

22. Sustainability

22.1 Overview

The Brundtland Report, *Our Common Future* (1987) defines sustainability as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The South Road Superway Project is addressing the principles of sustainability through the process of project design and planning. In addition the construction and operation of the road network will be undertaken in a way which encompasses sustainability including the implementation of a Sustainability Management Plan.

22.2 Legislative and policy requirements

Table 22.1 summarises key Commonwealth and state legislation relevant to site contamination issues associated with the project.

Table 22.1. Commonwealth and state legislation

Legislation / policy	Definition	Relevance to project
National Strategy for Ecologically Sustainable Development (1992) Commonwealth	<p>This strategy provides broad strategic directions and a framework for governments to direct and policy and decision making. The strategy facilitates a coordinated and co-operative approach to ecologically sustainable development and encourages long-term benefits for Australia over short-term gains. The NSESD defines ecologically sustainable development (ESD) as:</p> <p><i>'Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and into the future, can be increased.'</i></p> <p>Put more simply, ESD is development which aims to meet the needs of Australians today, while conserving our ecosystems for the benefit of future generations. To do this, we need to develop ways of using those environmental resources which form the basis of our economy in a way which maintains and, where possible, improves their range, variety and quality. At the same time we need to utilise those resources to develop industry and generate employment.</p>	The South Australian government endorsed the NSESD and the principles of ecologically sustainable development must be built into important government decision-making processes.
South Australia's Strategic Plan 2007 South Australian	<p>This plan defines six interrelated objectives supported by 98 targets and priority actions, with a view to ensuring strong economic growth and business environment while also being environmentally sustainable and socially inclusive. In particular the Plan identifies that <i>'the challenge of sustainable development requires the focus, commitment and ingenuity of all South Australians.'</i> The Plan states that sustainable development includes sustaining:</p> <ul style="list-style-type: none"> ▪ biodiversity ▪ climate change ▪ ecological footprint ▪ water ▪ energy ▪ Aboriginal lands. 	The concept design and planning phase of this project have incorporated the relevant sustainability related objectives and targets outlined in SA Strategic Plan.

22.3 Achievement of sustainability objectives and principles

22.3.1 The precautionary principle

A result of the Rio Conference held in 1992 (also known as the Earth Summit) was the development of a globally recognised definition for the precautionary principle:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

The precautionary principle is preventative. The principle provides the philosophical authority to make decisions in the face of uncertainty. Its purpose is to encourage decision-makers to consider the likely harmful effects of their activities on the environment before they pursue those activities.

The precautionary principle has been integrated into the route selection and environmental assessment phases of the project. When selecting a preferred route, potential environmental effects such as noise, visual amenity and community usefulness were key considerations. The route selected comprised the greatest benefits for society with the lowest effect on the environment while providing value for money.

Environmental assessments, surveys and studies have relied on the best technical information available. Best practice environmental standards, goals and measures have been adopted in the development of mitigation measures to minimise the threat of environmental damage.

22.3.2 Intergenerational equity

The intergenerational equity concept was originally set out in 1974 by economist James Tobin, who wrote:

The trustees of endowed institutions are the guardians of the future against the claims of the present. Their task in managing the endowment is to preserve equity among generations.

The theory of environmental intergenerational equity argues that we, the human species, hold the natural environment of our planet in common with all members of our species including the past generations, the present generations and future generations. Each generation has the right to inherit the same diversity in natural and cultural resources enjoyed by previous generations and to have equitable access to the use and benefits of these resources. At the same time, the present generation is a custodian of the planet for future generations, obliged to conserve this legacy so that future generations may also enjoy these same rights.

The project has sought to ensure that any long-term adverse effects are minimised so that future generations are able to have the same enhanced benefits compared to those enjoyed today. Environmental issues associated with the use of the new roadway include fuel consumption, generation of greenhouse gases, generation of waste, contamination of surface water, economic benefits associated with decreased travel times and improved road safety. The development and implementation of Construction and Operational Environmental Management Plans will aid in minimising any negative effects. The proposed road upgrade will provide positive intergenerational equity effects through the development of a more efficient road network which can be utilised by future generations.

Present and future generations will also continue to have access to employment, markets, services and recreational opportunities as a result of construction of the project.

22.3.3 Conservation of biological diversity and ecological integrity

The conservation of biological diversity and ecological integrity is a key consideration of the project. The current condition of the flora and fauna located in the project footprint is outlined in Section 14 and 15.

As noted in these sections, the project site provides only limited ecological value for native flora and fauna, however, some native habitat does remain and provides ecological value to the region through allowing the retention of biological diversity. Through the development and implementation of Construction and Operational Management Plans the effects to these areas of ecological value will be minimised and impacts from construction and operational activities will be mitigated through the implementation of environmental management measures.

22.4 Mitigation measures to minimise effects

22.4.1 Sustainability management plan

As part of obtaining approval for the project, DTEI will prepare a sustainability management plan. This will document the extent to which the project addresses sustainable development principles relating to:

- protection of water quality
- water conservation and reuse
- minimisation of energy consumption and use of renewable energy sources
- minimisation of contribution to greenhouse gas emissions
- minimisation of air emissions' waste
- minimisation and use of recycled materials
- protection of terrestrial and aquatic biodiversity
- management of land degradation and contamination
- reduction in transport noise impacts
- support and encouragement of social and community involvement and consultation
- minimisation of social impacts of projects and infrastructure
- contribution to the concepts of urban design/regeneration
- enhancement of visual amenity
- preservation of cultural heritage
- growing prosperity by contributing to competitive freight transport logistics and networks.

Proposed mitigation and minimisation measures for each of the issues outlined above are included in the relevant chapters of this environmental report.

22.4.2 Environmental management during the design phase

The concept of sustainability has been considered throughout the concept design and planning phase of this project and is a key project objective. The design of the project incorporates sustainability by including such aspects as open vegetated swale surface water drains where possible and selecting a route which minimise land acquisition and impacts on the Barker Inlet South Wetland system.

22.4.3 Environmental management during the construction phase

Sustainability will be built into the construction activities associated with the development of the project. Where possible materials will be sourced from local South Australian industries in order to provide economic benefit to South Australia as well as reduce embodied energy associated with transportation.

22.4.4 Environmental management during the operational phase

The project involved construction of a road which will allow the free flow of vehicles along its length. This will aid in the reduction of greenhouse gases due to the reduction of traffic lights and associated

waiting times. In addition the newly developed road network will allow more efficient access to the northern Adelaide Metropolitan area and associated businesses.

22.5 Conclusion

Sustainability is a key objective of the South Road Superway Project and has been incorporated during the concept design and planning phases of the project. A Sustainability Management Plan will be prepared to identify and detail key areas of sustainability relating to the project and measures that will be implemented to ensure sustainability objectives are achieved.