Section 5

Project Evaluation and Conclusion

PREAMBLE

This section concludes the assessment of the Proposal. It discusses the residual environmental risks based on the implementation of the proposed safeguards, controls and mitigation measures. It also provides an evaluation and justification in consideration of ecologically sustainable development, and discusses the consequences of not proceeding with the Proposal.

This page has intentionally been left blank

5.1 INTRODUCTION

As a conclusion to the *Environmental Impact Statement*, the development and operation of the proposed Nyngan Waste and Resource Management Facility is evaluated and justified through consideration of its potential impacts on the environment and potential benefits to the local and wider community.

The Proposal evaluation has been undertaken by firstly reviewing the residual environment risks and impacts, assuming the implementation of the controls, safeguards and mitigation measures summarised in **Appendix 8**. The Proposal has also been evaluated against the principles of Ecologically Sustainable Development (ESD) in order to provide further guidance as to the acceptability of the Proposal, as presented in the *Environmental Impact Statement*.

Section 5.2, which presents the justification of the Proposal, revisits the predicted residual impacts on the biophysical environment, considers the socio-economic benefits which would be provided and assesses the consequences of not proceeding with the Proposal.

5.2 EVALUATION AND JUSTIFICATION OF THE PROJECT

5.2.1 Residual Environmental Risks and Impacts

5.2.1.1 Introduction

The Proposal's residual environmental risks and impacts have been assembled following the comprehensive assessment of impacts presented through Section 4 of this document. The assessment has assisted to review each aspect and establish the residual risks to the on-site and surrounding environment. The residual risks for the Proposal have been assembled in the following order, noting this is different to the prioritisation incorporated in Section 3.3.2.

1. Biodiversity.
2. Litter.
3. Air quality, odour and greenhouse gas.
4. Visibility.
5. Groundwater.
6. Surface water.
7. Noise.
8. Fire.
9. Traffic.
10. Heritage.
11. Soils, land capability and agricultural suitability.

An overview of the status of each of the above and their residual risks are as follows.

5.2.1.2 Biodiversity

The biodiversity assessment recognised the potential value of the Myall Woodland EEC and threatened Grey-crowned Babbler. As such, the proposed layout has been developed to avoid impact to the EEC and threatened species. As a result, the Proposal would not result in a significant adverse impact. In addition, taking into account the proposed use of species consistent with the Myall Woodland EEC within the Site, the Proposal is likely to result in additional areas of this community becoming established.

5.2.1.3 Litter

Litter-related impacts would be reduced through the placement of waste and use of intermediate covers, contained through the use of litter fences to limit the distribution of windblown litter, and removed through a daily inspection program and follow up collection.

5.2.1.4 Air Quality, Odour and Greenhouse Gas

The air quality assessment has established that dust generated by on-site activities and dust lift-off from exposed areas is not likely to cause adverse dust impacts at any sensitive receptors. Odour is unlikely to impact any sensitive receptors.

Given the minimal quantities of waste proposed to be collected at the facility, it is not anticipated measures are required to monitor, capture or dispose of landfill gas.

5.2.1.5 Visibility

The proposed operations on the Site would be visible from Canonba Road. The Proposal has been designed with a range of visual controls including the planting of a tree/visual amenity screen and the minimising of windblown litter.

5.2.1.6 Groundwater

The groundwater investigations for the Proposal have established that with the adoption of procedures for leachate collection and management, and the compliance of permeability with EPA Benchmark Technique 1, namely 1 x 10^{-9}m/s over 900mm, groundwater in the vicinity of the Site would not be adversely impacted by the Proposal. Additionally, as there is no anticipated discharge of groundwater in the vicinity of the Site, there would be no adverse impacts on groundwater dependent ecosystems.

5.2.1.7 Surface Water

The surface water investigations for the Proposal have established that with the adoption of the proposed leachate management measures and evaporation of potentially-contaminated water in accordance with EPA Benchmark Technique 3, surface water in the vicinity of the Site would not be adversely impacted by the Proposal.

