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DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

CONSTRUCTION PHASE

ACSA LANDSIDE DEVELOPMENT: PRECINCT 3

PREPARED FOR:

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Appendix A – Locality Map

Appendix B – Site Development Plan

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Key Terms and Abbreviations

Affected environment:	Those parts of the socio-economic and biophysical environment impacted on by the development.
CCT	City of Cape Town
DEAT	Department of Environment Affairs and Tourism Environmental regulatory authority in the Western Cape.
Engineer	To be determined
ECO	Environmental Control Officer The person responsible for ensuring that the requirements of the EMPr are implemented.
EIA	Environmental Impact Assessment: A process of collecting, analysing, interpreting, evaluating and communicating data as it pertains to possible impacts (positive and negative) upon the environment due to a development.
EMPr	Environmental Management Programme (Previously referred to as an 'Environmental Management Plan') A plan that organises and co-ordinates mitigation, rehabilitation and monitoring measures in order to guide the implementation of the proposed development.
ESI	Environmental Site Instruction
Fines	Penalties, which can be imposed on the contractor and/or his subcontractors in the event of a contravention of this EMPr.
HWC	Heritage Western Cape
MS	Method Statement A method statement describes the scope of the intended work in a step-by-step description in order for the PM and ECO to understand the contractors intentions.
Proponent	Airports Company South Africa
PM	Project Manager: The person responsible for ensuring that on-site activities are undertaken in accordance with the requirements of the EMPr.
RE	Resident Engineer
EA	Environmental Authorisation. The statutory authorisation for the execution of a particular development activity, in terms of the National Environment Management Act (107 of 1998) as amended.

Site

The site is located within Cape Town International Airport, approximately 20km east of Cape Town and occupies the northeastern portion of the airport property.

1. INTRODUCTION

1.1 Background

This document serves as the draft Environmental Management Programme (EMPr) for a proposed landside development in Precinct 3 located within Cape Town International Airport. This draft EMPr is being drafted prior to an Amended Environmental Authorisation being received. Please note that the EMPr will be amended once the Amended Environmental Authorisation has been granted.

Airports Company South Africa (ACSA) wishes to commercially develop Precinct 3 as this precinct is not required for aeronautical purposes. One of the major purposes of developing the site is to attract investment to the Western Cape by providing unique logistical facilities linked to the airport, thus allowing easy export and import of goods. Airports Company South Africa's motivation for developing Precinct 3 is thus due to, inter alia, to support aeronautical activities, to diversify income stream and to support the creation of employment opportunities in the areas around the airport.

The land on which the development is proposed is approximately 50ha in extent. The project proposal is to accommodate light industrial activities, which include the construction of warehousing facilities as well as stormwater infrastructure. The construction of internal roads and the setting aside of conservation areas is also proposed as part of the development.

The area under study is located within the Cape Town International Airport, approximately 20km east of Cape Town and occupies the northeastern portion of the airport property. The public roads surrounding the site are Stellenbosch Arterial to the north and Symphony Way Extension to the east.

The project received Environmental Authorisation on February 19, 2008 (Reference number 12/12/20/863). Following the Environmental Authorisation in 2008, an Amendment to the Authorisation was sought and approved in 2010, primarily to update the proponent's details at Airports Company South Africa. Subsequent to the 2010 modification, another amendment was applied for and granted in 2022. This allowed for changes to the project's footprint.

1.2 Terms of Reference

The purpose of an EMPr is defined in the National Environmental Management Act (NEMA), (Act No. 107 of 1998) and the NEMA Regulations (2014) as amended.

The objectives of this EMPr are thus:

- to include all components of the development;
- to prescribe the best practicable control methods to lesson the environmental impacts associated with the construction of the development;
- to monitor and audit the performance of construction personnel in applying such controls; and
- to ensure that appropriate environmental training is provided to responsible construction personnel.

The recommendations that emerged from the initial EIA and subsequent specialist studies for the development, which will also be documented in the Environmental Decision from DFFE are the major informants in developing the necessary environmental control measures.

An Environmental Control Officer (ECO) is required on site during the construction phase to ensure that the requirements of the EMPr are implemented.

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 GENERAL DESCRIPTION

The site lies within the Cape Town International Airport which is approximately 20km east of Cape Town. The site is approximately 50ha in extent and occupies the northeastern portion of the airport. The study area is largely flat with a vegetated dune on its eastern side, running north to south. A wetland area also exists to the west of the site. The nearest public roads are Symphony Way Extension to the east and Stellenbosch Arterial Road that lies to the north. The study area falls under the jurisdiction of Tygerberg Administration of the City of Cape Town.

Landuse surrounding the study area comprises mainly mixed-use and residential type developments. The site is bound by sub-economic townships characterised by high densities

of people, unemployment and poor living conditions. These include Delft to the east, Belhar to the north, Bishop Lavis to the west and, Nyanga and Philippi to the south.

2.2 THE PROPOSED DEVELOPMENT

The project proposal comprises activities which include light industrial, warehousing facilities, stormwater retention pond, internal roads and conservation areas as the main components. Upgrade of service infrastructure is also proposed. The study area is approximately 50ha in extent and the intention is to subdivide it into parcels of varying sizes in order to accommodate the proposed activities. These components are described in detail below.

2.2.1 Warehouses

Approximately 24.5ha, which is almost half of the site will be set aside for the construction of warehouses. The proposal is to construct warehouses ranging from 2.14ha to 4.28ha in extent.

2.2.2 Conservation areas

Most of the conservation areas identified will be set aside. Conservation areas are approximately 21ha in extent and include portions with high conservation value vegetation, dune Strandveld and a wetland. However, two portions covering approximately 1.76ha in total of high conservation area will be developed. As a biodiversity offset mitigation, the additional conservation areas on the site would adjoin the existing public open spaces, which would include the two dune Strandvelds. In addition, undevelopable portions of the property abutting the Dune Strandveld will also be set aside as open spaces.

2.2.3 Stormwater Retention Pond

The southern and northern portion of the site will be set aside for the construction of stormwater retention ponds. The proposed storm water ponds have been designed to have an 'overflow' of stormwater into a wetland area located approximately 100 m to the west. The design of the stormwater ponds adhere to the stormwater management requirements outlined in the Stormwater Management Report (Ingerop, 2023)

2.2.4 Traffic and access

Access to the site will be from the newly constructed Symphony Way extension. The southeastern portion of the dune will be avoided when constructing the access road to the site.

