



DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME
PROPOSED ARLINGTON MULTIPLE-USE DEVELOPMENT ON ERVEN
3988, 4195 AND 6991 ALONG GLENDORE ROAD IN WALMER,
GQEBERHA, NELSON MANDELA BAY MUNICIPALITY, EASTERN CAPE

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SYNOPSIS

Environmental Management Programme for Environmental Authorisation (EA) for the proposed Arlington Multiple-Use development in Walmer, Gqeberha (Port Elizabeth), within the Nelson Mandela Bay Municipality (NMBM) of the Eastern Cape Province.

KEY WORDS:

Environmental Management Programme; Multiple - Use Development; NEMA; Legislative Requirements; Listed Activities; Impact Management Objectives, Outcomes & Actions; Monitoring, Residential Development; Infrastructure Development

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QUALITY VERIFICATION

This report has been prepared under the controls established by a quality management system that meets the requirements of ISO 9001: 2015 which has been independently certified by DEKRA Certification.



Verification	Capacity	Name	Signature	Date
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DEFINITIONS

For the purpose of this document the following definitions will apply:

Alien vegetation means all undesirable vegetation, defined as but not limited to, all declared category 1 and category 2 plants in terms of the Conservation of Agricultural Resources Act (43 of 1983) (CARA) amended regulations 15 and 16 as promulgated in March 2001.

Construction activity refers to any action taken by the Contractor, his subcontractors, suppliers, or personnel in undertaking the construction work.

Construction area(s) refers to all areas used by the Contractor in order to carry out the required construction activities. This includes, all offices, accommodation facilities, testing facilities/laboratories, batching areas, storage & stockpiling areas, workshops, spoiling areas, access roads, traffic accommodation (e.g., bypasses), etc.

Contractor is a person or company appointed by the Applicant to carry out construction activities.

Emergency is an undesired event that does result in a significant environmental impact and requires the notification of the relevant statutory body, such as a Local Authority.

Environment means the surroundings within which humans exist and that are made up of - land, water, and atmosphere; micro-organisms, plant and animal life; any part or combination of the above and the interrelationships among and between them; the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental Control Officer is an individual appointed to monitor and audit the implementation and of the EMPr.

Environmental Impact is a change to the environment, whether adverse or beneficial, wholly, or partially, resulting from an organisation's activities, products, or services.

Environmental Management Programme is a detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive impacts and limiting or preventing negative environmental impacts are implemented during the life cycle of a project. This EMPr focuses on the Construction, Post Construction Rehabilitation and Operation / Maintenance Phases of the proposed project.

Environmental Impact refers to any change to the environment, whether desirable or undesirable, that would result directly or indirectly from any construction activity.

Hazardous material/substances refer to any substance that contains an element of risk and could have a deleterious effect on the environment.

Incident is an undesired event which may result in a significant environmental impact but can be managed through internal response.

ABBREVIATIONS

AVCP	Alien Vegetation Clearing Programme
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
ELO	Environmental Liaison Officer
EMPr	Environmental Management Programme
ER	Employers Representative
IAP	Interested and Affected Party
IDP	Integrated Development Plan
MS	Method Statement
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)

ENVIRONMENTAL MANAGEMENT PROGRAMME

PROPOSED ARLINGTON MULTIPLE-USE DEVELOPMENT ON ERVEN 3988, 4195 AND 6991 ALONG GLENDORE ROAD IN WALMER, GQEBERHA, NELSON MANDELA BAY MUNICIPALITY, EASTERN CAPE

1. INTRODUCTION AND PROJECT DESCRIPTION

The Project Applicant, Afrostructures (Pty) Ltd. has identified a need for a multiple-use development that will be in Walmer, Gqeberha (Port Elizabeth) within the Nelson Mandela Bay Metropolitan Municipality (NMBM) of the Eastern Cape Province. Adendorff Architects (Pty) Ltd. has been assigned as the Principal Agent and Architect to this development whereas Afrostructures (Pty) Ltd. will serve as the Applicant for this EA application.

The Applicant intends to establish a multiple-use development, comprising of 25 clusters as well as an internal road network, on erven 3988, 4195 and 6991, along Glendore Road in Walmer. The consolidated development footprint will be 614 409 m² (61,4 Ha) in extent. Approximately 3 000 residential units are proposed which will be divided amongst nine (9) clusters designated for General Residential Zone 2 and General Residential Zone 4. In addition, 13 clusters designated for both Business Zone 1 and Business Zone 2 are planned, as well as one (1) cluster for Community Purposes and two (2) clusters for Special Purposes Infrastructure (solar power & wastewater treatment).

This development will aim to promote social, economic, and environmental sustainability. The project will be resource efficient through resource management ideas such as the improvement of the water distribution network, rainwater management, digital smart meters, renewable energy generation, sustainable drainage, reduction of water generation, optimisation of waste management.

The development in its entirety will include the following components:

- a) Retail/Business Infrastructure.
- b) Office/Storage Facilities.
- c) Medical Use/Office Facilities.
- d) Special Use High Tech Industrial facility/infrastructure.
- e) Warehouse Facilities.
- f) Community Zone (i.e., child aftercare facilities).
- g) Mixed-residential Housing Units including Social Housing – approximately 3000 units are proposed.
- h) Club House and Sport Facilities.
- i) A Business Incubator / Substation Area.
- j) Parking/Solar Charging Stations.
- k) Special Purposes Infrastructure – solar photovoltaic power park & wastewater treatment plant.
- l) Open spaces.
- m) Installation of internal infrastructure services, such as water, sanitation, irrigation, stormwater, roads, and electricity, to service the proposed infrastructure. See further details below; and Installation of external infrastructure services, such as stormwater and sanitation connection lines as well as a pedestrian walkway along Racecourse Road and two traffic circles along Glendore Road. An

additional road will be constructed between the south-western corner of the site and the northern circle.

A map indicating the location of the proposed development site, is included in Appendix A.

2. LEGISLATIVE REQUIREMENTS

Chapter 2 of the Constitution comprises the Bill of Rights which makes provision for Environmental Rights. These include that everyone has the right:

- To an environment that is not harmful to their health or well-being; and
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
 - Prevent pollution and ecological degradation;
 - Promote conservation; and
 - Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

In terms of the National Environmental Management Act No. 107 of 1998 (NEMA) Environmental Impact Assessment (EIA) Regulations published in Government Notice No. R.982 of 2014 (as amended), the activities associated with the proposed project constitutes listed activities that require Environmental Authorisation (EA) prior to commencement. The proposed activities are subject to a Scoping & Environmental Impact Assessment (S&EIA) in terms of the NEMA. The applicant, Afrostructures (Pty) Ltd., must therefore apply to the Competent Authority, the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), for EA to proceed with the project.

JG Afrika (Pty) Ltd was appointed by Adendorff Architects, on behalf of Afrostructures (Pty) Ltd., as the independent Environmental Assessment Practitioner (EAP), to undertake the S&EIA process required for the proposed project. In terms of Section 19 of the EIA Regulations, an EMPr is required to accompany the EIA Report. This document constitutes such management programme.

Appendix 4 of the NEMA EIA Regulations sets out the required content of an EMPr. This EMPr has been developed in fulfilment of these requirements. Refer to Table 2 below which references applicable sections in this document to the information required.

2.1. Listed Activities

As per the current application, the following Listed Activities in terms of the NEMA: EIA Regulations of 2014 (as amended), as indicated in **Table 1** below, are being applied for and will be undertaken if approved:

Table 1: Summary of Listed Activities Triggered by the proposed development. Strikethrough text indicated those sub-sections of the Listed Activity that are not applicable to the proposed development.

ACTIVITY AND GOVERNMENT NOTICE NUMBER	ACTIVITY DESCRIPTION	DISCUSSION IN TERMS OF APPLICABILITY
Activity 1 Listing Notice 1 of GNR. 327 (983) (2014 EIA Regulations as amended)	The development of facilities or infrastructure for the generation of electricity from a renewable resource where – <ul style="list-style-type: none"> (i) The electricity output is more than 10 megawatts but less than 20 megawatts; or (ii) The output is 10 megawatts or less, but the total extent of the facility 	A solar PV ground mount system is proposed as part of the development and will have an electricity output of 5 MW and will cover an area of 5.7 Ha.