5.2.1.8 Noise

The noise assessment has established that noise-related impacts associated with the Proposal are unlikely to be significant, with no increase in existing noise emissions and the closest residence being more than 2km from the Site.

5.2.1.9 Fire

Fire related impacts are anticipated to be minimal given the management measures proposed to reduce the risk of ignition, extinguish fire in the event it occurs and to prevent the spread of fire both from the Site and onto the Site.

5.2.1.10 Traffic

The traffic assessment has established that there would not be significant increases in vehicle movements as a result of the Proposal. It remains for the Applicant to ensure the behaviour of the drivers of Council operated trucks travelling to and from the Site abide by all commitments and requirements identified by the Driver's Code of Conduct.

5.2.1.11 Heritage

The Aboriginal Heritage assessment did not identify any artefacts within or in the near vicinity of the Site. No ongoing Aboriginal heritage issues are expected.

5.2.1.12 Soils, Land Capability and Agricultural Suitability

The anticipated soils, land capability and agricultural suitability-related impacts associated with the Proposal would be negligible given the proven ability to manage the soils and achieve successful rehabilitation consistent with the land surrounding the Site.

5.2.2 Ecologically Sustainable Development

5.2.2.1 Introduction

Sustainable practices by industry, all levels of government and the community are recognised to be important for the future prosperity and well-being of the world. The principles of Ecologically Sustainable Development (ESD) that have been recognised for well over a decade were based upon meeting the needs of the current generation while conserving our ecosystems for the benefit of future generations. In order to achieve sustainable development, recognition needs to be placed upon the integration of both short-term and long-term environmental, economic, social and equitable objectives.

The following sub-sections (Section 6(2) of the *Protection of the Environment Administration Act 1991*) draw together the features of the Proposal that reflect the four principles of ESD, namely:

- the precautionary principle -
  namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
  In the application of the precautionary principle, public and private decisions should be guided by:
  (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
  (ii) an assessment of the risk-weighted consequences of various options,
- intergenerational equity -
  namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,
- conservation of biological diversity and ecological integrity -
  namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,
- improved valuation, pricing and incentive mechanisms -
  namely, that environmental factors should be included in the valuation of assets and services, such as:
  (i) polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
  (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,
  (iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

5.2.2.2 The Precautionary Principle

In order to satisfy this principle of ESD, emphasis needs to be placed on anticipation and prevention of environmental damage, rather than reacting to it. The Applicant has engaged specialist consultants to examine the existing environment, predict possible impacts and recommend controls, safeguards and/or mitigation measures in order to ensure that the level of impact satisfies statutory requirements or reasonable community expectations.

Throughout the development of the Proposal, the Applicant and its consultants have adopted an anticipatory approach to impacts, particularly that of irreversible ecological damage, by undertaking an analysis of the risks posed by activities of the Proposal, an appropriate level of research and baseline investigations and environmental evaluation. The design and operational safeguards have therefore been planned with an appropriate knowledge of the existing environment and the potential risk of environmental degradation posed by Proposal.

The implementation of the environmental design and operational safeguards has been formalised by the Applicant as a Statement of Commitments presented as **Appendix 8**. The information presented in that Appendix will provide a simple, quick reference overview of the commitments made in this document for the day to day management of the Site.

A summary of how the precautionary principle has been considered throughout the preparation of the *Environmental Impact Statement* is outlined as follows.

Objectives of the Project

The Proposal has been designed with the principal objective of developing the facilities to allow for the collection and recycling of waste oils, metal, glass, paper and cardboard, batteries, used tyres and bulky items, and the collection and on-site mulching of green waste. The addition of these facilities to the landfill allow for the diversion and recycling of materials that previously have gone to landfill.

Design of Proposal Components

A number of design aspects of the Proposal were modified and additional design aspects incorporated during the planning stages in order to ensure that the requirements of local and State government agencies, accepted industry standards and, wherever possible, reasonable community expectations were met. These included the following.

