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1. INTRODUCTION

PENWAY and the SANRAL wish to pursue the environmental impact assessment for the proposed N21 (R300) Cape Town Ring Road Toll Project during 2001. A scoping report was submitted to the Western Cape Department of Environmental and Cultural Affairs and Sport (DECAS) as well as the national Department of Environmental Affairs and Tourism (DEAT) in Pretoria in October 2000. In this report it was concluded that a detailed Environmental Impact Assessment (EIA) was required, hence the onset of the EIA process with this Plan of Study for Impact Assessment.

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2. BACKGROUND

A proposal for the R300 Ring Road was made in response to the Unsolicited Proposal Policy of the South African National Roads Agency Limited (SANRAL). The Unsolicited Proposal Policy, dated May 1999, opened the way for the private sector to identify and put forward proposals for partnerships relating to road and infrastructure services. Where the SANRAL shows interest in a particular proposal, Scheme Developer Status is awarded which allows a private sector consortium to develop the project further, on behalf of the SANRAL and investigate its technical, financial and environmental feasibility.

In essence, the Unsolicited Proposal Policy is a mechanism for the private sector to operate and maintain a section of the national road network for specified period (a

Concession Period) and make a return on their investment by charging road users a toll. When the Concession Period expires, the infrastructure reverts back to the SANRAL.

In October 1998, the Peninsula Expressway Consortium (Penway) submitted an Unsolicited Proposal to the SANRAL for the design, financing, operation and maintenance of the R300 Ring Road. The ring road would link the presently radiating freeways of Cape Town in order to improve access and link development nodes between the northern and southern extremities of the larger Cape Town Area. This ring road would consist of the extension of the existing R300 north and south between Blaauwberg and Muizenberg and would be funded through tolling of the road.

A scoping study was initiated in early 2000, which excluded the existing R300. The process involved meetings with the relevant authorities, distribution of a background information document, information sharing meetings with key interested and affected groups, notification of the process in the media and open house meetings.

Considerable public interest was experienced, especially from the area around Zandvlei, where residents would be separated from the Zandvlei Nature Reserve by the road. Subsequent newspaper articles were published and a petition was initiated.

The Environmental Impact Assessment to be undertaken will investigate all the issues that were raised but unresolved during the scoping process. The project that will be investigated will entail the proposed new (Green Field) road section from the N7 through Durbanville, upgrade of the existing R300 and extension thereof through the Zeekoevlei area up to the Blue Route. The road section from the N7 up to Otto du Plessis Drive has been scoped in a separate study. Areas requiring further study will be included in the EIA. Furthermore, the Cape Flats Freeway proposal through Philippi will be included in this project to be constructed by PENWAY. This road section has also been investigated in a separate study, but the impacts of tolling this road, viz the change in the number of intersections and at grade access, will be included in this study. The attached figure indicates the route to be studied during the impact assessment process.

3. ISSUES TO BE ADDRESSED

The issues that will be addressed in the EIA study are those that have been identified during the scoping study to be significant, without having been resolved. These issues are to be covered in the terms of reference for specialist studies on the following issues:

- Vegetation
- Ornithology
- Herpetology
- Wetlands and Riverine Ecology
- Geohydrology
- Planning/legal
- Visual/Aesthetics
- Archaeology/Heritage
- Noise pollution
- Social
- Economic

Air pollution information will be obtained from previous toll road studies, and included in this EIA.

Queries relating to traffic will also be included. It should however be noted that the traffic studies are not under the direct co-ordination and management of Chand/Ecosense JV.

Borrow pits will only be identified by the successful tender for this project. As a result this aspect is NOT addressed in this EIA, or in the draft EMP. EMP's for borrow pits will be completed by the successful tenderer and submitted to the Department of Mineral and Energy Affairs for approval.

4. PROPOSED APPROACH TO THE STUDY

The Environmental Impact Assessment (EIA) for the project will be undertaken in accordance with the following legislation and guidelines:

- The Constitution Act, 1996 (Act No.108 of 1996)
- Environment Conservation Act, 1989 (Act No.73 of 1989)
- The National Environmental Management Act, 1998 (Act No.107 of 1998) (NEMA)
- The South African Roads Agency Limited and National Roads Act, 1998 (Act No.7 of 1998).

The following approach will be adopted in the Environmental Impact Assessment (EIA) phase:

- On all the Green Field sections of the project, an EIA will be conducted on the environmental issues identified during scoping;
- An EIA will be conducted on the toll plaza positions;
- An assessment and public participation will be conducted on the proposed changes to the Cape Flats Freeway project section, including toll plaza positions;
- The necessary public participation required in terms of the above will take place.
- A public participation process to discuss tolling on the Cape Flat Freeway (Phillipi sector).
- Although the socio-economic impacts of tolling will be decided upon by the Minister of Transport (rather than Minister of Environmental Affairs), these aspects will be mentioned in this EIA, for the sake of clarity and completeness.

