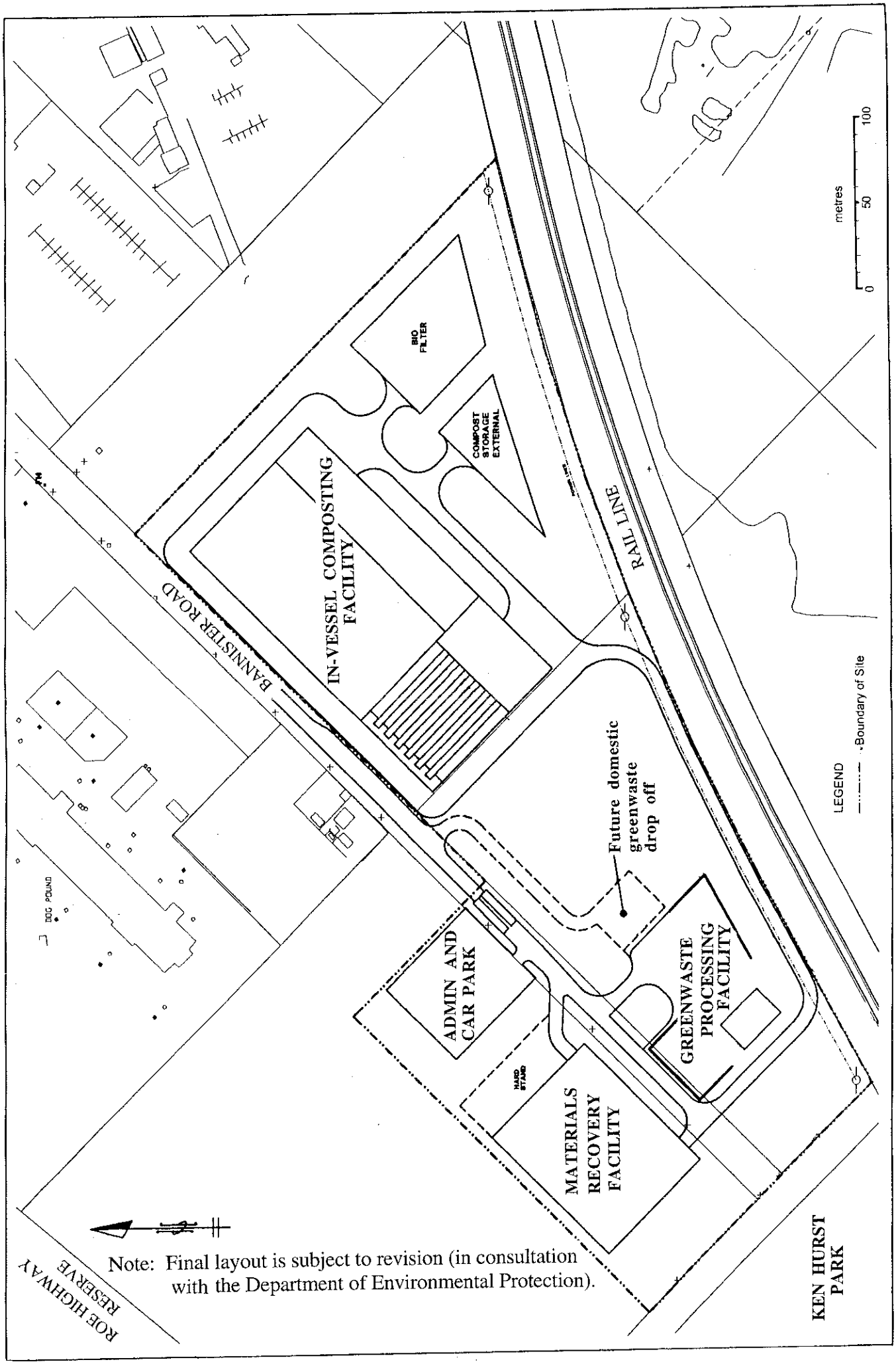

Figure 1. Draft plant layout

Materials Recycling Facility List of major components	• building of approximately 8000 square metres with enclosed discharge and loading areas; and • automated and manual sorting equipment capable of sorting 30 000 tonnes of co-mingled recyclables per year.
Waste acceptance rate:	115 tonnes per day of co-mingled recyclables.
Greenwaste Processing Facility List of major components	• enclosed building of approximately 600 square metres; • a single greenwaste grinder capable of processing 30 000 tonnes of greenwaste per year; • external greenwaste receival area of approximately 2 400 square metres; and • external mulch storage area of approximately 1 600 square metres.
Waste acceptance rate:	100 tonnes per day of greenwaste.
Other infrastructure	• administration building; and • two weighbridges.

Figure 1 shows the plant layout.

Schedule 2

Proponent's Consolidated Environmental Management Commitments

10 June 1999

REGIONAL RESOURCE RECOVERY CENTRE, BANNISTER ROAD, CANNING VALE (1221)

SOUTHERN METROPOLITAN REGIONAL COUNCIL

DRAFT SUMMARY OF PROPONENTS COMMITMENTS

TOPIC	OBJECTIVE	No.	ACTION	TIMING	TO WHOSE REQUIREMENTS	MEASUREMENT/ COMPLIANCE CRITERIA
Biophysical:						
Vegetation	To minimise the impacts associated with clearing of vegetation	1.	A Landscape Plan will be prepared which includes: • Review plant design, as proposed in the CER, for reasonable opportunities to preserve additional remnant vegetation on the site. • Retention of vegetation on the site adjacent to Ken Hurst Park where feasible. In this area access to preserved remnant vegetation will be restricted and fences will be designed to permit free access for fauna to the larger area of vegetation in Ken Hurst Park. • Rehabilitation and landscaping following completion of construction with vegetation types indigenous to the area in order to return the site as far as practical to its natural state.	Prior to construction.	DEP	Landscape Plan prepared to the Satisfaction of the DEP prior to clearing commencing. (i) Letter from CALM verifying acceptability of plan. ii) Approval letter from DEP prior to clearing occurring.
		2.	The Landscape Plan will be implemented as approved by the DEP.	Throughout life of project.	DEP	Verification of clearing included in Performance & Compliance Report (PCR).
Fauna	To minimise local impact on Fauna.	3.	A Fauna Management Plan will be prepared that includes the following: • Boundary fences to be erected prior to clearing commencing; • Investigate the need for a trapping program to capture vertebrate fauna of particular significance such as the Southern Brown Bandicoot; and • Relocation of any trapped animals to be in accordance with the requirements of CALM.	Prior to construction.	CALM	A Fauna Management Plan will be prepared to the satisfaction of CALM. CALM verification letter of acceptability of plan.
		4.	The Fauna Management Plan will be implemented as approved by the DEP.	Throughout the life of project	CALM	Verification letter of relocation included in PCR.

