ARCUS
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VOLUME I

PART II AMENDMENT

of the

BANNA BA PIFHU GRID CONNECTION ENVIRONMENTAL AUTHORISATION

On behalf of

Banna ba Pifhu Wind Farm (RF) (Pty) Ltd

DFFE Reference 12/12/20/2289/1; 12/12/20/2289/1/AM1 and 12/12/20/2289/1/AM2

DRAFT FOR PUBLIC COMMENT

JUNE 2022

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PROJECT DETAILS

DFFE References	12/12/20/2289/1; 12/12/20/2289/1/AM1 and 12/12/20/2289/1/AM2		
Arcus Reference	3109 Banna ba Pifhu Grid Connection		
Title	Part II Amendment of the Banna ba Pifhu Grid Connection		
EAP	Ashlin Bodasing - Arcus Consultancy Services South Africa (Pty) Ltd		
EAP Assistant	Aneesah Alwie - Arcus Consultancy Services South Africa (Pty) Ltd		
Amendment Specialist Team	**Specialist Name**	**Specialist Company**	**Specialist Study**
	Johann Lanz	Independent Consultant	Soil and Agriculture
	Dr Brian Colloty	Enviro Sci. (Pty) Ltd	Aquatic and Freshwater
	Jamie Pote	Independent Consultant	Terrestrial Biodiversity
	Chris van Rooyen	Chris van Rooyen Consulting	Avifauna
	Craig Campbell	Arcus Consultancy Services South Africa (Pty) Ltd	Bats
	Caroline Lotter	Inkululeko Wildlife Services	External Bats Review
	Morné de Jager	Enviro Acoustics Research cc	Noise
	Dr Jayson Orton	ASHA Consulting	Heritage, Archaeology and Palaeontology
	Quinton Lawson and Bernard Oberholzer	Qarc and BOLA	Visual and Landscape
	Dr Hugo van Zyl	Independent Economic Researchers	Socio-Economic
Previous Specialists *(not working on the amendment application)*	Kate MacEwan	Natural Scientific Services	Bats
	Brett Williams	Safetech	Noise
	Dr Johan Binneman and Kobus Reichert	Eastern Cape Heritage Consultants cc	Heritage and Archaeology
	Dr John Almond	Naturaviva	Palaeontology
	Henry Holland	Independent Consultant	Visual, Landscape and Flicker
Project Applicant	Banna ba Pifhu Wind Farm (RF) (Pty) Ltd		
Report Status	Part II Amendment Report - DRAFT FOR PUBLIC COMMENT		

PUBLIC PARTICIPATION DETAILS

The Draft Part II Amendment Report, with the required application form, has been submitted to the Department of Forestry, Fisheries and the Environment (DFFE), acting as the Competent Authority (CA).

Members of the public, local communities, and stakeholders are invited to comment on the Draft Amendment Report available for public review and comment at the following locations.

Location	Physical Address	Contact person
Hard Copy and CD Location		
Humansdorp Municipal Office	19 Main Street, Humansdorp, 6300	Gayruhnesia Coenraad
Jeffreys Bay Municipal Office	33 Da Gama Rd, Jeffreys Bay, 6330	Gayruhnesia Coenraad
Electronic Copy Locations		
Arcus Website	https://arcusconsulting.co.za/projects/	Aneesah Alwie
Via E-mail	I&APs can request for copies to be sent via e-mail in zipped folders.	
Comment Submission		
Contact Person	Aneesah Alwie	
Company	Arcus Consultancy Services South Africa (Pty) Ltd	
Via Email	banna@arcusconsulting.co.za	
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Notification of public review and comment period will be sent to all registered interested and affected parties.

ABBREVIATIONS, ACRONYMS AND UNITS

BESS	Battery Energy Storage System
CARA	Conservation of Agricultural Resources, 1983 (Act No. 43 of 1983)
CBA	Critical Biodiversity Area
DALRRD	Department of Agriculture, Land Reform and Rural Development
dB	Decibel
DFFE	Department of Forestry, Fisheries and the Environment (National)
DoE	Department of Energy
DHSWS	Department of Human Settlements and Water and Sanitation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act, 1989 No. 73 of 1989)
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ESA	Ecological Support Area
Eskom	Eskom Holdings SOC Limited
EWT	Endangered Wildlife Trust
GIS	Geographical Information Systems
GNR	Government Notice Regulation
GPS	Global Positioning System
HDI	Historically Disadvantaged Individuals
HIA	Heritage Impact Assessment
HV	High Voltage
Hz	Hertz
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
IPP	Independent Power Producer
IRP	Integrated Resource Plan
kV	Kilovolt
kWh	Kilowatt Hours
MWh	Megawatt Hours
NCR	Noise Control Regulations
NDP	National Development Plan
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NFEPA	National Freshwater Ecosystem Priority Area
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NSD	Noise-sensitive Developments
NWA	National Water Act, 1998 (Act No. 36 of 1998)
PES	Present Ecological State
PPA	Power Purchase Agreement
PPP	Public Participation Process
RE	Renewable Energy
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
RSH	Rotor Swept Height
SABAAP	South African Bat Assessment Advisory Panel
SABS	South African Bureau of Standards
SANBI	South African National Biodiversity Institute
SANRAL	South African National Roads Agency Limited
SANS	South African National Standards
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SIA	Social Impact Assessment
SKA	Square Kilometre Array
WEF	Wind Energy Facility
WHO	World Health Organisation
WTG	Wind Turbine Generator
WULA	Water Use License Application

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1 INTRODUCTION

Banna ba Pifhu Wind Farm (RF) (Pty) Ltd (('BWF') – the applicant) intend to amend the valid environmental authorisation[1] (EA) of the Banna ba Pifhu Grid Connection through a Part II Amendment Application process. In terms of locality, the Banna ba Pifhu Wind Farm and Grid Connection ('the development') is located approximately 3 km south of the town of Humansdorp in the Kouga Local Municipality and Sarah Baartman District Municipality in the Eastern Cape Province (Figure 1 – Site Locality).

A Part II application has been submitted due to a change to the position of the authorised grid connection route. This change is considered a *substantive change in project scope*. For reporting purposes going forward, the amendment above will be referred to as the 'proposed amendments'. The applicant is also requesting a validity period of 10 years for the EA, should it be authorised.

In terms of Chapter 5 of the National Environmental Management Act, 1998 (Act 107 of 1998 – NEMA), Environmental Impact Assessment Regulations, 2014 (as amended), BWF appointed Arcus Consultancy Services South Africa (Pty) Ltd (Arcus) to act as the project manager and to undertake this Part II amendment process.

This amendment report includes specialist input to assess the consequences, if any, of the proposed amendments.

1.1 Environmental Authorisation Background

Following an Environmental Impact Assessment (EIA) process conducted by CSIR in December 2013, the Banna ba Pifhu Grid Connection application received EA, issued by the Department of Forestry, Fisheries and the Environment (DFFE), on 21 July 2014 (i.e., DFFE Reference 12/12/20/2289/1). Since the EA was received, Part I amendments were submitted and authorised by the DFFE, as below:

Development Name	DFFE Reference (as amended)	Date of EA	Expiry Date of EA
Grid Connection for the Banna ba Pifhu WEF	12/12/20/2289/1/AM1	11 June 2017	21 July 2020
	12/12/20/2289/1/AM2	1 July 2020	21 July 2024

1.2 Purpose and Aim of the Report

The purpose of this report is to present an assessment of all potential impacts related to the proposed amendments. The change in project scope and technical specifications were assessed by the specialists. This was compared to their findings of the previous Environmental Impact Assessment (CSIR, December 2013). The specialists' findings and assessments of the amendments are collated in this amendment report. This report must be read together with the specialist studies to gain a complete understanding of the proposed amendments and the impacts thereof.

The aim of this report is to provide sufficient information to allow for a transparent public review and comment, as well as for the Competent Authority to make an informed decision on the proposed amendments.

1.3 Environmental Assessment Practitioner

The co-ordination and management of this amendment application process is being conducted by Arcus with the lead EAP being Ashlin Bodasing.

[1] DFFE Reference: 12/12/20/2289/1; 12/12/20/2289/1/AM1 and 12/12/20/2289/1/AM2.

Refer to Appendix A for the EAP's Declaration of Interest and *Curriculum Vitae*.

Ashlin Bodasing	
Qualifications	Bachelor of Social Science (Geography and Environmental Management). Registered EAP
Experience in Years	18
Experience	Ashlin Bodasing is the Technical Director at Arcus. Having obtained her Bachelor of Social Science Degree from the University of Kwa-Zulu Natal; she has over 18 years' experience in the environmental consulting industry in southern Africa. She has gained extensive experience in the field of Integrated Environmental Management (IEM) and Public Participation which includes the development of Environmental Impact Assessments, Basic Assessments, Environmental Management Plans and the monitoring of construction activities. Ashlin has been actively involved in a number of industrial and infrastructure projects, including electricity power lines and substations; road and water infrastructure upgrades and the installation of telecommunication equipment and as well green field coal mines. Her prior work experience included work within the parameters of the International Finance Corporation Performance Standards and World Bank Environmental Guidelines environmental reviews. Ashlin's current field of interest is within the Renewable Energy Sector, specifically Wind, Solar and Gas-to-Energy facilities. She has worked in Mozambique, Botswana, Lesotho and Zimbabwe.
Aneesah Alwie (EAP Assistant)	
Qualifications	Bachelor of Science (Environmental and Water Science)
Experience in Years	3
Experience	Aneesah Alwie is an Environmental Consultant at Arcus. Having obtained her Bachelor of Science Degree (Environment and Water Science) from the University of the Western Cape; she has 3 years' experience as an environmental professional. She has also attended certified training courses in Environmental Law and Compliance. Aneesah manages the EIA processes for projects across South Africa and works alongside the EAP assisting in report writing and public participation processes and. She has a proven track record in producing work of quality standards, within timeframes and budgets. Her excellent organisational and project management skills enable a smooth flow of the assigned project duties and client relations. Starting off as administrator at Arcus over five years ago she still provides on-going administrative and technical support.

Arcus is a specialist environmental consultancy providing environmental services to the renewable energy market. Arcus has advised on over 250 renewable energy projects, including grid connections applications in the United Kingdom and South Africa, with environmental management and in-house specialist services.

2 TERMS OF REFERENCE AND LEGISLATIVE REQUIREMENTS

This report has been produced in compliance with the NEMA, 1998 (Act No. 107 of 1998) and the EIA Regulations 2014, as amended. BWF are applying for an amendment to the EA[2] issued by the DFFE, in terms of Regulation 31 and 32 of the EIA Regulations, as amended.

Regulation 31 of the EIA Regulations 2014 (as amended) states that:

`*An environmental authorisation may be amended by following the process prescribed in this Part if the amendment will result in a change to the scope of a valid environmental*

[2] DFFE Reference 12/12/20/2289/1; 12/12/20/2289/1/AM1 and 12/12/20/2289/1/AM2.

authorisation where such change will result in an increased level or change in the nature of impact where such level or change in nature of impact was not-

(a) assessed and included in the initial application for environmental authorisation; or
(b) taken into consideration in the initial environmental authorisation;
and the change does not, on its own, constitute a listed or specified activity.'

A Part II amendment is applicable for this application because there is a *change of scope* and the *nature of impacts to the environment has changed*. Furthermore, this amendment includes adding, substituting, removing and changing conditions in the Environmental Authorisation, as per Section 3 of this report.

In compliance with Regulation 32 of the NEMA EIA Regulations 2014, as amended, this report reflects the potential impacts which have been reassessed by the specialists to ensure all impacts and significance ratings related to the proposed changes are relevant; highlights the advantages and disadvantages of the proposed amendments; provides further recommendations or mitigation measures if necessary; and discusses any changes to the EMPr. Table 2.1 below shows where in the report each item is included.

