



The Proposed Expansion of the existing Klip Road cemetery on Erf 75570, a portion of the Remainder of Erf 75569, a portion of Erf 75562, and a portion of Erf 75567, Grassy Park, Cape Town, Western Cape Province

Environmental Management Programme

Reference: 1003114
Revision:0

Submission date: 2025/10/12

Document control record

Document prepared by:

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Document control							
Report title		Environmental Management Programme					
Document code		1002839 – Draft EMPr		Project number		1002839	
Client		City of Cape Town					
Client contact		Mr Siraaj Slamang Siraaj.Slamang@capetown.gov.za		Client reference		EMPr Klip Road Cemetery Expansion	
Re v	Date	Revision details/status		Author		Reviewer	Approver
0	2025-08-01	Draft EMPr		Tanushri Govender		Margaret Phiri	Xanté Eberhardt
Current revision			0				

Approval			
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	EMPR: Klip Road Cemetery Expansion
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Abbreviations

BA	Basic Assessment
BAR	Basic Assessment Report
CA	Competent Authority
CoCT	City of Cape Town
DEA&DP	Department of Environmental Affairs and Development Planning
DFFE	National Department of Forestry Fisheries and the Environment
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIRF	Environmental Incident Report File
ECO	Environmental Control Officer
EMPr	Environmental Management Programme
ESO	Environmental Site Officer
EWT	Endangered Wildlife Trust
GA	General Authorisation
GN	Government Notice
IDP	Integrated Development Plan
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NFA	National Forests Act (Act No. 84 of 1998)
NWA	National Water Act (Act No. 36 of 1998)
OHS	Occupational Health and Safety
OHSA	Occupational Health and Safety Act (Act No. 85 of 1993)
PPP	Public Participation Plan
SE	Site Engineer
SuDS	Sustainable Drainage Systems
WUA	Water Use Authorisation
WUL	Water Use Licence
WULA	Water Use Licence Authorisation

1 Introduction

1.1 Background

Zutari (Pty) Ltd (hereafter referred to as Zutari) has been appointed by the City of Cape Town (CoCT) as the independent Environmental Assessment Practitioner (EAP) to undertake the application for Environmental Authorisation (EA) under the National Environmental Management Act, No. 107 of 1998 (NEMA) and its 2014 Environmental Impact Assessment (EIA) Regulations (General Notice R982 of 2014).

This project entails the extension of the existing Klip Road Cemetery. The extension of the cemetery exceeds 2500 m², therefore the EA application follows the Basic Assessment (BA) process through the compilation of a Basic Assessment Report (BAR) and includes all required specialist studies, as identified by the National Environmental Screening Tool, to support the BAR.

The CoCT is facing a shortage of suitable and well-located burial space across the city. The Recreation and Parks Department is responsible for the provision of burial space within the CoCT. The department has identified certain parcels of land across the city which could potentially be developed into a cemetery. The Klip Road cemetery is one of the identified cemeteries to be expanded. The expansion of the cemetery is proposed in response to the need for more cemeteries in Cape Town, which has limited appropriate land available for such utilisation.

This Environmental Management Programme Report (EMPr) has been prepared in accordance with Section 24N(2) and (3) of NEMA and forms part of the BAR submitted to the Competent Authority (CA) for approval.

1.2 Project description

The existing Klip Road cemetery is located on erven RE/ 75569, RE/75568, RE/75563, RE/ 75566 and RE/ 77939, Grassy Park, Cape Town. The proposed extension is to take place on

- Erf 75570, located along Klip Road;
- a portion of Remainder Erf 75569 located along Victoria Road;
- a portion of Erf 75562 and
- a portion of Erf 75567

The project is referred to as the “Klip Road Cemetery Expansion”.

The proposed expansion of the cemetery will cover an area of approximately 49 633 m² (5 ha) and will comprise of typical cemetery infrastructures such as, inter alia:

- Burial blocks
- Internal roads to be used as pathways for pedestrians and for vehicle access
- Parking
- Guard house with controlled security access
- Church
- Ablution facilities
- Stormwater infrastructure
- Fencing

The cemetery extension might use some of the already existing infrastructure for the operational Klip Road cemetery.

Refer to Figure 1 indicating the location of the site and Figure 2 for the site layout plan. The enlarged site layout plan is attached as Annexure 3 for better legibility.



Figure 1: Klip Road Cemetery Expansion Locality Plan



Figure 2: Klip Road Cemetery Expansion Site Preliminary Layout Plan

2 Purpose of the EMPr

The EMPr has been included as an appendix to the BAR to provide a link between the impacts identified in the Basic Assessment Process (undertaken in terms of the EIA Regulations (Government Notice no. R. 982 of 2014) and the actual environmental management on the ground during project implementation and operation. It is highly unlikely that the cemetery would be decommissioned in future, and as such, this EMPr does not include mitigation measures relating to decommissioning. The purpose of this document is to provide for environmental management throughout the various life-cycle stages of the proposed development, including:

- ▶ Planning and design;
- ▶ Pre-construction and construction; and
- ▶ Operation.

The EMPr is a working document which the proponent (the holder of the EA for the project, if granted) and any of their consultants and contractors must refer to during implementation phases of the project and against which their environmental performance must be appraised.

Note that this EMPr should remain flexible to accommodate changes in project planning. However, the Department of Environmental Management and Development Planning (DEA&DP) must be notified of any significant changes or deviations through the appropriate EMPr amendment procedures outlined in the EIA Regulations, 2014. Such notification must include motivation/justification for the deviation and provide DEA&DP the opportunity to review and comment on the amended conditions of the EA and the EMPr. Significant deviations may require an amendment to the EA, which involves following a specific set of procedures outlined in Regulations 27 – 33 of the EIA Regulations, 2014.

3 Legal requirements for an EMPr

Appendix 4 of the NEMA EIA Regulations 2014 (as amended) specifies the requirements of an EMPr. The table below serves as a guide to how the requirements detailed in Appendix 4 have been adhered to:

Table 1: Requirements of an Environmental Management Programme (EMPr) as detailed in Appendix 4 of the NEMA EIA Regulations 2014 (as amended).

Fines	Requirement	Reference
1(a)	(i) details of the EAP who prepared the EMPr; and	Section 4.3
	(ii) details of the expertise of that EAP to prepare an EMPr, including a curriculum vitae	Annexure 1
1(b)	a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 1.2 and Section 2
1(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;	Section 1.2 and Annexure 2
1(d)	a description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development, including -	Sections 4, 5 & 6
	(i) (i) planning and design;	Section 5
	(ii) (ii) pre-construction activities;	Section 5
	(iii) (iii) construction activities;	Section 5
	(iv) (iv) rehabilitation of the environment after construction and, where applicable, post closure;	Sections 5 & 6

	(v) (v) where relevant, operational activities;	Section 5
1(e)	a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d)	Sections 5 & 6
1(f)	a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to -	Sections 5 & 6
	(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;	Sections 5 & 6
	(ii) comply with any prescribed environmental management standards or practices;	Sections 5 & 6
	(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and	N/A
	(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	N/A
1(g)	The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Sections 5 & 6
1(h)	the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f)	Sections 5 & 6
1(i)	an indication of the persons who will be responsible for the implementation of the impact management actions;	Sections 5 & 6
1(j)	the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Sections 5 & 6
1(k)	the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Sections 5 & 6
1(l)	a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 4
1(m)	an environmental awareness plan describing the manner in which -	Section 5
	(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and	Section 5
	(ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	Section 5
1(n)	any specific information that may be required by the competent authority.	None to date.

The Department of Environmental Affairs & Development Planning's (DEA&DP¹) *Guideline for Environmental Management Plans* (2005) aims to inform and guide the preparation and implementation of EMPs. The requirements outlined within the guideline, as well as the requirements specified in Appendix 4 of the EIA Regulations 2014 (as amended) (Table 1 above) have been considered in compiling this document. The DEA&DP guideline defines EMPs as:

“an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the project are enhanced”

The EMP must address the potential environmental impacts of the proposed activity on the environment throughout the project life-cycle including an assessment of the effectiveness of monitoring and management arrangements after implementation. The Department requires that the EMP be submitted together with the Assessment Report so that it can be considered simultaneously.

This document should be seen in an iterative context allowing for amendments throughout the life-cycle of the project, allowing for adjustments as new information is made available, unforeseen situations arise or conditions warrant adaptation.

Sections 24N (2) and (3) of the NEMA listing the requirements of an EMP are given in Table 2.

Table 2: Section 24N (2) and (3) of the NEMA, listing the requirements of an EMPr.

