

CHAPTER 2 STUDY APPROACH AND METHODOLOGY

This chapter outlines the guiding principles and legislative requirements underpinning the EIA and describes the study approach and methodology. It also provides a summary of the public consultation process undertaken and outlines the way forward in terms of decision-making by the relevant authorities. Specialist studies undertaken during the Impact Assessment phase are listed, and the process whereby the information gathered in these studies was integrated into an overall assessment of the proposed project is described. Assumptions and limitations applicable to the EIA process are listed at the end of the chapter.

2.1 EIA LEGISLATIVE CONTEXT AND GUIDING PRINCIPLES

This section provides a description of the key legal considerations of direct relevance to the undertaking of the EIA. As mentioned in Section 1.1, the application for authorisation of this proposed project was made in terms of Government Notice R1183 of 5 September 1997 (as amended) promulgated under the ECA – the “ECA EIA Regulations”.

The new EIA Regulations, promulgated under NEMA, as amended, which came into effect on 3 July 2006 (Government Notices R385, R386 and R387 of 21 April 2006 – the “NEMA EIA Regulations”), make provision for “transitional arrangements” in order to accommodate applications, such as this study, which commenced prior to the promulgation of the NEMA EIA Regulations and were still pending at the time the NEMA EIA Regulations took effect. Regulation 84(1) of Government Notice R385 stipulates that where an application was submitted in terms of the ECA EIA Regulations, and was still pending at the time the NEMA EIA Regulations took effect, it must, despite the repeal of the previous regulations, be “dispensed with in terms of the previous regulations as if the previous regulations were not repealed”. In terms of Regulation 84(3) an authorisation issued following an application in terms of Regulation 84(1) “must be regarded to be an environmental authorisation issued in terms of these Regulations”.

2.1.1 THE ENVIRONMENT CONSERVATION ACT

Section 21 of the ECA, as amended, provides for the control of identified activities that may have a substantial detrimental effect on the environment. These activities are listed in Government Notice R1182 of 5 September 1997 (Schedule 1), as amended. Listed activities applicable to the proposed project (or particular stretches of the route) include the following:

- *The construction, erection or upgrading of roads and associated structures (1d);*
- *With regard to any substance which is dangerous or hazardous and is controlled by national legislation – storage and handling facilities for any such substance [storage and handling of diesel and oil during construction, if required] (1cii);*
- *The change of land use from agricultural or zoned undetermined use or an equivalent zoning to any other land use (2c);*
- *The reclamation of land, including wetlands, below the high-water mark of the sea, and in inland waters (7); and*
- *Scheduled processes listed in the Second Schedule to the Atmospheric Pollution Prevention Act, 1965 (No. 45 of 1965) (9).*

The ECA prohibits such activities until written authorisation is obtained from the Minister or his delegated authority. Such authorisation, which may be granted subject to conditions, will only be considered once there has been compliance with the ECA EIA Regulations, as amended.

2.1.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT

Section 2 of NEMA, as amended, sets out a range of environmental principles that are to be applied by all organs of state when taking decisions that significantly affect the environment. Included amongst the key principles is that all development must be socially, economically and environmentally sustainable and that environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably. NEMA also provides for the participation of I&APs and stipulates that decisions must take into account the interests, needs and values of all I&APs.

Chapter 5 of NEMA, as amended, outlines the general objectives and implementation of Integrated Environmental Management (IEM). IEM provides a framework for the integration of environmental issues into the planning, design, decision-making and implementation of plans and development proposals. Section 24(4) provides the minimum requirements for procedures for the investigation, assessment and communication of the potential impact of activities. Further details of these principles and objectives of NEMA, as amended, are provided in Section 6.6.1.

2.1.3 NATIONAL HERITAGE RESOURCES ACT

Section 38(1) of the National Heritage Resources Act, 1999 (NHRA, Act No. 25 of 1999) lists development activities that would require authorisation by the responsible heritage resources authority. Activities considered applicable to the proposed project (or particular stretches of the route) include the following:

- *The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;*
- *The construction of a bridge or similar structure exceeding 50 m in length; and*
- *Any development or other activity which will change the character of a site.*

The NHRA requires that a person who intends to undertake a listed activity notify the relevant provincial heritage authority at the very earliest stages of initiating such a development. The relevant provincial heritage authority would then in turn, notify the person whether a Heritage Impact Assessment Report should be submitted. However, according to Section 38(8) of the NHRA, a separate report would not be necessary if an evaluation of the impact of such development on heritage resources is required in terms of the ECA or any other applicable legislation. The decision-making authority should, however, ensure that the heritage evaluation fulfils the requirements of the NHRA and take into account in its decision-making any comments and recommendations made by the relevant heritage resources authority.

2.1.4 OTHER RELEVANT LEGISLATION

Other relevant legislation and policies relevant to the EIA and proposed project are discussed in Section 6.6. These include, but are not limited to, the following:

- Noise Control Regulations: Environment Conservation Act, 1989 (Act No. 73 of 1989);
- National Water Act, 1998 (Act No. 36 of 1998);
- National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004);
- Etc.

2.2 EIA METHODOLOGY

This section outlines the methodology followed during the EIA process. The EIA was undertaken in two phases, namely (1) a Scoping Study phase and (2) an Impact Assessment phase.

2.2.1 SCOPING STUDY PHASE

The specific objectives of the Scoping Study were as follows:

- To undertake a comprehensive audit of all the issues and concerns raised during the previous EIA's Scoping Study, Impact Assessment and Appeals phases in order to ensure that all relevant issues and concerns are adequately addressed;
- To provide Terms of Reference for specialist studies in order to update existing information and/or to address identified shortcomings and/or gaps;
- To provide a reasonable opportunity for the involvement of I&APs (including relevant authorities) in the study;
- To inform the way forward in the EIA process; and
- Through the above, to ensure informed, transparent and accountable decision-making.

Existing information considered to be adequate and credible was used, as appropriate, in formulating the scope of the work and compiling the necessary documentation. The Scoping Study was undertaken with an initial round of public consultation aimed at providing Interested and Affected Parties (I&APs) an opportunity to comment on the proposed new EIA process only. The distribution of the Draft Scoping Report (DSR) and associated public consultation process (refer to Section 2.4 and Volume 2, Appendix 10 of the FSR) provided I&APs adequate opportunities to raise any issues and concerns on the proposed project and Scoping Study.

The FSR provides a detailed description of the various tasks undertaken between April 2005 and March 2007 as part of the Scoping Study and associated public consultation process. Box 2.1 provides a summary of the public consultation process while Figure 2.1 provides a summary of the opportunities provided for involvement of I&APs in the Scoping Study.