TOPIC	OBJECTIVE	No.	ACTION	TIMING	TO WHOSE REQUIREMENTS	MEASUREMENT/ COMPLIANCE CRITERIA
Pollution Management:						
Water	To prevent contamination of groundwater in the vicinity of the site.	5.	The plant design of each facility will meet or exceed the requirements of the Draft Code of Practice for Storing and Processing of Green and Organic Wastes in order to reduce the potential for contamination of surface or ground water.	Prior to construction of each facility.	DEP	The final design of the plant and the location of monitoring bores will be to the satisfaction of DEP through the works approval and licensing process.
		6.	The design will have all waste processing areas within enclosed buildings with impermeable floors incorporating drainage sumps, where required, to trap leachate for treatment.	Prior to construction of each facility.	DEP	The final design of the plant and the location of monitoring bores will be to the satisfaction of DEP through the works approval and licensing process.
		7.	Monitoring bores (one upstream and two downstream of the site) will be installed to monitor groundwater quality.	Prior to clearing of site.	DEP	The final design of the plant and the location of monitoring bores will be to the satisfaction of DEP through the works approval and licensing process.
		8.	All wastes with a potential to impact on surface or ground water quality will be stored or handled or processed in enclosed facilities with impermeable floors and sumps to trap leachate for treatment.	During Operation	DEP	Reported in PCR.
		9.	Ground water monitoring bores will be monitored and the results reported in an annual compliance report as required by DEP.	Throughout life of project	DEP	The results of monitoring will be submitted to DEP annually.
		10.	If groundwater pollution is detected above background levels, pollution sources on-site will be investigated and reported to DEP.	Throughout life of project.	DEP	Reported in PCR.
Odour	To ensure that odour emissions do not cause nuisance to surrounding land users.	11.	Any areas of the plant housing equipment or processes that have the potential to generate significant odours will be housed in enclosed buildings or undertaken in enclosed vessels that are ducted to a biofilter.	Prior to construction of each facility.	DEP	The final design of the plant will be to the satisfaction of DEP through the works approval and licensing process.
		12.	A further assessment of the odour emissions from the final plant configuration to demonstrate compliance with odour assessment criteria.	Prior to construction of each facility.	DEP	Odour criteria 99.5% identified in CER 2.50m

TOPIC	OBJECTIVE	No.	ACTION	TIMING	TO WHOSE REQUIREMENTS	MEASUREMENT/ COMPLIANCE CRITERIA
		13.	That plant and associated odour control and ventilation equipment for the in-vessel composting facility incorporates multiple redundancy in the plant design to minimise the likelihood of plant failure and associated odour impacts	Prior to construction of each facility.	DEP	The final design of the plant will be to the satisfaction of DEP through the works approval and licensing process.
		14.	An Odour Monitoring Program will be developed for the composting facility to measure compliance with relevant standards and performance objectives for the facility. The Odour Monitoring Program will incorporate the following elements:	Prior to commissioning	DEP	Approval letter from DEP on OMP.
			• Assessment of the odour emissions from the biofiliter using dynamic olfactometry and modelling of emissions data to assess ambient impacts • Qualitative assessment of the odour emissions form the in-vessel compost plant by the facility supervisor at least twice per shift • Independent qualitative assessment of odours • Assessment of odour complaint data	Prior to operation		
		15.	The Odour Management Plan will be implemented.	During operation	DEP	Verified in PCR.
		16.	The odour emission potential of stabilised compost will be assessed and the results reported to the DEP prior to commencing use of the external storage area	During operation	DEP	Approval letter from DEP.
		17.	All wastes identified as having a significant odour potential will be processed in a timely manner that prevents unacceptable odour impacts off-site.	During operation	DEP	80% MSW delivered to in-vessel compost plant processed within 24 hours of delivery.
		18.	All Complaints will be registered and investigated within 48 hours.	During operation	DEP	Log available on request. Summary in PCR.

TOPIC	OBJECTIVE	No.	ACTION	TIMING	TO WHOSE REQUIREMENTS	MEASUREMENT/ COMPLIANCE CRITERIA
		19.	The composting building will be regularly inspected and maintained to reduce leakage of potentially odourous air out of the facility.	During operation	DEP	Reported in PCR.
		20.	Maintenance and contingency procedures will be developed and implemented to minimise odour impacts.	During operation	DEP	Maintenance and contingency procedures relevant to environmental performance will form part of the site EMS approval prepared to the satisfaction of the DEP.
Particulates/ Dust	To ensure that dust does not adversely impact on the health or amenity of nearby residents.	21.	Management measures such as the use of water sprays, mulching or re-vegetation will be used, as required, to minimise particulate emissions during construction	During construction.	DEP	The final design and operation of the plant will be to the satisfaction of DEP through the works approval and licensing process.
		22.	All waste processing areas with a significant potential for particulate emissions will be housed in enclosed buildings.	Prior to commissioning	DEP	Verified in PCR.
		23.	All waste processing activities with a potential for particulate emissions will be undertaken in enclosed buildings.	During operation.	DEP	Verified in PCR.
		24.	Misting water sprays will be used as necessary to limit the emission of dust or particulates.	During operation.	DEP	Verified in PCR.
Noise	To protect the amenity of nearby residents from noise by ensuring that noise levels meet the Environmental Protection (Noise) Regulations 1997.	25.	The facility will be designed and constructed to comply with the assigned levels defined by Environmental Protection (Noise) Regulations, 1997.	Prior to construction	DEP	The final design and operation of the plant will be to the satisfaction of DEP through the works approval and licensing process.
		26.	Additional assessment and modelling of the noise emissions from the final plant configuration will be undertaken once the design is finalised to demonstrate compliance with the assigned level in the Environmental Protection (Noise) Regulations, 1997.	Prior to construction of each facility.	DEP	The final design and operation of the plant will be to the satisfaction of DEP through the works approval and licensing process.
		27.	Plant purchased will have a sound power level rating equal to or less than the values provided in Table 16 of the CER unless additional modelling	Throughout the life of the project.	DEP	The final design and operation of the plant will be to the satisfaction of DEP through the works approval and licensing process.

TOPIC	OBJECTIVE	No.	ACTION	TIMING	TO WHOSE REQUIREMENTS	MEASUREMENT/ COMPLIANCE CRITERIA
			shows compliance using plant with higher sound power levels.			
		28.	Noise levels will be monitored periodically during construction (At least twice during the first month of significant construction activity).	At least twice during construction.	DEP	Monitoring data reported in PCR.
		29.	Operational procedures will be developed and implemented to ensure compliance with the assigned levels defined by Environmental Protection (Noise) Regulations, 1997 including • Equipment operating times. • Noise monitoring procedures. • Complaint handling and registration procedures.	Developed prior to commissioning and implemented during operation.	DEP	Operation procedures will be contained in the EMS for the site prepared to the satisfaction of the DEP.
Wastes/ Products	To reduce as far as practicable the generation of solid and liquid wastes and to dispose of wastes in a manner that is environmentally acceptable and meets statutory standards.	30.	All waste materials generated by the facility will disposed of at facilities approved for accepting the relevant waste.	During operation	DEP	The final design and operation of the plant will be to the satisfaction of DEP through the works approval and licensing process.
		31.	The quality of compost and mulches will be monitored for compliance with relevant compost quality criteria.	Procedures will be developed prior to commissioning and implemented during operation	DEP	An end-use plan for the compost which incorporates the quality criteria of relevant international and Australian Standards will be prepared for approval by DEP. Letter of approval from DEP.
		32.	Contingency procedures will be developed and implemented for management or disposal of compost that does not comply with relevant compost quality criteria	Prior to commissioning	DEP	
Social Surroundings:						
Flammable/ Explosive gases	To ensure the public is not exposed to unreasonable risk from the facility.	33.	Flammable gas detection and alarm systems will be installed, maintained and operated in the composting plant to provide early warning of flammable gases being produced.	Prior to commissioning and during operation.	DEP	Detailed design and procedures will be described in the works approval. Verification in PCR.

TOPIC	OBJECTIVE	No.	ACTION	TIMING	TO WHOSE REQUIREMENTS	MEASUREMENT/ COMPLIANCE CRITERIA
		34.	A community education program will be developed to provide information to the regional community on the correct procedures for disposing of household hazardous waste.	Prior to commissioning.	DEP	Verified in PCR.
		35.	Procedures for identifying and managing hazardous materials in the incoming waste stream will be developed and implemented. These will include procedures for ensuring that wastes are segregated and stored in properly designed facilities and then disposed of at an approved facility.	Prior to commissioning.	DEP	Verified in PCR.
		36.	Contingency plans will be developed to minimise the potential for generation of flammable gas during plant upset conditions such as power failures or equipment breakdown.	Prior to commissioning. Throughout life of the project.	DEP	Verified in PCR.
		37.	Contingency Plan to be implemented.	Throughout life of the project	DEP	Verified in PCR.
Public Consultation	To provide the public with ample opportunity to fully understand the environmental aspects of the proposed facility.	38.	A community education program will be undertaken to familiarise the regional community with the purpose and operation of the plant and encourage appropriate waste segregation.	Program has commenced and will continue throughout life of project.	DEP	Program to be carried out and outcomes to be reported in the PCR.