24N.(2)	<i>the environmental management programme must contain-</i>
(a)	<i>information on any proposed management, mitigation, protection or remedial measures that will be undertaken to address the environmental impacts that have been identified in a report contemplated in subsection 24(1A), including environmental impacts or objectives in respect of –</i>
	<i>(i) planning and design;</i>
	<i>(ii) pre-construction and construction activities;</i>
	<i>(iii) the operation or undertaking of the activity in question;</i>
	<i>(iv) the rehabilitation of the environment; and</i>
	<i>(v) closure, where relevant.</i>
(b)	<i>details of –</i>
	<i>(i) the person who prepared the environmental management programme; and</i>
	<i>(ii) the expertise of that person to prepare an environmental management programme</i>
(c)	<i>a detailed description of the aspects of the activity that are covered by the draft environmental management plan;</i>
(d)	<i>information identifying the persons who will be responsible for the implementation of the measures contemplated in paragraph (a);</i>
(e)	<i>information in respect of the mechanisms proposed for monitoring compliance with the environmental management programme and for reporting on the compliance.</i>
(f)	<i>as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and</i>
(g)	<i>a description of the manner in which it intends to</i>
	<i>(i) modify, remedy, control, or stop any action, activity or process which causes pollution or environmental degradation;</i>
	<i>(ii) remedy the cause of pollution or degradation and mitigation of pollutants; and</i>
	<i>(iii) comply with any prescribed environmental management standards or practices.</i>
(3)	<i>the environmental management programme must, where appropriate-</i>
(a)	<i>set out time periods within which the measures contemplated in the environmental management programme must be implemented;</i>
(b)	<i>contain measures regulating responsibilities for any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of prospecting or mining operations or related mining activities which may occur inside and outside the boundaries of the prospecting area or mining area in question; and</i>
(c)	<i>develop an environmental awareness plan describing the manner in which-</i>
	<i>(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and</i>
	<i>(ii) risks must be dealt with in order to avoid pollution or the degradation of the environment.</i>

3.1 NEMA Listed Activities

The NEMA provides the framework for environmental decision-making in the country, and specifically, the EIA Regulations (2014) serve as the instrument through which development decisions are made. South Africa has rigorous and comprehensive environmental legislation aimed at preventing degradation of the environment. Section 28(1) of NEMA places a “*duty of care and remediation of environmental damage*” on every person who causes, has caused, or may cause significant environmental degradation. This is a far-reaching obligation, and accordingly, those parties responsible for the degradation of the environment have a legal duty to avoid, minimise or mitigate such impacts.

This has resulted in a set of Listed Activities that can be triggered by developments of a certain nature and/or taking place in sensitive environments, e.g., close to watercourses. Table 3 below contains the listed activities applicable to this project.

Table 3 Potential listed activities and motivation in reference to potential applicability

Activity No(s):	Basic Assessment Activity(ies) as set out in Listing Notice 1	Describe the portion of the proposed development to which the applicable listed activity relates.
44	The expansion of cemeteries by 2 500 square metres or more.	The proposal is for the expansion of the Klip Road cemetery onto several surrounding ervens, covering approximately 49 633 m ² (5 hectares).
Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3	Describe the portion of the proposed development to which the applicable listed activity relates.
15	Activity 15 – The <u>transformation of land bigger than 1000 square metres</u> in size, to residential, retail, commercial, industrial or institutional use, where, such land was <u>zoned open space</u>, conservation or had an equivalent zoning, on or after 02 August 2010. i. Western Cape i Outside urban areas, or ii. Inside urban areas: (aa) <u>Areas zoned for conservation use or equivalent zoning, on or after 02 August 2010;</u> (bb) A protected area identified in terms of NEMPAA, excluding conservancies; or (cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act as adopted by the competent authority	The extension is proposed on site that is approximately 49 633 square meters. According to available data from the CCT Map Viewer website, the properties under consideration is zoned Public Open Space 2. The proposed properties are currently degraded with no natural vegetation found on site.

3.2 National Water Act (NWA, 1998)

The Department of Water and Sanitation (DWS) is the custodian of South Africa's water resources and therefore assumes public trusteeship of water resources, which includes watercourses, surface water, estuaries, and aquifers. The National Water Act (Act No. 36 of 1998) (NWA) aims to protect water resources through:

- ▶ The maintenance of the quality of the water resource to the extent that the water resources may be used in an ecologically sustainable way;
- ▶ The prevention of the degradation of the water resource;
- ▶ The rehabilitation of the water resource;
- ▶ A watercourse means;
 - A river or spring;
 - A natural channel in which water flows regularly or intermittently;
 - A wetland, lake or dam into which, or from which, water flows; and
 - Any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

No activity may take place within a watercourse unless it is authorised by the DWS. According to Section 21 (c) and (i) of the NWA, a WUL is required for any activities that impede or divert the flow of water in a watercourse or alter the bed, banks, course or characteristics of a watercourse. The regulated area of a watercourse for section 21(c) or (i) of the NWA water uses means:

- a. *The outer edge of the 1 in 100-year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam;*

- b. *In the absence of a determined 1 in 100-year flood line or riparian area, the area within 100 m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench (subject to compliance with section 144 of the Act); or*
- c. *A 500 m radius from the delineated boundary (extent) of any wetland or pan.*

Water uses that occur within the regulated area of a watercourse must be assessed using the DWS Risk Assessment Matrix prescribed in GN R 509 of 2016² to determine whether activities may be approved under a General Authorisation (GA) or Water Use Licence (WUL):

- ▶ GA – this applies to Low-risk activities according to the Risk Assessment Matrix, or
- ▶ WUL – this applies to Medium or High-risk activities according to the Risk Assessment Matrix.

Although the proposed development is located within 500 metres of a watercourse, it has been classified as a low-risk activity with no significant direct impact on groundwater or surface water resources. The DWS has concluded that the project does not constitute a water use under the NWA and therefore does not require a Water Use Licence (WUL). However, a General Authorisation (GA) has been issued for the proposed project.

4 Project Team

The City of Cape Town is the applicant for the application and landowner for the proposed development erven.

4.1 Applicant

CITY OF CAPE TOWN	
Civic Centre, 12 Hertzog Boulevard Cape Town 8001	Siraaj Slamang Tel: (021) 400 3281 (landline) Email: Siraaj.slamang@capetown.gov.za

4.2 Competent authority

This EMP is being submitted to the following competent authority for authorisation.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING (DEA&DP)
Department Environmental Affairs and Development Planning City of Cape Town Civic Centre 12 Hertzog Boulevard Cape Town 8001

4.3 Environmental Assessment Practitioner

Zutari has selected a team of experienced specialists and multi-disciplinary practitioners to execute this project in a professional manner. Please refer to Table 1 2 - Table 1 5 for the project team. Full CVs of

² General Authorisation in terms of Section 39 of the National Water Act, 1998 (Act No. 36 of 1998) for Water Uses as defined in Section 21(c) or Section 21(i).

the EAP and Project Management team are available in Annexure A. Specialist CVs are included in the respective specialist reports in Annexure D.

Ms Xanté Eberhardt Registered EAP (Reg no. 2021/3103)	XANTÉ EBERHARDT is a professional registered environmental assessment practitioner and project manager with more than 14 years' experience. Xanté has completed several project management courses to enhance her project management skills and has played an integral role in the project management of several projects. Activities have included report writing, client liaison, budget, resource management and time management. She has successfully applied for environmental authorisations for several projects, as well as assisted with the motivation for non-environmental impact assessment (EIA) letters from the relevant authorities. She has also completed a course in procurement and was responsible for handling all procurement for Zutari's North-West offices, where her duties included tender compilation and evaluation for clients, as well as tendering for new projects. Xanté obtained a Bachelor of Science Honours in Environmental Sciences and Management from the North-West University in 2009. She is also an Environmental Assessment Practitioner (EAP) with the Environmental Assessment Practitioners Association of South Africa (EAPASA) and a member of the International Association for Impact Assessment South Africa (IAIAsa). In 2013, Xanté was elected to be on Zutari's Skills Development and Employment Equity Forum.
Ms Margaret Phiri Registered EAP (Reg no. 2023/7270)	TISETSO MARGARET PHIRI is a professional registered environmental assessment practitioner with 6 years of experience in environmental consulting and an environmental control officer related projects. She has been appointed as an environmental consultant and also has expertise in undertaking Integrated Water Use License Applications (IWULA). Margaret has expertise in environmental impact assessments (EIAs); water use license applications (WULAs); environmental management programmes (EMPrs); environmental monitoring, compliance and enforcement, and related water quality monitoring (ground and surface); environmental and social impact assessment (ESIAs); environmental and social due diligence (ESDD); Part 1 and Part 2 Environmental Authorisation (EA) amendment applications; and Water Use Licence (WUL) amendment applications. She also has academic and corporate experience in Geographical Information System (GIS). Margaret holds a Master of Science (MSc) in Environmental Management from the University of Johannesburg. She is registered as a professional Environmental Assessment Practitioner (EAP) with the Environmental Assessment Practitioners' Association of South Africa (EAPASA registration no. 2023/7270) and as a professional Natural Scientist with the South African Council for Scientific Natural Professions (SACNASP registration no. 123524). Additionally, she is a member of the International Association for Impact Assessment South Africa (IAIAsa member no. 7608).

	and the Institute of Waste Management of Southern Africa (IWMSA member no. 10124825).
Ms Tanushri Govender Registered Candidate EAP (Reg no. 2024/8429)	TANUSHRI GOVENDER has approximately 2 years of experience as an environmental scientist at Zutari. Tanushri has worked on several projects including Water Use Licence Applications (WULAs), Basic Assessment Reports (BARs), Maintenance Management Plans (MMPs) and has acted as Environmental Control Officer on several projects. Tanushri obtained a Master of Science in Environmental and Water Science from the University of the Western Cape in 2022. She is registered as a Candidate Environmental Assessment Practitioner (EAP) with the Environmental Assessment Practitioners Association of South Africa (EAPASA).