BOX 2.1 ACTIVITIES UNDERTAKEN AS PART OF THE PUBLIC CONSULTATION PROCESS OF THE SCOPING STUDY

1. Compilation of I&AP database

The previous EIA study's database was used as a basis for compilation of a comprehensive initial project database. This database included those parties who appealed against the previous authorisation of the proposed project. There were approximately 3 700 I&APs on the initial project database. During the course of the Scoping Study the list of I&APs was continuously supplemented and updated. There were 10 139 I&APs on the database when the FSR was submitted to the relevant authorities.

2. Distribution of the Background Information Document (BID)

A BID, together with a covering letter informing I&APs of the commencement of the new application for environmental authorisation and the EIA process was distributed to 3 721 I&APs on the initial database on 5 and 6 August 2005. It was also placed on CCA's website. The BID invited I&APs to submit comment on the new EIA process only. It was indicated that comments on the proposed project would only be sought on release of the DSR. The BID provided background information on the proposed project, a map showing the extent of the proposed project, key shortcomings/gaps that needed to be addressed in the new EIA process and a description of the anticipated EIA process. The BID was made available in English, Afrikaans, isiZulu and isiXhosa.

3. Public notification of commencement of new application and EIA process

At the beginning of August 2005, advertisements announcing the commencement of the new application for environmental authorisation and associated EIA process were placed in the following national, regional and local newspapers: the Sunday Times; Daily Dispatch; Burger East; Natal Mercury; Ilanga; Indabazethu; Sunday Tribune; Merebank Rising Sun; South Coast Sun; South Coast Herald; Kokstad Advertiser; Wild Coast Herald; Ikhwezi News; Ilizwe Lesizwe; Isolezwe; UmAfrika; and Sun News. The advertisements also announced the availability of the BID and the opportunity to comment on the proposed new EIA process during the three-week comment period. I&APs were invited to register, request a copy of the BID and/or submit comments to NMA.

4. Presentations on the EIA process to local authorities

Presentations on the proposed EIA process were given to the following local authorities during November and December 2005: Alfred Nzo/Umzimvubu/Umzimkhulu; Wild Coast Consultative Forum; OR Tambo/King Sabata Dalindyebo/Nyandeni; Mhlonto; Mquma; Umdoni; Ugu; Mbizana/Quakeni/Port St Johns; and Greater Kokstad/Sisonke.

5. Distribution and public review of the DSR

The DSR was made available for an eight-week comment period from Thursday 13 April until Friday 9 June 2006. Copies of the DSR were lodged at the following 40 venues: East London Central Library; Gonubie Library; Komga Library; Butterworth Public Library; Dutywa Public Library; Mthatha Public Library; Mhlonto Municipal Offices – Qumbu; Umzimvubu Municipal Offices – Mount Ayliff; Nyandeni Municipal Offices – Libode; Tabankulu Library; Port St Johns Library; Lusikisiki Information Centre; Quakeni Municipal Offices – Lusikisiki; Flagstaff Information Centre; Quakeni Municipal Offices – Flagstaff; Bizana Library; Matatiele Library; Kokstad Public Library; Harding Public Library; Ezingoleni Municipal Offices – Izingolweni; Durban Central Reference Library; Isipingo Civic Library; Isipingo Beach Library; Athlone Park Library; Amanzimtoti Library; Kwamakhutha Library; Kingsburgh Library; Umkomaas Library; Scottburgh Memorial Library; Park Rynie Library; Umzinto Library; Pennington Library; Hibberdene Library; Umtentweni Library; Port Shepstone Library; Uvongo Library; Margate Library; Southbroom Library; Munster Library; and Port Edward Library.

Sixty copies of the DSR were also distributed to key stakeholders such as affected municipal authorities, relevant national and provincial government departments and regional (traditional) authorities.

6. Notification of release of DSR for review and comment

Advertisements announcing the availability of the DSR, libraries where it could be viewed, and details of the public meetings and comment period were placed in the 17 newspapers as detailed under Item 3 above. Radio announcements were also used to announce the same information contained in the newspaper adverts. All I&APs on the project database (3 738 I&APs) were sent a covering letter outlining the same information contained in the newspaper advertisements together with a copy of the Executive Summary of the DSR.

7. Public and other meetings during DSR comment period

A total of 137 public information-sharing meetings were held at key centres along the route of the proposed project and along the existing N2 and R61 between Mthatha and Port Shepstone and Lusikisiki and Port Edward, respectively. At the meetings a summary of the DSR was presented and I&APs were afforded the opportunity to comment on the report and raise any issues or concerns regarding the proposed project. The public meetings were held as follows: Isipingo Beach Hall, Durban (2 May 2006); Civic Centre Supper Room, Amanzimtoti (3 May 2006); Multi-purpose Youth Centre, Bizana (4 May 2006); Relton Hall (Pennington Recreational Club), Pennington (4 May 2006); Town Hall, Flagstaff (9 May 2006); Town Hall, Kokstad (9 May 2006); Town Hall, Lusikisiki (10 May 2006); Town Hall, Port St Johns (11 May 2006); Town Hall, Mthatha (16 May 2006); TRC Hall, Dutywa (17 May 2006); Wayside Conference Centre, Butterworth (18 May 2006); Cambridge Hall, East London (18 May 2006); and New Memorial Hall, Port Shepstone (22 May 2006).

Focus Group Meetings were held with municipalities, smaller communities outside the main centres and with various special interest or lobby groups. *Imbizos*, arranged in conjunction with ward councillors and traditional leaders, were also held for communities along the proposed route in the greenfields sections in the Eastern Cape. A total of 125 such meetings were held during the DSR comment period, involving more than 5 000 people directly.

8. Comment on the DSR

A total of 865 written submissions were received from organisations or individuals during the comment period on the DSR. All of these were summarised in a Comments and Responses Report.

9. Workshops and site visit on additional proposed alternative alignments

At one of the Focus Group Meetings an I&AP made a request for an opportunity to present proposed additional alternative alignments not considered in the DSR. Since a number of other I&APs also proposed consideration of additional alternative alignments not considered in the DSR, two workshops were held (in Pretoria on 4 July 2006 and Kokstad on 27 July 2006) to accommodate presentation of these proposals to the project team. A site visit was subsequently also arranged (15 to 18 October 2006) to view those proposed additional alternatives which seemed to be reasonable options when compared to the “do nothing” option.

10. Availability of FSR

The FSR was lodged, for public information, at the same venues used for distribution of the DSR. All I&APs on the FSR database (some 10 200) were notified by post of the completion of the FSR.

As mentioned in Chapter 7 of the FSR, numerous issues and concerns were raised by I&APs and identified by the EIA project team during the Scoping Study. These were categorised into 12 main categories, as follows:

- EIA process and legal issues;
- Public consultation process;
- Specialist studies;
- Planning and policy issues;
- Motivation/need for the project;
- Scope of work and construction issues;
- Road, traffic and transportation issues;
- Alternative routes;
- Tolling issues;
- Economic issues;
- Social issues; and
- Biophysical issues.

