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PRE-CONSTRUCTION, CONSTRUCTION AND POST-CONSTRUCTION PHASE

DRAFT

ENVIRONMENTAL MANAGEMENT PROGRAMME

FOR THE

PROPOSED CONSTRUCTION OF A MIXED-USE DEVELOPMENT ON PORTION 278 & 282 OF FARM KRAAIBOSCH NO 195, GEORGE, WESTERN CAPE.

APPLICANT:	Garden Route Gateway Plaza (Pty) Ltd Contact: Mr Andre Calitz
ENVIRONMENTAL CONSULTANT:	Sharples Environmental Services cc Primary Author: Michael Jon Bennett (3163)
DEA & DP PROJECT REFERENCE:	16/3/3/1/D2/19/0009/23
SES REFERENCE NUMBER:	5/EMPR/SGP/GRG/WC/08/23
DATE:	30 August 2023

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APPENDIX 4 OF THE EIA REGULATIONS 2014 (AS AMENDED 2017).

This Environmental Management Programme has been drafted in accordance with Appendix 4 of the Environmental Impact Assessment Regulations 2014 (as amended 2017). The table below shows how the requirements of Appendix 4 have been included within this Environmental Management Programme.

(1) An EMPr must comply with section 24N of the Act and include— (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;	• Appendix A - EAP CV's • Section 4
(b)a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	• Section 5 • Appendix B - E
(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;	Not applicable, as proven by the specialists the site holds a low significance in terms of biodiversity and there are no environmental sensitivities.
(d)a description of the impact management outcomes, 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, operation activities;	Section 6 - 10
(f)a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraph (d) 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 provision for rehabilitation, where applicable;	
(g)the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	

(h)the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	
(i)an indication of the persons who will be responsible for the implementation of the impact management actions;	
(j)the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	
(k)the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	• Section 11 -12 • Appendix H
(l)a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	
(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; and	• Section 14 • Appendix I
(n)any specific information that may be required by the competent authority.	

1. DOCUMENT DETAILS

Project Ref. No:	5/EMPR/SGP/GRG/WC/08/23
Conditions of Use:	This report is the property of the sponsor, *Sharples Environmental Services cc* (*SES*), who may make allowance to publish it, in whole provided that: a. Approval for copy is obtained from *SES*. b. *SES* is acknowledged in the publication. c. *SES* is indemnified against and claim for damages that may result from publication of specifications, recommendations or statements that is not administered or controlled by *SES*. d. That approval is obtained from *SES* if this report is to be used for the purposes of sale, publicity or advertisement. *SES* accepts no responsibility for failure to follow the recommended program.

2. ABOUT THIS EMPR

This document is intended to serve as a guideline to be used by *Garden Route Gateway Plaza (Pty) Ltd* (as the Implementing Agent) and any person/s acting on behalf of *Garden Route Gateway Plaza (Pty) Ltd*, during the pre-construction, construction, post-construction rehabilitation and operational (maintenance) phases of the proposed development. This document provides measures that must be implemented to ensure that any environmental degradation that may be associated with the development is avoided, or where such impacts cannot be avoided entirely, are minimised and mitigated appropriately.

This EMPr has been prepared in accordance with the requirements of an EMPr as specified in the Environmental Impact Assessment Regulations, 2014 (as amended), and with reference to the "Guidelines for Environmental Management Programmes" published by the Department of Environmental Affairs and Development Planning (2005).

It is important to note that not only is the EMPr designed to manage the physical establishment of the development *per se*, but also as a tool which can be used to manage the environmental *impacts* of the development.

The rehabilitation, mitigation, management and monitoring measures prescribed in this EMPr must be seen as binding to The *Garden Route Gateway Plaza (Pty) Ltd*, and any person acting on its behalf, including but not limited to agents, contractors, employees, associates, guests or any person rendering a service to the development site.

2.1. Important caveat to the report

In the past, some developments have had a devastating impact on the environment even though they have had Environmental Management Programmes in place, while other developments have had a low impact even though no management plans have been compiled.

The Implementing Agent and the attitude of the construction team play an integral role in determining the impact that the development will have on the environment. The Environmental Control Officer (ECO) needs to ensure that all role-players are aware of the constraints that the EMPr places on the development and construction team and are prepared to be actively involved in implementing these constraints. The end result relies on co-operation, mutual respect and understanding of all parties involved.

3. HOW TO USE THIS DOCUMENT

It is essential that this EMPr be carefully studied, understood, implemented and adhered to as far as reasonably possible, throughout all phases of the proposed development. *Garden Route Gateway Plaza (Pty) Ltd* must retain a copy of this EMPr, and an additional copy must be kept on site at all times during the pre-construction, construction and post-construction rehabilitation phases of the development.

This EMPr must be included in all contracts compiled for contractors and subcontractors employed by *Garden Route Gateway Plaza (Pty) Ltd*, as this EMPr identifies and specifies the procedures to be followed by engineers and other contractors to ensure that the adverse impacts of construction and maintenance activities are either avoided or reduced. Appointed contractors must make adequate financial provision to implement the environmental management measures specified in this document.

This EMPr must be seen as a working document, which may be amended as and when needed, in order to accommodate changing circumstances on site or in the surrounding environment, or in order to accommodate requests/ conditions issued by the Competent Authority, the Department of Environmental Affairs & Development Planning (DEADP). Amendments to this EMPr must first be approved by the Competent Authority, in writing, before being implemented.

4. DETAILS OF THE EAP & TECHNICAL/SPECIALIST INPUT

This EMPr and the associated environmental assessment was undertaken by Sharples Environmental Services cc. Sharples Environmental Services was established in 1998 and has been actively engaged in the fields of environmental planning, assessment and management. SES advises on private, corporate and public enterprises on a variety of differing land use applications ranging from large-scale residential estates and resorts to golf courses, municipal service infrastructure installations and the planning of major arterials. Our consultants have over 20+ years of combined experience and we operate in the Southern, Eastern and Western Cape regions.

A brief description of the EAP's (Environmental Assessment Practitioners) have been included below, as per Table 1, and a detailed Curriculum Vitae has been included in Appendix A.

Table 1: EAP Details.

Role:	Name:	E-Mail Address:	Qualifications:	Registration/ Memberships	YEARS OF EXPERIENCE
Author:	Michael Jon Bennett	michael@sescc.net	• B. Sc Environmental and Geographic Science & Ocean and Atmospheric Science Management (UNISA) • B.Sc. Geological Science (UKZN)	• IAIA (SA) • EAPASA (2021/3163)	• 11+ yrs.
Reviewer:	Mrs Betsy-Jane Ditcham	betsy@sescc.net	• B.Sc. Hons: Wildlife Management (UP) • B. Sc (Zoology and Ecology) (UCT)	• IAIA(SA) • EAPASA (#1480)	• 13 yrs.

Table 2: Environmental Specialist Input.

THEME	COMPANY	ROLE	NAME	REPORT TYPE & DATE
Aquatic Biodiversity	Sharples Environmental Services	Author	Mrs Debbie Fordham	• Compliance statement. • June 2021
	Independent	Collaborating Scientist	Dr Brian Colloty (*Pr Sci Nat*)	
Terrestrial Biodiversity and Plant Species	Mark Berry Environmental Consultants	Author	Mark Berry *(Pr Sci Nat)*	• Compliance statement. • June 2021
Agriculture	Johann Lanz		Johann Lanz *(Pr Sci Nat)*	• Compliance statement. • July 2021

Table 3: Technical Input Sources.

TECHNICAL ASPECT	COMPANY/TRADING NAME	NAME
Engineering Services	Hessequa Consulting Engineers	Mr G Pepler
Traffic Impact Assessment (TIA)	Peter Gray	Mr Peter J Gray *BSc Eng (Wits), LLB (Unisa), LLM (Unisa), PrEng*
Town Planning	Jan Vrolijk – Town Planner	Mr Jan Vrolijk
Visual Impact Assessment	Paul-Werner Buchholz	Mr Paul-Werner Buchholz

5. DESCRIPTION OF THE ACTIVITY

Garden Route Gateway Plaza (Pty) Ltd proposes to develop Portion 278 of the of the Farm Kraaibosch 195, with some activity overlapping Portion 282. The Proponent plans to establish a Plaza (see Appendix B), consisting of the following:

- Block A: Nursery : 300m²
  - Vineyards, hops crops and olive tree crops will be established to the south of the proposed development infrastructure, amongst the proposed parking area.
- Block B (Ground floor): Tourist Centre (Mixed use) : 2,000m²
- Block C: Outdoor function area : 300m²
  - Include play pools and amphitheatre.
- Block D (Ground floor): Club House/guest/hotel rooms : 1,350m²
- Block E: Chapel : 250m²
- Block F: General storage : 150m²
- Block G: Stables : 1,000m²
  - Includes horse riding paddocks, arena and training ring.
- Block H: Storage : 150m²

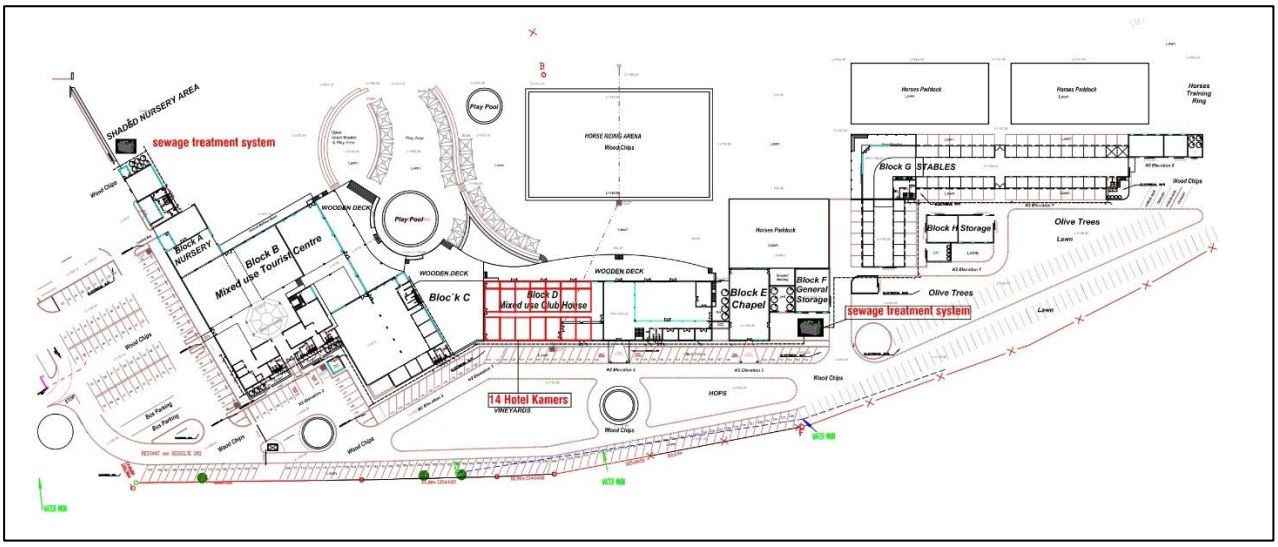

Figure 1: Site development plan

A sewage package plant will be positioned on site, and water will be utilized for irrigation purposes.

According to the Draft Services Report for Civil Engineering Services for the Development of Portions 278 and 282 of the Farm Kraaibosch 195, HESRIV-479 Rev 1, Revision 0.0, September 2022, undertaken by Hessequa Consulting Engineers, in September 2022. The proposed scope of works is as mentioned previously, and the planned works will include the following:

- MASS EARTHWORKS

Mass earthworks will be required to level out sites for the development of individual Blocks and open spaces and to ensure slopes for the free draining of storm water. Localised depressions will be filled with G7 material from commercial sources and compacted to 93% MAASTO.

- ROADS:

Access to the development area will be from the existing filling station development. No new access from the N2 will be required. One-way access will be to the northern side of the filling station. Access and exit will be available from the southern side of the filling station.

All new road surfacing will consist of permeable surfaces (ie. Grass blocks/ loose stone/wood chips). Road widths vary between 5m and 9.0m and surfaces will be contained in an orderly manner with barrier kerbs. Bellmouth's will be constructed with 8m radiuses. All upper selected and sub-base materials will be imported from commercial sources.

The basis of the road and pavement design for the proposed development is set out in the table below:

Table 1 Road Design Criteria Parameter Specification	
Parameter Specification	Grass blocks/loose stone/wood chips
Upper Selected and Sub-base from commercial sources	150mm G5 (95% MAASHTO) on 150mm G7 (93% MAASHTO) on 150mm Roadbed prep in-situ Material (90% MAASHTO)
Sub-grade	(No geotechnical have been conducted at this stage.

Carriage Way Width	5-9m
Design Speed	30 km/h
Maximum Gradient	16% over 30m max
Minimum Gradient	0.45%
Cross Fall	3%
Bellmouths	8m Radius

- STORMWATER:

Major Systems

Storm water infrastructure will be constructed in accordance with the standard requirements and specifications as agreed with the George Municipality.

The minor storm water control system will be affected through a sustainable drainage system (SUDS) i.e. wetlands, balancing ponds, drainage areas and open diversion channels will be implemented where practical. The proposed drainage system will in addition to the ecological and aesthetical purposes function as filters that will obviate pollution from / onto surrounding areas. The existing topography and water features will be utilized and minimal earthworks and disturbance of natural areas are anticipated.

Minor Systems and Storm water Design

The emergency system recognizes failure of the minor/major system by storms greater than provided for in major system or in the event of malfunction of the minor system by providing continuous overland flow routes to minimize flooding of developed areas.

The following measures are proposed to mitigate the impact of post development storm water runoff from the proposed development:

a. Installation of 24 x 5,000 kℓ and 10 x 10,000 kℓ water tanks scattered through-out the development site collecting rain water from the different roofs.
b. Open Spaces will be utilised as recreation areas as well as stormwater detention areas where the concentration of stormwater runoff will be minimised through the application of landscaping techniques, i.e. by creating grass lined swales, undulations and depressions.
c. Post development runoffs will be attenuated by constructing stilling basins and energy dissipaters at outlet structures.

Runoff rates will be determined according to the Rational Method.

- Flood recurrence interval : 2 years
- Pipe material : Concrete
- Pipe class : 75D / 100D
- Pipe diameters : min 375mm Ø up to diameter as required
- Bedding : Class C
- Inlets : Grid inlets as required
- Manholes : Point of deflections on pipes

- WATER:

WATER SOURCE:

Water for the proposed development, will be available from the existing water reticulation.
Fire flow criteria (Low risk) = 15 ℓ/s @ 7 m for 2 hours.
The required storage capacity for Fire Flow is 108m^3.

STORAGE CAPACITY

George Municipality confirms that the development area will be serviced from the Kraaibosch water tower. The required storage volume, for the development, is as follows:
Storage Volume : 2 x 41,6 m³ plus 108m³ = 191 m³
Say 0,2 Mℓ

BULK WATER DISTRIBUTION

Details of the interconnecting pipework required will be finalised in conjunction with George Municipality and Community Engineers Services (CES) the appointed water and sewer master plan consultant. An existing 200 AC water main is located on the southern side of the N2. It is at this stage envisaged that a new 110mm water main will cross the N2 (directional drilling) to supply water to the proposed development. Where possible, water saving methods e.g. rainwater harvesting, stormwater harvesting, rainwater tanks, low flow shower heads etc., will be implemented.

INTERNAL WATER RETICULATION

New 90/75 mm class 12 MPVC water mains complete with isolating valves, fire hydrants and Block connections will be provided. A 90mm Bulk Water Meter will be installed at the connection to the municipal main. Block connections will be made with HDPE PE80 PN12,5 pipes. Typical details are shown on drawing HESRIV-479/W01.

The basis of the water reticulation design for the proposed development is summarised in the table below:

Table 2 Water Reticulation Design Criteria

PARAMETER	GUIDELINE
Pipe materials for erf connections	HDPE PE80 PN12,5
Pipe materials for reticulation mains	MPVC (Class 12)
Minimum diameter for reticulation mains	75mm
Minimum diameter for Block connections	25mm
Valves	90/75mm AVK (open clockwise)
Fire Hydrants	90mm AVK London V
Water meter	90mm Elster Kent

- SEWAGE TREATMENT AND SEWER MAINS

WWTW

No municipal waste-water system is available to accommodate the wastewater generated from the proposed development. The expected annual average dry weather flow (AADWF) equals 80% of 41,6 kℓ/d = 33,3 kℓ/d = 0,38 ℓ/s. (Fully developed)

Waterborne sewerage will be provided in the development. Sewerage will gravitate to a proposed new BIOROCK/ECOROCK Sewage Package Plant (or similar) to be located on the southern side of the proposed development. The plant will be installed in phases as required and will be able to treat up to 30m³ of waste per day. The treated water will be suitable for irrigation on the surrounding grass/paddock areas where public access will be restricted.

WASTE-WATER FLOW

In accordance with the Guidelines for the Provision of Engineering Services and Amenities in Residential Township Development it is expected that 80% of the Average annual water daily demand will end up in the wastewater system.

The annual average dry weather flow (AADWF) equals 80% of 41,6 kℓ/d = 33,3 kℓ/d = 0,38 ℓ/s.
To determine the Peak Wet Weather Flow (PWWF) a peak factor of 4,2 were taken in consideration with an expected stormwater infiltration of 15%. The PWWF equals 1,89 ℓ/s.

SEWER RETICULATION

A waterborne sewer reticulation system comprising of 160mm class 34 PVC sewer mains with solid shaft fibre cement manholes complete with ductile iron double lipped manhole covers is proposed. The connection to each Block will be done with a 110mm Ø Class 34 uPVC connection pipe work.

Design Criteria

The following minimum design criteria shall be applicable to sewer pipework:

- Design parameters : Average daily flow as per Red Book for the different housing categories
- Peak factor – Harmon formula : Extraneous flow – 15% : Minimum velocity – 0.7m
    - Minimum cover to pipes: 0.80m
    - Minimum pipe size : 110mm diameter for Block connections: 160mm diameter for internal sewer mains.
- Minimum gradients : 110mm diameter Block connection at 1:60 and 160mm diameter main lines at 1:100.
- Maximum manhole spacing of 80m and rodding eyes will be constructed at all directional deviations.