5 Project Phasing

5.1 Pre-construction

The pre-construction phase includes activities such as:

- ▶ Pre-construction monitoring;
- ▶ Appointment of the contractor/consultants;
- ▶ Contractor develops code of conduct for employees;
- ▶ Appointment of an Environmental Control Officer (ECO) and the relevant contractors and consultants;
- ▶ Pre-construction environmental workshop/induction training of all employees;
- ▶ Site demarcation;
- ▶ Establishment of a site camp;
- ▶ Demarcation of areas such as fuel areas and plant rescue (when applicable);
- ▶ Finalising of detailed design;
- ▶ Finalisation of any additional management and monitoring plans.

5.2 Construction

The construction phase commences with earthworks and thereafter includes all activities relating to the construction of the proposed development.

This phase includes commissioning contractors/subcontractors to site; establishment of internal access roads and construction roads; transportation of equipment; materials and components to the site; establishment of workshops, materials storage areas, waste areas, temporary laydown areas and equipment camps; earthworks and bulk services construction (where required).

5.3 Operation (includes rehabilitation of the environment after construction)

The operational phase commences when the proposed development is used for its intended purposes.

Site rehabilitation will be implemented to prepare the site for operations. Construction materials, equipment and waste will be removed from the site and rehabilitation will take place. Some of the

rehabilitation will be undergoing throughout the operation phase, for example revegetation of cleared areas and maintenance of landscaped areas.

5.4 Decommissioning

The decommissioning phase refers to the demolition of the development, should that ever be necessary. As mentioned, it is highly unlikely that the cemetery would be decommissioned in future, and as such, this EMPr does not include mitigation measures relating to decommissioning.

Decommissioning usually takes place many years after the commencement of the operational phase. Should the cemetery reach closure, it is essential for the applicant or the person responsible for environmental management and compliance monitoring at that time to contact the CA to determine the legal requirements before starting the decommissioning process.

6 Implementation of the EMPr

6.1 Roles and responsibilities during the construction phase

6.1.1 Applicant / Proponent

The Proponent/Applicant refers to the holder of the Environmental Authorisation (EA) who will assume overall responsibility for the administration and implementation of the EA and EMPr. The Proponent will be responsible for the following tasks, amongst others:

- ▶ Ensure that all conditions of approval as contained in the EA are adhered to;
- ▶ Ensure that the requirements as set out in this EMPr are adhered to and implemented;
- ▶ Ensure all authorisations, permits, consents are in place and any other legal requirements are settled before any action is undertaken that requires these to be in place;
- ▶ Provide resources and appoint external contractors as required for the implementation of this EMPr;
- ▶ Review and update the EMPr to include relevant conditions of the EA (if applicable) or where necessary;
- ▶ Provide all principal contractors working on the project with a copy of this EMPr as part of tender contract documentation to allow the contractors to cost for their requirements within their respective construction contracts; and
- ▶ Ensure close liaison with local municipal managers, local councillors and other stakeholders involved in socio-economic development to ensure that the project is integrated into wider socio-economic development strategies and plans for the area.

6.1.2 Site Engineer (SE) and/or Contract Manager

The term “Engineer” in the context of the EMPr refers to the company or companies so named in the Contract Data, whose function it is to administer the Contract as an agent to the Proponent. The term “Engineer” may also refer to “Employer’s Agent” or “Project Manager” depending on the construction contract.

The Contract Manager is a natural person nominated by the Engineer, who shall observe the execution of the Works, examine and test materials and workmanship, and deliver and receive communications to/from the Contractor. “Contract Manager” may also refer to “Employer’s Agent Representative” or “Supervisor”, depending on the construction contract.

The role of the Site Engineer and/or Contract Manager, pertaining to environmental matters, may include:

- ▶ Acting as an agent to the Proponent on matters relating to the environment, and compliance with the EMPr;
- ▶ Ensure compliance and monitoring of all Health, Safety and Environmental aspects as they relate to the project and in accordance with the relevant legislation.
- ▶ Receive and review ECO Reports, ensure that issues raised in these reports are addressed and report them to management as required;
- ▶ Approving, in consultation with the ECO, the Contractor's Method Statements required in terms of the EMPr;
- ▶ Ensuring that the Contractor is well-versed in the contents of the EMPr and that their conduct is proactive and effective in terms of environmental management and protection measures;
- ▶ Ensuring the Contractor is aware of its responsibilities in terms of the EMPr, including (but not limited to):
 - Appointing an environmental officer/s to assist with the EMPr implementation.
 - Maintaining a register of public complaints, a record of how these are responded to and the timeframe provided for this.
 - Supporting the ECO in their role and responsibilities.
- ▶ Issue instructions to cease work where such an instruction is warranted; and
- ▶ Issuing relevant fines or disciplinary action that may be applicable.

6.1.3 Contractor

The Contractor must ensure that all of its sub-contractors, employees, etc., are fully aware of the environmental issues detailed in this EMPr. The Contractor shall liaise closely with the SE/Contract Manager and the ECO and must ensure that the works on site are conducted in an environmentally sensitive (prevent actions that may cause environmental harm) and safe manner and in accordance with the requirements of the EMPr, at all times.

The contractor must ensure compliance of all site personnel/visitors to the EMPr and other conditions of the EA, where relevant.

6.1.4 Environmental Control Officer (ECO)

The Applicant shall appoint a suitably qualified and independent Environmental Control Officer (ECO) to monitor the Contractor's compliance in terms of this EMPr and the conditions of the EA and address environmental site issues. The ECO shall work in close relation with the Contractor's appointed Environmental Site Officer (ESO). The ECO must be a suitably qualified (National Diploma / Degree in Natural Science or an equivalent qualification), independent environmental manager, with adequate environmental knowledge to understand and monitor the implementation of the EMPr and must be knowledgeable in licencing and permitting requirements (issued and required) applicable to the site.

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

- ▶ Liaison with the Applicant/Proponent, Site Engineer and/or Contract Manager and DEA&DP;
- ▶ Conduct environmental induction training with the contractor prior to commencement of work;
- ▶ Undertake routine monitoring of the Contractor's activities for compliance with the various environmental requirements contained in the EMPr, any specific conditions of authorisation contained in the EA, and per the ECO Schedule in Section 6.2.1, including:
 - Compilation of ECO Reports on the findings of the inspections, as well as on any emergency or unforeseen situations in which the expertise of the ECO has been consulted; and

- Submission of ECO reports to the project team, DEA&DP and the Applicant/Proponent (or any other authority/body deemed necessary by the project team);
- ▶ Attendance of relevant site meetings with the engineer, contractor and other relevant project team members at least once a month or as may be required, depending on circumstances or any issues that need to be discussed;
- ▶ Conduct and/or oversee environmental induction and awareness training with the Contractor and staff;
- ▶ Monitoring compliance with the various environmental conditions/requirements contained in the EA and EMPr (refer to Section 6.2 for Compliance Monitoring);
- ▶ Review the Contractor's Method Statements (from an environmental perspective) required in terms of this EMPr, prior to the proposed activities taking place;
- ▶ Encourage the proactive and effective implementation and management of environmental protection measures;
- ▶ Monitoring that the appropriate remedial action is implemented in the event of non-compliance and capturing proof of such in the subsequent ECO Report;
- ▶ Monitor that a register of public complaints is maintained by the Contractor and that any and all public comments or issues are appropriately and timeously reported and addressed;
- ▶ Recording and reporting of environmental incidents;
- ▶ Consult with the SE/Contract Manager and Contractor should any non-compliances meriting a potential 'stop-work' instruction be observed;
- ▶ Providing ad-hoc environmental advice, including opinions on environmental legal requirements, to the Proponent and the Contractor regarding issues that may arise during the Contract; and
- ▶ Assist the contractor with obtaining other environmental permits, should any be outstanding.

6.1.5 Competent Authority

DEA&DP is the competent authority responsible for issuing the EA and compliance with the conditions of authorisation contained in the EA and relevant environmental legislation. Its responsibilities include, amongst others:

- ▶ Overall enforcement of the EA and its conditions of authorisation;
- ▶ Review the EMPr and any required updates or revisions;
- ▶ Undertake compliance inspection site visits, if deemed necessary;
- ▶ Review ECO and audit reports;
- ▶ Review incident reports; and
- ▶ Enforcement of the legal mechanisms, should any contraventions of the EMPr or EA occur.

6.2 Compliance Monitoring & Reporting

6.2.1 ECO Schedule

Routine Compliance Inspections and Reports:

The Contractor shall allow the ECO (and any officials from DEA&DP, should the need arise) access to the site for the purposes of compliance monitoring. The ECO shall undertake routine monitoring of the Contractor's activities for compliance with the various environmental requirements contained in the EMPr, including but not limited to:

- ▶ Undertaking routine compliance inspections monthly for the duration of construction, or at the defined intervals as provided in the conditions of the EA if these are more frequent.
- ▶ Documenting the findings of each of the inspections. This may take the form of a diary entries, a checklist, a report or similar, but must include dated photographic evidence of any identified

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- issues (where possible). Any findings of non-compliance must be clearly communicated to the Contractor, together with timeframes for the implementation of remedial action and close out.
- ▶ Weekly ECO inspection visits during the initial clearing and earthwork activities and a report that summarises the findings of the compliance inspections. The weekly inspections can be moved to monthly at the discretion of the ECO, but it is anticipated that weekly inspections would be required for the first month of clearing and earth moving activities.
 - ▶ Monthly site visits during the construction period and a report that summarises the findings of the compliance inspections undertaken, as well as progress on any remedial action that was required during the month in question. In the event of non-compliance, the report may include:
 - Relevant/supporting documentation or evidence of the non-compliance (e.g. minutes of any meetings held to discuss the non-compliance, email/written correspondence on the matter, dated photographic evidence);
 - Remedial action required to remedy non-compliance or prevent repeat occurrences, including responsible persons and deadlines for such action;
 - Dates of eventual compliance or close-out by the Contractor on previous non-compliance findings.
 - ▶ Making reports available to the Contract Manager and the Contractor, and to DEA&DP on request.
 - ▶ Participating in at least one monthly progress meeting with the project team, including the Contract Manager, the Contractor, and the ESO (or their representatives), or submitting monthly reports as required.

