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# **ENVIRONMENTAL MANUAL**

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OCTOBER 2014**

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This document has been prepared for the Roads Authority of Namibia for the exclusive use of the Roads Authority and Consultants employed by the Roads Authority.

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The Chief Executive Officer

Private Bag 12030

Windhoek

Namibia

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# PREAMBLE

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## Summary of Contents

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### Preamble

- 1 Introduction
- 2 Environmental legislation
- 3 Gaps in legislation
- 4 Scale of assessment required for various types of road projects
- 5 Stakeholder and public participation
- 6 Components of EIAs
- 7 Occupational health and safety
- 8 Guidance for approach to selected aspects
- 9 The road project life cycle and EIA process
- 10 Linkage of engineering and environmental aspects
- 11 References

## Preface

The Roads Authority of Namibia is a statutory body established in terms of the Roads Authority Act, Act 17 of 1999.

Section 3 of the Act sets out the object of the Authority as follows:

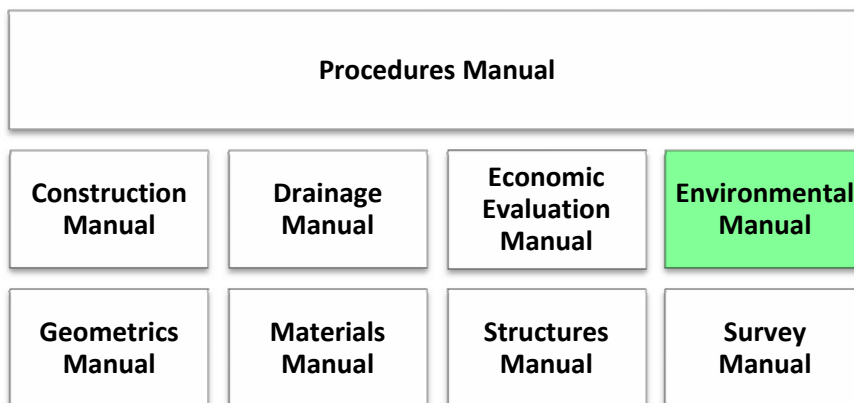
*“Subject to this Act and the Road Fund Administration Act, the object of the Authority is to manage the national roads network in accordance with section 16 with a view to obtaining a safe and efficient road sector.”*

It is important to understand that “efficient” includes economic and financial efficiency as well as the common understanding of the word.

Key clauses of the Roads Authority Act that are of particular relevance to operational issues are Section 15 wherein the Roads Authority’s functions are set out; and Section 16, which elaborates on one of these functions that being the management of the national road network including inter alia:

- The planning, design, construction and maintenance of roads;
- The quality control of materials required for the construction and maintenance of roads;
- The supervision of work contracted out; and
- The prescribing of minimum standards to achieve a safe road system and cause the least possible disruption to the environment.

These four aspects of the Roads Authority’s mandate are complex and wide ranging. In order to assist it to comply with these obligations, the Roads Authority commissioned a suite of manuals applicable to road work and related matters. It consists of the following interlinked units:



The Geometrics Manual is supported by the **Standard Drawings** and the **Traffic Signs Policy**.

Additional manuals, such as a Maintenance Manual, may in future be required.



## The Procedures Manual

The Procedures Manual is the controlling document of the suite of manuals depicted above. It describes the duties and responsibilities of consultants contracted to the Roads Authority for the preparation of designs, tenders for, and supervision of construction of roads by contract. It is also relevant to other projects such as feasibility studies and other investigations and studies carried out on behalf of the Roads Authority. In short, it is relevant to all projects carried out by external service providers for the Roads Authority.

Roads Authority personnel carrying out similar functions are also subject to the requirements of the Procedures Manual.

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## The manuals in general

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The purpose of the suite of manuals is three-fold:

- To provide a basis for the attainment of uniformity of action of all persons carrying out design and related work for the Roads Authority, whether these be in-house personnel or external consultants;
- To promote the attainment of uniformity between in-house personnel and external consultants in the handling of construction projects.
- To set out the minimum standards and requirements of the Roads Authority, either directly in a specific manual or through its linkages with the other manuals in the suite.

These manuals are to be seen as books of reference and instructions to be used in the planning, design and administration of projects.

Both relevant in-house personnel and all consultants are therefore expected to make themselves thoroughly familiar with the contents of the Procedures Manual and such other manuals as may be relevant to a project, so that each project can pass through the different stages of planning, design, tendering and construction satisfactorily and that the submission of reports, records, drawings, documents, etc. is according to requirements.

Consultants must supply copies of relevant manuals to each designer and Engineer's Representative employed on construction contracts for the Roads Authority, which latter copies shall be kept at each Site Office.

Should any portion of this manual appear to be contradictory, either internally or in relation to any other manual; or insufficiently detailed, the Project Control Engineer must be contacted for a ruling.

Constructive criticism and suggestions for improvement of any of the manuals would be appreciated and should be addressed to:

*The Chief Executive Officer, Roads Authority, Private Bag 12030, Windhoek, Namibia*

with a copy to the Project Control Engineer.

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## Access to the manuals

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The manuals can be downloaded from the RA website at: [www.ra.org.na](http://www.ra.org.na) The RA will only upload the current amendment of the manuals on the site. It however remains the responsibility of the Consulting Engineer, upon his appointment, to confirm with the Project Control Engineer that the manuals on the website are the versions required for his specific appointment.

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## Definitions

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The following definitions are relevant to all manuals:

<b>Agreement</b>	is the completed Agreement between the Roads Authority and the Consulting Engineer. Such Agreements may have different titles, depending on the source of funding.
<b>Chief Executive Officer</b>	is the person appointed under Section 14 of the Roads Authority Act to serve as Chief Executive Officer of the Roads Authority.
<b>Date of Agreement</b>	is the date on which it was signed by the last person signing.
<b>Engineer</b>	is the Consulting Engineer appointed by the Roads Authority to prepare a project or contract documents, or to supervise the execution of a contract.
<b>Ministry</b>	The Ministry of Works and Transport of the Government of Namibia
<b>Permanent Secretary</b>	is the official appointed to the post of Permanent Secretary of the Ministry of Works and Transport
<b>Project Control Engineer</b>	is the official appointed by the Chief Executive Officer to coordinate the execution of a specific project and to act as a link between the RA and the Consulting Engineer.
<b>Roads Authority</b>	is the Roads Authority constituted in terms of the Roads Authority Act, Act 17 of 1999

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## Guidelines for users of the manuals

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The following icons are used throughout this edition of the Manuals:



**CAUTION** – This icon, usually accompanied by highlighted text, indicates that the user must be aware and use caution when following certain procedures or deviating from standard design methods.



**YIELD** – This icon indicates that the Roads Authority must be informed of an issue. This might be a deviation from the Terms of Reference; a deviation from design standards; or the achievement of milestones. Work may however continue.



**STOP** – Unlike for the yield icon, the stop icon indicates that the Roads Authority's written approval must be obtained before commencing with any further design or other tasks related to the issue for which approval is to be obtained.



**NO ENTRY** – This icon indicates no-go areas for practitioners. These could be set values for certain variables, or certain processes that may not be followed.



**WORK IN PROGRESS** – The “men at work” icon is used where sections can and should be extended or where work is pending. Due to funding or time constraints these parts or sections are not yet included in the manual.

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## Copyright of work done by the Consulting Engineer

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All field books, data, calculations, plans, reports and tender documents produced in consequence of an appointment by the Roads Authority to carry out work in terms of these Manuals, become and remain the property of the RA upon submission of these items to the Roads Authority.



Full copyright in respect of the abovementioned field books, data, calculations, plans, reports and tender documents rests with the Roads Authority. No part of these items shall be stored, copied or transmitted by any means whatsoever without prior written agreement of the Roads Authority having been obtained. This restriction does not apply to retention of records as may be required in law or to satisfy good engineering practice.

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## Acknowledgement

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In preparation of this and the other manuals comprising this suite of manuals applicable to road works, considerable use, including direct application, has been made of similar work done previously by the predecessor in title of the Roads Authority and by other authorities, notably the manuals, directives and memoranda of the Western Cape Provincial Administration (South Africa), the Department of Transport (South Africa) and the South African National Roads Agency Ltd (SANRAL). These sources were used with due permission. The Roads Authority acknowledges with thanks the valuable content from these non-Namibian sources used in the Manuals, as well as that from Namibian sources such as the Meteorological Services, the Ministry of Environment and Tourism and others. It goes without saying that the Roads Authority also acknowledges with thanks all individual authors who contributed to the source documents from which content has been taken for use in these manuals.

The Roads Authority wishes particularly to acknowledge Messrs EA Simon and R du Toit who provided the specialist input required for the compiling of this Environmental Manual.