The implication of avoiding the dune is that the access road would have to extend beyond the site boundary.

2.3 Do Nothing Option

This option implies that existing rights could be exercised or that the site remains in its present state. The precinct is currently zoned “Rural” and activities of a rural nature could be allowed, or it will remain unused.

The implication of this alternative is that ACSA’s objectives of raising revenue through landside developments and job creation would not be realised. At the same time, the site is not likely to add any value to the surrounding areas in the short to medium term if left undeveloped.

3. ENVIRONMENTAL POLICY AND LEGISLATION

3.1 Contractual Commitment

This EMPr is to be included in the tender documents to obtain commitment from the contractors regarding all their activities and to make them aware of their environmental responsibilities prior to commencing work. Failure by any of the contractors' or sub-contractors' employees to adhere to the EMPr will be considered cause for the offending employees to be potentially be removed from the site, penalties to be instated and/or that the damage be repaired at the cost of the contractor. The Project Manager (PM), under advisement of the ECO, may recommend the removal of equipment causing continual environmental damage.

The PM, under advisement of the ECO, may recommend that the contractors suspend part or all of the works if they fail to comply with the specifications set out in the EMPr and method statements supplied by themselves or other responsible parties. The suspension shall be enforced until such time as the offending procedure or equipment is corrected. No extension of time will be granted for such delays and all costs will be borne by the contractors.

A policy statement is now presented, together with a list of the most important pieces of legislation pertaining to this project.

3.2 Environmental Policy Statement

The policy statement that follows is formulated specifically to support this construction phase EMPr for the proposed developments. All construction personnel will be required to commit themselves to this policy.

- Adherence to the requirements of the construction EMPr for the project.
- Management of all construction and associated activities so as to minimise the risk of pollution of ground and surface water, the air and the soil.
- Management of all construction and associated activities so as to minimise the nuisance and disruption to people resident in, working in or commuting through the area.
- Adherence to the environmental legislation relevant to the location and nature of the work being conducted.
- Compliance with the monitoring and auditing programmes contained in the EMPr, to ensure its accountable and transparent implementation.

3.3 Environmental Legislation

Cognisance will be taken of, but is not limited to, the following pieces of legislation during the construction phase of the project components.

- Atmospheric Pollution Prevention Act (45 of 1965)
- National Environmental Management Act (107 of 1998)
- Hazardous Substances Act (15 of 1973)
- Health Act (63 of 1977)
- National Heritage Resources Act (25 of 1999)
- National Water Act (36 of 1998)
- Occupational Health and Safety Act (85 of 1993)

4. ORGANISATIONAL STRUCTURE

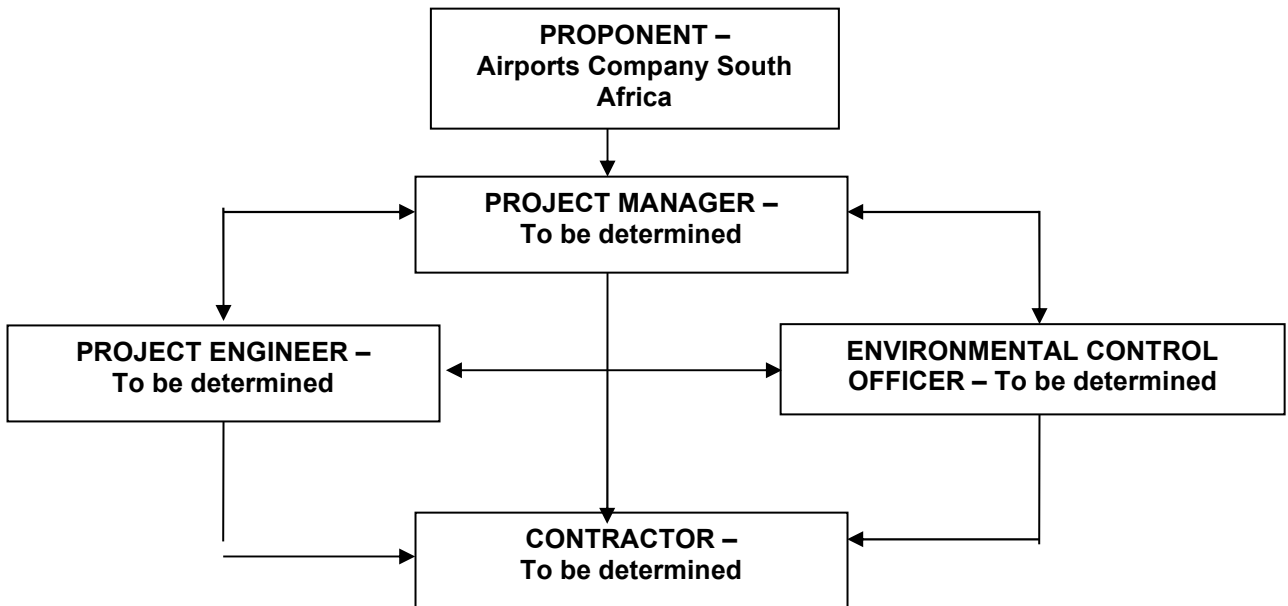
It is essential that an organisational structure is established early in the construction phase of the project and that all parties concerned accept the structure. This identifies the responsibilities and the authority of the proponent, design team, Project Manager (PM), consulting engineers and the numerous contractors and sub-contractors. The relationship between the PM, the engineers and the contractors' site agents are key links in the structure.

The organisational structure also clarifies the channels to direct instructions and provides the means of interaction between the various groups involved. Good communication is a prerequisite of maintaining the organisational structure and is vital to the smooth operation of the project.

4.1 Responsibility Linkage

Essentially, the responsibility for the application of the construction phase EMPr for the project begins with the proponent, ACSA. The proponent will devolve the responsibility to the designated PM to assume this task within his or her portfolio. The ECO will then ensure that the requirements of the EMPr are implemented by monitoring and auditing the performance of the PM in achieving the requirements, while also providing strategic support and advice. In practice, on-site responsibility would typically lie with an engineer tasked with particular components of the project. The ECO may at times communicate directly with a nominated engineer, but always with recourse to the PM.