	<p>covers an area in excess of 1 hectare;</p> <p>Excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs—</p> <p>(a) Within an urban area; or</p> <p>(b) On existing infrastructure.</p>	
<p>Activity 9</p> <p>Listing Notice 1 of GNR. 327 (983) (2014 EIA Regulations as amended)</p>	<p>The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or stormwater –</p> <p>(i) With an internal diameter of 0.36 metres or more; or</p> <p>(ii) With a peak throughput of 120 litres per second or more.</p> <p>excluding where—</p> <p>(a) such infrastructure is for bulk transportation of water or storm water or stormwater drainage inside a road reserve or railway line reserve; or</p> <p>(b) where such development will occur within an urban area.</p>	<p>The proposed development will include pipeline infrastructure exceeding a cumulative length of 1 000 m for the transportation of stormwater. A section of the pipeline will have an internal diameter of 0.6 m.</p> <p>The proposed development will also include water supply network exceeding a cumulative length of 1 000 m.</p>
<p>Activity 10</p> <p>Listing Notice 1 of GNR. 327 (983) (2014 EIA Regulations as amended)</p>	<p>The development and related operation of infrastructure exceeding 1 000 metres in length for bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge, or slimes –</p> <p>(i) With an internal diameter of 0.36 metres or more; or</p> <p>(ii) With a peak throughput of 120 litres per second or more</p> <p>excluding where—</p> <p>(a) such infrastructure is for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or</p> <p>(b) where such development will occur within an urban area.</p>	<p>The proposed development will include a gravitational system and collector sewers of which the pipeline lengths will cumulatively exceed a 1 000 m.</p>
<p>Activity 24</p> <p>Listing Notice 1 of GNR. 327 (983) (2014 EIA Regulations as amended)</p>	<p>The development of a road-</p> <p>(i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or</p> <p>(ii) with a reserve wider than 13.5 metres, or where no reserve exists where the road is wider than 8 metres;</p> <p>but excluding a road-</p>	<p>The proposed development will include the establishment of a new main access ring road, collector link roads providing access to the clusters. A new road outside the property boundary is also proposed between the south-western corner of the site Glendore Road. As these are new roads no reserve exists. The width of certain roads will exceed 8 m.</p>

	<p>(a) which is identified and included in activity 27 in Listing Notice 2 of 2014;</p> <p>(b) where the entire road falls within an urban area; or</p> <p>(c) which is 1 kilometre or shorter.</p>	
<p>Activity 28</p> <p>Listing Notice 1 of GNR. 327 (983) (2014 EIA Regulations as amended)</p>	<p>Residential, mixed, retail, commercial, industrial, or institutional developments where such land was used for agriculture, game farming, equestrian purposes, or afforestation on or after 01 April 1998 and where such development:</p> <p>(i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares;</p> <p>or</p> <p>(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;</p> <p>excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.</p>	<p>The proposed project area was previously used for equestrian purposes (horse racing) between 1950 to 2013 and known as the Arlington Racecourse. The project site falls outside an urban area and the total land to be developed will be 61.4 Ha.</p>
<p>Activity 15</p> <p>Listing Notice 2 of GNR. 325 (984) (2014 EIA Regulations as amended)</p>	<p>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for—</p> <p>(i) the undertaking of a linear activity;</p> <p>or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>The proposed project area is approximately 61.4 Ha in extent and will require the clearance of indigenous vegetation.</p>
<p>Activity 2</p> <p>Listing Notice 3 of GNR. 324 (985) (2014 EIA Regulations as amended)</p>	<p>The development of reservoirs, excluding dams, with a capacity of more than 250 cubic metres.</p> <p>a. Eastern Cape</p> <p>i. In a protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) National Protected Area Expansion Strategy Focus areas;</p> <p>(bb) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(cc) Sites or areas identified in terms of an international convention;</p> <p>(dd) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ee) Core areas in biosphere reserves;</p> <p>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any</p> <p>other protected area identified in terms of</p>	<p>The proposed development will include the installation of tanks exceeding 250 m³ for the storage of raw (ground) water and potable water. It is likely that the DEDEAT might consider tanks as reservoirs, and so, this Listed Activity is potentially triggered due to site being located outside an urban area and 3 km from the Sardinia Bay Nature Reserve, a protected area identified in terms of NEMPAA (2003).</p>

	<p>NEMPAA or from the core area of a biosphere reserve;</p> <p>(gg) In an estuarine functional zone, excluding areas falling behind the development setback line;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p style="padding-left: 40px;">iii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p>	
<p>Activity 4</p> <p>Listing Notice 3 of GNR. 324 (985) (2014 EIA Regulations as amended)</p>	<p>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</p> <p style="padding-left: 40px;">a. Eastern Cape</p> <p style="padding-left: 80px;">i. Outside urban areas:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding disturbed areas;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an international convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve, excluding disturbed areas;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or (ii) In an estuarine functional zone, excluding areas falling behind the development setback line; or</p> <p style="padding-left: 40px;">ii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>(cc) Seawards of the development setback line or within urban protected areas.</p>	<p>The proposed development will include the establishment of a new main access ring road, collector link roads providing access to the clusters. A new road outside the property boundary is also proposed between the south-western corner of the site Glendore Road. As these are new roads no reserve exists. The width of certain roads will exceed 4 m.</p> <p>The project site is located outside an urban area and ±3 km from the Sardinia Bay Nature Reserve, a protected area identified in terms of NEMPAA (2003).</p>

<p>Activity 12</p> <p>Listing Notice 3 of GNR. 324 (985) (2014 EIA Regulations as amended)</p>	<p>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.</p> <p>a. Eastern Cape</p> <p>i. Within any critically 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;</p> <p>ii. Within critical biodiversity areas identified in bioregional plans;</p> <p>iii. Within the littoral active zone or 100 metres inland from the high water mark of the sea, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;</p> <p>iv. Outside urban areas, within 100 metres inland from an estuarine functional zone; or</p> <p>v. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.</p>	<p>More than 300 m² of indigenous vegetation will be cleared for the proposed development. The site footprint falls within two vegetation types, namely Sardinia Forest Thicket and Algoa Sandstone Fynbos as identified by the Nelson Mandela Bay Municipality's Bioregional Plan (NMBMBP) (2015) and the South African National Biodiversity Assessment (SA NBA) (2018), respectively. In respect of its conservation status Algoa Sandstone Fynbos is listed as a Critically Endangered ecosystem according to the most recent Threat Status contained in the SA NBA (2022).</p> <p>Also, as per the Zoning Scheme Register of the NMBM, most of the development footprint is zoned as Open Space.</p>
<p>Activity 15</p> <p>Listing Notice 3 of GNR. 324 (985) (2014 EIA Regulations as amended)</p>	<p>The transformation of land bigger than 1000 square metres in size, to residential, retail, commercial, industrial, or institutional use, where, such land was zoned open space, conservation or had an equivalent zoning, on or after 02 August 2010.</p> <p>a. Eastern Cape</p> <p>i. Outside urban areas, or</p> <p>ii. Inside urban areas:</p> <p>(aa) Areas zoned for conservation use or equivalent zoning, on or after 02 August 2010;</p> <p>(bb) A protected area identified in terms of NEMPAA, excluding conservancies; or</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act as adopted by the competent authority.</p>	<p>The proposed project area is approximately 614 409 m² in extent, thus exceeding the 1 000 m² threshold, and will be transformed to a variety of uses (residential, retail, commercial, or institutional). Most of the development footprint is zoned Open Space and the site falls outside an urban area.</p>

2.2. Requirements of the EMPr

Appendix 4 of the NEMA: EIA Regulations of 2014 (as amended) sets out the required content of an EMPr. This EMPr has been developed in fulfilment of these requirements. Refer to **Table 2** below which references applicable sections in this document to the information required.

Table 2: Content of the EMPr

Information required in terms of Appendix 4 of the 2014 EIA Regulations – Content of EMPr	Reference in the EMPr
(a) Details of – (i) The EAP who prepared the EMPr; and (ii) The expertise of that EAP to prepare an EMPr, including a curriculum vitae.	Section 4 – the authors and reviewers of the EMPr Appendix B – compilers' CV
(b) A detailed description of the aspects of the activity that are covered by the EMPr as identified in the project description	Section 2.1 – Listed Activities Section 1 – Project Description Section 5 – Specialist Studies Section 6 – Aspects and Activities
(c) A map at an appropriate scale, which superimposes the proposed activity, its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers.	Appendix A - Maps
(d) A description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated, as identified through the environmental impact assessment process for all phases of the development, including – (i) Planning and design; (ii) Pre-construction activities; (iii) Construction activities; (iv) Rehabilitation of the environment after construction and where applicable, post-closure; and (v) Where relevant, operational activities.	Section 8 – Impact Management Objectives and Outcomes
(e) A description and identification of impact management outcomes required for the aspects contemplated in paragraph (d).	Section 8 – Impact Management Objectives and Outcomes
(f) A description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to – (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; (ii) comply with any prescribed environmental management standards or practices; (iii) comply with any applicable provisions of the Act regarding closure, where applicable; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable.	Section 9 – Impact Management Actions
(g) The method of monitoring the implementation of the impact management actions contemplated in paragraph (f).	Section 10 – Monitoring
(h) The frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f).	Section 10 – Monitoring
(i) An indication of the persons who will be responsible for the implementation of the impact management actions.	Section 7.2 – Roles and Responsibilities
(j) The time periods within which the impact management actions contemplated in paragraph (f) must be implemented.	Sections 8 and 10

Information required in terms of Appendix 4 of the 2014 EIA Regulations – Content of EMPr	Reference in the EMPr
(k) The mechanism for monitoring compliance with the impact management actions contemplated in in paragraph (f).	Section 10 – Monitoring
(l) A program for reporting on compliance, taking into account the requirements as prescribed by the Regulations.	Section 10 – Monitoring
(m) An environmental awareness plan describing the manner in which – (i) The applicant intends to inform his or her employees of any environmental risk which may result from their work; and; (ii) Risks must be dealt with in order to avoid pollution or the degradation of the environment.	Section 7.3 – Environmental Awareness Plan
(n) Any specific information that may be required by the competent authority.	This will be addressed, if required, if Environmental Authorisation (EA) is issued.

