


ENVIRONMENTAL MANAGEMENT PLAN:

**FOR THE AMENDMENT OF CONDITIONS OF ESTABLISHMENTS, THE
CONSTRUCTION OF A PUBLIC ROAD AND CLOSING OF PUBLIC OPEN SPACES
THROUGH STATUTORY TOWN PLANNING PROCEDURES AT EHEKE
SETTLEMENT WITHIN THE OSHANA REGION**

PROPONENT:	CONSULTANT:
<p>OSHANA REGIONAL COUNCIL PRIVATE BAG 5543 OSHAKATI NAMIBIA</p>	<p>URBAN DYNAMICS AFRICA P. O. BOX 20837 WINDHOEK NAMIBIA</p>
<p>SUBMISSION:</p> <p>MINISTRY OF ENVIRONMENT AND TOURISM PRIVATE BAG 13306 WINDHOEK NAMIBIA</p> 	<p>Reference: 890</p> <p>Enquiries: Heidri Bindemann-Nel</p> <p>TEL: +264-61-240300 FAX: +264-61-240309</p>

DEVELOPMENT ROLE PLAYER:

OSHANA REGIONAL COUNCIL
PRIVATE BAG 5543
OSHAKATI
NAMIBIA



PLANNING AND SCOPING REPORT FOR EHEKE, PREPARED BY

URBAN DYNAMICS AFRICA
P. O. Box 20837
WINDHOEK
NAMIBIA



GENERAL LOCATION DESCRIPTION OF THE DEVELOPMENT AREA:

DESCRIPTOR:	LOCATION SPECIFICS:
NAME OF PROJECT	AMENDMENT OF CONDITIONS OF ESTABLISHMENTS, THE CONSTRUCTION OF A PUBLIC ROAD AND CLOSING OF PUBLIC OPEN SPACES THROUGH STATUTORY TOWN PLANNING PROCEDURES
REGION:	OSHANA
LOCAL AUTHORITY:	OSHANA REGIONAL COUNCIL
FALL WITHIN:	THE REMAINDER OF EHEKE TOWN AND TOWNLANDS NO. 1009
NEAREST TOWN	EHEKE SETTLEMENT
SIZE OF ERF 4, EHEKE	569 m ²
SIZE OF ERF 5, EHEKE	1 342 m ²
SIZE OF ERF 6, EHEKE	40 759 m ²
SIZE OF ERF 204, EXTENSION 1 EHEKE	6 714 m ²
SIZE OF ERF 296, EXTENSION 1 EHEKE	1 727 m ²
LAND USE:	RESIDENTIAL
STRUCTURES:	YES
HISTORICAL RESOURCES:	NO
CEMETERY:	YES
FLOODLINES:	YES
ENVIRONMENTAL SIGNIFICANT AREA:	OSHANAS
LATITUDE:	-17.927805 S,
LONGITUDE:	15.868799 E
RELEVANT LISTED ACTIVITIES:	<p>The Environmental Management Act (Act 7 of 2007),</p> <p>SECTION 5: LAND USE AND DEVELOPMENT ACTIVITIES 5.1 The re-zoning of land from – (a) residential use to industrial or commercial use;</p> <p>SECTION 8: WATER RESOURCE DEVELOPMENTS 8.8. Construction and other activities in watercourses within flood lines; 8.9. Construction and other activities within a catchment area;</p> <p>SECTION 10: INFRASTRUCTURE 10.1 The construction of- (b) public roads; 10.2 Route determination of roads and design of associate physical infrastructure where- (a) Public road.</p> <p>SECTION 11: OTHER ACTIVITIES 11.2 Construction of cemeteries, camping, leisure and recreation sites.</p>

ABBREVIATION:	DESCRIPTION:
am	ANTE MERIDIEM / BEFORE MIDDAY
Av	AVENUE
BID	BACKGROUND INFORMATION DOCUMENT
DEM	DIGITAL ELAVATION MODEL
ER	EMPLOYERS REPRESENTATIVE
EA	ENVIRONMENTAL ASSESSMENT
EC	ENVIRONMENTAL COMMISSIONER
ECO	ENVIRONMENTAL CONTROL OFFICER
EMP	ENVIRONMENTAL MANAGEMENT PLAN
Etc.	ET CETERA / OTHER SIMILAR THINGS
e.g.	EXEMPLI GRATIA
FRMP	FLOOD RISK MANAGEMENT PLAN
HIV	HUMAN IMMUNODEFICIENCY VIRUS
i.e.	ID EST. / IN OTHER WORDS
I&APs	INTERESTED AND AFFECTED PARTIES
NBD	THE NAMIBIA BIODIVERSITY DATABASE
NHC	NAMIBIAN HEALTH CARE
pm	POST MERIDIEM / AFTER MIDDAY
SME	SMALL-AND-MEDIUM-SIZED ENTERPRISE
TB	TUBERCULOSIS
URPB	URBAN AND REGIONAL PLANNING BOARD
WMP	WASTE MANAGEMENT PLAN
UNIT SYMBOL:	UNIT DESCRIPTION:
0°	DEGREES CELSIUS
E	EAST
ha	HECTARES
Km	KILOMETRE
m	METER
mm	MILLIMETRE
S	SOUTH
m ²	SQUARE METERS
%	PERCENTAGE

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1 INTRODUCTION

The Oshana Regional Council noticed the need and desirability for the amendment of various erven's conditions of establishment within Eheke, Proper and Extension 1 to promote business development opportunities in the Settlement and to make corrections to the cadastral boundaries in accordance with what is happening on the ground.

