

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
DRAFT BASIC ASSESSMENT REPORT

PROPOSED WATERCOURSE CROSSINGS WITHIN THE
TSITSIKAMMA COMMUNITY WIND ENERGY FACILITY,
EASTERN CAPE PROVINCE

(DEA REF No: 14/12/16/3/1/4)

AUGUST 2013

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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File Reference Number:

Application Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.

PROJECT DETAILS

DEA Reference No. : 14/12/16/3/1/4

Title : Environmental Assessment Process
Basic Assessment Report for the proposed
watercourse crossings within the Tsitsikamma
Community Wind Energy Facility, Eastern Cape
Province

Authors : Savannah Environmental
Jo-Anne Thomas

Client : Tsitsikamma Community Wind Farm (RF) (Pty) Ltd

Report Status : Draft Basic Assessment Report for Public Review

When used as a reference this report should be cited as: Savannah Environmental (2013) Final Basic Assessment Report: Proposed watercourse crossings within the Tsitsikamma Community Wind Energy Facility, Eastern Cape Province

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SUMMARY AND OVERVIEW OF THE PROPOSED PROJECT

Tsitsikamma Community Wind Farm (RF) (Pty) Ltd (TCWF) obtained environmental authorisation for the Tsitsikamma Community Wind Energy Facility (DEA reference: 12/12/20/2209) on a site located approximately 30 km west of Humansdorp, in March 2012. This project was awarded preferred bidder status under the Department of Energy (DoE) Renewable Energy Independent Power Producer Programme (REIPPP) in May 2012. The authorisation for the wind energy facility included the construction of infrastructure within 32m of a watercourse, but did not include the infilling or removal of material from these watercourses. It has now been determined through the final design process for the facility that this may be required at six (6) locations within the wind energy facility site. These sites are located on Portion 4 and 5 of Farm Wittekleibosch No.787 (refer to Figure 1).

In terms of the Environmental Impact Assessment (EIA) Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998), TCWF requires authorisation for this activity. In terms of sections 24 and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations of GN R543 – R546 a Basic Assessment process is required to be undertaken for the proposed project. The following listed activity is applicable:

Number and date of the relevant notice	Activity No (s) (in terms of the relevant notice)	Description of each listed activity as per project description
GN 544, 18 June 2010	18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from: (i) a watercourse; <i>Six (6) Watercourse crossings within the authorised Tsitsikamma Community Wind Energy Facility could require the removal or moving of soil more than 5 cubic metres</i>

The nature and extent of the proposed project are explored in more detail in this Basic Assessment Report. This report has been compiled in accordance with the requirements of the EIA Regulations and includes details of the activity description; the site, area and property description; the public participation process; the impact assessment; and the recommendations of the Environmental Assessment Practitioner.

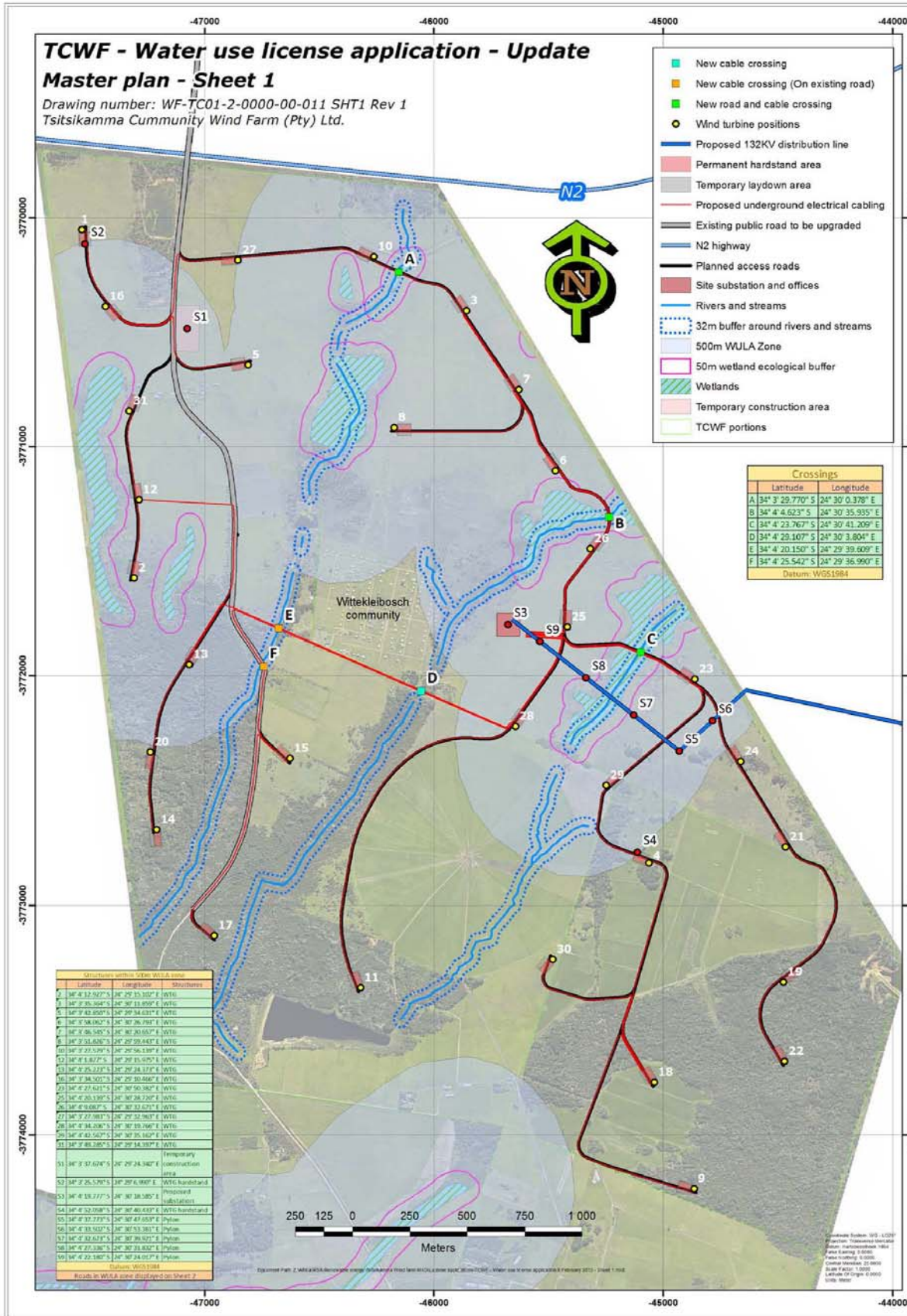


Figure 1: Watercourse crossings within the Tsitsikamma Community Wind Energy Facility site