This EMPr, which should form an integral part of all contract documents for the project, informs Afrostructures (Pty) Ltd., and all its appointed Agents, of their duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction and operational / maintenance activities associated with the project.

Afrostructures (Pty) Ltd., and all appointed Agents should note that the obligations imposed by the EMPr are legally binding in terms of environmental statutory legislation. As such, failure to comply with the EMPr will constitute an offence and Afrostructures (Pty) Ltd., and/or their Agents may be liable for penalties and/or legal action. Therefore, it is important for all the responsible parties to understand their duties and undertake them with due care.

It is expected that Afrostructures (Pty) Ltd., and its appointed Agents will be conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the project, including, but not limited to:

- Constitution of the Republic of South Africa No. 108 of 1996;
- National Environmental Management Act No. 107 of 1998 (NEMA);
- National Environmental Management Waste Act No. 59 of 2008 (NEMWA);
- Norms and Standards for the Storage of Waste and List of Waste Activities (November 2013);
- National Environmental Management: Biodiversity Act, No. 10 of 2004;
- National Water Act No. 36 of 1998 (NWA);
- South African Heritage Resources Act, No 25 of 1999;
- Occupational Health and Safety Act No. 85 of 1993 (OHSA);
- Hazardous Substances Act No. 15 of 1973;
- National Building Regulations and Building Standards Act, No 103 of 1977;
- The National Road Traffic Act, No. 93 of 1996;
- Relevant regulations as promulgated under the Standards Act, No 30 of 1982; and
- Relevant NMBM by-laws.
- Nelson Mandela Bay Metropolitan Municipality Land Use Scheme, 2023.

3. APPLICABLE DOCUMENTATION

The following environmental documentation is applicable for the project, and must be read in conjunction with this EMPr:

- Draft Environmental Impact Assessment Report (JG Afrika (Pty) Ltd, April 2024); and,
- Environmental Authorisation (once issued).

4. DETAILS OF THE AUTHOR

JG Afrika (Pty) Ltd. is an engineering and environmental consulting firm with a complement of some 200 staff comprising engineers, environmental scientists, specialist professionals and administrative staff, all working together with the common goal of providing the highest quality of consulting engineering and environmental services, for the benefit of the community and the environment.

Apart from the main operating company the JG Afrika Group also comprises of specialist companies operating in the fields of rail transportation, geotechnical, hydrological, and environmental services, pavement technology, water management, and social development, and has a minority share in an empowerment consultancy specialising in sanitation.

The firm is headquartered in Johannesburg and has offices in most major South African cities, including Pretoria, Pietermaritzburg, Durban, Cape Town and Gqeberha (Port Elizabeth). JG Afrika (Pty) Ltd also has offices outside South Africa, in Mozambique, Lesotho and Botswana.

The company was founded in 1922, as Jeffares and Green (Pty) Ltd, and rebranded in 2016 to JG Afrika (Pty) Ltd, on the back of an internal restructuring process which saw JG Afrika (Pty) Ltd achieve 51 % black ownership and B-BBEE level 1. The JG Afrika Group holds a full (ISO 9001:2015) certification and was the first South African consulting practice to attain this certification for its full range of services, including construction administration.

JG Afrika (Pty) Ltd has been appointed by Adendorff Architects (Pty) Ltd, on behalf of Afrostructures (Pty) Ltd, to apply for Environmental Authorisation (EA) for the proposed Arlington multiple-use development in Walmer, Gqeberha (Port Elizabeth), within the Nelson Mandela Bay Municipality (NMBM) of the Eastern Cape Province. A Scoping and EIA process is required in accordance with the 2014 Environmental Impact Assessment (EIA) Regulations (as amended) promulgated under the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA).

Table 3 below provides information on the Environmental Scientists and Environmental Assessment Practitioner who compiled this document.

Table 3: Details of compilers

NAME AND POSITION	QUALIFICATIONS. PROFESSIONAL REGISTRATION AND AFFILIATIONS	EXPERIENCE	CONTACT DETAILS
Cherize Coetzee – Project Manager	MSc (Zoology) IAIAsa – (Membership number: 3551)	10 years	Tel: 041 390 8700 E-mail: coetzee@jgafrika.com
Deshni Naicker – EAP	MA (Geog and Env Mgmt.), BA (Hons) (Geog), BA (Geog.) IAIAsa - (Membership number: 6661)	12 years	Tel: 041 390 8700 E-mail: Naicker@jgafrika.com
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Refer to Appendix B for Curriculum Vitae of compilers.

5. SPECIALIST STUDIES

Specialist studies for the EIA included visual impact, terrestrial biodiversity & vegetation, faunal, agricultural, avifaunal, archaeological & cultural, palaeontological, aquatic, socio-economic, traffic, and glint and glare studies. These studies were undertaken to determine the potential impact of the project on the surrounding area within the different areas mentioned above. It was also used to identify and rank impacts and to ascertain the mitigation measures / action items as detailed in **Section 12** of this EMPr. Refer to the Draft EIA Report for the specialist information and copies of the reports.

6. ACTIVITIES AND ASPECTS

The proposed project activities will interact with the existing environment (resulting in potential environmental impacts) during the Construction and Operation Phase. The Construction Phase includes all the construction related activities to be undertaken by the appointed Contractor/s on site, including site clearing, excavations, importing of material, etc.

Even though this document primarily refers to the construction phase, a section on the operational phase has also been included. The impacts, which are anticipated during the operational phase, are those resulting from during the construction of the Multiple-Use Development. By taking pro-active measures during the construction and operation of the Multiple-Use Development, potential environmental impacts emanating during the construction and operational phase will be minimised.

7. GENERAL REQUIREMENTS OF THE EMPr

7.1. EMPr Administration

7.1.1. Construction Phase

During the Construction Phase, copies of this EMPr shall be kept at the construction site office and must be distributed to all senior contract personnel. All senior personnel shall be required to familiarise themselves with the contents of this document and will further be required to sign a register confirming their understanding of the document. As changeover of senior personnel takes place during the construction phase, senior personnel will be required to educate their workers regarding the contents of this document and how to comply with its requirements. This register shall be continuously updated.

It is recommended that site inspections be undertaken by the ECO monthly for the duration of the construction phase and compile monthly audit reports after the second inspection regarding the compliance of the Contractor with the audit checklist. Copies of monthly audit reports should be kept in the Environmental File on site.

7.1.2. Post-construction / Rehabilitation Phase

It is recommended that a Post-Construction / Close-Out Audit be undertaken upon completion of both construction and rehabilitation.

7.1.3. Operational Phase

During the Operational Phase, a copy of this EMPr must be maintained by the Afrostructures (Pty) Ltd. All senior operational and maintenance staff, including those sub-contracted by the Afrostructures (Pty) Ltd., will be required to familiarise themselves with the contents of the document and will have to sign a register to the effect that they have read and understood the contents of the document. Senior staff will be required to educate their operational staff as to the contents of this document and how to remain compliant.

7.2. Roles and Responsibilities

The successful implementation of this EMPr requires co-operation between Afrostructures (Pty) Ltd., and the appointed Engineer, Contractors, and the Environmental Control Officer (ECO).

The project has not yet been authorised in terms of the EIA Regulations and no contractors have been formally appointed for the project at the time of the compilation of this Draft EMPr. However, general roles and responsibilities have been outlined in **Table 4** and the Project Team will be required to comply with the conditions defined herein.

In terms of employment of labour, contractors will be expected to maximise the employment of individuals with the required skills residing in the area or adjacent residential area. Afrostructures (Pty) Ltd., should make use of local construction companies as far as possible. Contractors outside of the area should only be used to provide skills that are not readily available in the area.