The client intends to amend the establishment conditions for Erven 4 and 5 Eheke from "Residential" to "Business" land use and Erf 6, Eheke's from "Residential"- to "Business" land use and "Public Open Space" through the subdivision of Erf 6, Eheke into 13 new portions and remainder. For the remainder of Erf 6, Eheke will become a street.

Amend the conditions of establishment for Erf 204, Extension 1 Eheke from "Public Open Space" to "General Administrative purposes" and also amend Erf 296, Extension 1 Eheke's establishment conditions from "Public Open Space" to "General Administration Local Authority" (to be used as a cemetery) before consolidating the erf with Erf 295, Eheke Extension1.

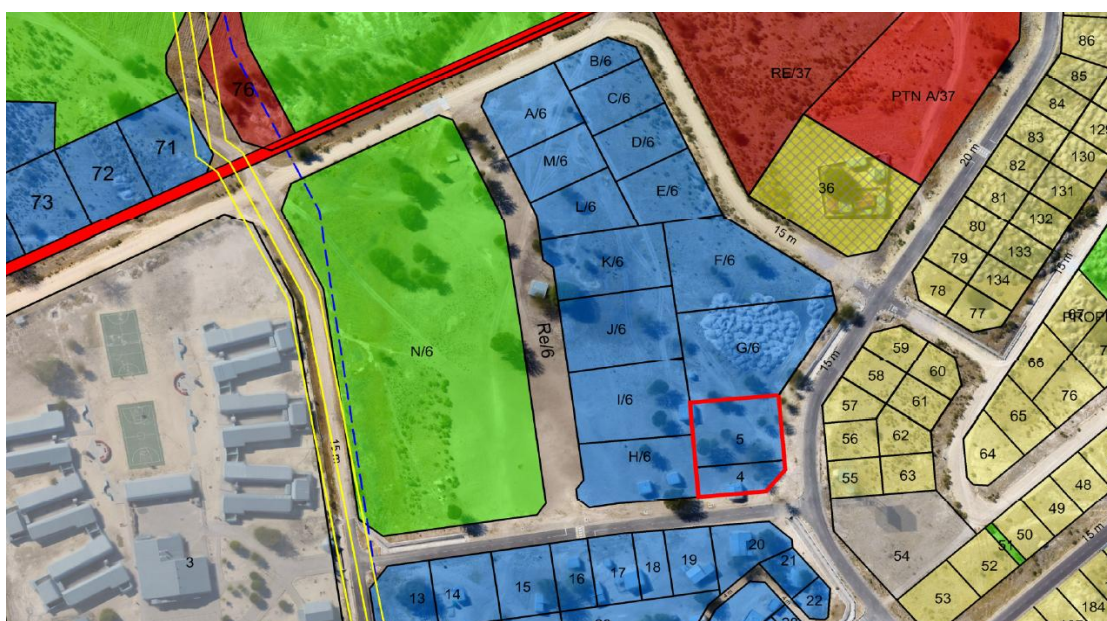
1.1 Re-zoning (Title Conditions Amendment) of Erven 4 and 5 Eheke

The current land uses of Erven 4 and 5 Eheke will be altered from "Residential" to "Business" land use. The erven shapes and sizes are illustrated in **Figure 1**.

Table 1: Erven 4 and 5, Eheke's new Land Use and Size

ERVEN	AREA / m ²	NEW TITLE CONDITIONS (ZONINGS)
Erf 4,	569	Residential
Erf 5,	1 342	Residential