1.1. Details of Environmental Assessment Practitioner and Expertise to conduct the Basic Assessment

Savannah Environmental has been appointed as the independent environmental consultant to undertake the Environmental Basic Assessment to identify and assess the potential environmental impacts associated with the proposed watercourse crossings. Neither Savannah Environmental nor any of its specialist sub-consultants on this project are subsidiaries of or are affiliated to TCWF. Furthermore, Savannah Environmental does not have any interests in secondary developments that may arise out of the authorisation of the proposed project.

Savannah Environmental is a specialist environmental consulting company providing holistic environmental management services, including environmental impact assessments and planning to ensure compliance and evaluate the risk of development; and the development and implementation of environmental management tools. Savannah Environmental benefits from the pooled resources, diverse skills and experience in the environmental field held by its team.

The Savannah Environmental team has considerable experience in environmental impact assessments and environmental management, and have been actively involved in undertaking environmental studies, for a wide variety of projects throughout South Africa, including those associated with electricity generation. Savannah Environmental was also the EAP for the authorised Tsitsikamma Community Wind Energy Facility.

Jo-Anne Thomas, the principle Environmental Assessment practitioner (EAP) for this project, is a registered Professional Natural Scientist and holds a Master of Science degree. She has over 14 years experience consulting in the environmental field. Her key focus is on strategic environmental assessment and advice; management and co-ordination of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; compliance reporting; the identification of environmental management solutions and mitigation/risk minimising measures; and strategy and guideline development. She is currently responsible for the project management of EIAs for several renewable energy projects across the country.

BASIC ASSESSMENT REPORT FOR REVIEW

This Basic Assessment Report has been prepared by Savannah Environmental in order to assess the potential environmental impacts associated with the watercourse crossings within the Tsitsikamma Community wind Energy Facility. This process is being undertaken in support of an application for Environmental Authorisation in terms of the National Environmental Management Act (NEMA; Act 107 of 1998). The report has been made available for public review at the following locations:

- » Clarkson Library
- » Kareedouw Library
- » www.savannahsa.com

The 30-day period for review is from the **23 August – 23 September 2013**.

Please contact the person below in order to obtain further information, register on the project database, or submit written comment:

Shawn Johnston of Sustainable Futures ZA

PO Box 749, Rondebosch, Cape Town, 7701

Tel: 083 325 9965

Fax: 086 510 2537

Email: swjohnston@mweb.co.za

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section? NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

Tsitsikamma Community Wind Farm (RF) (Pty) Ltd (TCWF) obtained environmental authorisation for the Tsitsikamma Community Wind Energy Facility (DEA reference: 12/12/20/2209) on a site located approximately 30 km west of Humansdorp, in March 2012. This project was awarded preferred bidder status under the Department of Energy (DoE) Renewable Energy Independent Power Producer Programme (REIPPP) in May 2012. The authorisation for the wind energy facility included the construction of infrastructure within 32m of a watercourse, but did not include the infilling or removal of material from these watercourses. It has now been determined through the final design process for the facility that this may be required at six (6) locations within the wind energy facility site. These sites are located on Portion 4 and 5 of Farm Wittekleibosch No.787 (refer to Figure 1).

The following is relevant in terms of the listed activity applied for:

1. Six (6) Watercourse crossings within the authorised Tsitsikamma Community Wind Energy Facility could require the removal or moving of soil more than 5 cubic metres. This activity requires authorisation in terms of GNR 544, Activity 18.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R.544, 545 and 546	Description of project activity
<p><u>GN 544, 18 June 2010, activity 18:</u> <i>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from:</i> (i) (i) a watercourse;</p>	<p><i>Six (6) Watercourse crossings within the authorised Tsitsikamma Community Wind Energy Facility could require the removal or moving of soil more than 5 cubic metres</i></p>

2. FEASIBLE AND REASONABLE ALTERNATIVES

“*alternatives*”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Regulation 22(2) (h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

The proposed watercourse crossings fall within the footprint of the approved Tsitsikamma Community Wind Energy facility development site. These crossings have been sited in accordance with the technical considerations associated with this facility. No feasible alternative sites have been identified for the proposed watercourse crossings.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Crossing A	34° 3' 29.770" S	24° 30' 0.378" E
Crossing B	34° 4' 4.623" S	24° 30' 35.935" E
Crossing C	34° 4' 23.767" S	24° 30' 41.209" E
Crossing D	34° 4' 29.107" S	24° 30' 3.804" E
Crossing E	34° 4' 20.150" S	24° 29' 39.609" E
Crossing F	34° 4' 25.542" S	24° 29' 36.990" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

b) Layout alternatives

Not applicable.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Not applicable.

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

No other alternatives are applicable.

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

e) No-go alternative

This is the option of not undertaking the activity. This option is assessed as the “no go alternative” in this Basic Assessment Report.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative A1¹ (preferred activity alternative)

Size of the activity:

m ²

Description	Size of Activity	Description
Crossing A	70m ²	New road and cable crossing
Crossing B	93m ²	New road and cable crossing
Crossing C	57m ²	New road and cable crossing
Crossing D	N/A	New cable crossing (underground cable only)
Crossing E	N/A	Existing road & culvert, new cable crossing
Crossing F	183m ²	New underground cable, upgrade to existing road and culvert

Alternative A2 (if any)

m ²
m ²

Alternative A3 (if any)

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Length of the activity:

m
m

Alternative A2 (if any)

Alternative A3 (if any)

¹ “Alternative A.” refer to activity, process, technology or other alternatives.