The EMPr reporting structure is depicted in the organogram below:



4.2 Role of the Project Manager (PM)

The PM is responsible for ensuring that on-site activities are undertaken in accordance with the requirements of the EMPr. The PM will thus need to ensure that:

- This EMPr is included in the contracted agreements issued to the landscape architect, construction and maintenance teams.
- Method statements requested by the ECO are provided in a timely fashion.
- Corrective action is implemented as required.
- Appropriate records and information regarding compliance with the EMPr requirements are maintained and made available to the ECO;
- All site instructions are copied to the ECO; and
- Instructions as required by the ECO are issued to the relevant contractor.

4.3 Role of the Environmental Control Officer (ECO)

The Independent Environmentalist shall provide an ECO who shall ensure that the Contractor complies with the environmental specifications in this document. The ECO is thus responsible for ensuring that the requirements of the EMPr are implemented.

More specifically, the ECO shall:

- Request, review and approve method statements (see Section 6) from the Contractor and Sub-contractors prior to any construction commencing.
- Undertake regular inspections (on average once or twice per week) of the construction site in order to check for compliance with method statements as well as specifications outlined in this document. This should also involve completion of a weekly checklist, which will also serve as site records.
- Ensure that the Contractor and his Subcontractors and his employees have received the appropriate environmental awareness training within one week of commencing with construction.
- Meet with the Contractor to discuss the implementation of and non-conformances with this document. Site meetings shall take place fortnightly. These meetings will serve to re-affirm overall policy for the project, method statements as well as discuss weekly checklists.
- Identify appropriate corrective action if non-compliance occurs or unforeseen environmental issues arise that require environmental management action.
- Keep a register of major incidents (spills, injuries, complaints, legal transgressions, etc) and other documentation related to the EMPr.

- Issue stop orders when required.
- Report to the Project Manager any problems (or complaints) related to conformance with this document which cannot first be resolved in co-operation with the Contractor and/or his Subcontractors.
- Assist in finding environmentally acceptable solutions to construction problems.
- Identify and make minor amendments to the EMPr where appropriate.

4.4 Role of the Contractor

The role of the Contractor is as follows:

- The Contractor shall ensure that all employees, sub-contractors, suppliers, etc. are fully aware of the environmental issues and requirements detailed in this EMPr.
- The Contractor shall liaise closely with the ECO and PM and will ensure that works on site are conducted in an environmentally sensitive manner in accordance with this EMPr.
- The Contractor is to have a copy of the EMPr on site and be familiar with its contents.
- In conjunction with the ECO, the Contractor must ensure that all employees (permanent and temporary) and all sub-contractors that work on the site for longer than two days, receive Environmental Awareness Training within one week of being on site.

5. ENVIRONMENTAL SPECIFICATIONS

5.1 Site Camp Establishment

The Contractor's Camp and Materials Storage Area shall be located in consultation with the ECO. The Contractor shall submit a Method Statement for this Site Camp placement 5 (five) working days before establishing the Site Camp. The contents of this Method Statement must include a layout plan showing any offices, stores, vehicle parking, equipment storage areas, toilet placement, equipment and material stockpiles etc. The Contractor may be required to fence off or visually screen the site camp.

No site staff other than security personnel shall be housed on site. The Contractor shall provide water and/or washing facilities at the camp site for personnel.

The Contractors Camp and Materials Storage Area shall be kept neat and tidy and free of litter.

The Contractor is to ensure that the site camp complies with the Occupational Health and Safety Act (first aid and fire fighting equipment, external display of emergency contact numbers etc.). The name of the responsible person in terms of safety must be included in the above Method Statement.

5.2 Demarcation of Eating Areas

Eating areas shall be restricted to the site offices and contractors' camp. If employees are to eat elsewhere on the site, the contractors shall, in consultation with the ECO, designate places for eating in the working areas, and shall provide adequate water for washing, toilets and refuse bins at all these places, which should be cleaned on a daily basis.

5.3 Environmental Education

According to the National Environmental Management Act (107 of 1998), any costs incurred to remedy environmental damage shall be borne by the person responsible for that damage, it is therefore critical that the contractors read and understand the requirements of this document and any succeeding documents pertaining to environmental requirements before

construction commences. It is a requirement of the act that everyone takes reasonable measures to ensure that they do not pollute the environment.

Reasonable measures include informing and educating employees about the environmental risks of their work and training them to operate in an environmentally acceptable manner. Training is fundamental to the successful implementation of the EMPr. All personnel whose work may result in an impact on the environment must receive appropriate training in the environmental procedures to be followed. In this regard, the following must be fulfilled:

- All personnel working on the construction site must attend environmental awareness training workshops conducted by the ECO. The purpose of these workshops is to provide staff with the information they require to enable them to meet the requirements of the EMPr. The ECO may call upon the services of a specialist environmental education translator should this be required. Contractors and all their staff must attend and failure to do so will not exempt them and/or their employees from environmental compliance.
- Contractors shall make allowance for site staff to attend an initial environmental awareness training workshop of approximately one hour. In addition, contractors shall ensure that all new staff and sub-contractors attend environmental awareness training workshops within five working days of commencement of work on site.
- All personnel involved in day-to-day activities that could have an impact on the environment must be given on-the-job training in the procedures to be followed. Contractors must ensure that this is done and seek the support of the ECO where the contractor and his or her staff are not familiar with the procedures to be followed.
- Contractors shall keep a register of all personnel attending the environmental awareness training workshops and the on-the-job training detailed above and copy this to the ECO.
- All new staff and sub-contractors that start work during the course of the contract must attend the training workshops conducted by the ECO.
- All staff must be trained in emergency response procedures through the conducting of dry runs of emergency situations. Records of emergency response training must be maintained and must include an attendance list for each training session. These records must be made available for audit purposes.
- Environmental awareness posters to be made available by ECO are to be displayed on site. Environmental 'do's and don'ts' must be clearly illustrated. The posters shall use pictures to convey the intended message and any explanatory text will be in isiXhosa, English and Afrikaans.

Failure to attend environmental awareness training will not exempt any contractor and/or employees from compliance with the EMPr.

5.4 Defining No-go and Working Areas

It is important that activities are conducted within a limited area to facilitate control and to avoid impacts on the conservation areas adjacent to the developable area. For this reason the site will be divided into working areas and 'no-go' areas. Working areas are defined as those areas required by the Contractor to undertake the development. The Contractor shall ensure that all plant, labour and materials remain within the boundaries of the working areas. Access must be restricted to development footprints only, with no disturbance of areas outside the development footprints allowed.

Working areas shall comprise of the following areas:

- the proposed access road to the site off the New Symphony Way extension.
- the areas allocated for the construction of warehouses, stormwater retention pond and internal access roads approximately 50ha.