Appendix 4

Summary of Submissions

and Proponent's Response to Submissions

SOUTHERN METROPOLITAN REGIONAL COUNCIL

Responses to questions and issues raised during the public review of the

PROPOSED REGIONAL RESOURCE RECOVERY CENTRE, CANNING VALE CONSULTATIVE ENVIRONMENTAL REVIEW

(ASSESSMENT 1221)

ALAN TINGAY & ASSOCIATES

APRIL 1999

REPORT NO: 99/36

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1. INTRODUCTION

In January 1999, the Southern Metropolitan Regional Council submitted a Consultative Environmental Review (CER) to the Environmental Protection Authority (EPA) for the construction of the proposed Regional Resource Recovery Centre (RRRC) in Canning Vale. The project will involve the construction of an integrated waste processing facility on land adjacent to Bannister Road, Canning Vale.

The CER was based on a conceptual design of the RRRC consisting of an enclosed In-Vessel Composting plant, an enclosed Materials Recycling Facility; and an enclosed Green Waste Processing Facility. Although these major design components will remain unchanged, the choice of technology and site plan are yet to be finalised.

The CER was released for public review during the period of 25 January to 22 February 1999. A total of eight (8) submissions responding to the CER were received by the EPA. An evaluation of the submissions indicated that the main issues fall into the following categories:

- Vegetation
- Fauna
- Groundwater
- Air Quality – Odour and Dust
- Noise
- Wastes
- Flammable/explosive gases
- Other

The purpose of this document is to address the issues raised in these submissions.

2. VEGETATION

2.1 *The Department of Environmental Protection (DEP) notes the proposed design has the various buildings spread over the development area. The DEP questions whether there is scope to locate the buildings closer to each other and away from the boundary adjacent to Ken Hurst Park in order to maximise the value of the retained remnant vegetation? Could the proponent comment on this possibility?*

The site plan is still being finalised, and will be developed in consultation with government agencies to maximise the value of uncleared vegetation. (A final clearing plan will be developed to the satisfaction of the DEP). Where feasible, the buildings will be located closer to each other and away from the boundary adjacent to Ken Hurst Park in order to maximise the value of the retained remnant vegetation.

However, the site needs to provide safe access for large articulated vehicles and roads and buildings must be designed to accommodate safe turning circles while also providing storage space. The proponent has committed to submitting the final site layout to the DEP to allow discussion with government agencies to minimise the impacts on vegetation (Commitment 1).

2.2 *The Department of Conservation and Land Management (CALM) notes that the CER indicates suitable habitat for 2 declared rare orchid species is present on the site, but none were identified during the field survey. One of these, Diuris purdiei is unlikely to be flowering due to lack of recent fires. Could the proponent address this matter?*

Only a very small proportion of the site has wetland habitat suitable for *Diuris purdiei.* The area was surveyed in spring during the flowering period for this species with no individuals recorded. If the area were to be burnt prior to construction activities, the proponent will conduct further spring survey of the wetland area.

2.3 *The Conservation Council of Western Australia (CCWA) states that it cannot accept the siting of the proposed facility on this bushland, for the following reasons;*

- *one of the key environmental factors (to maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities) is not met;*
- *the vegetation is regionally significant based on the criteria applied in Bushplan ie. Representation of ecological communities, Diversity, Rarity and Maintaining ecological processes or natural systems;*
- *other regionally significant vegetation in the area, specifically Ken Hurst Park and Jandakot Airport are unsecure with Ken Hurst Park under immediate threat from a rezoning to Private Recreation;*

- *it is strategically located next to Ken Hurst Park and adjacent to Jandakot Airport and as such is regionally significant;*
- *it has fauna present, which is in need of special protection. The loss of habitat would severely disrupt and affect the fauna, placing extra stress on the animals and threatening their long term survival;*
- *the wetlands are not identified specifically, but only as damplands, or as areas with high water tables. The proponent has not referred to the Water and Rivers wetlands classification, mapping and evaluation when considering the value of these wetlands and the CCWA believe these wetlands are Conservation Category Wetlands;*
- *the bushland would be further fragmented by the development; and*
- *to site a waste facility on areas of high biodiversity would deserve national and international condemnation.*

Could the proponent address the above matters?

The intended clearing of vegetation for the development of the proposed facility is not expected to have a significant regional impact. The RRRC site supports only a very small area of remnant vegetation compared with that contained in Ken Hurst Park, Jandakot Airport and Jandakot Regional Park. The RRRC site is situated towards the extremity of a broader area of remnant vegetation and the proposed clearing will not result in fragmentation of the bushland or severe disruption to fauna due to loss of habitat.

The site has not been included as a Bushplan site in the draft Bushplan report. Ken Hurst Park has been included as site 245.

The CER identified two small areas as having wetland vegetation, consistent with a dampland type of wetland. The vegetation in both areas is very disturbed with an abundance of weeds. The Waters and Rivers Commission (WRC) Wetland Atlas does not map any wetlands occurring on the site. WRC review the mapping and management category of wetlands in the Metropolitan Area on a regular basis, with particular attention given to identifying Conservation Category wetlands. The small dampland wetlands on the site have never been mapped as Conservation Category wetlands by the WRC.

2.4 *The CCWA strongly dispute the statement on p24 of the CER document that 'the main criteria used to determine regionally significant vegetation is the objective to protect a minimum of 10% of each vegetation complex remaining in the Perth Metropolitan Area'. 10% was set as a minimum target with regard to conserving comprehensive and adequate representation of each floristic community type within each vegetation complex. It cannot and must not be interpreted this way. Furthermore there are six other criteria, three of which have been met with regard to this site. There is no prioritisation of the Criteria for the Determination of Regional Significance in Perth's Bushplan, and the attempt by a consultant to introduce such prioritisation in an environmental impact assessment is condemned. Could the proponent respond to this matter?*

No attempt to introduce such prioritisation was made in the CER. For the purpose of environmental impact statements, the inclusion or exclusion of vegetation in the Bushplan is commonly used to determine the regional significance of vegetation. The CER simply briefly stated the objective of the Bushplan and noted that the site has not been identified as a Bushplan site in the draft Bushplan report. It is also considered that adequate representation of the vegetation and fauna on the site would be protected in the much larger Ken Hurst Park adjacent to the site. Bushplan identified Ken Hurst Park as regionally significant (Bushplan Site 245), but did not include the RRRC site within Bushplan Site 245.

2.5 *The CCWA strongly object to the statement that as 22% of the Bassendean Complex Central and South remains, 6% is currently protected, and an additional 7% proposed for reservation, the preservation of this vegetation is unimportant. Both Community Types 3b and 20b's Conservation Status is 'vulnerable' (A floristic Survey if the southern Swan Coastal Plain, 1994). Other areas which are cited as being protected such as Ken Hurst Park and Jandakot Airport are not and the consultant hasn't checked their security. Could the proponent comment on this matter?*

At no point in the CER was it stated that the preservation of this vegetation is unimportant on the basis of vegetation complex protection or any other criteria. The vegetation on the site does not contain Community Types 3b and 20b. Both these units contain Jarrah and Banksia and occur at the base of the Scarp on the Pinjarra Plain and Ridge Hill Shelf landforms. The vegetation on the site could more accurately be classified as:

Type 22: *Banksia ilicfolia* woodlands
Type 4: *Melaleuca preissiana* damplands.
Type 23a: Central *Banksia attenuata – B. Menziesii* woodlands

None of these types is a Threatened Ecological Community.

2.6 *The CCWA believe the proposed management measures are weak, and there would be no long term guarantee that even the 8 ha which would be uncleared should the development proceed, would be protected. Would the proponent be prepared to commit to placing retained remnant vegetation into secure conservation reserve?*

The facilities are to be constructed on 12 ha of the 20 ha site. The remaining 8 ha of land is actually owned by the City of Canning and the SMRC will have no control over its future development. At this stage there are no immediate plans for clearing this portion of the site.