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur)

Alternative:

Alternative A1 (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Size of servitude:

	m ²
	m ²

4. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

YES	
	m

Describe the type of access road planned:

Existing roads as well as those approved as part of the Tsitsikamma Wind Energy facility will be utilised to access the areas proposed for the watercourse crossings. This includes the National roads (N2), Provincial roads (R102 and R62) and many gravel farm roads.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site (**Refer to Figure 1**).

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 km, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and

- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

A locality map has been included as part of this report as **Appendix A**.

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

A layout plan has been included as part of this report within **Appendix A**.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

A sensitivity map has been included as part of this report within **Appendix A**.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Site photographs have been included as part of this report within **Appendix B**.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

A facility illustration has been included as part of this report within **Appendix C**.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES	<input checked="" type="checkbox"/>	Please explain
The property on which the proposed activity is to be undertaken is zoned for the construction of a wind energy facility and associated infrastructure. In addition, a Water Use License is in place for the proposed watercourse crossings.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	<input checked="" type="checkbox"/>	Please explain
The PSDF for Eastern Cape Province aims at 'building a prosperous, sustainable growing provincial economy to reduce poverty and improve social development'. The proposed project will address such aspects of the province since it will support a 100MW wind energy facility which will have a positive economic impact at a local and regional scale.			
(b) Urban edge / Edge of Built environment for the area		NO	Please explain
The project area is approximately 30 km west of the town Humansdorp and to the east of the Tsitsikamma river in a rural area. The site is outside of the urban edge and will not impact on the urban edge in any way.			

<p>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</p>	<p>[REDACTED]</p>	<p>NO</p>	<p>Please explain</p>
<p>The project will not compromise the IDP; it will assist it in reaching its objectives as the IDP in the Koukamma Local Municipality aims to ensure that all formal households have access to reliable and affordable electricity as well as streetlights, which supports safety and access for emergency services by 2012. The proposed project will address such aspects since it will support a 100MW wind energy facility which will have a positive impact on electricity supply at a local and regional scale.</p>			
<p>(d) Approved Structure Plan of the Municipality</p>	<p>YES</p>	<p>[REDACTED]</p>	<p>Please explain</p>
<p>The municipality is aware of the approved Tsitsikamma Community Wind Energy Facility project. The proposed watercourse crossings supports this approved project and does not compromise the structure of the municipal plan.</p>			
<p>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</p>	<p>[REDACTED]</p>	<p>NO</p>	<p>Please explain</p>
<p>There is no EMF for the study area. The relevant conservation plan is the Eastern Cape Biodiversity Conservation Plan. The Biodiversity Conservation Plan aims to protect indigenous natural vegetation. The layout of the wind energy facility and associated infrastructure (including the watercourse crossings) avoids sensitive areas (including natural vegetation) as far as possible. Therefore, the proposed project will not compromise the integrity of the existing environmental management priorities for the area.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>	<p>[REDACTED]</p>	<p>NO</p>	<p>Please explain</p>
<p>Not applicable</p>			
<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	<p>[REDACTED]</p>	<p>NO</p>	<p>Please explain</p>
<p>The main purpose of the watercourse crossings is to provide a means for the roads within the wind energy facility to be constructed across the identified watercourses. This project is not specifically considered within the existing approved SDF.</p>			
<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	<p>YES</p>	<p>[REDACTED]</p>	<p>Please explain</p>
<p>The proposed project will support the approved Tsitsikamma Community Wind Energy facility. As the wind energy facility is a community owned project, the proposed project will benefit the local community.</p>			

<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	<input type="checkbox"/>	<p>NO</p>	<p>Please explain</p>
<p>All the services needed for the project have been adequately provided for and should any need for other services arise the relevant authority will be communicated with.</p>			
<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	<input type="checkbox"/>	<p>NO</p>	<p>Please explain</p>
<p>The proposed project is to be developed by a private developer (i.e. TCWF) and not the municipality. It therefore does not fall within the infrastructure planning of the municipality. The project will not have any implications for the municipality.</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	<p>YES</p>	<input type="checkbox"/>	<p>Please explain</p>
<p>Within a policy framework, the development of renewable energy in South Africa is supported by the White Paper on Renewable Energy (November 2003). In order to meet the long-term goal of a sustainable renewable energy industry, a goal of 17,8GW of renewables by 2030 has been set by the Department of Energy (DoE) within the Integrated Resource Plan (IRP) 2010. This energy will be produced mainly from wind, solar, biomass, and small-scale hydro (with wind and solar comprising the bulk of the power generation capacity). This amounts to ~42% of all new power generation being derived from renewable energy forms by 2030. This is however dependent on the assumed learning rates and associated cost reductions for renewable options.</p> <p>The Tsitsikamma Community Wind Energy Facility has been selected as a preferred bidder for wind energy. The proposed project will support this wind energy facility.</p>			
<p>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</p>	<p>YES</p>	<input type="checkbox"/>	<p>Please explain</p>
<p>The Tsitsikamma Community Wind Energy Facility is an authorised facility. The location of this facility is therefore fixed. The proposed watercourse crossings fall within the footprint of the approved Tsitsikamma Community Wind Energy facility development site. These crossings have been sited in accordance with the technical considerations associated with this facility.</p>			
<p>9. Is the development the best practicable environmental option for this land/site?</p>	<p>YES</p>	<input type="checkbox"/>	<p>Please explain</p>
<p>The Tsitsikamma Community Wind Energy Facility is an authorised facility. The location of this facility is therefore fixed. The proposed watercourse crossings fall within the footprint of the approved Tsitsikamma Community Wind Energy facility development site. These crossings have been sited in accordance with the technical considerations associated with this facility.</p>			
<p>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</p>	<p>YES</p>	<input type="checkbox"/>	<p>Please explain</p>
<p>The proposed project will support the Tsitsikamma Wind Energy Facility thereby facilitating the</p>			