Lay down and rest areas shall also form part of the working area and shall be indicated by the ECO.

All areas outside the perimeter of the site shall be considered as no-go areas.

No areas outside the working areas may be cleared, damaged or leveled.

5.5 Working Hours

The Contractor may only work during normal working hours (07h00 to 18h00 on weekdays and 08h00 to 13h00 on Saturdays).

If the Contractor needs to work outside of working hours as stipulated in the appropriate legislation, the ECO and the Project Manager/Engineer are to be notified in advance. NOTE that written approval from the Local Authority needs to be obtained for any work that is to be undertaken outside of normal working hours.

Clearing must only be undertaken in areas earmarked for development. Areas which will be left cleared for longer than one month must be stabilised with straw.

No burning or burying of any plant material is permitted on site.

5.6 Soil Erosion

Soil erosion should be avoided by not exposing large areas of the substrate simultaneously. Areas that are not to be developed (wetland area and the Cape Flat dune strandveld) and which are particularly sensitive to erosion should be demarcated with danger tape and be considered as no-go areas. All construction vehicles should only use designated routes on site.

Should erosion occur as a result of non-adherence to the above recommendations, or where it impacts on the surroundings, appropriate rehabilitation will be required.

5.7 Batching and Mixing Areas

Cement powder has a high pH. Spillage of dry cement powder and concrete slurry will affect both soil and water pH adversely. Careless handling of cement products resulting in spillage could have serious detrimental effects on the surrounding environment.

The following mitigation measures are to be implemented in order to minimise environmental impact:

- Responsibly used ready-mix concrete and cement is preferred to site batched mixes.
- Cement contaminated equipment is to be washed so that contaminated water does not enter stormwater, groundwater, drainage lines, streams/rivers or dams. Contaminated water must either be removed from site or, with the approval of the ECO and the Local Authority, be disposed of into the local sewage system. Where possible, contaminated water should be recycled back into the batching process.
- Cement must be mixed on mixing trays that prevent runoff and spillage. No mixing will be allowed directly on the ground's surface.
- Locations for mixing areas in the site camp are to be approved by the Project Manager/Engineer and the ECO.
- Used cement bags are to be stored in a wind and rainproof container for disposal. Used bags are to be removed from site on a regular basis and under no circumstances burned as a method of disposal.
- Excess or spilled cement and concrete are to be removed to an approved Municipal waste site.

- Contaminated soil resulting from a cement or concrete spill is to be removed or rehabilitated at the cost of the Contractor and to the satisfaction of the Project Manager/Engineer and the ECO.

5.8 Equipment Servicing and Cleaning

All vehicles and equipment must be maintained in a good condition in order to minimise the risk of leakage and possible contamination of the soil, groundwater, surface water and/or storm water by fuels, oils and hydraulic fluids.

5.9 Fuel and Hazardous Materials Storage

Contractors shall identify fuels and hazardous substances to be stored on the site and shall ensure that they know the effects of these substances on their staff and the environment. A copy of a fuels and hazardous substance inventory shall be supplied to the ECO by the contractors.

Contractors shall ensure that the quantities of fuels and chemicals on site are appropriate to the requirements and are stored and handled so as to avoid the risk of spillage. All fuels, oils and chemicals shall be confined to specific and secured area, approved by the ECO. These materials shall be stored in an area with a concrete or other impervious base, which is adequately bunded. The volume of the bund shall be two times the volume of the containers stored. Gas and fuel should not be stored in the same storage area, and any generators used on the site should also be placed on a bunded surface.

In the event that fuels, oils and other hazardous fluids are to be stored on site and approval of fuel storage must be given by the ECO and Project Manager/Engineer (refer to the SABS bulk and small volume fuel storage guidelines as available from the local Fire Fighting Authorities).

In addition, the following must be implemented:

- All fuel stores must be equipped with a fire extinguisher;
- No vehicle servicing may take place on the site. Servicing of equipment that uses hydrocarbon fuels, oils, lubricants and other hazardous chemicals may only take place in the site camp under conditions approved by the ECO and the Project Manager/Engineer;

- A suitable leak proof container is to be used for the storage of oiled equipment. This container is to be removed from site and the contents disposed of at an approved waste site as required;
- Fuels and oils must be stored in tanks or drums with lids that remain firmly shut and shielded from the elements. Safety and fire prevention precautions must be strictly adhered to (ref SABS fuel storage standards);
- All fuels are to be stored within a lined demarcated area in the Site Camp. No refuelling is to take place outside of this demarcated area unless authorised by the ECO. Note that filling machinery in the field (on site) from canisters should be cleared with the ECO and both a “no leak” funnel / pump and one of the above mentioned absorption products must be on hand in the event of such refuelling taking place;
- All fuel, oil or hydraulic fluid spills are to be reported to the Project Manager/ Engineer and ECO immediately so that appropriate clean-up measures can be implemented.

5.10 Solid Waste Management

The Contractor is responsible for the establishment of a waste control system that is acceptable to the Project Manager/Engineer and the ECO. This system is to be presented to the ECO in the form of a Method Statement prior to the commencement of works (refer Section 6). For the purposes of this EMP, waste includes all debris, refuse, hazardous waste, construction litter and asphalt (tar) waste.

Refuse collected from the working areas must be stored in a water- and animal- proof enclosure at the designated site camp. Refuse is to be removed from the site camp at least once a week by the Contractor or an appointed refuse removal agent (or approved local waste removal system). Refuse must be disposed of at an approved waste disposal site.

Petroleum, chemical, harmful and hazardous waste is to be stored in an enclosed and bunded area. The location of such bund sites is to be approved by the Project Manager/Engineer and the ECO. This waste will be disposed of at a hazardous waste disposal site as approved by the Local Authority. Storage and disposal etc. is also controlled through other relevant legislation that must be complied with e.g. the Occupational Health & Safety Act.

The Contractor will ensure that waste and surplus food, food packaging and other waste is not deposited by employees anywhere on the site except in refuse bins for removal on a daily basis by the Contractor to the central point in the site camp. Refuse bins shall be watertight, wind-proof and scavenger-proof, and shall be placed at regular intervals throughout the site.

The ECO will approve the design of the bins. Refuse collected from the site shall be stored in an appropriate closed and weatherproof container and removed once a week.