Environmental Emergencies, Incidents or Events:

Should there be environmental emergencies or incidents, then the ECO may also elect to inspect the site. The ECO shall ensure that any entries in the Environmental Incident Report File and Complaints Register are tabled at the monthly progress meeting and appropriately addressed.

6.2.2 Disciplinary Action, Penalties and Fines

Where a transgression occurs for any reason (including negligence, disregard for the requirements of the EMP, or ignoring instruction from the ECO, SE/Contract Manager or Competent Authority), this could result in disciplinary action (e.g. a time penalty or a monetary fine, withholding payment certificates if in accordance with the terms of Contract, or legal action). The terms of the Contract shall include mechanisms for disciplinary action (such as the issuing of penalties and fines), and the recovery of any monies due (including for any remedial costs where these were borne by a third party). The construction terms of the contract will dictate the terms of any disciplinary actions.

6.3 Environmental Incident Report File

The Contractor shall maintain an Environmental Incident Report File (EIRF) on site to document environmental incidents, emergencies or accidents occurring as a result of the construction activities, and any resulting action taken to remedy the harm, and/or prevent repeat occurrences.

- ▶ The EIRF must have numbered pages. Any missing pages must be accounted for by the Contractor.
- ▶ Entries made shall be tabled during monthly site meetings.
- ▶ The EIRF shall be made available to the SE/Contract Manager, the ECO, the Project Company, and/or any authority at any time if requested.

The EIRF must document:

- ▶ The exact nature and root cause of the environmental incident;
- ▶ Evidence (e.g. photos) of the nature of the incident;
- ▶ The management team or contractor responsible for the activity;

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- ▶ The timing and duration of the event;
 - ▶ Witnesses to the event; and
 - ▶ The exact response action applied, including a list of those notified of the incident.

The Contractor shall ensure that the environmental incidents and resulting actions are recorded in the EIRF and that these are brought to the attention of the ECO as soon as practically possible. The procedure for dealing with an environmental incident shall include that:

- ▶ The EIRF is to be filled in by the ESO in the event of an environmental incident or emergency.
- ▶ The ESO is to immediately inform the Contractor and ECO of any environmental emergency for a decision on remedial action. However, the inability of the ESO to contact the Contractor or ECO shall not be a reason for withholding immediate remedial action where the ESO judges this to be necessary.
- ▶ The ECO shall document all incidents/emergencies in the monthly compliance report, together with the remedial action taken, as described in the EIRF.
- ▶ The ECO shall monitor that the necessary procedures and responses are followed by the Contractor to close out any entries in the EIRF within the specified timeframe.
- ▶ Once an incident or emergency has been adequately addressed to the satisfaction of the ECO, the ESO may close out the entry in the EIRF.

6.4 Complaints Register

The Contractor shall keep a Complaints Register on site to allow the general public to document any comments on or complaints regarding the activities of the site:

- ▶ The Complaints Register must have numbered pages. Any missing pages must be accounted for by the Contractor.
- ▶ Entries made shall be tabled during monthly site meetings.
- ▶ The Complaints Register shall be made available to the SE/Contract Manager, the ECO, the Project Company, and/or any authority at any time if requested.

The Complaints Register shall include a section for the documentation of the action taken to address the complaint. The procedure for dealing with public complaints shall include:

- ▶ All complaints shall be investigated, and a response shall be given to the complainant within 28 calendar days;
- ▶ The ESO shall document the action taken to investigate and address (if required) the complaint, as well as the response given (including timeframes);
- ▶ The ECO shall monitor that the complaints have been responded to; and
- ▶ The ECO shall ensure that any public issues have been brought to the attention of the relevant authorities by the Contractor if so required, and appropriately addressed.

6.5 Method Statements

An environmental Method Statement is a written submission by the Contractor to the SE/Contract Manager, to the satisfaction of the ECO, in response to a condition of approval and/or a requirement of the EMPr, or a request by the ECO or SE/Contract Manager. The Method Statement describes the plant, materials, labour and method that the Contractor proposes to use to carry out an activity, in such detail that the SE/Contract Manager and ECO are able to assess whether the Contractor's proposal is in accordance with the Scope of Work and/or will produce results in accordance with the EMPr.

Method Statements are required in terms of this EMPr (either specified below, or for any activities that are proposed as variations to the standard construction practices detailed or referred to in the Contract Documents, or for any activities requiring special attention as specified in this EMPr and/or requested

by the ECO or SE/Contract Manager as well as any requirements of permits or licenses such as a Water Use License).

The Contractor shall not commence any activity until the Method Statement in respect thereof has been approved and shall, except in the case of emergency activities, allow a period of one week for consideration of the Method Statement by the SE/Contract Manager and ECO. Changes may be requested if the proposal does not comply with the specification or if, in the reasonable opinion of the SE/Contract Manager and/or ECO, the proposal may result in, or carries a greater than reasonable risk of, damage to the environment more than that permitted by the EMPr.

Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the Contract.

Approved Method Statements shall be readily available on the site and shall be communicated to all relevant personnel. The Contractor shall carry out the works in accordance with the approved Method Statement.

If changes to the original approved Method Statements are proposed, amended Method Statements shall be submitted to the ECO for approval.

6.5.1 Required Method Statements

The following required Method Statements (as relevant and if not already required in terms of the Contract) are to be provided and approved prior to the Contractor's arrival on site:

- ▶ **Emergency preparedness** – which shall address procedures and equipment for medical emergencies, runaway fires, environmental incidents, site evacuation and staff assembly.
- ▶ **Site establishment** – which shall address Contractor's camp/s, lay-down or storage areas, site access and required infrastructure.
- ▶ **Ablution facilities** – which shall address washing facilities (including methods for managing grey water) and toilets (including the number of, location and method of securing portable/chemical toilets to the ground (if not trailer versions), the proposed service providers to remove and dispose of resultant waste and their service schedule).
- ▶ **Hazardous Chemical Substances** (as defined in the Regulations for Hazardous Chemical Substances in GN 179 (25 August 1995)), hydrocarbon substances (which include all fuels and oils) or dangerous goods to be used, which shall address the storage, handling and disposal procedures of the materials.
- ▶ **Hydrocarbon spills** – which shall address the procedures, reporting and training required to address accidental spills.
- ▶ **Concrete Mixing and batching plants** – which shall address locations, bunding, and cement-laden water management.
- ▶ **Waste Management** – which shall address the type of waste anticipated; the storage, handling, reuse, recycling and/or disposal procedures proposed, together with the facilities proposed to receive such waste.

The following required Method Statements (where relevant and if not already required in terms of the Contract) must be provided at least 14 calendar days prior to the commencement date of the subject works or activity:

- ▶ No-Go area demarcation and access control within the approved development site/servitudes;
- ▶ Workshop and plant servicing;
- ▶ Vegetation clearing – including methods and areas for clearing and felling;
- ▶ Stockpile management – including proposed locations and erosion management; and
- ▶ Working in watercourses or wetlands - access, crossings, dewatering activities.

6.5.2 Additional Method Statements (on request)

Method Statements may also be requested by the ECO or SE/Contract Manager as the need arises. The Contractor shall submit additional Method Statements that arise within such reasonable time as the ECO or SE/Contract Manager shall specify.

6.5.3 Content

Method Statements shall include the following:

- Who:** Nominated representative and their assigned responsibilities (in relevant instances).
- What:** A brief description of the activity to be undertaken (and in relevant instances, the proposed variation from or deviation to the Contract Documentation, or this EMPr).
- How:** A detailed description of the work, methods, materials, or process proposed (and in relevant instances any reinstatement/rehabilitation requirements).
- Where:** A description/sketch map of the locality of work or layout proposed.
- When:** The sequencing of actions with due commencement dates and completion date estimates.

The Contractor (and, where relevant, applicable subcontractors) must sign Method Statements to confirm their understanding of its requirements and commitment to their implementation.

6.6 Environmental Awareness training and staff induction

The Contractor shall ensure that all staff receive site environmental awareness and staff induction training in appropriate languages, as well as any refresher courses, pertaining to their role on the project, including:

- ▶ All personnel (including subcontractors) shall receive induction training on the Code of Conduct and project-specific environmental awareness relating to the conditions of the EA and EMPr prior to commencing construction.
- ▶ All personnel shall receive induction training on the emergency procedures to be followed in the event of an emergency (e.g. staff assembly and site evacuation, medical emergencies, the locations and basic use of fire extinguishers, first aid kits and spills kits, and the use of safety equipment (where relevant)).
- ▶ All personnel (including subcontractors) shall receive regular toolbox talks and refresher courses on the induction material, and project-specific environmental awareness for the duration of the contract, including “lessons learnt” to prevent recurring issues.