Table 4: Roles and Responsibilities

RESPONSIBLE AGENT	ROLE / RESPONSIBILITY
Applicant / Employer (Afrostructures (Pty) Ltd.)	<ul style="list-style-type: none"> • Under South African environmental legislation, the Applicant/Employer is accountable for the potential impacts of the activities that are undertaken and is responsible for managing these impacts. • Ensure that the implementation of this EMPr complies with the relevant legislation and the conditions of the EA. • The Employer will appoint a Contractor to undertake the construction and operation of the proposed development but will still ultimately be responsible for any environmental impacts.
Engineer's Representative (ER) / Project Manager (PM)	<ul style="list-style-type: none"> • Ensure compliance with the contract and legislative environmental requirements; • Maintain overall responsibility for ensuring that the functions defined in the EMPr are carried out effectively; • Ensure that a copy of the applicable EMPr, EA (when issued) and all agreed Method Statements and a layout plan are available on-site; • Ensure that all environmental protection procedures defined in this EMPr are being adhered to; • Ensure adherence to DEDEAT conditions of authorisation and any other laws and standards relevant to construction of the new facilities; • Appoint appropriately qualified contractors to co-ordinate, supervise and expedite different tasks; • Appoint an independent ECO to monitor implementation of the EMPr, during construction; • Ensure all staff, Sub-contractors, suppliers, etc. are familiar with and understand the EMPr (including revisions), EA and all agreed Method Statements; and • Liaise with DEDEAT and Interested and Affected Parties (IAPs), if required.
Contractor	<ul style="list-style-type: none"> • Ensure all personnel are fully aware of all environmental issues relating to construction activities being undertaken on site and the related precautions that need to be taken; • Ensure all mitigation measures outlined in this EMPr are properly and competently directed, guided, and executed during construction;

	<ul style="list-style-type: none"> • Ensure adherence to environmental laws and standards relevant to construction of the proposed facility; and • Ensure that the construction activities comply with the final approved EMPr.
Environmental Control Officer (ECO)	<ul style="list-style-type: none"> • Ensure contractors have copies of the EMPr (including revisions), EA (when issued) and all agreed Method Statements; • Undertake monthly site visits and inspections / audits, (or as per conditions of EA), and record key findings. This includes monitoring of the construction site and an evaluation of the implementation, effectiveness, and level of compliance of on-site construction activities with the EMPr and associated plans and procedures; • Record and provide monthly reports (written documentation) of non-conformances with the EMPr that require Afrostructures (Pty) Ltd., or its Contractor/s to implement corrective action; • Review preventative and corrective actions to ensure implementation of recommendations made from audits and site inspections; • Via the Client's appointed Engineer, order the Contractor to suspend part or all of the works if the Contractor and/or any sub-contractors, suppliers, etc. fail to comply with any aspect of either the EMPr or EA; • Advise the Project Manager on actions or issues impacting on the environment and provide appropriate recommendations to address and rectify these matters; • Identify possible areas of improvement in the execution of the contract from an environmental perspective; • Assess the suitability and/or effectiveness of the EMPr on an on-going basis, in liaison with the Contractor/s and the Project Manager. Make recommendations accordingly; • Submission of audit reports to the Project Team and the DEDEAT (or as per conditions of EA); • Monitor the processing of public complaints relating to the construction activities; and • Ensure that revisions to this EMPr (as necessary) are communicated to the engineers' representative and the contractor and that they understand the requirements.

7.3. Environmental Awareness Training

Appendix 4 of the 2014 EIA Regulations requires the development of an Environmental Awareness Plan describing the manner in which the Contractor intends informing its employees of any environmental risks which may result from their work and the manner in which the risk must be dealt with to avoid pollution or degradation of the environment.

All internal staff and external agents undertaking work on the proposed development must undergo Environmental Inductions and Training which must include the contents of the Final EMPr. During the construction phase, regular Health and Safety Toolbox Talks must be held to discuss how to address potential environmental risks, near misses or incidents and how they can be avoided in future. Regular drills are to be held to ensure that all staff are aware of the spill contingency and other environmental emergency procedures as applicable and can perform these procedures in reasonable timeframes. The Contractor shall ensure that adequate environmental awareness training of senior site personnel takes place and that all construction phase workers receive an induction on the importance and implications of the EMPr. The presentation shall be conducted, as far as possible, in the employees' language of choice.

As a minimum, training shall include:

- Explanation of the importance of complying with the EMPr;
- Discussion of the potential environmental impacts of construction / operational activities;
- The benefits of improvement personal performance;
- Employees' roles and responsibilities, including emergency preparedness;
- Explanation of the mitigation measures that must be implemented when carrying out their activities;
- Explanation of the specifics of this EMPr and its implementation; and
- Explanation of the management structure of individuals responsible for matters pertaining to the EMPr.

The contractor shall keep records of all environmental training sessions, including names, dates and the information presented. These records will be presented at the project meetings and to the ECO on request during his/her audits.

7.4. Sensitive area(s)

Visual Impact Assessment

Low visual impact associated with the proposed development, given that mitigation measures mentioned in the specialist report are adhered to.

Terrestrial and Plant Biodiversity Impact Assessment

In terms of **vegetation**: the species that were identified in the DFFE Screening Assessment were not found to be present on the development site. This is due to the high level and long duration of anthropogenic disturbances that has occurred on the site. **A secondary stand of vegetation is located in the south-western extent of the site contains small elements of vegetation that resemble Sardinia Forest Thicket. This area has been included in the Site Development Plan as an area that has been identified for public open space and earmarked for conservation.**

In terms of **mammals**: *Chlorotalpa duthieae* (Duthie's Golden Mole) is highlighted in the DFFE Online Screening Tool as likely present on the site. It is worthwhile to note that this species is classified as of "medium" sensitivity by the online tool. The presence of this species could not be confirmed during the site assessment as no trapping was done, however, a number of mole hills were viewed during the site assessment, which may be as a result of this species. **Consideration therefore must be given to possible relocation of these species before construction can commence.**

In terms of **birds**: No signs of *Bradypterus sylvaticus* (Knysna Warbler) observed during the site assessment, however, **the small patch of Sardinia Forest Thicket identified in the south-western corner of the development site could form suitable habitat for this species.** As previously mentioned, **this is one of the key motivations to the developer to exclude development from this area and to designate it as public open space within the layout.**

Terrestrial Animal Species Compliance Statement

Based on the findings of this report, it is the opinion of the specialist that the land contained within the proposed study site is considered as **low sensitivity with zones of medium sensitivity** for the animal species theme. No animal species of conservation concern were found on site. The risk of finding any is considered as low.

Agricultural Compliance Statement

Low agricultural impact is anticipated for the site, general construction related mitigation measures relating to soil and water resources have been recommended.

Avifaunal Assessment

Based on the potential occurrence of SCC, available avifaunal habitats and current impacts on the site, the development area is deemed to be of **low and medium avifaunal sensitivity**. **An area of intact forest thicket in the north-west of the PAOI, mapped as a CBA1 was determined as of high avifaunal sensitivity with no development supported.**

Development within the intact CBA1 is however not proposed and no areas of high sensitivity and resulting no-go areas were identified within the proposed development site itself. Development within the medium sensitivity areas should be avoided and minimised as much as possible.

The proposed layout avoids all areas of high sensitivity and the majority of areas of medium sensitivity within the PAOI. An area of up to 6.8 ha of forest thicket of medium avifaunal sensitivity within the development footprint could be lost by the proposed development layout, **however it appears that the layout partially avoids this area, and parts of this area is mapped to become public open space (POS3) in the proposed development layout.**

Archaeological Assessment

The proposed development can be considered as having a *low archaeological heritage significance* from the lack of archaeological material, sites, and features identified during the survey. However, due to the proposed development site's location within an archaeologically sensitive coastal zone and a known archaeological site occurring 300m – 400 m east of the site, as well as the results of previous archaeological and cultural heritage assessments, **the proposed development area within the wider cultural landscape can be considered as having a medium – high archaeological heritage significance.**

Palaeontological Assessment

According to the assessment, There remains the possibility that construction work during development may disturb large vertebrate (e.g. mammal) bones, either as isolated occurrences or accumulations made by humans or hyaenas. **Should this occur, excavators should be diverted to other areas and a palaeontologist should be informed to assess the occurrence for possible sampling.**

7.5. Method Statements

Method Statements (MS) are written submissions by the Contractor to the ER or PM in response to the requirements of this EMP or to a request by the ER / PM. The Contractor shall be required to prepare Method Statements for several specific construction activities and/or environmental management aspects. The Contractor shall not commence the activity for which a Method Statement is required until ER / PM has approved the relevant Method Statement.

Method Statements must be submitted at least 20 working days prior to date on which approval is required to the ER/PM. The ER/PM must in turn accept or reject the Method Statement within 10 working days of receipt. Failure to submit a Method Statement may result in suspension of the activity concerned until such time a Method Statement has been submitted and approved.

An approved Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the contract. However, any damage caused to the environment through activities undertaken without an approved Method Statement shall be rehabilitated at the Contractor's expense.

The Method Statements shall cover relevant details with regard to:

- Construction procedures and location of the construction camp
- Start date and duration of the procedure;
- Materials, equipment, and labour to be used;
- How materials, equipment and labour would be moved to and from the site as well as on site during construction;
- Storage, removal and subsequent handling of all materials, excess materials, and waste materials of the procedure;
- Emergency procedures in case of any reasonably potential accident/incident which would occur during the procedure; and
- Compliance/non-compliance with the EMPr specifications and motivation if non-compliant.