- The Site layout was modified in order to avoid impacts on the Myall Woodland EEC and threatened Grey-crowned Babbler.
- Inclusion of visual amenity screens using species representative of the Myall Woodland EEC. This has the dual effect of reducing visual amenity impacts and promoting the endangered ecological community.

Integration of Safeguards and Procedures

The site would be managed and monitoring undertaken in accordance with the commitments listed in **Appendix 8**. A range of site-specific environmental procedures would be adopted to achieve consistency with specified outcomes and to avoid environmental harm.

All on-site procedures would be regularly reviewed, particularly in light of the results of monitoring and any feedback through ongoing community consultation.

Rehabilitation and Subsequent Land Use

Long term adverse impacts on the agricultural productivity of the Site would be avoided through the design and rehabilitation of the final landform suitable for the return of grazing for the Site, consistent with the surrounding land use. In addition, the planting of species representative of the Myall Woodland EEC as a visual screen would assist in the continued establishment of the Myall Woodland EEC already located adjacent to the Site.

Conclusion

The precautionary principle has been considered during all stages of the design and assessment of the Proposal. The approach adopted, ie. consultation, specialist investigations and safeguarded design, provides a high degree of certainty that the Proposal would not result in any major unforeseen impacts.

5.2.2.3 Intergenerational Equity

Intergenerational equity embraces value concepts of justice and fairness so that the basic needs of all sectors of society are met and there is a fair distribution of costs and benefits to the community. Intergenerational equity includes both inter-generational (between generations) and intra-generational (within generations) equity considerations.

Equity within generations requires that the economic and social benefits of the development be distributed appropriately among all members of the community. Equity between generations requires that the non-material well-being or "quality of life" of existing and future residents of the local community would be maintained throughout and beyond the life of the Proposal.

Both elements of intergenerational equity are addressed through the design of the Proposal itself, the implementation of operational safeguards to mitigate any short-term or long-term environmental impacts, and the proposed rehabilitation of the Site. Examples of matters relating to intergenerational equity that are relevant to the various stages of the Proposal are outlined as follows.

Identification of Proposal Objectives

The primary objective of the Proposal is to provide a facility to assist in the recovery of materials from waste that would otherwise be land-filled and also provide a repository for waste that can not be recycled. The facility would assist to maximise the recovery of resources for future generations and to extend the operational life of the landfill.

The Proposal has also been designed to allow for economically viable disposal of waste given the proximity to the community.

Progressive rehabilitation would provide a final landform suited for grazing, the planned long term land use within the TSR.

Design of Proposal Components

The Proposal has been designed to maintain inter-generational equity, and to ensure components of the existing biological, social and economic environment available to existing generations would also be available to future generations. Particular design components include the progressive rehabilitation to provide a final landform suitable for long term grazing.

Integration of Safeguards and Procedures

The application of the proposed design and operational safeguards would prevent impacts to the existing biological, social and economic environment, thus preserving the environment for future generations.

Rehabilitation and Subsequent Land Use

The final landform would be suitable largely for grazing and to a lesser extent for nature conservation (Myall Woodland EEC).

Conclusion

The intergenerational equity has been considered during all stages of the design and assessment of the Proposal. The approach adopted prevents and minimises impacts for future generations.

5.2.2.4 Conservation of Biological Diversity and Ecological Integrity

The protection of biodiversity and maintenance of ecological processes and systems are central goals of sustainability. It is important that developments do not threaten the integrity of the ecological system as a whole or the conservation of Threatened species in the short or long term. The Proposal has been designed specifically to avoid impact on the Myall Woodland EEC and the threatened Grey-crowned Babbler. It also achieves compliance with this principle through the planned planting of species representative of the Myall Woodland EEC as part of a visual screen on the Site.