A number of issues and concerns were identified as “key” issues in the FSR since they were deemed to have significant implications in terms of consideration of the adequacy of the Scoping Study and/or way forward in the EIA process. The following key issues and concerns were identified:

1. Legality and adequacy of the EIA process;
2. Validity of the use of information from the previous EIA process;
3. Adequacy of the consideration of alternatives;
4. Adequacy of the consideration of alternative alignments;
5. Adequacy of the public consultation process;
6. Adequacy of the motivation/need for the proposed project;
7. Potential biophysical, social and economic impacts;
8. General support for the proposed project in the Eastern Cape and general opposition in KwaZulu-Natal;
9. Reliance on information provided by SANRAL;
10. Cross-subsidisation; and
11. Bypasses to Butterworth, Dutywa and Mthatha.

Section 7.6 and Appendix 14 (Comments and Responses Report) of the FSR provide the EIA project team’s and SANRAL’s responses to the above key issues and concerns, as appropriate.

The issues and concerns which were to be addressed in the Impact Assessment phase of the EIA were comprehensively described in Chapter 8 of the FSR. These relate to potential biophysical, social and economic impacts which could result from the construction and operational phases of the proposed project. Examples of the identified potential impacts relating to the proposed project are listed below under the following categories: Biophysical impacts; Social impacts; and Economic impacts. These potential impacts formed the basis for the specialist studies undertaken during the Impact Assessment phase of the EIA.

a) Biophysical impacts

- *Vegetation and flora*
Loss of “species of special concern”; loss of sensitive habitats; loss and changes in ecosystem functions; impacts on forests; secondary and cumulative impacts; and consideration of the ecological sustainability of the proposed project.
- *Fauna*
Loss of sensitive faunal habitats; invasion by alien fauna; increased animal mortalities; impacts from increased noise and light pollution; and impacts of bridges on breeding grounds of birds of prey.
- *Aquatic ecosystems*
Potential impacts on sensitive aquatic habitats; effects of changes in river channel structure and condition; effects of increased sedimentation; loss of wetland areas; and secondary impacts of improved accessibility to aquatic resources.
- *Soils, land use and agriculture*
Loss of productive/potentially productive land; loss of soil; impacts on subsistence farming activities; impacts in terms of loss (or changes) of access to land; and impacts in terms of likely improved regional access.

b) Social impacts

- *Social structures, functions and processes*
Resettlement of affected households; severance effects; social effects of potential improved local employment and regional economic development; social effects linked to potential impacts on sites of cultural, spiritual or religious significance; and effects on the way of life of affected communities.
- *Tourism*
Potential impact in terms of perceived increased cost to reach a destination; increase in growth and number of tourist products; consideration of apparently conflicting tourism development philosophies; and consideration of relevant local and regional tourism initiatives.
- *Cultural and historical heritage*
Potential impacts on historical heritage and cultural landscapes or views; loss or disturbance to archaeological or palaeontological sites; impacts on burial grounds and graves; and impacts on sites of spiritual and religious importance.
- *Noise*
Potential impacts associated with the construction phase; elevated noise levels of road traffic noise along the proposed route; elevated noise along alternative routes; noise at toll plazas; and possible health effects of potential noise impacts.
- *Air quality*
Potential impacts during the construction phase; impacts on local air quality in sensitive areas; cumulative effects in South Durban Industrial Basin (SDIB); impacts on local air quality along alternative routes; and possible health effects of potential air quality impacts.
- *Visual*
Potential impacts of the proposed road, high-level bridges, interchanges and toll plazas on the sense of place, especially in the greenfields sections; impacts on landscape character; impacts during construction; and impacts in terms of critical views from the surrounding areas.
- *Traffic*
Potential impacts on macro-transportation issues, particularly in the KwaZulu-Natal South Coast area; impacts of traffic diversion around toll plazas; impacts relating to public transport/taxi industry; impacts relating to the construction phase; and consideration of relevant planning initiatives relating to national, regional and municipal transport infrastructure.
- *Planning/development*
Potential impacts on regional strategic development initiatives; impacts on regional and local planning initiatives; impacts associated with the land claims process; and compatibility of the proposed project with relevant Wild Coast planning and policy initiatives.

c) Economic impacts

Potential impacts on businesses both along the route and in the region; net economic impact on road users; impacts on towns along the existing N2 and R61 that would be bypassed; impacts on towns that would be linked by the proposed new route; economic benefits of the construction and operational phases; and impacts on prices of goods and services.

As mentioned in Section 1.3, the FSR was submitted to the relevant environmental authorities during March 2007, and accepted during April 2007 (see Appendix B).

2.2.2 IMPACT ASSESSMENT PHASE

This phase comprised three stages, as follows: (a) Plan of Study for EIA; (b) Specialist studies; and (c) Integration.

a) Plan of Study for EIA

As mentioned in Section 1.3, a Plan of Study for EIA was submitted to the relevant environmental authorities during April 2007 (Appendix A). The Plan of Study for EIA included a description of the environmental issues identified during the Scoping Study; a description of the feasible alternatives to be considered; an indication of additional information required to determine the potential impacts; a description of the proposed method of identifying and determining potential impacts; a description of the proposed method of assessing the significance of potential impacts; an indication of the project phases to be considered; a description of the proposed tasks to be undertaken to facilitate compilation and submission of an EIR; a description of the proposed public consultation process to be undertaken during the Impact Assessment phase of the EIA; an indication of the stages during which the relevant environmental authorities would be consulted; and an anticipated time-frame for key tasks. DEA's acceptance of the Plan of Study for EIA during May 2007 is presented in Appendix B.

All I&APs on the project database (some 10 200 I&APs) were notified, at the end of May 2007, of the acceptance of the FSR and Plan of Study for EIA (see Appendix C). The full DEA decisions were made available on the websites www.ccaenvironmental.co.za and www.nra.co.za. Correspondence received from I&APs subsequent to I&AP notification of the DEA decisions on the FSR and Plan of Study for EIA, and prior to distribution of the Draft EIR for review and comment, are also included in Appendix C.

b) Specialist Studies

The EIA project team's review of the specialist reports compiled as part of the previous EIA process indicated the reports reflected independent specialist studies suitable for use in the current EIA, except in two cases, namely the Eastern Cape planning/development study and the visual study. New, independent studies were therefore commissioned to address these aspects in light of the deemed lack of independence of the previous environmental consultant.