Table 2-1: Legislative Requirements of the Amendment Report

Legislative Requirements, EIA Regulations, as amended	**Reference in the Amendment Report Volume I and II**
32 (1) The applicant must within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority –	
(a) A report, reflecting –	
(i) An assessment of all impacts related to the proposed change;	Section 5 - 6 Volume I: Appendix C
(ii) Advantages and disadvantages associated with the proposed change;	Section 8
(iii) Measures to ensure avoidance, management and mitigation of impacts associated with such proposed change; and	Section 5 – 6; and 11 Volume I: Appendix C Volume II: EMPr
(iv) Any changes to the EMPr. which report -	Section 8 Volume II: EMPr
(aa) Had been subjected to a Public Participation Process (PPP), which had been agreed to by the competent authority, and which was appropriate to bring the proposed change to the attention of potential and registered interested and affected parties, including organs of state, which have jurisdiction in respect of any aspect of the relevant activity, and the competent authority, and	Section 9 Volume I: Appendix B
(bb) Reflects the incorporation of comments received, including any comments of the competent authority.	Section 9 Volume I: Appendix B

2.1 Authorised Listed Activities

It must be noted that the EA was prescribed by NEMA (Act 107 of 1998) and the EIA Regulations, 2010 (Government Notice (GN) R.543 in Government Gazette 33306 of 18 June 2010). The 2010 EIA Regulations comprised three listing notices (GN R.544, R.545 and R.546). Since the granting of original EA in 2014 (DFFE Reference 12/12/20/2289/1) the EIA Regulations, as amended (GN R.982 in Gazette No. 3822 of 4 December 2014), and the listing notices have been amended (GN R.983, R.984 and R.985). The amended listing notices are prescribed in Government Notice No. R327 (Listing Notice 1 – Basic

Assessment Process), R325 (Listing Notice 2 – Scoping & EIA Process) and R324 (Listing Notice 3 – Basic Assessment Process) of 7 April 2017.

No new listed activities have been triggered and / or are being applied for as part of this EA Amendment Application.

Table 2.2 provides a summary of the Authorised Listed Activities under GN R544, R545 and R546.

As per the pre-application meeting with the Department, Table 2.3 provides a comparison of the listed activities (i.e., between the 2010 NEMA EIA Regulations and the 2014 NEMA EIA Regulations, as amended) that are applicable to the Banna ba Pifhu Grid Connection EA.

Table 2-2: Summary of the Authorised Listed Activities of the Banna ba Pifhu Grid Connection EA

LISTING NOTICE (2010 EIA Regs)	ACTIVITIES
LN 1 GN R544[3]	10 (i); 11 (xi); 18 (i);
LN 3 GN R546[4]	12(a)(b); 16 (iii)(iv) (a)(ii)(ff);

[3] "Listing Notice 1 of the EIA Regulations, promulgated under Government Notice R544 of 2010."

[4] "Listing Notice 3 of the EIA Regulations, promulgated under Government Notice R546 of 2010."

Table 2-3: Comparison between the Authorised 2010 NEMA EIA Regulations and the 2014 NEMA EIA Regulations Listed Activities relevant to the application for amendment of the authorised Banna ba Pifhu Grid Connection

2010 NEMA EIA Regulations			**2014 NEMA EIA Regulations, as amended**		
Activity No(s)	**Listed Activities**	**Project Description as per the EA**	**Activity No(s)**	**Listed Activities**	**Revised Project Description**
GN R.544 10 (i)	The construction of facilities or infrastructure for the transmission and distribution of electricity – (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kV.	A new 66 kV substation will be constructed on site to connect the distribution or transmission system. A new power line will be constructed to connect to the 66 kV Eskom grid line. The connection from the new substation to the existing 66 kV Melkhout / St Francis overhead powerline will be via underground cabling or a new 66 kV power line.	GN R.983 11 (i)	The construction of facilities or infrastructure for the transmission and distribution of electricity – (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kV.	Electrical reticulation will be installed to transfer electricity from the turbines to a 66 kV substation which will be constructed on-site. Cables will be installed underground where feasible. A new 66 kV power line will be constructed.
GN R.544 11 (xi)	The construction of: (xi) infrastructure or structures covering 50 m² or more; where such construction occurs within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	The final layout may result in electrical infrastructure or other infrastructure encroaching within 32 m of a watercourse.	GN R.983 12 (ii)	The construction of- (ii) infrastructure or structures with a physical footprint of 100 square meters or more; where such development occurs – (a) within a watercourse; or (c) if no developments setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.	The construction of the WEF supporting infrastructure, such as the overhead powerline and roads, are proposed within 32 m of a watercourse. The cumulative footprint of all proposed development within 32 m of a watercourse will exceed 100 square metres.
GN R.544 18 (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 of more than 5 cubic metres from - (i) a watercourse	The construction of the power line could necessitate crossing of a wetlands and thus, infilling more than 5 cubic metres.	GN R.983 19 (i)	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from - (i) a watercourse	The construction of the WEF supporting infrastructure, such as the overhead powerline and roads, will include the excavation of soil in watercourses/drainage line areas, and infilling / deposition of more than 5 cubic metres from a watercourse.

2010 NEMA EIA Regulations			2014 NEMA EIA Regulations, as amended		
Activity No(s)	**Listed Activities**	**Project Description as per the EA**	**Activity No(s)**	**Listed Activities**	**Revised Project Description**
GN R.546 12 (a) (b)	The clearance of an area of 300 m^2 or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation. (a) Within any critical endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; (b) Within critical biodiversity areas identified in bioregional plans	This will depend on the area of indigenous vegetation to be cleared and whether it falls within the threatened Renosterveld vegetation on site (NEMBA listed – Endangered - Humansdorp Shale Renosterveld)	GN R.984 12 (a) (i) (ii)	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. (a) In Eastern Cape; (i) Within any critical endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004 (ii) Within critical biodiversity areas identified in bioregional plans.	The construction of the WEF supporting infrastructure, such as the overhead powerline and roads, will require the clearance of natural vegetation in excess of 300 m^2 in areas of natural vegetation. Parts of the site fall within a CBA.
GN R.546 16 (iii) (iv) (a) (ii) (ff)	The construction of: (iii) buildings with a footprint exceeding 10 m² in size; or (iv) infrastructure covering 10 m² or more; where such construction occurs within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse; (a) in the Eastern Cape: (ii) Outside urban areas, in: (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic	This might apply depending on the location of roads and electrical infrastructure which may cross one of the water courses on site. It is probable that water courses will be crossed, which will run west-east through the site.	GN R.984 14 (ii) (a) and (c) (a) (i) and (ff)	The development of (ii) infrastructure or structures with a physical footprint of 10 square metres or more; Where such development occurs – (a) within a watercourse and (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse. (a) Easterm Cape: (i) outside urban areas, in: (ff) Critical biodiversity areas or ecosystem service areas as identified in	Bridges and infrastructure, including roads, will be constructed within 32 m of watercourse(s). The site lies outside of an urban area and a portion of the site falls within a CBA.

2010 NEMA EIA Regulations			2014 NEMA EIA Regulations, as amended		
Activity No(s)	**Listed Activities**	**Project Description as per the EA**	**Activity No(s)**	**Listed Activities**	**Revised Project Description**
	biodiversity plans adopted by the competent authority or bioregional plans.			systematic biodiversity plans adopted by the competent authority or in bioregional plans	

2.2 Environmental Screening Tool

In terms of the Government Gazette, published in the Government Notice (GN) No. 320, 20 March 2020 and Regulation 16 (3)(a) of the EIA Regulations 2014, as amended, a Screening Report, generated from the national web based environmental screening tool is required to accompany any application for Environmental Authorisation.

The Screening Report generated for the amendment application is included in Appendix C and in the application form submission to the DFFE. The screening report generated did not identify any Wind or Solar PV / CSP Developments which received environmental authorisation within a 30 km radius of the development[5], furthermore, no intersections with Environmental Management Frameworks (EMF) were found. In terms of development incentives, restrictions, exclusions or prohibitions, the site falls within a South Africa Conservation Area and mitigation measures to reduce any impact against the conservation areas is recommended in this report.

Based on the selected classification to produce the screening tool report, and the environmental sensitivities of the development footprint, the screening report generates a list of specialist assessments identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study.

Table 2.4 provides a summary of the specialist assessments identified by the screening tool reports, and the response to each assessment in terms of the proposed amendments.

Specialist assessments (Appendix C) have considered the results of the DFFE Screening Tool in their terms of reference.

[5] Refer to Section 6.1 for the developments identified within a 30 km radius of the development by the EAP.

Table 2-4: Specialist assessments identified in terms of the national web-based screening tool for the proposed amendments

Identified Specialist Assessment	Assessment Protocol	Identified Sensitivity	
		By DFFE Screening Report	**By Specialist / EAP**
Agriculture Theme	Protocol for the Specialist Assessment and Minimum Report Content Requirements of Environmental Impacts on Agricultural Resources, gazetted on 20 March 2020. This protocol replaces the requirements of Appendix 6 of the Environmental Impact Assessment Regulations.	**High Sensitivity**	**Low Sensitivity**
	Comment: The agricultural sensitivity of the site, as identified by the screening tool, varies between high and medium within the development footprint. The criteria for agricultural sensitivity in the screening tool are straightforward and are clearly defined in terms of cultivation status and land capability. The screening tool sensitivity is **confirmed**. The infrastructure is on land of high agricultural sensitivity and no development infrastructure impinges on areas of very high agricultural sensitivity. It is important to note that despite the high sensitivity, the agricultural impact is **low**.		
Landscape / Visual Impact Assessment	Site Sensitivity Verification Requirements where a Specialist Assessment is required but no specific assessment protocol has been prescribed, gazetted on 20 March 2020.	**Not Determined**	**Low Sensitivity**
	Comment: The visual assessment was identified as a required specialist assessment, but no environmental sensitivity was determined by the screening report. The impact assessment of the authorised Banna ba Pifhu Grid Connection was undertaken prior to the protocols being gazetted, i.e., in 2012 and the reporting complied with Appendix 6 of the EIA Regulations, as amended. Following the initial assessment and verification for the amendment, the visual / landscape theme is deemed **low**. The change in layout of the grid connection is insignificant in visual terms compared to the visual prominence of the Banna ba Pifhu wind farm (following a separate environmental application process). The grid connection is similarly located in a low visual sensitivity area with no important visual constraints. As this is an amendment application a new specialist assessment report is not required. An amendment letter has been produced to assess the impacts, if any the amendment would have on the respective study area.		
Archaeological and Cultural Heritage Impact Assessment	Site Sensitivity Verification Requirements where a Specialist Assessment is required but no specific assessment	**Low Sensitivity**	**Low Sensitivity**

Identified Specialist Assessment	Assessment Protocol	Identified Sensitivity	
		By DFFE Screening Report	**By Specialist / EAP**
	protocol has been prescribed, gazetted on 20 March 2020.		
	Comment: The archaeological / cultural heritage sensitivity of the site, as identified by the screening tool, is **low** within the development footprint. Because no culturally significant heritage resources will be directly impacted and the contextual impacts are limited, the low sensitivity identified on site is **confirmed**.		
Palaeontology Impact Assessment	Site Sensitivity Verification Requirements where a Specialist Assessment is required but no specific assessment protocol has been prescribed, gazetted on 20 March 2020.	**Very High Sensitivity**	**Low Sensitivity**
	Comment: A palaeontological assessment was also carried out for the original assessment (Almond 2012) and has not been updated for the amendment. The nature of palaeontological resources is such that assessments usually apply fairly equally across a larger area, depending on the bedrocks present. In this instance rocks of the Ceres Subgroup of the Bokkeveld Formation underlie the entire study area. The extensive deformation and weathering present are expected to have destroyed the majority of the fossil content such that the study area can be considered to be of **very low** palaeontological sensitivity, which **disputes** the results of the screening report.		
Terrestrial Biodiversity Impact Assessment	Protocol for the Specialist Assessment and minimum report content requirements for Environmental Impacts on Terrestrial Biodiversity, gazetted on 20 March 2020.	**Very High Sensitivity**	**Low Sensitivity**
	Comment: The findings of the terrestrial biodiversity assessment **dispute** the very high sensitivity results as the areas designated critical endangered ecosystem and ESA 1 and 2, are highly productive agricultural lands (dryland and irrigated pivot pastures). The grid connection route falls within an area of **low** sensitivity. These include the portions of the site that are completely transformed or severely degraded, that have a low conservation status, or where there is very dense alien infestation.		
Aquatic Biodiversity Impact Assessment	Protocol for the Specialist Assessment and minimum report content requirements for Environmental Impacts	**Very High Sensitivity**	**Very High Sensitivity**