- ELECTRICAL SLEEVES

The position of electrical sleeves (110/160mm Class 34 PVC) will be determined in consultation with the Electrical Engineer

- SOLID WASTE

Solid waste of the George Municipality is currently discharged at the Gwaing solid waste dump site. The site is nearing full capacity, but George Municipality is in process of the development of a new regional Solid waste site.
Solid waste for commercial purposes is based on an estimated 0,12 kg/m²/day. The estimated solid waste generated per day is as follows:
5,800 x 0,12 kg/m²/d = 0,696 ton/day = 0,522 m³/day (volume).
This EMPr describes the measures that must be implemented in order to avoid, minimise, manage and monitor the potential environmental impacts of the development, during all phases of the project life cycle, namely:

- Planning and Design Phase
- Pre-construction Phase
- Construction Phase
- Post-Construction/Rehabilitation
- Operational Phase

However, the EMPr will not address the decommissioning phase (if applicable) and excludes any specific emergency / health and safety/ operational specific plans.

6. GENERAL ENVIRONMENTAL MANAGEMENT

The following general management measures are intended to protect environmental resources from pollution and degradation during all phases of the project life cycle. These measures must be implemented as and where applicable, reasonable and practicable during the pre-construction, construction and post-construction rehabilitation and operational (maintenance) phases of the proposed development.

Code of Conduct
The purpose of the Code of Conduct (CoC) is to minimise the impact of the activities associated with the construction phase on the environment. The rules and regulations prescribed in this CoC are intended to ensure that the impacts on the environment are not prejudiced by the construction activities. Failure to adhere to or any breach of this CoC will result in a fine being levied against the offending or defaulting party / individual.

Labourers during the construction phase must conserve the natural environment, endorsing the principles of sustainable use and minimum impact. They must also be sensitive to the impact of their operation on the environment within which they work and minimise any adverse impacts.

This EMPr forms an integral part of the activities during the construction phase and as such, is legally enforceable. In addition to the restrictions and controls provided for in this EMPr, the environmental controls comprise of the following:

- **Engineers**
  - Unless otherwise stated by the holder, only a registered engineer must be appointed for the construction phase of the development.
  - The engineer must provide work or services of a quality and scope, and to a level, which are commensurate with accepted standards and practices.
  - The engineer must be impartial in decision-making, provision of advice and judgement.

- **Contractors and sub-contractors**
  - Unless otherwise determined, only appropriately registered contractors must be appointed.
  - It shall be the responsibility of the holder / engineer to ensure that the contractors abide by and comply with the rules and regulations of the Code of Conduct.
  - Contractors shall at all times be responsible for their sub-contractors and employees whilst they are on the development property.

Rules and Regulations
It is of vital importance that engineers, and contractors understand and acknowledge that they are working on a site that has undergone an environmental assessment and if authorized will require compliance with all relevant permits/licenses and this EMPr. The role players should agree to conform to all environmental controls specified in this EMPr, and any additional environmental permits/licenses, as well as any additional input by the ECO. In addition to the EMPr, the environmental controls comprise of the following:

- **Building Plan Controls**
    - A copy of the approved and signed building plans must be available on site during the construction phase of the development.
    - Variations of the building plans must be approved by the engineer / holder prior to being implemented.
- **Site Tidiness**
    - The contractor must keep the appearance of the site neat and tidy at all times. Building rubble must be removed from site at regular intervals, and litter must be removed from the site on a daily basis (if not in appropriate receptacles). Refuse drums must be available on site which waste can be placed in. The drums must be emptied on a regular basis and the waste taken to a licenced local waste disposal facility.
- **Safety**
    - The contractor must comply with the Health and Safety Act (Act No. 85 of 1993), as amended, together with such regulations promulgated thereunder.

6.1. Site Access and Traffic Management

All construction vehicles need to adhere to traffic laws and regulations, drivers must be sensitised to the fact that they are working in an area with a potentially high volume of foot and vehicle traffic. The speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. As far as possible, care must be taken to ensure that the local traffic flow pattern is not significantly disrupted, and vehicle operators therefore need to be educated in terms of "best-practice" operation in order to minimise unnecessary traffic congestion or dangers. These practices include, but are not limited to, not unnecessarily obstructing the access point or traffic lanes used to access the site; considering the load carrying capacity of road surfaces and adhering to all other prescriptive regulations regarding the use of public roads by construction vehicles.

Adequate signage that is both informative and cautionary to passing traffic must be erected to warn other road users (motorists and pedestrians) about the presence of construction vehicles, particularly at the point where construction vehicles enter/ exit the site from the N2 warning them of the construction. Signage would need to be clearly visible and include, amongst others, the following:

- Identifying working area as a construction site;
- Cautioning against relevant construction activities;
- Prohibiting access to construction site;
- Clearly specifying possible detour routes and / or delay periods;
- Possible indications of time frames attached to the construction activities, and;
- Listings of which contractors are working on the site.

Other mitigation measures include:

- No construction to take place over or during the construction closure period in December – January without prior permission from the relevant authorities.
- Construction vehicles must adhere to the load carrying capacity of road surfaces and adhere to all other prescriptive regulations regarding the use of public roads by construction vehicles.
- ECO to do awareness training with the contractor and labourers and to highlight the traffic related risks before construction commences.
- Where possible, construction traffic that may obstruct traffic flow on the surrounding roads must be scheduled for outside of peak traffic times.
- Ensure appropriate behaviour of operators of construction vehicles.

6.2. Site Demarcation

The working areas should be clearly demarcated on site during the pre-construction or construction phases of the development, as appropriate.

6.2.1. Construction Working Area

Prior to the commencement of any land-clearing or construction activities, the outer boundary of the development area must be surveyed and pegged. This demarcation boundary is to ensure that land clearing and construction activities are restricted to only that area strictly required for the proposed development, and to prevent unnecessary disturbance of soil surfaces and vegetation outside of the development footprint.

The outer boundary of the working area should be enclosed with, at least, shade netting, droppers & wire, or similar – as is feasible and practical. Access point should be temporarily gated. The fencing should be retained and maintained for the duration of the construction period, it should not be removed until construction and reinstatement/rehabilitation concludes, unless changes are required, which will only apply with the approval of the appointed ECO and Site Engineer. Areas to be cleared must be demarcated before any clearing and grubbing commences.

6.2.2. No-Go Areas

Prior to the commencement of any land-clearing or construction activities, all sensitive areas (as identified by the ECO), must be demarcated and must not be disturbed during the construction phase. It is recommended that the No-Go Areas or access to the No-Go Areas, be demarcated with a suitable material that can be easily identified and noticed. Danger tape flagging (pieces of danger tape tied to twine or rope) may be utilised; however the use of only danger tape is not recommended for long-term demarcation as this will easily become untidy and blown away by the wind resulting in pollution.

No-go areas could include areas with slopes of 1:4 and steeper, greenbelt / corridor areas, public open spaces, drainage lines, demarcated/barricaded trees, streams and/or other wetlands outside of the approved development area and all areas beyond the proposed site footprint. No-go areas outside the approved development area must be off-limits to all construction workers, vehicles and machinery during all phases of the development. No vegetation may be cleared from within the no-go areas (unless in accordance with an approved alien invasive management plan and under the supervision of the ECO), and no dumping of any material (waste, topsoil, subsoil etc.) may occur in these areas. Construction workers must be informed of the no-go areas, and if necessary appropriate signage can be used to enforce the demarcation. Any interaction with No-Go Areas should be consulted between the Contractor and ECO prior to any actions.

In accordance with this proposal, the No-Go Area should be considered any area beyond the proposed development footprint.

6.2.3. Demarcation of the Site Camp

The area chosen for the site camp and associated facilities must be the minimum area reasonably required to accommodate the site camp facilities, and which will involve the least disturbance to the environment. It is recommended that easily accessible, transformed areas must be used for the site camp. Site selection must be done in consultation with the ECO.

6.3. Site Camp and Associated Facilities

The set up and organisation of the site camp is paramount to ensuring compliance. An environmental file is to be created by the contractor and be situated within the site camp throughout the construction phase and with the applicant thereafter. The environmental file is to include the following;

- A copy of the Environmental Authorisation.
- A copy of the General Authorisation or any other relative permits.
- A copy of the approved EMPr.
- Updated waste slips.
- Disposal slips or cleaning slips (ablution cleaning).
- All EMR's (Environmental Monitoring Reports) and ECO instructions.
- Copies of Environmental induction register/s.
- The Protocol for chance Palaeontological Findings.
- A Complaints Register.
- Updated method statements.
- Any and all emergency procedure/s applicable to site activities.
- An Incident Register.

6.3.1. Fencing & Security

The site camp area must be secured to prevent any unauthorised individuals from entering the site camp and possibly getting injured or posing a safety and/or security risk. Adequate signage must be displayed, designating the site office / camp as a restricted area to non-personnel. If required, the site camp and associated areas may be fenced off along the demarcated boundaries of these areas, preferably with 2m high fence and shade netting or similar. A site register is recommended to record any daily visitors and activities, for record keeping purposes.

6.3.2. Fire Fighting Equipment

No less than 2 fire extinguishers must be present in the site camp. The extinguishers must be in a working condition and within their service period. A fire extinguisher must always be present wherever any "hot works" (e.g. welding, grinding etc.) are taking place. It is recommended that all construction workers receive basic training in fire prevention and basic fire-fighting techniques and are informed of the emergency procedure to follow in the event of accidental fires. Open fires and smoking should be prohibited on site. However, it is noted that despite this, incidents may arise where fires are created after hours by security, and labour may attempt to smoke on site. In these cases, measures should be taken to ensure that activities are managed appropriately. Therefore, should a fire be created on site after hours, the following procedure must be followed:

- Ensure that the security is aware that creating fires within the site is prohibited.
- Should he choose to create one beyond the demarcated area, he is solely responsible for the management.
- He/she should ensure that:
    - Utilize a metal barrel and contain the fire within, outside of the proposed site.
    - It may not be positioned close to any vegetation, no-go area, natural areas or flammable material.
    - Do not leave fire unattended.
    - Monitor and extinguish any embers that may escape.

Should the contractor choose to, he/she may designate a smoking area within the site camp, of which the contractor is solely responsible for the management of this activity on site, and any incidents that may occur. It must contain the following features:

- Appropriate signage.
- A barrel/bucket filled to 50% capacity with sand, for disposal of used cigarettes.
- An appropriately weighted lid, that cannot be easily displaced by volatile weather conditions
- The bin and designated area must be positioned in such a manner that it is not directly affected by heavy winds.
- This bin must be emptied as is necessary and must not be allowed to reach 75% capacity.

In the case of accidental fires, the contractor must (if required/significant) alert the Local Authority's Fire Department as soon as a fire starts prior to the fire becoming uncontrollable.

6.3.3. Waste Storage Area

Sufficient bins for the temporary storage of construction related waste must be provided inside the site camp and/or at the working area and must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. Sufficient signage and awareness must be created to ensure that these bins are properly used.

6.3.4. Hazardous Substances Storage Area

Fuels, chemicals, lubricants and other hazardous substances must be stored in a demarcated, secured, bunded and clearly sign-posted area within the site camp away from the watercourses on site. Sufficient signage and awareness must be created to ensure that these bins are properly used.

6.3.5. Potable Water

An adequate supply of potable water must be provided to construction workers at the site camp. It is the Contractors duty to ensure that the labour has adequate access to potable water throughout construction phase, and to monitor weather conditions, to ensure that labour has enough drinking water on hotter days, or construction activity must cease, until conditions are safe to continue.

6.3.6. Ablution Facilities

Chemical toilets must be kept at the site camp, on a level surface and secured from blowing over and located in such a way that the toilets will not cause any form of pollution. As per the SANS10400 (SANS 10400 – Part P; Section 4.11 – Table 5) requirement, one ablution facility for every 8 male workers and 2 ablution facilities for every 8 female workers will be provided.

The ablution facilities must not be linked to the river system/drainage lines in any way. Toilets must be serviced regularly and kept in an orderly state. The contractor must ensure that no spillage occurs when the toilets are cleaned, serviced or moved. The toilet facilities should be emptied on a weekly basis, by an appropriately registered service provider. Proof of this weekly servicing must be obtained and filed in the Environmental File on site. Performing ablutions outside of the provided toilet facilities is strictly prohibited and the ECO would need to regularly inspect the state of the chemical toilets to ensure compliance.

6.3.7. Eating Area & Rest Area

A dedicated area within which construction workers can rest and eat during breaks must be provided within the site camp. Seating and shade must be provided.

6.3.8. Vehicle & Equipment Maintenance Yard

Where possible, construction vehicles and equipment that require repair must be removed from site and taken to a workshop for servicing. If emergency repairs and/or basic maintenance of construction vehicles or equipment are necessary on site, such repair work must be undertaken within the designated maintenance yard area away from any watercourses. Repairs must be conducted on an impermeable surface, and/or a tarpaulin and/or drip trays must be laid down prior to emergency repairs taking place, in order to prevent any fuel, oil, lubricant or other spillages from contaminating the surrounding environment.

6.3.9. House-Keeping

The site camp and related site camp facilities must be kept neat and orderly at all times, in order to prevent potential safety risks and to reduce the visual impact of the site during construction.

6.4. Protection of Fauna

Construction workers are to be sensitised to the fact that they may encounter fauna during the construction period. This should be included in the environmental awareness training completed with all site personnel before any construction commences (see Section 14 and Appendix I for Environmental Awareness Plan). No faunal species are to be trapped, or killed, if any fauna is encountered by construction workers, the ECO is to be notified. If the ECO is not on site, the site manager is to be informed. Rescued fauna should be released into a nearby area of similar habitat away from any construction. Contact details for animal rescue services and/or snake wrangler, from the local area, should be available on site, in case of an emergency.

6.5. Indigenous Vegetation Clearing and Protection.

Where indigenous vegetation must be cleared for the development, the following measures must be implemented:

- Blanket clearing of vegetation must be limited to the approved development footprint, and the area to be cleared must be demarcated before any clearing commences
- Where feasible vegetation must simply be trimmed to facilitate access/ construction, rather than being completely cleared or removed, unless vegetation has been identified as an SCC (Species of Conservation Concern), in which case no removal, trimming or any further alteration ay take place unless the relevant authority is notified, and procedures are undertaken to permit alternations.
- Only the areas required to accommodate the construction and access to the construction site must be cleared/trimmed of vegetation, as long the vegetation has not been identified as an SCC.
- After any clearing is completed, if the area is not to accommodate hardened surfaces, an appropriate cover crop should be planted where any weeds or exotic species are removed from disturbed areas timeously.
- Vegetation outside of the construction footprint and within any no-go areas must not be cleared, unless permitted in accordance with the alien invasive management plan, and under the supervision of the ECO.
- Land clearing and earthmoving activities should not be undertaken during strong winds, where possible.
- Ensure the open space is kept clear of alien plant species through the adoption of an Alien Invasive Management plan.
- Trees located in areas where sidewalks, open areas or gardens are proposed, these trees are to be barricaded and not cleared.
- No fires are permitted on site.

The proposed development requires the clearance of vegetation; however the following measures should be implemented to protect the indigenous vegetation where possible.

- Great care will be taken if cement is to be mixed on site, especially in the proximity of vegetation. Cement is to be mixed on thick plastic sheets or in large buckets and not allowed to spill onto bare ground. Any spillage will be cleaned up immediately. Cement water is also to be contained in the above manner and allowed to dry out and then removed from site. Cement water, which is highly alkaline, poses a definite threat to the soil and seed banks.
- Blanket clearing of vegetation must be limited to the approved development footprint, and the area to be cleared must be demarcated before any clearing and grubbing commences.
- A monitoring programme shall be in place, not only to ensure compliance with the EMPr throughout the construction phase, but also to monitor any post-construction environmental

issues and impacts such as increased surface runoff. The monitoring should be regular and additional visits must be taken when there is potential risk to the aquatic habitat.
- No clearing outside of development and infrastructure footprint area to take place.
- Rescued plants should be replanted into a nearby disturbed area of similar habitat or for open space rehabilitation.
- An Independent Environmental Control Officer will oversee compliance with all the prescribed environmental requirements and mitigation measures listed here and will be on site regularly.
- Provide provisions in the detailed design of the layout to accommodate protected trees.
- Barricade protected trees during construction.

6.6. Topsoil and Subsoil Management

It is recommended that topsoil be removed from any area where physical disturbance of the surface will occur, including within the footprint of the development site (working area) and possibly within the site camp, ablution area, vehicle maintenance yard, refuelling area and temporary waste storage area. Topsoil removal and stockpiling must be undertaken only after consultation with the ECO.

- Excavated topsoil and subsoil must be stockpiled for the duration of the active construction period and utilised for the final landscaping and rehabilitation of disturbed areas on site.
- The topsoil berm may be a few meters wide but must ideally not be more than 2m high to allow light and air penetration.
- Excavated subsoil must be stockpiled separately from topsoil.
- The topsoil & subsoil storage area must be located on a level area outside of any surface drainage channels outside the riparian zone, and at a location where it can be protected from disturbance and river flow/floods during construction and where it will not interfere with construction activities.
- Topsoil and subsoil stockpiles must be adequately protected from being blown away or eroded by storm water. If necessary, shade cloth or other suitable measures must be used to stabilise and protect the stockpile from wind/water erosion. Topsoil stockpiles must not be covered with tarpaulin, as this may smother and decrease the virility of topsoil.
- Stockpiles must not be located within 50 metres of the edge of the wetland habitat.
- Handling of topsoil must be minimised as much as possible, and the location of the topsoil berm must be chosen carefully to avoid needing to relocate the topsoil berm at a later date.
- Ideally, topsoil is to be handled twice only, once to strip and stockpile, and once to replace, level, shape and scarify.
- If soil stockpiles will be stored for an extended period of time, the stockpiles must be kept clear of weeds and alien vegetation growth by regular weeding, (or application of herbicides if agreed with the ECO).
- Soil material that will not be re-utilised on site may be removed from site and taken to an appropriate site for re-use or disposal.
- Topsoil removed from fynbos areas to be reused in rehabilitation areas, e.g. open space areas. Where possible, topsoil from fynbos areas, containing indigenous plant seeds, should be transferred immediately to rehabilitation areas rather than being stockpiled, as stockpiling kills important fungi, microbes, seeds and soil fauna. Topsoil stockpiles of this kind must not exceed 1.5 m in height and must not be compacted.
- Note that the topsoil must be the final layer applied to a rehabilitated/ re-landscaped site, after subsoil/ spoil material has been placed and shaped on the site.

6.7. Integrated Waste Management Approach

It is recommended that an integrated waste management system is adopted on site. The system must be based on waste minimisation and must incorporate reduction, recycling, re-use and disposal where

appropriate. Separate waste bins/skips that are weather and animal proof must be provided for recyclable waste, general waste and hazardous waste. Recovered builder's rubble & green waste may be stockpiled on the ground within the site camp, or in separate skips until removal. These bins/skips must be emptied, and the waste taken to a registered recycling facility. The receipts from the facility must be kept on file and must be available on request.