generation of renewable energy. This will have a positive impact at a local, regional and national level.		
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Please explain
The proposed watercourse crossings are associated with an approved wind energy facility. Any other similar activities in the area would depend on the feasibility of developing additional wind energy facilities in this area (thus requiring watercourse crossings).		
12. Will any person's rights be negatively affected by the proposed activity/ies?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Please explain
No landowners outside of the approved Tsitsikamma Community Wind Energy Facility will be affected by the proposed watercourse crossings. The land on which the project falls is owned by the community who also form part of the development company. Therefore, no person's rights will be affected by the proposed activity.		
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Please explain
The project will not undermine the urban edge in any way as the site is located in an agricultural area (i.e. outside of the urban edge).		
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Please explain
As the 17 strategic Integrated Projects promotes balanced economic development, Unlock economic opportunities, promote mineral extraction and beneficiation, address socio-economic needs, promote job creation and help integrate human settlements and economic development. The development of the watercourse crossings will assist in promoting balanced economic development, economic opportunity, assist in achieving socio-economic needs, promote jobs through job creation and assist with economic development. The proposed wind energy facility (and the associated watercourse crossings) will give people living in the area opportunities to gain employment which would address the socio economic needs of individuals. When operational, the wind energy facility will provide an increase of electricity supply in the Eastern Cape which will enable rural areas without electricity with power, this will increase and balance economic development, which in effect will address the socio-economic needs of the people in the area.		
15. What will the benefits be to society in general and to the local communities?	Please explain	
The proposed project will support the approved Tsitsikamma Community Wind Energy facility, which will provide renewable energy into the national grid, thus benefitting society in general. As the wind energy facility is a community owned project, the proposed project will benefit the local community.		
16. Any other need and desirability considerations related to the proposed activity?	Please explain	
None.		
17. How does the project fit into the National Development Plan for 2030?	Please explain	
By 2030 South Africa aims to reduce carbon emissions, promote economic development and increase the GDP. To achieve this, the Province has aimed to improve Infrastructure and Basic Services; Socio-economic Development; Institutional Transformation; Good Governance and Public Participation; Financial viability and Management. This wind energy facility within which the activity is proposed will assist in reducing the carbon footprint, as it will be generating renewable energy, and it will facilitating the infrastructure growth in the area through		

employment and increasing infrastructure.

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

According to Section 23 of NEMA, appropriate environmental management tools must be utilised to ensure the integrated environmental management of activities. The potential impacts of the proposed project and the alternatives have been investigated to avoid impacts and minimise the possible harm on the environment. Furthermore, socio-economic conditions and cultural heritage were also taken into consideration.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

Section 2 of NEMA states that environmental management must place people and their needs at the forefront, and serve their physical, psychological, developmental, cultural and social interests equitably. These principles of NEMA include the following:

- » Development must be sustainable;
- » Pollution must be avoided or minimised and remedied;
- » Waste must be avoided or minimised, reused or recycled;
- » Negative impacts must be minimised; and
- » Responsibility for the environmental health and safety consequences of a policy, project, product or service exists throughout its life cycle.

The principles of NEMA have been considered in this assessment through compliance with the requirements of the relevant legislation in undertaking the assessment of potential impacts, as well as through the implementation of the principle of sustainable development where appropriate mitigation measures have been recommended for impacts which cannot be avoided. In addition, the successful implementation and appropriate management of this proposed project will aid in achieving the principle of minimisation of pollution and environmental degradation.

This process has been undertaken in a transparent manner and all effort has been made to involve interested and affected parties, stakeholders and relevant Organs of State such that an informed decision regarding the project can be made by the Regulating Authority.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable. Refer to Table 1 overleaf.

Table 1: Applicable Legislation

Title of the Legislation /Policy/Guideline	Application to the project	Relevant Authority	Date
National Environmental Management Act (Act No 107 of 1998)	<p>EIA Regulations have been promulgated in terms of Chapter 5. Activities which may not commence without an environmental authorisation are identified within these Regulations.</p> <p>In terms of Section 24(1) of NEMA, the potential impact on the environment associated with these listed activities must be considered, investigated, assessed and reported on to the competent authority (the decision-maker) charged by NEMA with granting of the relevant environmental authorisation.</p> <p>In terms of GNR 544 of June 2010, a scoping and EIA process is required to be undertaken for the proposed project</p>	<p>National Department of Environmental Affairs – lead authority.</p> <p>Provincial Environmental Department - commenting authority.</p>	1998
National Environmental Management Act (Act No 107 of 1998)	<p>In terms of the Duty of Care provision in S28(1) the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to ensure that any pollution or degradation of the environment associated with this project is avoided, stopped or minimised.</p> <p>In terms of NEMA, it has become the legal duty of a project proponent to consider a project holistically, and to consider the cumulative effect of a variety of impacts.</p>	Department of Environmental Affairs (as regulator of NEMA).	1998
National Environmental Management: Waste Act (Act No 59 of 2008)	The purpose of this Act is to reform the law regulating waste management in order to protect health and the environment by providing for the licensing and control of waste management activities. To set standards for waste management on the project.	Provincial Environmental Authorities.	2008
National Water Act (Act No 36 of 1998)	In terms of Section 19, the project proponent must ensure that reasonable measures are taken throughout the life cycle of this	Department of Water Affairs (as regulator of NWA)	1998

Title of the Legislation /Policy/Guideline	Application to the project	Relevant Authority	Date
	project to prevent and remedy the effects of pollution to water resources from occurring, continuing or recurring.		
National Heritage Resources Act (Act No 25 of 1999)	<p>Section 38 states that Heritage Impact Assessments (HIAs) are required for certain kinds of development including</p> <ul style="list-style-type: none"> » the construction of a road, power line, pipeline, canal or other similar linear development or barrier exceeding 300 m in length; » any development or other activity which will change the character of a site exceeding 5 000 m² in extent. <p>The relevant Heritage Resources Authority must be notified of developments such as linear developments (such as roads and power lines), bridges exceeding 50 m, or any development or other activity which will change the character of a site exceeding 5 000 m²; or the re-zoning of a site exceeding 10 000 m² in extent. This notification must be provided in the early stages of initiating that development, and details regarding the location, nature and extent of the proposed development must be provided.</p> <p>Standalone HIAs are not required where an EIA is carried out as long as the EIA contains an adequate HIA component that fulfils the provisions of Section 38. In such cases only those components not addressed by the EIA should be covered by the heritage component.</p>	South African Heritage Resources Agency (SAHRA) – National heritage sites (grade 1 sites) as well as all historic graves and human remains. Eastern Cape Provincial Heritage Resources Agency	1999
Nature Conservation Ordinance (Act 19 of 1974)	Article 63 prohibits the picking of certain flora (including cutting, chopping, taking, gathering, uprooting, damaging or destroying). Schedule 3 lists endangered flora and Schedule 4 lists protected flora, many schedule 4 plants occur in the general area of the	National Department of Environmental Affairs	1974