A substantial amount of information on the potential impacts of the proposed project was collected by way of the previous specialist studies. Information considered accurate and adequate was not re-done as part of this EIA. However, in order to address a number of shortcomings and/or gaps identified in these studies, general and specific Terms of Reference for updated or new specialist studies were formulated in order to ensure that key shortcomings and/or gaps, and all relevant issues and concerns, are adequately addressed in the current EIA. These Terms of Reference were aimed at:

- Reviewing previous independent specialist reports, where applicable, in order to determine the continued relevance thereof;
- Updating existing information, where applicable, in light of any relevant new information and current project details; and
- Ensuring that all relevant issues/potential impacts and key shortcomings and/or gaps are adequately addressed.

Thus, new specialist reports were compiled which incorporate, as appropriate, updated information contained in the previous independent specialist reports and the results of any new investigations. Table 2.1 provides a list of the specialist studies and responsible specialists. Their full specialist reports can be found in Appendices 1 to 13 (Volumes 2 to 4), as indicated in Table 2.1. The expertise of the respective specialists and a declaration that the specialist is independent is included in each of the specialist reports.

Each specialist determined suitable methods for gathering data relevant to the identification and assessment of potential impacts as appropriate to their specific specialist field. These included fieldwork, Focus Groups with key interest groups and/or communities, interviews, computer-aided models, Geographical Information Systems (GIS), professional experience, etc., as appropriate.

The general Terms of Reference for the specialist studies required, amongst others, that each specialist provide a brief outline of the approach used in the study and that assumptions, sources of information, difficulties with predictive models (where applicable) and uncertainties about possible impacts be clearly stated. Furthermore, specialists were required to identify the potential sources of risk to the affected environment during both the construction (including initial site preparation) and operational (including maintenance) phases of the proposed project. Potential direct, indirect and cumulative impacts were identified and assessed. Specialists were also required to consider recommended mitigation (and enhancement) measures in light of their likely effectiveness and practicability. Relevant specialists were also required to attend a workshop to facilitate integration between specialist studies.

The overall adequacy of the study approaches, technical content, findings and recommendations of the specialist studies were subjected to external peer review. The external peer reviewers commissioned to undertake the relevant peer reviews are also indicated in Table 2.1. Their review reports on the draft specialist reports, and the relevant specialist's responses to the review comments, are included in each specialist report as an appendix. Curricula Vitae of the external peer review specialists are presented in Appendix D.

Table 2.1: List of specialist studies and responsible specialists, with peer review specialists and location of specialist report in the EIR

SPECIALIST STUDY	RESPONSIBLE SPECIALIST AND COMPANY / AFFILIATION	PEER REVIEW SPECIALIST	LOCATION IN EIR	
			Volume	Appendix
Vegetation and flora	Mr David Hoare David Hoare Consulting	Mr Rob Scott-Shaw Ezemvelo KwaZulu-Natal Wildlife	2	1
Fauna	Dr Bill Branch Independent Fauna Consultant	Prof P le Fras N Mouton University of Stellenbosch		2
Aquatic ecosystems	Dr Patsy Scherman/Dr Brian Colloty Coastal and Environmental Services	Dr Bill Harding DH Environmental Consulting		3
Soils, land use and agriculture	Mr Frank Merryweather Merryweather Environmental	Dr Eben Verster Pedoplan International Consultants		4
Social	Dr Neville Bews Dr Neville Bews & Associates	Mr Tony Barbour Environmental Consultant and Researcher	3	5
Tourism	Mr Martin Janse van Vuuren Grant Thornton Strategic Solutions	Ms Heidi Keyser ED/GE Tourism Solutions		6
Cultural and historical heritage	Mr Len van Schalkwyk Ethembeni Cultural Heritage	Prof Hilary Deacon Cultural Resources & Archaeology Consultant		7
Noise	Mr Adrian Jongens Jongens Keet Associates	Mr Francois Malherbe Acoustic Consulting		8

SPECIALIST STUDY	RESPONSIBLE SPECIALIST AND COMPANY / AFFILIATION	PEER REVIEW SPECIALIST	LOCATION IN EIR	
			Volume	Appendix
Air quality	Dr Mark Zunckel/Atham Ragunandan Council for Scientific and Industrial Research (CSIR)	Dr Lucian Burger Airshed Planning Professionals	4	9
Visual	Mr Menno Klapwijk Cave Klapwijk and Associates	Mr Jon Marshall Environmental Planning and Design		10
Traffic	Mr Willie Pienaar Tolplan	Mr Brian Spottiswoode Independent Consulting Engineer		11
Planning/development	Mr Kreason Naidoo Tshani Consulting	Mr Antony Meuleman Umhlaba Consulting Group		12
Economic	Prof Wessel Pienaar University of Stellenbosch	Prof Anton Brits University of South Africa (UNISA)		13

Potential impacts were assessed according to the criteria and rating scales as described in Table 2.2 below. These are primarily based on the definitions and terminology set out in the ECA EIA Regulations Guideline Document (DEAT, 1998).

Table 2.2: Assessment criteria and rating scales

CRITERIA	RATING SCALES
Intensity (The expected magnitude or size of the impact)	<ul style="list-style-type: none"> Negligible Low – where the impact affects the environment in such a way that natural, cultural and social functions and processes are minimally affected Medium – where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way; and valued, important, sensitive or vulnerable systems or communities are negatively affected High – where natural, cultural or social functions and processes are altered to the extent that it would temporarily or permanently cease; and valued, important, sensitive or vulnerable systems or communities are substantially affected
Extent (The predicted scale of the impact)	<ul style="list-style-type: none"> Site-specific Local (immediate surrounding areas) Regional (Eastern Cape or KwaZulu-Natal) National
Duration (The predicted lifetime of the impact)	<ul style="list-style-type: none"> Short-term (0 to 5 years) Medium term (6 to 15 years) Long term (16 to 30 years) – where the impact would cease after the operational life of the activity either because of natural processes or by human intervention Permanent – where mitigation either by natural process or by human intervention would not occur in such a way or in such a time span that the impact can be considered transient
Probability (The likelihood of the impact occurring)	<ul style="list-style-type: none"> Improbable – where the possibility of the impact materialising is very low Probable – where there is a good possibility (<50% chance) that the impact would occur Highly probable – where it is most likely (50-90% chance) that the impact would occur Definite – where the impact would occur regardless of any prevention measures (>90% chance of occurring)
Status of the impact	Here it is stated whether the impact is positive (a "benefit"), negative (a "cost") or neutral
Degree of confidence (The specialist's degree of confidence in the predictions and/or the information on which it is based)	<ul style="list-style-type: none"> Low Medium High

Due to the inherent difficulties involved in attaching values to potential impacts, the significance of the potential impacts was determined according to the core criteria for determining significance ratings, namely the extent, duration and intensity of the impacts to an affected party or the affected environment.