The non-recyclable and non-reusable waste (e.g. builder's rubble, etc.) generated on site must be disposed of at a landfill site licensed in terms of the applicable legislation. The receipts from the facility must be kept on file and must be available on request.

Chemical toilets present a risk to the surrounding environment and must be managed accordingly. Chemical toilets must be kept within the site camp (not be linked to the storm water drainage system), on a level surface and secured from blowing over. Chemical toilets must be regularly emptied, by a registered cleaning company and the waste disposed of at an appropriate wastewater disposal/ treatment site. Care must be taken to prevent spillages when moving or servicing chemical toilets.

Hazardous substances such as diesel, oil and detergents will be present on site throughout the construction phase of the proposed development. Hazardous substances pose a greater risk to the surrounding environment than general substances and therefore need to be managed accordingly. A designated storage area within the site camp that is clearly demarcated must be set aside for the storage of hazardous substances and is to be treated as a no-go zone to unauthorised personnel. Appropriate signage, Material Safety Data Sheets (MSDSs), recently serviced fire extinguishers and spill kits should accompany the hazardous substances. Appropriate storage of hazardous substances is important while drip trays should always be utilised when decanting of hazardous substances and when refilling chemical/ fuel storage tanks. If any spills do occur, the solid must be excavated and disposed of as hazardous waste.

Cement and concrete batching will be permitted on site, but may only take place on designated impermeable, bunded surfaces, as agreed with the ECO. Used cement bags should be disposed of as hazardous waste on site.

6.8. Erosion Control and Stormwater Management

A stormwater management plan is to be developed (by the engineer) with appropriate ecological input and be developed based on Sustainable Drainage Systems (SUDS). The SUDS systems attempt to maintain or mimic the natural flow systems as well as prevent the wash-off of urban pollutants to receiving waters. Baffles in the stormwater conduits are effective.

Appropriate measures must be implemented to control the flow of stormwater across the construction site, in order to prevent possible flooding, soil loss and dispersion of pollutants. To prevent excessive erosion activities, exposed earth surfaces must be protected from wind and water erosion.

The scale and nature of the erosion and stormwater control measures implemented on site must be appropriate to the conditions on site, and sufficient to achieve the desired outcomes (soil preservation, prevention of flooding, stormwater control) to the satisfaction of the ECO and consulting engineer.

The prevention of soil erosion can be initiated by designating specific areas for stockpiling of raw materials with consultation of the ECO. No stockpiling is to occur on or near slopes or water resources and all stockpiling areas must be approved by the ECO before stockpiling occurs.

Stockpiles need to be effectively managed and maintained as they have the potential to contribute to runoff and erosion. To prevent this, the following management measures must be implemented.

- Stockpiles of topsoil & spoil material must be protected from wind & water erosion.
- Stockpiles of earth material may not be located within any storm-water drainage pathways and must be outside of the reach of potential flood waters.
- Any erosion runnels/ gulleys/ channels that form on site must be infilled with appropriate material, compacted, rehabilitated as needed and appropriate erosion control measures put in place to prevent recurrent erosion at that site. Rehabilitation of erosion channels should be ongoing during the construction phase and not left until the end of the construction period
- Stockpiles must not be located within 50 metres of the edge of any wetland habitat.

It may be necessary to implement small-scale erosion protection measures at the construction site, to prevent soil erosion. Such measures may include the use of shade netting, geo-fabric, brush-packing or similar barriers in areas susceptible to erosion and along exposed slopes. The storm water management plan should adhere to the principles of sound storm water management. The storm water management system must be implemented on site and must be properly maintained to ensure that contaminated run-off from the construction site is prevented from flowing into the watercourse.

Cleared areas and any other area susceptible to erosion should be provided with a suitable cover and stabilised as soon as possible via the implementation of appropriate erosion control measures. This may include use of cut-off drains, temporary/permanent drainage channels, brush-packing, mulching, planting or sodding, use of environmentally benign soil binders, use of geo-textile or other coverings. The appropriate measures should be selected by the contractor in consultation with the Engineer & ECO.

6.9. Construction Near a Watercourse

The Aquatic Biodiversity Verification Assessment (2021) notes that no aquatic habitat was identified within the site. In order to protect watercourses present within the surrounding environment, it is recommended that a stormwater management plan be compiled and implemented to ensure that the quantity and quality of water leaving the property is sufficiently regulated to protect any down slope water resources. Once construction has been completed, the objective would be to promote the re-establishment of the ecological functioning of any area disturbed by construction activities and maintain a healthy system throughout operation. During the post-construction and operational phase of the development, erosion features that have developed are required to be stabilised. This may also include the need to deactivate any erosion headcuts/rills/gullies that may have developed. The area must be maintained through alien invasive plant species removal and the establishment of indigenous vegetation cover to filter run-off before it enters a freshwater habitat.

6.10. Excavations and Earthworks

Any major earthworks with bulldozers and heavy machinery must be under constant supervision and operators are to be aware of all the environmental obligations, as there is always the potential to inflict damage to the sensitive areas. Any unnecessary or excessive heavy machinery movement must be kept to a minimum i.e. only what is absolutely necessary. Areas to be excavated must be clearly demarcated. Areas, which have already been excavated and entail fairly significant earthworks, must be similarly demarcated to avoid the spreading of construction activities into more sensitive areas.

All excavated material must be stored on a flat surface away from any drainage line, sloped areas or area susceptible to erosion. The location must be decided in consultation with the ECO. Stored material must be protected from wind and water erosion, and this may entail covering the material with suitable shade cloth material or similar (if and when necessary). The shade cloth may need to be weighed

down in such a manner that any stream flow is directed away from the stockpile, reducing the risk of erosion.

In the event that any heritage resources (human remains, gravestones, stone tools, artefacts, old coins and pottery, fossil shell middens, rock art and engravings, remains of old built structures etc.) are encountered during construction, the finding should be protected from further disturbance (ideally left in situ) and the ECO and relevant Heritage Authority should be notified. Adopt Appendix J of the EMPr.

6.11. Visual Impact.

The proposed development has the potential to cause a visual impact during the construction and operational periods. To minimise the potential visual impact, all working areas, storage facilities, stockpiles, waste bins, elevated tanks and the site camp should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. Waste must be managed according to this EMPr. Good housekeeping practices on site must be maintained to ensure the site is kept neat and tidy. The site camp may require visual screening via shade cloth or other suitable material. The use of reflective materials and excessive lighting should be avoided, and construction vehicles must enter and leave the site during working hours.

6.12. Noise Management.

Additional noise is expected during the construction period due to construction activities. It is important that noise complaints register should be opened and that all excavations and earth-moving activities must be restricted to normal construction working hours (7:30 – 17:30) as far as possible. Work on site must be well-planned and should proceed efficiently so as to limit the duration of the disturbance. This is to be done by ensuring that all equipment is in good working condition and fitted with mufflers/exhaust silencers in necessary. Noise levels must comply with the relevant health & safety regulations and SANS codes and should be monitored by the Health & Safety Officer as necessary and appropriate, and all affected parties must be informed of the excessive noise factors.

6.13. Dust Management.

Although the generation of dust is synonymous with construction sites, care needs to be taken to prevent excessive dust from impacting the surrounding environment and community. Majority of the dust causing activities will take place during the construction period. Exposed surfaces, such as stockpiles and cleared areas should be provided with a suitable cover as soon as possible or wetted down. Construction vehicles should maintain low speeds of 20-40km/h and must ensure that tarpaulins are used to cover any loads transported. Dust levels specified in the National Dust Control Regulations (GN 827 of November 2013) may not be exceeded. i.e. dust fall in residential areas may not exceed 600mg/m^2/day, measured using reference method ASTM D1739.

A Complaints Register must be available at the site office for inspection by the ECO, in case of complaints, such as those related to dust. This should form a part of your Environmental File.

6.14. Heritage Resources

Should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities, all works must be stopped immediately within this area, and Heritage Western Cape must be notified without delay. See Appendix J of the EMPr.

Heritage Western Cape:
T: 021 483 5059
E: hwc.hwc@westerncape.gov.za

6.15. Site Closure and Rehabilitation

Upon completion of the construction phase, and after each maintenance event, all disturbed areas, including the working area (disturbance corridor), temporary access road, and all areas utilised for the site camp and associated site camp facilities, if applicable, may require rehabilitation as follows:

- On completion of the construction operations, the site camp area must be cleared of all site camp facilities, ablution facilities, fencing, signage, waste and surplus material.
- All areas within the working area and site camp that have become devoid of vegetation or where soils have been compacted due to construction activities must be scarified or ripped to improve filtration and reduce run-off.
- All demarcation fencing, including all droppers, wires, netting and barrier tape must be removed from site and taken to an appropriate site for re-use or disposal.
- Surfaces are to be checked for waste products from activities such as concreting or asphalting and cleared in a manner approved by the ECO. Any soil contaminated with hydrocarbons (oil, fuel, etc) or other hazardous substance must be collected and disposed of as hazardous waste to a licenced disposal facility.
- All construction waste is to be removed from the site and disposed of at an appropriate facility. Burying or burning of waste or rubble on site is strictly prohibited.
- Topsoil that was removed and stockpiled before construction, must be replaced by spreading it evenly over the areas from which it was removed. This topsoil (and the seedbank it contains) will facilitate the re-vegetation of the site.
- Disturbed areas, especially areas where excavations have taken place, must be shaped as appropriate (original topography must be restored where possible), and covered with a layer of stockpiled topsoil as soon as possible.
- Any topsoil, subsoil or other excavated material that cannot be utilised during site rehabilitation must be removed from the site and disposed of at an appropriate disposal site.
- The disturbed, newly rehabilitated surfaces (particularly steeper slopes and areas recently covered with topsoil) must be protected from wind & water erosion using mulch, brush packing or other appropriate erosion protection measures. Brush-packing/ mulching is done by covering the exposed surface with organic plant material such as branches, plant cuttings and leafy material. Ideally the vegetation removed from site at the start of the construction must be utilised. Brush-packing/ mulching plays a valuable role in erosion control, while also promoting re-vegetation of the site by retaining moisture in the soil, introducing seeds and/or trapping wind-blown seeds and providing organic material (compost) to promote new plant growth.
- Final landscaping and rehabilitation of the site must be done to the satisfaction of the ECO and must adhere to all conditions/ requirements of the Environmental Authorisation.

7. ENVIRONMENTAL IMPACT MANAGEMENT: PLANNING AND DESIGN PHASE

No direct environmental impacts are associated with the planning and design phase. However, poor planning or inappropriate design decisions in this phase may result in environmental impacts arising during subsequent phases of the project.

Planning and design activities must therefore take into account the environmental constraints and opportunities identified during the Environmental Impact Assessment process, in order to avoid or minimise the potential future impacts of the development. Proper planning is also essential to ensure that adequate provision is made to implement the environmental requirements of this EMPr, and to ensure that the development is compliant with additional conditions which may be included in the Environmental Authorisation.

The environmental management objectives (goals) during this phase are to:

- Appoint an Independent Environmental Control Officer.
- Complete the detailed design of the structures and detailed site layout plan.
- Compile and adopt a suitable and acceptable Stormwater Management Plan.
- Update the EMPr (if necessary).

These environmental management objectives, as well as the management actions that must be implemented in order to achieve the desired objective and avoid/minimise potential impacts are discussed in more detail below.

7.1. Objective 1: Appointment of an Environmental Control Officer and Environmental Auditor

Impact Management Objective: ***To appoint a suitably qualified and experienced ECO and Environmental Auditor.***		
Potential impact to avoid	Failure to appoint an ECO and Environmental Auditor will result in non-compliance with the requirements of the EMPr.	
Impact Management Outcome	The requirements of the EMPr are implemented and monitored during all phases of the development, which will promote sound environmental management on site.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
• A suitably qualified and experienced Environmental Auditor must be appointed before any activities commence on site. • A suitably qualified and experienced ECO must be appointed before any activities commence on site. • The appointed ECO must adhere to the requirements stated in Chapter 15 and any other requirements specified in the Environmental Authorisation.	The *Garden Route Gateway Plaza (Pty) Ltd*	During design phase/Prior to the commencement of construction activities

• The appointed ECO must be advised of the construction start date, before any activities commence on site so that the ECO can perform a pre-commencement inspection and plan for environmental awareness training of construction workers. • The ECO should be permitted to view all relevant documentation and may request plans such as the approved Stormwater Management Plan.		
Performance Indicator	A qualified ECO and Environmental Auditor is appointed prior to the commencement of any construction activities (including pre-construction set-up activities) on site.	

7.2. Objective 2: Detailed Design and Site Layout Plan

<u>Impact Management Objective:</u> To compile a detailed design and site layout plan that adheres to the recommendations of the BAR Report and any additional conditions which may be included in the Environmental Authorisation.		
Potential impact to avoid	Substantial deviation from the conceptual layout plan may result in: • Non-compliance with the Environmental Authorisation during construction. • Triggering of additional listed activities not authorised in the Environmental Authorisation. • An increase in the severity of the impacts identified and assessed in the BAR or may result in new impacts not previously assessed and not provided for in the EMPr, resulting in environmental degradation. • Visual disturbance. Poor stormwater management as a result of poor planning, can exacerbate impacts and result in additional non-compliances.	
Impact Management Outcome	Development is compliant with recommendations of the BAR and the EMPr.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
General: • The final detailed design & layout must adhere to the conceptual layout assessed in the BAR process. • The final detailed design & layout must adhere to any conditions of the Environmental Authorisation (EA). Design Considerations: • Ensure that the proposed development is sensitive to the natural beauty and consider the following aspects when planning the development.	The *Garden Route Gateway Plaza (Pty) Ltd* / Consulting Engineer	During design phase

- Infrastructure should be visually unobtrusive; - Materials and colours used for the development should blend into the surrounding landscape; - Infrastructure should be grouped in clusters with open spaces between clusters; - Infrastructure should not interfere with the skyline (ridgelines), landmarks, major views and vistas; - The development should not increase light, noise or effluent pollution; - The development should correspond to the historical, architectural and landscape style of surrounding layout and buildings. - Landscaping and the maintenance of such should be integrated into the planning process, long-term maintenance should be a priority. • Lighting design - Measures can be implemented to reduce light pollution and those relevant to the project are as follows: - Where possible construction activities should be conducted behind noise/light barriers that could include vegetation screens. - Low flux lamps and direction of fixed lights toward the ground should be implemented where practical. Choose "full-cut off shielded" fixtures that keep light from going uselessly up or sideways. Full cut-off light fixtures produce minimum glare. They also increase safety because they illuminated people, cars, and terrain. Bright light bulbs can be seen from a distance. - The site camp, toilets, storage facilities, stockpiles, waste bins, and any other temporary structures on site should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. - Utilize shade cloth, or other suitable material, along the fence perimeter of the site camp. - Work on site must be well-planned and well-managed so that work proceeds quickly and efficiently, thus minimizing the disturbance time. - Special attention should be given to the screening of highly reflective material. - Construction vehicles must enter and leave the site during working hours. Changes to Plans: • If the final detailed design differs significantly from that assessed during the BAR, the revised layout must be assessed by an Environmental Consultant and if necessary, the approved EA must be amended by the Competent Authority before proceeding.		

• Interested & Affected Parties may need to be provided with an opportunity to comment on any proposed amendment to the EA depending on the significance of the changes. Stormwater Management Plan: • Implement final Stormwater Management Plan as per Engineering report, "The minor storm water control system will be affected through a sustainable drainage system (SUDS) i.e. wetlands, balancing ponds, drainage areas and open diversion channels will be implemented where practical. The proposed drainage system will in addition to the ecological and aesthetical purposes function as filters that will obviate pollution from / onto surrounding areas. The existing topography and water features will be utilized and minimal earthworks and disturbance of natural areas are anticipated." • Ensure time and finances are allocated to appropriate planning and implementation. • Should be compiled by the relevant engineer and approved by the relevant authority. • Should take into consideration the Civil Engineering Report, EMPr, EA conditions and any other relevant technical reports.		
Performance Indicator	Detailed designs and site layout plans that adhere to the conditions of the EA and EMPr are finalised prior to the commencement of construction.	

8. ENVIRONMENTAL IMPACT MANAGEMENT: PRE-CONSTRUCTION PHASE

Proper set-up during the pre-construction phase can set the foundation for good environmental management during the active construction phase to follow and can avoid potential impacts from arising at a later date.

The Impact Management Objectives for this phase of the project relate to:

- Identification and Demarcation of no-go areas and working areas.
- Establishment of site camp and associated site facilities.
- Pre-construction ECO visit.

8.1. Objective 1: Identify & Demarcate No-Go and Working Areas

Impact Management Objective: ***Identify and demarcate no-go areas, working areas and site facilities.***		
Potential impact to avoid	• Encroachment of No-Go areas. • Insensitive location of working areas and site facilities may result in environmental impacts during the construction phase. • Failure to accurately demarcate working areas may result in an increased disturbance footprint. • Failure to demarcate no-go areas may result in disturbances to these areas during construction.	
Impact Management Outcome	Future construction activities will be restricted to within the designated areas & environmentally sensitive areas (no-go areas) will be protected from disturbance.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
• Demarcation of working area in accordance with Section 6.2. • Ensure the ECO is present for demarcation. • When planning relevant programme of works and establishment on site, the Contractor must take into consideration the approved layout, the stormwater management plan, the engineering report and drawings, as well as the EMPr and Environmental Authorization requirements. • Plan relevant areas to: - Situate and store materials and indicate areas where no stockpiling can be permitted (areas close to the northern boundary. - Situate ablution facilities (if chemical toilets will be utilized), incompliance with Section 6.3. - Situate waste receptacles, in compliance with Section 6.7. • Establish the relevant signage.	Contractor	Pre-construction phase (prior to arrival of construction equipment, machinery, or workers on site)

Performance Indicator	No-go areas, working areas and areas for site camp facilities have been identified and appropriately demarcated to the satisfaction of the ECO, before construction activities commences on site.