Method statements (MS) required:

Based on the specifications in this EMPr, the following MS's are required as a minimum:

MS1: Site layout and establishment

MS2: Vegetation clearing

MS3: Topsoil removal and stockpiling

MS4: Handling, storage, and disposal of hazardous substances

MS5: Waste management

MS6: Soil erosion control

MS7: Stormwater management

MS8: Alien vegetation control

8. IMPACT MANAGEMENT OBJECTIVES AND OUTCOMES

The intention of this EMPr is to document appropriate objectives and actions and to assign responsibility and timing for those actions, to ensure that any impacts resulting from the construction, associated with the establishment of the residential development and its associated infrastructure, are minimised, and mitigated. This ensures that the basis on which any environmental decision is taken, is accurate and that the impacts on the surrounding environment are minimised.

The purpose of this EMPr is to:

- Outline Afrostructures (Pty) Ltd.'s, environmental management commitments for construction of the proposed residential development and associated service infrastructure;
- Act as a performance standard that construction activities can be audited against; and
- Ensure that appropriate monitoring is undertaken.

Research and the results of the specialist studies undertaken during the S&EIA process informed the Impact Management Objectives and Outcomes as provided in **Table 6**. Specific Impact Management Actions are detailed in Section 9 of this EMPr.

Table 5: Impact Management Objectives & Outcomes

IMPACT MANAGEMENT OBJECTIVES	IMPACT MANAGEMENT OUTCOMES	TIMEFRAME
Erosion of exposed soil surfaces	Exposed soil surfaces are to be managed in such a way that minimal erosion thereof takes place.	Progress on rectification of all

IMPACT MANAGEMENT OBJECTIVES	IMPACT MANAGEMENT OUTCOMES	TIMEFRAME
Conservation of indigenous vegetation	The clearance of vegetation is limited to as small a footprint within the road reserve as possible.	EMPr non-conformances as identified by the ECO in the audit report, is to be reported in the subsequent audit report.
Hydrocarbon contamination by heavy machinery	Heavy machinery present on site for the duration of the construction period should adhere to the protocols in place to ensure minimal hydrocarbon contamination.	
Contamination from human & construction waste	<p>General waste (organic and inorganic) from people moving into the area as well as construction related waste should be avoided and detained by following the correct waste management protocols.</p> <p>Licensed waste disposal facilities are utilised.</p> <p>No waste to be buried on site</p>	All construction phase outcomes to be achieved prior to final handover of the site.
Prevention of contamination of leaking ablution facilities	Only portable chemical toilets with a sealed reservoir will be allowed on site. All portable chemical toilets will be located further than 30m away from the delineated edges of any aquatic feature. Capacity of the facilities will be monitored daily and serviced regularly. A registered service provider will collect and dispose of the hazardous waste appropriately.	
Preventing proliferation of alien vegetation in disturbed areas	The spread of alien vegetation prior, during, and post construction should be eradicated and appropriately disposed of.	
Increased runoff and altered surface and subsurface flow dynamics	A sufficient stormwater management plan must be in place.	
Implementation of stormwater management measures	Stormwater discharge from development be directed into the municipal stormwater system.	
Presence of archaeological material	Material of archaeological importance uncovered during construction results in the immediate closure of works in the respective area.	
Faunal Perseveration & Search and Rescue	<p>Faunal species present on site are not harmed but rather relocated to a similar habitat. A site representative will be trained in handling dangerous reptiles and scorpions during site construction. This person will inspect the construction site daily before activities start and relocate any snakes, spiders and scorpions if found in holes, trenches, plant, building, or office structures.</p> <p>Obtain the requisite permits from the applicable authorities should this be necessary.</p>	
Presence of paleontological heritage	Chance finds protocol to be implemented immediately if paleontological heritage is to be uncovered on site during clearing and excavations.	
Minimise the destruction of vegetation species of conservation concern (SCC's)	<p>Species of conservation concern are not destroyed by development.</p> <p>Obtain the requisite permits from the applicable authorities should this be necessary.</p>	
Control of alien invasive vegetation	Alien vegetation currently established on the site is completely cleared and appropriately disposed of.	
	Any new alien invasive vegetation establishing on site	

IMPACT MANAGEMENT OBJECTIVES	IMPACT MANAGEMENT OUTCOMES	TIMEFRAME
	during construction is cleared and appropriately disposed of.	
Maintain the quality of surface water groundwater resources	Groundwater resources are not negatively impacted by construction of the mixed-use minor node.	
Minimise turbidity and siltation	Any bare soils exposed to surface water runoff should be managed to prevent or minimise sedimentation / turbidity / siltation.	
Minimise soil compaction and erosion	Appropriate erosion control measures must be implemented (e.g., silt traps) and a monitoring programme established to ensure that no erosion is taking place.	
Maintain existing air quality	Deterioration of local air quality arising as a result of dust and vehicle emissions is minimised and prevented.	
Reduce noise	Construction workers are sensitised to the need to minimise noise impacts.	
	Any noise complaints received will be responded to and noise reduction management will be implemented as practically possible.	
Manage traffic disruptions	Minimise/reduce significant traffic disruptions due to construction activities.	
	Road safety condition requirements are met.	
Minimise visual intrusion	Generation of dust will increase the visibility of the project, and it is therefore important to employ techniques to suppress dust generation during construction.	
	The contractor should maintain good housekeeping on site to prevent litter and minimise waste.	
	Erosion risks should be assessed and minimised as erosion scarring can create areas of strong visual contrast with the surrounding vegetation.	
	Equipment not being used should be removed from site.	
Manage hazardous substances	All hazardous substances are handled in accordance with the material safety data sheet (MSDS).	
Employment creation	Employment & skills training of local labour is maximised.	

9. IMPACT MANAGEMENT ACTIONS

The Impact Management Actions required to meet the Impact Management Objectives and Outcomes are provided in **Tables 7 - 10** below for the Pre-Construction, Construction, and Post-Construction / Rehabilitation and Operational Phases.

Table 6: Impact Management Actions during the Pre-construction phase.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
Permitting	Non-compliance with the relevant legislation and policies of South Africa, as they pertain to the environment, could lead to damage to the environment, unnecessary delays in planned construction activities, and could potentially result in criminal cases, based on the severity of the non-compliance, being brought against the proponent and their Contractors.	<ul style="list-style-type: none"> • All necessary permitting and authorisations must be obtained prior to the commencement of any construction activities; and • A suitably qualified Environmental Control Officer (ECO) must be appointed prior to the commencement of the construction phase.
Environmental Awareness Training	To make all employees aware of the environmental risks which may result from their work and the manner in which the risk must be dealt with to avoid pollution or degradation of the environment	<ul style="list-style-type: none"> • An upfront training session must be held to ensure all construction personnel are aware of the provisions contained in the EMPr. • The training session shall be conducted, as far as possible, in the employees' language of choice. • As a minimum, training shall include: <ul style="list-style-type: none"> ○ Explanation of the importance of complying with the EMPr; ○ Discussion of the potential environmental impacts of construction activities; ○ The benefits of improvement personal performance; ○ Employees' roles and responsibilities, including emergency preparedness; ○ Explanation of the mitigation measures that must be implemented when carrying out their activities; ○ Explanation of the specifics of this EMPr and its implementation; and ○ Explanation of the management structure of individuals responsible for matters pertaining to the EMPr. • The contractor shall keep records of all environmental training sessions, including names, dates and the information presented. These records will be presented to the ECO on request during his/her audits.
Faunal Search & Rescue		<ul style="list-style-type: none"> • Animal Search and Rescue (S&R) of the entire site must be done by a qualified faunal specialist prior to commencement of any activity on site. All old buildings must be searched, and animals found must be relocated. • A site representative must be trained in handling dangerous reptiles and scorpions during site construction. This person must inspect the construction site daily before activities start and relocate any snakes, spiders and scorpions if found in holes, trenches, plant, building, or office structures.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
Method Statements	Ensure all construction works are undertaken in accordance with the approved Method Statements	Method Statements must be submitted at least 20 working days prior to date on which approval is required to the ER/ PM. The ER / PM must in turn accept or reject the Method Statement within 10 working days of receipt.
Archaeological & Heritage	Protection of archaeological and heritage resources that may potentially occur on site.	<ul style="list-style-type: none"> • A built environment specialist or an historical architect be approached to conduct a built environment heritage assessment and advise on the permit application process for the demolition of the remaining buildings. • A professional archaeologist must be appointed, at the expense of the developer to monitor all excavations for the proposed development. The archaeologist must mitigate in the instance of sites being uncovered during the course of the excavations. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the findings will then be conducted to establish the contextual status of the sites and remove the archaeological deposit before development activities continue. • Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
Site Establishment	No construction work to take place outside of the designated construction footprint	<ul style="list-style-type: none"> • Demarcate all constructed areas to prevent work taking place outside of the designated footprint areas prior to commencement of works. • The CBA area to the north-west of the site within the PAOI must be demarcated as a no-go area during construction and operation. • In order to ensure no SCCs are breeding within the proposed disturbance footprint prior to the commencement of construction activities, a walkthrough of the site should be conducted by the ECO for the project within two weeks of commencement of construction activities. • An avian species specialist must train the ECO in the identification of the SCCs (identified as potentially present in the area in this report), if required, and the presence, location, and behaviour thereof during any site visits must be reported to the avian species specialist following each site visit.