Figure 1: The Proposed Amendment



1.2 Erf 6, Eheke's Subdivision and Title Conditions Amendment

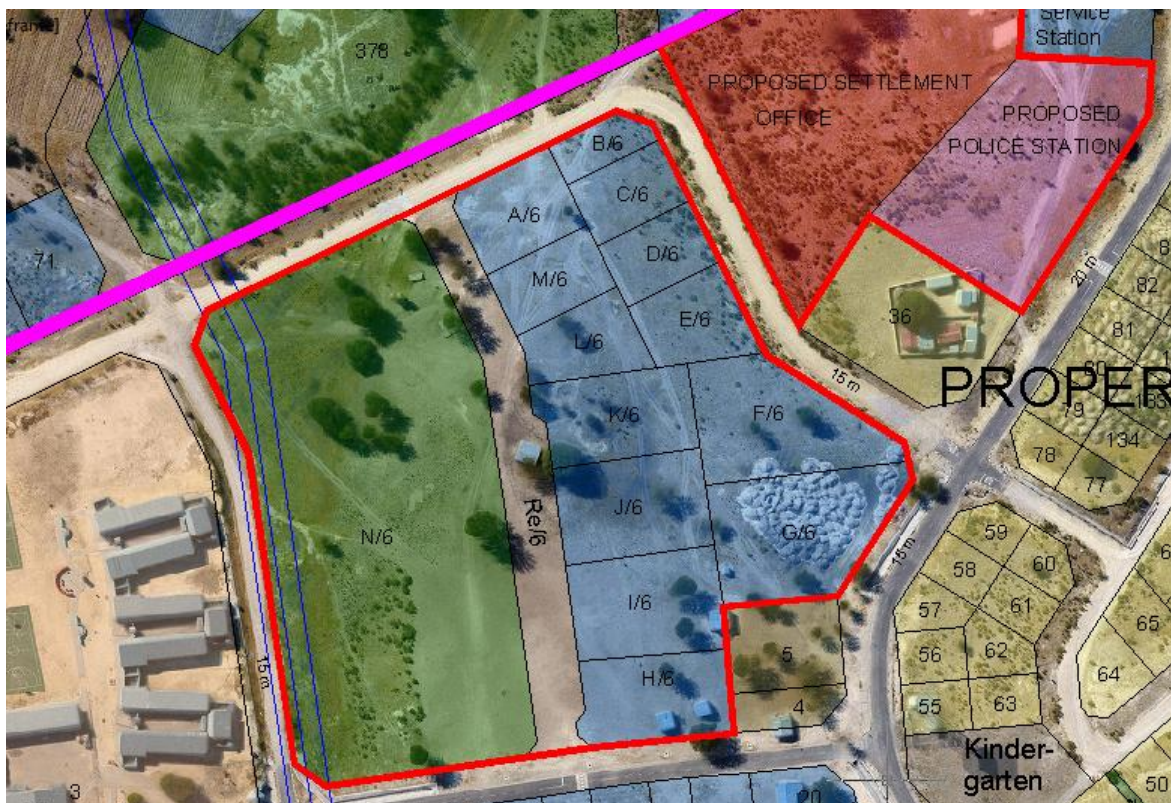
The subdivision of Erf 6, Eheke, into Portion A to M will alter the erfs title condition from "Residential"- to "Business" land use. Proposed Portion N's land use will be altered to "Public Open Space". The "Public Open Space" will act as a buffer between the school and the business and accommodate flood areas within the layout. The Remainder of Erf 6, Eheke, will become a street that provides access to the newly created business erven and public open space.

The size of the remaining extent of Erf 6, Eheke and the sizes of the proposed subdivided portions can be seen in **Table 2** below. The proposed subdivided portions shape is illustrated in **Figure 2**.

Table 2: Portions Sizes and new Land Use

PORTION	AREA / M ²	NEW TITLE CONDITIONS (ZONINGS)	PORTION	AREA / M ²	NEW TITLE CONDITIONS (ZONINGS)
Portion A	1 341	Business	Portion H	1 710	Business
Portion B	570	Business	Portion I	2 014	Business
Portion C	953	Business	Portion J	1 986	Business
Portion D	953	Business	Portion K	1 745	Business
Portion E	1 182	Business	Portion L	1 101	Business
Portion F	2 494	Business	Portion M	1 023	Business
Portion G	2 806	Business	Portion N	17 273	Public Open Space
			Rem/6	3 685	Street (13m)

Figure 2: The Proposed Subdivision & Title Conditions Amendment



1.2.1 PROVISION FOR PEDESTRIANS:

The proposed 13m road reserves include sufficient space to accommodate pedestrian lanes and areas for landscaping.

1.2.2 PROVISION FOR DRAINAGE:

Stormwater drainage should be designed, and culverts need to be used to accommodate the water flow.

1.3 Erf 204, Extension 1, Eheke's Title Conditions Amendment and the Closer of a Public Open Space

The amendment of Erf 204, Extension 1 Eheke, will alter the erf's title condition from "Public Open Space"- to "General Administration Local Authority".

Table 3: Erf 204, Eheke Extension 1's Sizes and new Land Use

ERVEN	AREA / m ²	NEW TITLE CONDITIONS (ZONINGS)
Erf 204, Extension 1	6 714	General Administration Local Authority

Figure 3: Erf 204, Eheke Extension 1's Amendment



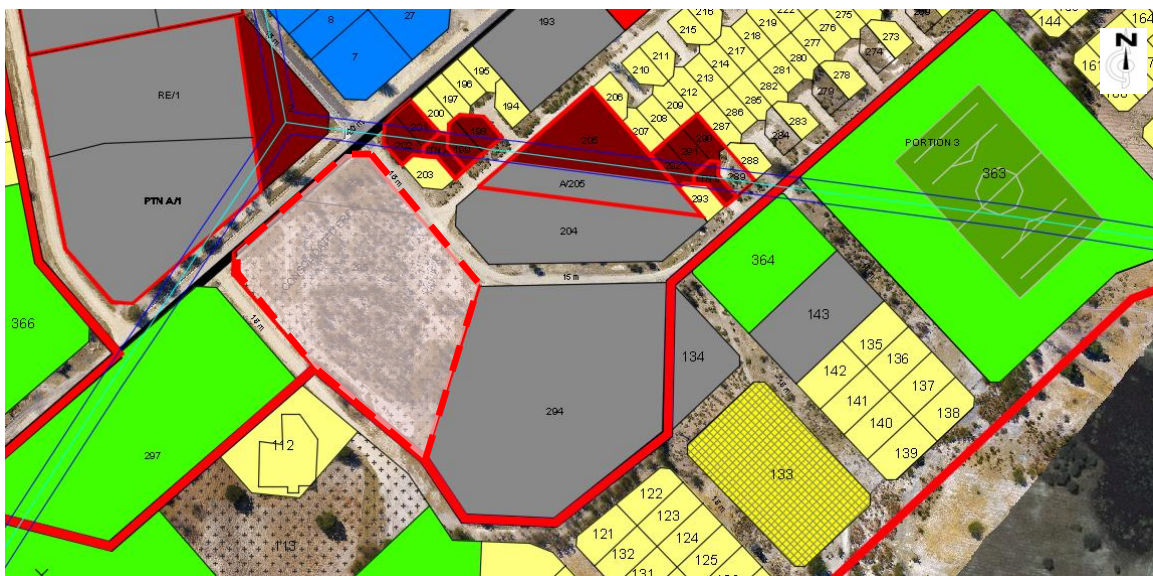
1.4 ERF 296 Extension 1, Eheke's Title Conditions Amendment and Consolidation to Extend the Cemetery