Title of the Legislation /Policy/Guideline	Application to the project	Relevant Authority	Date
	<p>site.</p> <p>An article 26 to 47 regulates the use of wild animals.</p>		
<p>National Environmental Management: Biodiversity Act (Act No 10 of 2004)</p>	<p>In terms of Section 57, the Minister of Environmental Affairs has published a list of critically endangered, endangered, vulnerable and protected species in GNR 151 in Government Gazette 29657 of 23 February 2007 and the regulations associated therewith in GNR 152 in GG29657 of 23 February 2007, which came into effect on 1 June 2007.</p> <p>In terms of GNR 152 of 23 February 2007: Regulations relating to listed threatened and protected species, the relevant specialists must be employed during the EIA phase of the project to incorporate the legal provisions as well as the regulations associated with listed threatened and protected species (GNR 152) into specialist reports in order to identify permitting requirements at an early stage of the EIA phase.</p> <p>the developer has a responsibility for:</p> <ul style="list-style-type: none"> » The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA regulations). » Promote the application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all development within the area are in line with ecological sustainable development and protection of biodiversity. » Limit further loss of biodiversity and conserve endangered ecosystems. 	<p>National Department of Environmental Affairs</p>	<p>2004</p>

Title of the Legislation /Policy/Guideline	Application to the project	Relevant Authority	Date
<p>Conservation of Agricultural Resources Act (Act No 43 of 1983)</p>	<p>Regulation 15 of GNR1048 provides for the declaration of weeds and invader plants, and these are set out in Table 3 of GNR1048. Declared Weeds and Invaders in South Africa are categorised according to one of the following categories:</p> <ul style="list-style-type: none"> » <u>Category 1 plants</u>: are prohibited and must be controlled. » <u>Category 2 plants</u>: (commercially used plants) may be grown in demarcated areas providing that there is a permit and that steps are taken to prevent their spread. » <u>Category 3 plants</u>: (ornamentally used plants) may no longer be planted; existing plants may remain, as long as all reasonable steps are taken to prevent the spreading thereof, except within the floodline of watercourses and wetlands. <p>These regulations provide that Category 1, 2 and 3 plants must not occur on land and that such plants must be controlled by the methods set out in Regulation 15E.</p>	<p>Department of Agriculture, Forestry and Fisheries (DAFF)</p>	<p>1983</p>
<p>National Veld and Forest Fire Act (Act 101 of 1998)</p>	<p>In terms of Section 21 the applicant would be obliged to burn firebreaks to ensure that should a veld fire occur on the property, that it does not spread to adjoining land.</p> <p>In terms of section 12 the applicant must ensure that the firebreak is wide and long enough to have a reasonable chance of preventing the fire from spreading, not causing erosion, and is reasonably free of inflammable material.</p> <p>In terms of section 17, the applicant must have such equipment, protective clothing and trained personnel for extinguishing fires.</p>	<p>Department of Water Affairs</p>	<p>1998</p>

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	
<u>Not determined at this stage</u>	

If YES, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

The solid waste will be disposed of at a licensed facility by a suitably qualified contractor.

Where will the construction solid waste be disposed of (describe)?

The solid waste will be disposed of at the closest registered waste facility

Will the activity produce solid waste during its operational phase?

	NO

If YES, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

	NO
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If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

	NO
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If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

	NO
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If YES, what estimated quantity will be produced per month?

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Will the activity produce any effluent that will be treated and/or disposed of on site?

	NO
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If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

	NO
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If YES, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:	Cell:		
E-mail:	Fax:		

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Not applicable.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

	NO
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If YES, is it controlled by any legislation of any sphere of government?

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If YES, the applicant must consult with the competent authority to determine whether it

is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

Minor dust impacts may occur during the construction of the watercourse crossings, but will not exceed acceptable limits.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

	NO
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If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?

	NO

If YES, is it controlled by any legislation of any sphere of government?

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the noise in terms of type and level:

Noise may be generated by vehicular movement during construction, but would not exceed acceptable limits.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

N/A

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES	
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If YES, please provide proof that the application has been submitted to the Department of Water Affairs. **Refer to Appendix D.**

14. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

Not applicable.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Not applicable.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

- For linear activities (pipelines, etc.) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

- Paragraphs 1 - 6 below must be completed for each alternative.

- Has a specialist been consulted to assist with the completion of this section?

	NO
--	----

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/ physical address:

Province	Eastern Cape Province
District Municipality	Cacadu
Local Municipality	Koukamma Local Municipality
Ward Number(s)	Ward 2
Farm name and number	Farm Wittekleibosch No 787
Portion number	Portion 4 and 5
SG Code	C03400000000078700004 C03400000000078700005

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Agriculture (crop production for cattle feed / grazing, some subsistence crops (small areas) for the community)

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

	NO
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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50	–	1:20	–	1:15	–	1:10	–	1:7,5	–	Steeper than 1:5
	1:20		1:15		1:10		1:7,5		1:5		

Alternative S2 (if any):

Flat	1:50	–	1:20	–	1:15	–	1:10	–	1:7,5	–	Steeper than 1:5
	1:20		1:15		1:10		1:7,5		1:5		

Alternative S3 (if any):

Flat	1:50	–	1:20	–	1:15	–	1:10	–	1:7,5	–	Steeper than 1:5
	1:20		1:15		1:10		1:7,5		1:5		

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	YES	YES	YES
Dolomite, sinkhole or doline areas	NO	NO	NO
Seasonally wet soils (often close to water bodies)	YES	YES	YES
Unstable rocky slopes or steep slopes with loose soil	NO	YES	YES
Dispersive soils (soils that dissolve in water)	NO	YES	YES