Identified Specialist Assessment	Assessment Protocol	Identified Sensitivity	
		By DFFE Screening Report	By Specialist / EAP
	on Aquatic Biodiversity, gazetted on 20 March 2020.		
	Comment: The aquatic sensitivity of the site, as identified by the screening tool, varies from low to very high across different parts of the site. The screening tool sensitivity is **confirmed**. No infrastructure impinges on areas of very high aquatic sensitivity. Mainstem rivers and wetlands in particular, that do contain functioning aquatic environments have been avoided and the sensitivity is deemed **low**. Any activities within the watercourses and pans, the buffers, or 500 m from the wetland boundary will require a Water Use license under Section 21 c and i of the National Water Act (Act 36 of 1998).		
Avian Impact Assessment	Protocol for the specialist assessment and minimum report content requirements for Environmental Impacts on Avifaunal Species by Onshore Wind Energy Generation Facilities where the electricity output is 20 MW or more, gazetted 20 March 2020.	**Not Determined**	**Low Sensitivity**
	Comment: The avian assessment was identified as a required specialist assessment, but no environmental sensitivity was determined by the screening report. The impact assessment of the authorised Banna ba Pifhu Grid Connection was undertaken prior to the protocols being gazetted, i.e., in 2012 and the reporting complied with Appendix 6 of the EIA Regulations, as amended. Following the initial assessment and verification for the amendment, the avian theme is deemed **low**. The change in layout of the grid connection is minimal. As this is an amendment application a new specialist assessment report is not required. An amendment letter has been produced to assess the impacts, if any the amendment would have on the respective study area.		
Civil Aviation Assessment	Protocol for the specialist assessment and minimum report content requirements for Environmental Impacts on Civil Aviation Installations, gazetted on 20 March 2020.	**Medium Sensitivity**	**Low Sensitivity**
	Comment: Site verification analysis **disputes** the medium sensitivity. During the original EA Application, the South African Civil Aviation Authority (SACAA) was consulted by BWF. SACAA confirmed that there is no impact to the airspace of the development area and immediate surrounds. Subsequent to the original EA Application, a private landing strip (Woodlands Farm Aerodrome) was registered on a neighbouring land portion.		

Identified Specialist Assessment	Assessment Protocol	Identified Sensitivity	
		By DFFE Screening Report	By Specialist / EAP
	BWF has engaged with the landowner regarding the landing strip and the landowner has confirmed no objection to the proposed wind farm turbine locations in the context of the Woodlands Farm Aerodrome. A compliance statement has been produced by the EAP which includes the comment received from SACAA. No further assessment is required for the application process as the development will not have an unacceptable impact on civil aviation installations. The SACAA will be requested to provide any further comment and will be kept on the database throughout the application process. Refer to Appendix C of this Report.		
RFI Assessment	Site Sensitivity Verification Requirements where a Specialist Assessment is required but no specific assessment protocol has been prescribed, gazetted on 20 March 2020.	**Not Determined**	**Low Sensitivity**
	Comment: A RFI assessment was identified as a required specialist assessment, but no environmental sensitivity was determined by the screening report. No negative impacts to any radar stations are expected as the site is more than 60 km from any station. No further assessment and mitigation measures are required and thus no further assessment have been undertaken. Refer to Appendix C of this Report.		
Geotechnical Assessment	Site Sensitivity Verification Requirements where a Specialist Assessment is required but no specific assessment protocol has been prescribed, gazetted on 20 March 2020.	**Not Determined**	**Not Determined**
	Comment: Geotechnical assessment was identified as a required specialist assessment, but no environmental sensitivity was determined by the screening report. The EAP is of the opinion that a Geotechnical Assessment for the development can and will only be undertaken once the final development design is confirmed, prior to the commencement of the construction phase. **The EAP has not included this assessment as part of the application process.**		
Plant Species Assessment	Protocol for specialist assessment and minimum report content requirements for Environmental Impacts on Terrestrial Plant Species, gazetted on 20 March 2020.	**Medium Sensitivity**	**Low Sensitivity**
	Comment:		

Identified Specialist Assessment	Assessment Protocol	Identified Sensitivity	
		By DFFE Screening Report	By Specialist / EAP
	The findings of this terrestrial biodiversity assessment **dispute** the results. While it is prudent to screen for potential species of conservation concern, none were found to be present during multiple survey periods within the site.		
Animal Species Assessment	Protocol for specialist assessment and minimum report content requirements for Environmental Impacts on Terrestrial Animal Species, gazetted on 20 March 2020.	**Medium Sensitivity**	**Medium Sensitivity**
	Comment: The findings of this terrestrial biodiversity assessment **confirm** the results of the national environmental screening tool, although none of the species were found or likely to be found in the transformed areas where the project footprint is proposed, they may be present in the broader area, or as transient visitors, hence the screening tool results may be valid.		

3 OVERVIEW OF THE AUTHORISED BANNA BA PIFHU GRID CONNECTION AREA

The geology of the region is dominated by rocks of the Cape Supergroup which consist mainly of quartzite layers. These rocks tend to be erosion resistant, forming ridges and mountains, as well as rocky promontories which jut out into the sea such as at Seal Point and Shark Shack Point near Cape St Francis. The development will be located on a relatively flat coastal plain. Foothills of Cape Fold Mountains rise towards the west and north of the wind farm site and palaeo-dunes of up to 100 m high can be seen south of the development site near Thyspunt and Oyster Bay.

There are various power line and road networks covering the area. A 66 kV power line crosses the site, linking to the existing Melkhoutbosch Substation (Plate 3.1) located north of the N2 - R330 interchange. The proposed amendment is of the grid connection route to connect to the existing Eskom 66 kV line (crossing on site) which connects into the Melkhoutbosch Substation.

Plate 3-1: Melkhoutbosch substation, near the N2-R330 interchange north of Humansdorp

The development will be introduced into an agricultural landscape with dairy farming as the main land use type. Fynbos on the hills with thicket along deeper river valleys (and among palaeo-dunes) cover areas which are not cultivated. Humansdorp is the largest in-land settlement in the region and an important service centre for the agricultural community. The coastline contains numerous towns and resorts which cater for seasonal visitors and tourists, such as St Francis Bay, Cape St Francis and Oyster Bay.

The EA (2014, as amended) includes authorisation of components as reflected below:

Authorisation of Power Line Option 3 for the construction of the proposed electrical grid connection for the proposed 30.6 MW Banna ba Pifhu Wind Farm, on Broadlands Farm (the Remainder of Farm 688, Portion 2 of Farm 689, Portion 15 of Farm 689 and Portion 1 of Farm 868), near Humansdorp, within the Kouga Local Municipality of the Cacudu District Municipality, Eastern Cape Province, hereafter referred to as "the property".

The infrastructure associated with the grid connection works include:

- New substation on site to connect to the distribution transmission system (maximum size of 100 m x 100 m). The wind farm will connect to the existing 66 kV Melkhout / St Francis overhead power line which passes through the site; and
- Connection to the Eskom grid line will be via a 66 kV underground cabling or overhead power line supported on intermediate poles.

The on-site substation for the Banna ba Pifhu wind farm is subject to a separate application process.

The sub-sections below are provided to show the change of scope from what was authorised to what is proposed and requires authorisation.

3.1 Details of the Proposed Amendments

BWF is proposing amendments to the authorised project specifications as provided (Figure 2 – Site Development Plan). Each sub-section is hyperlinked in the table below for ease of reference.

No	Proposed Amendments and Inclusions	Section Reference
1	Authorised and Proposed Geographic Co-ordinates	3.1.1
2	Authorised and Proposed Project Specifications	3.1.2
3	Conditions of the Environmental Authorisation	3.1.3

3.1.1 Authorised and Proposed Geographic Co-ordinates

Table 3.1 below shows the co-ordinates of the Grid Connection as per the EA.

Table 3.2 (and Figure 3) shows the co-ordinates for the Grid Connection for the Amended EA.

Table 3-1: Co-ordinates of the Grid Connection as per the Authorised EA

Preferred Alternative	Latitude	Longitude
Grid Connection (Option 3)		
Start	34° 3'58.58"S	24° 47'15.27"E
Middle	34° 4'0.78"S	24° 47'31.10"E
End	34° 4'4.48"S	24° 47'56.74"E

Table 3-2: Co-ordinates of the Grid Connection for the Amended EA

Preferred Alternative	Latitude	Longitude
Grid Connection (updated)		
Start	34° 4'9.04"S	24°47'16.82"E
Middle	34° 4'1.76"S	24°47'35.35"E
Bend Point	34° 3'59.88"S	24°47'40.03"E
End	34°4’4.05” S	24°47’56.93” E

3.1.2 Authorised and Proposed Specifications

Table 3.3 below shows the change in technical details from authorised (old) specifications alongside proposed (new) specifications to be authorised.

Table 3-3: Authorised and Proposed Specifications

Aspect	Authorised Specification	Proposed Specification
Grid Connection		
Site Boundary	Portion 1 of Farm No. 868 Portion 2 of the farm Diep Rivier No. 689 Portion 15 of the farm Diep Rivier No. 689 Remainder of the farm Geelhouteboom No. 688	No change

Aspect	Authorised Specification	Proposed Specification
Grid Connection		
Size of Site (ha)	1140 ha	No change
Grid connection length	Approximately 1 km	Approximately 1.2 km
Grid Connection Cabling	Via 66 kV underground cabling or overhead supported on intermediate poles.	Via 66 kV ~~underground cabling or~~ overhead <u>powerline</u> supported on intermediate poles.
Gravel Access Roads	Wider than 4 m	Approximately 12 m wide during construction and rehabilitated to approximately 6 m wide during operations.
On-site Substation[6]	On site (maximum size of 100 m x 100 m) to connect to the existing 66 kV Melkhout / St Francis overhead powerline which passes through the site	<u>New location</u>: On site (maximum size of 100 m x 100 m) to connect to the existing 66 kV Melkhout / St Francis overhead powerline which passes through the site. *The substation is authorised under the EA for the Banna ba Pifhu Wind Farm.*

3.1.3 Conditions of the Environmental Authorisation

Table 3.4 reflects the conditions of the EA to be changed, retained or removed. Any changes to conditions in the EA are reflected by being underlined and bold alongside what must be removed which has a strikethrough.

Table 3-4: Conditions of the Banna ba Pifhu WEF Grid Connection EA to be Retained or Changed

Banna ba Pifhu Grid Connection EA **DFFE Reference: 12/12/20/2289/1; 12/12/20/2289/1/AM1 and 12/12/20/2289/1/AM2**		
Condition in EA	**Amend, Retained or Removed**	**Amended Condition / Reason for Condition to be Removed**
Scope of authorisation		
1.	Slight change.	The ~~preferred power line (Option 3, using either an overhead power line or an underground cable),~~ **<u>overhead power line</u>**, routed as per the abovementioned geographic coordinates is approved. The overhead power line ~~or underground~~ cable must follow the same alignment as the geographic coordinates provided above.
2.	Slight change.	Construction of this project may only commence once the Banna ba Pifhu Wind Farm (12/12/20/2289)**<u>, as amended</u>**, has commenced with the construction phase.
3. – 6.	No changes. To be retained as is in new EA.	
7.	Slight change.	This activity must commence within a period of ~~three (03)~~ **<u>ten (10)</u>** years from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for

[6] Note: Amendments to the on-site substation is being applied for in a separate amendment application.

Banna ba Pifhu Grid Connection EA **DFFE Reference: 12/12/20/2289/1; 12/12/20/2289/1/AM1 and 12/12/20/2289/1/AM2**		
Condition in EA	**Amend, Retained or Removed**	**Amended Condition / Reason for Condition to be Removed**
		environmental authorisation must be made in order for the activity to be undertaken.
8. – 9.	No changes. To be retained as is in new EA.	
Notification of authorisation and right to appeal		
10.	Slight changes.	The holder of the authorisation must notify ~~every~~ all registered interested and affected parties, in writing and within ~~12 (twelve) calendar~~ **14 (fourteen)** days of the date of this environmental authorisation, of the decision to authorise the activity.
11. – 11.1	No changes. To be retained as is in new EA.	
11.2	Slight change.	Inform the interested and affected party of the appeal procedure provided for in ~~Chapter 7 of the Environmental Impact Assessment Regulations, 2010;~~ **Chapter 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) National Appeals Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeals Regulations, 2014), which prescribe the appeal procedure to be followed**.
11.3 – 11.4	No changes. To be retained as is in new EA.	
12. – 12.3	To be removed.	*No requirements in the NEMA EIA Regulations, as amended, for notices to be published during notification of EA decision. Registered I&APs will be informed as per the approved PP Plan.*
Management of the activity		
13.	*Change.*	*DFFE should reconsider these condition as a new EMPr for approval is being submitted (Volume II).*
14. - 19.	No changes. To be retained as is in new EA.	
Monitoring		
20. – 20.5.	No changes. To be retained as is in new EA.	
Recording and reporting to the Department		
21. – 24.	No changes. To be retained as is in new EA.	
Commencement of the activity		
25. – 27.	No changes. To be retained as is in new EA.	
Notification to authorities		
28.	No changes. To be retained as is in new EA.	
Operation of the activity		
29.	No changes. To be retained as is in new EA.	
Site closure and decommissioning		
30.	No changes. To be retained as is in new EA.	