Table 7: Impact Management Actions during the Construction Phase

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
Administration	The administration of the construction phase has regard to environmental sensitivity	<ul style="list-style-type: none"> • A copy of the EA (if issued), this EMPr as well as any other environmental permits / licenses must be maintained on site in the Environmental File. • A Complaints Register must be maintained on the site for the duration of the construction phase. This should be kept in the Environmental File. An example of the format of the complaints register is attached in Appendix C. • An Environmental Incidents Register must be maintained on the site for the duration of the construction phase. This should be kept in the Environmental File. An example of the format of the environmental incidents register is attached in Appendix D.
Site Establishment & construction camp	The footprint of the construction site will be limited as far as possible.	<ul style="list-style-type: none"> • The Contractor is to adhere to the following with regards to the Materials Storage Area and Contractors Camp: <ul style="list-style-type: none"> ○ All servitudes and existing services must be verified prior to establishment. ○ The camp site must be fenced before construction commences. ○ The Contractor shall restrict all his activities, materials, equipment, and personnel to within the area specified in the approved Construction Site Development Plan. ○ The Contractor shall ensure that the approved construction area will be adequate to cover the project without further space adjustments being required at a later date. ○ Adequate parking must be provided on site for site staff and visitors. • Excavation and construction of infrastructure – <ul style="list-style-type: none"> ○ Prohibit excessive signage outside the construction area. ○ Keep construction camp lighting to a minimum and prevent the use of flood type lighting as far as possible. ○ Ensure that the site is kept neat and clean. Collect and dispose of litter appropriately to prevent any potential wind-blown litter on or off the site. ○ Limit site clearing to within the minimum footprint required for construction. ○ Retain existing trees along the boundaries of the property where possible. ○ Rehabilitate areas as soon as possible following construction.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<ul style="list-style-type: none"> ○ Ensure working occur during daylight hours (08h00-17h00) and on weekdays only
Water supply	A sustainable and lawful water supply will be utilised.	<ul style="list-style-type: none"> • The Contractor shall make available safe drinking water fit for human consumption at the site offices and all other working areas. • All drinking water must be from a legal source and comply with recognised standards for potable use. • If water is stored on site, drinking water and multi-purposed water storage facilities shall be clearly distinguished and demarcated.
Domestic waste	Domestic waste generated by the presence of the labour force on site is minimised and spread is prevented.	<ul style="list-style-type: none"> • A designated eating area must be established within the construction site. • Covered domestic waste bins must be present at the eating area to receive all the domestic waste generated by the labour. • The capacity of these domestic waste bins must be monitored on a daily basis to ensure that they are emptied timeously. • The domestic waste from these waste bins must be removed off site and disposed of at a municipal landfill site on a weekly basis or more regularly if the bins fill up quicker.
Ablution Facilities	Ablution facilities will not negatively impact on the environment or human health.	<ul style="list-style-type: none"> • Portable chemical toilets must be provided for the construction workforce. These facilities must be regularly serviced by an appropriate service provider. Ablutions must be provided at a ratio of at least 1 facility per 15 workers. Separate facilities for males and females must be provided. • Temporary chemical toilets must be provided for the duration of the construction period. These toilets must be made available for all site staff during the construction phase and should be at least 30m from any watercourse present on-site or in proximity. The developers should also appoint and enter into a contract with a qualified third-party service provider for the maintenance of the sanitation system. • The Contractor shall be responsible for ensuring that all ablution facilities are maintained in a clean and sanitary condition to the satisfaction of the Project Engineer. Evidence of appropriate management (in the form of service receipts / waybills) must be maintained and presented to the ECO during audits. • Sanitation facilities should be well maintained and serviced, any breakages or leaks should be fixed immediately to prevent loss of containment. The capacity of the reservoirs in the portable chemical toilets must be monitored on a daily basis to ensure that they can be serviced timeously.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
Soil disturbances	Soil disturbances outside the development footprint are minimised.	<ul style="list-style-type: none"> • The Contractor shall remove topsoil from all areas where topsoil will be impacted on by construction activities, including temporary activities such as storage and stockpiling areas. • Stripped topsoil shall be stockpiled in areas identified in the approved Construction Site Development Plan, for later use in rehabilitation and shall be adequately protected. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. The depth of the soil may vary and due to this reason the top 300mm of soil must be removed and preserved as topsoil. • Topsoil stockpiles shall be convex in shape and no more than 2m high. Stockpiles shall be shaped so that no surface water ponding can take place. • Topsoil stockpiles shall be protected from erosion by wind and rain by providing suitable stormwater and cut-off drains (approved by the ER) and/or the establishment of temporary indigenous vegetation. • Topsoil stockpiles shall not be subject to compaction greater than 1 500 kg/m² and shall not be pushed by a bulldozer for more than 50m. • Topsoil stockpiles shall be monitored regularly to identify any alien plants. If any establish, these must be removed when they germinate to prevent contamination of the soil. Before topsoil is to be re-used the stockpiles should be fertilised. • Any topsoil contaminated by hazardous substances shall not be used but shall be disposed of at a registered H:h landfill site. Proof of appropriate disposal must be filed in the Environmental File in the Contractor's Camp. • The Contractor shall be held responsible for the replacement, at his expense, of any unnecessary loss of topsoil due to his failure to work according to the requirements of this EMPr. • Soil must be stockpiled in such a way as to minimize erosion.
Soil erosion	Soil erosion is prevented.	<ul style="list-style-type: none"> • Clearing of vegetation should be kept to a minimum, keeping the width and length of the earth works to a minimum. • Construction activities should not exceed the proposed construction boundaries by more than 2m to avoid the secondary impact of construction and increasing the areas that would require clearing and rehabilitation • Any bare soils exposed to surface water runoff should be managed.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<ul style="list-style-type: none"> • The Contractor shall, as and when necessary, implement erosion control measures to the satisfaction of the Project Engineer. • Any runnels or erosion channels developed during the construction or maintenance period shall be backfilled and compacted and the areas restored to a proper condition similar to the condition before the erosion occurrence. • Traffic and movement over stabilised areas shall be restricted and controlled and damage to stabilised areas shall be repaired and maintained to the satisfaction of the Project Engineer. • Stripped topsoil shall be stockpiled in areas identified in the approved Construction Site Development Plan, for later use in rehabilitation and shall be adequately protected. • Exposed areas must be promptly rehabilitated with indigenous vegetation to avoid soil erosion at the earliest possible stage. Where necessary, temporary stabilisation measures must be used until vegetation establishes. • Plan for the worst case, that is, for heavy rainfall and runoff events, or high winds. • Appropriate erosion control measures must be implemented (e.g., silt traps) and a monitoring programme established to ensure that no erosion is taking place. At the first sign of erosion the necessary remedial action must be taken.
Altered hydrological regime	Impacts associated with altered stormwater flows are controlled and minimised.	<ul style="list-style-type: none"> • The Contractor shall submit a Method Statement to the Project Engineer for approval detailing the method of stormwater control measures for the entire project area. • Temporary stormwater control measures must be installed as and when necessary, to prevent and minimise the erosion of exposed soils. • To prevent stormwater damage, the increase in stormwater runoff resulting from the construction activities must be estimated and the drainage patterns accessed accordingly. A drainage plan must be submitted to the Engineer for approval. • Temporary cut off drains and berms may be required to capture stormwater and promote infiltration.
Contamination of site terrestrial biodiversity	The risk of contamination to the terrestrial biodiversity of the site by means of the presence of plant and equipment on the construction site that make use of	<ul style="list-style-type: none"> • All plant and equipment that make use of petrochemical substances must be checked leakages on a daily basis before operations commence. • All plant and equipment that are found to be leaking must be removed from the site and only returned once the leakages have been addressed.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
	<p>petrochemical substances is controlled and minimised.</p>	<ul style="list-style-type: none"> • If any petrochemical substances are stored on the site, this storage must be done on an impermeable surface in a bunded area that makes provision for 110% of volume of the substances that are stored. • All refuelling of plant and equipment must be conducted over a drip-tray. • If any plant or equipment is to be parked on the site, these must be parked within the demarcated construction footprint that has been cleared. • If any spillages from plant or equipment occur, the spill must be contained immediately, the contaminated soils must be collected and bagged in impermeable bags and stored on site to be removed and disposed of by a registered service provider.
<p>Loss of indigenous vegetation</p>	<p>Clearance of indigenous vegetation on the site is minimised.</p>	<ul style="list-style-type: none"> • The areas that will require the clearance of vegetation must be limited to as small a footprint within the road reserve as possible. • The footprint must be surveyed and clearly demarcated to ensure that the area to be cleared will be limited to the area required. No operations must be allowed outside of the demarcated areas. • The areas that have been cleared of vegetation during the implementation of the project must be revegetated with grasses that occur naturally in the area.
<p>Spread of alien invasive vegetation</p>	<p>Alien vegetation currently established on the site is completely cleared and appropriately disposed of.</p> <p>Any new alien invasive vegetation establishing on site during construction is cleared and appropriately disposed of.</p>	<ul style="list-style-type: none"> • Alien Invasive Plant Management Plan must be implemented for the duration of the construction phase of the development. This plan must make provision for the following: <ul style="list-style-type: none"> - The construction footprint must be clearly survey and demarcated before any construction of the components of the development is to commence. - This must be done to ensure that areas to be cleared limited to only the areas that are necessary. - The cleared areas must be regularly monitored for the establishment of alien plant species. These must be cleared when they appear. - Identification and eradication of any alien plant species that establish on the site. - The rehabilitation of these cleared areas must commence as soon as practically possible after construction activities have ceased. This rehabilitation must make use of indigenous vegetation.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
Fauna	Any faunal species encountered on site during construction are not harmed but rather relocated by a professional handler.	<ul style="list-style-type: none"> Should any avifaunal SCC be found breeding within the development footprint at any point during construction, all works within 250 m of the breeding site must be halted, and the avian species specialist must be contacted for further instruction. Should any SCC be found breeding within the site boundary at any point during operation, the area must be cordoned off and the avian species specialist must be contacted for further instruction.
Solid Waste Generation/Pollution (contamination of area by construction waste)	<p>Waste generation is minimised.</p> <p>Waste generated by the construction phase does not give rise to environmental pollution or contamination.</p>	<ul style="list-style-type: none"> Skips must be made available on-site into which all construction waste can be discarded. All construction waste must be cleared from the site on a daily basis and placed in these skips. The capacity of these skips must be monitored on a daily basis to ensure that a replacement skip can be arranged on the same day as the filled skips are removed. The disposal of the content of these skips must be done at a municipal landfill site. No dumping of construction waste on open areas on the property will be allowed.
Construction Traffic and Road Safety	<p>Traffic congestion in the external road network is limited.</p> <p>A reduction in road safety conditions on the road network, for all road users, is avoided.</p>	<ul style="list-style-type: none"> The delivery of construction materials must be scheduled out of peak hours to avoid traffic, where possible Schedule the movement of construction vehicles and machinery so that they do not interfere with the normal working operations of the town. Only work during daylight time (06h00 to 17h00, Monday to Friday). Road repairs must be made immediately should construction machinery cause damage to any of the existing roads. All construction vehicles must be roadworthy and should be serviced regularly. Flag staff should regularly patrol areas especially on site to prevent onsite incidents. Construction vehicles must adhere to the relevant speed limits. Appropriate signage must be used to indicate the construction site; and All mitigation measures/recommendations as set out in the TIA must be adhered to.
Damage of sub-surface heritage resources	Sub-surface heritage resources uncovered by excavation (if any) are not damaged or destroyed.	<ul style="list-style-type: none"> If concentrations of pre-colonial archaeological heritage material, historical archaeological material, and/or human remains (including graves and burials) are uncovered during construction of the proposed development and / or future excavations for individual graves, all work must cease immediately and be reported to the Albany Museum (046 622 2312) and/or the Eastern Cape Provincial Heritage Resources Agency (ECPHRA) (043 745 0888) so that systematic and professional