Soils with high clay content (clay fraction more than 40%)	<input type="checkbox"/>	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	<input type="checkbox"/>	NO	YES	NO	YES	NO
An area sensitive to erosion	<input type="checkbox"/>	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	<input type="checkbox"/>	NO	<input type="checkbox"/>
Non-Perennial River	YES	<input type="checkbox"/>	<input type="checkbox"/>
Permanent Wetland	<input type="checkbox"/>	NO	<input type="checkbox"/>
Seasonal Wetland	YES	<input type="checkbox"/>	<input type="checkbox"/>
Artificial Wetland	<input type="checkbox"/>	NO	<input type="checkbox"/>
Estuarine / Lagoonal wetland	<input type="checkbox"/>	NO	<input type="checkbox"/>

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

The proposed project footprint is situated in the Fish to Tsitsikamma Water Management Area (WMA), i.e. WMA15 across sub-quadernary catchments K80E (Tsitsikamma River) and K80F (Loopspruit, Slang, Klippedrift Rivers). Although these main rivers do not traverse the proposed project footprint, numerous non-perennial streams, which are tributaries of the Tsitsikamma River, flow through the project footprint in a south-westerly direction, and then flow into the Tsitsikamma River (to the west of project footprint). Several non-perennial streams also flow in a south-easterly direction into the Klipdrift River and Klipdrift Dam (to the south-west of the proposed project footprint). Numerous dams are situated on these streams. These non-perennial streams on site flow into these two main river systems that lead to the Indian Ocean via the Tsitsikamma and Klipdrif estuaries.



Photograph 1: Typical stream found within the central portion of the development showing bank incision and high alien plant cover in the background

A large portion of the study area contains wetlands. These wetland areas appear to function for a very short period, under extremely high rainfall conditions. This is also reflected in the vegetation as the dominant species were ubiquitous to sandy soils throughout the region (*Elegia* species) or terrestrial bulb species (e.g. *Watsonia*) indicating that these regions are dry from long periods. These wetland areas would therefore be classified as un-channelled valley bottom wetlands. Due to natural channel morphology and the current state of the wetlands most of these areas all the wetlands having a high degree of disturbance.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building
Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Agriculture

If any of the boxes marked with an "^N" are ticked, how will this impact / be impacted upon by the proposed activity?

N/A

If any of the boxes marked with an "^{AN}" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

If any of the boxes marked with an "^H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)		NO
Core area of a protected area?		NO
Buffer area of a protected area?		NO
Planned expansion area of an existing protected area?		NO
Existing offset area associated with a previous Environmental Authorisation?		NO
Buffer area of the SKA?		NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:		NO

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

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Will any building or structure older than 60 years be affected in any way?		NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

The Municipality has the second lowest unemployment rate in the District, namely 12% (4 527 people). This figure excludes economically active people that are not searching for work. The total percentage of people not working, although they are economically active persons, is estimated at 20.11 % (IDP, 2012).

Economic profile of local municipality:

Koukamma Municipality, an area of 3 575.17 km², is a sparsely populated region compared to the Eastern Cape Province. The population of Koukamma Local Municipality is estimated at approximately 45 247 in 2010 (Global Insight 2010). In terms of population groups Africans comprise 13 501, whites 4 129, coloureds 27 585 whilst Asians are 32.

Koukamma Municipality is suited for agricultural production with an annual rainfall of close to 800ml, heavy loam and sandy and dark rich soils with clayey particles. Its good weather conditions create and sustain conducive environment for a variety of agribusiness enterprise. Its key commodities include dairy, ferns, protea and indigenous plants along the coastal belt including tree and marine harvesting. It also consists of massive and competitive fruit production and medical plants in the Langkloof area. Commercial agriculture accounts for a significant contribution in terms of local economy or employment creation, which was projected at approximately 44% in 2007.

Other strategic economic pillars include:

- Forestry and timber - contributes to the domestic economy through job creation, HR development and capital investment and also in global economy through export sales.
- Renewable Energy - Koukamma is a windy area especially in the Tsitsikamma community and therefore provides an opportunity for renewable energy exploration and capital investment. This local strength has attracted both the domestic and internal investors in the exploration and capital investment of wind-farm. The estimated R2 billion investment will contribute to infrastructure capitalisation, millennium goals of clean environment and universal emissions protocols, local employment creation, use of productive land by local owners.
- Fisheries - Along its coastal belt, a fishery catchment zone exists and adjacent to the stunning and classic golf-estate which is also in close proximity to the tourism attraction site in Eersteriver. It offers an economic opportunity to the locals in terms of employment creation and also in terms of regional economic connection with the neighbouring communities towards the Western Cape Region and towards the far Eastern Cape Region.

Level of education:

The Municipality is facing distinct challenges in terms of the education scenario in the Municipality. These challenges should be viewed in the light of the current and future employment market. Firstly, a very small percentage of the community has completed Grade 12 (7.4%), with 6.2% of the population with no schooling whatsoever (2 125 people).

Secondly, the education sector is faced with continued poor performance and pass rates in schools, coupled with high drop out rates. The Municipality houses 32 schools with a total number of 6 393 school-going children. This is in contrast to the total number of children of a school-going age reflected in the Census information, which cited 9 860 in the Municipality: 5 – 19 years (64% of school-going age children). Although some of these children could be attending schools outside of the Municipality, it will be worth investigating the number of school-going age children that are not attending school.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	±R2.8 billion (ZA)
What is the expected yearly income that will be generated by or as a result of the activity?	±R400 million (ZA)
Will the activity contribute to service infrastructure?	NO
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	76
What is the expected value of the employment opportunities during the development and construction phase?	R28 million/ job created
What percentage of this will accrue to previously disadvantaged individuals?	76%
How many permanent new employment opportunities will be created during the operational phase of the activity?	11
What is the expected current value of the employment opportunities during the first 10 years?	R92 million/Job
What percentage of this will accrue to previously disadvantaged individuals?	67%

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the

ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc.).
Natural	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	5%	Portions of the land that were not suitable for plantations or planted pasture, most likely due to seasonal inundation and/or small rocky outcrops. Natural remaining vegetation is, however, relatively invaded and displaced by invasive trees, mostly Australian <i>Acacia</i> species.
Degraded (includes areas heavily invaded by alien plants)	30 %	Very dense infestations of Australian <i>Acacia</i> species, <i>Hakea</i> sp, <i>Eucalyptus</i> sp. Also <i>Pinus</i> sp and <i>Solanum</i> sp and other less serious invasives.
Transformed (includes cultivation, dams, urban, plantation, roads, etc.)	65%	Transformed to either cultivated lands or managed by repeated long-term mowing to create grazing lands. Some of the grazing lands are being invaded by the indigenous <i>Seriphium plumosum</i> (bankrupt bush), and gradually by the woody invasives present in the area

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc.).
		where the grazing is not maintained.