8.2. Objective 2: Establish Environmentally Sensitive Site Camp & Site Facilities

Impact Management Objective: *To set up and equip the site camp and associated site facilities in a manner that will promote good environmental management.*		
Potential impact to avoid	• An inadequate location for the site camp facilities may result in impacts to sensitive resources. • Failure to properly demarcate and set up site facilities may result in disorganised construction activities and unnecessary disturbance to the site. • Failure to provide the necessary site facilities and/or failure to equip these facilities with the necessary equipment/materials may impede good environmental management & compromise ability to respond to emergencies.	
Impact Management Outcome	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of the EMPr are provided on site.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
• The site camp and associated site facilities must be set-up and managed in accordance with the general environmental management measures specified in Section 6 and specifically 6.3 of this EMPr. • The site camp must be strategically set up, away from freshwater resources as well as any areas of concern (slopes, etc.), in a manner that will promote good environmental management during construction/ demolition, and to respond to potential emergencies (including fires, spillage of hazardous substances etc.) that may arise. • The site camp, storage facilities, stockpiles, waste bins, and any other temporary structures on site should be located in such a way that they will present as little visual impact to surroundings and road users as possible. • Frequent stormwater outlets must be designed to prevent erosion at discharge points. • The approved stormwater management plan must be considered, and EMPR and EA conditions taken into account.	Contractor / The Home Market NPC	Pre-construction phase (prior to start of construction activities)
Performance Indicator	Appropriate, well organised, and properly equipped site facilities are available on site prior to commencement of construction activities. The location and set up of the facilities don't impact on the natural resources.	

8.3. Objective 3: Pre-Construction ECO Inspection and Due Diligence

It is essential that the appointed ECO be advised of the intended construction start date before construction activities commence on site, in order for the ECO to conduct an initial site inspection to assess the pre-commencement condition of the site. The ECO can also advise on the appropriate siting and demarcation of the site facilities, and the identification and demarcation of the no-go areas. The ECO may also conduct the first round of environmental awareness training at this stage, if any construction workers/sub-contractors are present on site.

<table>
<tr><td colspan="4"><u>Impact Management Objective:</u> Environmental Control Officer to conduct an inspection prior to the commencement of construction activities on site.</td></tr>
<tr><td>Potential impact to avoid</td><td colspan="3">• Failure to appoint ECO or to notify ECO of commencement prior to commencement may result in non-compliance with the EA.
• If a pre-commencement ECO inspection is not performed, the Construction Contractor may be held liable for environmental degradation that took place prior to the Contractor commencing work on site.</td></tr>
<tr><td>Impact Management Outcome</td><td colspan="3">• Good environmental management is promoted and enforced by the ECO during the full pre-construction and construction phases.
• Site facilities are appropriately located on site.
• Construction workers receive environmental awareness training before commencing work on site.</td></tr>
<tr><td colspan="4">IMPACT MANAGEMENT ACTIONS</td></tr>
<tr><td colspan="2">Mitigation measure</td><td>Responsible party</td><td>Time period</td></tr>
<tr><td colspan="2">• The appointed ECO must be advised of the construction start date, before any activities commence on site so that the ECO can perform a pre-commencement inspection and plan for environmental awareness training (see Section 14 and Appendix I), of construction workers.
• The ECO must ensure all relevant items are in place in terms of Section 6 of this EMPr, where necessary, and all relevant pre-construction requirements have been complied with in terms of the EA.
• Ensure the project timeframe has taken the relevant requirements of the EA and EMPr, into account.
• The ECO is to take photographs of the site prior to the establishment of ALL facilities (including the site camp), for record purposes.
• The ECO is to ensure that the Environmental File is in place on site, with all the relevant content, and emergency numbers for the relevant authorities are available.
• The ECO is to consult with the Contractor regarding relevant dates for environmental inductions (with regard to new labour).</td><td>Contractor</td><td>Start of construction phase</td></tr>
<tr><td>Performance Indicator</td><td colspan="3">A pre-commencement site inspection is conducted by the appointed ECO before construction activities commence on site.</td></tr>
</table>

9. ENVIRONMENTAL IMPACT MANAGEMENT: CONSTRUCTION PHASE

A number of potential environmental impacts may arise during the construction phase of the development. These impacts have been identified and assessed during the Environmental Impact Assessment process. Environmental Management objectives and actions that will prevent the identified potential impacts from arising – or where avoidance is not possible, that will minimise and mitigate the impacts – are provided in this section.

The environmental management actions and mitigation measures prescribed in this section must be implemented throughout the construction phase and must be implemented in conjunction with the general management measures specified in Section 6 of this EMPr, as well as any other conditions which may be stated in the Environmental Authorisation. The Environmental Control Officer must monitor and enforce the implementation of the relevant environmental management measures and may provide guidance on the implementation of these environmental management measures as and when required.

The environmental management objectives (goals) for the Construction phase are:

- Prevent erosion & sedimentation
- Pollution prevention
- Maintain sense of place (noise, dust and lifestyle)
- Ensure traffic safety
- Creation of multiple job opportunities & capital expenditure
- Reduce the visual impact

The environmental management actions that must be implemented in order to achieve the desired objectives and avoid/minimise potential impacts are discussed in more detail in the sections below.

9.1. Objective 1: Prevent Erosion & Sedimentation

Impact Management Objective: ***To prevent soil loss on site and prevent sedimentation downslope.***		
Potential impact(s) to avoid	• Impractical positioning of stockpiles and loose soils. • Erosional events and runoff downslope, particularly in the event of rain. • Alien invasive encroachment in areas that will not be transformed into hardened surfaces. • Alien invasive species that may pose a fire hazard.	
Impact Management Outcome	Earthworks managed accordingly resulting in minimal erosion and no sedimentation.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
General:	Contractor	Construction phase

• The working area, site camp and demarcation fence line must be maintained, and appropriate house-keeping measures must be employed. • Care must be taken when works occur close to the northern boundary. • No stockpiles may be situated close to this boundary or on any sloped surface. • Land clearing and construction activities must be restricted to within the demarcated working area to prevent unnecessary disturbance, exposure or compacting of surrounding areas. • Any erosion runnels/ gulley's/ channels that form on site must be infilled with appropriate material, compacted, if the area is to be transformed, so as to halt the erosional event, until transformation occurs. If the area was not intended to be transformed, then it must be rehabilitated as needed. Appropriate erosion control measures must be put in place to prevent recurrent erosion at that site. • Rehabilitation (where necessary), or actions mentioned above, with regard to erosion channels, should be ongoing during the construction phase and not left until the end of the construction period. ECO supervision required. • Construction must be avoided during rainy days, to prevent excessive runoff. • Be mindful of rainfall events, and plan construction works during dry season, where possible. • Construction works must be well-planned and well-managed so that construction work proceeds quickly and efficiently, thus minimising the duration of disturbance. Cleared surfaces: • Soil surfaces must not be left bare for lengthy periods, in the event of bad weather. Stormwater control measures must be implemented to control any potential runoff from these areas. • Plan clearance and construction activities so that bare areas are not exposed for long periods of time, particularly if there is a shutdown period/the Contractor will not be able to supervise the site. • If site development does not occur soon after preparation of the site, the Contractor must consider establishing a suitable cover crop as a temporary measure (this should be implemented if there is an unforeseen/planned shutdown for a prolonged period of time, as recommended by the ECO). • Only the area required to accommodate construction activities within the working area should be cleared of surface covering. Unnecessary clearing/ disturbance of land and exposure of soil must be avoided.		

• Land clearing, earth-moving and construction activities should not take place during heavy rains, or windy conditions. • Implementation of appropriate erosion control measures. This may include use of cut-off drains, temporary/permanent drainage channels, silt fencing, brush-packing, mulching, planting or sodding, use of environmentally benign soil binders, use of geo-textile or other coverings. The appropriate measures should be selected by the contractor in consultation with the Engineer & ECO. Stockpiles • Designated areas for stockpiling of raw materials must be identified before material is brought onto site or excavated. No stockpiling is to occur on or near slopes or water resources. All stockpiling areas must be approved by the ECO before stockpiling occurs. • Erosion control measures including bunding, silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles. Alternatively, the exposed slopes must drain into small temporary stormwater and silt traps/ponds. • Stockpiles of topsoil & spoil material must be protected from wind & water erosion. • Stockpiles of earth material may not be located within any storm-water drainage pathways and must be outside of the reach of potential flood waters. • Stockpiles should not be excessively high, particularly stockpiled sediment, these should not exceed 2m's in height. • Ensure stockpiles are sufficiently bunded. Stormwater control • The approved Stormwater Management Plan must be implemented where necessary. • The stormwater management and drainage system should inform the stormwater design of developed areas. • The Storm Water Management Plan should adhere to the principles of sound storm water management. The storm water management system must be implemented on site and must be properly maintained. • Clean and contaminated storm water must be kept separate. Contaminated run-off from the construction site must be prevented from flowing into the streams. • Contaminated stormwater must be disposed of as waste, at a registered disposal site.		

Alien invasive management: • Ensure that alien invasive species are identified, and measures are taken to consistently remove alien invasive species from within the development footprint. • Stockpiled alien invasive species cleared from site, should be contained and removed from site as soon as possible, so as to not allow dispersal. • Indigenous vegetation should be considered for all open space and land scaped areas.		
Performance Indicator	No erosion runnels/ gulley's/ channels present on stockpiles, excavations or exposed surfaces.	

9.2. Objective 2: Pollution Prevention

***Impact Management Objective:* To prevent environmental pollution and contamination of soil and surrounding environment**		
Potential impact(s) to avoid	• Fuel, oil, lubricant or other pollutants leaking from vehicles/ machinery and contaminate soil and/or ground water. • Leaking chemical toilets. • Contaminated run-off from site or site camp facilities entering soil. • Failure of on-site wastewater infrastructure leading to the pollution of watercourses • Waste (solid or liquid) from the construction site blown or washed into surrounding environment.	
Impact Management Outcome	Surrounding environment remains unpolluted.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
General: • No waste may be stockpiled for more than 90-days. • All waste must be removed as soon as possible and disposed at a registered waste disposal site. The disposal slip must be filed in the environmental file. Pollution Management: • No storm water runoff from any premises containing waste, or water containing waste emanating from construction activities may be discharged into the environment. Polluted stormwater must be contained on the site. • Cement batching / mixing may not take place directly on the soil surface, it must be done on an impervious lining that will prevent cement particles from contaminating the soil. • Construction personnel, equipment and materials must be limited to the minimum practical working footprint.	Contractor	Construction phase

• Take cognisance of rainfall events, and plan construction activities during dry seasons. • Ensure that an appropriately designed stormwater management plan is adopted. General Waste Management • Ensure labour undergoes environmental inductions. • Dedicated waste bins or skips must be provided on site and kept in a designated area on an impermeable surface (where possible). • Separate waste bins/skips must be provided for recyclable waste, general waste and hazardous waste. Recovered builder's rubble & green waste may be stockpiled on the ground within the site camp, or in separate skips until removal. Each skip must be labelled appropriately. • Waste must be placed in the appropriate waste bins/skips/ stockpiles. • Hazardous waste bins must be kept on an impermeable bunded surface capable of holding at least 110% of the volume of the bins. • Skips/ bins must be provided with secure lids or covering that will prevent scavenging and windblown waste or dust. • Bins should be screened and secured, to avoid being displaced by bad weather. Lids should be appropriately heavy, to avoid scavengers from accessing them. • Waste bins/skips must be regularly emptied and must not be allowed to overflow. • Ensure that waste receptacles are weighted down, have weighted covers, are labelled appropriately, and are cleaned by a reputable waste disposal company. Obtain a disposal/cleaning slip for this waste, to file in the Environmental File. • Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site. • The Contractor must ensure that all workers on site are familiar with the correct waste disposal procedures to be followed. • Waste generated on site must be classified and managed in accordance with the National Environmental Management: Waste Act – Waste Classification and Management Regulations (GN No. R. 634 of August 2013). • Disposal of waste to landfill must be undertaken in accordance with the National Environmental Management: Waste Act – National Norms and Standard for the Assessment of Waste for Landfill Disposal (GN No. R. 635 of August 2013).		

• All waste, hazardous as well as general, resulting from the proposed activities must be disposed of appropriately at a licensed Waste Disposal Facility (WDF). Pollution Management -Hydrocarbons (oil, fuel etc.) • Vehicles and machinery must be in good working order and must be regularly inspected for leaks. • If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. The ECO has the authority to request that any vehicle or piece of equipment that is contaminating the environment be removed from the site until it has been satisfactorily repaired. • Repairs to vehicles/ machinery may take place on site, within a designated maintenance area at the site camp. Drip trays, tarpaulin or other impermeable layer must be laid down prior to undertaking repairs. • Refuelling of vehicles/ machinery may only take place at a vehicle maintenance yard, on an impermeable surface, where stormwater and spills are captured and managed appropriately. • Drip trays must be utilised during decanting of hazardous substances and when refilling chemical/ fuel storage tanks. • Drip trays must be placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant, or where there is risk of leakage/spillage. • Where feasible, fuel tanks should be elevated so that leaks are easily detected. • A spill kit to neutralise/treat spills of fuel/ oil/ lubricants must be available on site, and workers must be educated on how to utilise the spill kit. • Soil contaminated by hazardous substances must be excavated and disposed of as hazardous waste. Pollution Management – Ablution facilities • Chemical toilets must be kept at the site camp (if no other ablution facility is available), on a levelled surface and secured from blowing over. • Toilets must be located well outside of any storm water drainage lines and may not be linked to the storm water drainage system in any way. • Chemical toilets must be regularly emptied, and the waste disposed of at an appropriate waste-water disposal/ treatment site. Care must be taken to prevent spillages when moving or servicing chemical toilets.		

• Toilet facilities must be supplied by the Contractor for the workers at a ratio of at least 1 toilet per 30 workers in areas approved by the ECO, separate toilets must be supplied as per gender. • Temporary/ portable toilets must be secured to the ground to prevent them toppling due to wind or any other cause, to the satisfaction of the ECO. • Discharge into the environment and burial of waste is strictly prohibited. The Contractor must ensure that no spillage occurs when the toilets are cleaned or emptied and that the contents are removed from the site. • The toilets must be cleaned by an appropriately experienced and qualified company responsible for maintaining such ablutions. Following every cleaning, a disposal/cleaning slip must be obtained from the company, and filed in the Environmental File, to ensure that these are available for review. • Toilets shall be emptied before the Contractors' holidays or any other temporary site closure. Pollution Management – Hazardous Substances • Any hazardous substances (materials, fuels, other chemicals etc.) that may be required on site must be stored according to the manufacturers' product-storage requirements, which may include a covered, waterproof bunded housing structure. • Material Safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs should additionally include information on ecological impacts and measures to minimise negative environmental impacts during accidental releases. • Hazardous storage and refuelling areas must be bunded with an impermeable liner to protect groundwater quality. The bunding shall be capable of handling a volume 150% the volume of the container storing the substance. • Adequate hazmat spillage cleaning kits (spill kits) must be readily available in the event of oil and hydraulic spills. Cement Batching • Cement batching must take place on an impermeable surface large enough to retain any slurry or cement water run-off. If necessary, plastic/ bidem lined detention ponds (or similar) should be constructed to catch the run-off from batching areas. Once the water content of the cement		

water/ slurry has evaporated the dried cement should be scraped out of the detention pond and disposed of at an appropriate disposal facility authorised to deal with such waste • Cement batching should take place on already transformed areas within the footprint of the facility. If it area is to be transformed, then cement mixing may occur, however, before leaving site, that soil must be removed, and treated as contaminated soil. The risk is related to overnight rainfall that may disperse cement into surrounding areas. • Unused cement bags must be stored in such a way that they will be protected from rain. Empty cement bags must not be left lying on the ground and must be disposed of in the appropriate waste bin, with an appropriately heavy lid. • Washing of excess cement into the ground is not allowed. All excess concrete/ cement must be removed from site and disposed of at an appropriate location. • Construction works must preferably take place in drier months of the year when runoff from the construction site will be minimal, to limit potential dispersal of pollutants.		
Performance Indicator	The site and aquatic system remains free of any pollutants (in accordance with any necessary tests) and any spills that occur are responsibly managed and recorded on file during monitoring.	

9.3. Objective 3: Maintain Sense of Place (Noise, Dust and Lifestyle)

***Impact Management Objective:* To maintain the sense of place associated with the community within the vicinity**		
Potential impact(s) to avoid	• Avoid unnecessary noise, dust and light generated during the undertaking of construction activities, which may present a nuisance to surrounding community and negatively impact the sense of place. • Dust may cause a nuisance to the surrounding residents and businesses, particularly to the adjacent N2 and service station. • Dust may smother surrounding vegetation/land. • Decreased visibility for motorists, labourers and operators. • Unsettled community.	
Impact Management Outcome	The construction of the proposed development does not alter the sense of place or create significant nuisances in terms of dust, noise and odours.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
General: • Ensure existing services are identified prior to any major earthworks, so as to avoid damaging existing services, that may create problems for the surrounding community.	Contractor	Construction phase

Noise • A complaints register should be available on site. • Strict operating hours for heavy vehicles and construction activities should be implemented so as to avoid times of day when noise impacts are more likely to affect adjacent landowners, ie: construction activities, including the movement of vehicle should be limited to between 07h30 and 17h30. • No construction related activities should be permitted over weekends. • Work on site must be well-planned and should proceed efficiently so as to limit the duration of the disturbance. • Vehicles and equipment must be kept in good working condition. If deemed necessary, machinery and equipment should be fitted with mufflers/ exhaust silencers. No unnecessary disturbances should be allowed to emanate from the construction site. • Due to the location of the proposed development site to residents, noise levels must be kept to a minimum at all times. If excessive noise is expected on the boundary of the residential erven bordering the site, the residents must be informed in advance of when the high noise levels will occur and for how long they will occur. • Workers should be educated on how to control noise-generating activities that have the potential to become disturbances, particularly over an extended period of time. • Noise levels must comply with the relevant health & safety regulations and SANS codes and should be monitored by the Health & Safety Officer as necessary and appropriate. • Affected parties must be informed of the excessive noise factors. Dust • Land clearing and earthmoving activities should not be undertaken during strong winds, where possible. • Cleared areas should be provided with a suitable cover as soon as possible, and not left exposed for extended periods of time. • Stockpiles of topsoil, spoil material and other material that may generate dust must be protected from wind erosion (e.g. covered with netting, tarpaulin or other appropriate measures. Note that topsoil should not be covered with tarpaulin as this may kill the seedbank).		