Amend the conditions of establishment from "Public Open Space" to "General Administrative purposes" (to be used for as a "Cemetery"), to formalise the cemetery on the erf. as it accommodates the NamWater pipeline

Table 4: Erf 296, Sizes and new Land Use

ERVEN	AREA / m ²	NEW TITLE CONDITIONS (ZONINGS)
Erf 296, Extension 1	1 727	General Administration Local Authority (to be used as a cemetery)

Figure 4: Erf 296, Eheke Extension 1's Amendment



2 POTENTIAL IMPACTS

While preparing the amendment of the Eheke amendments, the planner continuously assessed the project's potential positive and negative impacts. Attempts have been made to enhance and strengthen positive impacts and mitigate and weaken the effects of negative impacts in all cases. The planners made several alterations to the plan until they were satisfied that the layout had been refined to the point where it limits risks, mitigates negative impacts and enhances positive impacts to as great an extent as possible. The following section explores each of these impacts in detail, describing and exploring the various ideas integrated into the layout and assessing alternatives where they seem viable.

The section also explores positive impacts that are not fully addressed by the layout. Many influences may be transitory in nature (for example, occurring only during the project's construction phase) or unavoidable given the site constraints and the need for maximising long-term benefits overall. These impacts and strategies for dealing with them are discussed here, but given that this document is an application for environmental clearance, the measures dealing with their mitigation/enhancement are dealt with in detail in the EMP.

2.1 Summary of Potential Impacts

The amendment of the conditions and layout, together with the upgrading of bulk infrastructure and alignment of roads, has the potential to cause environmental and social impacts. The following is a list of potential impacts identified through the scoping process:

2.1.1 BENEFITS OF THE PROJECT:

- Provision for serviced erven;
- Extend the cemetery; and
- Stimulation of economic development and providing new employment opportunities during construction.

2.1.2 POTENTIAL NEGATIVE IMPACTS DURING CONSTRUCTION:

- Displacing existing community;
- Impact of dust;
- Impact of noise;
- Impact on traffic flow;
- Impact on the health and safety of workers; and
- Impact of waste.

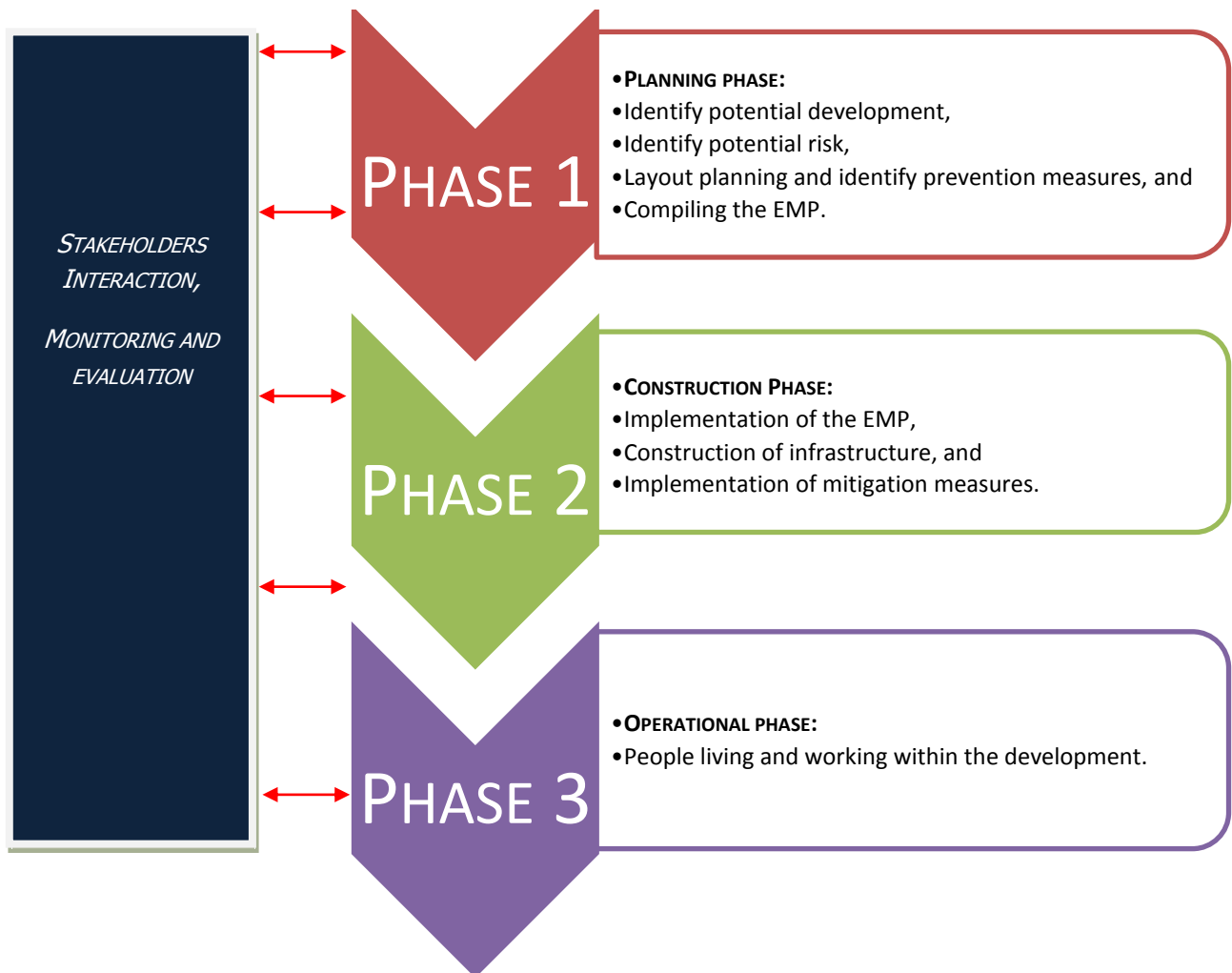
2.1.3 POTENTIAL NEGATIVE IMPACTS DURING OPERATIONS:

- Potential flooding; and
- Impact of waste within the Settlement area.

3 IMPLEMENTATION OF THE EMP

An EMP is an essential product of an Environmental Assessment (EA) process. An EMP synthesises all recommended mitigation and monitoring measures laid out according to the various stages of a project life cycle, with clearly defined follow-up actions and responsibilities assigned to specific actors. This EMP has been drafted in accordance with the Namibian Environmental Management Act (No. 7 of 2007) and its Environmental Impact Assessment Regulations (2012).

Figure 5: Project Phases



PLANNING AND DESIGN PHASE

Table 5: Management Requirements for the Planning and Design Phase

ASPECT	MANAGEMENT REQUIREMENTS
Natural Building Material	All building material (sand and gravel) must only be sourced from a local registered borrow pit. Road building material (G4, G5, etc.) must be sourced in collaboration with Eheke from approved borrow pits within the townlands. If suitable material can only be sourced from untouched land to create a new borrow pit, then that is legally subject to an EIA as well by the Oshana Regional Council.
EMP Implementation	Relevant sections of this EMP should be included in the tender documents for all construction so that tenderers can make provisions for the implementation of the EMP.
Financial Provisions	<ul style="list-style-type: none"> • Financial provision for the facilitation of an induction programme for senior, temporary construction personnel as well as subcontractors and associated personnel should be included as a cost item within tenders concerning the construction and/or operation and maintenance of the proposed development.
Recruitment	<ul style="list-style-type: none"> • Provisions designed to maximise the use of local labour should be included within tenders concerning the construction of bulk and reticulation services. • A provision stating that all unskilled labour should be sourced locally should be included in tenders concerning the construction of all development services. • Specific recruitment procedures ensuring local firms enjoy preference during tender adjudication should be included in tenders concerning the construction of the development's bulk services. • Provisions promoting gender equality pertaining to recruitment should be included in tenders concerning the construction of the township services. • Women should be given preference for certain jobs (e.g. those jobs that require relatively less physical strength).

This plan describes the mitigation and monitoring measures to be implemented during the following phases of the development:

- ❖ Construction and
- ❖ Operation

Implementation of the EMP is ultimately the developer's responsibility (Oshana Regional Council). After construction, the development administrator will be the Oshana Regional Council. Due to the project's magnitude, it may be necessary to outsource certain functions pertaining to managing all aspects of the actual development process. When implementing the EMP, the following roles and responsibilities apply.

Each role player's responsibilities are described below.

EMPLOYERS REPRESENTATIVE (ER)

The developer appoints the ER to manage all contracts for work/services that are outsourced during the construction phase. Any competent employee or third-party organisation which possesses the appropriate experience may fill this position. Any official communication regarding work agreements is delivered through this person/organisation.

The ER shall assist the Environmental Control Officer (ECO) where necessary and will have the following responsibilities regarding the implementation of this Environmental Management Plan (EMP):

- ❖ Ensuring that the contractor has obtained the necessary legal authorisations and permits,
- ❖ Assisting the contractor in finding environmentally responsible solutions to problems with input from the ECO where appropriate,
- ❖ Warning and ordering the removal of individuals and/or equipment not complying with the EMP,
- ❖ Issuing fines for the transgression of site rules and penalties for contravention of the EMP, and
- ❖ Providing input into the ECO's ongoing internal review of the EMP. This review report should be submitted on a monthly basis to the developer.