Refuse shall be separated into suitable categories and re-cycled. Construction debris such as scrap metal shall be collected in a skip container and disposed of at an approved dumpsite. Refuse may not be burnt or buried on the site, or in the vicinity. Contractors shall identify a permitted refuse disposal site for various categories of waste and provide documentary proof to the PM and ECO of the type and volume of waste to be disposed of there.

The Contractors shall provide workers to clean up the site on a daily basis and the general cleanliness of the site shall form part of the site inspections undertaken by the ECO.

5.11 Water Pollution Prevention and Management

The Contractor shall prevent pollution of surface or underground water and shall comply with the Water Act, 36 of 1998, and any other national, provincial and local legislation regarding the prevention of water pollution, including the pollution of groundwater and the wetland on site.

The Contractor must ensure that all reasonable precautions are taken to prevent the pollution of the ground and water resources as a result of site activities. Ground contamination may hinder or prevent the re-establishment of natural vegetation.

The Contractor shall keep the necessary materials and equipment on site to deal with ground spills of any of the materials used or stored on site.

The Contractor shall ensure that no oil, petrol, diesel, etc is discharged onto the ground. Pumps and other machinery requiring oil, diesel, etc that are to remain in one position for longer than two days shall be placed on drip trays. The drip trays shall be emptied regularly and the contaminated water disposed of off site at a facility capable of handling such wastewater. Drip trays shall be cleaned before any possible rain events that may result in the drip trays overflowing, and before long week ends and holidays.

Stormwater and/or groundwater may accumulate on site during the construction period and there is the potential for this water to be contaminated as a result of construction procedures. The Contractor shall ensure that this water does not become contaminated.

Contaminated water (eg cement washings, waste water from ablution or kitchen facilities etc) shall be collected in a conservancy tank, removed from the site and disposed of in a manner approved by the ECO.

5.12 Stormwater Control

Contractors shall take reasonable measures to prevent erosion resulting from a diversion, restriction or increase in the flow of stormwater caused by the presence of their works, operations and activities, all to the satisfaction of the ECO. Any stormwater collected in bunded areas containing oils, fuels, chemicals or other potentially polluting substances shall be pumped out of the bund, collected in a suitable container and removed from the site for appropriate disposal.

Contractors shall provide adequate control measures to prevent stormwater damage and erosion during construction. Control measures should include the control by sumps and adequate pumping of water ingress into trenches below the water table. Stormwater should also be directed into attenuation ponds wherever possible. All methods of stormwater control during the construction phase are to be agreed and approved by the PM and ECO.

Berms and existing stormwater drainage systems shall be used to prevent surface run-off from entering site excavations.

5.13 Ablution Facilities

The Contractor shall provide the necessary ablution facilities for all his personnel. The primary ablution facility will be connected directly into the existing sewer system. Chemical toilets shall be used in all other areas of the site where necessary.

A minimum of one toilet per 15 persons shall be provided. Toilets shall be easily accessible and shall be transportable. The toilets shall be secured to prevent them from blowing over, and shall be provided with an external closing mechanism to prevent toilet paper from being blown out. Toilet paper shall be provided in all toilets. Toilets shall be cleaned and serviced regularly by a reputable toilet-servicing company appointed by the Contractor. Toilets shall be emptied before long weekends and builders' holidays. Toilets shall be locked after working hours.

The Contractor shall ensure that chemicals and/or waste from toilet-cleaning operations are not spilled on the ground at any time. All spills shall be cleared up immediately.

Abluting anywhere other than in the toilets shall not be permitted. Use of other areas within the site for ablution purposes and/or disposal of chemicals and/or waste, may result in the Contractor being given a spot fine (by the ECO). The Contractor shall also be responsible for cleaning up any waste deposited by his personnel.

No pit latrines shall be used.

5.14 Water Resource Management

Water is a scarce resource in the Western Cape and water shall be conserved wherever possible. The Contractor shall not waste water (eg water areas excessively etc). All leaking water pipes are to be repaired or replaced immediately.

The Contractor shall provide all drinking water and water for construction purposes. Water shall not be used unnecessarily.

5.15 Dust Control

The Contractor will be solely responsible for the control of dust and for any claims against the proponent for damages resulting from dust.

5.16 Noise Control

As the site is located away from residential areas, minimal disturbance is expected. However, should residential areas be constructed in proximity before the construction of this development, building regulation working hours apply.

Noise generation during construction could create disturbance and a nuisance for people working, resident in and commuting through the area. Contractors shall thus restrict working hours for construction activities to:

- 07h00-18h00 on weekdays (excluding public holidays); and
- 08h00-13h00 on Saturdays (excluding public holidays).

The contractors should be fully acquainted with the Noise Control Regulations of the Province of the Western Cape published in the Provincial Gazette 5309 of 20 November 1998.

5.17 Light Control

General area lighting should be marked up on an overall site plan. Each contractor is responsible for providing additional lighting so as to comply with the Occupational Health and Safety Act (85 of 1993) as amended.

Any lighting (e.g. security lighting) on the site is to be placed in such a way so as not to cause a nuisance to residents of the area.

5.18 Fire Prevention

No fires will be allowed on the site.

No smoking will be permitted on the site except for within a designated area in the site camp. Suitable fire fighting equipment must be readily available in this area.

The contractor will be requested to remove any person from the site who is found lighting a fire or smoking outside of the designated smoking area.

Fires for heating, cooking or disposal of any material will not be permitted. Heating and cooking will only be allowed on a gas cooker within a designated area of the site camp. Purpose built “braai” areas will be permitted within the site camp and must be well maintained. Suitable fire fighting equipment must be readily available

Welding, gas cutting, cutting of metal and heat curing will be permitted within specifically designated and adequately marked areas on the site. These areas, as well as where on site welding, gas cutting or cutting of metal is unavoidable, must have the approval of the Project Manager/Engineer and the ECO. These sites are to be approved by the Project Manager/Engineer and the ECO. All “hot” work areas must have an operational fire extinguisher readily at hand.

The Contractor will be liable for all costs incurred by organisations called to extinguish any fires started by any person(s) under their control. In such an event, the Contractor will be liable for all costs incurred to remediate burnt areas on the site and areas to which the fire has spread.

The Contractor must ensure that the contact details of the nearest Fire Department are displayed on site (together with other emergency services) and that all persons involved with the project know the location of these numbers on site.

5.19 Pollution Prevention and Remediation

The Contractor must ensure that all reasonable precautions are taken to prevent the pollution of the ground and water resources as a result of site activities.