The SE/Contract Manager and Contractor will conduct environmental induction training with personnel and must address, amongst others:

- ▶ Explanation of the environmental process that preceded the EA and why it was important to conduct the environmental process;
- ▶ Explanation of the conditions of authorisation contained in the EA;
- ▶ The sensitive environmental features located within and around the site;
- ▶ The reasons why mitigation measures are required and the benefits of implementing these measures;
- ▶ The EMPr and its contents (e.g. no-go areas, animals, littering, etc.); and
- ▶ The role of the ECO.

6.7 Temporary site closure

If the site is closed for a period exceeding one week during the construction or decommissioning phase, the Contractor, in consultation with the ECO, shall carry out the following checklist procedure.

- ▶ Hazardous materials stores
 - Outlet secure/locked
 - Bund(s) empty (where applicable)
 - Fire extinguishers serviced and accessible
 - Emergency and responsible personnel contact details are displayed on site
 - Adequate ventilation in hazardous substance stores
- ▶ Safety
 - All trenches and manholes secured and closed
 - Fencing and barriers in place
 - Material packs (e.g. pile of pipes) secured
 - Access gates locked and secured
- ▶ Erosion
 - Wind and dust mitigation in place
 - Slopes and stockpiles at a stable angle
 - Open soil re-vegetated or stabilised
- ▶ Water contamination and pollution
 - Cement and hazardous materials stores secured
 - Toilets are empty and secured
 - Refuse bins empty and secured
 - Drip trays empty and secured (where possible)
 - Structures vulnerable to high winds are secured

6.8 Record Keeping

All records and documents relating to the implementation of this EMPr shall be retained, shall be easily retrievable for the duration of the Contract, and shall be filed by the Contractor for a minimum of 12 months after cessation of activities. These records and documents must be made available to the SE/Contract Manager, ECO and/or Competent Authority upon request.

These records and documents shall include (but shall not be limited to) the most recent versions of:

- ▶ The EA.
- ▶ Permits, licenses and registrations;
- ▶ The EMPr and any associated management plans;
- ▶ EIRF and Complaints Register;
- ▶ Approved Method Statements;
- ▶ Staff induction and environmental training material and attendance registers;
- ▶ Checklists for temporary site closure;
- ▶ Monthly compliance reports prepared by the ECO;
- ▶ Incident reports;
- ▶ Certificates of waste disposal;
- ▶ Disciplinary action (including time penalties or monetary fines) for environmental transgressions; and
- ▶ Independent Environmental Audits.

7 Environmental Impacts

7.1 Impacts assessed as part of the BAR Process

During the BAR process, the various specialists identified several impacts to be assessed and proposed mitigatory measures to manage the various potential impacts. The outcome and intent of the impact management recommendations, i.e., the mitigation measures, are to reduce the level of impact on the environment to acceptable levels. The preferred method would be to avoid impacts. However, this is not always possible.

The various identified impacts were assessed as part of the BAR and were assigned an impact rating (significance) for both pre- and post-mitigation.

Table 4: Summary of potential impacts identified and their respective significance ratings pre- and post-mitigation

Aspect	Impact	Pre-mitigation	Post-mitigation
Pre-construction			
No impacts have been identified for the pre-construction phase.			
Construction			
Soil disturbance and instability	Site preparation activities may disrupt soil and vegetation, increasing erosion, topsoil loss, and the spread of invasive species, while improper grave excavations could compromise ground stability.	Low (-)	Negligible (-) / Very low (-)
Traffic congestion	Construction vehicles and delivery trucks may contribute to short-term congestion along Klip Road and nearby intersections, especially during peak hours.		
Landscape and Visual	The presence of construction signs, vehicles and equipment will result in poor visual impacts on site.	Medium (-)	Negligible (-) / Very low (-)
Socio-economic	Noise and dust generated by construction vehicles and activities could inconvenience to surrounding community.	Low (-)	Negligible (-) / Very low (-)
No-go	Inclusive of all the above aspects.	Neutral	Neutral
Operation			
Terrestrial	Alien invasive species spread and establishment.	Low (-)	Negligible (-) / Very low (-)
Traffic flow	High traffic volumes during peak funeral times (especially Saturdays) can result in road congestion and limited parking availability.	Medium (-)	Low (-)
Stormwater	Risk of stormwater run-off due to impermeable surfaces.	Low (-)	Negligible (-) / Very low (-)
Groundwater contamination	Contamination of Groundwater due to the Decomposition of Human Remains.	High (-)	Medium (-)
	Groundwater contamination due to the addition of paints and varnishes to the environment and corrosion	High/ Medium (-)	Medium (-)
	Potential leaching of chemicals used in the embalming process (e.g. formaldehyde and associated compounds) into the groundwater.	High (-)	Medium (-)

7.2 Specialists Environmental Impact Statements

7.2.1 Aquatic

The aquatic compliance assessment confirms that the proposed site does not intersect any watercourses or wetlands, indicating that there are no direct triggers under the National Environmental Management Act (NEMA) or the National Water Act (NWA). The development footprint is located outside the 100-metre buffer zone of the Diep River. While it lies within the broader 500-metre regulated buffer zone for wetlands, its physical separation from surrounding features, such as the floodplain and the depression associated with Princess Vlei, together with the already disturbed condition of the site, suggests a low potential for environmental impact.

Nevertheless, standard mitigation measures for both construction and operational phases are recommended as part of good environmental practice. The key environmental considerations relate to stormwater, dust, and waste management, all of which are regarded as low in significance and readily mitigable. These findings have guided the inclusion of appropriate stormwater management measures during construction to minimise environmental impacts.

7.2.2 Terrestrial biodiversity

The following results were observed:

- There are no CBAs or ESAs overlapping the project site;
- Project area is not located in a PA or NPAES focus area;
- Project area is not located in an important bird area; and
- The project area is located broadly in a nationally threatened ecosystem, namely the Cape Flats Sand Fynbos which is considered critically endangered.

Despite its location within a threatened vegetation type, the site visit confirmed that the site is already highly degraded and altered, which significantly reduces its ecological value. As a result, the proposed cemetery expansion is expected to have an insignificant impact on terrestrial biodiversity.

7.2.3 Landscape and Visual Impact Assessment

The findings of the Visual Assessment on the proposed development are as follows:

- Similar type of infrastructure on the adjacent site (extension of the existing cemetery). The proposed infrastructure is not a dominant and significant component in the landscape and blends in well with existing urban forms, colours and textures. It therefore achieves a visual congruence to the surrounding environment;
- The greatest negative landscape and visual impacts, albeit still minor – negligible will be during the construction phase which are temporary;
- The small visual envelope due to the nature of the development (a cemetery with no significant height);
- The dispersed dense tree stands, tree lined avenues and built infrastructure offer sufficient screening from most areas within the study area (except for residents residing directly next to the site). It is anticipated that no other sensitive stationary receptors will be directly affected;
- The greater Cape Flats area has historical and cultural significance; however, the specific site is derelict, and the extension of the existing cemetery will enhance the overall visual quality

within the immediate vicinity of the residential areas, especially while traveling along Prince George Drive;

- As per the DSDF the existing parcels of land can be categorised as underutilised vacant land and typical identified threats include illegal sand mining and dumping (especially in or near critical biodiversity areas) and illegal informal land occupation. The proposed extension of the cemetery can alleviate some of these pressures as the proposed reactivation of underused spaces will most likely prevent unesthetic and illegal land uses on the verge of Prince George Drive and Klip Road; and
- Due to the urban context long expansive views towards the site is limited.

The overall landscape and visual impact is expected to be minor positive and from a visual perspective it is not fatally flawed. The only negligible negative impact expected is during the construction phase and will be temporary.

7.2.4 Agriculture

The agricultural compliance statement found that the proposed development is acceptable because it leads to no loss of future agricultural production potential.

The agricultural assessment also disputes the high sensitivity classification of the assessed area by the screening tool and rates the entire assessed area as being of medium agricultural sensitivity.

Although the climate and terrain may allow for viable crop production, other factors constrain the potential of the site to practically deliver agricultural produce and therefore limit its agricultural production potential. These factors include:

- its location, which has been transformed by expanding urbanisation, leaves it surrounded largely by non-agricultural land uses;
- The fact that land use planning in the spatial development framework designates the site for non-agricultural use; and
- Municipal ownership of the land which would also discourage the necessary investment to establish cropland.

Therefore, it was concluded that the site will never be viably utilised for agricultural production and its potential is therefore assessed here as non-existent.

7.2.5 Groundwater

The findings from the groundwater impact assessment are as follows:

- The proposed cemetery expansion site is underlain by an unconfined intergranular aquifer composed of unconsolidated Quaternary sands.
- The aquifer is shallow, with fine- to medium-grained quartz-rich sands that exhibit high permeability and porosity, allowing rapid vertical infiltration and direct recharge from rainfall.
- The aquifer is highly vulnerable to surface contamination due to the absence of confining layers.
- Groundwater flow occurs generally from the north-east towards the south/southwest and west, discharging toward Princess Vlei, approximately 200 m southwest of the site.
- The high aquifer vulnerability and proximity to Princess Vlei create a tangible risk of contaminant migration from burial activities to groundwater and adjacent surface water.
- Groundwater levels measured at three piezometers ranged from 1.64 m to 2.8 m below ground level (mbgl) during June 2024, representing the deepest (dry-season) conditions.

In conclusion, the southern section near Princess Vlei, where groundwater levels are shallowest, has been excluded from the proposed expansion, while areas further north with slightly deeper groundwater have been retained for development. Although the hydrogeological conditions do not prohibit development, they necessitate the implementation of appropriate mitigation measures and burial depth controls. The final cemetery layout has been guided by these groundwater findings to ensure sustainable site suitability and minimal contamination risk. Overall, the risk to groundwater resources is assessed as medium, with the recommended mitigation measures expected to further reduce potential negative impacts.