In order to ensure consistency between specialist studies, specialists were required to assign significance ratings to potential impacts before and after mitigation as per the convention for assigning significance ratings provided in Table 2.3.

Table 2.3: Convention for assigning significance ratings to potential impacts

SIGNIFICANCE RATING	DESCRIPTION (in terms of intensity, extent and duration)
VERY HIGH Significance	Impacts could be: EITHER of high intensity at a regional level and endure in the long term ; OR of high intensity at a national level in the medium term ; OR of medium intensity at a national level in the long term .
HIGH Significance	Impacts could be: EITHER of high intensity at a regional level and endure in the medium term ; OR of high intensity at a national level in the short term ; OR of medium intensity at a national level in the medium term ; OR of low intensity at a national level in the long term ; OR of high intensity at a local level in the long term ; OR of medium intensity at a regional level in the long term .
MEDIUM Significance	Impacts could be: EITHER of high intensity at a local level and endure in the medium term ; OR of medium intensity at a regional level in the medium term ; OR of high intensity at a regional level in the short term ; OR of medium intensity at a national level in the short term ; OR of medium intensity at a local level in the long term ; OR of low intensity at a national level in the medium term ; OR of low intensity at a regional level in the long term .
LOW Significance	Impacts could be: EITHER of low intensity at a regional level and endure in the medium term ; OR of low intensity at a national level in the short term ; OR of high intensity at a local level and endure in the short term ; OR of medium intensity at a regional level in the short term ; OR of low intensity at a local level in the long term ; OR of medium intensity at a local level and endure in the medium term .
VERY LOW Significance	Impacts could be: EITHER of low intensity at a local level and endure in the medium term ; OR of low intensity at a regional level and endure in the short term ; OR of low to medium intensity at a local level and endure in the short term .
NOT APPLICABLE	No impact.

Additional criteria considered which could increase the significance rating of the potential impact, if deemed justified by the specialist, were the following:

- Permanent/irreversible impacts (as distinct from long term, reversible impacts);
- Potentially substantial cumulative effects; and
- High level of risk or uncertainty, with potentially substantial negative consequences.

Criteria considered which could decrease the significance rating if deemed justified by the specialist, with motivation, included:

- Improbable impacts, where the confidence level in the prediction was high.

The relationship between the significance ratings and decision-making is broadly defined (as per the guidelines provided in the ECA EIA Regulations Guideline Document – DEAT, 1998) in Table 2.4.

Table 2.4: Relationship between significance ratings (for potential negative impacts) and decision-making [adapted from DEAT, 1998]

SIGNIFICANCE RATING	EFFECT ON DECISION-MAKING
Very Low; Low; Low to Medium	Would not have an influence on the decision to proceed with the proposed project.
Medium; Medium to High	Should influence the decision to proceed with the proposed project unless it is mitigated.
High; High to Very High; Very High	Would strongly influence the decision to proceed with the proposed project regardless of any possible mitigation.

The significance ratings are based on largely objective criteria and inform decision-making at a project level as opposed to a community level. In some instances, therefore, whilst the significance rating of potential negative impacts might have been rated as “low” or “very low”, the importance of these impacts to local communities or individuals was also considered. Where these impacts were deemed of extremely high importance to local communities or individuals, recommendations were made as to ways of avoiding or minimising these negative impacts through appropriate project design, selection of appropriate alternatives and/or management.

The following procedure was followed for assigning significance ratings to residual (after mitigation) impacts:

- Firstly, probable changes in intensity, extent and duration of the impact after mitigation (or enhancement) were considered, assuming effective implementation of mitigation (or enhancement) measures, leading to a revised significance rating; and
- Secondly, the significance rating was moderated after taking into account the likelihood of proposed mitigation (or enhancement) measures being effectively implemented. The following were considered in this regard:
 - Any potentially significant risks or uncertainties associated with the effectiveness of the mitigation (or enhancement) measures;
 - The technical and financial ability of the proponent to implement the measure; and
 - The commitment of the proponent to implementing the measure or guarantee over time that the measures would be implemented.

c) Integration

- *Compilation of the Draft EIR*
The results of the specialist studies and other relevant, available information were integrated and synthesised into a Draft EIR, with due consideration of the reporting requirements stipulated in the ECA EIA Regulations. The Draft EIR aimed to present information in a clear and understandable format, suitable for easy interpretation and review by I&APs and the relevant authorities. Mitigation measures were proposed to ameliorate negative impacts, while enhancement measures were proposed for potential benefits, and the significance of potential impacts with mitigation was provided. The report included an overall evaluation of the potential residual impacts of the proposed project and the identified feasible alternatives.

The assessment chapters dealing with potential impacts along the various sections of the proposed route (Part C of the report) focus on “key potential impacts” (also referred to as “significant” impacts – namely those rated as medium, medium-high, high, high-very high or very high significance without

mitigation) identified in the specialist reports. The assessments focus on these “key potential impacts” as they are considered important in terms of influencing the decision on the proposed project (refer to Table 2.4). This focus on “key potential impacts” has also been done to avoid a substantial reporting of very low, low or low-medium significance impacts associated with the upgrading and widening of the existing road sections.

The specialist studies have identified a number of potential construction-related impacts considered of very low significance or low significance. As such, these impacts have not been presented in Part C of the report. However, mitigation measures that have been recommended by the specialists to minimise potential negative construction-related impacts are collated in the Conclusions and Recommendations (Part E, Chapter 16). These mitigation measures will form the basis of the environmental specifications to be prescribed for the construction phase of the proposed project (as part of an Environmental Management Plan - EMP).

- **Public and authority consultation on the Draft EIR**

The relevant environmental authorities were consulted for input and guidance, and kept abreast of the status of the Impact Assessment phase on an ongoing basis. A meeting was held with DEA during June 2008 to specifically discuss the envisaged public consultation process on the Draft EIR.

The full document was sent to key authorities and I&APs. It was also placed in 42 public libraries/venues along the route of the proposed project and on the websites www.ccaenvironmental.co.za and www.nra.co.za. An Executive Summary was sent to all I&APs on the project database. The release of the Draft EIR for review and comment was announced in the same media used earlier in the EIA process and a further series of 17 Public Open Days were held during the comment period to present the results of the study to I&APs. Relevant details of the proposed project and findings of the EIA were presented on posters and maps, and the public was given the opportunity to interact directly with members of the EIA and specialist teams, and representatives of SANRAL, regarding the findings of the EIA.

As explained in Section 1.3.5, the Draft EIR was made available for public and authority review and comment from 10 November 2008 to 22 (originally 9) January 2009. The original closing date for comment was extended in response to a number of requests received from I&APs and after due consultation with DEA in this regard. The public consultation process associated with the Impact Assessment phase of the EIA is described in detail in a report prepared by NMA (see Appendix E) while a summary of the process is provided in Box 2.2 below.