Banna ba Pifhu Grid Connection EA **DFFE Reference: 12/12/20/2289/1; 12/12/20/2289/1/AM1 and 12/12/20/2289/1/AM2**		
Condition in EA	**Amend, Retained or Removed**	**Amended Condition / Reason for Condition to be Removed**
Specific Conditions		
31. – 33.	No changes. To be retained as is in new EA.	
34.	Slight change.	All powerlines linking wind turbines to each other and to the internal substation must be buried**, where technically feasible**. ~~Only powerlines~~ Power lines linking the wind energy facility to the grid may be above the ground.
35. - 42.	No changes. To be retained as is in new EA.	
General		
43. – 45.	No changes. To be retained as is in new EA.	

4 NEED AND MOTIVATION FOR THE PROPOSED AMENDMENT

The aim of the wind farm is to generate renewable energy that that will be fed into the national grid. In a separate amendment application process, BWF are proposing amendments to the Banna ba Pifhu Wind Farm. These changes include: (1) amendments to the Wind Farm site layout, and design and generation capacity; (2) turbine specifications, (3) a reduction in the number of wind turbines proposed; (4) inclusion of a Battery Energy Storage System (BESS); and (5) repositioning of the authorised substation.

Due to the amendments of the Banna ba Pifhu Wind Farm, the grid connection (DFFE Reference 12/12/20/2289/1, as amended) had to be realigned to connect from the amended on-site substation location to the national grid. Electricity generated by the WEF will be transferred into the national grid from the on-site substation and via the amended 66 kV grid connection (overhead power line) to the existing 66 kV Melkhout / St Francis overhead powerline which passes towards the boundary of the site. Recent engagements with Eskom by the Applicant confirmed that there are grid constraints in the area and it may take some time before the development is able to connect to the national grid. The Applicant is therefore also requesting for this amendment EA to be granted for 10-years so that the EA will not lapse before the project can connect to the national grid. Eskom proposes to construct within the next 5 - 10 years, a large powerline, referred to as the Hlaziya 400 – 132 kV MTS Integration Project, from Thyspunt near Jeffreys Bay to Grassridge and the Dedisa Substation. The project is part of Eskom's program for improving electrical transmission in the area to accommodate increased renewable power generation[7]. Further engagements with Eskom will take place during this amendment process.

The Grid Connection EA Amendment (this report) has been compiled to assess, utilising specialist input, any potential change in the significance of impacts as well as the advantages and disadvantages of the proposed amendments (see Section 7 of this report). The amended layout of the development avoids the environmental constraints and sensitive features identified through specialist input during the EIA process (CSIR 2013), any constraints identified during the public participation process of the original application, and the current EA Amendment application process.

Renewable energy is supported in terms of meeting the country's climate change goals, and in terms of reducing the country's dependence on fossil fuels as the main source of meeting the country's electricity requirements. The National Climate Change Adaptation

[7] http://www.cesnet.co.za/proposed-hlaziya-400-132-kv-powerline-project.

Strategy[8] (NCCAS) for The Republic of South Africa Version UE10, 13 November 2019, explains that the South African primary sectors, such as agriculture and mining, which are natural resource dependent are high consumption uses of energy. The NCCAS is adopting a cluster approach to assist with the changing climate conditions and the affect it has on various sectors. An action in support of this development is the approach to "create a more adaptive energy system to reduce dependence on a centralised system and increase distributed generation, especially in rural areas". "This will involve encouraging the development of an adaptive and decentralised energy system so that the system is more resilient to climate disruptions".

Both national and provincial policies and planning documents support the development of renewable energy facilities. The development of and investment in renewable energy is supported by the National Development Plan (NDP), New Growth Path Framework, Integrated Resource Plan (IRP) and National Infrastructure Plan. At a provincial level, the development of renewable energy is supported by the Eastern Cape Provincial Development Plan[9]. The Development Plan states that you should "promote renewable sources of energy and leverage a green agenda for new jobs and income for the poor". The 2019 IRP proposes that by 2030, wind energy should contribute 17.8% of total energy (from an installed capacity of 17,742 MW), solar should contribute 7% while coal contributes 59% (down from the current ~87%). Key outcomes of the 2021 IRP have a target for 90 % clean energy resources by 2040. Reaching these targets will require substantial investment in new renewables projects driven primarily by the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) which was introduced in 2011.

The need and desirability for renewable energy developments play a role in South Africa meeting its energy and climate change targets and provides a socio-economic boost at the local level in areas that are in need of it. The findings and assessment of the authorised Wind Farm and Grid Connection has also indicated that renewable energy is strongly supported at a national, provincial and local level. Therefore, **the need and desirability of the Grid Connection for the Banna ba Pifhu Wind Farm (CSIR, 2013) remain valid**.

Aside from environmental considerations, investment in renewables have been driven by dramatic reductions in their costs. Plate 4.1 shows this trend and that in the six years between bid windows 4 and 5, the average price of electricity purchased through the REIPPPP fell by 54% (Magoro, 2021).

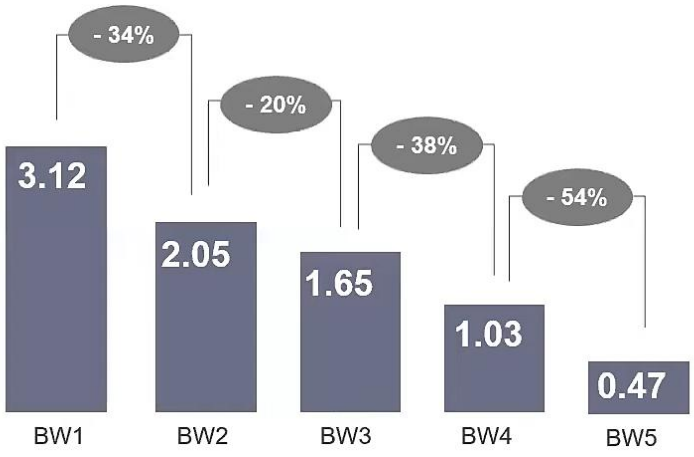

Plate 4-1: REIPPP average bid prices in April 2021 terms (Magaro, 2021)

[8] https://www.environment.gov.za/sites/default/files/docs/nationalclimatechange_adaptationstrategy_ue10november2019.pdf
[9] https://www.ecsecc.org/documentrepository/informationcentre/ec-vision-2030-planoctober-post-exco_14935.pdf

For the Banna ba Pifhu Wind Farm to transfer electricity generated to the national grid, authorisation of the amended grid connection is required. The grid connection is approximately 1.2 km in length and up to 66 kV. Should this amendment not receive a favourable decision, the Banna ba Pifhu Wind Farm will not have a feasible connection to evacuate the electricity generated to the national grid.

5 SPECIALIST IMPACT ASSESSMENT

The EIA that was conducted by CSIR in November 2012 and resubmitted in December 2013 assessed the potential impacts of developing the Banna ba Pifhu Grid Connection using specialist input.

The CSIR Final EIA Report (December 2013) concluded that no negative impacts were identified that should be considered fatal flaws from an environmental perspective, and that the iterative process followed during the 2012 / 2013 EIA had successfully mitigated most impacts. The overall significant negative residual impacts of the development were those on bats, birds and landscape character (visual), while significant positive residual impacts were those related to socio-economic benefits during operation. The CSIR further concluded that the benefits of the development outweigh the costs, provided that specialist mitigation measures are successfully implemented.

Specialists were requested to identify changes, if any, to the impact significance ratings, recommendations and mitigation measures contained in the previous EIA conducted by CSIR in 2012/2013. Specialists were also required to include potential cumulative impacts associated with the amendments and include any additional information required to comply with the specified theme as reflected in the DFFE Screening Report (Appendix D) generated for the grid connection.

The amendments to the grid connection route were assessed by specialists. Although separate amendment applications are being submitted for the Banna ba Pifhu Wind Farm and Grid Connection, specialists assessed the amendments of the wind farm and grid connection together, as this followed the same methodology and reporting as conducted during the 2012/2013 assessment process. Specialists found that the significance rating of impacts identified and assessed in the previous EIA (CSIR, 2013) remain almost the same.

Specialist field of study, name and organisation utilised for the proposed amendment assessment are provided in Table 5.1 below.

Table 5-1: List of Specialist Investigations

Discipline	Specialist	Specialist Organisation
Soil and Agricultural Potential	Johann Lanz	Independent Consultant
Terrestrial Biodiversity (Flora and Fauna)	Jamie Pote	Independent Consultant
Aquatics and Freshwater	Dr Brian Colloty	EnviroSci (Pty) Ltd
Avifauna	Chris van Rooyen	Chris van Rooyen Consulting
Bats	Craig Campbell	Arcus Consultancy Services SA (Pty) Ltd
	Caroline Lötter	On behalf of Inkululeko Wildlife Services and the South African Bat Assessment Association

Discipline	Specialist	Specialist Organisation
Visual / Landscape	Quinton Lawson and Bernard Oberholzer	Qarc and BOLA
Noise	Morné de Jager	Enviro Acoustics Research
Socio-economic	Hugo van Zyl	Independent Economic Researchers
Heritage, Archaeology and Palaeontology	Dr Jayson Orton	Eastern Cape Heritage Consultants

Extracts and summaries from specialist letters and reports provided during this EA Amendment application process are provided below. Specialist EA Amendment letters and reports are provided in Appendix C of this Report. Where no specialist was commissioned, EAP compliance statements has been produced and is provided in Appendix C of this Report.

5.1 Specialist Assessment Methodology

The same impact assessment methodology was utilised during this Amendment process. The approach by specialists during the original application process and for this amendment was to identify potential impacts, including impacts that may occur during all phases of the development, i.e., from design to decommissioning phase, as well as cumulative impact assessment. In order to identify potential impacts (both positive and negative) it is important that the nature of the proposed activity is well understood so that the impacts associated with the activity can be understood.

The process of identification and assessment of impacts included:

- Determining the current environmental conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured;
- Determining future changes to the environment that will occur if the activity does not proceed;
- An understanding of the activity in sufficient detail to understand its consequences; and
- The identification of significant impacts which are likely to occur if the activity is undertaken.

The following methodology was applied to the predication and assessment of impacts. Potential impacts were rated in terms of the direct, indirect and cumulative:

- Direct impacts are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
- Indirect impacts of an activity are indirect or induced changes that may occur as a result of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place as a result of the activity.
- Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.
- Spatial extent – The size of the area that will be affected by the impact:

  - Site specific
  - Local (<2 km from site)
  - Regional (within 30 km of site)
  - National.

- Intensity –The anticipated severity of the impact:
  - High (severe alteration of natural systems, patterns or processes)
  - Medium (notable alteration of natural systems, patterns or processes)
  - Low (negligible alteration of natural systems, patterns or processes).
- Duration –The timeframe during which the impact will be experienced:
  - Temporary (less than 1 year)
  - Short term (1 to 6 years)
  - Medium term (6 to 15 years)
  - Long term (the impact will cease after the operational life of the activity)
  - Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient).