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 Contents
 

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<b>Preamble</b> .....	<b>i</b>
<i>Summary of Contents</i> .....	<i>i</i>
<i>Preface</i> .....	<i>ii</i>
<i>The Procedures Manual</i> .....	<i>ii</i>
<i>The manuals in general</i> .....	<i>iii</i>
<i>Access to the manuals</i> .....	<i>iii</i>
<i>Definitions</i> .....	<i>iv</i>
<i>Guidelines for users of the manuals</i> .....	<i>iv</i>
<i>Copyright of work done by the Consulting Engineer</i> .....	<i>iv</i>
<i>Acknowledgement</i> .....	<i>v</i>
<i>Contents</i> .....	<i>vii</i>
Tables .....	ix
Figures .....	ix
Annexures .....	ix
<i>Glossary of terms</i> .....	<i>ix</i>
<i>Abbreviations</i> .....	<i>xi</i>
<i>Definitions (specific to this manual)</i> .....	<i>xii</i>
<b>1 Introduction</b> .....	<b>1-1</b>
<b>2 Environmental legislation</b> .....	<b>2-2</b>
2.1 Source of authority.....	2-2
2.2 Legislative background.....	2-2
2.3 MEAs to which Namibia is signatory.....	2-2
2.4 Environmental law in Namibia .....	2-3
<b>3 Gaps in legislation</b> .....	<b>3-4</b>
3.1 General.....	3-4
3.2 The Equator Principles and IFC Performance Standards .....	3-4
<b>4 Scale of assessment required for various types of road projects</b> .....	<b>4-6</b>
<b>5 Stakeholder and public participation</b> .....	<b>5-7</b>
5.1 Introduction.....	5-7
5.2 Principles to be applied .....	5-7
<b>6 Components of EIAs</b> .....	<b>6-9</b>
6.1 Introduction.....	6-9
6.2 Information for environmental reports .....	6-9

<b>7</b>	<b>Occupational health and safety .....</b>	<b>7-10</b>
7.1	<i>Health and safety management.....</i>	7-10
7.2	<i>Legislation .....</i>	7-10
7.3	<i>Emergency preparedness and response .....</i>	7-10
<b>8</b>	<b>Guidance for approach to selected aspects .....</b>	<b>8-11</b>
8.1	<i>Introduction.....</i>	8-11
8.2	<i>HIV/AIDS.....</i>	8-11
8.3	<i>Employment during road construction.....</i>	8-12
8.4	<i>Business opportunities during road construction .....</i>	8-12
8.5	<i>Topsoil .....</i>	8-12
8.6	<i>Dust during road construction.....</i>	8-12
8.7	<i>Criminal and antisocial activities.....</i>	8-13
8.8	<i>Addressing social issues during construction contracts .....</i>	8-13
<b>9</b>	<b>The road project life cycle and EIA process.....</b>	<b>9-14</b>
9.1	<i>Introduction.....</i>	9-14
9.2	<i>Stage 1: Project identification .....</i>	9-14
9.3	<i>Stage 2: Project proposal .....</i>	9-14
9.4	<i>Stage 3: Sourcing of funding .....</i>	9-15
9.5	<i>Stage 4: Appointment of PCE and Consultant .....</i>	9-15
9.6	<i>Stage 5: Determination .....</i>	9-15
9.7	<i>Stage 6: Application .....</i>	9-15
9.8	<i>Stage 7: Development and Submission .....</i>	9-16
9.9	<i>Stage 8: Consideration by the Environmental Commissioner.....</i>	9-16
9.10	<i>Stage 9: Environmental Impact Assessment .....</i>	9-16
9.11	<i>Stage 10: Environmental Commissioner’s Decision.....</i>	9-16
9.12	<i>Stage 11: Record of Decision .....</i>	9-17
9.13	<i>Stage 12: Appeal Process .....</i>	9-17
9.14	<i>Stage 13: Implementation of Proposal.....</i>	9-17
9.15	<i>Stage 14: Renewal of Clearance Certificates.....</i>	9-18
<b>10</b>	<b>Linkage of engineering and environmental aspects .....</b>	<b>10-18</b>
10.1	<i>General.....</i>	10-18
10.2	<i>The time aspect .....</i>	10-18
10.3	<i>Drawing-up of environmental documents.....</i>	10-19
10.4	<i>Finalisation of environmental documents.....</i>	10-19

10.5	<i>Inclusion of environmental matters in contract documents</i> .....	10-20
10.6	<i>Monitoring and inspections during construction</i> .....	10-20
<b>11</b>	<b>References</b> .....	<b>11-20</b>

## Tables

Table 3-1	: Summary of applicable IFC performance standards .....	3-5
Table 4-1	: Level of assessment for different types of road projects .....	4-6

## Figures

Figure 9-1	: The life cycle of a roads project .....	9-15
Figure 9-2	: EIA Process flow diagram .....	9-17

## Annexures

Annexure A:	Selection of questions to assist in risk identification and control
Annexure B:	Additional contractual clauses relating to OHS
Annexure C:	Standard Environmental Specifications

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## Glossary of terms

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Alien species	A plant or animal species introduced from elsewhere: neither endemic nor indigenous.
Alternative	A possible course of action, in place of another, that would meet the purpose and need of the proposal. Alternatives can refer to any of the following but are not limited hereto: alternative sites for development, alternative site layouts, alternative designs, alternative processes and alternative materials. The so-called "no go" alternative referred to in Integrated Environmental Management literature relates to the option of not allowing the development to proceed. It is therefore not an alternative in terms of the foregoing definition, but may also require investigation in certain circumstances.
Ambient	The conditions surrounding an organism or area.
Assessment	The process of collecting, organising, analysing, interpreting and communicating data that is relevant to some decision.
Biodiversity	A measure of the number and relative abundance of biological species: the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.
Climate	The composite of the prevailing weather conditions of an area such as temperature, air pressure, humidity, precipitation, sunshine, cloudiness and wind, averaged over a series of years.
Competent Authority or Decision Maker	An organ of state that is responsible under any law for granting or refusing an authorisation. In the context of this manual, the Competent Authority is the Directorate of Environmental Affairs (DEA), which falls under the Ministry of Environmental Affairs and Tourism.

Ecology	The study of the interrelationships between organisms and their environments.
Effluent	Effluent is a fluid, often but not necessarily contaminated water, contained in or flowing from a man-made structure such as a process plant or tailings facility.
Endemic	Appearing only in a specific area.
Environment	The external circumstances, conditions and objects that affect the existence and development of an individual, organism or group; these circumstances include biophysical, social, economic, historical, cultural and political aspects.
Environmental Assessment Practitioner	A person designated by a proponent to manage the assessment process.
Environmental Impact	A change resulting from the effect of an activity on the environment, whether desirable or undesirable. Impacts may be the direct consequence of an organisation's activities or may be indirectly caused by them.
Environmental Impact Assessment	This is the process of identifying potential positive and negative social, economic and biophysical impacts of any proposed project, plan, programme or policy which requires authorisation or permission by law and which may significantly affect the environment. The EIA includes an evaluation of alternatives, as well as recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures for enhancing the positive aspects of the proposal, and environmental management and monitoring measures.
Management Plan	A legally binding document forming part of the Conditions of Approval that may be issued after the Review Process has been completed and which stipulates environmental and socio-economic measures that must be implemented by defined responsible parties throughout the duration of the proposed project. The terms of the Environment Management Plan must be incorporated into a related construction contract in a manner compatible with the Roads Authority's documentation standards. Any version of the Environmental Management Plan issued prior to the Conditions of Approval must be designated a draft. Note that the Environmental Management Plan is the same document as the Environmental Plan defined in the Act and its Regulations. The title has been amplified to avoid confusion with other management plans.
Expert Adviser	A person with the specialised knowledge required to evaluate the proposed action. Such persons may come from within or outside government service.
Groundwater	Water that occurs below the surface of the earth, where it occupies voids in soils or other geological strata.
Indigenous species	One that is present in a given region or ecosystem by virtue of natural processes only.
Industry	The use of land or a building for a factory, distribution depot, storage, warehouse for wholesale merchandise, cartage and transport services, laboratories, workshops and vehicle workshops and may also include offices which are normally associated with or which are reasonably essential for the main use; as well as the sale of goods wholly or partially manufactured, processed or packed on the property.
Key issue	An issue raised during the scoping process that did not receive an adequate response and which requires further investigation before it can be resolved.