7.2.6 Traffic

The traffic impact statement showed that:

- The proposed extension of the cemetery will generate a maximum of 77 trips on a Saturday;
- Existing access routes will be maintained and a new vehicular access route will be opened on Klip Road;
- There are 85 parking bays provided;
- There is adequate taxi route provision along roads in the vicinity of the development;

Considering that the extended portion of the cemetery will only generate 77 trips the impact the extension has on the road network is negligible. The existing road network has sufficient capacity to accommodate the additional trips.

7.2.7 Socio-Economic Impact

The socio-economic impact assessment found that the proposed expansion of Klip Road cemetery presents an opportunity to address both immediate and future burial needs. The project is expected to create several positive impacts during the construction and operational phases, i.e., local procurement, employment, household income, burial space, etc. However, there are potential negative impacts related to traffic, dust, and visual disturbances, which could affect the quality of life for local residents. These impacts can be carefully managed to ensure minimal disruption to the community.

The proximity to the existing cemetery allows for efficient utilisation of resources and infrastructure, minimizing the need for new construction and reducing potential environmental disruption. While site alternatives were not considered, due to the lack of suitable undeveloped City-owned land in the area, the proposed site aligns well with the city's broader spatial development goals.

Overall, the assessment concluded that the proposed development is seen as appropriate and feasible from a socio-economic perspective. The benefits of the expansion, including job creation, improved access to burial services, and better planning for future generations, outweigh the potential negative impacts. As such, the expansion of the Klip Road cemetery should be authorised, with appropriate mitigation measures.

8 Environmental Management and Mitigation

This chapter sets out the necessary practical mitigation measures to be undertaken to address the activities and potential impacts identified and assessed in the BAR. The sections below provide the mitigation measures for each project phase, i.e. pre-construction, construction, operation and decommissioning.

In the sections below, tables provide the following information:

Mitigation measures	Measures provided by the EAP and specialists aim to reduce potential negative impacts and enhance potential positive impacts. These measures have been broken into rows that separate responsibility and refer to different site actions, e.g., site demarcation and vegetation clearing. \ General best practice measures are also included.
Responsibility	Which role-players is responsible for the specific mitigation?
Timeframe	When the actions must take place.
Monitoring method and frequency	Monitoring activities required by the ECO or other responsible party.

8.1 Pre-construction phase

Mitigation measures (impact management actions)	Responsibility	Implementation Timeframe	Monitoring
SPECIALIST MITIGATION MEASURES			
Aquatic			
➤ Design cemetery layout according to standard best practices	Proponent/Engineer	Once-off during the design phase.	ECO
Landscape and Visual			
➤ In order to create a seamless visual flow, the concrete palisade fence must be replaced with a clear mesh fence in the required/new position. If it cannot be removed, hedge type vegetation (or larger shrubs) must be planted next to (and in conjunction) with the concrete palisade fence	Proponent/Engineer	Once-off during the design phase.	ECO
➤ There are two options with regards to architectural style of existing structures. It should either be re build or replaced to fit in with proposed new structures (which most likely will have a more modern architectural style) or; new structures must fit in with the architectural style of the existing structures, if the latter is the case, then maintenance on existing structures will be required in order to establish a coherent architectural style	Proponent/Engineer	Once-off during the design phase.	ECO
Traffic			
➤ It is recommended that the City proposes hard or soft infrastructure measures to accommodate the growth of the background traffic especially on the intersection between Klip Road and Victoria Road since the development has a minimal impact on the current service levels of the intersection	Proponent/Engineer	Once-off during the design phase.	EAP ECO
Socio-Economic			
➤ Where possible, the local labour supply should be considered for employment opportunities to increase the positive impact on the area's economy.	Proponent/Engineer	Once-off during the design phase.	ECO

➤ Use local suppliers where feasible and arrange with the local SMMEs to provide transport, catering, and other services to the construction crews.	Proponent/Engineer	Once-off during the design phase.	ECO
➤ Sub-contract to local companies particularly SMMEs and BBBEE compliant enterprises where possible.	Proponent/Engineer	Once-off during the design phase.	ECO
GENERAL			
Compliance and auditing			
➤ Appoint a suitably qualified independent ECO. This person must have appropriate experience in environmental management and a good understanding of local fauna and flora. The ECO must be able to make clear recommendations about the management of disturbed areas.	Proponent/ECO	Tender For the duration of the construction period	ECO- as per schedule
➤ Make provision for environmental auditing at project completion to assess the effectiveness of monitoring and management arrangements undertaken during the course of the project. The audit report should be submitted to the client, engineer, ECO, and competent authority.	Proponent/Engineer	Project completion	Independent auditor
Method statements			
➤ Method Statements must be submitted and approved prior to site establishment commencing. ➤ The content and required actions of the Method Statements must be communicated to site staff through the compulsory induction training. ➤ Refer to Section 6.5 for the list of Method Statements required.	Submitted by Contractor, approved by ECO	Prior to site establishment	ECO- as per schedule
Monitoring method and frequency			
➤ Prior to the start of the construction period, the appointed ECO must confirm that the above-mentioned measures have been considered and, where possible, implemented.			ECO- as per schedule
➤ The ECO shall undertake a pre-construction audit with a photographic record of the condition of vegetation and existing impacts within the construction footprint. This will be considered as the baseline for the project.			
➤ An approved construction footprint will be issued by the Engineer as a formal drawing. The Contractor shall request a formal revision of the drawing should a larger working/ construction area be required. The revision may only be issued subject to consultation with and written agreement from the ECO. The contract documentation shall make allowance for penalties in the case of negligence by the Contractor to comply with the requirements of the EMPr and to remain within the approved construction footprint.			

Code of conduct			
➤ The Contractor must develop a project-specific Code of Conduct in consultation with representatives from the applicant. The code must identify which types of behaviour and activities are unacceptable. Construction workers in breach of the code must be dismissed or subject to strict disciplinary action. All dismissals must comply with the South African labour legislation. The Code of Conduct must be signed by the proponent and contractor before contractors move onto the site. The Code of Conduct shall, as a minimum, include the following considerations: ○ No workers are permitted to trespass onto adjacent properties. ○ Employees of this project who are found guilty of stealing livestock and/ or damaging farm infrastructure must be dismissed and charged. ○ Waste management measures must be followed (detailed in the Management of Construction Camp. Any employee found to be littering either on site or whilst being transported to and from the site must be fined. ○ Should a fire event be proven to be caused by a member of the project team and/or construction activities, the appointed Contractor will be liable to compensate the farm for any damage caused to their farm. ○ All vehicles must be roadworthy, and drivers must be qualified and licensed. The drivers must be made aware of the potential road safety issues and the need for strict speed limits. • Contractors appointed by the proponent must ensure that all workers are informed at the outset of the construction phase of the conditions contained in the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms.	Contractor/ Monitoring Forum	Project lifecycle	ECO- as per schedule
Training and Awareness			
➤ Pre-construction environmental induction for all construction staff on site must be undertaken to ensure that basic environmental principles are adhered to. This includes awareness of harm caused by littering, appropriate handling of pollution and chemical spills, avoiding fire hazards, minimising wildlife interactions, remaining within demarcated construction areas, etc. ➤ Appropriate emergency training (e.g. firefighting) must be given to the team prior to the construction period.	Contractor/ ECO	During site establishment	ECO- as per schedule

➤ The need to implement a training and skills development programme for local workers must be investigated prior to the initiation of the construction phase. The aim of the programme would be to maximise local employment opportunities. ➤ The Contractor must provide appropriate fire-fighting equipment on site and ensure that selected construction staff are appropriately trained for fighting fires.			
Monitoring			
➤ Prior to the start of construction, the appointed ECO must confirm that the above-mentioned measures have been considered, and, where possible, implemented.			ECO- as per schedule
➤ All relevant Method Statements must be provided to the ECO for review and approval prior to construction commencing.			ECO- as per schedule

8.2 Construction Phase

Mitigation measures (impact management actions)	Responsibility	Implementation Timeframe	Monitoring
SPECIALIST MITIGATION MEASURES			
Landscape and Visual			
➤ The construction period should be minimized to the minimum extent possible in order not to cause unnecessary and ongoing visual intrusion for nearby communities/residents.	Contractor	Construction	ECO- as per schedule
➤ Make use of existing cemetery access gates during the construction phase.	Contractor	Construction	ECO- as per schedule
➤ Construction signage should not be obtrusive and must be placed with caution in strategic locations as required.	Contractor	Construction	ECO- as per schedule
➤ The Contractor shall ensure ongoing housekeeping to maintain a tidy construction area, this includes the timeously removal of rubble which should be dumped at a registered facility.	Contractor	Construction	ECO- as per schedule

➤ Material laydown area/s must be placed in an area where existing vegetation and/or built structures are able to provide the most effective screening (existing parking area next to Klip Road)	Contractor	Construction	ECO- as per schedule
➤ Retain existing trees along De Waal and Klip Road.	Contractor	Construction	ECO- as per schedule
➤ Keep a 3m green buffer strip between the proposed extended cemetery area and main roads. This 3m buffer strip should include a dedicated pedestrian walkway	Contractor	Construction	ECO- as per schedule
➤ Retain a dedicated safe parking space close to the existing main gate or as practically feasible.	Contractor	Construction	ECO- as per schedule
Aquatic Ecology and Terrestrial Biodiversity			
➤ Implement standard dust control measures.	Contractor	Construction	ECO- as per schedule
➤ Ensure proper management of construction waste.	Contractor	Construction	ECO- as per schedule
➤ Follow municipal requirements for stormwater management during construction.	Contractor	Construction	ECO- as per schedule
➤ The impact should be restricted to the smallest footprint possible.	Contractor	Construction	ECO- as per schedule
➤ Compliance with industry best practice standards related to potential hydrocarbon pollution from spills must be adhered to.	Contractor	Construction	ECO- as per schedule
➤ Vegetation and soil removal should be limited to the smallest footprint possible and should only be removed where necessary.	Contractor	Construction	ECO- as per schedule
➤ Disturbed soils are prone to alien invasive species establishment, thus the site should be monitored for alien species germination along with the necessary removal and management thereof (i.e. Alien Invasive Plant Species Management Plan).	Contractor	Construction	ECO- as per schedule
Socio-Economic			
Dust:	Contractor	Construction	ECO- as per schedule
➤ Implement dust suppression measures, such as regular water spraying, covering stockpiles, and limiting work during windy conditions.			