As stated previously, the site plan for the 12 ha to be developed will be finalised in consultation with government agencies to maximise the value of uncleared vegetation. Any subsequent proposal

that involves the construction of additional facilities and therefore involves the clearing of vegetation would be the subject of a separate referral to the DEP. In addition, the Landscape Plan proposed as committed will necessarily incorporate management controls that would prevent additional clearing without the approval of the DEP. It is unlikely that any of the residual uncleared areas on the development would be of sufficient size to form a conservation reserve.

3. FAUNA

3.1 *The Department of Conservation and Land Management (CALM) notes that a trapping and relocation program for significant fauna (eg bandicoots) will be carried out to CALM's requirements. The discussion regarding fauna is based on a desk top review and no survey work has been carried out. CALM's preference is for in situ conservation of fauna where possible. The proponent should liaise with CALM regarding requirements for on site survey and suitability of a translocation program. Could the proponent address this matter?*

A Fauna Management Plan will be developed to the satisfaction of CALM. During preparation of the Fauna Management Plan, the proponent will liaise with CALM regarding site surveys and the suitability of a translocation program.

3.2 *The CCWA notes that the fauna which is in need of special protection doesn't restrict its usage to specific areas based on cadastral boundaries and believes the relocation of fauna is not a solution for inappropriately sited developments. Surely it makes more sense to locate developments on land that is cleared and does not have important biological values. The best chance of survival is for the fauna to remain where they are. Could the proponent respond to this issue?*

The RRRC is located towards the extremity of a broader area of remnant vegetation. The proposed clearing will not result in fragmentation of the bushland or severe disruption to fauna due to habitat loss.

4. GROUNDWATER

4.1 *The Water and Rivers Commission has advised that it has no objections to the proposal as long as it is carried out in accordance with the Draft Guidelines for the Storage, Processing and Recycling of Organic Wastes (December 1997). Would the proponent address the matter of complying with this guideline?*

The proponent will ensure operation of the RRRC will comply with the Draft Guidelines for the Storage, Processing and Recycling of Organic Wastes (DEP, December 1997).

4.2 *The CCWA notes that groundwater flows are to the north and west toward the Canning River, and that the site is underlain by a shallow unconfined aquifer and are of the opinion that this makes the site unsuitable for a waste handling facility. Could the proponent address this issue?*

The remarks made by the CCWA are taken from the CER itself. The remarks were intended to convey the view that the site was not considered suitable for development as a new landfill site. However, the plant described in the CER will be designed and operated in a manner that minimises the possibility of contaminating either surface or groundwater and complies with the Draft Guidelines for the Storage, Processing and Recycling of Organic Wastes (DEP, December 1997).

All waste handling operations will be undertaken in roofed and enclosed buildings with impermeable floors. Leachate will be captured and recycled in the process. In addition, monitoring bores will be installed upstream and downstream of the site to monitor any water quality impacts.

Some contamination is present in the shallow aquifer due to the operations of the adjacent Ranford Road landfill. Diversion of waste from this landfill to the RRRC and the planned closure of the Ranford Road landfill will result in a reduced impact on the unconfined aquifer.

5. AIR QUALITY -ODOUR AND DUST

5.1 *In the responses to the comments on the draft document, the proponent has indicated use of the draft Guidelines for the Storage, Processing and recycling of Organic Wastes (DEP, December 1997) which has a 150-500 metre buffer for their type of operation. The EPA's Guidance number 3 (draft June 1997) states a buffer of 1000-2000 metres for composting facilities. This needs to be addressed by the DEP to avoid confusion about which of these should be used generically.*

The EPA No 3 Guideline is a generic recommendation for composting facilities with active compost (the basis for the buffer distances is not given). A more detailed set of recommended buffers for various biological waste processing activities is contained in the (draft) "Guidelines for the Storage, Processing and Recycling of Organic Wastes" (DEP 1997). This gives recommended buffers of 150-500 metres (depending on the type of feedstock) for outdoor covered windrows which are biologically active. The outdoor compost stockpiles at the RRRC contain stabilised, mature compost which will have lower odour emissions. The expected buffer would consequently be less than 150-500 metres. The modelled odour impacts are consistent with this expectation. Furthermore, it has normally been DEP's preference to encourage case-by-case dispersion modelling to determine air contaminant impacts (which has been done for this proposal) than rely on generic guidelines which, by their nature, are coarse approximations and not always directly applicable to any specific proposal.

5.2 *Throughout the document there are references to the residential areas being at least 400-500 metres from the site. This is not supported by Figure 11, which indicates that the nearest residences are approximately 300m from the site boundary (and the Material Recovery Facility). Further to this, what land use zonings are closer in and will there be a likely conflict from these?*

The only references within the text to the residential areas being at least 400-500m from the site are in the odour section, which was referring to the distance between the In-Vessel Composting Facility or the Mature Compost Storage Area and the nearest residences. However, in Table S1 these values have been carried through to the Existing Environment column of both Particulates/Dust and Noise, where as noted the separation distances are actually approximately 300m.

The land use zonings for all the lots adjacent to the site north of the railway are zoned as "Mixed Business" under the City of Canning Special Rural Scheme No. 31. It is not likely that that any conflict will arise from this land use zoning.

5.3 *The document appears to assume that the compost product will be odour-free or non-odorous. In the DEP's experience most commercial composts have some odour, on what basis has the proponent determined that the compost is non-odorous?*

Although it is anticipated that there will be minimal odour emissions from the stabilised compost stockpiled on the external storage pad, for conservatism, potential odour emissions from the stockpile have been included in the prediction of odour impacts. Page 37 of the CER states, "The calculation of odour emissions from compost windrows is based on emission rate measurements given in CH2M Hill (1997). CH2M Hill sampled compost windrows from operating facilities in Perth. Unfortunately the report does not provide information on the nature of the compost sampled, however, it is probable that since they were still being turned, the compost was still biologically active. The compost at the RRRC will not be biologically active by the time it is stockpiled; hence the emissions rates estimates derived from the CH2M Hill study are likely to be conservative".

Therefore, the CER does not assume that the compost product will be odour-free or non-odorous as an odour emission rate of 4 $OU_{NVN2820\text{-}FC}/m^2/s$ has been used in the odour assessment. It should also be noted that the external stockpile will only be required if the internal storage capacity of approximately $1000m^3$ is exhausted.

In fact, it is the external compost stockpile which is the major contributor of the odour level predictions made in the CER. On this basis, the actual performance of the facility in terms of odour is likely to be better than predicted as it may not be necessary to store compost outside the process building and it is likely that the compost will have a lower odour emission rate than used in the modelling.

The proponent has also made an additional commitment: "An odour assessment of the stabilised compost will be conducted and the results reported to the DEP prior to commencing use of the external storage area".

5.4 *In table S1 on p.iv the third odour bullet should be carried through as a commitment: "preventative maintenance will be undertaken and multiple redundancy....". Would the proponent be prepared to commit to this?*

A commitment to this effect has been added to the list of consolidated commitments.

5.5 *In table S1 on p.iv the last dust bullet should be carried through as a commitment: "the moisture content of the processed....". Would the proponent be prepared to commit to this?*

A commitment to this effect has been added to the list of consolidated commitments.

5.6 *Page 10, paragraph 6 refers to the need to demonstrate the quality of the compost over a period of time before marketplace acceptance. What will happen to the compost during this period of time and if the quality is unacceptable?*

This text was included in the section on alternative waste disposal options (Section 2.2), and was intended to give a broad overview of the factors which may impact on the implementation of the various waste disposal options considered by the SMRC. The information on composting was not intended to be specific to the RRRC.
The compost produced at the RRRC will be tested to ensure compliance with relevant national and international standards for DEP approval. For example, the "Use and Disposal of Biosolid Products" guideline published by the New South Wales Environment Protection Authority (1997) has a range of different standards depending on the intended use of the biosolids product such as in home lawns and gardens, urban landscaping, agriculture, forestry etc.