5.2.2.5 Improved Valuation, Pricing and Incentive Mechanisms

The issues that form the basis of this principle relate to the acceptance that the polluter pays, all resources are appropriately valued, cost-effective environmental stewardship is adopted and the adoption of user-pays principle based upon the full life cycle of the costs. A reflection of these issues on the Proposal is set out below.

Identification of Proposal Objectives

It is the Applicant's objective to operate the Proposal in a safe and environmentally responsible manner, which demonstrates value has been placed on elements of the existing environment.

Design of Proposal Components and Integration of Safeguards and Procedures

The extent of research, planning and design of environmental safeguards and mitigation measures to divert potentially recoverable resources from landfill is evidence of the value placed by the Applicant on these resources. Importantly, the re-instatement of a landform suitable for grazing would be beneficial.

5.2.3 Conclusion

The Proposal has been justified given the approach taken in planning the Proposal has been multi-disciplinary, involved consultation with various government agencies with emphasis on the application of safeguards to minimise potential environmental, social and economic impacts. The design of the Proposal has addressed each of the sustainable development principles, and on balance, it is concluded that the Proposal achieves a sustainable outcome for the local and wider environment.

After a full evaluation of the potential environmental impacts of the Proposal, there are no activities or features for which there is a level of uncertainty in achieving an acceptable level of environmental performance.

In general, the ESD concept promotes reducing, re-using and recycling of wastes. The Proposal is consistent with the continued efforts of the NSW Government to encourage community waste reduction, recycling and greater recognition of wastes as resources. Additionally, the focus upon recycling and re-processing on the Site is intended to ensure that where possible, resources are reprocessed into useful products, hence increasing the sustainable life span of those resources and limiting the amount of wastes destined for emplacement.

Ultimately, however, there are residual or other wastes that cannot be reused, recycled or reprocessed, and waste emplacement is the only feasible alternative.

5.3 CONSEQUENCES OF NOT PROCEEDING WITH THE PROPOSAL

The consequences of not proceeding with the Proposal include the following.

- The Applicant would be forced to close the existing Nyngan Waste Facility as the facility is full. Waste would be diverted to another landfill facility resulting in:
  - significantly higher transport costs and potential transport impacts on the roads;
  - increased receipt of wastes at those landfill facilities, shortening their predicted life spans; and
  - the increased potential for illegal dumping of wastes due to the increased distance for residences to dispose of waste.
- The lost opportunity to provide local recycling facilities.
- The disposable wages for workforce and ongoing expenditure associated with the Proposal would be foregone.
- The biophysical, economic and social impacts, both positive and negative identified throughout this document, would not occur.

It is considered that the benefits of proceeding with the Proposal therefore outweigh the minor impacts on the environment that would result if the Proposal proceeds. The consequences of not proceeding with the Proposal also weigh heavily in favour of proceeding with the Proposal.

5.4 CONCLUSION

This *Environmental Impact Statement* has been prepared by R.W. Corkery & Co. Pty. Limited on behalf of Bogan Shire Council to assist in the assessment of the likely environmental impacts of the proposed Nyngan Waste and Resource Management Facility. The Proposal has, to the extent feasible, been designed to address the issues of concern to the community and all levels of government.

The *Environmental Impact Statement* has assessed the potential environmental, economic and social impacts that the construction and operation of the Proposal would have on the surrounding environment. This assessment included the potential for impacts relating to groundwater, surface water, biodiversity, heritage, traffic and transport, soils and land capability, air quality, noise, visual amenity, waste management and land contamination. Principles of ecologically sustainable development were also considered.

The *Environmental Impact Statement* concludes that the Proposal is consistent with best practice approaches which reflect an ecologically sustainable approach to the management of waste.

The *Environmental Impact Statement* also concludes that the potential for adverse impacts during the construction and operation of the Proposal would be mitigated through the implementation of a range of appropriate safeguards and management measures.

In light of these conclusions, it is assessed that the Proposal, as presented in this *Environmental Impact Statement*, could be constructed and operated in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and reasonable community expectations.

This page has intentionally been left blank