



Overview

TABLE OF CONTENTS

OVERVIEW	FEB 98
O1 Mission	O-1
O2 Goals	O-1
Overall Goal	O-1
Planning	O-1
Design	O-1
Construction	O-1
Operation/Maintenance	O-1
O3 Background	O-1
O4 Application	O-2
O5 Target Audience	O-2
O6 Purpose	O-2
O7 Manual Framework	O-2
O8 Implementation	O-3
Risk Assessment	O-3
O9 Best Practice and Ecologically Sustainable Development	O-3
Best Practice	O-3
Ecologically Sustainable Development	O-4
O10 Legislative Basis	O-4
O11 Evaluation and Review	O-4
Evaluation	O-4
Monitoring Processes	O-4
Review of the Interim Manual	O-5

OVERVIEW

O1 Mission

The mission for the implementation of this Manual is:

To provide safe, equitable and economic roads within the wet tropics region while presenting, conserving and rehabilitating the area's unique natural and cultural values to the greatest extent practicable.

O2 Goals

Overall Goal

The overall goal for the use of this manual is to:

Improve the performance and management of road corridors within the wet tropics region by using current information and the latest technology in such a way that takes into account the costs and benefits to the environment, community and economy.

Planning

The goal for the planning phase of road management in the Wet Tropics is to:

Integrate environmental, transportation, engineering, social and economic considerations for protecting the natural and cultural values into the planning of road corridors within the wet tropics region.

Design

The goal for the design phase of road management in the Wet Tropics is to:

Design roads in the wet tropics region which are consistent with their transportation function and the significant natural and cultural values.

Construction

The goal for the construction phase of road management is to:

Construct roads in the wet tropics region efficiently with minimal adverse impacts on the environment and community.

Operation/Maintenance

The goal for the operation and maintenance phase of road management in the Wet Tropics is to:

Maintain and operate roads within the wet tropics region in a manner which reflects the economic, social, cultural and environmental values identified during operation or in the planning, design and construction phases.

O3 Background

This manual has been prepared for the Department of Main Roads. The development of the manual was overseen by a steering committee including officers of the Department of Main Roads, Cooperative Research Centre for Tropical Rainforest Ecology and Management, Wet Tropics Management Authority, Department of Environment, Department of Natural Resources, Local Government and the Alliance for Sustainable Tourism.

Additional funding to ensure the Manual's application to unsealed formed roads in the wet tropics region was provided by the Department of Tourism, Small Business and Industry.

04 Application

This Manual is specific to the wet tropics region (see Figure 1) but the concepts and guidelines can generally be applied to other tropical rainforest and tropical moist forest settings.

Standards of planning, design, construction, operation and maintenance will be in accordance with the functionality of roads in the Wet Tropics World Heritage Area.

05 Target Audience

The Manual is intended to be read and used by all those involved in the planning for, design of, construction of, operation and maintenance of roads in the wet tropical region of Australia.

The Manual should be read in context and there are important components in all chapters. However, the chapters are focussed on particular phases of the management of roads. As such particular chapters are important for those involved in the relevant phases.

It is expected that those involved in road planning and design will need to consider the best practice guidelines for all phases of road management as planning and design must consider best practice construction and maintenance techniques. However the those involved in only construction, operation or maintenance may focus on the relevant chapters.

06 Purpose

The purpose of this Manual is to assist in the implementation of best practice in the development and ongoing operation of roads within the wet tropics region of North Queensland. The Manual covers relevant aspects of planning, design, construction and operation. The Manual details the process and methodology for infrastructure delivery

and operation so as to minimise impacts and maximise opportunities for safe and reliable transport.

The Manual does not replace the many manuals, standards and guidelines relevant to specific aspects of road management (see Appendix 2). Rather the Manual provides a framework to implement best practice roadworks in the wet tropics bioregion.

The development of the Manual has taken into account the World Heritage and other natural, cultural and conservation values of the wet tropics biogeographic region, with particular emphasis on those values that are unique and that the Queensland community is obligated to preserve in a World and an Australian context.

07 Manual Framework

A broad framework has been applied to develop the Interim Manual. This framework is outlined below.