Interested and affected parties	Individuals or groups concerned with or affected by an activity and its consequences.
Mitigate	To cause to become less harsh or hostile.
Negative impact	A change that reduces the quality of the environment (for example, by reducing species diversity or the reproductive capacity of an ecosystem, by damaging health, or by causing nuisance).
Other Government Agencies	Agencies with a special interest in the project. They may be components of the national government service or may operate on a regional, town or village level.
Positive impact	A change which improves the quality of life of affected people or the quality of the environment.
Property	Any piece of land indicated on a diagram or general plan approved by the Surveyor –General, registered or intended for registration as a separate unit in terms of the Deeds Registries Act, Act No 47 of 1937 and shall include an erf, a site and a farm portion as well as the buildings erected thereon.
Proponent	The government agency, company or individual wishing to initiate the project.
Public	Citizens and the media.
Public Participation Process	A process of involving the public in order to identify needs, address concerns, choose options, plan and monitor in terms of a proposed project, programme or development.
Reviewer	The person, agency or board responsible for reviewing the EIA and ensuring that the relevant regulations and guidelines have been complied with.
Scoping Process	A small scale preliminary environmental impact assessment process to identify the project and define the issues to be addressed.
Social Impact Assessment	A specialist study usually conducted as part of an Environmental Impact Assessment with the aim of developing an understanding of the current social environment and assessing the potential impact of the project on the social environment in order to suggest mitigation measures. It is also integral to Strategic Environmental Assessments.
Special Interest Groups	These may be environmental organisations, Non-governmental Organisations (NGOs), Community-based Organisations (CBOs), labour unions, professional societies, local associations and the like.
Study area	Refers to the entire study area encompassing all the alternative routes investigated as part of the study.

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## Abbreviations

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CBO	Community-based Organisation
DEA	Directorate of Environmental Affairs
EA	Environmental Assessment
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EP	Equator Principle

FPIC	Free, Prior and Informed Consent
HIV/AIDS	Human Immuno-deficiency Virus / Acquired Immuno-deficiency Syndrome
HSE	Health Safety and Environment
IAPs	Interested and Affected Parties
IFC	International Finance Corporation
MEA	Multilateral Environmental Agreements
MET	Ministry of Environment and Tourism
NGO	Non-governmental Organisation
PCE	Project Control Engineer
PPE	Personal Protective Equipment
RA	Roads Authority of Namibia

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### Definitions (specific to this manual)

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Risk	In relation to any potential injury or harm, risk is the likelihood and consequence of that injury or harm occurring.
Hazard	A source or situation with a potential for harm in terms of human injury or health; damage to property; damage to the environment; or a combination of these.



# 1 INTRODUCTION

Protection of the environment is a concept which receives increasing attention as understanding of the consequences of human action on the planet grows. Although the concept is enshrined in the Namibian constitution, development of the necessary legislation and regulation was somewhat slow. The insistence by aid agencies that environmental issues be addressed for externally funded projects, even before the local legislation was in place, was certainly instrumental in raising environmental awareness amongst practitioners in the fields of road design and construction.

This manual seeks to inform such practitioners as to the legal and contractual framework within which roads must be designed and built and to give guidance regarding the requirements of the Roads Authority (RA) in respect of environmental issues. While the legislation is general in its application, the manual also attempts to provide more specific instructions in respect of road works in particular. These instructions may be a clarification of the regulations or may be based on a specific accord reached between the Roads Authority and the Ministry of Environment and Tourism (MET).

The environment as contemplated in this manual encompasses both the physical (natural) and social (human) spheres. Where these two components may be effectively combined—for example in the discussion on the legal framework—these are handled together. In other cases, it is more convenient or perhaps necessary for better understanding, to consider physical and social environmental issues separately.

Experience has shown that some environmental practitioners working in the roads field in Namibia are unaware of the extent to which environmental issues are already covered in the standard conditions of contract and specifications used by the RA in the execution of its projects; and understandably, are not always well informed about contractual processes. These factors, together with different requirements demanded by different environmental practitioners for the same parameter results in unnecessary conflict during the process of incorporating Environmental Management Plans (EMPs) into tender documentation; during the tender process and during the execution of the construction phase. This manual therefore also

seeks to standardise the approach to some of these commonly recurring matters, where necessary in consultation with the MET, with a view to streamlining the environmental process for roads projects and reducing the potential for conflict without compromising environmental or engineering imperatives.

The approach outlined in the previous paragraph should have as an additional outcome, a modest reduction in the use of scarce human resources and a concomitant reduction in the cost of environmental inputs.

It is obvious that this approach will take time and accordingly will not be complete by the time this first edition of the Environmental Manual is published. It should be seen as an on-going process leading to expansion and updating in subsequent editions of this manual.



## 2 ENVIRONMENTAL LEGISLATION

### 2.1 Source of authority

This manual derives its authority from the Namibian Constitution through the environmental legislation and the institutional framework. Article 95 of the Constitution stipulates that the State shall actively promote and maintain the welfare of the people by adopting policies which include the maintenance of the ecosystems, essential ecological processes and biological diversity of the country and the utilisation of natural resources on a sustainable basis for the benefit of all Namibians.

### 2.2 Legislative background

The environmental impact assessment process results from a set of international agreements and national commitments regarding the environment expressed through Namibian environmental legislation.

Namibia is a State party to a number of international Multilateral Environmental Agreements (MEAs). Some of these agreements focus not only on the protection of the natural environment, but also emphasise the importance of socio-economic, cultural and historical aspects. Many of the MEAs improve environmental governance and promote transparency, participatory decision - making, accountability and conflict resolution. These aspects have an indirect positive influence on the democratisation process in developing countries.

Article 144 of the Constitution stipulates that the general rules of public international law and international agreements to which Namibia is a party, form part of the law of Namibia, subject to anything to the contrary contained in the Constitution itself or in an Act of Parliament. This enables the enforcement and regulation of actions required under any qualifying MEA to take place in terms of the Namibian legal system.

### 2.3 MEAs to which Namibia is signatory

Some of the MEAs that are of great importance to the environmental process in Namibia are listed below for the purpose of promoting an understanding of the commitment that Namibia has towards the international community at large.

- In 1971 the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar) was adopted to stem the progressive encroachment on and loss of wetlands. Functionality of wetlands for biological, economic, cultural, scientific and recreational purposes is recognised and international consideration on protection and management of these areas resulted.
- The Protection of the World's Cultural and Natural Heritage Convention was adopted in 1972. This convention intends to establish an effective system to protect cultural and natural heritage of global value, organised on a permanent basis and in accordance with modern scientific methods.
- The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to protect certain endangered species from over-exploitation by making use of an import-export permit system.
- The United Nations Framework Convention on Climate Change (UNFCCC) of 1992 was adopted to regulate the level of greenhouse gas concentrations in the atmosphere and further understand, predict and avoid climate change that may impede sustainable economic development, or compromise initiatives in food production.
- The 1992 Convention on Biological Diversity (CBD) aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources.
- The United Nations Convention to Combat Desertification (1994) was intended to combat desertification and mitigate the effects of drought in countries such as Namibia. This convention ensures participation of the public in relevant decision-making processes, improves international cooperation, and takes into full consideration the special needs and circumstances of developing countries to achieve sustainable development.
- In 1991 Namibia signed the Abudja Treaty establishing the African Economic Community which Treaty contains provisions regarding environmental protection and the control of

hazardous wastes. The treaty also contains broad economic objectives which touch on the environment, firstly by the general objective of promoting economic, social and cultural development and the integration of African economies in order to increase economic self-reliance and to promote an indigenous and self-sustained development; and secondly, through the specific objective of ensuring the harmonisation and coordination of environmental protection policies among the State Parties.

## 2.4 Environmental law in Namibia

The Environmental Management Act (Act No. 7 of 2007) gives effect to Article 95(l) of the Namibian Constitution by establishing general principles for the management of the environment and natural resources. It promotes the coordinated and integrated management of the environment and defines responsibilities in this regard. Section 2 of this Act sets out the following principles of environmental management:

- 1 Renewable resources must be used on a sustainable basis for the benefit of present and future generations;
- 2 Community involvement in natural resource management and the sharing of benefits arising from the use of those resources must be promoted and facilitated;
- 3 The participation of all interested and affected parties must be promoted and decisions must take into account the interests, needs and values of interested and affected parties;
- 4 Equitable access to environmental resources must be promoted and the functional integrity of ecological systems must be taken into account to ensure the sustainability of these systems and to prevent harmful effects;
- 5 Assessments must be undertaken for projects which may have a significant effect on the environment or the use of natural resources;
- 6 Sustainable development must be promoted in all aspects relating to the environment;

- 7 Namibia's cultural and natural heritage, including its biological diversity, must be protected and respected for the benefit of present and future generations;
- 8 The reduction, re-use and recycling of waste must be promoted;
- 9 A person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage;
- 10 Where there is sufficient evidence which establishes that there are threats of serious or irreversible damage to the environment, lack of full scientific certainty may not be used as a reason for postponing cost-effective measures to prevent environmental degradation; and
- 11 Damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled.

It is important to note that the Act states that the environment is a complex of natural and anthropogenic factors and that it further refers to both the natural and human environments. It is further very clear that a principal requirement of the Act is that community involvement and participation of all stakeholders and interested and affected parties must be promoted and facilitated throughout the environmental assessment process.