Using the criteria above, the impacts were further assessed in terms of the following:

- Probability –The probability of the impact occurring:
  - Improbable (little or no chance of occurring)
  - Probable (<50% chance of occurring)
  - Highly probable (50 – 90% chance of occurring)
  - Definite (>90% chance of occurring).
- Significance – Will the impact cause a notable alteration of the environment?
  - Low to very low (the impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making)
  - Medium (the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated)
  - High (the impacts will result in major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision-making).
- Status - Whether the impact on the overall environment will be:
  - positive - environment overall will benefit from the impact
  - negative - environment overall will be adversely affected by the impact
  - neutral - environment overall not be affected.
- Confidence – The degree of confidence in predictions based on available information and specialist knowledge:
  - Low
  - Medium
  - High.
- Management Actions and Monitoring of the Impacts (EMPR).
- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, augmentation measures will be identified to potentially enhance positive impacts.
- Quantifiable standards for measuring and monitoring mitigation measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.

5.2 Soil and Agricultural Potential

The specialist soil and agricultural report for the previous EIA (CSIR, 2013) was completed by Johann Lanz in 2012. This specialist was also appointed to review the proposed amendment application with regards to any potential changes against the agricultural report for the previous EIA.

A desk-based assessment was conducted, and as part of the amendment application review, a new land capability[10] evaluation was conducted for this site, as the Department of Agriculture, Land Reform and Rural Development (DALRRD) released updated and refined land capability mapping across the whole of South Africa in 2017. The new land capability mapping divides land capability into 15 different categories with 1 being the lowest and 15 being the highest. Values of below 8 are generally not suitable for production of cultivated crops. The evaluation showed that the project area is classified with land capability evaluation values of predominantly 8 to 9, although the steeper land along the river gorge in the north is classified as 5 to 7, because of its steep slope. The land capability of the site is limited by the shallow effective depth of the soils as well as their drainage limitations.

The Protocol for Specialist Assessment and Minimum Report Content Requirements for the Environmental Impacts on Agricultural Resources (Government Gazette 43110, 20 March 2020) was also adhered to. Portions of the proposed development area was rated as High sensitivity as per the DFFE Screening Tool.

Recommendations and Conclusions

The specialist concluded that the proposed amendments have no bearing on any agricultural impacts, including cumulative impacts. In the original assessment, the status of all agricultural impacts was negative, and they were rated as being of low or very low significance. Changes to the grid connection length do not change the significance of any agricultural impacts, including cumulative impacts. The amended infrastructure locations (most of which were approved) are still not on irrigated land which is intensively used and has very high agricultural sensitivity and are confined to non-irrigated land, which is used less intensively and is classified by the screening tool as high agricultural sensitivity. It is important to note that despite the high sensitivity, the agricultural impact is low.

Further specialist studies by this author in the area since 2012 have added to the understanding of the agricultural impacts of wind farms in the Humansdorp area. Production provides a composite measure for any agricultural impact. If there is no change in production, other than changes that are the result of other influencing factors, it is reasonable to conclude that there is no development impact.

Given the above outcome, this amendment is supported in terms of agricultural impacts.

5.3 Aquatics and Freshwater

Scherman Colloty and Associates appointed Dr Brian Colloty as the Aquatic specialist to compile the aquatic impact assessment for the previous EIA. The same specialist (now at Enviro Sci. Pty Ltd) was appointed to review the proposed amendment application with regards to any potential changes against the aquatic impact assessment for the previous EIA.

A site visit was undertaken in January 2022 and the specialist report was produced and considered the changes to the national wetland inventories, wetland / aquatic buffer

[10] Land capability is defined as the combination of soil, climate and terrain suitability factors for supporting rainfed agricultural production.

decision tools and the assessment protocols which have altered since the approval of the project was received. The Protocol for Specialist Assessment and Minimum Report Content Requirements for the Environmental Impacts on Aquatic Biodiversity (Government Gazette 43110, 20 March 2020) was also adhered to. Portions of the site was rated as Very High sensitivity as per the DFFE Screening Tool.

Recommendations and Conclusions

The findings of the aquatic assessment for the previous EIA can be upheld and in conclusion the final overall impact of the development on the aquatic environment, with the listed mitigations, will remain low for the impacts that were assessed previously, this includes the internal roads proposed that would need to cross some of these systems, namely:

- Loss of wetland habitat, ecosystem services and biodiversity services;
- Loss of species of special concern;
- Habitat fragmentation – loss of ecological corridors; and
- Sedimentation and erosion.

In addition to the impacts as assessed originally, the No-Go and Cumulative impacts were also assessed. All impacts added were found to be low, due to the current state of the surrounding environment and the overall avoidance of any sensitivity aquatic habitats.

The development would have no detrimental impact on any of the Very High sensitivity areas identified by the DFFE Screening Tool as they been excluded from the development footprint; and /or mainstem rivers and wetlands in particular, that do contain functioning aquatic environments, have been avoided.

There are fewer watercourse crossings impacts in the amended compared to original layout. Any activities within 500 m of a watercourse or pan, the aquatic buffers, or 500 m from a wetland boundary will require a Water Use license under Section 21 c and i of the National Water Act (Act 36 of 1998). Furthermore, recommendations as originally provided remains, and it is further recommended that a comprehensive rehabilitation plan be implemented from the project onset within watercourse areas (including buffers) to ensure a net benefit to the aquatic environment. These recommendations are included in the EMPr (Volume II) to form part of the suggested walk down as part of the preconstruction preparation.

Given the above outcome, this amendment is supported in terms of aquatic impacts.

5.4 Ecology

The Fauna and Flora (Ecology) report for the previous EIA (CSIR, 2013) was completed by Jamie Pote, an independent consultant in 2012. This specialist was also appointed to review the proposed amendment application with regards to any potential changes against the fauna and flora report for the previous EIA.

For the assessment of the amendments, a site visit was undertaken in December 2021 and as the site falls within a summer/winter rainfall area a single site visit was deemed adequate, specifically due to the purpose of the site visit, i.e., to assess the proposed amendments and due to the disturbed nature of the site and low conservation priority of the project footprint. The site assessment was also undertaken to physically screen for the presence of species and sensitivities identified in the screening tool, and other possible species or sensitivities that were not identified in the screening tool.

The specialist report was compiled to fulfil the requirement for a Terrestrial Biodiversity Assessment as per the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of NEMA

(GNR 320), as gazetted on 20 March 2020. The report also includes the requirements in terms of the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of sections 24(5)(a) and (h) and 44 of NEMA, gazetted on 30 October 2020, relating to the Terrestrial Plant and Animal (species) themes.

While some impacts have increased or decreased slightly compared to the impact scoring system used in 2011, overall, all impacts are medium before mitigation and low after mitigation, which are considered to be acceptable. Since the development are now situated entirely within transformed cultivated lands and pastures, the overall impact will be negligible. The resulting loss of habitat will be proportional to the area of vegetation clearing required to construct the access roads, cabling and turbine sites with associated hard-standing surfaces.

Recommendations and Conclusions

The grid connection route falls within an area of low sensitivity. These include the portions of the site that are completely transformed or severely degraded, that have a low conservation status, or where there is very dense alien infestation. Loss of these areas will not significantly compromise the current conservation status of the vegetation unit at a regional level, nor is its loss likely to compromise the ecological functioning of surrounding areas.

Overall impact will be significantly lower than the previously approved options. Furthermore, the grid connection crossing impacts are less in the revised compared to the original layout and impacts to highly sensitive areas will be negligible compared to the original layout.

The proposed activity can be undertaken within acceptable terrestrial biodiversity impact limits. It is recommended that clearing within high sensitivity areas are kept to the minimum required to construct access roads and the implementation of the management actions relating to flora and fauna as well as post construction rehabilitation will minimise biodiversity impacts. Updates to the management plans and mitigation measures as recommended has been included in the EMPr (Volume II).

Given the above outcome, this amendment is supported in terms of ecological impacts.

5.5 Avifauna

A 24-month avifaunal pre-construction monitoring was conducted by Chris van Rooyen in 2011 / 2012 for the previous EIA (CSIR, 2013). Chris van Rooyen was approached to reassess the potential impact on avifauna based on the proposed changes.

Although the pre-construction monitoring had already been completed at the development in 2012, the latest edition of the avifauna guidelines (2015)[11] state as follows:

"*If there is a significant gap (i.e., more than three years) between the completion of the initial pre-construction monitoring and impact assessment, and the anticipated commencement of construction, it may be advisable to repeat the pre-construction monitoring (or parts thereof) to assess whether there has been any change in species abundance, movements and/or habitat use in the interim*."

In view of the above requirement, the specialist has completed the following additional monitoring on site:

[11] Jenkins, A.R., van Rooyen, C.S., Smallie, J.J., Harrison, J.A., Diamond, M., Smit-Robinson, H.A. Ralston, S. 2015. Bird and Wind-Energy Best-Practice Guidelines. Best-Practice Guidelines for assessing and monitoring the impact of wind-energy facilities on birds in southern Africa. Third Edition (previous versions 2011 and 2012). BirdLife South Africa and Endangered Wildlife Trust, Johannesburg, South Africa.

- Surveys were conducted in spring - September 2018 - to search for raptor nests, Blue Crane roosts and Denham's Bustard leks in and around the site.
- An important issue previously identified was potential raptor (especially Amur Falcon) and White Stork collisions in summer. Therefore, one full summer survey, which included transect counts and vantage point watches, was conducted in December 2018 as these species are summer migrants and were likely to be present in greatest numbers at this time.

Another site visit was conducted in January 2022 to assess if the habitat at the site has changed in any material manner, and to investigate whether there were any new avifaunal sensitivities that had not been recorded before. A full 12-month monitoring was not deemed necessary for the following reasons:

- Since 2012, several post-construction reports became available of existing wind farms in the greater Kouga area. These reports provided data on the species which are typically impacted by wind turbines in the region.
- Wessel Rossouw, the field monitor who was designated to conduct the monitoring by the specialist, lives in Jeffreys Bay, and had been actively involved for several years in the road counts in the area with the St Francis Bay Bird Club. His intimate knowledge of the location, abundance and diversity of the avifauna in the area could act as an additional supplementary source of information.
- The St Francis Bay Bird Club seasonal road count data for the BWF site from 2011 to 2018 (eight years) was made available. This data provided comprehensive background information on the numbers and variety of avifauna at the site.
- The habitat at the site and immediate surroundings had not changed in any substantial manner since the original pre-construction monitoring was completed in 2011 - 2012.

Below is a summary of the latest specialist findings from surveys/site visits conducted 2018 and 2022:

Habitat

- Physical inspection of the site in 2018 and 2022 revealed that the habitat and land-use have remained essentially the same since the original pre-construction monitoring was completed in 2012. The data collected during those surveys therefore remain relevant and can be considered for this assessment as well.
- This is particularly relevant for the migratory Amur Falcon which were recorded in large numbers during the original surveys, but not in 2018. The fact that Amur Falcons were not recorded in December 2018 cannot be linked to changes in the habitat, but rather to other environmental conditions, most likely rainfall, or timing of the surveys. In January 2022, a small number of Amur Falcons were again recorded at the site during the site inspection.

Breeding

- The only priority nest which was positively identified in 2018 was that of a Blue Crane which is situated off-site. No Blue Crane nests or breeding pairs were observed during the site inspection in January 2022.
- Potential breeding of White-bellied Korhaan is suspected in the shrub area in the south-eastern corner of the development area, but no infrastructure is planned in that area. This was confirmed during the site visit in January 2022 when several birds were observed in this area.
- Two Black-winged Lapwing nests were recorded during the original surveys in 2011/12. From experiences with lapwings in general, it seems that they are highly adaptable to potential human disturbance, it is therefore not expected that the construction activities will displace breeding birds.

Displacement

- The transect counts produced evidence of priority species diversity and abundance very similar to the original monitoring done in 2011/12, thereby further reinforcing the impression that the habitat has not changed in any significant way.
- The one notable difference between the original monitoring done in 2011/12 and the one season done in December 2018 is the presence of Amur Falcons during the former. In 2011/12 they were recorded as the second most abundant priority species after Blue Cranes. The possible reasons for their absence this time round could likely be due to environmental conditions, most likely rainfall, or timing of the surveys.
- In view of the expected habituation, and the fact that no evidence of breeding was found at the site, the potential displacement impact on Denham's Bustard is likely to be low and restricted to the construction phase.
- Blue Cranes are proving to be relatively unaffected by wind farm and its associated infrastructure developments, in the wheat growing Overberg region as far as displacement is concerned, with birds breeding on operational wind farms (Chris van Rooyen Consulting unpublished data). Blue Cranes may be temporarily displaced during the construction phase.