- **Desired Outcome:** A desired outcome has been developed for each subject to provide guidance in developing the most appropriate techniques which can be applied as best practice.
- **Guideline Background:** For each guideline there is a brief description of the aspect which may include the history of a particular area or practice, current techniques applied, impacts associated with certain issues, deficiencies of a particular technique and reasons for needing improved practice.
- **Best Practice Guidelines:** A set of practical techniques have been developed which can be implemented as best practice. The guidelines for best practice are based on an extensive study of current practices which highlight deficiencies, identify appropriate practices and opportunities for improvement. The guidelines

developed as part of this Manual are dynamic and should be expected to change in response to improvements in technology in the future.

Concept plans are provided at Appendix 5, these set out possible design approaches, however the appropriateness of their application needs to be assessed on a case by case basis.

08 Implementation

Risk Assessment

An overriding consideration in roadworks is risk assessment, both in terms of safety and likelihood of environmental harm. Consequently, it is vital that all aspects of this Manual are applied and/or revised only after an assessment of the consequent risks.

09 Best Practice and Ecologically Sustainable Development

Best Practice

The Environmental Protection Act 1994 (EPA), provides the following definition of "best practice environmental management".

- "(1) The "best practice environmental management" of an activity is the management of the activity to achieve an ongoing minimisation of the activity's environmental harm through cost-effective measures assessed against the measures currently used nationally and internationally for the activity.*
- (2) In deciding the "best practice environmental management" of an activity, regard should be given to the following measures:*
- (a) strategic planning by a person carrying out, or proposing to carry out, the activity;*

- (b) administrative systems put into effect by the person, including staff training and monitoring and review of the systems;*
 - (c) public consultation carried out by the person;*
 - (d) product and process design; and*
 - (e) waste prevention, treatment and disposal.*
- (3) Subsection (2) does not limit the measures to which regard may be had in deciding the "best practice environmental management" of an activity."*

Best practice in relation to roadworks in this Manual means that environmental, social and cultural considerations will be applied to the greatest practical extent, consistent with community's need for the road, the values being protected and the level of risk. Best practice will serve its purpose to balance environmental, social and economic demands by promoting Ecologically Sustainable Development.

The primary application of best practice for roadworks in the wet tropics region is to minimise environmental impacts. Above all, the implementation of best practice road infrastructure development will serve to protect, conserve, present, rehabilitate and transmit the World Heritage values of the area to future generations which is identified as the primary goal of the Wet Tropics Management Authority.

The DMR states that its objective is to ensure roadworks development and delivery is ecologically sustainable (Department of Main Roads 95/96). This objective recognises the emerging importance of Ecologically Sustainable Development which provides a broader framework for the development of the Roadworks Principles within the context of this Manual.

Ecologically Sustainable Development

The importance of Ecologically Sustainable Development in shaping this Manual cannot be overstated. The objectives of ESD as stated in the National Strategy for Ecologically Sustainable Development are:

- *“to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;*
- *to provide for equity within and between generations; and*
- *to protect biological diversity and maintain essential ecological processes and life-support systems.*

The guiding principles are:

- *decision-making processes should effectively integrate both long and short term economic, environmental, social and equity considerations;*
- *where 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, this is identified as the Precautionary Principle;*
- *the global dimensions of environmental impacts of actions and policies should be recognised and considered;*
- *the need to develop a strong, growing and diversified economy, which can enhance the capacity for environmental protection should be recognised;*
- *the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised;*

- *cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms; and*
- *decisions and actions should provide for broad community involvement on issues that effect them.”*

O10 Legislative Basis

The Department of Main Roads is required to give due consideration to the likely environmental impacts of new projects under various State and Federal legislation, policies and International Agreements. Relevant legislation and government policies are indicated in Appendix 3.

O11 Evaluation and Review

Evaluation

Best practice environmental management is based upon the fundamental principle of continual improvement. As such constant evaluation of design options, construction techniques, maintenance process and materials should be undertaken. Existing elements should be evaluated to ensure appropriate application. New elements should be evaluated for their possible incorporation.

Monitoring Processes

The Regional Executive Director DMR will have responsibility for monitoring the implementation of the Manual. The review will involve the WTMA and DoE as well as Local Governments and other Government departments involved in implementing the Manual.

Review of the Interim Manual

It is intended that this Manual be implemented for 12 months. It will then be evaluated and reviewed.

There should be three (3) elements to the review:

- level of compliance with the Manual;
- appropriateness of guidelines and their success in achieving best practice; and
- opportunities for continued improvement of best practice.