Pollution could result from the release, accidental or otherwise, of contaminated runoff from construction camps, discharge of contaminated construction water, chemicals, oils, fuels, sewage, run off from stockpiles, solid waste, litter, etc.

The first activity to be undertaken once a spill occurs is to terminate the source of the spill and contain the polluted area.

All fuel, oil or hydraulic fluid spills are to be reported to the Project Manager/ Engineer and ECO forthwith so that appropriate clean-up measures can be implemented.

The Contractor shall keep the necessary materials and equipment on site to deal with ground spills of any of the materials used or stored on site. Sufficient quantities of suitable hydrocarbon absorbent or remediation materials must be present on site at all times. Absorbent “spill-mop-up” products need to be on hand – Enretech, Spillsorb or Drizit type products should be investigated for these purposes.

5.20 Management of conservation areas

a) Wetland

A No-Go area of 60 m must be implemented around the wetland areas during the construction of the SW pond. The proposed SW dam is located approximately 97 m from the larger delineated depression, and approximately 230 m from the smaller depression. The distance between the wetlands and the proposed SW dam, will allow for the majority of interflow through surrounding dunes to still reach the wetland areas during the operational phase of the project.

The ‘overflow’ of stormwater from the proposed retention pond will likely result in alteration of the flow regime and water quality impairment within the larger depression wetland onsite. However, with the implementation of the following recommended mitigation and management measures, the risk will be “Low”:

- Implement a buffer (No-Go) area (60 m for SW pond & 20 m for the pipelines/cables) during both the construction and operational phases of the project to ensure continued functionality of the present hydrological regime and water quality in the wetlands.
- The SW Pond should be constructed as per the recommended Bio-retention cells outlined in the Stormwater Management Plan Report (Ingerop, 2023). SW released into the wetland should not pollute the wetland.
- It is recommended that any release of SW into the wetland (stormwater outlet) is done so diffusely by means of a vegetated swale in order to minimize SW peaks as much as possible and prevent erosion:
 - o The SW outlet should form a slope of no more than 10 %;

- The SW outlet should be vegetated with appropriate wetland vegetation (found in the onsite depression wetlands).
- Monitoring of erosion should form part of the onsite maintenance program. Should the outlet point be susceptible to erosion i.e. if erosion is noted during maintenance, the following should be implemented:
 - Use a biodegradable soil cover as a supporting structure during the initial stages of revegetation.
 - The soil cover should be placed across the entire swale and can be secured with wooden or metal pegs. Seeds can be sown beneath the soil cover, and young seedlings or adult plants can be planted above.
- If possible, conduct construction activities during low rainfall months (October – March) to reduce surface run-off and sedimentation.
- Limit vegetation clearing to the proposed SW pond's footprint area.
- Cover dug / excavated material onsite with suitable erosion blankets (geotextile fabric weighed down with bricks) to prevent sediment from entering wetlands.
- All alien invasive species should be removed from the depression wetlands through an appropriate rehabilitation plan or Method Statement compiled and overseen by an appropriately qualified person.

b) High conservation vegetation

The botanical assessment undertaken identified a number of high conservation areas on site. The identified areas are to be cordoned off and demarcated with danger tape during the construction phase in consultation with the ECO.

5.21 Provision of Water

Contractors shall be responsible for providing construction water, water required for dust control, drinking and washing water. Contractors shall also be responsible for providing washing facilities for all staff.

Wastewater from washing facilities shall be discharged into the existing sewage system, or removed from the site by the contractor or by other means, should the existing services be unavailable. Such alternative means shall be submitted to the ECO for approval.

5.22 Cleanliness of Public Roads

Contractors shall ensure that construction vehicles are not overloaded so as not to spill construction or excavated material onto public roads. Contractors shall provide a washing

system for cleaning the wheels of vehicles moving off-site, and shall ensure that this is utilised as required.

5.23 Traffic Control and Safety

Traffic control and safety shall be done in accordance with the South African Traffic Safety Manual, with the relevant signs, flagmen, barriers, etc being provided at the various access points. Traffic control shall be done in co-operation with local traffic officials. All laws and regulations applicable on the public road system are enforceable on the construction site.

Due to the activities involved in the construction phase, trucks and other related vehicles will be using the roads leading to the site. These vehicles will need to be roadworthy and abide by the speed limits. The Environmental Management Plan for the construction phase should monitor the impact on current traffic by additional construction vehicles to ensure noise, safety and dust issues are kept to a minimum.

5.24 Safety on Site

Contractors shall follow the guidelines of the Occupational Health and Safety Act (85 of 1993).

The wearing of hard hats by -

- All persons entering the site;
- All persons within 10m of any situation where any form of lifting or hoisting equipment is being used; and
- Any personnel working in any other situation where the possibility of head injury is present, e.g. an area where overhead work is taking place.

The wearing of gloves by personnel -

- Handling heavy materials;
- Carrying out maintenance activities within a crusher;
- Engaged in welding or gas cutting activities; and
- Handling materials/equipment with unfinished steel edges.

The wearing of approved safety shoes or safety boots by -

- All persons entering the construction site or workshop, storage and depot areas.

The wearing of safety goggles by -

- Persons operating equipment under dusty conditions;
- Persons engaged in cutting or welding activities; and
- Persons engaged in grinding activities.

The wearing of hearing protection by -

- All persons engaged in rock drilling activities (>85 decibel):
- All crushing operators; and
- Any persons entering into high noise areas (>85 decibel).

These areas should be appropriately marked using a standard National Occupational Safety Association (NOSA) pictogram.

The wearing of safety belts by -

- Any person carrying out work 2m above ground level, unless it is being carried out from a safe and protected work platform; and
- All heavy equipment operators.

5.25 Security

Although largely an operational issue, security of the site will need to be maintained during construction. The Contractor will be responsible for the security of its personnel, construction camps and equipment. No personnel will be permitted to live on the site. Security personnel present after hours must be provided with the necessary cooking, heating and ablution facilities. Security lighting should not result in a nuisance for neighbouring properties.

5.26 Traffic and Access

Access roads and routes on the site during construction will be demarcated. Contractors must ensure that their vehicles are road-worthy and that loads are properly secured.

5.27 Surrounding Land Use

Cognisance must be taken of the proximity of residential and aviation areas. General disturbance should be kept to a minimum.