Collisions

Collisions with grid connection are the biggest threat posed by high voltage lines to birds in southern Africa (van Rooyen, 2004). Most heavily impacted upon are bustards, storks, cranes and various species of waterbirds, and to a lesser extent, vultures. These species are mostly heavy-bodied birds with limited manoeuvrability, which makes it difficult for them to take the necessary evasive action to avoid colliding with transmission lines (van Rooyen, 2004).

Using a controlled experiment spanning a period of nearly eight years (2008 to 2016), the Endangered Wildlife Trust (EWT) and Eskom tested the effectiveness of two types of line markers in reducing power line collision mortalities of large birds on three 400 kV transmission lines near Hydra substation in the Karoo. Marking was highly effective for Blue Cranes Anthropoides paradiseus, with a 92% reduction in mortality, and large birds in general with a 56% reduction in mortality, but not for bustards, including the endangered Ludwig's Bustard (Neotis ludwigii). The two different marking devices were approximately equally effective, namely spirals and bird flappers, they found no evidence supporting the preferential use of one type of marker over the other (Shaw et al. 2018).

Recommendations and Conclusions

Based on the results of the additional site surveys/site visits the following mitigation measures, as read below, have been recommended. These mitigation measures supersede the mitigation measures as proposed in the EIA (2013):

- Restrict the construction activities to the construction footprint area.
- Do not allow any access to the remainder of the property during the construction period.
- Measures to control noise and dust should be applied according to current best practice in the industry.
- Maximum use should be made of existing access roads and the construction of new roads should be kept to a minimum.
- Following construction, rehabilitation of all areas disturbed (e.g. temporary access tracks and laydown areas) must be undertaken and to this end a habitat restoration plan is to be developed by a rehabilitation specialist.
- The recommendations of the specialist ecological study must be strictly adhered to.
- Once the development has been constructed, post-construction monitoring should be implemented to compare actual collision rates with predicted collision rates.

- Should mortality of priority species be recorded, the avifaunal specialist, in consultation with external experts and relevant NGO's such as BLSA, must determine annual mortality thresholds for those priority species killed by collisions.
- The proposed 66kV power line should be marked with Bird Flight Diverters (BFDs) or Bird Flappers for its entire length to lower the risk of avian collisions with the power line, according to the Eskom standard.

The proposed changes to the grid connection route and cumulative impacts will not change the conclusions of the original bird specialist study conducted in 2011/12 and significance is low with mitigation. **Provided the recommendations are implemented, there is no objection to the implementation of the proposed amendment from an avifaunal impact perspective**.

5.6 Bats[12]

In carrying out this assessment, the specialist conducted a literature review on bats and wind energy impacts with a focus on the relationship between turbine size and bat fatality. The literature review was carried out using the Web of Science® and Google Scholar using the following search terms:

bat OR fatality OR wind energy OR turbine OR wind turbine OR fatalities OR mortality OR mortalities OR kill* OR tower height OR height OR rotor swept zone OR rotor zone OR rotor swept area OR blades OR turbine blades OR influence OR increas* OR trend OR positive OR decreas* OR relation* OR wind farm OR wind energy facility OR carcass* OR chiroptera OR rotor diameter OR correlat* OR size*

In addition to the outputs from the above search, the following documentation were reviewed and used to provide context for the impact assessment:

- Environmental Authorisation (DFFE REF 12/12/20/2289 and 12/12/20/2289/1, and amendments); and
- Environmental Impact Assessment for the proposed Banna ba Pifhu Wind Energy Project near Humansdorp, Eastern Cape: Final Environmental Impact Assessment Report. Chapter 7: Impacts on Bats (Natural Scientific Services July 2013).

In addition, data on current bat activity were recorded on site between 10 September 2018 and 14 October 2019 to provide supporting data to this report. The data were collected from the same four locations used during the original pre-construction monitoring using the same model of equipment. At H3, while an Anabat was used during the original monitoring, a SM2Bat was used for additional monitoring. Data from this location are therefore not directly comparable between the two datasets.

The core issues relevant to the assessment undertaken was the impact to bats of the Banna ba Pifhu Wind Farm (separate application process). The grid connection amendment was also considered in the overall conclusion of impact. It is however noted that the grid connection is not anticipated to have major impacts on bats, and were therefore not assessed further.

Given the above outcome, impacts to bats are negligible for the development of the grid connection.

5.7 Noise

Mr Brett Williams was appointed as the Noise Specialist to compile the noise impact assessment report for the previous EIA. Enviro-Acoustic Research cc was commissioned to review the changes for the Amendment Application. This review considered the previous

[12] Original bat assessment was completed by Natural Scientific Services. Arcus was appointed to complete the additional monitoring and assessment. A letter from the original specialists is included in the Bat Amendment Letter.

report and both local and international guidelines, using the terms of reference (ToR) as proposed by SANS 10328:2008.

The development will not have any noise impact and was not considered during the assessment by the specialist.

Given the above outcome, impacts to noise are negligible for the development of the grid connection.

5.8 Visual

The original Visual Impact Assessment (VIA) for the Banna ba Pifhu WEF (December 2013), was prepared by Henry Holland for the CSIR. The visual impact assessment for the amendment application was prepared by Bernard Oberholzer, Landscape Architect / Environmental Planner and in association with Quinton Lawson, Architect.

The same methodology as that for the original VIA Report was used to provide a comparison between the previous and the amended layout. In addition, more site-specific detail was added for 'Visual Constraints' and 'Visual Sensitivity' as an overlay on the proposed amended layout. These maps are included in the visual amendment report in Appendix C of this Report.

Recommendations and Conclusions

The change in layout of the grid connection would be insignificant in visual terms. The grid is similarly located in a low visual sensitivity area with no important visual constraints. The current amendments will have no, or negligible, effect on the significance of visual impacts identified in the original VIA Report and will therefore result in no change in the overall visual impact significance ratings from the approved layout.

Provided that the visual mitigations applicable to the grid connection in the original visual impact study (including post-construction rehabilitation of the site) are adhered to, the amendments to the Environmental Authorisation for the amendment project can be approved from a visual perspective.

5.9 Heritage and Cultural Landscape

After commencement of the amendment process in 2019, the applicant elected to alter the project description further. The initial archaeological study was completed by Binneman, 2019 for the amendment. With due reason, the specialist was unable to continue the project and update the report to assess the most recent (2022) project amendments. The original report was conducted by the same specialist (Binneman, 2012). A palaeontological assessment was also carried out by Mr John Almond (2012) for the original assessment, this report remains relevant for this amendment. Asha Consulting was commissioned to conduct a new site visit and review the existing heritage reports (Binneman, 2012 and 2019; and Almond 2012) to determine whether the impact assessment ratings are appropriate to the final project description; provide new ratings if required; and formulate consolidated recommendations pertaining to all heritage resources as necessary.

5.9.1 Impacts to Heritage and Graves

Several farm buildings occur in the vicinity of the study area with a few being within its boundary. Although no direct impacts to any structures would occur, contextual impacts to significant historical structures, i.e. structures more than 60 years old, can be an issue in some instances. As impacts to graves and built heritage on and around the site was not assessed before, structures and buildings which were in very close proximity to the development were all visited during the recent site inspection. Impacts to heritage and graves on the development site and within the surrounding area would only be contextual

and are considered to be of low significance. No direct impacts for development of the grid connection will occur and no mitigation measures would be required other than the reporting of any accidentally discovered subsurface finds (considered extremely unlikely). The rating table for archaeology in the Binneman (2012 and 2019) report thus applies equally to graves and built heritage.

5.9.2 Cultural Landscape

Coastal landscapes are considered to have a higher cultural significance than areas more than 5 km in land, such as the development site. The cultural landscape of the baseline environment has been impacted by agriculture in the past and more recently by the construction of several renewable energy developments in the surrounding area, compromising the cultural landscape and 'sense of place'. Although Binneman assessed the potential impacts to the cultural landscape as being of medium significance both before and after mitigation, based on the large number of renewable facilities and transmission lines that have subsequently been constructed in the wider area, this impact is considered low significance.

5.9.3 Archaeology

Further archaeological survey work of the updated layout and grid connection conducted in December 2021 support the conclusion of the earlier work in that only scattered stone artefacts pertaining to the Early Stone Age (ESA) and/or Middle Stone Age (MSA) were located. The proposed amendments will not increase the archaeological significance of the impacts originally identified. The changes are therefore considered as having a low archaeological significance. No mitigation was proposed in the original assessment, however the specialist recommended that should any archaeological materials or human remains be discovered during construction of the grid connection, then work should cease and the find must be reported for further study as may be required.

5.9.4 Palaeontology

The specialist confirmed that the original assessment (Almond 2012) of the project remains unchanged and remain sufficient for the amendment assessment.

'*The Banna ba Pifhu Wind Energy Project study area is entirely underlain by Devonian marine rocks of the Lower Bokkeveld Group (Ceres Subgroup). These shallow marine sediments are potentially highly fossiliferous, but in practice on the southern coastal plain their fossil content has been largely or completely obliterated by high levels of deformation (e.g. cleavage development, especially within mudrocks) and by deep chemical weathering. Their effective palaeontological sensitivity is consequently very low and developments here are rated as of low significance in fossil heritage terms. No specialist palaeontological mitigation is regarded as necessary for this wind energy project.*

Should substantial fossil remains be exposed (e.g. fossil moulds of invertebrate shells) at any stage during development, these should be safeguarded - in situ, if feasible – and recorded by the responsible ECO (photos, GPS readings). ECPHRA should be alerted as soon as possible so that appropriate mitigation measures may be considered' (Almond, 2012).

The operational and decommissioning phases of the Banna ba Pifhu Grid Connection are unlikely to have any significant impacts on local fossil heritage.

Recommendations and Conclusion

Because no culturally significant heritage resources will be directly impacted and the contextual impacts are limited, the overall impact significance is low negative. Cumulative impact is also assessed as overall impact significance of low negative. As no significant

heritage concerns were identified for this revised assessment for the grid connection location, it is the opinion of the heritage specialist that the amended project as currently proposed be authorised in full.

No areas, aside from buildings on site require avoidance and no specific pre-construction mitigation measures for any heritage resources are warranted. The only recommendation made which should be included in the EA and EMPr is the below:

- If any archaeological material or human burials are uncovered during the course of development, then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and/or the project archaeologist and may require inspection and/or mitigation. Such heritage is the property of the state and may require excavation and curation in an approved institution.

5.10 Social

Dr Hugo van Zyl of Independent Economic Researchers completed the economic specialist study to form part of this EIA and submitted it to CSIR in 2012 (see Van Zyl, 2012). The same specialist was appointed to review the impacts of the project amendments.

The approach adopted to update the original socio-economic specialist assessment, conducted in 2012 involved the following steps:

1. Consider the current socio-economic context within which the project would be established and highlight key changes relative to the context described in the original 2012 assessment.
2. In light of any changes to the context and amendments, re-assess impacts and outline how they may differ from the 2012 assessment. Include a consideration of wider socio-economic impact (i.e. not only economic impacts).

The socio-economic context within which the project would be established has been characterised by steady population and economic growth since 2012. In this time, the renewable energy sector in the form of wind farms has gradually increased in importance alongside agriculture and tourism. Depending on future energy planning, it recognises that there may also be potential for the nuclear energy sector to develop in the event that the Thyspunt reactor[13] goes ahead. Land uses surrounding the site have remained largely similar.

Consultation and interviews with I&APs and other key informants or stakeholders were necessary in order to assess impacts. Table 5.3 provides a list of people who were interviewed in person, per telephone and via email during the amendment assessment:

Table 5-2: List of parties interviewed during the assessment

Name	Affiliation
Gert Greeff	Regional Manager, Land Management, Eskom
Anené Jonck	Mayor's Office, Kouga Municipality
Japie Kritzinge	Neighbouring landowner
Fezeka Mabusela	Director, Kouga Municipality Planning, Development and Tourism Directorate
Andreas van Onselen	Neighbouring landowner
Henri Pretorius	Neighbouring landowner
Bull van Rensburg	Partner, Groenwei Boerdery

[13] Eskom Nuclear Power Station: https://www.thyspunt.com/.