Heritage (Including Archaeology)			
➤ Should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay, as detailed in Chance Find Protocol in Section 11 below.	Contractor / SE / ECO	Construction	ECO- as per schedule
GENERAL			
Site establishment			
➤ The contractor must submit a Method Statement indicating the exact location, extent and construction details of the construction camp, and the impact mitigation measures the contractor proposes to put in place to the ECO for approval – refer to Section 6.5 for more detail and guidance relating to method statements.	Contractor	Construction	ECO- as per schedule
➤ The contractor shall establish the construction camp on site in a manner that does not adversely affect the environment.	Contractor	Construction	ECO- as per schedule
➤ The construction footprint area must be limited to the minimum that is necessary.	Contractor	Construction	ECO- as per schedule
➤ Deliveries must be scheduled outside of peak congestion periods, where possible.	Contractor	Construction	ECO- as per schedule
➤ Vehicular access is restricted to designated roadways on site.	Contractor	Construction	ECO- as per schedule
Vegetation clearing and topsoil			
➤ Cleared vegetation may not be disposed of as waste at a landfill site. ➤ As much as possible, vegetation clearing will occur in a phased manner in accordance with the construction programme to minimise impacts when rainfall does occur. ➤ Where possible, a low cover of vegetation must remain within the construction footprint to bind the soil and prevent erosion.	Contractor / ESO / ECO	Construction Phase	ECO- as per schedule

➤ To facilitate revegetation of denuded areas, topsoil will be stockpiled with seed banks intact as far as possible, for use in the rehabilitation phase. ➤ Disturbance of vegetation and topsoil must be kept to a practical minimum. ➤ Strip and stockpile topsoil from all areas where soil will be disturbed below the surface.			
Stormwater management			
➤ Where required (such as areas where water may accumulate), implement an effective system of stormwater run-off control using berms (raised, low walls of soil) and ditches. ➤ The system must effectively collect and safely disseminate any run-off water from all hardened surfaces and must prevent any potential downslope erosion. ➤ Site inspection must assess the effectiveness of the run-off control system and specifically record the occurrence (or not) of any erosion on site or downstream. ➤ Temporary cut-off channels and berms where required. ➤ Routing of run-off towards the existing watercourse and current drainage routes. ➤ Erosion protection by means of gabions, Reno mattresses, Geofabric and/or any combination thereof – per guidance of the ECO	Contractor	Monthly during construction	ECO- as per schedule
Dust management			
➤ Clear only areas necessary for undertaking planned works.	Contractor	Project Lifecycle	ECO- as per schedule
➤ Appropriate dust suppression measures shall be used when dust generation is unavoidable, e.g., dampening with non-potable water, particularly during prolonged periods of dry weather in summer. Such measures shall also include the use of temporary stabilising measures, e.g., chemical soil binders, straw, brush packs, chipping, etc.	Contractor	Project Lifecycle	ECO- as per schedule
➤ As far as possible, stockpile dust-generating materials away from areas where dust will be a nuisance or hazard.	Contractor/ ESO	Project Lifecycle	ECO- as per schedule
Ablution facilities			

➤ Appropriate ablution facilities must be provided for construction workers during construction. ➤ Toilets shall be secured to the ground. ➤ The Contractor shall ensure that all chemical toilets are cleaned and emptied regularly, especially prior to any temporary site closure or long weekend. ➤ Proof of disposal of portable toilet content at a wastewater treatment works must be retained on site.	Contractor	Construction phase	ECO- as per schedule
Waste management			
➤ Potential sources of waste pollution must be used responsibly and strictly managed on-site. An integrated waste management approach in accordance with the Waste Management Hierarchy must be implemented on site. This should aim to avoid, reduce, reuse, recycle, recover and treat waste where possible, where disposal is the last resort.	Contractor	Construction phase	ECO- as per schedule
➤ General waste: ○ No waste is to be buried on the site. ○ Waste may not be burned on site. ○ All waste shall be disposed of at a licensed waste disposal facility. ○ All waste storage areas on site must be kept tidy. ○ All waste stored on site shall be secured so that it is not blown off-site by the wind.	Contractor	Construction phase	ECO- as per schedule
➤ Sufficient weather- and vermin-proof bins shall be provided for the disposal of solid waste. ➤ The Contractor shall remove the refuse collected from the working areas at least once a week.	Contractor	Construction phase	ECO- as per schedule
➤ Hazardous wastes, e.g. used oils, shall be separated from general wastes, stored separately in appropriate containers and disposed of at a licensed hazardous waste disposal facility or certified recycling facility.	Contractor	Construction phase	ECO- as per schedule

➤ Ensure that a suitable drainage system is in place to divert stormwater away from construction footprint areas.	Contractor	Construction phase	ECO- as per schedule
Spoil management			
➤ Any subsurface spoils from excavation must be disposed of so that they will not bury the topsoil of agricultural land. ➤ Any additional overburden must be respread below the topsoil layer and not mixed with it.	Contractor	Construction phase completion	ECO- as per schedule
Alien plant management			
➤ All alien plant regrowth, which is currently limited within the greater region, must be monitored, and should it occur, these plants will be eradicated. ➤ Imported material shall be free of weeds, litter and contaminants.	Contractor	Construction phase	ECO- as per schedule ESO
Storage of construction material and stockpiling			
➤ New construction material will be stored in demarcated areas on the affected properties prior to the commencement of construction.	Contractor	Construction phase	ECO- as per schedule
➤ All manufactured and/or imported material must be stored within the demarcated area, and, if so required, out of the rain. All lay down areas outside of the construction camp must be subject to the Engineer and the ECO's approval in such a way as not to cause a nuisance or environmental damage.	Contractor	Construction phase	ECO- as per schedule
➤ Contractors will not be allowed to store new construction material on the sides of the access road, or within natural vegetation or next to the existing access road	Contractor	Construction phase	ECO- as per schedule
Fuel storage and dispensing			
➤ Fuel shall be stored in accordance with relevant SABS specifications, and all fuel storage tanks shall be provided with adequate bunding (110% of the largest	Contractor	Construction phase	ECO- as per schedule

tank). (The bund floor shall be impermeable and sloped to a sump to enable removal of spilt fuel and contaminated water.) ➤ Adequate fire-fighting equipment shall be provided at fuel storage and dispensing areas			
➤ In the event of a spill, the Contractor must immediately notify the ECO and submit an Incident Report. ➤ In the event of a fuel spill, all unusable fuel and contaminated soil shall be removed and disposed of at a licensed hazardous waste facility.	Contractor	Construction phase	ECO- as per schedule
Noise management			
➤ Limit working times to 8:00 -17:00 on weekdays and 8:00 – 14:00 on Saturdays. No work shall occur on Sundays. ➤ No sound amplification equipment such as sirens, loud hailers or hooters may be used on site, after normal working hours, except in emergencies	Contractor	Construction phase	ECO- as per schedule
Traffic			
➤ Regulations relating to traffic management shall be adhered to. ➤ All roads used for access during construction shall be left in an acceptable condition on completion of the project. ➤ Wherever possible, the transportation of bulk equipment or materials shall not be conducted during peak traffic times, before 9h00 and after 16h00. ➤ Appropriate traffic/ pedestrian management measures shall be put in place, including: ○ Sign boards and flagmen to slow traffic down and to alert the public of the potential dangers presented by the construction activities. ○ Other measures, as stipulated in the relevant contract specification.	Contractor	Construction phase	ECO- as per schedule
Safety and Security			
➤ Telephone numbers of emergency services, including the local firefighting service, shall be posted conspicuously in the Contractor's office near the	Contractor	Construction phase	ECO- as per schedule

telephone. In the event of an emergency, the Contractor shall contact the emergency service in the area.			
Community relations			
➤ The Contractor shall recognise that the site is visible to the public. As such, the construction camp shall be kept neat and clean at all times. Site equipment and materials will be kept away from other property entrances.	Contractor	Construction phase	ECO- as per schedule
➤ The Contractor shall erect signage on the site that provides the contact details of the person(s) that the public can contact in case of complaints or incidents.	Contractor	Construction phase	ECO- as per schedule