The 2008 Regulations for Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) together with the 2008 "Procedures and Guidelines for Environmental Impact Assessment and Environmental Management Plans" were intended to be the means by which the above principles are given effect, by guiding and regulating the environmental assessment process. However, there appear to be problems with the linkage of these documents with the Environmental Management Act that may impinge on their legal status. This matter still stands to be resolved with the DEA.



The Roads Ordinance (Ordinance No 17 of 1972) contains a provision that impacts on a social aspect of environmental protection. Section 65 thereof states that a landowner is entitled to compensation in the event that he or she incurs damages in the course of the opening, construction, maintenance or widening of a proclaimed road, or the establishing of a pont service. The matter of compensation for such damages or displacement incurred in communal areas is dealt with under the 2008 Compensation Policy and Guidelines for Communal Land. In terms of this policy, the fundamental principle of compensation is to put the claimant as nearly as possible in the same position as he or she was before the damage was suffered.

## 3 GAPS IN LEGISLATION

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### 3.1 General

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Namibian environmental legislation lags in some respects behind internationally accepted best practice in EIA, particularly in respect of social aspects. One example is the question of resettlement. This is viewed in terms of commercial land reform and restitution in Namibian legislation. There is therefore a gap in the legislative requirements when resettlement is induced by project imperatives. The approach followed in this manual is to prescribe specific internationally sourced regulations to bridge the gap.

Several international, continental and regional financial institutions will only fund projects that ascribe to the 2006 Equator Principles (EPs), widely held to be the gold standard of the project finance industry. Other examples of what may be required by financing institutions are compliance with the performance standards of the International Finance Corporation (IFC) or the World Bank (WB) Safeguard Policies.

On the other hand, other agencies funding roads in Namibia do not have such requirements. In the event that the agency funding a particular project has specific requirements in addition or contrary to those contained in this manual, then in the first instance, the RA must attempt to convince the agency that the provisions of this manual are adequate. To the extent that this is not successful, the RA must instruct its consultant appropriately in the Terms of Reference.

### 3.2 The Equator Principles and IFC Performance Standards

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Projects must be categorised as having either significant (Category A), limited (Category B) or minimal to no (Category C) environmental impacts. Category A and Category B projects require EIA in accordance with international best practice and set standards. The term "international best practice" in the context of this manual means adherence to the requirements set out in this manual and any specific additional requirements emanating from the financial institution involved as may be set out in the Terms of Reference for the project.

STANDARD	OBJECTIVES	REQUIREMENTS
<b>PS 5: Land Acquisition and Involuntary Resettlement</b>	<ul style="list-style-type: none"> <li>To avoid or minimise displacement, wherever feasible, by exploring alternative project designs.</li> <li>To avoid forced eviction.</li> <li>If avoidance is not possible, to mitigate adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected.</li> <li>To improve or restore the livelihoods and standards of living of displaced persons through the provision of adequate housing with security of tenure at resettlement sites.</li> <li>To improve living conditions of displaced persons through provision of adequate housing with secure tenure at the resettlement site.</li> </ul>	<ul style="list-style-type: none"> <li>Project Design Alternatives.</li> <li>Compensation.</li> <li>Community Engagement.</li> <li>Grievance Mechanism.</li> <li>Resettlement and Livelihood Restoration.</li> <li>Resettlement Action Plan.</li> <li>Private Sector Responsibilities under Government-Managed Resettlement.</li> </ul>
<b>PS 7: Indigenous People</b>	<ul style="list-style-type: none"> <li>To ensure that the development process fosters full respect for the human rights and the dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples.</li> <li>To anticipate and avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not possible, to minimise and/or compensate for such impacts.</li> <li>To promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner.</li> <li>To establish and maintain an on-going relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project throughout the project's life-cycle.</li> <li>To ensure the Free, Prior, and Informed Consent (FPIC) of the Affected Communities of Indigenous Peoples when the special circumstances described in this Performance Standard are present.</li> <li>To respect and preserve the culture, knowledge and practices of Indigenous Peoples.</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance of Adverse Impacts</li> <li>Participation and Stakeholder Analysis, Engagement and Planning (Public Consultation and Disclosure Plan)</li> <li>Mitigation, Compensation, and Development Benefits.</li> <li>Impacts on Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use</li> <li>Circumstances that require FPIC are:</li> <li>Impacts on Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use.</li> <li>Relocation of Indigenous Peoples from Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use.</li> <li>Critical Cultural Resources.</li> <li>Private Sector Responsibilities Where Government is Responsible for Managing Indigenous Peoples Issues.</li> </ul>

Table 3-1 : Summary of applicable IFC performance standards

In order to bridge the gap mentioned in the first paragraph of 3.1 above, this manual has adopted the IFC's Performance Standards 5 and 7 in Table 3-1

## 4 SCALE OF ASSESSMENT REQUIRED FOR VARIOUS TYPES OF ROAD PROJECTS

The construction, route determination and design of public roads are listed in sections 10.1 and 10.2 of the 2012 Regulations as activities that may not be undertaken without an environmental clearance certificate. The Regulations also apply to the modification, alteration, upgrading or decommissioning of roads, but this needs clarification due to the vast differences in the potential for adverse impacts. This means that different types of road project might require a full EIA, focussed (specific areas) EIA or simply a generic EMP.

According to the Regulations, interpreted to suit road projects:

- 1 For Category A projects, i.e. those determined to have significant environmental and social impacts, a full EIA is required for the issue of a clearance certificate.
- 2 For Category B projects i.e. those determined to have limited environmental impact, a limited or focussed EIA will be required for the issue of a clearance certificate. The focus may be on a specific aspect, or may be in a specific area, for instance an isolated instance where a minor deviation from an existing road reserve

is required.

- 3 For Category C projects, i.e. those that do not have significant impacts, issuance of an environmental clearance certificate requires a scoping report and a draft Environmental Management Plan (EMP).
- 4 Policies, plans and programmes are seen as Category C projects.

The Environmental Commissioner ultimately determines in terms of Sections 33 and 35 of the Act what level of assessment is required for a project. The table below however gives an indication of the level of assessment that is likely to be required for different types of road project in Namibia.

Note:

- (i) Upgrading and rehabilitation are usually confined to the road reserve. The generic EMPs need only to address associated issues such as borrow pits, quarries, crushing and screening plants, and asphalt mixing plants.
- (ii) Upgrading projects might include short sections of road that need to be realigned outside the existing road reserve. Such cases must be judged on the merits of the circumstances. In most cases, the suggested generic EMP will suffice, but in some cases, a focussed EMP may be required.

ROAD PROJECT TYPE	LEVEL OF ASSESSMENT	REASON
Road Master Plans	Generic EMP	Roads Master Plans entail plans, policies and programmes that are assessed on the strategic level and can be at national, regional, sub regional or local level.
Feasibility Studies	Generic EMP	Similar to Road Master Plans, but at project level
Design of Roads	Generic EMP	Design processes do not significantly affect the environment, but certain activities such as surveying and prospecting for materials need to be controlled through generic EMPs.
Construction of Public Roads	Full EIA	Construction of Public Roads is a listed activity and irrespective of the class of road, requires a full EIA.
Upgrading from gravel to bitumen surfaced road	Generic EMP	Upgrading of roads does not significantly alter the environment and the associated environmental and social impacts need only be managed and monitored through an EMP.
Rehabilitation	Generic EMP	Rehabilitation of roads does not produce significant impacts as the environment has already been modified. The rehabilitation activities therefore need only be managed and monitored through an EMP.
Maintenance	None	After construction, road maintenance continues inside the road reserve throughout the life span of a road and does not produce significant impacts. Maintenance activities within the road reserve therefore do not need specific environmental control measures.

Table 4-1 : Level of assessment for different types of road projects

Generic EMPs covering Feasibility Studies and Design of Roads need to be developed after consultation with the DEA.



## 5 STAKEHOLDER AND PUBLIC PARTICIPATION

### 5.1 Introduction

Stakeholder participation in the EIA process is a critical component in achieving transparent decision-making. Consultation with and the participation of stakeholders must begin in the earliest phases of project planning and continue through the decision-making and implementation processes. In accordance with the Regulations, it is the responsibility of the RA as the Proponent to ensure that stakeholders are made aware of and invited to participate in the EIA process and that stakeholder involvement is documented as part of the EIA reporting process.

Stakeholder involvement can be formalised by scheduling public hearings and public information sessions, creating public advisory and/or liaison groups, and periodically placing information bulletins in the daily newspapers concerning the status of project planning. The involvement of stakeholders in the EIA process gives all interested and affected parties such as local communities and individuals the opportunity to be heard if they so wish on issues that may bear directly on their health, welfare, and quality of life. An open flow of environmental information can foster objective consideration of the full range of issues involved in project planning and allows communities and individuals to contribute to the making of reasoned choices about the benefits and risks of proposed actions.

### 5.2 Principles to be applied

All EIAs carried out for road projects must comply with the following EPs in respect of public consultation, stakeholder engagement and disclosure.