ENVIRONMENTAL CONTROL OFFICER (ECO)

The ECO should be a competent person appointed by the ER. If the ECO has no occupational safety and health training on a construction site, they should be sent for such training. The ECO is the ER's onsite representative primarily responsible for monitoring and reviewing onsite environmental management and implementing the EMP by the contractor(s). If no ECO is appointed, the duties of the ECO fall upon the ER. The Oshana Regional Council should, with the commencement of the project, monitor the implementation of the EMP onsite on an ad hoc basis.

The ECO's duties include the following:

- ❖ Assisting the ER in ensuring that the necessary legal authorisations have been obtained;
- ❖ Maintaining open and direct lines of communication between the ER, Developer, Contractor, and Interested and Affected Parties (I&APs) with regard to this EMP and matters incidental

thereto;

- ❖ Monthly site inspection of all construction areas with regard to compliance with this EMP;
- ❖ Monitor and verify adherence to the EMP (audit the implementation of the EMP) and verify that environmental impacts are kept to a minimum;
- ❖ Taking appropriate action if the specifications for the EMP are not adhered to;
- ❖ Assisting the contractor in finding environmentally responsible solutions to problems;
- ❖ Training of all construction personnel with regard to the construction and operation mitigation measures of this EMP and continually promoting awareness of these;
- ❖ Ensure that all contractors shall provide adequate environmental awareness training (see Plan Component 5) for senior site personnel by the ECO and that all construction workers and newcomers receive an induction presentation on the importance and implications of this EMP. The presentation shall be conducted, as far as is possible, in the employees' language of choice;
- ❖ Monthly inspection to verify if new personnel have received appropriate environmental, health and safety training and training for those who have not;
- ❖ Advising on the removal of person(s) and/or equipment not complying with the specifications of the EMP in consultation with the ER;
- ❖ Recommending the issuing of fines for transgressions of site rules and penalties for contraventions of the EMP; and
- ❖ Undertaking a monthly-month review of the EMP and recommending additions and/or changes to the document.

CONTRACTOR

The contractor is responsible for the implementation, onsite monitoring and evaluation of the EMP. To ensure sound environmental management, the relevant sections of this EMP should be incorporated operation in all contracts of work outsourced, thus legally binding all appointed contractors.

The contractor must keep records of all environmental training sessions, including names, dates and the information presented for inspection and reporting by the ER and ECO at all times.

4 RELEVANT LEGISLATION AND PERMIT REQUIREMENTS

The following table provides the legislative framework within which the EMP should be viewed:

STATUTE	PROVISIONS	PROJECT IMPLICATIONS
<p>The Constitution of the Republic of Namibia, 1990:</p>	<p>The state shall actively promote and maintain the welfare of the people by adopting inter-alia policies aimed at the following:</p> <p>(i) <i>management of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all.</i></p>	<p>Ensure that the ecological integrity of the ecosystems of the area is protected.</p>
<p>Environmental Management:</p>	<p><i>Environmental Management Act No.7 of 2007:</i></p> <p><i>EIA Regulation (EIAR) GN 57/2007 (GG 3212):</i></p> <p>In terms of Section 10.1(a), 10.1(b), 10.2(a), and 10.2(c) for environmental clearance for the construction of oil, water, gas and petrochemical and other bulk supply pipelines, the construction of public roads and the construction of a road with more than one lane of traffic in both directions.</p> <p>In terms of Sections 8.8, 8.10 and 8.11, for construction and other activities in watercourses within flood lines, the reclamation of land from below or above the high water and the alteration of natural wetlands are listed activities.</p> <p>Prescribes the procedures to be followed for authorisation of the project (i.e. Environmental clearance certificate).</p>	<p>Evaluate if the street's alignment will impact the social and natural environment.</p> <p>Determine if the risk of flooding of the erven is at acceptable levels.</p> <p>Determine if the proposed limited infill would impact the function of the watercourse or cause flooding elsewhere.</p> <p>Determine how wastewater pipelines in the riverbed should be designed, constructed and maintained to prevent groundwater and other pollution.</p>

<p>WATER AND RESOURCES MANAGEMENT:</p>	<p><i>The Water Act No. 54 of 1956 and Water Resources and Management Act No.27 of 2007 Section 92:</i></p> <p>Section 92 (1), A person may not engage in any construction work or activity that causes or is likely to cause the natural flow conditions of water in to or from a watercourse to be modified unless the minister has granted prior written approval for the work or activity to be carried out.</p> <p>Section 100 (e) consults with the regional council or local authority in determining the geographic extent of flood plain areas in its region or local authority, as the case may be, and assist any such councils in regulating the development and use of land within floodplain areas</p> <p>Section 100 (f) prescribes measures to control and manage storm and flood risk within local authority areas.</p> <p>Section 101 (b) development on the banks of any wetland or dam; and</p> <p>Section 101 (c) the removal of rocks, sand or gravel or any other material from a watercourse.</p>	<p>Assess the potential risk that the planned activities may have on both the watercourse on the one hand and future occupants of the land on the other.</p>
<p>THE PUBLIC HEALTH AND HEALTH AND SAFETY REGULATIONS:</p>	<p><i>The Public Health Act 36 of 1919 as amended and the Health and Safety Regulations:</i></p> <p>These acts control the existence of nuisances such as litter that can cause a threat to the environment and public health.</p>	<p>Prevent activities that can impact the health and safety of the public.</p>