Initially, it is intended that the compost will be used by the Local Governments who are members of the SMRC for use in parks, landscaping etc. Any compost that does not meet the standards/approval will undergo either further treatment or, in the worst case, be disposed of to landfill.

5.7 *Page 33, paragraph 6, would the proponent like to commit to a frequency of inspection of the building cladding for leaks (or will it be built into the EMP) ?*

The following commitment has been added to the list of consolidated commitments, "The composting building will be regularly inspected and maintained to reduce leakage of potentially odorous air out of the facility in accordance with the site management plan (as agreed with the DEP)".

It is proposed that an inspection would be undertaken once per week with the results logged and reported in the Performance Compliance Report.

5.8 *Page 33, paragraph 6 and p. 37 paragraph 2 describe the truck entry door to the composting buildings. The CER indicates that the negative pressure on the building will be sufficient to control odour from the open doorway. Has an airlock on the doorway been considered? It would seem from page 37 that the extra flowrate to allow for the doorway being open is quite large at 32m^3/s (115,000 m^3/hr). This will require a very large surplus fan capacity to allow for the door to be open intermittently and may prove uneconomic in the future, potentially leading to undesirable modifications if the facility is expanded. Would the proponent be prepared to commit to the minimum flowrate available at the truck entry door (eg 32 m^3/s)?*

The design of the RRRC plant has not been finalised at this stage, but it will ensure that the RRRC meets the relevant environment performance standard, with or without an airlock. The final design of the plant will be to the satisfaction of the DEP.

5.9 *Page 33, paragraph 8 indicates that the "Materials Recovery Facility and Greenwaste Processing Facility are not considered to be significant odour sources as the odour characteristic is not offensive and have been excluded from further consideration...". This is not considered valid. The odour assessment guidelines used by the DEP do not take into account the offensiveness of the odour. As noted within the CER (p.32) the offensiveness varies greatly between individuals and the degree off exposure to the odour. The proponent should also note that odours may have synergistic (negative or positive) interactions which may cause odours which are individually inoffensive to be offensive when mixed. The proponent needs to consider these facilities and demonstrate an insignificant odour contribution from them prior to excluding them from modelling. Could the proponent address this issue?*

The proponent is not aware of any odour assessments undertaken on materials recovery facilities or the greenwaste processing facilities, as they are not considered to be significant odour sources. Therefore, it was not possible to provide these details in the CER.

A site visit to similar facilities by the environmental consultant and the DEP assessment officer confirmed that these facilities are not significant odour sources. A Materials Recycling Facility of similar design and capacity to that proposed for the Canning Vale facility has operated in Bayswater with a buffer distance to the nearest residential area of 100-150 metres. The operator has indicated that no complaints have been registered in relation to odour.

5.10 *Page 33, paragraph 9 - is it possible for biosolids to end up on the outside of the delivery trucks on filling? If so, can the biosolids cause significant odours or health effects during transport and unloading? If so, will the trucks delivering biosolids be washed down once they have picked up biosolids?*

The biosolids are loaded into the trucks by overhead hoppers, minimising the possibility of biosolids ending up on the outside of the trucks. If biosolids do end up on the outside of the delivery trucks on filling, the trucks can be washed down once filling is complete. SMRC propose that trucks delivering biosolids are monitored at the gatehouse and if evidence exists that incoming trucks are contaminated, management procedures will be developed to ensure they are cleaned prior to departing from the pick-up point for biosolids.

The biosolids will be delivered in tankers or covered trucks and discharged in an enclosed building that is vented to the biofilter. A washdown facility will be provided to ensure that no biosolids remain on the outside of the delivery trucks/tankers. The tanker or trucks will only leave the

enclosed delivery area when fully covered. This means that there is little or no potential for spillages following tipping.

5.11 *Page 34 on biofilters - what happens to the biofilters under conditions of heavy rainfall? Will the filter media wash out or cause significant odours? Will the biofilter performance drop off?*

This issue has been noted and various options to prevent rain from affecting the performance of the biofilters have been considered, such as the use of a protective covering, bunding etc. It is proposed that this issue is addressed to DEP's satisfaction in the final design stage for the composting facility.

5.12 *Page 36, paragraph 8 - describes the selection of a 20 OU_{ASTM}/m^3 emission concentration and indicates it to "embody adequate conservatism". While acknowledging the basis for using the 20 OU/m^3, there is little description of the operating conditions behind the test data provided in Table 11: what conditions do the test results reflect (or is this unimportant because of the nature of the process)? Were the filters running with fresh adsorbent or old adsorbent? Were the filters considered to be performing well, average or poorly at the time (is there a significant difference between these process states)? While accepting the argument of the conservatism based on the test data, the question which appears not to be answered in the document or the initial responses is whether the test results, and hence the 20 OU/m^3, actually represent a typical estimate.*

It has not been possible to establish the details of the test conditions, however, representatives from Bedminster have indicated that they regard the results as typical of the biofilter performance. The actual odour impacts from the plant will depend on the biofilters being adequately maintained and procedures for management of the biofilters will be detailed in the site EMS. Actual test results from an identical plant in NSW will be available prior to the modelling of the final plant configuration. This will provide the necessary confidence regarding biofilter performance.

5.13 *It is noted that in the responses to questions raised at the draft CER, the proponent indicated that they considered that the use of typical impacts with rapid response to process upsets was the most appropriate methodology. This is true for a process control situation, but the limited data from the odour measurements does not indicate whether these are typical, good or worst case. The likely impact area of concern is probably somewhere between typical and worst case. A reasonable worst case estimate is required (or a justification as to why the case presented represents a worst case estimate). Could the proponent address this issue?*

In response to the issue of a "reasonable worst case estimate of odour impacts", further modelling has been undertaken to gauge the sensitivity of predicted odour impacts on the basis of possible biofilter malfunctions, response times and control measures. The scenario has assumed that worst

case emissions are 462 OU_{ASTM}/m^3 being the average of the upstream concentrations provided in the test data used to determine biofilter emissions (CER Table 11). This level of emissions was modelled for the 1-hour periods 0600-0700 hours, 1400-1500 hours and 2200-2300 hours each day for the year of meteorological data used previously for modelling. These times were selected on the basis of being evenly distributed intervals throughout the day (assuming that process upsets will on average, over the course of a year, be evenly distributed through the day), and included the 0600-0700 period during which stable atmospheric conditions, and therefore limited dispersion and highest odour impacts, were likely to occur. This scenario effectively assumed that biofilter emissions would be at a "worst case" level for 12.5% of the year and otherwise at the already conservative 20 OU_{ASTM}/m^3 level. We suggest that this scenario would constitute at least a "reasonable worst case estimate" of emissions, as referred to in the question.

The resulting 2.5 $OU_{QDEH-M6}$ 99.5% (3-minute) contour shows that this level of impact does not encroach upon any residential area and is still about 60 metres south of Ranford Road, which is the closest area most sensitive to odour impacts. This is the odour criterion suggested by the DEP

5.14 *Page 42, paragraphs 2 and 9 - under the contingency measures, where waste may be stored for a period of time, what are the expectations of odour emissions? Will they be excessive and offensive to residents?*

The enclosed nature of the In-Vessel Composting Facility means that odours will be effectively contained during emergency situations or breakdowns. In view of this, little impact is anticipated for residents.

The CER refers to the progressive nature of plant commissioning. This means that until the plant is fully functional, only small quantities of waste are processed. The quantity of waste present, and its enclosure within buildings or compost vessels, limits the potential for odour emissions if contingency measures are required.