- EP 5: Consultation and Disclosure  
For Category A and Category B projects where appropriate, project-affected communities must be consulted in a structured and culturally appropriate manner. Where a project has significant adverse impacts on affected communities, the process will ensure free, prior and informed consultation and facilitate their informed participation as a means to



establish whether a project has adequately addressed the concerns of affected communities. Disclosure must occur early in the assessment process and in any event before the project construction commences, and on an on-going basis.

- EP 6: Grievance Mechanism

For Category A and Category B projects where appropriate, the RA must establish as part of its management system a grievance mechanism in respect of the risks and adverse impacts of the project. This will allow the RA to receive and facilitate resolution of concerns and grievances about the project's social and environmental performance raised by individuals or groups from among project-affected communities.

For consultation to be effective it must be a two-way process. To achieve this, the following IFC requirements shall be followed. The process shall:

- 1 begin early in the process of the identification of environmental and social risks and impacts and continue on an on-going basis as risks and impacts arise;
- 2 be based on prior disclosure and dissemination of relevant, transparent, objective, meaningful and easily accessible information which is in a culturally appropriate local language(s) and format and is understandable to affected communities;
- 3 focus inclusive engagement on those directly affected as opposed to those not directly affected;
- 4 be free of external manipulation, interference, coercion, or intimidation;
- 5 enable meaningful participation, where applicable and
- 6 be documented.

IFC Guidance Note 7 relating to Indigenous Peoples requires Free, Prior and Informed Consent (FPIC) and defines this as the combination of a mutually accepted consultation process and evidence of agreement between parties regarding the outcome of the negotiations. FPIC is based on the principle of negotiations done in good faith, to which end the following are required:

- 1 willingness to engage in a process and availability to meet at reasonable times and frequency,
- 2 provision of information necessary for informed negotiations,
- 3 exploration of key issues of importance,
- 4 use of mutually acceptable procedures for negotiations,
- 5 willingness to change initial position and modify offers where possible,
- 6 provision of sufficient time for decision-making, and
- 7 agreement insofar as this is possible on the proposed compensation framework, mitigation measures and development interventions.



## 6 COMPONENTS OF EIAs

### 6.1 Introduction

EIAs are a joint undertaking between natural and social assessment practitioners. Other professionals might also be needed if it is determined that additional specialist studies are required. The following section describes the requirements within the overall EIA process in more detail.

An EIA is done taking into consideration the guiding principles of the Regulations. Matters to be considered include but are not limited to:

### 6.2 Information for environmental reports

In accordance with the provisions of the Act and its Regulations environmental reports shall cover all relevant information with respect to the policy, plan, programme or project but not limited to the following:

- 1 An outline of the contents and main objectives of the plan, programme or project, and of its relationship with any other relevant policy, plan, programme or project.
- 2 The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the policy, plan, programme or project.
- 3 The environmental characteristics of the areas likely to be significantly affected.
- 4 Any existing environmental problems which are relevant to the policy, plan, programme or project including, in particular, those relating to any areas of particular environmental importance, such as areas with recognised national, local community or international protection status.
- 5 The environmental protection objectives, established at international community or Member State level, which are relevant to the policy, plan, programme or project and the way those objectives and any environmental considerations have been taken into account during its preparation.
- 6 The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and

secondary, cumulative and synergistic effects, on issues such as:

- (a) human health
  - (b) population
  - (c) cultural heritage, including architectural and archaeological heritage
  - (d) landscape
  - (e) biodiversity
  - (f) fauna
  - (g) flora
  - (h) soil
  - (i) water
  - (j) air
  - (k) climatic factors
  - (l) material assets
  - (m) the inter-relationships that may exist at plan, programme or project levels
- 7 The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the policy, plan, programme or project.
  - 8 An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.
  - 9 A description of the measures envisaged concerning monitoring in accordance with the relevant procedures and guidelines.
  - 10 A non-technical summary of the information.

## 7 OCCUPATIONAL HEALTH AND SAFETY

### 7.1 Health and safety management

The RA requires its consultants and contractors to take a systematic, proactive approach in ensuring the health, safety and welfare of their employees whilst conducting work for the Roads Authority.

To achieve this, consultants and contractors employed by the Roads Authority must implement systems and methods to control risks to the health and safety of its employees and the general public resulting from their activities.

These systems must be set up and function in such a way as to identify hazards as well as assess and control the risks of activities conducted for the Roads Authority. Where feasible, risk must be eliminated. Where elimination of risk is not practical, it must be controlled in such a way as to reduce it to an acceptable level.

The PCE may request evidence that the consultant has identified the hazards under his control; has assessed the risks arising from these hazards to the health and safety of his employees and the public and has developed and implemented control measures to reduce the identified risks.

Annexure A contains a selection of questions that can aid in the development of a health and safety management system.

Note: Organisations considering implementing a formal Occupational Health and Safety Management System are encouraged to consider adopting an internationally accepted standard such as BS OHSAS 18001. This standard is specifically written to easily incorporate OHS management with other international management standards such as those for Quality, Environment, Risk, or Social Responsibility.

### 7.2 Legislation

Chapter 4 of the Namibian Labour Act (Act No 11 of 2007) stipulates the rights and duties of employees and employers and the requirements for health and safety representatives and committees with regard to health,

safety and welfare of employees. The Act also extends the responsibility of persons in charge of premises (or sites) and employers towards persons other than employees with regard to ensuring that such persons are not exposed to risk to their health and safety emanating from the employer's activities.

The Act requires that if accidents occur or a prescribed disease is contracted at a place of work, this must be reported to the labour inspector.

Government Notice 156 on the Labour Act, 1992 (Act 6 of 1992) contains the Regulations Relating to the Health and Safety of Employees at Work. The Regulations are presented in nine chapters, being:

- 1 Rights and Duties of Employers
- 2 Administration
- 3 Welfare and Facilities at Work-places
- 4 Safety of Machinery
- 5 Hazardous Substances
- 6 Physical Hazards and General Provisions
- 7 Medical Examinations and Emergency Arrangements
- 8 Construction Safety
- 9 Electrical Safety

Clause 2(5) of Chapter 1 of the Regulation states that: "An employer who has entered into an agreement with a contractor to perform certain tasks shall ensure that such a contractor complies with these regulations." In this context, the Roads Authority must ensure that its consultants and contractors comply with the regulations. This does however not absolve consultants or contractors from their duties under the Act and Regulations as employers.

The directives contained in Annexure B shall be incorporated into the documentation for construction contracts as is further discussed in the Procedures Manual.

### 7.3 Emergency preparedness and response

Emergency procedures must be developed, documented, implemented and maintained to prevent and mitigate the illness and injury associated with those identified hazards for which risks cannot be eliminated or adequately controlled and for all potential emergency situations.

The emergency preparedness and response procedures shall be periodically reviewed and revised where necessary; in particular in the light of experience gained following the occurrence of incidents or emergency situations. Where practicable the procedures must be tested periodically. In cases where emergency response testing is not practicable, training and efficacy should be tested by other means and the results of these tests documented.

The PCE may request evidence that the Consultant has developed and tested an emergency preparedness and response plan commensurate with its activities for the Roads Authority.

This section will require refinement to align further with OHS Regulations and possibly to develop generic minimum OHS controls specific to roads projects.



## 8 GUIDANCE FOR APPROACH TO SELECTED ASPECTS

### 8.1 Introduction

Certain aspects regularly arise during environmental assessments which lead to conflict, either during the contract documentation stage or during construction. This section is intended to provide guidance towards the approach to be adopted in dealing with such issues, in order to reduce the potential for conflict. Practitioners are required to follow these requirements, most of which are based on experience gained during successful projects. This is not to say that there may not be special cases where there is compelling environmental reason to depart from these approaches, but such cases must be fully motivated before being incorporated in any environmental report or management plan.

### 8.2 HIV/AIDS

HIV and AIDS are recognised as being among the most significant challenges to development in Namibia. Although the overall natural prevalence of HIV has decreased in recent years there has been an increase in certain age groups and in other groups it has remained high. These high infection rates occur in age groups employed by roads contractors for manual labour. Long-distance transport, used extensively by contractors, is also an area of concern in regard to the spread of HIV/AIDS.

These factors amongst others are compelling reasons to require road construction companies working for the RA to take seriously their obligations in respect of HIV/AIDS programmes for their employees. These obligations will be expressed mainly in the form of workplace programmes, which will be discussed later in this section.

The question of access to medication for HIV/AIDS patients needs to be dealt with. Apart from the difficulties arising from the distance from the workplace to medical facilities dispensing anti-retroviral medication, such medication is often dispensed only at very specific and limited times. One of the tasks that must be carried out during the assessment stage is the determination of when and where such medication is

dispensed in the construction area. This information must then be incorporated in the construction contract documentation which must also require the contractor to allow affected employees sufficient time to access the medication at the times when it is available.