<p>POLLUTION CONTROL AND WASTE MANAGEMENT BILL:</p>	<p><i>Pollution Control and Waste Management Bill:</i></p> <p>This bill aims to promote sustainable development and prevent and regulate the discharge of pollutants into the environment.</p>	<p>Consider the risk of pollution due to the sewer infrastructure in the riverbed.</p>
<p>LABOUR:</p>	<p><i>Labour Act. 11 of 2007:</i></p> <p>This bill aims to protect workers and the environment in which they work.</p>	<p>Ensure the protection of workers' rights and safety in Namibia.</p>
<p>FORESTRY:</p>	<p><i>Forest Act. 12 of 2001:</i></p> <p>Protected tree species and any vegetation within 100m of a watercourse may not be removed without the Ministry of Agriculture, Water and Forestry permit.</p>	<p>Ensure that the necessary permits are obtained to remove the protected trees.</p>
<p><i>Cabinet Compensation Policy Guidelines for Communal land:</i></p>	<p><i>Cabinet Compensation Policy Guidelines for Communal land:</i></p> <p>Providing compensation to individuals regarding relocating people, removing fruit trees, or developing Mahango fields within communal land.</p>	<p>Assess to what extent the proposed policy complies with the plan's provision to ensure the rights of individuals within communal land.</p>

5 CONSTRUCTION MITIGATION DETAIL

Table 6 provides a scale overview of all the major environmental management themes pertaining to generic and site-specific construction mitigation details. This table serves as a quick reference for the subsequent mitigation detail for each theme. This is done to simplify the implementation of the construction component of this EMP.

Table 6: Generic and Site-Specific Environmental Management Actions:

THEME:	OBJECTIVE:	MITIGATION DETAIL:	
		GENERIC:	SITE-SPECIFIC:
WASTE MANAGEMENT:	Minimise and avoid all waste pollution associated with construction.	PLAN COMPONENT 1	YES
HEALTH AND SAFETY MANAGEMENT:	Focusing on the well-being of the labourers and the community near the construction.	PLAN COMPONENT 2	YES
NOISE AND DUST MANAGEMENT:	Minimise and avoid all noise and dust associated with construction.	PLAN COMPONENT 3	YES
TRAFFIC MANAGEMENT:	Minimise and avoid traffic impacts.	PLAN COMPONENT 4	YES
ENVIRONMENTAL TRAINING AND AWARENESS:	Awareness creation regarding the provisions of the EMP as well as the importance of safeguarding environmental resources.	PLAN COMPONENT 5	YES
ENVIRONMENTAL CONSERVATION:	Minimise the effect of the activity and protect the social environment in which it is happening.	PLAN COMPONENT 6	YES
EMPLOYMENT /RECRUITMENT	Ensure the protection of workers' rights and safety in Namibia.	PLAN COMPONENT 7	YES
STAKEHOLDER COMMUNICATION:	Provide a platform for stakeholders to raise grievances and receive feedback and hence, minimise negative conflict.	PLAN COMPONENT 8	YES
SOCIO-ECONOMIC AND MISCELLANEOUS:	Protecting cultural and general well-being of the affected.	PLAN COMPONENT 9	NA

6 PLAN COMPONENT 1: WASTE MANAGEMENT

At the construction site, high importance shall be placed on waste management, which should be performed daily. Solid waste is the expected major source of waste at the construction site; therefore, a **Waste Management Plan** (WMP) must be compiled. The WMP must address measures for the use and disposal of general waste and hazardous waste at the site, as indicated below:

6.1 Construction Waste Management:

GENERAL WASTE:

- The construction site should be kept tidy at all times. All general construction waste produced should be cleaned and contained daily,
- No waste may be buried or burned,
- No waste may be dumped in any watercourse in and around the project area,
- A sufficient number of separate waste containers (bins) for hazardous and domestic/general waste must be provided onsite. These should be clearly marked as such, and
- Construction labourers should be sensitised to dispose of waste in a responsible manner and not to litter.

HAZARDOUS WASTE:

- All heavy construction vehicles and large fuel-powered equipment on the site should be provided with a drip tray,
 - If the vehicle used is suspected of having an oil leakage, drip trays are to be transported with vehicles wherever they go on site.
 - Drip trays should be cleaned daily, and spillage handled, stored, and disposed of as hazardous waste.
- Spilled concrete (wet) should be treated as waste and disposed of by the end of each day in the appropriate waste containers,
- Unbound cement (dry) in its raw state and cement-infused water from mixers are classified as hazardous waste due to its high alkalinity content. Treatment would be the same as for hazardous waste, and disposal of such should take place in the appropriate labelled hazardous waste containers,

- A hazardous waste spill clean-up kit should be kept onsite, and its stock replenished as needed. The kit will consist of the following items (with the numbers of each item is up to the discretion of the ER):
 - Medium-sized shovels, strong plastic bags, drip trays, dust masks, heavy-duty gloves, and a biodegradable hand wash (degreasing) agent
- A storage location must be provided for the use of all hazardous substances (e.g. fuel etc.) or chemicals. The storage area must be of an impermeable surface; this is bonded, awaiting use and disposal afterwards.

The duration of the phase is short-term (0-5 years) and will end at the start of the operational phase. The responsibility to implement the EMP, onsite monitoring and evaluation of the EMP / WMP lies with the contractor, ECO and the ER.