• The location of stockpiles must take into account, the prevailing wind direction, and should be situated so as to have the least possible dust impact to surrounding residents, road-users and other land-users. • Speed limits must be enforced in all areas, including public roads and private property to limit the levels of dust pollution. • The speed limit should be set at 20-40km/h. • Dust must be suppressed on access roads and the construction site during dry periods by the regular application of non-potable water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that will not result in the generation of excessive run off. • Dust suppression measures such as the wetting down of sand heaps as well as exposed areas around the site must be implemented especially on windy days. • The use of straw worked into the sandy areas may also help and the ECO must advise when this is necessary. • If dust appears to be a continuous problem the option of using shade cloth to cover open areas may be necessary or the erecting of shade netting above the fenced off area may need to be explored. • Work on site must be well-planned and should proceed efficiently so as to minimise the handling of dust generating material. • Material loads should be properly covered during transportation. • Dust levels specified in the National Dust Control Regulations (GN 827 of November 2013) may not be exceeded. i.e. dust fall in residential areas may not exceed 600mg/m2/day, measured using reference method ASTM D1739; • A Complaints Register must be available at the site office for inspection by the ECO of dust complaints that may have been received. Odour (General) • It is not anticipated that odour will be a likely impact, however the Contractor must ensure that all existing services are identified before mass earthworks. If a sewer pipe/sewer tank is struck this may create malodourous conditions on site, that will be an inconvenience to the surrounding community and to the labourers.		

• Ensure all emergency services numbers are available on site, including the relevant service infrastructure at the municipality, in case of an incident.		
Performance Indicator	Noise and dust levels on site remain within acceptable standards. No complaints are received.	

9.4. Objective 4: Ensure Traffic Safety

Impact Management Objective: ***To there are minimal delay and all incidents are avoided in terms of traffic, as a result of construction.***		
Potential impact(s) to avoid	• The temporary disturbance to traffic in the area. • Reduced safety on surrounding roads. • Damage to the condition of the of the existing road network. • An increase in crime.	
Impact Management Outcome	The functioning of the surrounding road network remains efficient and the state of the infrastructure isn't hampered.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
General: • All construction vehicles need to adhere to traffic laws. The speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. As far as possible care should be taken to ensure that the local traffic flow pattern is not significantly disrupted. • All vehicle operators need to be educated in terms of "best-practice" operations to minimise unnecessary traffic congestion or dangers. Construction vehicles should therefore, not unnecessarily obstruct the access point or traffic lanes used to access the site. Construction vehicles also need to consider the load carrying capacity of road surfaces and adhere to all other prescriptive regulations regarding the use of public roads by construction vehicles. • Adequate signage, that is both informative and cautionary to passing traffic (motorists and pedestrians), warning them of the construction activities must be suitably located in the area where the construction is occurring and must be easily visible by all road users. Signage needs to be clearly visible and needs to include, among others, the following: o Identifying working area as a construction site;	Contractor	Construction phase

○ Cautioning against relevant construction activities; ○ Prohibiting access to construction site; ○ Clearly specifying possible detour routes and/or delay periods; ○ Possible indications of time frames attached to the construction activities, and; ○ Listings of which contractors and engineers are working on the site. • If needed, appropriate traffic management measures and/ or points men (traffic marshals) should be utilized to assist vehicles entering/ exiting the site, particularly where vehicles must cross the path of oncoming traffic. • Speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. • The Contractor must ensure that any large or abnormal loads (including hazardous materials) that must be transported to/ from the site are routed appropriately, and that appropriate safety precautions are taken. • Truck drivers, transporting construction material or vehicles must be briefed on the appropriate route, and speed limits etc. The driver should be experienced at transporting large loads. • Ensure any damage done by vehicle movement is identified and reinstated as soon as possible. • Avoid existing unsurfaced roads, particularly during periods of rainfall.		
Performance Indicator	• No damage is done to any road surface. • Limited congestion and traffic.	

9.5. Objective 5: Creation of Multiple Job Opportunities and Capital Expenditure.

***Impact Management Objective:* To create employment opportunities with potential for skills transfer, for members of the local community.**		
Potential impact(s) to be promoted.	• A number of job opportunities will be created during the construction phase of the development. • There transfer skills from more experienced workers to less experienced workers. • Increase in business for local businesses within the construction industry.	
Impact Management Outcome	The local community benefits from the employment opportunities created during the construction phase.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
• The *Garden Route Gateway Plaza (Pty) Ltd* should establish a database of local construction companies in the area, specifically SMME's owned and run by HDI's (Historically Disadvantaged Individuals) and local individuals, prior to the commencement of the tender process for the development. These companies should be notified of the tender process and invited to bid for project related work.	The *Garden Route Gateway Plaza (Pty) Ltd* / Contractor	Construction phase

• The *Garden Route Gateway Plaza (Pty) Ltd* in consultation with the appointed contractor/s should seek to ensure that a percentage of the labour required for the construction phase is sourced from local area in order to maximize opportunities for members from the local HD communities. • Ensure specialist reports and input are available to the public and can be referenced/reviewed for future developments in the surrounding area. • The developer in consultation with the appointed contractor/s will look to employ a percentage of the labour required for the construction phase from local area in order to maximize opportunities for members from the local HD communities.		
Performance Indicator	The majority of the construction team is from the local community, with preference given to historically disadvantaged individuals. Skills transfer from experienced to less experienced workers is actively encouraged on site.	

9.6. Objective 6: Visual Impact Management.

***Impact Management Objective:* To prevent the site from presenting an unnecessary visual impact to the surrounding public.**		
Potential impact(s) to avoid	• Temporary loss of the sense of place. • Complaints from surrounding landowners/users.	
Impact Management Outcome	The site does not present a significant visual impact and the sense of place is not significantly impacted upon, during the construction period.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
General: • Consult with the ECO when determining the appropriate site for the site camp, and storage of materials. • The site camp must be kept neat and tidy and free of litter at all times. • Waste must be managed according to this EMPr and the mitigation measures listed above in terms of waste management. Good housekeeping practices on site must be maintained to ensure the site is kept neat and tidy. • The site camp, storage facilities, stockpiles, waste bins, and any other temporary structures on site should be located in such a way that they will present as little visual impact to surrounding residents and road users, as possible. • Work on site must be well-planned and well-managed so that work proceeds quickly and efficiently, thus minimizing the disturbance time.	Contractor	Construction phase

• The site camp, working areas, storage facilities, stockpiles, waste bins, elevated tanks and any other temporary structures on site should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. • The site camp may require visual screening via shade cloth or other suitable material. • Construction vehicles must enter and leave the site during working hours. • Special attention should be given to the screening of highly reflective material. Earthworks: • The scars left by excessive cut and fill activities during construction often leave long-lasting negative visual impacts. Where possible fitting the proposed project infrastructure to the existing landforms in a manner that minimizes the size of cuts and fills will greatly reduce visual impacts from earthwork. • The dumping of excess rock and earth on downhill slopes should be limited. Vegetation • Ensure indigenous vegetation has been sourced, if not moved to site, to be established as soon as construction activity has concluded, and re-grassing of natural surfaces, ie: grassed road reserves, pathways, etc, commence as soon as possible. • Ensure there is ongoing maintenance of open spaces, in terms of removal of alien invasive vegetation. • Establish awareness charts of common alien invasive species that can educate the public, and the maintenance team. Utilize indigenous vegetation as much as possible and where practical to screen construction activities from key viewing locations. • Establish limits of disturbance that reflect the minimum area required for construction. • Existing vegetation should be retained where possible through the use of retaining walls. Lighting design • Where possible construction activities should be conducted behind noise/light barriers that could include vegetation screens. • Low flux lamps and direction of fixed lights toward the ground should be implemented where practical. Choose "full-cut off shielded" fixtures that keep light from going uselessly up or sideways.		

Full cut-off light fixtures produce minimum glare. They also increase safety because they illuminated people, cars, and terrain. Bright light bulbs can be seen from a distance.		
Performance Indicator	• Good "housekeeping" is evident on site. • The site does not pose a visual impact to surrounding community.	

10. ENVIRONMENTAL IMPACT MANAGEMENT: POST CONSTRUCTION REHABILITATION PHASE & OPERATIONAL PHASE

After all construction activities have ceased, the sites must be cleared of all construction related equipment, materials, facilities and waste. In addition, all disturbed surfaces – including disturbed areas around the structures and all areas utilised for site facilities – must be stabilised, rehabilitated and provided with a suitable cover. All temporary access roads constructed must be rehabilitated and access must be restricted from the public.

The environmental management objectives (goals) for this phase are:

- Rehabilitate & stabilise disturbed areas and ensure environmentally sensitive closure of the construction sites.
- Local economic revenue and increased employment opportunities
- Creation of Business and Employment Opportunities.
- Maintain sense of place.
- Remain fire wise.

10.1. Objective 1: Rehabilitate & Stabilise Disturbed Areas

Impact Management Objective: ***To rehabilitate all areas disturbed by construction activities, if not already transformed, in an environmentally compliant manner.***		
Potential impact(s) to avoid	• Failure to remove all construction related waste and materials may result in environmental pollution. • Failure to remove all construction related equipment, machinery and site facilities may pose an impact to the natural environment specifically the watercourses. • Failure to stabilise disturbed surfaces may result in soil erosion and increased storm water run-off, which may limit successful revegetation of the site.	
Impact Management Outcome	• All evidence of construction works must be cleared, all exposed surfaces are suitably covered/ stabilised or transformed as planned. • There is no construction-related waste or pollution remaining on site.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period

General: • Implement all planned transformations in line with the planned scope of works. • Always utilize indigenous vegetation in landscaping. • Prior to practical completion the engineer is required to ensure that all works are done, and if there are any construction-related incidents (whether or not it was planned), the Contractor has rectified this to an acceptable level as advised by the ECO and Engineer. Only once this is done, should the engineer award the practical completion certificate to the Contractor. Reinstatement or Rehabilitation (where necessary): • Construction must be immediately followed by rehabilitation. • On completion of the construction operations, the site camp area must be cleared of all site camp facilities, ablution facilities, fencing, signage, waste and surplus material. - Surfaces are to be checked for waste products from activities such as concreting or asphalting and cleared in a manner approved by the ECO. - Any contaminated soil must be collected and disposed of as hazardous waste. - All construction waste, litter and rubble are to be removed from the site and re-used elsewhere, or recycled/disposed of at an appropriate facility. - Burying or burning of waste or rubble on site is prohibited. - All areas within the working area and site camp that have become devoid of vegetation or where soils have been compacted due to construction activities should be scarified or ripped. - Topsoil removed during the establishment of the site camp and the working area must be spread evenly over the entire site camp area and all other disturbed/ exposed areas after those areas have been ripped, scarified, shaped and contoured (as required). - Where necessary seeding and planting of vegetation can take place after the replacement of the topsoil. Hardy, drought tolerant, non-invasive plant species must be selected. If needed, a layer of mulch can be applied to the newly shaped/ landscaped and topsoiled areas. The mulch will serve to limit erosion and will promote the re-vegetation of the site by retaining moisture in the soil and providing organic material (compost) for new plant growth. - All exposed soils and recently topsoiled areas are to be re-vegetated or stabilised to the satisfaction of the ECO, to protect these areas from wind and water erosion. No areas are to be left exposed to erosive forces. Erosion protection measures that can be applied include mulching	Contractor	Construction phase – Post-Construction

(described above), the placement of geotextile, onion bags filled with wood chips, brush-packing or other similar measures. - Any topsoil, subsoil or other excavated material that cannot be utilised during site rehabilitation must be removed from the site and reused elsewhere on the property or disposed of at an appropriate disposal site. - Disturbed soils must be revegetated with the local indigenous vegetation such as that which occurs at the site, or provided with other suitable cover. - Erosion features that have developed due to construction within the aquatic habitat due to the project are required to be stabilised.		
Performance Indicator	• All construction-related materials, equipment, facilities, waste and contaminated soils have been removed from the site. • All planned works have been implemented and any areas not planned that were impacted upon, have been rehabilitated.	

10.2. Objective 2: Local Economic Revenue and Increased Employment Opportunities.

***Impact Management Objective:* Increased economic revenue for local businesses and industries.**		
Potential impact(s) to be promoted.	Positive: • Increase in local economic revenue. • Employment opportunities (predominantly permanent), for people of various skill levels. • Opportunity for local vendors/craftsman, to market their goods in an appropriate manner within the mixed-use tourism centre.	
Impact Management Outcome	• Creation of Business and Employment Opportunities.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
• Positive impact, therefore to further enhance this impact, the developer is encouraged to source local labour, particularly those of Historically Disadvantaged Backgrounds, given that they have the necessary skills or experience as well as utilize local suppliers and businesses. • The developer should inform local community leaders, organisations and councillors of the potential job opportunities associated with the different components associated with the operational phase of the development.	Developer / George Municipality	Operational phase
Performance Indicator	• Increase in employment of local community members and utilization of local businesses and suppliers.	

10.3. Objective 3: Maintain Sense Of Place.

***Impact Management Objective:* Creation of Business and Employment Opportunities**		
Potential impact(s) to be avoid.	• Avoid unnecessary noise generated from operational activity should be managed. • Unsettled community.	
Impact Management Outcome	• Development is aligned with the existing sense of place	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
• The development is predicted to have minimal nuisances in terms of sense of place, as the development will complement the surrounding land uses. Design: • Colour selection - The selection of colours that blend with or are in harmony with the surrounding landscape will drastically reduce the visual impact of the project. Such colours would include tonal variations of existing colours in the surrounding landscape. Contrasting but discordant colours that stand out in the landscape should be avoided. - Select colours for smooth structures that are two or three shades darker than the background colours to compensate for shadow patterns created by natural textures that make colours appear darker. - Galvanized steel on structures should be darkened to prevent glare. Low lustre paints should be used wherever possible to reduce glare. • Limiting the footprints and heights of structures - Limit the footprint of the buildings and hardscaping as well as the heights of buildings. - Limit the footprint of infrastructure, so as to provide more greening areas in between buildings which will assist with screening and visual absorption of structures. - The height of structures should be kept as low as possible to keep infrastructure unobtrusive as possible and allow scenic views (Outeniqua mountain range). • Development and architectural guidelines - Development and building guidelines need to address procedural, planning and aesthetic considerations required for the successful design and development of the property and the architectural ethos of the development.	Developer / George Municipality	Operational phase

- The purpose of design guidelines is to protect and safeguard the environment and scenic resources and guide the appropriate architectural character to protect the investment value of the development. - The guidelines should not be restrictive conditions but should promote an overall design sensitivity whilst allowing flexibility for individual expression. - The buildings should aim to be as visually recessive as possible. Of importance to visual impact, aspects will be height, finishes and form, with the grouping of components in separate but linked forms providing a better visual impact than one larger component. Orientation, materials, low pitch roofscape will all contribute to visual mitigation. - Colours of walls should be muted earth colours excluding white, beige and cream. Roof colour should be dark grey. Windows should be recessed with overhangs to prevent reflection of the sun. • Landscape Plan, in terms of Operational Maintenance must include: - The planting of lawns alone will exacerbate the visibility of the development. The mix of lawn, shrubs and trees should be carefully designed with the importance of trees and large shrubs emphasized, to provide further greening of the built environment. - To manage the open spaces effectively. - To provide guidelines on visually permeable boundary treatments, using fencing for the most part and walls at entrances only. • Lighting design - Effective light management needs to be incorporated into the design of the lighting to ensure that the visual influence is limited. - Several measures can be implemented to reduce light pollution and those relevant to the project are as follows: ➢ Where possible construction activities should be conducted behind noise/light barriers that could include vegetation screens. ➢ Low lux lamps and direction of fixed lights toward the ground should be implemented where practical. Choose "full-cut off shielded" fixtures that keep light from going uselessly up or sideways. Full cut-off light fixtures produce minimum glare. They also increase safety because they illuminated people, cars, and terrain. Bright light bulbs can be seen from a distance.		

➢ The design of night lighting should be kept to a minimum level required for operations and safety. ➢ Where feasible, put lights on timers to turn them off each night after they are no longer needed Restoration and reclamation • The objective of restoration and reclamation efforts is to reduce the long-term visual impacts by decreasing the amount of disturbed area and blending the disturbed area into the natural environment while still providing for project operations. • Topsoil should be stripped, saved, and replaced on earth surfaces disturbed by construction activities. • Planting holes should be established on cut/fill slopes to retain water and seeds. • Indigenous plant species should be selected to rehabilitate disturbed areas. • Where possible rehabilitation efforts such should emulate surrounding landscape patterns in terms of colour, texture and vegetation continuums that historically occurred in the area. • Replacing soil, brush, rocks and forest debris over disturbed earth surfaces when appropriate, thus allowing for natural regeneration rather than introducing an unnatural looking grass cover. • Revegetation of disturbed areas should occur as soon as practicable possible after the completion of various construction activities. Stormwater Management: • Ensure all recommendations are integrated and functioning in an acceptable manner: - a) Installation of 24 x 5,000 kℓ and 10 x 10,000 kℓ water tanks scattered through-out the development site collecting rain water from the different roofs. - b) Open Spaces will be utilised as recreation areas as well as stormwater detention areas where the concentration of stormwater runoff will be minimised through the application of landscaping techniques, i.e. by creating grass lined swales, undulations and depressions. - c) Post development runoffs will be attenuated by constructing stilling basins and energy dissipaters at outlet structures.		
Performance Indicator	• Development compliments the sense of place as it aligns with other land uses, and does not pose nuisances.	

10.4. Objective 4: Remain Fire Wise.

***Impact Management Objective:* Reduce the potential for the spreading and starting of a wildfire**			
Potential impact(s) to be avoided.	• Loss of vegetation and habitats (Wetland habitat). • Risk to human life. • Risk to infrastructure.		
Impact Management Outcome	• Development remains fire wise. • Development protected from wildfires. • Implementation of the National Veld and Forest Fire Act (Act No. 101 of 1998)		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure		Responsible party	Time period
General: • Removal of dead vegetation. • Detract from growing bushes, climbers and trees close to windows, glass doors, wooden decks or beams. • Ensure that gas is stored according to industry standards. • Maintain fire hoses and extinguishers. • Appoint a Fire Wise Committee and management to join the Southern Cape Fire Protection Association. • No burning of green waste is permitted. • Treat wooded decks with fire-retardant. • Erect fire awareness signage. Alien Vegetation Management • Ensure there is on-going maintenance of open spaces/agricultural areas, in terms of removal of alien invasive vegetation. • Utilize indigenous vegetation for landscaping. • Establish awareness charts of common alien invasive species that can educate the public, and the maintenance team.		Developer / George Municipality / Community	Operational phase
Performance Indicator	• No alien vegetation present. • No dead vegetation present. • Fire Wise Committee appointed.		