6 METHOD STATEMENTS

Specified contractors shall provide method statements for approval by the PM and ECO prior to work commencing on aspects of the project deemed or identified to be of potential risk to the environment, when called upon to do so by the PM. Statements from contractors may be required by the ECO for specific sensitive actions. Construction activities which will need a method statement include, but are not limited to:

- contractor's camp establishment including bulk fuel storage, toilet facilities and waste management;
- works near sensitive areas such as dunes and wetland;
- pumping and/or dewatering;
- stormwater management and pollution prevention;
- stockpiling of excavated material prior to removal from site;
- windblown sand and dust control measures;
- batching plant activities;
- disposal of contaminated ground or surface water
- Demarcation of no-go areas on site plan
- Vegetation management
- Traffic management
- Landscaping and rehabilitation
- Alien clearing

A method statement is a living document that allows for modifications to be negotiated between the contractors and the PM, as circumstances dictate. All method statements will form part of the EMPr documentation and are subject to all terms and conditions contained in the EMPr.

Note that a method statement is a point of departure for understanding the nature of the intended actions to be carried out and allows for all parties to review and understand the procedures to be followed in order to minimise risk of harm to the environment. Changes to, and adaptations of, method statements can be implemented with the prior consent of all parties.

A method statement describes the scope of the intended work in a step-by-step description in order for the PM and ECO to understand the contractors intentions. This will enable them to assist in devising any mitigation measures, which would minimise environmental impact during these tasks. For each instance where it is requested that a contractor submit a method statement to the satisfaction of the PM and ECO, the format should clearly indicate the following:

- What - a brief description of the work to be undertaken;
- How - a detailed description of the process of work, methods and materials;
- Where - a description/sketch map of the locality of work (if applicable); and
- When - the sequencing of actions with due commencement dates and completion date estimates.

All method statements are to be to the satisfaction of the PM and ECO.

7 SITE CLEAN UP AND REHABILITATION

7.1 Site Clean Up

The Contractor shall ensure that all temporary structures, equipment, materials, wastes and facilities used are removed upon completion of the contract. The site clean up must be to the satisfaction of the Project Manager/Engineer and the ECO. A site closure checklist will only be given once site has been closed.

7.2 Rehabilitation

If deemed necessary by the Project Manager/Engineer, the ECO and the contractor may have to employ a suitably qualified person to rehabilitate areas damaged during construction activities on site.

In the event of damage occurring to the environment due to the irresponsible actions of the Contractor, (including non-compliance with the EMP), rehabilitation may be required as decided upon by the ECO, the ECO and the Project Manager/Engineer. The completed rehabilitation is to be to the satisfaction of the ECO.

The cost of such rehabilitation will be for the Contractor's account and no extension of time will be granted.

8. COMMUNICATION AND SITE INSPECTIONS

8.1 Site Meetings

A fortnightly site meeting must be held for the duration of the construction period. Provision must be made in the agenda of each site meeting for Environmental Management issues to be discussed to facilitate the transfer of information and to update all parties on the environmental compliance aspects of the project as a whole. The ECO is to be present a summary report at such meetings.

These meetings are to be attended by the ECO, Project Manager or Engineers representative, Contractor and a representative of each of the sub-contractors working on site at the time.

At such meetings environmental queries must be resolved, agreed actions planned with dates of the actions and compliance / non-compliance by the Contractor to be noted. If required, penalties and remedial actions must also be tabled and planned.

Frequency of meetings may be altered by the ECO, based on the nature of the works taking place on site at any time, and the level of compliance with the EMPr by the Contractors.

Issues relating to complaints or comments received from the public shall also be discussed at these meetings. Minutes of the meetings shall be prepared by the RE and copied to all attendees before the next meeting.

8.2 Site Inspection

A site inspection programme will be implemented and will comprise:

- Visual inspections of the site activities by the RE on a daily basis;
- Visual inspections of the site activities by the ECO, once or twice per week for the duration of the project. Where a particular aspect requires more detailed monitoring, more frequent inspections will be undertaken; and
- Review of records and documentation to reconcile these with the construction programme.

Records shall be maintained during the construction phase to enable compliance with the EMPr specifications to be demonstrated. These will typically comprise a daily log of activities that record waste management (documentary proof of type, volume, disposal and transport), fuels and chemicals management (deliveries, spills etc.) and other environmental issues such as adverse weather (wind, rain) and surface water run-off.

9. PENALTIES AND BONUSES

9.1 Individual Transgressions

Non-compliance with the conditions of the EMPr will constitute a breach of Contract. The Project Manager/Engineer (on advice from or in consultation with the ECO) can impose spot fines on the Contractor for any contraventions of the EMPr. By imposing spot fines on individuals guilty of contravening the EMPr, the Project Manager will be able to ensure that the requirements of the EMPr are taken seriously not only by the management personnel on site, but also by other site staff. Below are ranges of spot fines for different contraventions of the EMPr.

The Project Manager/Engineer should use these as a guide and use his/her own judgement in determining the issues of non-compliance and the severity of the contravention and thus the value of the spot fine:

An individual entering the defined No Go boundaries of the site;	R150 – 500
An individual driving a vehicle into the defined No Go boundaries of the site;	R500 – 5000
An individual driving any earthmoving plant into the defined No Go boundaries of the site;	R500 – 3000
A plant operator ignoring a verbal warning to have an oil leak from machinery repaired;	R500 – 2000
An individual littering on site;	R50 – 500
An individual not making use of the ablution facilities;	R50 – 200
An individual spilling fuels (non use of funnels/pumps etc);	R100 – 500
An individual causing unnecessary damage to flora and fauna on site;	R50 – 2000
An individual eating outside of the defined eating area;	R50 – 200
Smoking on site other than in the designated site camp;	R50 – 200

These fines should be revised when the construction phase commences to ensure relevance.

For each subsequent similar offence committed by the same individual, the fine should be doubled in value to a maximum value of R5 000. The Project Manager/Engineer will not collect the fines from individuals, but will rather inform the Contractor of the contravention, the individual's identity and the amount of the fine. The fine will be deducted from the Contractors' monthly certificate, or the Project Manager/Engineer will issue a variation order, to the value of the fine, for the Contractor to undertake activities that would in some way enhance the state of the environment or the site. It will be the Contractor's responsibility to reclaim such fines from the guilty individuals. These fines do not preclude any prosecution under any other law.

9.2 Contractors Transgressions

The Project Manager/Engineer, in consultation with the ECO, may also issue penalties directly to the Contractor for general non-compliance with the EMP.