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)		Estuary	Coastline			
	Endangered							
	Vulnerable							
	Least Threatened							
		YES			NO		NO	

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The main vegetation type within the development site, as described by Mucina and Rutherford, is Tsitsikamma Sandstone Fynbos (Vulnerable). The vegetation of the area consists of cultivated areas, fynbos almost completely transformed to grazing lands with Kikuyu grass, several streams, seepage areas and small dams as well as dense thickets of alien invasive trees and shrubs. Large portions of the project area are covered with moderate to very dense invasive alien shrubs and trees.

Lack of pristine terrestrial habitat in the study area, particularly due to loss of natural vegetation caused by transformation of land to agricultural land and overgrazing of domestic livestock, has impacted on terrestrial fauna. Despite this, a few small and medium sized animals occur in the area. Reptile and amphibians include many species of frogs, lizards and snakes. No animal species of Special Concern are likely to be present due to the disturbance on the site.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Die Burger Newspaper The Herald newspaper	
Date published	26 August 2013	
Site notice position	Latitude	Longitude
	34°05'14"S	24°30'19"E
Date placed	14 August 2013	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2)(e) and 54(7) of GN R.543.

The public consultation process has included the publishing of notices regarding the proposed project as well as the distribution of notification letters to identified I&APs. Affected and neighbouring landowners will be consulted through one-on-one consultation sessions and via telephone.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R543:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Mr Sabelo Nkuhlu	Kou-Kamma Local Municipality Kareedouw	Tel: (042) 288 7247 / 7210 Fax: (042) 288 0090 E-mail: nkuhlus@koukamma.gov.za
Ms. Mr M Zote	Eastern Cape Provincial Heritage Resources Agency (ECPHRA)	Tel: (043) 642 2811 Fax: (043) 642 2811 E-Mail: info@ecphra.org.za
Mr. T Pillay	Municipal Manger, Cacadu District Municipality	tpillay@cacadu.co.za
Mr J Van Zyl	Eskom Transmission - Southern Grid	Johan.vZyl@eskom.co.za
Ms B Morgan	WESSA Conservation Officer	morgan@wessaep.co.za
Mr A Struwig	Department of Economic Development and Environmental Affairs	andries.struwig@deaet.ecape.gov.za
Mr W Erlank	Regional Manager: West Eastern Cape Parks	wayne.erlank@ecparks.co.za

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

No comments have been received to date on the proposed project. All comments and responses will be included in **Appendix E** of the final Basic Assessment Report.

Summary of main issues raised by I&APs	Summary of response from EAP

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

No comments have been received to date on the proposed project. A Comments and Responses Report will be included within **Appendix E3** of the Final Basic Assessment report

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
BirdLife South Africa	Hanneline Smit	0117891 122	011789 5188	conservation@birdlife.org.za	P O Box 515 Randburg Gauteng 2125 South Africa
SANRAL	J.C Landman	+273339 28120		landmanc@nra.co.za	PO Box 1000410 Scottsville KwaZulu-

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
					Natal 3209 South Africa
Department of Agriculture, Forestry & Fisheries	Mashudu Marubani	+271231 97619		mashuduma@daff.gov.za or MashuduMa@nda.agric.za	Private Bag X120 Pretoria Gauteng 0001 South Africa
Department of Energy	The Director: Eastern Cape	+274139 63910	086 517 2574		Eastern Cape Mount Croix 690 Crispin Hall c/o Mount and Diaz Road Port Elizabeth Eastern Cape 6001 South Africa
Department of Mineral Resources	Brenda Ngebulana	+271244 43000	-	Brenda.Ngebulana@dmr.gov.za	Private Bag X 6076 Port Elizabeth Eastern Cape 6000 South Africa
Department of Water Affairs	Portrait Tshatshu Or Joseph Jacobs	041 501 0741	086 610 3144	TshatshuP@dwa.gov.za or JJacobs@dwa.gov.za	Private Bag X7485 King William's Town Eastern Cape 5600 South Africa Or Water Use Authorisation P/Bag X 6041 Port Elizabeth 6000 Tel: 041 501 0714
Eastern Cape Department of Roads and Public Works	Bongani Gxilishe	+274060 24000	040-639-2733		Office of MEC for Public Works, No. 5 Qasana

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
					Building, Independence Avenue Bisho Eastern Cape 5605 South Africa
Eastern Cape Department of Rural Development & Agrarian Reform	Glen Thomas	+274060 93471	040-635-0604		Private Bag X0040 Bisho Eastern Cape 5605 South Africa

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as **Appendix E5**.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Only three major aquatic related impacts have been highlighted in this study. These impacts have been rated based on the direct versus indirect project actions / impacts, as well as any potential cumulative impacts during the construction and operational phases of the project. These were also assessed with and without mitigation. It should be noted that all of the impacts assessed would have a negative impact on the aquatic systems, being assessed with a high degree of confidence based on the understanding of aquatic systems in the region. Impacts would be similar for all of the roads and watercourse crossings, due to similarities in structure and function.