Also, while waste quantities during process equipment commissioning may be small, the biofilter commissioning will be "one step ahead" of commissioning processing equipment. This means that biofilters can have the capacity for treating more odorous gases from processing than is likely to be generated from the level of waste being processed at any time during commissioning - at least up to when full production is reached.

Contingency responses during power failures are described in the response to question 5.16.

5.15 *Page 42, second dot point, where there is a power failure, all doors should be closed as soon as practicable (unless an unsafe condition could occur from this action). The doors should not be open after an hour for manual closure.*

During non-standard operating conditions such as a power failure, the majority of methane generated will be confined to the digester which is vented to the biofilter. In areas that may potentially be significant odour sources if there is a power failure, the doors will be closed as soon as practicable. This issue will be covered in more detail in the site EMS.

5.16 *Page 42, paragraph 8 describes the use of a backup generator. What is the expectation on odour emissions in the 12 hours or more prior to backup power being made available? Will they be excessive and offensive to residents etc?*

The CER notes that all processing of active compost, during which odours are generated, occur in enclosed buildings or vessels. In the event of a power failure, the digesters will cease to operate, along with the associated extraction equipment for directing odorous gases to the biofilter. This means that odorous gases will mainly accumulate within the vessels with only a small trickle exiting to the outside air through the biofilters (and hence treated in the normal way). During this period of a power failure, odour emissions are likely to be less than during normal processing.

The CER also refers to a backup generator being used to maintain air flow over the biofilters in the event of a power failure lasting more than 12 hours. This is necessary not only to assist maintenance of the biofilter cultures, but to progressively treat the accumulated odorous air within the digesters prior to possibly having to unload them if the power failure lasts more than 24 hours.

In summary, throughout the duration of any power failure event, odour emissions will most likely be less, but certainly no more, than during normal processing, and hence should not cause excessive off-site impacts.

Finally, the SMRC are currently negotiating to obtain power supply from a nearby landfill gas fired power station. If successful this means that the Western Power electricity supply will effectively act as a back-up supply with the result that there is a very high degree of reliability for the site power supply.

5.17 *Page 42, paragraph 5, the document indicates that an efficiency of 85% will be used to judge the biofilters as acceptable. From Table 11, an 85% efficiency will result in an odour emission of 69 OU/m^3 not the 20 OU/m^3 described and used for modelling purposes. A 95% efficiency would need to be considered for acceptability otherwise the proposal is contradictory. Can the proponent please clarify this?*

Prior to finalising the plant design, additional odour modelling will be undertaken using different biofilter efficiencies to determine the target efficiency. The target efficiency may then be incorporated into the odour monitoring program for the facility. This program will be assessed by DEP prior to commissioning.

We suggest the following rationale as the basis for verifying and managing biofilter performance:

1. A maximum emission level of 20 $OU_{NVN2820}/m^3$ at the design flowrate of 35 m^3/s (or a total odour emission of 700 $OU_{NVN2820}/s$) will be used as a performance target. This is the level which was used for modelling odour impacts in the CER. The total emissions rate is the most important factor with respect to avoiding unacceptable off-site odour impacts.

2. The Odour Monitoring Program will stipulate that monitoring of biofilter emissions include upstream sampling. This can be used to verify that the biofilter was operating under load at the time of outlet testing (ie. the plant was operating under "normal" conditions). The upstream and downstream odour concentrations can be used to calculate odour removal efficiency.

3. An odour removal efficiency level of less than 85% can be used as an "investigation level" which triggers an investigation of biofilter performance. If it appears that the emissions limit of 20 $OU_{NVN2820}/m^3$ is likely to be exceeded, then the cause of the removal efficiency would need to be rectified. We do not believe it would be sensible to mandate remedial actions purely on the basis of less than 85% efficiency (as long as the performance target continues to be met) because there will be a risk that excessive emissions could occur during the remedial actions. If these are unwarranted, it is an unnecessary risk.

4. An intensive program of quantitative testing of biofilter emissions will incur significant expenses. One advantage of managing odours compared to most other air pollutants, is that the presence of atypical or high odours can be readily judged qualitatively, as referred to in the CER. We suggest that quantitative measurements be supplemented by more frequent (say, monthly or quarterly) qualitative assessments by an external, independent party endorsed by the DEP. The assessor would also be present during the (less frequent) emissions testing to correlate quantitative measurements with their subjective assessment. If, during any qualitative assessment, the assessor considers odour emissions to be atypical or excessive, an investigation of biofilter performance can be undertaken, in the same way as the efficiency investigation.

   Quantitative assessments can also be used as a preliminary check for excessive odours from sources other than the biofilters.

5. Finally, any complaints received from nearby residents will be investigated within one working day of receipt of the complaint.

In summary, we suggest that odour management be implemented through an integrated approach comprising:

- quantitative testing, such as dynamic olfactometry (timescale of quarterly to annually);

- qualitative assessments (timescale of monthly to quarterly); and
- complaint response (daily).

5.18 *Page 42, paragraph 5, the document indicates that qualitative odour monitoring will occur. Can the proponent please provide further details on this and its usefulness. If the biofilter performance drops slowly with time, then there is a very good possibility that the change will not be detected by an individual who is involved with the operation everyday. It is also very likely that such an individual will become either desensitised or supersensitised to the odour making this approach dubious. Could the proponent address this issue?*

Please refer to question 5.17.

The use of an independent assessor will limit the possibility that the assessor will become acclimatised to the odour. The requirement for a correlation between quantitative testing and qualitative assessment by the independent assessor will also assist in this regard.

In addition, any complaints received from nearby residents will be investigated promptly.

5.19 *Page 42, paragraph 6, follows on to say that if a problem is identified by qualitative odour measurement that quantitative odour measurement will be performed. What criteria for a qualitative odour assessment are they proposing? Can the proponent confirm what the quantitative odour measurement will consist of?*

Please refer to the assessment approach outlined in response to question 5.17.

5.20 *Page 44, Table 14 indicates that the exit of the scrubber will have VOC's up to 7.4 ppm. To compare this to any standards will require estimates of the speciation of the VOCs. The proponent needs to provide some estimate of the likely components and should commit to quantifying this on commissioning. (The sulphur appears to meet acceptable emission and ambient standards, but should also be quantified at commissioning).*

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The following list of speciated VOC's was originally included in the CER, but was excluded during subsequent revisions to improve the readability of the final document. The table below lists all

the VOC's identified according to the USEPA Method TO-14. It should be noted that other, less odiferous compounds were also tentatively identified.

Compound	Blend #1			Blend #2		
	Inlet (ppb)	Outlet (ppb)	% Removal	Inlet (ppb)	Outlet (ppb)	% Removal
Acetone	1,400	71	94.9	1,500	230	84.7
Benzene	6.6	1.6	75.8	ND	1.6	-
2-Butanone	320	1.9	99.4	330	3.5	98.9
Carbon Disulphide	14	9.3	33.6	ND	9.0	-
Cloromethane	ND	3.2	-	ND	3.0	-
1,4-Dichlorobenzene	ND	0.64	-	ND	0.93	-
Ethylbenzene	8.6	2.8	67.4	ND	4.0	-
4-Menthyl-2-Pentanone	-	-	-	ND	0.71	-
Methylene Chloride	11	5.4	50.9	11	11	0
Styrene	ND	1.4	-	ND	2.0	-
Tetrachloroethene	-	1.8	-	ND	2.1	-
Toluene	37	6.5	82.4	36	14	61.1
1,1,1-Trichloroethane	12	7.4	38.3	14	15	-7.1
Trichloroethene	-	0.77	-	ND	1.2	-
Trichlorofluoromethane	ND	2.2	-	ND	3.0	-
Vinyl Acetate	230	ND	>99.4	220	ND	>99.4
m- & p-Xylene	31	6.8	78.1	12	10	16.7
o-Xylene	8.9	3.7	58.4	ND	5.6	-

Source: E&A Environmental Consultants Inc, 1997
Note: "ND" indicates not detected.