The following serves as a guide for such penalties in certain situations. **(NOTE THAT THESE PENALTIES DO NOT PRECLUDE PROSECUTION UNDER ANY OTHER LAW):**

Excessive litter on the site or in the site camp;	500 – 2000
Water wastage or water contamination;	500 – 10 000
Spillage of fuels on site;	500 – 5 000
Inadequate provision of waste bins and toilets;	500 – 5 000
The non provision of eating areas;	500 – 1 000
Unnecessary dust generation and inadequate control;	500 – 8 000
Unnecessary noise generation;	500 – 5 000
Uncontrolled fires on site;	500 – 8 000
Non provision of hydrocarbon fuel absorbents;	1000 –10 000
Inadequate erosion controls and prevention;	5000– 8 000

The issuing of a penalty will usually be preceded by a verbal warning by the ECO, during which a time frame for rectifying the situation, as well as the penalty to be implemented should this not be done within the time frame, will be agreed on. The value of the penalty will depend on the seriousness of the contravention, and thus the Project Manager/Engineer must use his/her judgement in determining the value of the penalty.

In addition to penalties, the Project Manager/Engineer has the power to remove from Site any person who is in contravention of the EMPr, and if necessary, the Project Manager/Engineer can suspend the relevant part or all of the works, as required.

Note that penalties can be issued over and above costs that are incurred for the repair or rehabilitation of any environmental damage caused by the Contractor and all the parties over which they have responsibility. In this regard costs incurred by the Contractor in repairing or rehabilitating any environmental damage caused by non-compliance with the EMPr cannot be claimed in the Contract Bill, nor can any extension of time be claimed for such works.

Penalty amounts should be deducted from Certificate payments made to the Contractor. These funds must be kept separately and donated to a non-profit organisation that works in the environmental or conservation field. The Project Management Team must nominate such an organisation collectively.

9.3 Bonuses

The ECO together with the Project Manager/Engineer may consider a bonus system and/or environmental certificate award for teams or individuals that perform works in an environmentally responsible manner.

10 MEASUREMENT AND PAYMENT

The environmental control measures stipulated in this EMPr are deemed to be included in the rates tendered in the schedule of quantities provided with the tender documentation for the project.

11. REVIEW OF ENVIRONMENTAL MANAGEMENT PROGRAMME

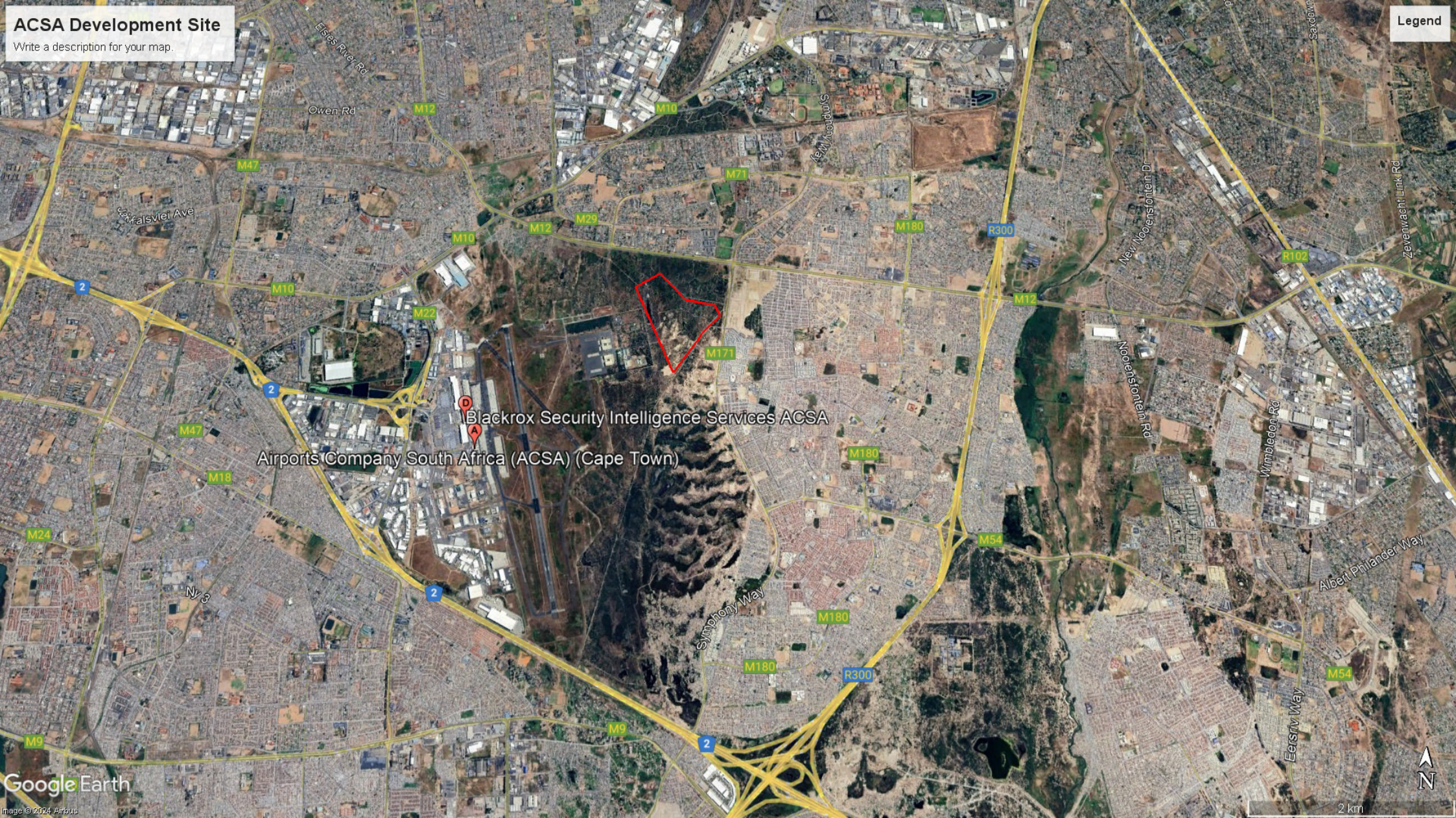
This EMPr will be reviewed on an annual basis to ensure that it remains relevant to the construction phase at all times.

APPENDIX A – LOCALITY MAP

ACSA Development Site

Write a description for your map.

Legend



APPENDIX B – SITE DEVELOPMENT PLAN

APPENDIX C – ENVIRONMENTAL AUTHORISATION (DATED 2024)