BOX 2.2 ACTIVITIES UNDERTAKEN AS PART OF THE PUBLIC CONSULTATION PROCESS DURING THE IMPACT ASSESSMENT PHASE

1. Updating and supplementing of I&AP database

During the course of the Impact Assessment phase the list of I&APs has been continuously supplemented and updated. There are currently 17 003 I&APs on the database (see Volume 5: Comments Report).

2. Public notification of the availability of the Draft EIR for review and comment

In October 2008 advertisements notifying the public of the availability of the Draft EIR for review and comment were placed in the following national, regional and local newspapers: Daily Dispatch; Die Burger; East Griqualand Fever; Ilanga; Isolezwe; Isolomzi; Kokstad Advertiser; Mthatha Fever; Natal Witness; Pondo News; South Coast Fever; South Coast Herald; South Coast Sun; Sunday Sun; Sunday Times; Sunday Tribune; The Herald; The Mercury; The Rising Sun Merebank; The Rising Sun South Coast; Umafrika; and Uvo Lwethu (see examples in Volume 5). The advertisements listed the public libraries/venues where the report could be viewed and also provided details of the Public Open Days and the comment period. All I&APs on the project database (9 538 I&APs) were sent a covering letter outlining the same information contained in the newspaper advertisements together with a copy of the Executive Summary of the Draft EIR. Copies of the covering letter and Executive Summary were distributed by hand to Traditional Councils in KwaZulu-Natal and Administrative Areas in the Eastern Cape. A Basic Information Brochure was printed in English, Xhosa and Zulu and 10 000 copies were distributed to libraries, Traditional Councils and IEC Election Registration Stations along the proposed route in KwaZulu-Natal. A further 25 000 copies were distributed to libraries, public places, ward councillors and traditional leaders along the proposed route in the Eastern Cape. In December 2008 a second round of advertisements was placed in the above-mentioned newspapers informing I&APs of the extension of the Draft EIR comment period and letters were sent to all I&APs on the project database informing them of the extension of the comment period (see Volume 5).

3. Distribution of the Draft EIR

The Draft EIR was made available for public and authority review and comment from 10 November 2008 to 22 January 2009. It was placed in the following 42 public libraries/venues along the route of the proposed project: East London Central Library; Gonubie Library; Komga Library; Butterworth Public Library; Dutywa Public Library; Mthatha Public Library; Mhlonto Municipal Offices (Qumbu); Umzimvubu Municipal Offices (Libode); Tabankulu Library; Port St Johns Library; Lusikisiki Information Centre; Ingquza Hill Municipal Offices (Flagstaff); Bizana Library; Matatiela Library; Kokstad Public Library; Harding Public Library; Ezingolweni Municipal Offices (Izingolweni); Durban Central Reference Library; Isipingo Civic Library; Isipingo Beach Library; Athlone Park Public Library; Amanzimtoti Library; Kwamakhuta Library; Kingsburgh Library; Umkomaas Library; Adams Mission Library; Cragieburn Library; Scottburgh Memorial Library; Park Rynie Library; Umzinto Library; Pennington Library; Hibberdene Library; Umtentweni Library; Port Shepstone Library; Uvongo Library; Margate Library; Southbroom Library; Munster Library; and Port Edward Library. A copy of the full report was also made available on the websites www.ccaenvironmental.co.za and www.nra.co.za. The full document was also sent to 64 key authorities and stakeholders (government departments, municipal managers and regional authorities).

4. Public Open Days during Draft EIR comment period

A series of 17 Public Open Days were held during the comment period to present the results of the study to I&APs. The Public Open Days were held as follows: Town Hall, Scottburgh (17 November 2008); Civic Centre Main Hall, Amanzimtoti (18 November 2008); Town Hall, Libode (19 November 2008); Town Hall, Mthatha (20 November 2008); Nelson Mandela Museum, Qunu (21 November 2008); TRC Hall, Dutywa (24 November 2008); Town Hall, Butterworth (25 November 2008); Town Hall, Komga (26 November 2008); City Hall, East London (27 November 2008); Community Centre, Thombo (28 November 2008); Teacher Training College, Lusikisiki (1 December 2008); Junior Secondary School, Mahaha (2 December 2008); Clinic, Baleni (3 December 2008); Egret Ballroom, Wild Coast Casino (8 December 2008); Community Hall, Holy Cross (9 December 2008); Community Hall, Taleni (10 December 2008); and Town Hall, Port Shepstone (11 December 2008). A total of 3 207 people attended the series of Public Open Days (see Volume 5 for copies of the Attendance Registers and photographs taken at some of the Public Open Days).

5. Comments on the Draft EIR

A total of 7 876 written submissions were received from organisations or individuals by the closing date for comment on the Draft EIR (22 January 2009). These comments are incorporated into Comments and Responses Tables. Submissions received after the closing date for comment (late submissions) are not incorporated into the Comments and Responses Tables but are appended to Volume 5, as appropriate.

6. Discussions with relevant authorities regarding a "Biodiversity Offset agreement" and heritage aspects

Discussions were held with the relevant national authorities regarding the development of a "Biodiversity Offset agreement" and appropriate forms of "biodiversity offsets" to compensate for significant residual negative impacts on biodiversity in the greenfields sections of the proposed toll highway. A consultation meeting was also held with the South African Heritage Resources Agency (SAHRA) regarding the heritage implications of the proposed project and the scope of further required heritage inspections.

7. Notification to I&APs of availability of Final EIR

The Final EIR will be lodged, for public information, at the same public libraries/venues used for distribution of the Draft EIR. A copy of the full report will also be made available on the websites www.ccaenvironmental.co.za and www.nra.co.za. All I&APs on the current database (17 003) will be notified by post of the completion and submission of the Final EIR.

- **Compilation of the Comments Report and Final EIR**

Comments received by the closing date for comment on the Draft EIR (22 January 2009) are incorporated into Comments and Responses Tables, with responses provided by the EIA project team, relevant specialists and SANRAL, as appropriate (see Volume 5). As mentioned in Section 1.4.3, public and authority comments received after 22 January 2009 are not included in the Comments and Responses Tables but are appended to Volume 5, as appropriate. The Comments Report (Volume 5) also includes substantive additions (Addenda) to the aquatic ecosystems, social and planning/development specialist reports.