10.5. Objective 5: Traffic

Impact Management Objective: ***Ensure traffic is efficiently managed and roadways are able to support the proposed development.***		
Potential impact(s) to be avoided.	• Traffic congestion at access and entrance points. • Congestion on internal roads as a result of inadequate roadway planning.	
Impact Management Outcome	• Traffic impact significance is low to negligible. • No congestion or incidents as a result of poor quality of internal roads.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible party	Time period
General: • Ensure that the planned roadway works are implemented, and any relevant permissions/plans are complied with. • Ensure that any requirements/conditions of any of the permits/licenses or permissions are integrated and established. • Ensure internal roadways have acceptable lighting, and appropriate signage is established.	Contractor	Operational phase
Performance Indicator	• No alien vegetation present. • No dead vegetation present. • Fire Wise Committee appointed.	

11. MONITORING COMPLIANCE

This EMPr, once approved by the competent authority (DEA&DP), must be seen as binding to the Holder, and any person acting on the Holder's behalf, including but not limited to agents, employees, associates, contractors and service providers.

The Holder and all other persons who may be directly involved in the development are also bound by their general Duty of Care, as stated in Section 28 of the National Environmental Management Act, 1998:

> ***Duty of Care:***
> *"Every person who causes, has caused, or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm cannot reasonably be avoided or stopped, to minimize and rectify such pollution or degradation of the environment"*

11.1. Environmental Authorization (EA) Holder / Proponent

It is the EA Holders responsibility to ensure that all agents/contractors/subconsultants appointed to provide services to establish the proposed development, are fully aware of the EMPr, Environmental Authorization and any other relevant licenses/permits, which must be considered prior to actioning any activity on site. The EA Holder may choose to hold the Contractor responsible for any fines incurred as a result of non-compliant activities during implementation, however this must be done through the agent and by legal procedure. The EA Holder must ensure that:

- Financial allowances are incorporated into the Bill of Quantities, to accommodate for the requirements of the licenses and EMPr.
- An appropriately experienced/qualified Environmental Control Officer (ECO) is appointed to monitor compliance, prior to commencement of site establishment activities.
- An appropriately experienced/qualified Environmental Auditor is appointed to audit compliance, prior to commencement of site establishment activities.

11.2. Environmental Authorization (EA) Holder / Proponent

It is the Contractors responsibility to be aware of the requirements of the EMPr, Environmental Authorization and any other relevant permits/licences and ensure that all labour, appointed sub-contractors/consultants are also made aware of these documents. The Contractor is required to ensure that as per EMPr, EA conditions, and other permits or licences:

- Time allowances/considerations are given to accommodate all relevant activities, when compiling the project programme of works.
- Financial allowances are made to meet all relevant requirements.
- All activities are implemented in an environmentally conscience manner, in line with the EMPr.
- Produce method statements for approval by the ECO and Site Engineer, prior to implementing activities.

11.2.1. Construction Phase Record Keeping

A copy of the approved EMPr, the Environmental Authorisation and any relevant construction method statements must be kept on site at all times during pre-construction, construction and rehabilitation activities. The ECO Reports must be retained by the Holder for a period of at least 5 years, and must be provided to the Competent Authority upon request.

The set up and organisation of the site camp is paramount to ensuring compliance. An environmental file is to be created by the contractor and be situated within the site camp throughout the construction phase and with the applicant thereafter. The environmental file is to include the following;

- A copy of the Environmental Authorisation
- A copy of General Authorisation or any other relative permits
- A copy of the approved EMPr
- Updated Waste slips
- Disposal slips or cleaning slips (ablution cleaning)
- All EMR's (Environmental Monitoring Reports) and ECO instructions
- Copies of Environmental induction register/s
- The Protocol for chance Palaeontological Findings
- A complaints register
- Updated method statements
- Any and all emergency procedure/s applicable to site activities
- An Incident Register

11.2.2. Method Statements

The Competent Authority and/or the ECO may require the Holder or Construction Contractor to submit Method Statements for one or more construction-related activity, or any aspect of the management of the site, before the activity is undertaken or during the performance of the activity, if the activity is causing or may cause significant environmental damage, or pose a health and safety risk.

Method Statements need not be complex and lengthy, but must clearly state **how**, **when** and **where** the activity concerned will be undertaken, and must specify **who** will be responsible for undertaking each component of that activity. Method Statements must be prepared by the Construction Contractor and submitted to the ECO for approval before undertaking the activity concerned.

The ECO and / or Competent Authority have the authority to request method statements for activities, including but not limited to:

- Establishment of site camp and stockpile area.
- Cement/ concrete batching, disposal and emergency contingencies.
- Topsoil and sub-soil storage/ stockpiling.
- Storage of fuels and hazardous chemicals and emergency contingencies.
- Waste management system.
- Storm water management and control.
- Alien invasive plant species management.
- Fire Control & Fire Emergency Plan.
- Emergency preparedness plan / emergency response procedure (see Chapter 14).
- Post-construction rehabilitation.

The ECO has the authority to prevent activities from being undertaken until such time as a satisfactory Method Statement has been submitted to the ECO and approved by the ECO.

11.3. ECO Monitoring

The appointed ECO is responsible for undertaking regular site visits to monitor and report on the implementation of the EMPr and adherence to the conditions of the Environmental Authorisation during the pre-construction, construction and post-construction rehabilitation phases. The ECO is not required to monitor the site during the operational (maintenance) phase of the development.

- Frequency of ECO visits
- The ECO must conduct **weekly to fortnightly** site visits during the construction phase, in addition to the start-up and closure inspections.
- The ECO must conduct a site visit 3 months after practical completion of the construction period.
- The ECO has the discretion to undertake additional visits if he / she feels this is justified due to the actions of the contractors, and to make *ad hoc* visits in order to ensure compliance.

- Monitoring Reports:
    - Should be produced monthly and submitted to the Competent Authority, Engineer, Proponent and Contractor.

- **ECO Inspections - Photographic Records**

The condition of the surrounding natural environment must be monitored regularly in order to ensure that construction and management activities are not impacting negatively on the condition of the landscape and any sensitive ecosystems. The most effective way to achieve this is by means of a detailed photographic record. In this way, a record of any shift in ecosystem condition can be maintained and potential impacts be detected at an early stage. It is thus recommended that fixed-point photo-monitoring sites could be set up, and photographs must be taken at these sites during each ECO inspection. Where necessary, the entire working area must be well documented and photographed.

- ECO Inspections - Written Records

The following record-keeping during the pre-construction, construction and rehabilitation phases of the development is recommended:

- The ECO must complete an ECO Checklist after each ECO site visit.
- The ECO must compile an ECO monitoring report and submit this to the Holder, the Contractor and the Competent Authority (the latter only if required by the Competent Authority). The monthly reports must be a summary of the ECO inspections from the preceding month, and must highlight the key concerns/ issues on site, instances of non-compliance with the EA and EMPr, all instructions issued to the contractor, actions taken and aspects that still require attention.
- All ECO reports and ECO instructions must be retained on file at least for the duration of the construction period (retaining reports for a period of at least 5 years is recommended, in the event that the Competent Authority must request information).
- A record (minutes) of construction site meetings, liaison site meetings between the ECO and resident engineer or contractor, monitoring reports, ECO instructions and ECO observations must be clearly documented and filed on a master file off-site for safe keeping.
- It is recommended that a site register (incident register) be kept on site at the site office for the recording of any environmental incidents (e.g. fires, spills etc.), observations which are contrary to the stipulations within the EMPr and any other contravention deemed necessary for the attention of the resident engineer. Actions taken to remedy the incidents must also be recorded.
- A complaints register must be kept on site in which complaints by any member of the public must be logged.
- The ECO must compile a final post-construction audit report, within 6 months of completion of each construction phase. The audit report must detail the rehabilitation measures undertaken, describe all major incidents or issues of non-compliance and any issues or aspects that require attention or follow-up.

11.4. Auditing by Environmental Auditor

An environmental auditor is to be appointed by the applicant. As per Section 34 of the EIA Regulations (GN R326 of 2017), the duty of an Environmental Auditor is to be in dependent and is responsible for:

- Ensuring compliance with the conditions of the environmental authorisation and the EMPr; and
- Submit an environmental audit report to the relevant competent authority, which provides verifiable findings, in a structured and systematic manner, as per Appendix 7 of GN R326.
- Any amendments to the EMPr, which must be recorded in Appendix K.

The Environmental auditor must undertake an audit as per Appendix 7 of GN R326 at the following stages;

- At 50% completion of the project timeline.
- At practical completion of the construction period.
- 3 months after practical completion of the construction period.

12. PENALTIES, CLAIMS AND DAMAGES

The contractor will be responsible for all costs incurred in the rehabilitation of the site and for ensuring that all procedures required to rehabilitate the site are implemented. If third parties are called to the site to perform clean up and rehabilitation procedures, the contractor will be responsible for all costs. The competent authority may impose penalties on the Holder or any of the contractors if conditions contained in this EMPr are contravened. This would be based on an agreement or contract between the Holder and the contractor.

Penalties could be imposed in terms of Chapter 11 of the Western Cape Bill on Planning and Development as published in the Extraordinary Provincial Gazette No 5183, 3 October 1997, and would be applicable for any action which leads to damage to the natural environment. Please note that the payment of any fines in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law.

In cases where severe environmental damage occurs, the competent authority law enforcement division may take legal action against the responsible parties. The reasons for this could include, among others:

- Not implementing the conditions of the EMPr;
- Spillage that result in environmental damage;
- Incorrect handling and storage of construction materials and chemicals;
- Sensitive areas that are not clearly demarcated;
- Performing ablutions in areas other than facilities provided for such actions; and
- Occurrence of unattended and out of control fire.

The Contractor shall comply with the environmental specifications and requirements on an ongoing basis and any failure on his part to do so will entitle the ECO to issue the contractor with penalty / fine as described in the following section.

The following offences, level of severity and value of the financial fines have been drafted according to the sensitivities on the proposed site, the mitigation measures proposed, and the construction methods proposed. It must be noted that the level of severity is at the discretion of the ECO and any offences or fines will be recorded in the ECO's monitoring report. The fineable offences are not limited to the table below, additional offences may be applied by the ECO with prior agreement with the EA holder.

The following fine structure shall apply:

Table 4: Fines and offences

Finable Transgression	**Min Fine**	**Max Fine**
Failure to notify the ECO of the commencement of construction or pre-construction activities, prior to the commencement of such activities.	R1 000	R2 000
Failure to comply with the provisions relating to the demarcation of the working area, site camp and associated facilities, and the maintenance of the demarcated boundaries.	R1 000	R5 000
Failure to comply with the provisions relating to the demarcation of all "no-go" areas, and the maintenance of the demarcated boundaries.	R2 000	R5 000
Failure to provide secured ablution facilities (1:30 ratio) on site.	R500	R15 000
Failure to comply with the provisions relating to the clearance of vegetation on site.	R2 000	R5 000
Clearance of indigenous vegetation (regardless of the density of alien vegetation present) outside of the demarcated boundaries of the working area and site camp.	R2 500	R15 000
Failure to apply herbicide to alien vegetation when required to do so.	R500	R2 000
Failure to adhere to designated access routes and/or the driving of vehicles through undeveloped vegetation outside of the demarcated working area or site camp.	R1 000	R5 000
Movement of vehicles and/or construction workers in no-go areas;	R1 000	R10 000
Parking or storage of vehicles, machinery, tools and other materials or equipment related to the Contractors operations, within designated "no-go" areas.	R1 000	R10 000
Parking or storage of vehicles, machinery, tools and other materials or equipment related to the Contractors operations, outside of the areas demarcated for such parking/storage.	R500	R5 000
Failure to comply with the provisions relating to the management of topsoil and subsoil.	R1 000	R5 000
Excessive excavation of material in areas not depicted for such purpose / activity on the approved design plans.	R2 500	R10 000
Failure to comply with the provisions relating to waste management on site i.e. recycling of wastes.	R500	R5 000
Failure to comply with the provisions relating to the storage, use and management of hazardous substances and fuels on site and/or the spillage of hydrocarbons or hazardous substances on site leading to environmental damage.	R1 000	R10 000
Mixing cement or concrete on bare ground and/or failure to comply with any other provision regarding cement/ concrete batching.	R1 000	R5 000

Failure to provide adequate fire-fighting equipment (in working order) on site at all times and/or failure to comply with the provisions relating to fire prevention and/or the occurrence of unattended or out of control fires.	R500	R5 000
Refueling of vehicles, machinery or equipment outside of the designated refueling area.	R500	R2 000
Maintenance of vehicles, machinery or equipment outside of the designated maintenance yard, except in emergencies.	R500	R2 000
Failure to undertake refueling or repairs over a drip tray or other impermeable bunded surface to collect spilled hydrocarbons (fuels, lubricants, oils etc.) and other hazardous substances; failure to provide drip trays under fuel burning equipment (including pumps and generators) where there is a risk of hydrocarbon leakage.	R500	R2 000
Failure to produce a required method statement/s to the engineer's and ECO's satisfaction prior to undertaking the activity concerned and/or failure to adhere to an approved method statement.	R1 000	R5 000

The above does not absolve the transgressor from being prosecuted in terms of the ***National Environmental Management Act (Act 107 of 1998)*** which may result in further penalties and other actions by State Departments.

13. EMERGENCY PREPAREDNESS

13.1. Emergency response procedures

The potential environmental risks that may arise as a result of construction activities, or during the maintenance of the structures must be identified, and appropriate emergency response procedures must be compiled for each emergency scenario. Potential environmental emergencies that require an emergency response include, but are not limited to, unplanned fires, sewage spills, spills of hazardous chemicals, snake bites etc.

- The construction contractor is responsible for identifying potential significant environmental risks that may arise as a result of pre-construction, construction and rehabilitation activities, and the contractor must formulate emergency response procedures for these potential incidents.
- The ECO, the contractor and the Holder are responsible for ensuring that all construction workers are aware of the emergency procedures and are properly trained on how to identify and respond to an emergency incident during construction.
- An emergency procedure must clearly indicate who will take charge during an emergency, and the roles and responsibilities of workers and authorities during an emergency.
- The construction contractor is responsible for ensuring that the requirements of the Occupational Health & Safety Act (OHSA) are adhered to during the construction phase. The Holder is responsible for ensuring compliance with the OHSA during the undertaking of maintenance activities.

13.2. Emergency preparedness

The following measures must be implemented, as appropriate, to ensure effective responses to emergencies:

- All workers on site during the construction and operational phase must be properly educated about possible emergency incidents that may arise, how to avoid such incidents and how to respond in the event of an incident. "Refresher" training sessions on emergency procedures must be held if needed.
- All workers must ideally be given basic fire-awareness training, as well as be advised on basic firefighting and safety techniques. Fire-fighting equipment must be available on-site during construction and maintenance activities (see section 8.3).
- All workers must be trained on how to respond in the event of a spill of a hazardous substance (fuel, chemicals etc.), if hazardous substances are to be used on site.
- A spill kit for containing and/or neutralising spills of hazardous substances (e.g. hydrocarbons) must be available on site at all times, when hazardous substances are present.
- Any incidents of pollution or spillage of hazardous materials during construction must be reported to the ECO as soon as possible. The ECO must then (depending on the nature of the spill) notify the relevant authorities, if needed. During the operational phase of the development, the Holder is responsible for notifying the relevant authorities of any pollution incidents that arise as a result of maintenance activities.
- A first aid kit must be available on site at all times.
- Emergency contact numbers (including the fire department, police and ambulance) must be prominently displayed on site at all times and regularly updated.
- All emergency incidents must be recorded in a site incident log. The cause of the incident, the measures taken in response to the incident and the efficacy of those measures must also be recorded. This information must be used to inform future emergency preparedness planning, and to avoid prevent similar incidents from arising again.

14. ENVIRONMENTAL AWARENESS PLAN

Environmental Awareness Training (see Appendix I), must be conducted prior to the commencement of construction activities. It is the Holder's responsibility to familiarise himself/herself with the content and requirements of this EMPr. The Holder is also responsible to ensure that the contractor and all labourers working on site during the construction phase are familiar with the content of this EMPr.

The following actions must be taken to ensure that all relevant parties are aware of their environmental role and duties:

1. This EMPr must be kept on site at all times.
2. The provisions of this EMPr and the conditions of the Environmental Authorisation must be explained in detail to all staff during Awareness Training.
3. Training booklets will be handed out to all labourers and must be explained to them.
4. Weekly checks to be done by the Holder's environmental representative who must be on site at all times.
5. The ECO to conduct frequent site visits.
6. Monthly monitoring reports to be compiled by the ECO. These reports will be circulated to all parties involved (including the Holder, contractor and the competent authority where required).

The Construction Contractor must make allowance for all construction site staff, including all subcontractors that will be working at the site, to attend environmental awareness training sessions (undertaken by the ECO) before commencing any work on site. During this training, the ECO will explain the EMPr and the conditions contained therein. Attention will be given to the construction process and how the EMPr fits into this process. Other items relating to sound environmental management which must be discussed and explained during the environmental awareness training sessions include:

- The demarcated "No-Go" areas;
- General do's and don'ts of the site;
- Making of fires;
- Waste management, use of waste receptacles and littering;
- Use of the toilets provided;
- Use and control of construction materials and equipment etc.;
- Control, maintenance and refuelling of vehicles;
- Methods for cleaning up any spillage;
- Access and road safety;
- Emergency procedures (e.g. in case of fire, spillage etc.)
- General "best practice" principles, with regards to the protection of environmental resources.

Environmental awareness training and education must be ongoing throughout the construction phase, and must be undertaken regularly if deemed necessary (especially if it becomes apparent that there are repeat contraventions of the conditions of the EMPr), or as new workers come to site. Translators must be utilised where needed.

APPENDIX A – CURRICULUM VITAES OF EAPS

APPENDIX B – LAYOUT PLAN

APPENDIX C – MAP OF ENVIRONMENTAL SENSITIVITIES

- Not Applicable, refer to Appendix E for description of receiving environment.

APPENDIX D: BACKGROUND AND EXISTING PERMITS/LICENSES

BACKGROUND

Sharples Environmental Services.cc have been appointed by Mr Andre Calitz of *Garden Route Gateway Plaza (Pty) Ltd*, to undertake the environmental assessment, in accordance with the National Environmental Management Act, 1998 (Act 107 of 1998), in terms of the Environmental Impact Assessment Regulations, 2014 (as amended 2017), for the *Proposed Construction of a Mixed-Use Development on Portion 278 of Farm Kraaibosch No 195, George, Western Cape*. With some works overlap onto the adjacent Portion 282.