Ben Rheeder	Councillor, Kouga Municipality Ward 12
Revell Saint	Neighbouring landowner and partner, Groenwei Boerdery
John Stergianos	Neighbouring landowner
Mari du Toit	Land Management, Kouga Municipality
Hantie van der Westhuizen	Manager, St Francis Tourism

The discussion on financial viability and risks in the 2012 assessment remains valid and does not require any substantive changes for the amended project. As in 2012, while financial risks cannot be ignored, viability risks are considered low, assuming the project can secure a long term REIPPPP contract that secures payment for the electricity generated. The project will, however, have to compete with other wind energy projects in order to secure a contract. The balance between financial benefits and costs are thus likely to be positive for the applicant and landowner partners. These financial returns that motivate developments such as the BWF are necessary as the potential for returns is what fuels much of our economy. Aside from financial viability (and associated risks) and compatibility with planning, the following impacts were assessed in the original 2012 assessment:

1. Impacts on land owners within the site boundaries;
2. Impact on surrounding land owners;
3. Impacts on tourism;
4. Impacts associated with expenditure linked to the construction and operation of the project; and
5. Cumulative impacts.

These impacts were primarily of an economic nature but also had socio-economic elements. The findings of the original assessment were re-visited in light of the changes to the project and the updated socio-economic context. It was confirmed that the above impact categories are still valid and one additional impact category was added namely, impacts associated primarily with the influx of people.

Impacts associated with the influx of people

Community concerns are common especially in smaller communities regarding the negative impacts associated with an influx of outside workers particularly during the construction of large projects. These concerns include those associated with negative impacts on social structures and increased 'social ills' such as increased crime levels, increased alcohol and drug use, increased teenage and unwanted pregnancies, increased prostitution and increases in sexually transmitted diseases (STDs). These types of impacts are more commonly associated with the influx of people looking for work without success, but can also be associated with workers that do find work.

It is expected that a significant proportion of workers would be sourced locally especially low and medium skilled workers. These workers would already be part of the local community and its social structures thereby reducing the risk posed by influx.

It is anticipated that, with the effective implementation of mitigation measures, the significance of impacts associated with the possible influx of people would be of a low negative significance before and after mitigation during construction and operation phases of the development. This comes with the caveat that the impact on individual affected community members has the potential to be high (for example, for an individual being affected by crime). Decommissioning would entail a similar impact to the construction phase as workers are brought in for decommissioning.

The following mitigation measures are recommended:

- A 'locals first' policy with regard to construction and operational labour needs.
- That the community will be able to contact the site manager to report any issues which they may have. The site manager will be stationed within the area and will therefore be available on hand to deal with and address any concerns which may be raised.
- That a complaints register will be available on site to any individual who may have a particular complaint with regards to the construction or operations processes.
- The applicant should establish a Monitoring Forum for the project. The Forum should be established before the construction phase commences and should include key stakeholders, including representatives from the local community, local councillors, farmers, and the contractor. The role of the Forum would be to monitor the project and the implementation of the recommended mitigation measures.
- The applicant and the contractors should, in consultation with representatives from the Monitoring Forum, develop a Code of Conduct for the project. The code should identify what types of behaviour and activities by workers are not permitted in agreement with surrounding land owners. For example, access on land that is not part of the development will not be allowed (no short cuts by workers going from home to site over land that is not part of the project).
- The contractor should make necessary arrangements to enable workers from outside the area to return home over weekends and or on a regular basis during the construction phase. This would reduce the risk posed by non-local construction workers to local family structures and social networks.

Recommendations and Conclusions

The growth of the wind energy industry in the area should mean that mitigation and benefit enhancement measures are more effective than may have been anticipated in 2012. The post mitigation impacts are therefore likely to be greater but should still remain of a medium significance overall as assessed in 2012.

The proposed amendments to the project would be of minimal significance overall from a socio-economic perspective. When considering the overall costs and benefits of the amended project it was found that the latter should remain more prominent resulting in an overall net benefit as was the case in 2012.

The authorisation of the project in terms of the socio-economic impacts assessed in this report is therefore supported.

6 IMPACT ASSESSMENT SUMMARY

Specialists have confirmed that the findings of the previous EIA are still valid. Based on the specialist assessments, impact significance ratings which were revised or where any new impacts were identified during this amendment application process, are listed below.

One Avifauna impact significance ratings was revised during this Amendment process:

1. The construction phase Avifaunal impact '*Displacement of priority species due to disturbance*' was reduced from High Significance without mitigation to Medium Significance but remains at Medium Significance with mitigation.

Two additional or new impacts were identified and assessed during this EA Amendment application process, relating to Socio-economic:

1. Socio-economic construction phase impact of '*Impacts associated with the influx of people*'. This potential impact would be of Medium Significance without mitigation and Low Significance with the effective implementation of mitigation measures.

2. Socio-economic operation phase impact of '*Impacts associated with the influx of people*'. This potential impact would be of Medium Significance without mitigation and Low Significance with the effective implementation of mitigation measures.

Any amendments to impacts identified during this 2022 Amendment application process, namely Avifaunal and Socio-Economic impacts are included in Table 6.1. Table 6.2 and 6.3 contains the impact summary data extracted from the previous EIA - CSIR Updated Final EIA Report, December 2013 which are still valid and applicable for the development.

Table 6.1 below provides additional impacts identified as well as impacts where a change in significance rating of impacts were identified during the amendment process.

Table 6.2 provides a summary of the pre-mitigation and post-mitigation significance ratings for all impacts during the construction phase.

Table 6.3 below provides a summary of the pre-mitigation and post-mitigation significance ratings for all impacts during the operational phase.

Table 6-1: Impacts Amended or Added

Impact	**Pre-mitigation Significance**	**Post-mitigation Significance**
Construction		
Socio-Economic Amendment Assessment		
Impacts associated with the influx of people *(impact added)*	M	L
Avifauna Amendment Assessment		
Displacement of priority species due to disturbance *(impact amended)*	M *(from H)*	M
Operation		
Socio-Economic Amendment Assessment		
Impacts associated with the influx of people *(impact added)*	M	L

Table 6-2: Summary of Impacts during Construction Phase

Impact	**Pre-mitigation Significance**	**Post-mitigation Significance**
Construction Phase		
Flora and Fauna		
Loss of vegetation habitat on:		
Humansdorp Shale Renosterveld	H	L
Gamtoos Thicket	L	VERY L
Riparian and Wetland Vegetation	H	L
Reduction or changes to ecological processes and functioning in:		
Humansdorp Shale Renosterveld	M	L
Gamtoos Thicket	L	VERY L

Impact	Pre-mitigation Significance	Post-mitigation Significance
Construction Phase		
Riparian and Wetland Vegetation	M	L
Temporary fragmentation of habitats	M	L
Increased risk of invasion by alien plants in drainage lines and disturbed areas	M	L
Changes in natural fire regime	M	L
Reduction of ecosystem functioning	M	L
Loss of species of special concern and SSC habitat:		
Humansdorp Shale Renosterveld	M	L
Gamtoos Thicket habitat	L	VERY L
Loss of floral SSC	M	L
Habitat destruction may affect faunal diversity and composition:		
Reptiles	M	L
Amphibians	M	L
Mammals	M	L
Road mortality from truck/vehicle and other service vehicles:		
Reptiles	H	L
Amphibians	H (when raining) L (when not raining)	L
Mammals	M	L
Poaching of Mammals	M	L
Fauna harmed by fences (reptiles and mammals)	H	M
Corridor disruptions as a result of habitat fragmentation for:		
Reptiles	M	L
Amphibians	M	L
Mammals	M	L
Avifauna		
Displacement of priority species due to disturbance *(impact amended)*	M *(from H)*	M

Impact	Pre-mitigation Significance	Post-mitigation Significance
Construction Phase		
Displacement of priority species due to habitat destruction	L	L
Bats		
Bat roost disturbance and/or destruction due to construction activities	M	VERY L
Fragmentation to and displacement from foraging habitat due to wind turbine construction.	M	L
Loss of Conservation Important Bat Species from the area due to construction activities	M	M
Visual		
Impact on agricultural/coastal resort landscape character types	H	H
Impact on sensitive visual receptors due to the construction of a wind farm	H	H
Intrusion of a wind farm on the views of sensitive visual receptors	H	H
Impact of night lighting of wind farm on sensitive viewers	M	M
Noise		
Impact of the construction noise on the Noise Sensitive Areas (NSAs)	L	L
Socio-Economic		
Impacts on land owners and land uses on the site	L	L
Impacts on surrounding land users	L	L
Impacts associated with project investment / expenditure	M	M
Impacts associated with the influx of people *(impact added)*	M	L
Archaeology		
Impacts to the pre-colonial archaeology	L	L
Impacts to the pre-colonial cultural landscape	M	M
Palaeontology		
Destruction, disturbance or sealing-in of buried fossils during bedrock excavations and construction work	L	L
Wetlands and other Aquatic Ecosystems		
Physical destruction of aquatic habitat	M	L

Impact	Pre-mitigation Significance	Post-mitigation Significance
Construction Phase		
Loss of wetland habitat, ecosystem services and biodiversity services	M	L
Loss of species of special concern	H	L
Habitat fragmentation – loss of ecological corridors	M	L
Sedimentation and erosion	M	L
Impact on localized surface water quality *(impact added)*	M	L
Soil		
Loss of agricultural land	L	L
Disturbance of run-off and resultant potential impact on erosion	L	L
Disturbance of existing contour banks	n/a	n/a
Soil profile disturbance and resultant decrease in soil agricultural capability	L	L
Prevention of crop spraying by aircraft over land occupied by turbines	L	L
Disturbance of cultivation practices due to the division of existing camps by turbines and access roads	L	L
Placement of spoil material generated from excavations	L	L
Yield reduction	L	L
Prevention of possible future agricultural activities on land occupied by turbines	L	L

Table 6-3: Summary of Impacts during Operational Phase

Impact	Pre-mitigation Significance	Post-mitigation Significance
Operational Phase		
Flora and Fauna		
Reduction or changes to ecological processes and functioning in:		
Humansdorp Shale Renosterveld	H	L
Gamtoos Thicket	L	VERY L
Riparian and Wetland Vegetation	H	M
Increased risk of alien invasion in drainage lines and disturbed areas	M	L

Impact	Pre-mitigation Significance	Post-mitigation Significance
Operational Phase		
Changes in natural fire regime	M	L
Reduction of ecosystem functioning	M	L
Habitat destruction may affect faunal diversity and composition:		
Reptiles	L	L
Amphibians	L	L
Mammals	L	L
Road mortality from truck/vehicle and other service vehicles:		
Reptiles	H	L
Amphibians	H (when raining) L (when not raining)	L
Mammals	H	L
Poaching of Mammals	L	L
Fauna harmed by fences (reptiles and mammals)	M	L
Corridor disruptions as a result of habitat fragmentation for:		
Reptiles	M	L
Amphibians	H (when raining) L (when not raining)	M
Mammals	L	L
Avifauna		
Displacement of priority species due to disturbance caused by the operation of the wind farm	M-H	M-L
Collisions with the associated power line	M	L
Bats		
Bat fatalities due to electrocution from overhead powerlines	M	L
Loss of Conservation Important Bat Species from the area due to operation activities	H	M
Loss of bats providing important ecosystem services	H	L
Visual		

Impact	Pre-mitigation Significance	Post-mitigation Significance
Operational Phase		
Impact on agricultural/coastal resort landscape character types	H	H
Intrusion of a wind farm on the views of sensitive visual receptors	H	H
Noise		
Impact of the operational noise on the Noise Sensitive Areas (NSAs) using the Vestas V100 WTG	L	L
Socio-Economic		
Impacts on land owners and land uses on the site	L – M	M
Impacts on surrounding land users	L	L
Impacts on tourism	M	M
Impacts associated with project investment / expenditure	L – M	M
Impacts associated with the influx of people *(impact added)*	M	L
Wetlands and other Aquatic Ecosystems		
Loss of wetland habitat, ecosystem services and biodiversity services	M	L
Loss of species of special concern	M	L
Habitat fragmentation – loss of ecological corridors	M	L
Sedimentation and erosion	M	L
Impact on localized surface water quality *(impact added)*	M	L
Soil		
Loss of agricultural land	L	L
Disturbance of cultivation practices due to the division of existing camps by turbines and access roads	L	L
Yield reduction	L	L
Increased financial security for farming operations, due to reliable income from turbine rental *(impact added)*	M+	M+

6.1 Cumulative Assessment

The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present or reasonably foreseeable future activities that will affect the same environment. The most important concept related to a cumulative impact is that of an acceptable level of change to an environment. A cumulative impact only becomes relevant when the impact of the proposed

development will lead directly to the sum of impacts of all developments causing an acceptable level of change to be exceeded in the surrounding area. If the impact of the development being assessed does not cause that level to be exceeded, then the cumulative impact associated with that development is not significant.