A basic analysis of the comments received during the Draft EIR comment period (10 November 2008 to 22 January 2009) reveals the following (see Appendix E for details):

- A total of 7 876 written submissions were received;
- A large number of submissions (36.2 %) are duplicates of standard objection forms;
- The majority (97.6 %) of original KwaZulu-Natal submissions raised issues related to tolling - i.e. the potential negative impacts on business, commuters, air quality, safety on alternative routes, etc. These submissions highlight the overwhelming resistance to the proposed tolling of the existing N2 on the Upper South Coast;
- On the contrary, only 8.5 % of the Eastern Cape submissions raised tolling-related issues. The Eastern Cape submissions show strong support for the proposed project and the potential employment opportunities that would arise during construction, particularly in the greenfields

sections, while concerns were raised about access across the proposed toll highway for people and cattle, fencing and its maintenance, and issues of relocation and compensation;

- The most commonly raised issues (original submissions) in the KwaZulu-Natal submissions related to opposition to tolling on the Upper South Coast (86.7 %), affordability of tolling for the poor (39.2 %), the potential impact on commuters working in the South Durban Basin (27.1 %) and perceived cross-subsidisation whereby I&APs on the Upper South Coast feel they would be paying for the construction of the proposed new road in the Eastern Cape (18.1 %); and
- The two main issues raised in the Eastern Cape submissions were that the proposed project should go ahead (77.1 %) and that local people should be given job opportunities during construction (47.1%).

Volume 1: Main Report of the Final EIR was compiled with due consideration of comments received during the comment period on the Draft EIR and responses provided by the EIA project team, relevant specialists and SANRAL, as appropriate, and additional input received from the aquatic ecosystems, social and planning/development specialists.

2.2.3 WAY FORWARD IN THE EIA PROCESS

The envisaged way forward in the EIA process is illustrated in Figure 2.2 and involves the following remaining tasks: (a) Submission of the Final EIR and public notification; (b) Compilation and submission of a Draft EMP; and (c) Record of Decision. These tasks are described in more detail below:

a) Submission of the Final EIR and public notification

The Final EIR will be submitted to DEA (and the relevant provincial environmental authorities) for consideration and decision-making. A letter will be sent to all I&APs on the project database to notify them of the submission of the Final EIR to the relevant authorities and where full copies of the report will be lodged for information purposes (refer to Section 1.5 for the list of public libraries/venues and websites where the report will be lodged). A copy of the Executive Summary of the Final EIR will be enclosed with the notification letter. The availability of the Final EIR will also be advertised in the same newspapers used to advertise the availability of the Draft EIR.

b) Compilation and submission of Draft EMP

A Draft EMP will be submitted to the relevant authorities after submission of the Final EIR. The Draft EMP would specify the required mitigation, enhancement and management measures to be implemented during the detailed design, construction and operation of the proposed toll highway. The Draft EMP would also include monitoring and review methods to measure the degree of success of the specified measures.

c) Record of Decision (RoD)

After decision-making by the competent environmental authority, a RoD will be issued to SANRAL setting out the decision, the reasons for the decision and any conditions thereof. All I&APs on the project database will be notified of the RoD and the statutory 30-day Appeal Period.

2.3 ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations apply to the EIA process:

- It has been assumed that the description of the proposed project, provided by SANRAL, is accurate. SANRAL has indicated, though, that the proposed upgrades may be amended as a result of public input, time delays, the economics of the proposed project, specific requirements from the road authorities, and during the tender process;
- This EIA does not include the description and assessment of potential borrow pits or rock quarries. If required, SANRAL or the Concessionaire shall ensure that the relevant studies and necessary permits are obtained in terms of the applicable legislation;
- The identification and description of spoil areas were not included in this study. It is envisaged that guidelines for the location, operation, maintenance, closure and management of spoil areas would be stipulated in the Draft EMP;
- Proposed bypasses to Dutywa, Butterworth and Mthatha, and proposed consolidation and formalisation of accesses, would be subject to separate environmental authorisation processes, as required;
- It is assumed that finalisation of the number and locations of required overpasses and underpasses to facilitate community access to resources, services, etc. would be determined in consultation with affected communities during the detailed design phase;
- It was deemed that the public consultation process undertaken as part of the previous EIA process was sufficient and adequate so as to not require a repeat of the initial public interaction, aimed at identifying initial issues and concerns, normally associated with the commencement of a Scoping Study. Further credence to this view was provided in the original RoD issued by DEA, which states that “the public participation process followed as part of the EIA process conformed to the requirements of the regulations” (Item 8.3). The Scoping Study was thus undertaken with an initial round of public consultation aimed at providing I&APs with an opportunity to comment on the proposed new EIA process only. The distribution of the DSR for review and comment provided I&APs with an adequate opportunity to raise any issues and concerns on the proposed project and Scoping Study;
- Several assumptions and limitations are noted in the various specialist reports (Volumes 2 to 4). The EIA project team is of the view that an adequate level of information is, however, provided in order to facilitate the required assessment of potential impacts of the proposed project and decision-making in this regard; and
- DEA has advised the EIA project team that “tolling” and the “structuring of toll fees” fall outside the ambit of the EIA Regulations and the jurisdiction of DEA and the Appeal Authority (the Minister of Environmental Affairs and Tourism). It has been indicated that to deal with the levying of toll fees as part of the EIA would be *ultra vires* and unlawful as the procedure for the declaration of a toll road and the determination of toll fees are prescribed by the SANRAL and National Roads Act, 1998 (Act No. 7 of 1998) and must take place in accordance therewith (further information on tolling of national roads is provided in Part B, Chapter 3). This EIA has, nevertheless, ensured that all issues and concerns raised by I&APs, including those relating to tolling, are identified and presented. Information on toll sections of the proposed project and a possible range of toll tariffs at associated mainline toll plazas has thus been provided. This report includes an assessment of certain potential tolling-related impacts (see Part D).