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<p>investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the findings will then be conducted to establish the contextual status of the sites and remove the archaeological deposit before development activities continue.</p>
<p>Palaeontological resources</p>	<p>Protection of any palaeontological resources that may be uncovered on site.</p>	<ul style="list-style-type: none"> • There remains the possibility that construction work during development may disturb large vertebrate (e.g. mammal) bones, either as isolated occurrences or accumulations made by humans or hyaenas. Should this occur, excavators should be diverted to other areas and a palaeontologist should be informed to assess the occurrence for possible sampling.
<p>Noise impacts on adjacent residential areas</p>	<p>Construction workers are sensitised to the need to minimise noise impacts.</p> <p>Any noise complaints received will be responded to and noise reduction management will be implemented as practically possible.</p>	<ul style="list-style-type: none"> • Construction activities will be limited to weekdays and Saturdays. No work should occur on Sundays or Public Holidays. • If complaints are received from the community / surrounding businesses regarding disturbing noise, the Applicant will ensure: <ul style="list-style-type: none"> ○ That the complaint is responded to, ○ The source of the noise is identified, and ○ Appropriate noise reduction management or technology is implemented. Such measures may include rescheduling of particularly noisy operations to a less disturbing time of day as much as the Applicant is able to within their abilities. • All machinery and equipment to be utilised on the site should be fitted with mufflers and must be maintained in good working order to minimise noise levels. • The Contractor should encourage construction workers to minimise shouting and hooting on the site. • The Contractor shall warn any local communities and/or residents that could be disturbed by noise generating activities well in advance and shall keep such activities to a minimum. • The Contractor shall be responsible for compliance with the relevant legislation with the respect to noise. It must be ensured that the potential noise source will conform to the South African Bureau of Standards recommended code of practice, SANS Code 0103:1983, so that it will not produce excessive or undesirable noise. • Construction work should be completed in as short a time frame as possible in order to limit the longevity of these impacts.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<ul style="list-style-type: none"> • The normal municipal by-laws with regards to noise control must apply. • Construction staff should not be housed on site.
Air quality impacts on nearby residents	Deterioration of local air quality arising as a result of dust and vehicle emissions is minimised and prevented.	<ul style="list-style-type: none"> • Dust minimisation and control measures should be implemented on the construction site at regular intervals. This could include wetting down by water tankers. • The frequency of implementation of dust suppression measures should be increased when it is expected that high wind conditions will develop. Cognisance should however be given to the current water restrictions. • Vegetation clearing shall take place in a phased manner in order to retain vegetation cover for as long as possible. • During dry periods, a high moisture content should be maintained on unpaved surfaces or soil stockpiles within the construction site to reduce windblown dust as far as practically possible. • When stockpiling topsoil during construction, the drop heights from front end loaders and stackers should be minimised to control the fall of materials and, thus, reduce dust emissions. • Vegetation clearing should only take place immediately prior to the commencement of construction activities in an area, in order to minimise the amount of exposed soil on the site. • Limit spillages on paved roads and ensure that vehicle speeds are maintained as required on-site to reduce the possibility of the entrainment of dust on paved roads. • Limit vehicle idling and keep vehicles well maintained to minimise particulate and gaseous emissions. • If fine building materials/sands are to be transported at the back of trucks, they must be adequately covered. • Provide dust masks for the workers where necessary. • If possible, bulk earth work or work creating fugitive dust must be ceased during periods of strong winds.
Visual Impacts	Minimise visual intrusions	<ul style="list-style-type: none"> • Generation of dust will increase the visibility of the project, and it is therefore important to employ techniques to suppress dust generation during construction. • The contractor should maintain good housekeeping on site to prevent litter and minimise waste.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<ul style="list-style-type: none"> • Erosion risks should be assessed and minimised as erosion scarring can create areas of strong visual contrast with the surrounding vegetation. • Equipment not being used should be removed from site. • Lighting will be sufficient to ensure security but will not constitute ‘light pollution’ to the surrounding areas. • The site will be shielded from the adjacent landowners to minimise the visual impact where this is feasibly possible.
Socio-economic	Influx of jobseekers	<p>The developer must ensure the establishment of a Project Steering Committee (PSC) to facilitate the following:</p> <ul style="list-style-type: none"> • Conduct an audit of the affected communities in terms of employment capacity. • Identify potential workers from the affected and surrounding communities. • Identify possible conflicts in and between communities. • Set up a central labour desk where all workers register and only workers registered on the database should be considered for employment. • Recommend support programmes that would assist with conflict minimisation and resolution. • Contractually oblige sub-contractors to only employ workers through the labour force desk.
	Pressure on existing public services	<ul style="list-style-type: none"> • Health and safety campaigns must be held in collaboration with public health servants, to educate construction workers on the spread of communicable diseases. • The contractor must collaborate with the local SAPS to regulate the behaviour of construction workers, and the regulation of site access by the public and jobseekers.
	Local economic spin-offs	<ul style="list-style-type: none"> • The developer must ensure that the principle of utilising local business resources is in accordance with government policies relating to local procurement. • The developer must establish a database of local companies which qualify as potential service providers, prior commencement of the tendering process. • The use of local contractors especially SMMEs from communities around the project area wherever possible should be promoted.
	Employment opportunities	<ul style="list-style-type: none"> • Where reasonable and practical, preference must be given to local SMMEs, especially for the low skills levels. • Equal job opportunities for women and men must be promoted. • Culture and tradition must be considered when planning the division of labour for construction.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<ul style="list-style-type: none"> • Employment must be managed by the PSC that uses a selection system a fair recruitment of semi and unskilled workers from all local impacted communities in accordance with government policies related to local procurement. This must ensure a fair and equitable recruitment process.
	Skills development and capacity building of workers and local SMMEs	<ul style="list-style-type: none"> • The developer must include a contractual obligation for larger contractors to work with small SMMEs to train and transfer skills. • The developer must implement on-the-job training for unskilled labourers. • The developer should investigate developing a skills development programme, which may include training in business, management, monitoring, and evaluation.
	Disruption in daily living and movement patterns	<ul style="list-style-type: none"> • Construction activities must be limited to the construction site only. • Proper and timeous notification must be given to residents when an activity will affect their movement (such as road closure). • Surrounding communities must have access to a grievance reporting mechanism, e.g. through a project steering committee. • The developer should at all times avoid using busy roads and roads within densely populated areas.
	Health and safety risks for workers and surrounding community	<ul style="list-style-type: none"> • Measures to suppress dust must be always implemented. • Construction workers must wear all relevant protective clothing. • Dangerous equipment must be used under strict supervision. • Waste must be safely disposed at the nearest licensed waste disposal facility. • Provide safe and clean drinking water on site. • Provide sufficient ablution facilities for the site staff.
	Safety and security risk	<ul style="list-style-type: none"> • The construction site must be always fenced off and safe guarded, to prevent trespassing. • Construction workers must be provided with identity tags and access to site by unauthorized people must be prohibited. • Jobseekers should not be allowed to gather around the construction site. • The local SAPS must be allowed entry to site anytime, to monitor security and safety.
	Disruption and changes to the quality of living environment	<ul style="list-style-type: none"> • The surrounding residents must be advised at construction commencement, and guided on how they could lodge complaints when necessary. • All dust suppressing techniques must be applied. • All construction vehicles and equipment must be regularly serviced, to prevent the emission of air pollutants.
	Safety and security	Maintain a safe and secure site