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### 8.3 Employment during road construction

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The RA will generally have certain requirements regarding the composition of the workforce during construction. These requirements must be properly thought through by the RA and formulated with due consideration for the realities of the construction area, because they can have a profound effect on the contractor's productivity; may be the cause of labour unrest; and may in the end be counter-productive.

Requirements relating to the composition of the workforce must be made known before the EIA process is embarked on so that the terms can be made known to and debated with the local population during the process. The RA in turn should be open to redefining their requirements for the construction contract in the light of information gained during discussions with the local population.

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### 8.4 Business opportunities during road construction

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It must be recognised that business opportunities during construction are limited especially when a road is constructed in a rural, sparsely populated area. It must also be accepted that business cannot be allowed to take place within the road reserve. Similarly, even in urban areas, care should be exercised when contemplating the inclusion of a requirement to utilise local enterprises for the supply of goods and services. The fact is that goods and services that may be available locally are often not up to the required standard. The specialised requirements and time constraints of contractors means that procurement must often be done in larger centres and even outside the country for certain items.

The foregoing is not meant to discourage the use of local entrepreneurs but rather to avoid unrealistic expectations being raised with the local population prior to the contract and included in construction contracts.

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### 8.5 Topsoil

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The importance of topsoil for use in rehabilitating disturbed areas and cladding of cuts and fills cannot be overemphasised. However, two aspects are often overlooked by environmental practitioners when dealing with this issue. Firstly, the contractor cannot manufacture topsoil or strip it off other areas in order to deal with construction-related requirements. Therefore specifications regarding the use of topsoil must take into account the volumes of topsoil available from the construction operations. There is no point for instance in requiring a topsoil cover 150 mm thick when the required volume is not available. Secondly, it must be recognised that stripping of topsoil is generally speaking a machine-based operation. Gathering of topsoil by hand, especially in rocky terrain cannot be supported.

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### 8.6 Dust during road construction

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Dust is a fact of life during construction in Namibia. Spraying with water is the only practical way to control dust, but water is a very scarce resource in most areas of the country. Many road construction contracts contain unrealistic requirements relating to dust. It is often overlooked that dust is present in any event due to climatic factors unrelated to road construction; that dust is generated by traffic on a gravel road before construction starts; and that dust caused by construction is a short-term nuisance at any particular point along the road. Likewise, it is well to remember that once road construction is complete, the dust problem related to road construction and usage disappears for the life of the road.

Water is almost always used during the construction of fills, which reduces the dust nuisance to some degree. Overuse of water merely for the control of dust cannot be allowed since it could cause stability problems in the fill. Experience in Namibia has shown that the greatest generator of dust nuisance is normally the bypass used during construction. There is no doubt that dust is an unpleasant phenomenon which under certain circumstances can also cause respiratory problems, usually short-term in nature. A balance needs to be struck between the needs of the population on the one hand and the scarcity and cost of water on the other. Dust control measures should be required on the bypass but should be limited to water spraying in areas

of significant population density; where crops could be negatively affected by dust—such as citrus orchards during the blossom stage; in the vicinity of major intersections; and where haul operations intersect with the road. All such areas must be identified during the assessment and design processes so that suitable measures can be incorporated into the contract documents with due cognisance being taken of the availability and cost of water.

Accidents on construction bypasses are often caused by motorists ignoring speed limit signage and driving inappropriately in the presence of dust. It would reduce the incidence of accidents if the RA would arrange for increased policing of speed limits on bypasses during construction.

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### 8.7 Criminal and antisocial activities

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Construction contracts often place unrealistic requirements upon contractors. Some examples relate to the possession of firearms; control of poaching; control of violence; commercial sex work; misuse of alcohol and drugs and speeding on public roads. Some of these requirements impinge on the constitutional rights of individuals and others ignore the fact that the contractor is not a law enforcement agency.

The General Conditions of Contract already place limited responsibility upon the contractor for many of these aspects. This is a document in wide use internationally and is based on international experience in a wide variety of legal environments. Care should therefore be taken not to place additional and ill-considered or inappropriate duties upon the contractor.

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### 8.8 Addressing social issues during construction contracts

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The construction contract must include a requirement that the contractor put in place a workplace programme to contribute to sustainable human resources development while at the same time reducing corporate costs related to ill health and antisocial activities of personnel. It must further be stipulated that the workplace programme should be drawn up with the assistance of appropriate external experts. Whilst such a programme is aimed primarily at the contractor's staff, there is an opportunity to extend the reach of certain aspects of this programme to include elements

of the local population. This extension should however not be obligatory. Such programmes must commence very early in the construction process and must include middle management in order to be effective.

Matters which must be covered include but are not limited to

- HIV and AIDS awareness, not only at an elementary level;
- HIV and AIDS facts on a global and local scale with sufficient up-to-date information being provided to amplify the knowledge and experience already gained by participants in respect of HIV and AIDS;
- Behavioural patterns, with the discussion focusing on changes which need to be made to combat HIV and AIDS as well as community reactions thereto;
- Sexuality;
- Care and support for those affected by HIV and AIDS;
- Misuse of alcohol and drugs;
- Criminal activities including poaching and theft of crops;
- Violence, including inter-gender violence;
- Health and safety in the workplace;
- Responsibilities concerning protection of the environment both on an individual and at the corporate level;
- Any other matters of a similar nature which may have been included in the environmental management plan.

For the programme to be effective it must be formally monitored and any deviations found rectified at regular intervals throughout the contract period. A final report must be drawn up at the end of the Defects Liability Period which report must set out the successes or otherwise of each aspect of the programme. The conclusions drawn in all such reports should be used by the RA to upgrade the requirements set out in this section of the manual, so that similar actions on future contracts can be made more effective.

The overall success or otherwise of social programmes employed during construction contracts can only be properly measured several years after the completion of the road. This is outside the time scale of the contract, which ends at the end of the Defects Liability Period. However the RA should, in consultation with the DEA, consider whether to implement a system of long-term review of the efficacy of these programmes, but not connected in any way with the contracts themselves. Only in this way will it be possible to discover the extent to which the measures adopted are truly effective in meeting the goal of social upliftment and to refine contractual requirements to improve the ultimate social outcome.



## 9 THE ROAD PROJECT LIFE CYCLE AND EIA PROCESS

### 9.1 Introduction

EIA has a role in each phase of the project life cycle, theoretically from initial concept to decommissioning, but practically, commencing only after funding has been secured and reducing to a minimal level after construction has been completed.

The life cycle of a typical road project is depicted in Figure 9.1-1. This illustrates the EIA steps required during each phase of the project. There will of course be variations depending on the precise nature of the project. For instance an assignment may be for feasibility and design only, or for construction only. However, Figure 9 1 and the discussion which follows in the remainder of this chapter should make it clear as to the environmental input required for any specific project.

Figure 9.1 2 is a flow chart of the EIA process itself, with the responsibilities identified for each stage. A short explanation of the various stages follows thereafter.

### 9.2 Stage 1: Project identification

Road projects are identified either through the Road Management System or are devolved upon the RA by way of a political process. Although the RA may at this early stage already be aware whether the identified project is likely to have significant environmental impacts, no formal environmental input is required in this stage.

### 9.3 Stage 2: Project proposal

The Project Proposal is a short document setting out salient facts about the project including a rough estimate of the probable cost and the economic indicators based on that cost. It is not an in-depth study and its purpose is to demonstrate to potential funders that the project is likely to be bankable. Environmental input into the Project Proposal will be limited to an overview indicating whether or not the project will be likely to have significant environmental effects and if so, whether it is anticipated that these effects could be adequately dealt with. No environmental studies will be



required unless otherwise stated in the Terms of Reference.

**9.4 Stage 3: Sourcing of funding**

Funding for the project will normally be from the Roads Authority budget allocated by the Roads Fund Administration or procured from donor agencies. Only after funding is in place will any significant work commence on the project. No environmental input is required for this stage.

**9.5 Stage 4: Appointment of PCE and Consultant**

The RA will decide whether the project is to be developed using internal resources or by using external service providers. In both cases, the RA will appoint a PCE from within its own structure to administer the project. If it intends to develop the project internally, then it will also need to appoint an Environmental Assessment Practitioner (EAP).

If a consultant is to be utilised for the project, then the RA will appoint a suitable organisation for the task, either directly or following a formal tender process. In this case it is for the consultant to select and appoint a suitably qualified and experienced EAP for the project. The appointee may not be from the consultant’s organisation or any organisation linked thereto. An important aspect of the input of the EAP is to guide the consultant so that all the provisions of the Environmental Management Act, the Regulations and

any Guidelines and Procedures which may have been laid down are correctly and fully followed.

The Roads Authority must engage with the DEA to clarify details in respect of interpretation and application of the existing environmental Guidelines and Procedures.



**9.6 Stage 5: Determination**

In terms of the Regulations, it may be taken as given that feasibility studies, preliminary and final design, construction, upgrading and rehabilitation of roads for the RA as well as prospecting for materials are listed activities requiring an environmental clearance certificate. Routine maintenance is not a listed activity.