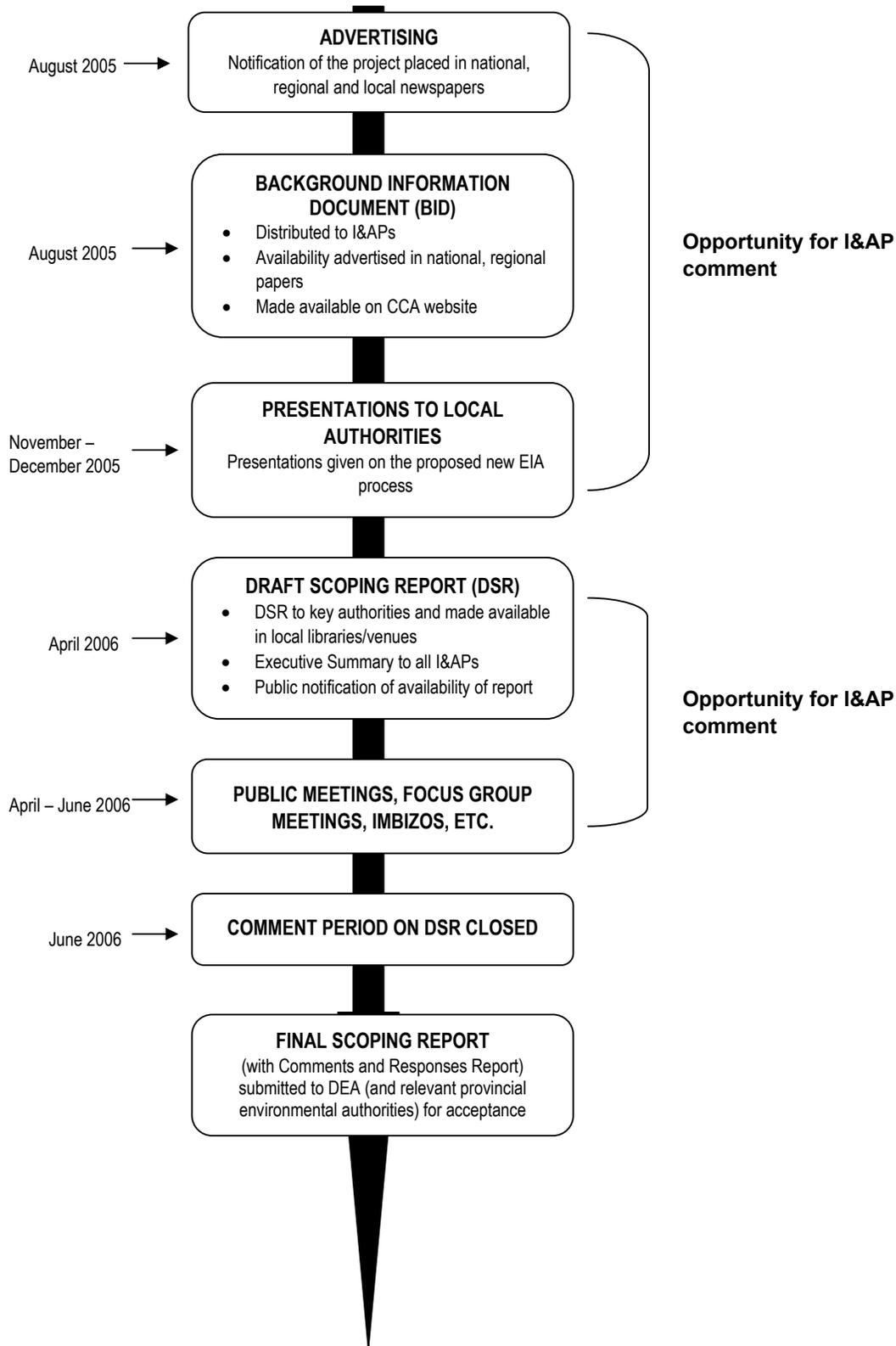


Figure 2.1: Public consultation in the Scoping Study phase

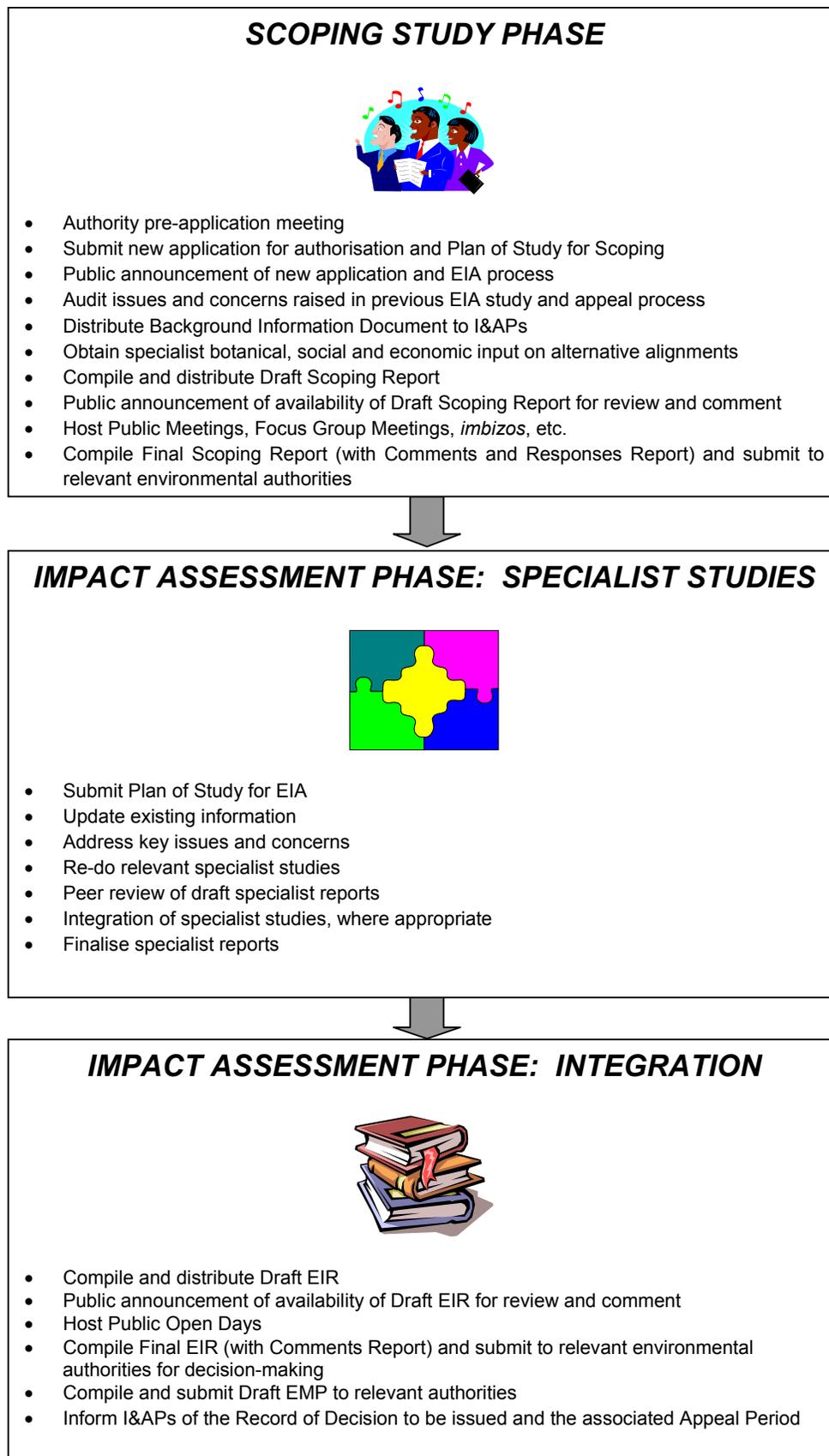


Figure 2.2: Way forward in the EIA process