The proposed site was known as a portion of portion 1 of Farm Kraaibosch 195. As per the title deed the proposed sites were identified as Portion 278 and 282. The site is located within Ward 22 of the George Local Municipality, Garden Route District Municipality. The property is located on the eastern outskirts of George, approximately 2.3km south-east of the N2 and N9 junction. The N2 forms the southern boundary of the site. The site is accessible off of the N2 highway via the access road to Welgelegen Estate and is currently utilized for equestrian purposes.

The applicant, under the company name *Garden Route Gateway Plaza (Pty) Ltd*, was awarded environmental authorization for the construction of a service station and resort on a portion of portion 1 of Farm Kraaibosch 195, George, (DEADP Ref: EG12/2/1/37/3638), on the 20 November 2002. An Appeal to the Environmental Authorisation (Ref: DM 2002/1481), was dated 10 February 2003. Of the authorized scope of works, the service station has been constructed within Portion 282 and an overlap onto portion 278, and is fully operational, however, the resort component has not been commenced with, to date.

The original resort component consisted of 50 chalets, 18 caravan stands, each with a permanent structure, as well as a restaurant and conference centre. However, the applicant made the decision to alter the approved layout to establish another type of development, inter alia, a retail area, function venue, stables, a chapel, conference facilities, restaurant and a nursery. Including the transference of the scope, ownership, rights and obligations.

The applicant attempted to undertake an amendment, however, as indicated by the ministry in their letter (ref: 14/3/10/D2/19/0500/21) dated 29 March 2021, the applicant must first amend the current EA to exclude the items which do not relate to the already constructed filling station and then submit a new application for EA for the new proposed activities. This amendment was approved on the 25th of June 2021 (the previous environmental authorization and amendments have been attached to this Appendix).

The Proponent now intends to pursue the mixed-use development on Portion 278.

APPENDIX E: LOCATION AND RECEIVING ENVIRONMENT

LOCATION & RECEIVING ENVIRONMENT

The proposed site was known as a portion of portion 1 of Farm Kraaibosch 195. As per the title deed the proposed sites were identified as Portion 278 and 282, the land was intended to be consolidated. According to CapeFarmMapper, the sites (both Portion 282 and 278) are referred to as Remainder of Portion 400, Farm Kraaibosch 195, however the Town Planner has confirmed that these portions should be referred to as Portion 278 and 282. The site is located within Ward 22 of the George Local Municipality, Garden Route District Municipality. As seen in Figures 1 and 2, the site is located on the eastern outskirts of George, approximately 2.3km south-east of the N2 and N9 junction. The site is accessible off of the N2 highway via the access road to Welgelegen Estate and is currently utilized for equestrian purposes.

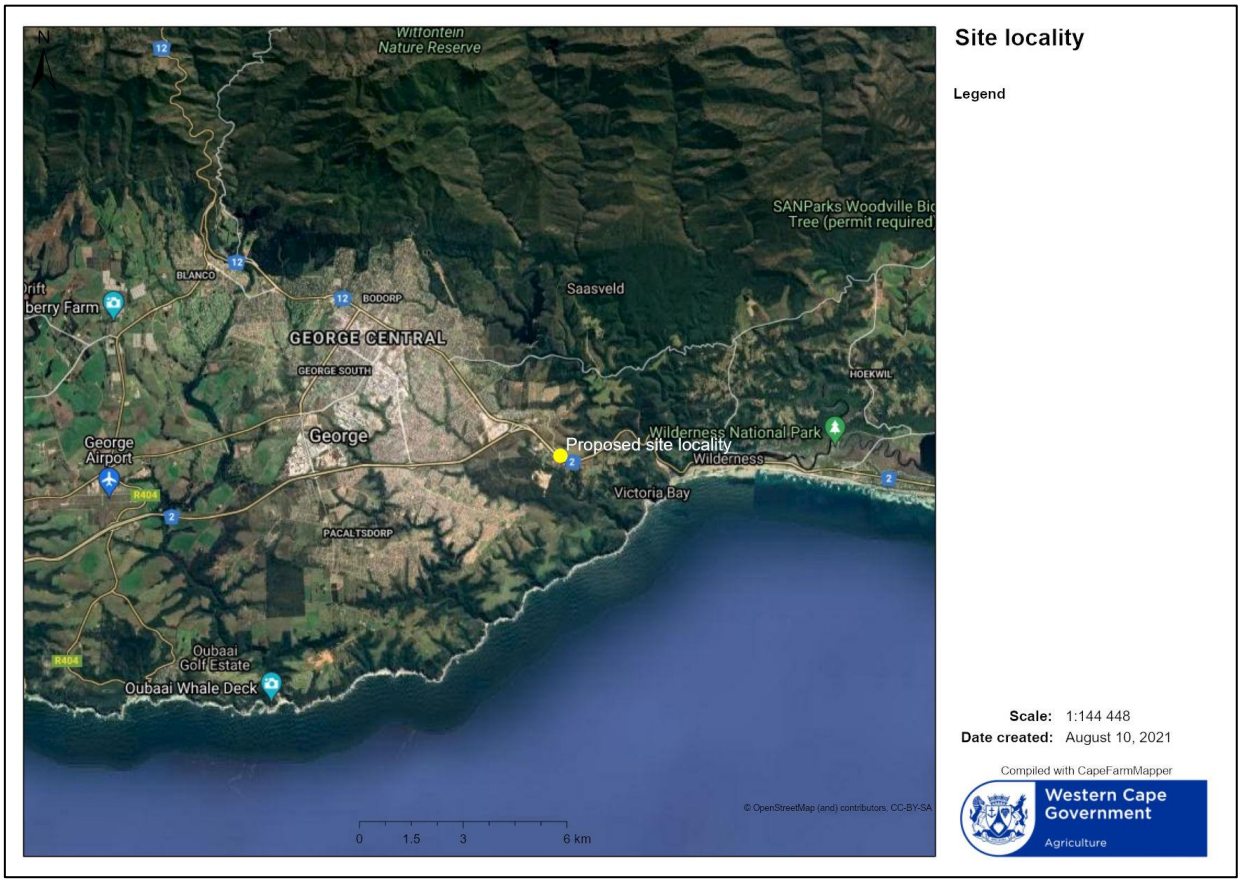

Figure 2: Locality of the proposed site

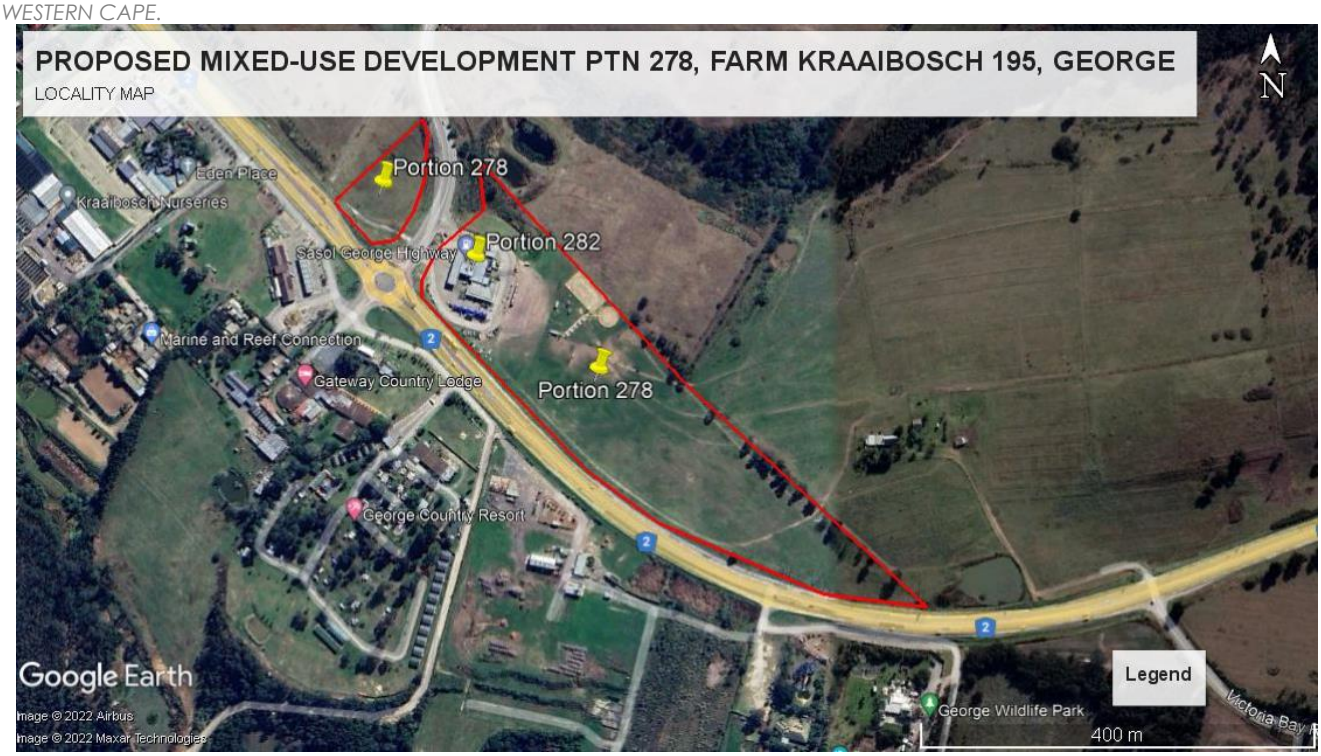

Figure 3: Site locality within George

The extent of the subject portion and coordinates for extent of the footprint is depicted in Table 5 below, and are as follows:

Table 5: Cadastral Details and Extent of Area

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	KRAAI BOSCH	195	0	33°59'25.54S	22°30'37.33E	Farm
2	KRAAI BOSCH	195	400	33°59'27.51S	22°31'10.43E	Farm Portion
3	KRAAI BOSCH	195	278	33°59'33.88S	22°31'18.47E	Farm Portion
4	KRAAI BOSCH	195	282	33°59'30.46S	22°31'13.29E	Farm Portion
5	KRAAI BOSCH	195	400	33°59'34.95S	22°31'19.56E	Farm Portion
6	KRAAI BOSCH	195	282	33°59'30.19S	22°31'13.6E	Farm Portion

Table 6: Summary Table - Site and Farm Details

Province	Western Cape	
District Municipality	Garden Route District Municipality	
Local Municipality	George Local Municipality	
Ward number(s)	Ward No 22	
Nearest town(s)	George (outskirts)	
SG Code	Portion 278 of the Farm Kraaibosch 195	C02700000000019500278
	Portion 282 of the Farm Kraaibosch 195	C02700000000019500282

RECEIVING ENVIRONMENT

The DEA Screening Tool was produced on the 20th of September 2022, and has been attached as Appendix F. Based on this, the following studies were compiled to inform the Impact Assessment, in-line with the relevant Protocols:

- Terrestrial Biodiversity and Plant Species Compliance Statement – Mark Berry of Mark Berry Environmental Consultants.
- Aquatic Verification Compliance Statement – Debbie Fordham.
- Agricultural Impact Assessment – Johann Lanz

VEGETATION

As part of the application for environmental authorisation, a Terrestrial Biodiversity and Plant Species Compliance Statement was completed by Mark Berry of Mark Berry Environmental Consultants (2021). The Terrestrial Biodiversity and Plant Species Compliance Statement (2021) notes that the site falls within an area mapped as Garden Route Granite Fynbos and Groot Brak Dune Strandveld. It is likely that the latter mapped area was also granite fynbos, or a transitional form between Garden Route Granite Fynbos and Garden Route Shale Fynbos. The biodiversity map was indicated below:

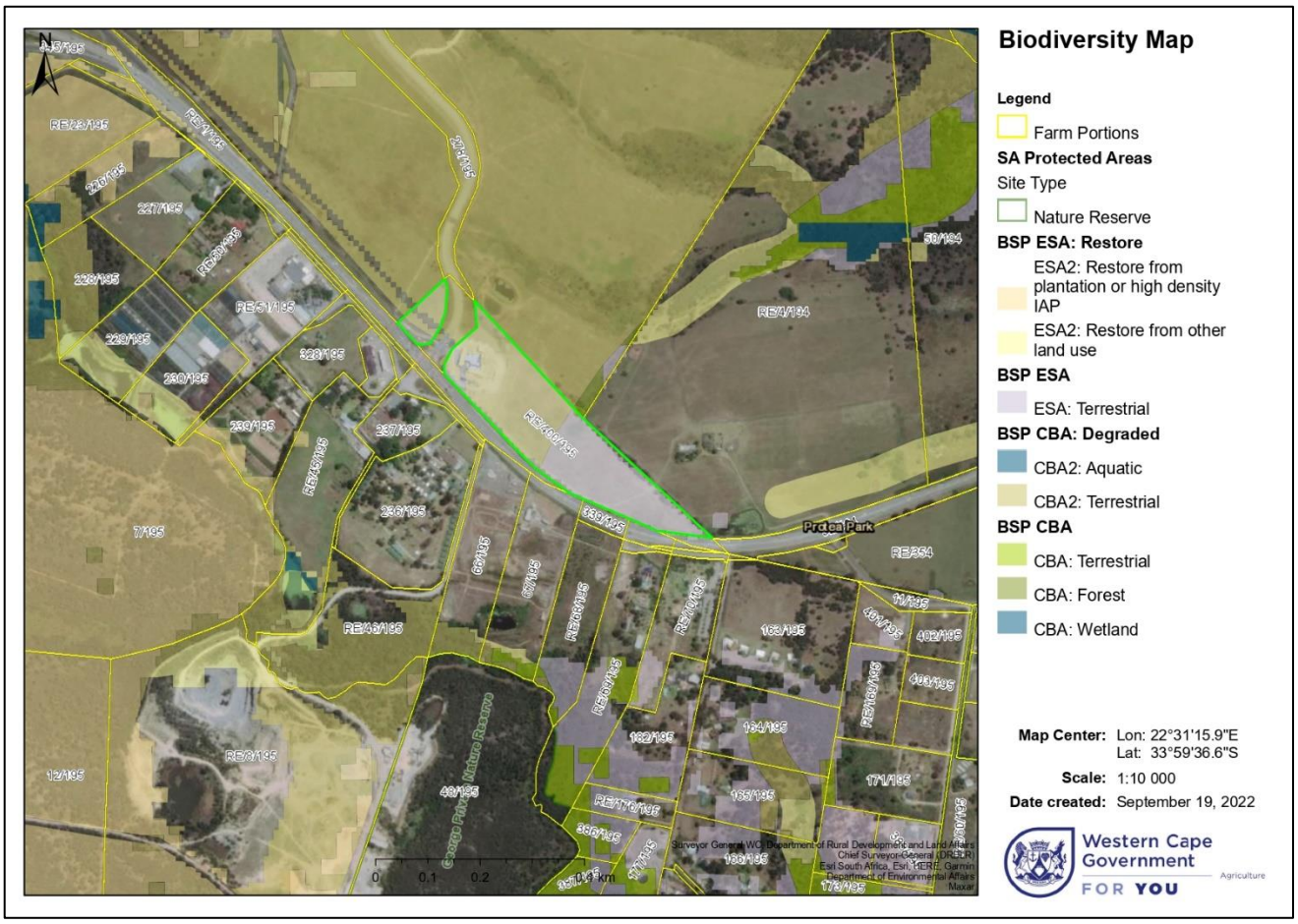

Figure 4: Biodiversity Map (CapeFarmMapper, 2022).

During the site visit the specialist confirmed that no fynbos properly remains, only a few pioneer or resilient species such as *Erica gracilis, Rubus rigidus, Osteospermum moniliferum, Senecio ilicifolius, Helichrysum*

sp, Gymnosporia nemorosa, Searsia pyroides and *S. chirindensis.* Buffalo grass (*Stenotaphrum secundatum*), kikuyu (*Pennisetum clandestinum*) and other weeds are the dominant groundcover species. The potential presence of any threatened species on site is highly unlikely.

However, it was concluded that in terms of:

Sensitive plant species:

- The site presents a very poor habitat and is highly unlikely to accommodate any Species of Conservation Concern.
- It is recommended that the sensitivity be amended from Medium to Low.

Sensitive biodiversity:

- As stated earlier, the site forms part of the larger George biodiversity network. It encroaches onto mapped terrestrial CBA2 and ESA. Apart from the protection of important water resources/sources, the reasons for its mapped status seem unsupported given the transformed state of the site (pasture). No significant terrestrial biodiversity (fynbos) elements remain. The biodiversity component of the site is regarded as low sensitive.
- Given the above, it is recommended that the sensitivity be amended to Medium, for the sake of water source protection.

It was advised that the site does not seem to pose any terrestrial biodiversity constraints for development. However, cognisance must be taken of water source/resource protection and the necessary design and monitoring must be implemented in this regard.

FRESHWATER FEATURES

According to the Aquatic Biodiversity Verification Assessment completed by Sharples Environmental Services cc (2021), Authored by Mrs Debbie Fordham, and collaborating external specialist Dr Brian Colloty (*Pr Sci Nat* 400268/07). The study area falls within quaternary catchment K30C of the Gouritz Water Management Area. According to the data provided by the South African Inventory of Inland Aquatic Ecosystems (SAIIAE 2018) there is no aquatic habitat within the proposed development site. According to the NWM5 data, there are no wetlands within 500m of the boundary of the site. However, a non-perennial drainage line is shown to be located near one site boundary. The drainage line is indicated as having its source downslope of the site and draining towards the Swart River in the northeast (Figure 5).