The RA must engage with the DEA to clarify the status of Master Plans and certain types of maintenance such as overlays and resealing as far as their listed activity status is concerned. In addition the apparent assumption in regulation 8(i) that a detailed assessment will be required must be clarified, as must the anomalous use of the word “application” in regulation 12 and elsewhere.



**9.7 Stage 6: Application**

Irrespective of whether or not a project is expected to have significant environmental effects, application for an environmental clearance certificate must be made on the prescribed form and submitted together with

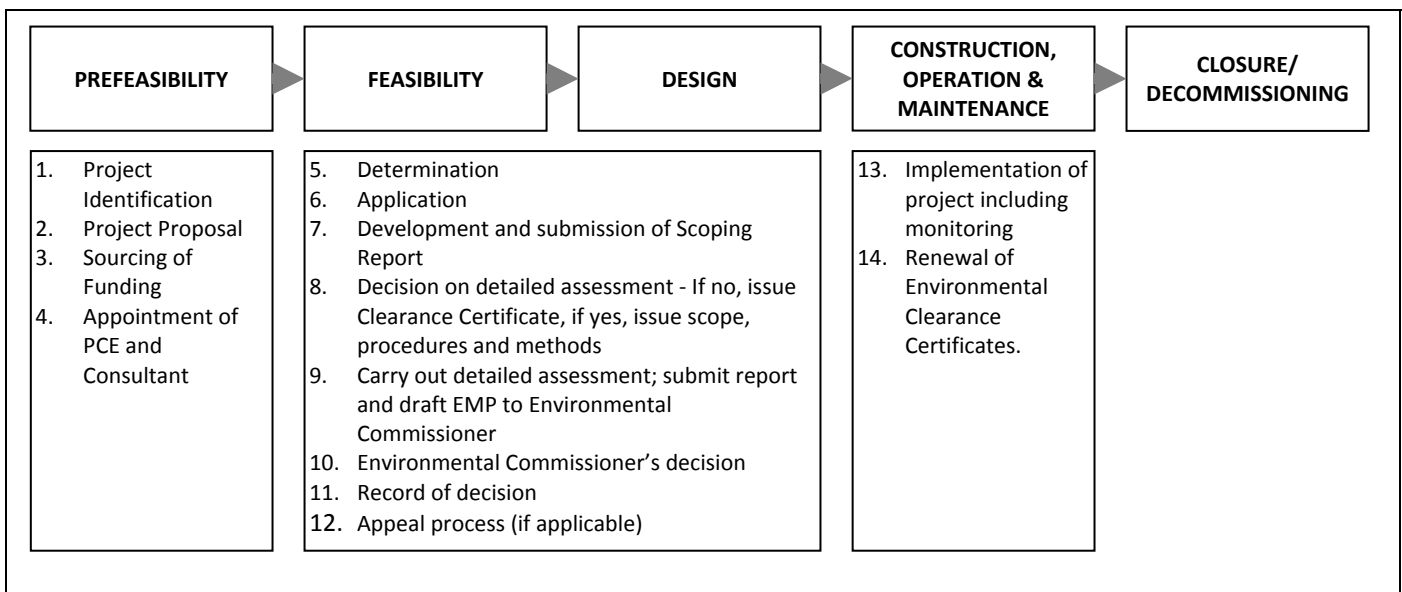


Figure 9-1 : The life cycle of a roads project

the prescribed fee to the Environmental Commissioner.

### 9.8 Stage 7: Development and Submission

The first step in Stage 7 is to set up a document for use in the public participation process indicating clearly what is to be done under the project as well as the proposed route and any alternatives that may have been identified at this early stage. Appropriate background information must be included so that the context of the project together with the major role players is identified. The document should also contain a brief motivation as to why the project is required. Maps and diagrams are to be included as may be necessary to illustrate the concept to non-technical persons.

The second step in Stage 7 is a public participation process in terms of regulation 7. At least two weeks' notice must be given in the local print media of the details of this process.

The third step in Stage 7 is a scoping process involving the collection of all relevant baseline information. Baseline information provides the foundation for predicting and monitoring environmental effects; helps to identify environmental problems and is used to identify alternative ways of dealing with such problems. Sufficient information about the current and probable future state of the environment must be collected to allow the likely effects of the project to be adequately predicted. The scoping process culminates in the preparation of a scoping report which must be submitted to the registered interested and affected parties for comment.

The fourth step in Stage 7 is the submission of the documentation listed in regulation 7(2) to the Environmental Commissioner.

### 9.9 Stage 8: Consideration by the Environmental Commissioner

The Environmental Commissioner will consider the scoping report and within 14 days of the receipt thereof, decide whether a detailed assessment is needed.

If the decision is that a detailed assessment is not required, then the Environmental Commissioner will so inform the RA within 7 days of making his decision, and

will also issue the Environmental Clearance Certificate. This may be subject to certain conditions.

If the Environmental Commissioner decides that a detailed assessment is required, then he must determine the scope, procedures and methods to be employed for the assessment and must notify the RA accordingly.

### 9.10 Stage 9: Environmental Impact Assessment

There are five components to all environmental assessments. These are:

- 1 a review and if necessary extension of the scoping report;
- 2 the environmental investigation including specialist involvement where necessary;
- 3 preparation of the report in terms of regulation 15(2) together with a draft Environmental Management Plan;
- 4 discussion of the assessment report and the draft management plan with the RA or the consultant as the case may be, including possible modification thereof in the light of the discussions; and
- 5 submission of the report to the Environmental Commissioner.

### 9.11 Stage 10: Environmental Commissioner's Decision

Having received the assessment report, the Environmental Commissioner will notify the application and assessment report or cause these to be notified; review the report together with any representations made as a result of the notification process; notify the RA of the decision on the application; and if the application has been approved, issue the Environmental Clearance Certificate which may be subject to conditions, including requirements for monitoring and audits.

The meaning and intent of the word "notify" in this context must be discussed with the DEA.





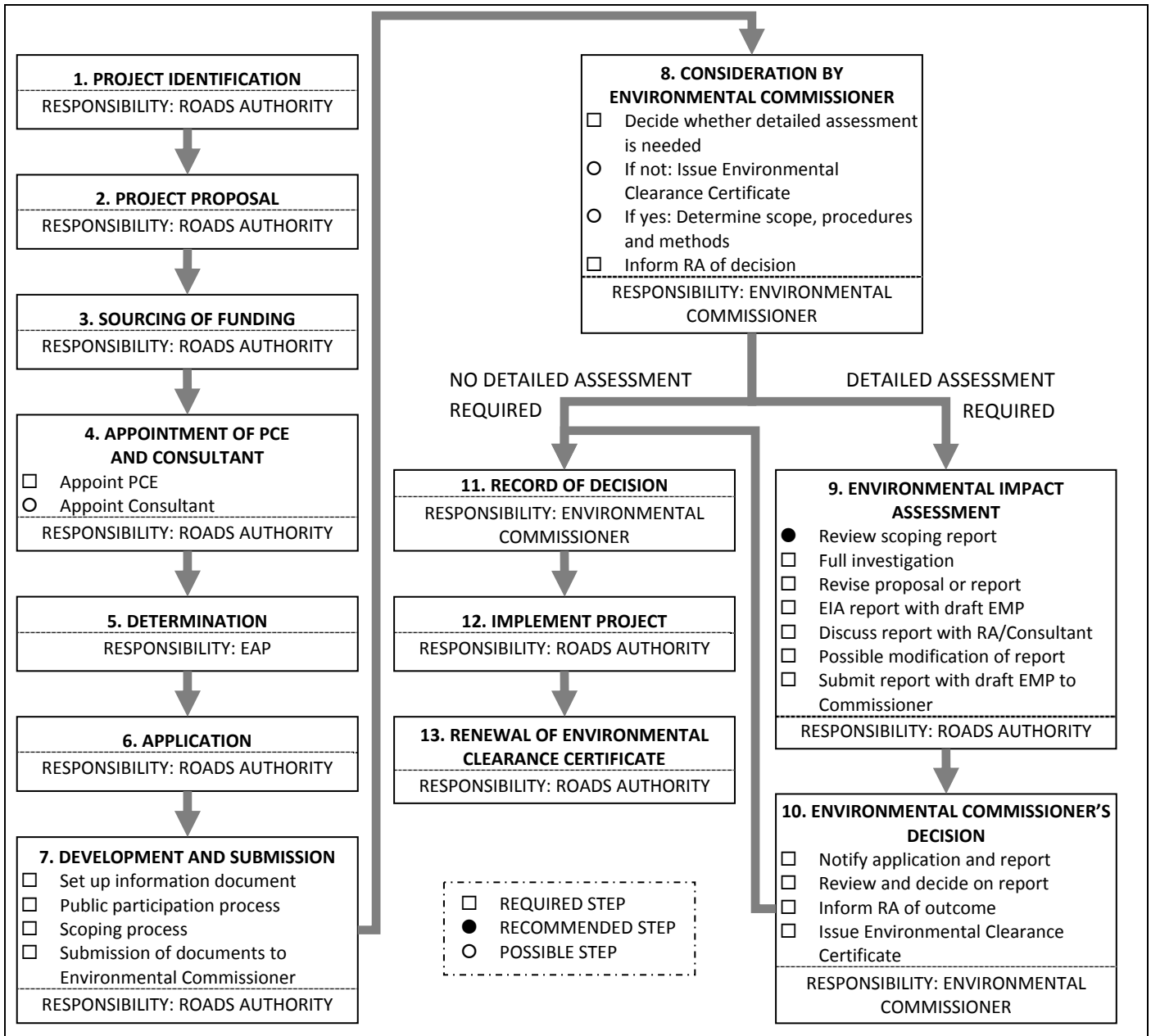


Figure 9-2 : EIA Process flow diagram

9.12 Stage 11: Record of Decision

Whether or not a project is approved, the DEA is obliged to issue a Record of Decision which must include the reasons for the decision made as well as any conditions of approval. The DEA is also obliged to make the Record of Decision available to any interested party, including the public.