This will entail:

- Meeting with the environmental authorities to discuss the scope of the EIR;
- Preparing the Plan of Study for the EIA,
- Sourcing specialist input to address the issues raised during scoping and investigate the relevant alternatives;
- Facilitating further public input on the entire route (Phases 1, 2, 3 and 4);
- Assessing impacts and their significance (see method for assessing significance attached);
- Suggesting mitigation measures;
- Compiling the Environmental Impact Report, and
- Compiling the Draft Environmental Management Plan.

The study **will not** include the following:

- Detailed EIA of the Cape Flats Freeway (Phillipi) section.

Cumulative impacts will be investigated during the study as appropriate. Cumulative impacts of tolling the N1/N2 and R300 will be addressed as a separate report. This will be mentioned in the EIA.

5. ALTERNATIVES

Alternatives were investigated during the scoping study for phases 1 to 3 of the project. Phase 4 entails upgrading of the existing R300, for which no alternatives, other than that of no upgrade, exist.

Phase 1 has only one route that can be followed due to the declaration of a road reserve. No alternatives have been identified for this phase.

The alternatives for phase 2 consisted of the route having different end points. Three alternatives were discussed in the scoping phase: a route to the N7 towards Atlantis, a route to Melkbosstrand and a route to the Blaauwberg area. Alignment of the road from Phase 1 through the farmlands to these endpoints is restricted to a great extent by road geometrics, other developments along the route (e.g. farmsteads, road crossings and mines) and farm layout (to restrict the division of farms).

After discussions and negotiations with the officials of the Blaauwberg Administration, it was decided that the route terminating in Blaauwberg was the preferred option, as this would avoid the duplication of transport routes in the same area.

The alternatives of Baden Powell, the Cape Flats Freeway and the False Bay Coastal Alignment were investigated for Phase 3. The Cape Flats Freeway was subsequently included in the project as an addition and is no longer available as an alternative.

At this stage, the re-alignment of Baden Powell is not deemed as a feasible alternative for a toll road, due to the local access requirements. It will therefore not be investigated any further by this environmental team.

6. DESCRIPTION OF TASKS

The EIA phase will entail specialist input as well as public participation.

Specialist Input

A multi-disciplinary team (see below) will be assembled to address the issues raised in the scoping phase and advise on mitigation measures necessary to reduce the anticipated impacts. At this stage it is anticipated that the specialists will have the following tasks:

- Carry out further investigation on their area of expertise as identified in the scoping report.
 - This will entail fieldwork, (sampling, measuring, observation) and desktop study.
- Assess, using specific criteria, the environmental impact of the proposed road design.
- Suggest appropriate mitigation measures for reducing the impact (i.e. design parameters).
- Attend a workshop with the engineers to debate/discuss design parameters.

Planners and Lawyers will have the following tasks:

Planners

- Verify and report on the applicability, reference and implication of the following:
 - Land use planning legislation, policies and plans.
 - Individual Zoning Schemes and possible restrictions

Legal

- Advise on the legal aspects of the Scoping Report, and
- Offer legal advice during the EIA phase.

The proposed team is:

Management and Co-ordination

Sadia Chand	Chand Environmental Consultants
Desireé du Preez	Ecosense
Mark Sasman	Ecosense

Public Participation

Sadia Chand	Chand Environmental Consultants
Rosa Strydom	Chand Environmental Consultants
Michael Mangnall	Chand Environmental Consultants
Emily Herschell	Chand Environmental Consultants

Freshwater Ecology

Bill Harding	Southern Waters
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Geohydrology

Roger Parsons	Parsons and Associates
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Avifauna, Mammals and Entomology

Dave Pepler	Horus Wildlife Consultants
Kobus Jooste	Horus Wildlife Consultants
Dr H Geertsema	Independent Consultant

Botany

Nick Helme	Doug Jeffrey and Associates
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Herpetology

Atherton de Villiers	Independent Consultant
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Noise

Demos Dracoulides	Independent Consultant
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Archaeology

Jonathan Kaplan	Agency for Cultural Resource Management
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Planning

Jonathan Holtmann	Jonathan Holtmann and Associates
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Visual

Michelle Robertson-Swift	OVP Associates
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Social

Shakti Malan	Independent Consultant
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Economic

Barry Standish	University of Cape Town
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Tourism

Jonathan Bloom	University of Stellenbosch
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Independent Review

Sue Lane	Sue Lane and Associates
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Public Participation

The public participation process will follow on from the Scoping phase. The following steps are envisaged:

- Distribute a newsletter updating I&APs on the process;
- Place a notification of the EIA process in the local media;
- Distribute an Information Sheet to approximately 1500 I&APs on the database;
- Conduct a "Knock and Drop" on areas adjacent to the route;
- Conduct information sharing meetings with key groups;
- Host up to 10 Open Houses along the route;
- Circulate the Draft EIR for public review (28 days), and
- Circulate the Record of Decision to the I&APs.