5.21 *Page 44, paragraph 3 states that the buffer zone "exceeds DEP's guidelines for an enclosed composting facility of this type". The facility has external windrow capacity which needs to be considered when comparing to a generic buffer distance. It is noted that the external windrows have been included in the odour modelling.*

Please refer to the response to question 5.1.

5.22 *Page 45, section on dusts does not provide much justification of the dust impacts. When this was raised at the draft CER stage, the response was that the dusts from the biofilters were considered to be less than 100 mg/m^3. Based on this comment, it appears that dust impacts are acceptable. However, will the proponent commit to quantifying dusts after commissioning and undertaking rectification work if dust impacts prove unacceptable?*

The SMRC will undertake rectification work if dust impacts prove unacceptable. It is not possible to accurately characterise dusts at the point of emission from the biofilter, so it may be necessary to conduct ambient monitoring should the DEP consider it necessary following commissioning. The SMRC proposes that the facilities are jointly inspected with DEP staff during commissioning. Should these inspections indicate that particulate emissions are contributing to an exceedance of ambient particulate standards, the SMRC will undertake monitoring to quantify emissions and rectify the source.

5.23 *Page 45, dot point 7 refers to the use of misting sprays when turning windrows. Will this practice cause extra odour emissions from the moist compost?*

Under typical operating conditions the material in the windrows will be sufficiently moist to prevent the generation of dust and the creation of aerosols. However, if necessary, misting sprays will be used to minimise the formation of dust. The misting sprays will not significantly increase the moisture content of the compost above that normally encountered in maturing compost as their purpose is to create a fine aerosol of water to knock down dust in the air not to saturate the compost.

5.24 *Page 45, dot point 8 refers to monitoring of dust to assess the significance of any potential off-site impacts. Can the proponent provide further details of the monitoring and criteria that they will use to assess the significance of the off-site impacts?*

No significant sources of dust emissions have been identified in the facility. It is predicted that emissions will comply with the accepted environmental standards (eg NEPM). As a result, no monitoring is proposed at this time. The management protocol proposed in response to question 5.22 will ensure adequate monitoring control in relation to particulates.

5.25 *In table 21 on p.64 the first odour commitment should be modified to reflect the management bullet point in table S1 on p. iv. The management point indicates "... any equipment or process that has the potential...." Currently the commitment refers only to "all significant odour sources". This should also carry through to the dust commitments. Further to this, the commitment should also stipulate the minimum efficiency of the biofilters (see also comment number 15).*

The commitment will be amended to read "Any areas of the plant housing equipment or process that has the potential to generate significant odours or dust will be housed in enclosed buildings or undertaken in enclosed vessels that are ducted to the biofilter".

Prior to finalising the plant design, additional odour modelling will be undertaken using different biofilter efficiencies to determine the target (minimum) efficiency. The target efficiency may then be used as a management measure for the facility.

The commitments relating to dust in Table 21 already specify that "All wastes and products with a potential for causing particulate emissions will be handled in enclosed buildings". This commitment has been amended to clarify its intent and separate the design and operational aspects of the commitment. (Refer to commitments 22 and 23 in the final commitments table).

5.26 *In table 21 on p.64 the second odour commitment should be modified to "The performance of all odour sources ~~the biofilters~~ will be assessed by odour monitoring and the results reported to DEP within x months of commissioning and at y monthly intervals.*

An Odour Monitoring Program will be developed prior to commissioning and implemented to assess compliance with the relevant standards and performance objectives for the facility and to monitor the performance of control equipment. This proposed Odour Monitoring Program will specify the timing of monitoring for all odour sources.

5.27 *In table 21 on p.64 the fourth odour commitment refers to actions specified within the site management plan. Whilst recognising that the site EMP may not yet be available, can the proponent provide an outline of the site EMP or change the commitment to reflect ".. the actions specified in the site management plan (as agreed with the DEP) will be implemented..." The current form of the commitment does not provide specifics which are suitable for use in assessment.*

The commitment in Table 21 (Odour) will be amended to be read "Maintenance and contingency procedures will be developed and implemented to minimise odour impacts:. These procedures will be detailed in the site EMS, which is subject to approval by DEP.

The general approaches for managing plan upsets or emergencies are outlined on pages 40-43 of the CER.

5.28 *Western Power advises that dust particles can accumulate on transmission lines insulators causing them to flash over when the dust particles become moist and sulphurous emissions can corrode the line hardware and conductors. Accordingly Western Power seeks confirmation of the type and level of emissions expected from the RRRC and an assurance that the proponent will mitigate any impact on the transmission line due to the emissions. Could the proponent respond to this?*

Until the RRRC commences operation, it is not possible to accurately determine the amount and types of airborne emissions produced as it will vary depending on the amount and types of waste treated, biofilter efficiency etc. No significant sources of particulate emissions are expected due to the enclosed nature of the facilities.

Emissions will comply with the accepted environmental standards (eg NEPM).

6. NOISE

6.1 *The DEP notes that the noise modelling has been conducted in accordance with the Draft "Guidance for the Assessment of Environmental Factors No. 8 - Environmental Noise" and that the prediction shows compliance with the Environmental Protection (Noise) Regulations 1997. Would the proponent be prepared to make a commitment restricting operation of the various equipment to the times assumed in the noise model?*

The proponent is still reviewing and refining the design of the plant prior to tendering for construction. As such, the proponent would like to take this opportunity to indicate that the operating times listed in the CER may vary. The usual operating hours are intended to be:

"The site will receive waste between Monday and Saturday inclusive between the hours of 0700 hrs and 1900 hrs. The processing facilities will generally operate every day during the following hours:

• MRF	0700-2200 hours	Monday to Saturday[1]
• Greenwaste	0700-1900 hours	Monday to Saturday[1]
• Compost Vessels	Continuous	Every day[1]
• Compost Screening	0700-1900 hours	Every day[1,2]
• Compost Maturation	Continuous	Every day[1]

Notes:
[1] Except where plant breakdowns cause a backlog of waste which must be treated prior to closing the plants for the night.
[2] Only the primary trommels will operate on Sundays".

These changes in operating hours can be made while ensuring compliance with the noise emission guidelines for the site. To maintain flexibility in the operation of the plant, the proponent has made the commitment to ensure that the facility will be designed and operated to comply with Environmental Protection (Noise) Regulations, 1997 at all times rather than restrict operation or sound power levels for individual plant items to the times assumed in the noise model. In addition, the proponent has committed to undertake additional assessment and modelling of the final plant configuration once the design is finalised.

6.2 *The Canning Vale Progress Association is relatively confident that noise sensitive premises to the south of the site will not be exposed to high noise emissions. However the residences to the northwest (Leeming) will not be so fortunate. Given that the facility is a 24 hour operation the "worst case" noise contours indicate levels of bordering on 48 dB(A), and this is likely to be disruptive and should be reduced at the noise source. Could the proponent comment on this issue?*

The proponent will model the predicted noise emissions resulting from the final design of the plant so that the noise levels meet the criteria specified in the noise regulations. Thus the commitment made is to comply with the Noise Regulations rather than to install specific equipment or attenuation measures.

It should be noted that whilst the compost systems operate 24 hours per day, the majority of the site will only operate during normal business hours. The modelling indicates that the plant will only result in levels of 46 dB(A) within Leeming during the period 0700-1900 hours. Outside of these hours the worst case predictions are in the range 33-35 dB(A). The plant complies with the assigned noise levels at all times. The additional modelling runs to be undertaken on the final plant configuration will demonstrate compliance with the assigned noise levels.

7. WASTES

7.1 *The Canning Vale Progress Association is concerned with the introduction and storage of large volumes of sewerage in the Canning Vale area. Can the in-vessel storage facilities fully contain all received materials? Is bunding to be provided to contain all biosolids in the event of a major/minor spill or leak? What measures are proposed to determine ground water contamination from this site?*

All biosolids will be received within the enclosed In-Vessel Composting Facility. The appropriate tanks or other storage facilities are located within this facility, and will have sufficient storage capacity to fully contain the biosolids. These storage facilities will be designed to contain any spills and vented to the biofilters. Only relatively small quantities of biosolids will be stored (approximately $300m^3$) and biosolids will be progressively used as received.