Activity	Impact summary	Significance	Proposed mitigation
Installation of hard surfaces	<p>Direct impacts: Impact as a result of flow diversion and increased surface flow velocities - structures could interfere with natural run-off patterns, diverting flows and increasing the velocity of surface water flows. Impact would be limited to once the roads, stormwater management features, erosion protection structures and the culvert watercourse crossings have been constructed</p>	Low	<ul style="list-style-type: none"> • The proposed stormwater management and erosion control plan, as well as a rehabilitation plan (As included within the Water Use License Application documentation approved by DWA) should be implemented. • Stormwater and any runoff generated by the hard surfaces should be discharged into retention swales or areas with rock rip-rap. • Culvert crossings should also not trap any run-off, thereby creating inundated areas, but allow for free flowing systems
	<p>Indirect impacts: Potential to increase the potential for erosion in the study area, while increasing sedimentation of downstream areas, once flows subside</p>	Low	
	<p>Cumulative impacts: Increased potential for erosion in the study area, and increased sedimentation of downstream areas</p>	Low	
Road and culvert construction involves the creation of hard surfaces, which usually includes the provision of stormwater drainage.	<p>Direct impacts: Diversion of flow away from one water body, while increasing flow velocities of run-off into another, during the operational phase.</p>	Low	<ul style="list-style-type: none"> • A stormwater and erosion control plan, as well as a rehabilitation plan should be implemented. • Stormwater and any runoff generated by the hard surfaces should be discharged into retention swales or areas with rock rip-rap • All stormwater control features should have soft engineered areas that attenuate flows allowing for water to percolate in the local aquifers
	<p>Indirect impacts: The soils within the study area are susceptible to erosion when subjected to high flows (high volumes and velocities), with head-cuts readily forming within the streams and wetlands. This creates bed and bank instability of the aquatic ecosystems and consequent sedimentation of downstream areas. Should surface water flows be diverted, changes in regional hydrological patterns could also occur, i.e. lead to the drying out of certain areas.</p>	Low	
	<p>Cumulative impacts: Increased potential for erosion in the study area, and</p>	Low	

Activity	Impact summary	Significance	Proposed mitigation
Use of various materials, such as sediments, diesel, oils and cement during construction	increased sedimentation of downstream areas		
	<p>Direct impacts: Threat to the continued functioning of the wetland and instream areas, if by chance it is dispersed via surface run-off, or are allowed to permeate into the groundwater.</p>	Low	<ul style="list-style-type: none"> • A stormwater management and erosion control plan, as well as a rehabilitation plan should be implemented. • An environmental monitoring programme should be implemented.
	<p>Indirect impacts: None</p>	Low	<ul style="list-style-type: none"> • Chemicals used for road surfacing and culverts must be stored safely on site and surrounded by bunds. Chemical storage containers must be regularly inspected so as to prevent leaks into aquatic systems.
<p>Cumulative impacts: Due to the agricultural activities in the study area (cultivated lands and livestock grazing) the aquatic systems already contain high levels of nitrates, phosphates and organic matter. Impacts associated with spillages could increase the significance of this impact.</p>	Low	<ul style="list-style-type: none"> • Littering and contamination of water sources during construction must be mitigated by effective construction camp management. • Emergency plans must be in place in case of spillages onto road surfaces and watercourses. • No stockpiling should take place within a watercourse. • All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bunds. • Stockpiles must be located away from the wetland and watercourse areas if at all possible and for as short a time as possible. • Erosion control of all banks must take place so as to reduce erosion and sedimentation into watercourses. • The construction camp and necessary 	

Activity	Impact summary	Significance	Proposed mitigation
			ablution facilities meant for construction workers must be well removed from the wetland and watercourse areas, preferably at a distance greater than 100m.
Alternative 2: N/A			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
Alternative 3: N/A			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 must be included as **Appendix F**.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

Only three major aquatic related impacts have been highlighted in this study, i.e.:

- Diversion and increased velocity of surface water flows – Changes to the hydrological regime and increased potential for erosion
- Diversion and increased velocity of surface water flows – reduction in permeable surfaces
- Impact of changes to water quality

These impacts are all rated as low before and after mitigation. Impacts would be similar for all of the roads and watercourse crossings, due to similarities in structure and function.

the proposed activity is deemed to have a limited potential impact (negative) on the aquatic environment, especially considering the highly impacted nature of the aquatic resources on site due to damming, surface water diversion (cut-off drains) and alien plant infestation. It is the conclusion of the Environmental Assessment Practitioner that the activities proposed for the six (6) proposed watercourse crossings are considered acceptable from an environmental perspective. Based on the nature and extent of the proposed project, the potential impacts associated with the proposed activity can be mitigated to an acceptable level.

Alternative B: N/A

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Alternative C: N/A

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No-go alternative (compulsory)

This is the option of not undertaking the proposed activity, i.e. infilling or removal of material from watercourses at the watercourse crossings within the Tsitsikamma Community Wind Energy Facility. This option will result in limited or no impacts occurring on the biophysical environment (i.e. aquatic system). However, this will result in potential impacts on the proposed design of watercourse crossings within the already approved facility, which may result in indirect impacts on the environment (should the design which is required to be implemented result in undercutting of the structures implemented at the watercourse crossings and associated erosion and sedimentation downstream). This option is not preferred.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

the proposed activity is deemed to have a limited potential impact (negative) on the aquatic environment, especially considering the highly impacted nature of the aquatic resources on site due to damming, surface water diversion (cut-off drains) and alien plant infestation. It is the conclusion of the Environmental Assessment Practitioner that the activities proposed for the six (6) proposed watercourse crossings are considered acceptable from an environmental perspective. Based on the nature and extent of the proposed project, the potential impacts associated with the proposed activity can be mitigated to an acceptable level.

The following mitigation and management measures should be implemented:

- A stormwater management and erosion control plan, as well as a rehabilitation plan should be implemented.
- Suitable stormwater structures such as swales and rock rip-wrap should be used to ensure that run-off from sites is attenuated prior to discharge into watercourses. These structures should not cause erosion, siltation or sedimentation.
- Minimise erosion and sedimentation into watercourses through effective stabilisation (gabions and reno mattresses etc.) where necessary and re-vegetate disturbed banks. This task has been completed as part of the WULA process.
- An environmental monitoring programme should be implemented. This task has been initiated as part of the WULA process.
- An Environmental Control Officer should be employed to ensure the implementation of the stormwater management and erosion control plan, the rehabilitation plan and the environmental monitoring programme.
- Limit the removal of indigenous vegetation to the construction footprint and implement a rehabilitation plan as soon as cleared areas are available for planting and seeding with indigenous plants. Vegetation clearing should occur in parallel with the construction progress to minimise erosion and/or run-off.
- Where feasible, undertake stream diversions (if necessary) for culvert construction

and upgrades during the dry season.

- An alien plant control programme should be initiated as part of the development, to assist Working for Water in removing the alien trees and rehabilitating the drainage lines (watercourses).

Is an EMPr attached?

YES

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

JO-ANNE THOMAS

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDICES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information