7. SCHEDULE OF ACTIVITIES

ACTIVITY	DATE
Plan of Study for EIA	May 2001 plus update
Site Visit & meeting with DEADP/DEAT	May 2001 and February 2002
Compile & Circulate Info Sheet (Incl. letter drop)	March 2002
Notification/advertisement re process	April 2002
Specialist studies	February – December 2002
One-on-One Meetings	February – December 2002
Open House (round 1 – x5)	September 2002
Draft EIR for internal & public review	February 2003
Open House (round 2 – x5)	February 2003
Final EIR to DEADP and DEAT	March – April 2003
Anticipated ROD	May – June 2003

8. EVALUATION METHODS FOR ENVIRONMENTAL IMPACTS

(Adapted from T Hacking, AATS – Envirolink, 1998: An innovative approach to structuring environmental impact assessment reports. In: IAIA SA 1998 Conference Papers and Notes.)

Definitions of or criteria for environmental impact parameters

The significance of environmental impacts is a function of the environmental aspects that are present and to be impacted on, the probability of an impact occurring and the consequence of such an impact occurring before and after implementation of proposed mitigation measures.

(a) Extent (spatial scale):

Ranking criteria

L	M	H
Impact is localized within site boundary	Widespread impact beyond site boundary; Local	Impact widespread far beyond site boundary; Regional/national

Take into consideration:

- Access to resources; amenity
- Threats to lifestyles, traditions and values
- Cumulative impacts, including possible changes to land uses at and around the site.

(b) Duration:

Ranking criteria

L	M	H
Quickly reversible, less than project life, short term (0-5 years)	Reversible over time; medium term to life of project (5-15 years)	Long term; beyond closure; permanent; irreplaceable or irretrievable commitment of resources

Take into consideration:

- Cost – benefit economically and socially (e.g. long or short term costs/benefits)

(c) *Intensity (severity):*

Type of Criteria	Negative			Positive		
	H-	M-	L-	L+	M+	H+
Qualitative	Substantial deterioration, death, illness or injury, loss of habitat/diversity or resource, severe alteration or disturbance of important processes.	Moderate deterioration, discomfort, Partial loss of habitat/biodiversity/resource or slight or alteration	Minor deterioration, nuisance or irritation, minor change in species/habitat/diversity or resource, no or very little quality deterioration.	Minor improvement, restoration, improved management	Moderate improvement, restoration, improved management, substitution	Substantial improvement, substitution
Quantitative	Measurable deterioration Recommended level will often be violated (e.g. pollution)	Measurable deterioration Recommended level will occasionally be violated	No measurable change; Recommended level will never be violated	No measurable change; Within or better than recommended level.	Measurable improvement	Measurable improvement
Community response	Vigorous	Widespread complaints	Sporadic complaints	No observed reaction	Some support	Favourable publicity

Take into consideration:

- Cost – benefit economically and socially (e.g. high nett cost = substantial deterioration)
- Impacts on human-induced climate change
- Impacts on future management (e.g. easy/practical to manage with change or recommendation)

(d) **Probability of occurrence:**

Ranking criteria

L	M	H
Unlikely; low likelihood; Seldom No known risk or vulnerability to natural or induced hazards.	Possible, distinct possibility, frequent Low to medium risk or vulnerability to natural or induced hazards.	Definite (regardless of prevention measures), highly likely, continuous High risk or vulnerability to natural or induced hazards.

The specialist study must attempt to quantify the magnitude of impacts and outline the rationale used. Where appropriate, international standards are to be used as a measure of the level of impact.

- (e) **Status of the impact:** Describe whether the impact is positive, negative or neutral for each parameter. The ranking criteria are described in negative terms. Where positive impacts are identified, use the opposite, positive descriptions for criteria.

Based on a synthesis of the information contained in (a) to (e) above, the specialist will be required to assess the significance of potential impacts in terms of the following criteria:

- (f) **Consequence:** (Duration X Extent X Intensity)

Intensity = L			
Duration	H		
	M		Medium
	L	Low	
Intensity = M			
Duration	H		High
	M		Medium
	L	Low	
Intensity = H			
Duration	H		
	M		High
	L	Medium	
	L	M	H
	Extent		

Positive impacts would be ranked in the same way as negative impacts, but result in high, medium or low positive consequence.

- (g) **Significance:** The significance of impacts shall be assessed both with prescribed mitigation actions. The significance of the identified impacts on components of the affected environment shall be determined as Probability X Consequence:

Significance			
Probability	H	Medium	High
	M		
	L	Low	Medium
	L	M	H
Consequence			

- (h) **Degree of confidence in predictions:** State the degree of confidence in the predictions, based on the availability of information and specialist knowledge.
- (i) **Legal requirements:** Identify and list the specific legislation and permit requirements that are relevant to this project.

Guidelines for decision-making

Overall Significance	Nature of Impact	Degree of confidence	Decision Guideline
High -	Unacceptable	High or low	Likely fatal flaw
High +	Desirable	High	Supports decision to allow project.
Medium – or +	Noticeable impact	High or low	Likely to be unavoidable impact, which will need to be accepted if the project is allowed to proceed.
Low – or +	Minor impacts	High or low	These impacts are not likely to affect the project decision.

Violations to legislation should be regarded as a fatal flaw.



THE N21 (R300) CAPE TOWN RING ROAD PROJECT LOCALITY