7.2 *The CCWA considers that there needs to be a waste analysis prior to the facility design. After all, input materials are the key to the success of the scheme. The document provides no information on the composition of this section of the waste and there needs to be a plan to address the desired components of the waste stream and the necessary compost quality to meet the desired end uses. The CCWA suggest that there is a programme put in place to attract clean organics to the facility, for instance restaurants and shops could be offered discounted rates for separated organics. Could the proponent comment on this matter?*

The RRRC is designed to displace domestic waste from landfill. Therefore, domestic waste will be the principal source of waste to be treated at the RRRC. However, if there is remaining capacity at the plant, a range of measures to attract clean waste will be investigated. Regardless of the input materials, the compost produced at the RRRC will be tested to ensure compliance with criteria agreed with DEP prior to the commissioning of the treatment plant. Any compost that does not meet the standards/approval will undergo either further treatment or, in the worst case, be disposed of to landfill.

7.3 *The CCWA notes that there is no mention of the percentage of recovered inorganic material in relation to the input amount. The Bedminister facilities world wide find that the compost produced is about 33% of the input of solid waste, or the compacted volume of non degradable residue from the process is about 20% of the input. If this is the expected outcome in the proposed facility, it is important that clean input is obtained so that the amount of waste going to landfill is minimised. Could the proponent comment on this matter?*

As stated in the response to the previous question, the RRRC is designed to displace domestic waste from landfill and so domestic waste will be the principal source of input material. However,

if there is remaining capacity at the plant, a range of measures to attract clean waste will be investigated.

7.4 *The CCWA notes that the CER provides the heavy metal concentrations of compost process residue, with the source of the test dated October 1993. Bedminister technology was relatively new at that stage and there were many teething problems at some of the facilities. It would be more appropriate to quote more recent data, perhaps from one of the newer facilities. Could the proponent provide this information?*

The information presented in the CER was obtained from the Sevierville Bedminster Plant. It was not possible to obtain the relevant information from the Cobb County Plant, which is the only facility constructed since Sevierville. It should be noted, however, that this information was presented as a guide only. As the input waste stream will be different for the RRRC, it is likely that there will be differences in the heavy metal composition of the inorganic residue produced at the RRRC and data quoted regardless of the date and location from which the data was obtained.

Commitments have been made with respect to monitoring of compost quality.

7.5 *The Environment Centre of Western Australia (ECWA) states the inclusion of any radioactive substance in the proposal is cause for concern. They note that radioactive material is the only totally intractable waste on the planet and believe there is no reason to use it, or accept, it or legitimise its use in any other than rigidly controlled medical technology and it should be totally excluded from the proposal. Could the proponent comment on this issue?*

The CER referred to radioactive waste in the context of Excluded Wastes (Section 3.4.7). The RRRC will not accept any radioactive wastes. Procedures will be described in the site EMS for the identification and management of any radioactive or hazardous materials that may be contained in the domestic waste stream.

The SMRC proposes a vigorous community education program to encourage the community to segregate hazardous materials from the waste steam. This approach will minimise the likelihood of such wastes being received at the plant.

The only radioactive waste expected to be received at the plant are low yield sources such as smoke detectors. These are commonly found in the domestic waste stream and are not considered to be a hazard.

8. FLAMMABLE / EXPLOSIVE GASES

8.1 *The CCWA notes that there has been a fire in Bedminister facility for which methane buildup was blamed. The fire, which began in an empty space above the composting floor, at the Cobb County facility on 23 August 1996, caused damage in excess of $5 million and damaged 50% of the building substructure. Gas detection and fire suppression systems are vital - the document outlines a system of flammable gas detectors but fails to mention measures for fire suppression. Could the proponent outline the fire suppression measures?*

As discussed previously, the design of the RRRC is yet to be finalised so it is not possible to provide details of fire suppression measures at this point in time. When finalised, the design of the RRRC will comply with the relevant Australian codes and statutes.

9. OTHER

9.1 *Western Power provided details of the separation clearances required along its transmission line easement. This information has been forwarded to the proponent. Could the proponent comment on compliance with these clearances?*

The SMRC is not currently considering the construction of a spur line into the RRRC. If at some time in the future the construction of a spur line is contemplated, the SMRC will hold discussions with Western Power at the earliest opportunity to ensure proper consideration is given to the placement of the support poles.

9.2 *The CCWA notes that the statement 'methane is six times more damaging than carbon dioxide as a greenhouse gas, quoted from DCT and WAMA needs to be revised. The IPCC figure is that methane has a global warming potential of 21 times that of carbon dioxide. Could the proponent comment on this?*

The concept of Global Warming Potential (GWP) has been developed to enable comparison of the ability of each greenhouse gas to trap heat in the atmosphere relative to another gas. Carbon dioxide is used as the reference gas in accordance with the IPCC guidelines, and therefore one kilogram of carbon dioxide has a GWP of 1. Methane has a GWP of 21, which means that 1 kg of methane has the same heat-trapping potential as 21 kg of carbon dioxide.

Often, gas quantities are presented in units (eg. metric tonnes) of carbon equivalent. Carbon comprises 12/44 of carbon dioxide by weight, so the carbon equivalent GWP of methane as compared to carbon dioxide is equal to 21 multiplied by 12/44, which is approximately equal to 6.

Therefore, both statements made in the above question are correct, however the figures quoted refer to different units of measurement.

9.3 *The CCWA notes the CER document does not address the issue of rodents, flies and birds. Could the proponent explain how this issue would be managed?*

The use of enclosed buildings and the associated odour control should significantly reduce vector attraction. In addition, putrescible wastes will be largely treated on the day they are received and this will reduce access to the waste.

Trapping and baiting will be used to control vermin within the waste treatment and storage areas. Details of these techniques will be provided in the EMS.

9.4 *The CCWA notes the issue of decommissioning the site is not addressed. Could the proponent address any significant items that would require special management during decommissioning?*

The proponent will submitting a Decommissioning Plan to the DEP within 5 years of commissioning of the RRRC. The Decommissioning Plan will address any significant items that would require special management during decommissioning.

No significant issues are anticipated for this facility beyond those required for any normal industrial facility.

9.5 *The ECWA feels that this facility should be regarded as only a pilot plant, a precursor to a system of independent, commercially viable Resource Recovery Parks (RRP's) serving each major population centre in Western Australia. Some intractable waste must be incinerated and some is amenable to (bio)chemical treatment. Any RRP must have facilities for both methods on site. Given the communities often unreasonable and quite emotional fear of waste treatment technology, the construction, commissioning and operation of the Canning Vale RRRC should be considered essential in the development of a modern Waste Treatment Methodology for Western Australia, and for public education. Could the proponent comment on this?*

The SMRC would like to thank the ECWA for its favourable response. It is hoped that, in addition to improving the management of waste in the Southern Metropolitan Region, the RRRC will aid in public education

The RRRC is not currently considering the construction of an incinerator.

9.6 *The ECWA believe it would be preferable that sufficient space existed to establish a woodland/forest belt surrounding the facility inside the boundary fence, to a depth of at least 20 metres. This would offer a unique opportunity for long term experimentation and research into the effectiveness of such belts as buffers against odours, dust and noise. The ECWA would have no problem with manipulation of the immediate floral environment to favour tall native trees as a major proportion of such a vegetation belt just inside the RRP boundary, even if these were not indigenous to the area. Could the proponent comment on this?*

The SMRC have committed to minimising the clearing of remnant vegetation as far as possible and to utilise vegetation types indigenous to the area in the landscape plan in order to return the site as far as possible to its natural state. Therefore, this proposal is not considered a suitable opportunity for long term experimentation and research into the effectiveness of woodland/forest belts as a buffer.