9.13 Stage 12: Appeal Process

Section 50 of the Act provides an opportunity for appeal through the Minister against decisions by the

Environmental Commissioner. Appellants also have the right to approach the High Court on points of law and where the exercising of or failure to exercise power or perform any function or duty under the Act was unlawful, negligent or in bad faith.

9.14 Stage 13: Implementation of Proposal

Once a project has been approved by the issue of an environmental clearance certificate, it may be implemented only in accordance with the conditions of approval.

### 9.15 Stage 14: Renewal of Clearance Certificates

Renewal of the Environmental Clearance Certificate will be one of the conditions of approval of any application. The renewal period may vary but will not be more than three years from the date of issue of the certificate. It will depend on the specific nature of the project. The date of expiry and renewal will be indicated on the Environmental Clearance Certificate.

The renewal process must always be done three months before the date of expiry of the Environmental Clearance Certificate. Failure to renew the certificate on time will result in a fine or penalty as prescribed in the regulations.

The RA must debate the issue of renewal with the DEA because the requirement is unnecessarily onerous in respect of roads and does not appear to be of any real significance. At the same time, the issue of how to go about obtaining clearance certificates for studies and design, which must be dealt with before clearance for actual construction can be applied for, must also be debated. It seems that two clearances may be required, which is counterproductive and a waste of time and money with no apparent benefit for environmental control.



## 10 LINKAGE OF ENGINEERING AND ENVIRONMENTAL ASPECTS

### 10.1 General

There is no denying that conflict does arise at times between the engineering and environmental inputs into a project. This is often due to a lack of understanding of how these elements fit together and where the respective responsibilities lie. This section of the manual attempts to clarify some aspects of the project life cycle that are known to be problematic from time to time.

### 10.2 The time aspect

Although sometimes there certainly are time constraints arising from the source of funds for a project, every effort should be made by all parties to ensure that sufficient time is available to execute the project. Administrative delays occurring before the appointment of the consultant serve only to compress the available time for the actual work, which in turn can lead to increased cost and also increases the risk of oversights on the part of the consultant. Very short task or project times, for no discernible reason, lead to unnecessary strain on the resources of those tasked with executing the work.

It would therefore be to the advantage of the project as a whole if all parties involved in the project would make an effort not to delay the commencement of work or to cause avoidable delays during the course of the work. In the same vein, the environmental regulations appear to require certain environmental and engineering inputs to be done in series when it appears possible to allow them to be done in parallel without compromising environmental standards. This would save time.

Many of the regulations place time limits on the performance of tasks by the Environmental Commissioner. This is a good thing, but unfortunately there are several functions of the Environmental Commissioner that are not subject to time constraints. This leaves the consultant unable to tender with reasonable certainty and leaves him exposed should the Environmental Commissioner take longer than anticipated to execute his functions. If it is not possible for the DEA to place time limits to those actions of the

Environmental Commissioner that are presently open-ended in respect of time, then the RA should consider including in the consultancy contract a provision for extension of time in the event that the Environmental Commissioner exceeds pre-defined time periods for the execution of those tasks.

When determining the project time, the RA needs to take into account the time implications of the environmental process as set out in the regulations and as discussed below. Many RA projects completed in the past without compromising environmental aspects would not have been completed in the allotted project time if the time realities of the regulations had been applied.

After discussions with the DEA on the matter of time, a time-line should be drawn up based on the regulations and the outcome of the discussions to demonstrate the implications of the time required for various environmental functions, and to serve as one of the inputs to the determination of total project time.



### 10.3 Drawing-up of environmental documents

The General Conditions of Contract and Standard Specifications used by the RA already contain many clauses intended to protect the environment. EAPs are often not familiar with these documents and to make it more difficult for EAPs, clauses relating to the environment are included in locations to suit engineering operations, and consequently are not grouped together. The result is that EAPs concern themselves unnecessarily with matters already adequately covered in the standard documents, which is a waste of scarce resources.

In addition, different EAPs may have different views on the same issue, which leads to inconsistency between projects. To overcome these problems an environmental specification is included as Annexure C. This could be described as a form of generic EMP. The EAP is required to abide by these specifications and the consulting engineer is obliged to include these in his construction contract documents, in the manner prescribed in the Procedures Manual.

The underlying intention of these environmental specifications is to achieve uniformity of approach, avoid unnecessary work, avoid conflict and reduce cost

but not to compromise environmental imperatives. Just as the Consulting Engineer can, with good reason, modify, amplify or omit any clause in the General Conditions of Contract or the Standard Specifications or add new clauses, so too can the EAP motivate changes to the environmental specification contained in Annexure C, should he consider those specifications to be inadequate. However, having been used extensively on a number of differing projects, they are considered to be adequate in most cases, so should need few if any adjustments.

### 10.4 Finalisation of environmental documents

Much of the conflict relating to environmental issues that at times arises during roads projects results from a lack of proper consultation and discussion between the EAP and the Consulting Engineer. There is an unfortunate tendency for Consulting Engineers to accept environmental input and include aspects thereof into contract documents, without proper assessment of the implications thereof.

Any environmental document produced by an EAP, such as an EMP or an assessment report, must be considered to be a preliminary version. It is crucial that the Consulting Engineer study the document in question and then discuss any problem areas with the EAP. Instances where an environmental matter raised by the EAP carries significant practicality, cost, time or contractual implications, must be brought to the attention of the RA. The RA will consider its options and instruct the Consulting Engineer accordingly. Differences that cannot be resolved must be submitted to the RA and the DEA for joint resolution.

The document in question must then be amended in accordance with the outcome of the process described in the previous paragraph. It then becomes a draft version to be submitted to the Environmental Commissioner as may be appropriate. The Environmental Commissioner, after considering the document, may have a number of conditions attached to his reply. These conditions must be subjected to a similar process as set out above for a preliminary version. If and when agreement is reached, the draft document must be amended accordingly and becomes the final version.

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### 10.5 Inclusion of environmental matters in contract documents

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Environmental matters are usually dealt with in the EMP for a particular project. The Consulting Engineer has no option but to include all the concepts of the EMP as approved by the Environmental Commissioner into the contract documents. However, this must be done in a manner that fits the standard structure of the document in question and in terms that are consistent with the contractual concepts and language of that document.

Any additions or alterations to the standard environmental specification contained in Annexure C that may have been agreed to in the various discussions mentioned in this chapter must be accommodated in exactly the same manner as changes to the engineering Standard Specifications i.e. by way of the Project Specifications. It will almost certainly be necessary to rewrite the EMP so that the language is consistent with the remainder of the document and that contractual concepts are not violated. The contractual EMP will then consist of the standard environmental specification as set out in Annexure C, modified and amplified if necessary in the Project Specifications.

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### 10.6 Monitoring and inspections during construction

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Whatever monitoring and inspection regime may have been included in the contract in respect of environmental matters, it must be clearly understood that the EAP and his staff or any other person or organisation appointed to verify environmental performance by the contractor, will have no authority to instruct the contractor. Such persons must respect the communication hierarchy laid down in the contract and may therefore communicate only with the Engineer or with a member of the Consulting Engineer's staff who has been authorised in writing by the Engineer to receive such communications.

## 11 REFERENCES

- 1 Environmental Management Act, Act 7 of 2007 (Government Notice No 232, 2007)
- 2 Environmental Impact Assessment Regulations (Government Notice No 30, 2012)
- 3 Procedures and Guidelines for Strategic Environmental Assessment and Environmental Management Plan (Government Notice No 1, 2008)
- 4 The Equator Principle Association, 2006.
- 5 International Finance Corporation, World Bank Group, 2011