8.3 Operational Phase

Mitigation measures (impact management actions)	Responsibility	Implementation Timeframe	Monitoring
Specialist Mitigation Measures			
Terrestrial and Aquatic			
➤ Disturbed soils are prone to alien invasive species establishment, thus the site should be monitored for alien species germination along with the necessary removal and management thereof. Implement an Alien Invasive Plant Species Management Plan.	Proponent	Operation phase	On-going
➤ Implement the Stormwater Management Plan, which include inspections and maintenance on the following components: ○ Vegetated swale overland inlet strip ○ Vegetated swale Filterbed ○ Vegetated swale Outlet structure ○ Vegetated swale Embankment ○ Vegetated swale outfall culvert over existing manholes	Proponent	Operation phase	On-going

Please see Annexure 4 for full details regarding the Stormwater Operation and Maintenance Manual.			
GROUNDWATER			
➤ Monitoring wells are required in order to detect any potential contamination as quickly as possible. It is recommended that a third piezometer be installed up-gradient of the site to continue groundwater monitoring.	Proponent	Operation phase	On-going
➤ Monthly groundwater monitoring is recommended.	Proponent	Operation phase	On-going
➤ To mitigate the risk of contamination of groundwater due to the decomposition of Human Remains: ○ Ensure burial occurs sufficiently above water table depth to enable natural attenuation in the vadose zone (region between surface and water table). Harmful bacteria, viruses and pathogens tend to die off during final stages of decomposition and therefore tend to not persist in the environment. ○ Limit groundwater use of the shallow aquifer immediately down-gradient /downstream of the site. ○ Monitoring wells are required in order to detect any potential contamination as quickly as possible.	Proponent	Operation phase	On-going
To avoid groundwater contamination due to, paints and varnishes, the following should be implemented: ➤ standardise coffin size with ordinary dimensions. ➤ Coffin materials should primarily consist of untreated wood and/or other biodegradable materials. ➤ Refrain from using excessive ornamental metals, plastics, paints varnishes, etc. ➤ Where possible, all jewellery, watches, batteries, excessive cosmetics, and other such materials should be removed prior to burial. It is harder to remove dentures and pace makers.	Proponent	Operation phase	On-going

To prevent the potential leaching of chemicals used in the embalming process (formaldehyde) into the groundwater: Regular groundwater testing near burial sites can help detect and address contamination early.	Proponent	Operation phase	On-going
General Mitigation Measures			
➤ Alien vegetation management must be ongoing within the development area as well as the public open space areas.	Proponent	Operation phase	On-going
➤ Any operational waste generated from funerals should be placed in bins with lids and collected as part of the CoCT refuse collection system.	Proponent	Operation phase	On- going
➤ Periodically (biannually) inspect and clean the stormwater system. ➤ Cleaning of channels: Sand, litter and refuse must be removed from channels monthly or as required.	Proponent	Operation phase	On-going
➤ The project developer is to use locally sourced inputs where feasible in order to maximise the benefit to the economy.	Proponent	Operation phase	On-going
➤ Implementation of Sustainable Drainage Systems (SuDS) by the respective erf developer/end users to attenuate stormwater onsite and reduce volumes of stormwater input watercourses, as far as practically possible.	Erf developer/end user	Operation phase	On-going

9 Procedures for Environmental Incidents

This section provides some of the environmental procedures to be undertaken in case of incidents. It defines the processes, practices, reporting methods and documented information to rectify and clear these incidents before they become large-scale and spread to neighbouring (unaffected) environments.

9.1 Leakages and Spills

- ▶ Notify ECO and PM immediately;
- ▶ Any environmental incidents must be reported within 24 hours to the relevant authority;
- ▶ Identify source of the problem;
- ▶ Stop leak, if safe to do so;
- ▶ Contain spilt material, using spills kit or sand;
- ▶ Remove spilt material and place in a sealed container for disposal (if possible);
- ▶ Spill material must be placed separately in a closed leak-proof storage container “hazardous material bin”. The waste must be removed by an approved or registered hazardous waste handling company for disposal in an approved or licensed hazardous waste disposal facility;
- ▶ Safe disposal certificates must be placed in the environmental file kept on site at all times; and
- ▶ ECO to follow Incident Management Plan.

9.2 Failure of Erosion/Sediment Control Devices

- ▶ Notify ECO and PM immediately;
- ▶ Prevent further escape of soil/sediment;
- ▶ Contain escaped material using silt fence, hay bales, pipes, etc.;
- ▶ Repair or replace the failed device as appropriate;
- ▶ Dig/scrape up escaped material; take care not to damage vegetation;
- ▶ Return escaped material to the area where it originated from;
- ▶ ECO to follow Incident Management Plan; and
- ▶ Monitor for effectiveness until re-establishment.

9.3 Bank/Slope Failure

- ▶ Notify ECO and PM immediately;
- ▶ Stabilise toe of slope to prevent sediment escape using aggregate bags, silt fence, logs, hay bales, pipes, etc.;
- ▶ ECO to follow Incident Management Plan;
- ▶ Divert water upslope from failed bank/slope;
- ▶ Protect area from further collapse as appropriate;
- ▶ Restore as advised by ECO; and
- ▶ Monitor for effectiveness until stabilised.

10 Discovery of Rare or Endangered Species

- ▶ Notify ECO and PM immediately. If required consult with EAP and Botanist.
- ▶ Cease work in the area of discovery;
- ▶ If a plant is found, mark location of plants;
- ▶ If an animal, mark the location where sighted, take pictures if possible;
- ▶ ECO to identify or arrange for identification of species, and or the rescue and relocation of the species if possible;

- ▶ If confirmed significant, ECO to liaise with CapeNature or Endangered Wildlife Trust (EWT); and
- ▶ Recommence work when cleared by ECO.

11 Discovery of Archaeological or Heritage finds

- ▶ Notify ECO immediately;
- ▶ If concentrations of historical and archaeological heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the provincial heritage authority Heritage Western Cape (HWC):
- ▶ Do not disturb the area of the find;
- ▶ ECO to arrange an appraisal of the specimen;
- ▶ If confirmed significant, ECO to liaise and report to the provincial heritage authority (Heritage Western Cape)
 - Heritage Western Cape
 - Tell: 021 483 5959
 - Email: hwc.hwc@westerncape.gov.za / ceoheritage@westerncape.gov.za
- ▶ With confirmation from the heritage authority, heritage aspecialists and the ECO construction can be cleared to proceed or recommence.

12 Health and Safety

The relevant H&S requirements for this type of work as detailed in the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) (OHS Act) must be complied with. CoCT must ensure the implementation of operational, maintenance, and Safety, Health, and Environmental (SHE) standards. These standards will establish procedures and protocols to manage compliance with the OHS as a minimum, while also aligning with international best practices. This includes managing risks related to fire, injuries, floods and the surfacing of graves, manual handling, equipment use, hazardous substances, and potential biological hazards etc.

13 Non-Compliance and Penalties

The ECO must monitor compliance with this EMP, and report results in monthly ECO reports (or as stipulated in the EA) to the project team (CoCT, PM, Site Engineer etc.) and the CA (DEA&DP). Significant non-compliances that may pose detrimental impacts to the environment must be reported to the CA in line with Section 28 of NEMA which establishes a duty of care for the environment.

Penalties/fines must be issued at the discretion of the PM or Engineer as per the penalties' agreement between the PM/Engineer and Contractor. The ECO to take up any non-compliance issues that may result in a fine/penalty with the PM/Engineer.

The nature of the project activities may, even with the best of intentions, inevitably cause some form of environmental degradation. The costs of having to make good on such environmental degradation is usually sufficient punishment without the need to look to other punitive measures. The implementation of a penalty system therefore requires careful consideration. The following issues need to be considered in such a decision:

- Penalties would typically be warranted by persistent negligence on the part of the Contractor or failure to respond adequately to environmental considerations;
- Removal from site would typically be warranted where a particular staff member or piece of equipment is the cause of persistent environmental damage following previous warnings; and
- Suspension of the works would only be warranted under rare circumstances where the Contractor's actions have caused or are likely to cause significant environmental degradation.

The type and extent of the corrective measures required to address non-compliance depend on the nature of the transgression and the Contractor's history of compliance with environmental obligations. When deciding on the nature of any punitive actions, it must be recognised that effective implementation of the EMPr is dependent on the quality of the working relationships between the key role-players. Accordingly, an excessive response to non-compliance, particularly for a minor or unintentional transgression, may cause environmental degradation in the long term due to its effect in eroding the Contractor's commitment to meeting their environmental responsibilities. Other mechanisms, such as an expanded environmental induction programme, may prove more effective to control non-compliance in the long-term than purely punitive measures.

14 Conclusion

In conclusion, it should be noted that the EMPr should be regarded as a living document and changes should be made to the EMPr as required by project evolution, while retaining the underlying principles and objectives on which the document is based. Any amendments to the outcomes of the EMPr will require formal approval via an Amendment Application from the DEA&DP.

The compilation of the EMPr has incorporated environmental management best practice principles, impacts and mitigation measures from the BAR and all environmental specialist assessment reports (i.e., included as Appendix G of the BAR). The recommendations of this EMPr should be implemented at all times throughout the project life cycle as described in this document and other supporting documentation.

Annexure 1

EAP CVs

Annexure 2

Sensitivity Map

Annexure 3

Site Layout Plan

Annexure 4

Stormwater Management Plan

In diversity there is beauty and there is strength.

MAYA ANGELOU

Document prepared by:

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ZUTARİ
IMPACT. ENGINEERED.