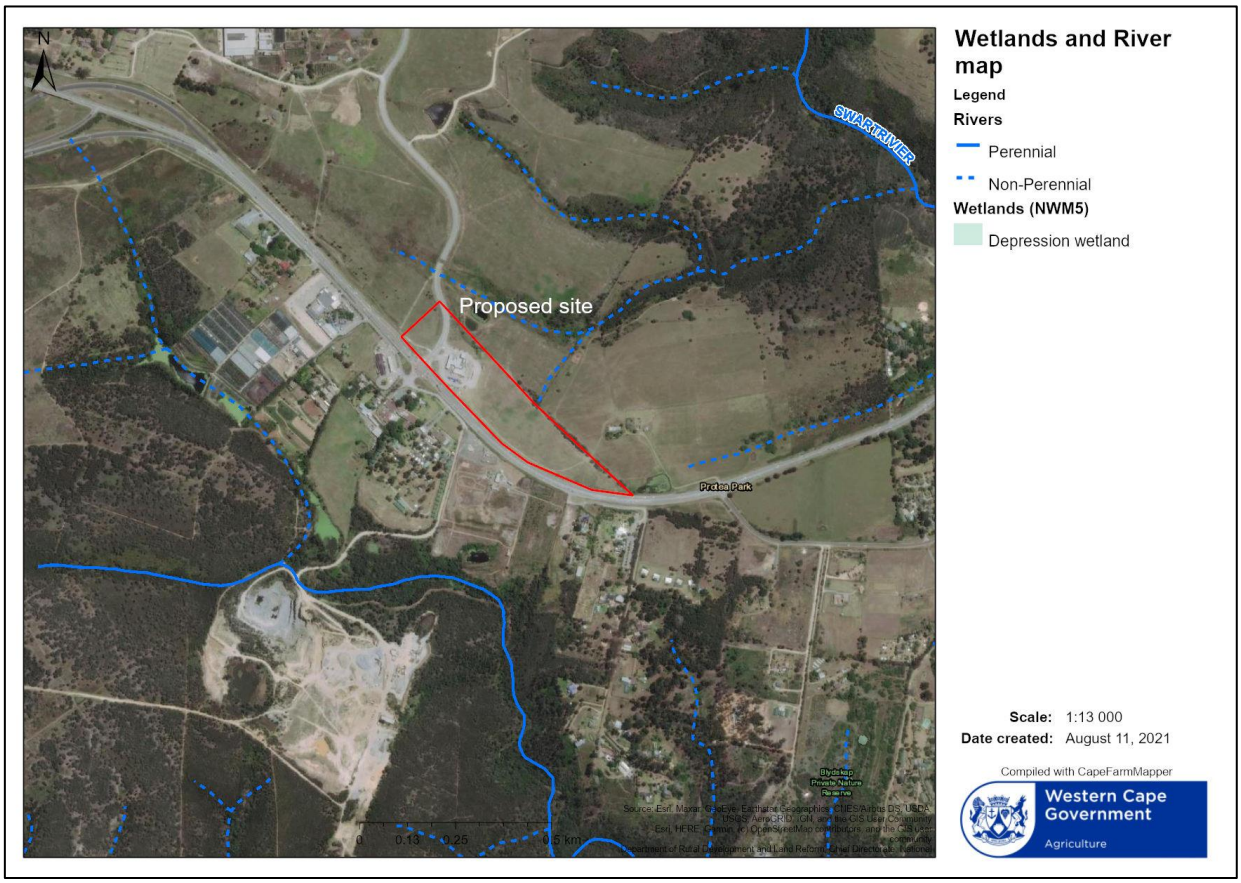

Figure 5: The wetland data of the South African Inventory of Inland Aquatic Ecosystems (CSIR 2018)

The Aquatic Biodiversity Verification Assessment (2021) notes that the lack of any aquatic habitat on the site was confirmed by a site assessment. Additionally, there is no evidence of the presence or use of any surface water from the Outeniqua Strategic Water Source Area. The proposed site is situated at the head of a drainage basin, next to the road, which is routed on the watershed/drainage divide. The topography is relatively flat and uniform but dips slightly to the north.

Surface runoff from the site moves down slope toward the north-eastern boundary, where it accumulates in a shallow channel, that is situated within the drainage line. The channel directs surface runoff from the hillslope into the wetland located approximately 180m to the north of the site. The channelled valley bottom wetland joins the Swart River to the east (Figure 6).

There are a number of small livestock drinking dams in the area (Figure 6). The dam to the east of the site is in closest proximity, but it is separated by a drainage divide and will therefore not be impacted directly or indirectly by the development. Surface runoff from the site also does not enter the dams by the fuel station and they will be unimpacted. The receiving environment is significantly modified, and the surrounding aquatic systems are not in close proximity to the infrastructure.

Figure 6: Map showing the site (red line) in relation to the identified aquatic features of the surrounding

The Aquatic Biodiversity Verification Assessment (2021) concluded that there is no aquatic habitat within the site. If storm water infrastructure is appropriately designed, to prevent concentrated runoff from the development, then there will be no impacts upon aquatic biodiversity. Based on the motivation and evidence presented, this study disputes the environmental sensitivity as identified by the national web based environmental screening tool. The assessment has determined that the development of the property will not impact upon any aquatic habitat on site or the SWSA. The site was determined to have a Low sensitivity and the project (following the adoption of the EMPr) is deemed as acceptable.

APPENDIX F: SCREENING TOOL

APPENDIX G: LEGISLATIVE COMPLIANCE

LEGAL FRAMEWORK

The NEMA, Act No 107 of 1998, as Amended, and the EIA Regulations (2014) (as amended 2017)

The National Environmental Management Act, 1998 (Act No. 107 of 1998) as per EIA Regulations, 2014 (as amended 2017), gives effect to the Constitution of the Republic of South Africa by providing a framework for co-operative environmental governance and environmental principles that enable and facilitate decision-making on matters affecting the environment. NEMA requires that an environmental authorisation be issued by a competent authority (CA) before the commencement of an activity listed in the Environmental Impact Assessment Regulations, 2014 (as amended 2017), in terms of the Listing Notices G.N. 324, 325, 326 & 327 published on the 7th April 2017.

Due to the fact that this development proposal consists of activities listed in the EIA Regulations, Listing Notice 1 and 3, a Basic Assessment Process was required and the respective reports (Basic Assessment Report and Appendices) were submitted to the Department of Environmental Affairs and Development Planning (DEA&DP) Region 3, for Environmental Authorization.

The following table indicates the relevant triggered activities as per the development proposal:

Table 7: Listed Activities in terms of the NEMA Environmental Impact Assessment Regulations (2014), as amended, that are proposed to be triggered and therefore require an Environmental Authorisation.

Activity #	Listing Notice 1. Description of Activity as per GN No. R 327
12	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; — excluding— (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an urban area; (ee) where such development occurs within existing roads, road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such

	infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.
28	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: i. will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or ii. will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.
Activity #	**Listing Notice 3. Description of Activity as per GN No. R 324**
4	The development of a road wider than 4 metres with a reserve less than 13,5 metres. i. Western Cape i. Areas zoned for use as public open space or equivalent zoning; Areas outside urban areas; (aa) Areas containing indigenous vegetation; (bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or ii. Inside urban areas: (aa) Areas zoned for conservation use; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.
12	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. Western Cape 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; ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;

	iv. 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; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.
14	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.
Activity #	**Listing Notice 2. (GN No. R325): Scoping & Environmental Impact Reporting**
N/A	N/A

Therefore, in summary, the following activities will be applied for:

- Listing Notice 1: Activity No: 12, 27, 28, and 67
- Listing Notice 2: None
- Listing Notice 3: Activity No: 4, 6, 12 and 14

Other Applicable Legislation

The *Garden Route Gateway Plaza (Pty) Ltd* is responsible for ensuring that all contractors, labourers and any other appointed person/entity acting on their behalf, remain compliant with the conditions of the received authorisations, as well as the provisions of all other applicable legislation, including *inter alia*:

- National Environmental Management Act (NEMA) (Act No 107 of 1998, as amended);
- National Environmental Management Biodiversity Act (Act 10 of 2004);
- National Environmental Management: Waste Act (Act 59 of 2008);
- National Water Act (Act 36 of 1998)
  - The National Water Act (Act 36 of 1998) provides the framework for the sustainable management of South Africa's water resources. It aims to protect, use, develop, conserve, manage and control water resources as a whole, promoting integrated water resource management that involves participation of all stakeholders. The Act declares the national government to be the public trustee of the nation's water. The Act is administered by the national Department of Water Affairs (DWA) via regional offices.
    The proposed development activities **will trigger a General Authorization**, which will be required in terms of Section 21 (e) of the National Water Act (Act 36 of 1998).

- National Forest Act (Act No 84 of 1998);
- National Heritage Resources Act (Act No 25 of 1999);
- Occupational Health and Safety Act (Act 85 of 1993);
- National Veld and Forest Fire Act (Act No. 101 of 1998).

The above listed legislation has general applicability to most development applications, and it is the Garden Route Gateway Plaza's (Pty) Ltd responsibility to ensure that all contractors and employees are aware of their obligations in terms of these Acts. This EMPr does not detract from any other legal requirements.

APPENDIX H: ROLES & RESPONSIBILITIES

ROLES & RESPONSIBILITIES

Duties and Responsibilities of the Holder

The Holder is ultimately responsible for ensuring that the environmental management measures specified in this EMPr, as well as any other conditions specified by the competent authority, are implemented and adhered to during the construction and operational phase (maintenance activities) of the proposed development.

The Holder or delegated party is responsible for monitoring and maintenance during the operational phase. The Holder must ensure that all appointed service providers, contractors and maintenance workers are capable of complying with all statutory requirements of this EMPr and the conditions of the Environmental Authorisation. The Holder is responsible for ensuring that this EMPr and the conditions of the Environmental Authorisation are implemented and adhered to during construction.

The Holder or appointed consultant is responsible for identifying emergency situations that may arise during operational and maintenance activities and must formulate appropriate emergency response procedures for these emergency scenarios.

Duties and Responsibilities of the Contractor

The "Construction Contractor" is the entity responsible for undertaking the physical construction of the residential development. The construction contractor is responsible for ensuring that all environmental management measures specified in this EMPr and in the EA are implemented during the pre-construction, construction and post-construction rehabilitation phases, unless agreed otherwise with the Holder. The contractor will be responsible for all costs incurred, in relation to any non-compliances which may occur during implementation of construction activities/rehabilitation activities. The contractor must therefore make adequate financial provision_for the implementation of all prescribed measures, in accordance with the Bill of Quantities and the EMPr.

It is strongly recommended that the Construction Contractor appoint an Environmental Site Officer (ESO), who will act as the Contractor's representative to enforce compliance with the conditions of this EMPr, throughout all phases of construction.

In addition to the above, the Construction Contractor is responsible for the following:

- Identify emergency situations that may arise as a result of construction activities and formulate appropriate emergency response procedures.
- Ensure that all construction workers, including sub-consultants and service providers, undergo environmental awareness training prior to commencing work on site, or as soon as possible thereafter.
- Compile the required method statements, which must be to the satisfaction of the ECO, before commencing with the activity to be governed by the method statement.
- Respond to concerns or issues identified by the ECO, as relates to environmental management, and implement the appropriate management or remediation measures, at the Contractor's own expense (unless agreed otherwise).
- Any damage to the surrounding environment (site camp location and outskirts of working corridor) must be noted by the contractor with photo evidence. Any damage identified throughout the operational phase of the proposed extension will be the contractor's responsibility to repair.

- Should third parties be called to the site to perform clean up and rehabilitation procedures, the Construction Contractor will be responsible for all associated costs.

Note that failure to comply with the requirements and conditions of this EMPr and the Environmental Authorisation may result in fines or other penalties being levied against the Construction Contractor by the Competent Authority.

Duties And Responsibilities of the ECO

The appointed ECO is responsible for undertaking regular site visits to monitor and report on the implementation of the EMPr and adherence to the conditions of the Environmental Authorisation during the pre-construction, construction and post-construction rehabilitation phases. The ECO is not required to monitor the site during the operational (maintenance) phase of the development.

- Competency of the ECO

The ECO must be independent of the Environmental Auditor, Holder, Engineer, Construction Contractor and their service providers. The appointed ECO must be suitably qualified and experienced and must be able to demonstrate that he / she is of sufficient competency to undertake the required task. The ECO must preferably be a resident in close proximity to the development area to ensure quick response if required. The ECO must work in close co-operation with the Construction Contractor, resident engineer or EO (where applicable) and all contractors in order to identify potential problems before they occur, and provide suitable guidance as to how the identified problems (environmental impacts) can be avoided.

- Duties of the ECO

The duties of the ECO include, but are not limited to:

- Conduct a pre-construction site inspection to ascertain the pre-commencement condition of the site (i.e. the status quo);
- Conduct environmental awareness training, which must include;
    - A brief description of the surrounding environment
    - Importance of the EMPr
    - Roles and responsibilities
    - Identified environmental risks
    - Mitigation measures to be implemented
    - No-go areas
    - Emergency procedures (Hydrocarbon spill)
- Undertake regular site visits to monitor compliance with all mitigation, monitoring and management measures contained in the EMPr and the Environmental Authorisation, during the pre-construction, construction and rehabilitation phases of the development;
- Evaluate the achievement of the performance indicators associated with each impact management objective specified in this EMPr;
- Liaise with site contractors, engineers and other members of the development team with regard to the requirements of the EMPr;
- Provide guidance as and when required regarding the implementation of the environmental management measures contained in the EMPr and EA, so as to assist the Holder and contractor in remaining compliant with these measures;
- Assist in finding environmentally acceptable solutions to construction problems;
- Ensure that the working areas, site camp facilities, access roads and no-go areas are properly demarcated;

- Ensure that proper topsoil management practices are adhered to on site;
- Ensure that proper waste management & pollution prevention strategies are practised on site;
- Examine method statements, where required;
- Recommend additional environmental protection measures, should this be necessary;
- Furnish contractors with verbal warnings in case of contravention of the EMPr;
- Recommend that the competent authority furnish errant contractors with predetermined fines, when verbal and / or written warnings are ignored;
- Ensure satisfactory rehabilitation of disturbed areas on site, after construction is complete;
- Keep detailed records of all site activities that may pertain to the environment, and produce compliance-monitoring reports (ECO Reports) for submission to the Holder, and the Competent Authority at regular intervals during the construction phase;
- Submit a final post-construction inspection report, within 6 months of completion of the construction phase. The audit report must detail the rehabilitation measures undertaken, describe all major incidents or issues of non-compliance and any issues or aspects that require attention or follow-up.
- All ECO Reports and Inspection Reports must be submitted to the Holder and Competent Authority.

- Frequency of ECO visits

The ECO must conduct **weekly to fortnightly** site visits during the construction phase, in addition to the start-up and closure inspections.

The ECO must conduct a site visit 3 months after practical completion of the construction period.

The ECO has the discretion to undertake additional visits if he / she feels this is justified due to the actions of the contractors, and to make *ad hoc* visits in order to ensure compliance.

- Authority of the ECO

The ECO has the authority to recommend to the decision-making authorities that they suspend all works (or part thereof) occurring on site, should any action being undertaken on site not comply with the environmental requirements, and where such actions pose a serious threat to any element of the surrounding environment.

The ECO has the authority to issue instructions to the Construction Contractor and/or Holder, regarding measures that must be implemented on site in order to ensure compliance with the EMPr and Environmental Authorisation, and/or to prevent environmental degradation or pollution from occurring.

The ECO has the authority to issue verbal and written warnings to contractors. Should verbal and written instructions and/or warnings be ignored, the ECO has the authority to request the Competent Authority to issue pre-determined fines or other penalties.

The ECO has the authority to report incidents of non-compliance to the Competent Authority at any time.

Duties and Responsibilities of the Environmental Auditor

In accordance with the requirements of the Environmental Impact Assessment Regulations, 2014 (as amended), the Holder of the Environmental Authorisation must, for the period that the Environmental Authorisation is valid, appoint a suitably qualified independent person to conduct an environmental audit to audit compliance with the conditions of the Environmental Authorisation and the EMPr.

The Holder is responsible for appointing, managing and remunerating the appointed auditor. The auditor may **not** be the appointed ECO.

The appointed auditor is to be provided with the completed EMR's and Checklists, as well as any other crucial information that may be relevant or requested (incident report, waybills etc) in order to effectively report on the level of compliance with the conditions of the environmental authorisation and the EMPr. The appointed auditor must undertake environmental audits at the following stages;

- At 50% completion of the project timeline.
- At practical completion of the construction period.
- 3 months after practical completion of the construction period.
- Once a year, for the following 3 years after practical completion of the construction period.
- Or according to the frequency specified in the Environmental Authorisation.

Following each audit, the environmental auditor must submit an audit report to the Competent Authority (in this instance the DEA&DP).

- Environmental auditing and environmental audit reports must adhere to the requirements of the amended 2014 Environmental Impact Assessment Regulations, in particular Section 34 (*Auditing of Compliance with Environmental Authorisation, Environmental Management Programme*) and Appendix 7 (*Objective and Content of Environmental Audit Report*)
- The audit report must provide verifiable findings on the level of compliance with the provisions/ conditions of the Environmental Authorisation and the EMPr and must also comment on the ability of the measures contained in this EMPr to sufficiently avoid, manage and mitigate environmental impacts.
- Where the findings of the audit report indicate that the impact management measures stated in the EMPr are insufficient to adequately address environmental impacts, recommendations as to how the EMPr must be amended so as to address the identified shortcomings must be made and submitted to the competent authority together with the audit report.

APPENDIX I: ENVIRONMENTAL AWARENESS PLAN

APPENDIX J: PROTOCOL FOR CHANCE FOSSIL FINDS

PROTOCOL FOR CHANCE FOSSIL FINDS

<table>
<tr><td>Province & region:</td><td>George, Western Cape</td></tr>
<tr><td>Responsible Heritage Resources Agency</td><td>HERITAGE WESTERN CAPE (Contact details: Protea Assurance Building, Green Market Square, Cape Town 8000. Private Bag X9067, Cape Town 8001. Tel: 086-142 142. Fax: 021-483 9842. Email: hwc@pgwc.gov.za)</td></tr>
<tr><td>ECO protocol</td><td>1. Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately (N.B. safety first!), safeguard site with security tape / fence / sand bags if necessary.</td></tr>
<tr><td colspan="2">2. Record key data while fossil remains are still in situ:
Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo
Context – describe position of fossils within stratigraphy (rock layering), depth below surface
Photograph fossil(s) in situ with scale, from different angles, including images showing context (e.g. rock layering)</td></tr>
<tr><td>3. If feasible to leave fossils in situ:
Alert Heritage Resources Agency and project palaeontologist (if any) who will advise on any necessary mitigation
Ensure fossil site remains safeguarded until clearance is given by the Heritage Resources Agency for work to resume</td><td>3. If not feasible to leave fossils in situ (emergency procedure only):
Carefully remove fossils, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock)
Photograph fossils against a plain, level background, with scale
Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags
Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist
Alert Heritage Resources Agency and project palaeontologist (if any) who will advise on any necessary mitigation</td></tr>
<tr><td colspan="2">4. If required by Heritage Resources Agency, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.</td></tr>
</table>

APPENDIX K: EMPR REVIEW AND AMENDMENT REGISTER

EMPR REVIEW AND AMMENDMENT REGISTER

Review Date	Description of Review and/or Amendment	Signature