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<ul style="list-style-type: none"> • Encourage employees to report theft or suspicious activity. Be sure to maintain complete records of any security incidents, as they can be beneficial to law enforcement in the event of theft, vandalism or similar occurrences. • Trespassing on private/commercial properties bordering the site is forbidden. Any construction personnel found trespassing must be subjected to a disciplinary hearing. • A security guard must be placed on site during non-working hours and over weekends to patrol the construction site and camp site inclusive of the corridor

Table 8: Impact Management Actions during the Post-Construction and Rehabilitation Phase

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
Indigenous Vegetation	The loss of indigenous vegetation can be compensated for by the use of indigenous vegetation in the landscaping of the public open space areas within the development	<ul style="list-style-type: none"> • All Land Scaping within the public open space areas within the development must make use of the establishment of indigenous vegetation. • This indigenous vegetation must be endemic to the area.
Alien vegetation	Control the spread of alien vegetation	Any alien vegetation present on site as a result of construction activities need to be removed according to the Alien Invasive Management Plan.
Soil disturbance	Reduction in erosion and siltation	<ul style="list-style-type: none"> • Stripped topsoil stockpiled during construction to be used in rehabilitation. • Exposed areas must be promptly rehabilitated with indigenous vegetation to avoid soil erosion at the earliest possible stage. Where necessary, temporary stabilisation measures must be used until vegetation establishes. • Banks must be rehabilitated, including re-establishment of vegetation cover.

Table 9: Impact Management Actions during the Operational Phase

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
Alien vegetation	Control the spread of alien vegetation	<ul style="list-style-type: none"> • An Alien Invasive Plant Management Plan must be compiled for the development to manage the possible proliferation of these species during the operations of the development. The plant must make provision for the following key aspects: <ul style="list-style-type: none"> - Provision for the identification of the specific alien invasive plant species on the site. - Identification of the appropriate control measures for each of the identified alien invasive plant species. - Schedule monitoring of the success of the management of the alien invasive plant species. - Schedule review of the applicability of the plan.
Conservation of the Sardinia Forest Thicket	The conservation of the secondary Sardinia Forest Thicket fragment will result in the creation of bird habitat.	<ul style="list-style-type: none"> • The Conservation Management Plan must be in-place at the commencement of the operation of the first phase of the development and must make provision for the following: <ul style="list-style-type: none"> - Formal inclusion of the area into the Open Space Layout Plan for the development. - Conservation measures to improve the vegetative biodiversity within the stand (removal of alien plant species, replacement with appropriate indigenous species, etc.). This should be informed by a qualified Botanist. - Management measures particularly along the edges of the stand to prevent the establishment of alien invasive plant species along these edges.
Socio-cultural changes	Employment opportunities give preference to local labour	<ul style="list-style-type: none"> • Local labour force must receive primary priority.
Economic changes	Positive Impact on the local economy	<ul style="list-style-type: none"> • Local businesses must receive primary priority, with fair opportunity for various business levels.
Visual intrusion to observers within a 1 km, 2km, 5 km and 10 km radius	Minimize lighting impacts	<ul style="list-style-type: none"> • Shielding the sources of light by physical barriers (walls, vegetation, or structures itself). • Limit mounting heights of lighting fixtures, or alternatively using footlights or bollard level lights.

ASPECT	MANAGEMENT OUTCOMES	IMPACT MANAGEMENT ACTIONS
		<ul style="list-style-type: none">• Make use of downward directional lighting fixtures.• Make use of minimum lumen or wattage in lights, and• Use motion sensors to activate lighting ensuring light is available when needed.

10. MONITORING

The key to a successful EMPr is appropriate monitoring and review to ensure effective functioning of the EMPr and to identify and implement corrective measures in a timely manner. In the event where discrepancies are identified, the problem must be investigated and attended to. All the results obtained during environmental monitoring must be documented for audit purposes.

Afrostructures (Pty) Ltd., is to appoint an independent auditor who is suitably qualified and experienced (i.e., the ECO) to undertake such audits. An audit of the environmental monitoring and management actions undertaken is essential to ensure that it is effective, is meeting specified goals, and performs in accordance with relevant regulations and standards.

Compliance monitoring is to be undertaken as specified in **Table 11** below.

Table 10: Implementation of Compliance Monitoring

TIMEFRAME	METHOD OF MONITORING	MONITORING FREQUENCY	REPORTING FREQUENCY
External Monitoring by ECO			
Planning, design, and pre-construction	A site visit and associated pre-construction audit report to be prepared immediately prior to the start of construction. The report will document existing pre-construction conditions and any non-compliance to be addressed prior to the start of construction.	Once off	Once off
Construction	Minimum of monthly site visits with an audit report generated and submitted to the Project Team and the competent authority monthly for the duration of construction.	Monthly	Monthly
Post-construction	A site visit and associated post-construction and post-rehabilitation audit report to be prepared upon completion of construction and rehabilitation. The report will document the state of the environment post-construction and any remaining non-compliance.	Once off	Once off
Operation	None proposed at this time.	None	None

During audits, the ECO will make observations regarding the implementation of the impact management outcomes. The ECO will then assess the extent to which the impact management outcomes are being achieved and issue non-conformances as required. Non-conformances will therefore be based on compliance with both the impact management outcomes and actions and will be reported to Afrostructures (Pty) Ltd. and its appointed Agents (including Engineers & Contractors).

External environmental audit reports are to be submitted to DEDEAT.

11. AMENDMENTS

This first Draft EMPr produced for the construction phase will be amended to include comments received during the review of the Draft EIA Report and the conditions of Environmental Authorisation. Amendments to the approved Final EMPr may also be required as the project proceeds. Regulation 36 (1) states:

“Where an amendment is required to the impact management actions of an EMPr, such amendments may immediately be effected by the holder and reflected in the next environmental audit report submitted as contemplated in the environmental authorisation and regulation 34.”

Regulation 36 (2) states:

“Where an amendment to the impact management outcomes or objectives of and EMPr or an amendment of the closure objectives of a closure plan is required before an audit is required in terms of the environmental authorisation, an EMPr or closure plan may be amended on application by the holder of the environmental authorisation.”

Therefore, while the impact management actions of the approved Final EMPr can be amended without a formal amendment application process, amendment of the impact management outcomes or objectives will require application to the authority and a public participation process as outlined in Regulation 37.

Any proposed amendment to the impact management actions of the approved Final EMPr in terms of Regulation 36(1) are to be discussed during site visits. Any amendments should then be agreed to by the Project Manager / Engineer, Contractor, and ECO prior to being included in the audit reports.

12. AFROSTRUCTURES (PTY) LTD.

I, _____, (full name) representing
_____, (company name) have read,
understood and accept the above environmental management plan as a framework for my company's
environmental performance during the above mentioned project.

Signed: _____ Date: _____

13. ENGINEERING REPRESENTATIVE'S ACCEPTANCE

I, _____, (full name) representing
_____, (company name) have read,
understood and accept the above environmental management plan as a framework for my company's
environmental performance during the above mentioned project.

Signed: _____ Date: _____

14. CONSTRUCTION CONTRACTOR'S ACCEPTANCE

I, _____, (full name) representing
_____, (company name) have read,
understood and accept the above environmental management plan as a framework for my company's
environmental performance during the above mentioned project.

Signed: _____ Date: _____

Appendix A: Layout



Figure 1: Locality Map

Appendix B: CV's of EAP & Environmental Scientists

Appendix C: Complaints Register

Appendix D: Environmental Incident Register