Implementation of renewable energy in the Kouga Local Municipality (KLM) is guided by the Renewable Energy Land Use Policy in the Spatial Development Framework (SDF). The Local Economic Development (LED) Department of the KLM works with the wind energy facilities on their social economic development projects as well as preparing the youth for careers in the sector. It also assists in facilitating training for Small, Medium and Micro Enterprises (SMME's) in preparation and anticipation of services needed in wind energy facilities development. When considering the key economic growth opportunities for Humansdorp, the SDF notes that it provides the potential opportunity to be a gateway to the district's renewable energy industry (KLM, 2015).

The selection of projects to be included in the assessment of cumulative impacts, was based on the knowledge and status of the surrounding areas at the time of writing this Report (Figure 5). Each of the specialists used existing publicly available information for the relevant developments that occur within an up to 35 km radius of the development, in order to assess the cumulative impacts. Cumulative impacts that have been considered are those residual impacts that remain medium to high post-mitigation and are highly qualitative and based on specialists' and EAPs knowledge.

A number of renewable facilities have been constructed and others have been authorised by the Department of Forestry, Fisheries and the Environment. There are currently five wind farms facilities operating in the wider Humansdorp, Oyster Bay, St Francis Bay and surrounds, which are between approximately 6 km and 25 km away from the Banna ba Pifhu development area, namely:

- Jeffrey's Bay Wind Farm to the north east of Humansdorp;
- Kouga Wind Farm to the north east of Oyster Bay;
- Tsitsikamma Wind Farm to the north west of Oyster Bay;
- Gibson Bay Wind Farm to the west of Oyster Bay; and
- Oyster Bay Wind Farm near Oyster Bay.

These operational wind farms all connect in to the national grid.

Table 6-4: List of Existing Electrical Grid Infrastructure within up to 35 km of the Banna ba Pifhu Grid Connection

Description	Line Status	Line Voltage
NJDQ001	Commissioned	22 kV
SFB-CSF-42-43	Commissioned	22 kV
St Francis Bay - DIE-SFB-355	Commissioned	22 kV
St Francis Bay - SFB-CSF-1	Commissioned	22 kV
1ME-SFB-98 - 1ME-SFB-97	Commissioned	22 kV
St Francis Bay - 1ME-SFB-98	Commissioned	22 kV

The visual study observed that the project is one of many wind farms proposed for the coastal plain of the Kouga Municipality. In addition, a number of wind farms have already been constructed and still others have received environmental authorisation from Oyster Bay to Jeffrey's Bay, resulting in "a regional wind energy landscape". "The addition of the relatively small Banna ba Pifhu wind farm and associated grid line is therefore likely to only affect sensitive viewers nearby, and the cumulative effect in the region is expected to be minimal" (Oberholzer and Lawson, 2022). The cumulative effective of potential impacts

associated with the influx of people should also have a low significance given the nature of the project.

The cumulative impacts were assessed and were found to be low, due to the current state of the surrounding environment and the overall avoidance of any sensitivity habitats by the revised layout. Limited cumulative impacts are expected on the fauna and flora because of the expansion of the site, due to the limited disturbance area. These include regional loss of vegetation and species of special concern.

Positive cumulative impacts are also likely as the project should set a positive precedent for further investment in the area. By committing to a large investment, the applicant would be casting a strong 'vote of confidence' in the local economy. This has the potential to influence other investors (including locals) to also act with greater confidence thereby resulting in cumulative impacts on overall investment levels. In a sense, the project and other wind energy projects, have the potential to lead to the 'crowding in' of further investment. As the wind energy industry grows in size (aided by projects such as Banna Ba Pifhu) it should be able provide further opportunities for manufacturing and servicing at scale and the additional, cumulative benefit that would flow from this.

7 ADVANTAGES AND DISADVANTAGES

The proposed amendment to the Grid Connection does not have any direct advantages or disadvantages. The overall impact of the changes is negligible and impacts assessed by specialist in 2012/2013 remain valid for this amendment.

8 CHANGES TO THE EMPR

The EMPr for the original Banna ba Pifhu Grid Connection prepared by CSIR, 2013 was updated by the EAP to include any revisions based on legislation. Refer to Volume II of this Report for the updated EMPr.

9 PUBLIC PARTICIPATION PROCESS

The Public Participation Process follows the requirements of Section 24 (5) and Chapter 6 (41, 42, 43, and 44) of GN R. 326 of NEMA EIA Regulations, 2014 (as amended), as well as the Public Participation Guidelines in terms of NEMA, 1998 EIA Regulations, 2014.

During Alert Level 3 of the COVID-19 Pandemic, the DFFE published Government Notice 43412 on 5 June 2020[14] (*These Regulations have since been repealed but the application will still follow the approved public participation process*). Included in this notice was the requirement to submit a Public Participation (PP) Plan to the DFFE prior to the commencement of a PP Process (PPP). The plan was designed to show how the EAP aims to provide sufficient and accessible information to all Interested and Affected Parties (I&APs) in a safe manner during COVID-19 Pandemic. The Plan was submitted and approved by the DFFE on 15 March 2022 and a copy of the approved plan is included in Appendix B 1.

A PPP is an important part of any application. The aim of PPP is:

- To inform I&APs of the proposed amendments;
- To identify and respond to issues, comments and concerns as raised by I&APs;
- To promote transparency of the project and its potential consequences and ensure I&APs understanding of the proposed amendments;
- To facilitate open dialogue and liaise with all I&APs;

[14] Directions regarding measures to address, prevent and combat the spread of Covid-19 relating to National Environmental Management Permits and Licences.

- To assist in identifying potential environmental (biophysical and socio-economic) impacts associated with the proposed amendment; and
- To ensure that all I&AP issues and comments are accurately recorded, addressed and documented in a Comments & Response Report.

9.1 Initial Notification Phase

The initial notification phase gives opportunity to the public to register as an I&AP and receive all correspondence and notification regarding the application process. During this phase the following was conducted:

- The socio-economic specialist study included consultation and interviews with I&APs and other key informants or stakeholders as necessary in order to assess social impacts;
- Site notices were erected on the site boundary in June 2019 and March 2022, respectively (see Appendix B);
- Poster notices were erected in the town of Humansdorp and St Francis Bay in June 2019 and March 2022, respectively (see Appendix B);
- Advertisements were placed in the *Our Times* and *The Herald* newspapers (in English and Afrikaans) on the 05 June 2019 and in the *Eastern Cape Kouga Express* and *The Herald* newspapers on the 10 March 2022 (see Appendix B); and
- Initial notification e-mails were distributed on to all pre-identified I&APs from the existing database[15], including the affected landowner and occupiers of the site, municipal councillor(s), ratepayers in the area, affected district and local municipalities, and organs of state. I&APs who responded to the newspaper and notices were also sent an initial notification email (see Appendix B).

9.2 Draft Amendment Phase

I&APs are able to register throughout the duration of the process and all registered I&APs are kept informed about the progress of the application.

The following tasks are undertaken during the Amendment process:

- Notification letters are sent to registered I&APs, key stakeholders, and organs of state to inform them of the availability of the Draft Amendment Report (DAR) for review and comment (30 days);
- During the availability of the DAR, a public and/or focus group meeting may be held virtually, however, the need for this will only be determined if requested;
- A Comment and Reponses Report, recording comments and/or queries received and the responses provided will be kept up to date throughout the application process (see Appendix B of this Report);
- Notification letters will be sent to all registered I&APs, key stakeholders, and organs of state to inform them of the submission of the Final Amendment Report (FAR) to the DFFE for decision, which will include responses to comments made during the PP period;
- Notification letters will be sent to all registered I&APs, key stakeholders, and organs of state to inform them of the decision by the DFFE and the appeal procedure; and
- Placement of advertisements in the same local and regional newspapers, if required, (in English and Afrikaans) to inform I&APs of the decision taken by the DFFE.

9.3 Summary of Issues Raised

A Comments and Response Table reflects the comments received before finalisation of this draft amendment report. The Comments and Response Table will be updated throughout

[15] The latest I&AP database of the authorised Banna Wind Farm was reviewed and updated to be used as the pre-identified I&APs list.

the process as comments are received, and responded to and addressed by the project team, i.e., EAP, Applicant and Specialists as applicable and will be included in Appendix B of the final amendment report. To date, correspondence received from I&APs was requests to be registered on the I&AP database and follow up on the commencement of PPP (Appendix B: Public Participation Report).

10 CONDITIONS TO BE ADDED TO THE EA

Based on the assessment conducted by specialists for the proposed project amendments, the following conditions are recommended to be included in the amended EA:

Avifauna

- Restrict the construction activities to the construction footprint area.
- Do not allow any access to the remainder of the property during the construction period.
- Measures to control noise and dust should be applied according to current best practice in the industry.
- Maximum use should be made of existing access roads and the construction of new roads should be kept to a minimum.
- Following construction, rehabilitation of all areas disturbed (e.g. temporary access tracks and laydown areas) must be undertaken and to this end a habitat restoration plan is to be developed by a rehabilitation specialist.
- The recommendations of the specialist ecological study must be strictly adhered to.
- Once the development has been constructed, post-construction monitoring should be implemented to compare actual collision rates with predicted collision rates.
- Should mortality of priority species be recorded, the avifaunal specialist, in consultation with external experts and relevant NGO's such as BLSA, must determine annual mortality thresholds for those priority species killed by collisions.
- The proposed 66kV power line should be marked with Bird Flight Diverters (BFDs) or Bird Flappers for its entire length to lower the risk of avian collisions with the power line, according to the Eskom standard.

Archaeology / Heritage

- If any archaeological material or human burials are uncovered during the course of development, then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and/or the project archaeologist and may require inspection and/or mitigation. Such heritage is the property of the state and may require excavation and curation in an approved institution.

11 CONCLUSION AND IMPACT STATEMENT

Based on the assessments conducted, the construction of the grid connection is acceptable from an environmental perspective. The approval of the development is required for the construction and operation of the Banna ba Pifhu Wind Farm (DFFE Ref. 12/12/20/2289, as amended) to commence. The aim of the development is to evacuate renewable energy in to the national grid.

The applicant is also requesting a validity period of 10 years for the EA, should it be authorised. As required in terms of Regulation 32(1)(a)(iii), consideration was given to the requirements for additional measures to ensure the avoidance, management and mitigation of impacts associated with the proposed amendments. The amended grid connection was assessed by the specialists. Specialists conducted site visits and submitted amendment reports which assessed the level of impacts the proposed amendments (including for the Banna ba Pifhu Wind Farm, which is following a separate application process) will have on

the environment and provided updated constraints and recommendations. Any changes to the baseline environment assessed by the specialists has been included in this report.

Minimal change to significance ratings of the previously assessed impacts resulted from this amendment. Specialist input to assess the impacts of the Banna ba Pifhu Grid Connection has concluded that the negative impacts of the development have either been avoided through the iterations of the previous EIA and current EA Amendment application process or are within acceptable limits. An environmental sensitivity map illustrates the proposed layout superimposed by the environmental constraints and No-Go Areas (Figure 4 – Environmental Sensitivity Map).

Given South Africa's need for additional electricity generation and the need to decrease the country's dependency on coal-based power, renewable energy has been identified as a national priority, with wind energy identified as one of the readily available, technically viable and commercially cost-effective sources of renewable energy. Wind energy provides further positive externalities in the form of socio-economic benefits and cheaper tariffs.

It is the opinion of the EAP that the amendments to the authorised Banna ba Pifhu Grid Connection **should be approved**. The conclusion of the previous EIA - specifically that there is no fatal flaw preventing the development from proceeding is still valid. With the implementation of all mitigation measures recommended, the Banna ba Pifhu grid connection will be able to evacuate the renewable energy produced by the Banna ba Pifhu wind farm using the latest, most efficient infrastructure to obtain maximum energy yield with least the environmental impacts.