6.2 Operational Waste Management:

GENERAL WASTE:

- The development needs to provide efficient waste management infrastructure for households and businesses, which will include recycling infrastructure,
- The household and business waste needs to be collected by the service provider, and
- Sewerage needs to be pumped through a closed system pipeline to the Eheke bulk sewerage lines.

The timeframe of the actions mentioned above is long-term. The responsibility and monitoring lie with the Oshana Regional Council, who will be responsible for the maintenance of the sewerage pipelines after construction and the solid waste removal.

7 PLAN COMPONENT 2: HEALTH AND SAFETY

The health and safety aspect of the workspace is something that cannot be understated, considering that unexpected severe events can occur at any given moment.

7.1 Health and Safety Management:

The construction industry is fraught with hazards; therefore, careful planning and prevention measures are necessary to reduce the risk of serious injuries while on duty.

The contractor will need to apply to the Labour Act. Nr. 11 of 2007 in conjunction with Regulation 156, 'Regulations which describe the health and safety of employees at work. Measures to mitigate the health and safety of workers and nearby residents on the site are included in the EMP.

HIV/AIDS AND TB TRAINING:

The contractor should approach the Ministry of Health and Social Services to appoint a health officer to facilitate HIV/AIDS and TB education programmes periodically onsite during the construction phase.

ROAD SAFETY:

- Vehicles' contents/consignments should be adequately secured to avoid items falling off the vehicle.
- All trucks carrying sand or fine material loads should be covered with a shade net cover to prevent these materials from being blown off onto approaching vehicles from both directions.
- No construction vehicle may be used to transport personnel to and from the construction site. This offence is punishable by law due to the extreme safety risk involved.

SAFETY AROUND EXCAVATED AND WORK AREAS:

- A meeting with the neighbouring community shall be held, and the safety precautions of the construction area explained,
- Excavations should be left open for an absolute minimum time only,
- Excavate short lengths of trenches and box areas for services or foundations in such a way that the trench will not be left unattended for more than 24 hours,
- Demarcate the following areas with danger tape or orange demarcation netting:
 - All excavation works;
 - Soil and other building material stockpiles; and

- Temporary waste stockpiles.
- Provide additional warning signage in areas of movement and in "no person allowed" areas where workers are not active,
- Work areas must be set out and isolated with danger tape on a daily basis,
- All building materials and equipment are to be stored only within set out and demarcated work areas,
- Only construction personnel will be allowed within these demarcated work areas, and
- Two dry chemical powder fire extinguishers should be available at fuel storage areas, the workshop area, and the site office.

ABLUTIONS:

- Separate ablutions (toilet) should be available for men and women and should clearly be indicated as such,
- Portable toilets (i.e. easily transportable) should be available at every construction site:
 - 1 toilet for every 25 females.
 - 1 toilet for every 50 males.
- Sewage waste needs to be removed on a regular basis to an approved (municipal) sewage disposal site. Alternatively, pump it into sealable containers and store it until it can be removed, and
- Workers responsible for cleaning the toilets should be provided with latex gloves and masks.

7.2 Operational Phase Health and Safety Management:

Eheke has low-lying areas known for rainwater accumulation during the rainy season. Low lying contours were identified, which form an oshana within the sites. Small streams are accommodated within public open spaces within the layout. This is to ensure that limited development takes place within the flood areas. Mitigation measures must be put in place to prevent any flood risk within the layout.

Flood Risk Impact Preventions:

- All services (power and sewer lines) must be placed in the evaluated road reserve to prevent it from being influenced during rainy seasons.
- The sewerage network needs to link up with the nearby sewer line which runs through the area. The system will be incorporated with the nearest extensions sewerage

network, which flows to the oxidation ponds located north of the town.

- The residents or contractor need to inform the council's sewer or electrical department if they have problems with the sewer or electrical network.
- The culverts need to be maintained.

The timeframe of the actions mentioned above are continuous, and the responsibility and monitoring lie with the Oshana Regional Council.

8 PLAN COMPONENT 3: NOISE AND DUST

Noise and dust can cause stress and health impacts on nearby residents and construction workers. Therefore, high priority needs to be placed on mitigation measures at the site to manage noise and dust pollution within the area.

8.1 Noise Prevention:

Noise associated with construction and traffic activities will be heard from the site. Constant noise can cause stress and have a health impact on construction workers and nearby residents. However, mitigation measures need to be in place to prevent noise pollution.

The following measures are provided below to minimise noise:

- No noisy activities onsite between 17:00 and 07:00,
- Construction activities on Saturday shall be between 08:00 and 13:00,
- Sunday and public holidays - no noisy activities onsite, and
- In the event that work is necessary outside the designated working hours, all receptors (residents or businesses within 500 m from the work areas) need to be notified at least two days in advance.

The duration of the actions mentioned above is short-term, and the impact ceases after the operational phase starts. The responsibility for monitoring lies with the Contractor, ECO of the development, and the Oshana Regional Council.

8.2 Dust Prevention:

The movement of construction vehicles on bare soil will cause excessive dust, exposing nearby residents and workers on the site to dust pollution. Fugitive dust from construction sites can spread crystalline silica, impacting nearby residents' and site workers' health.

Fugitive dust from the construction site can also cause poor visibility for road users. Mitigation measures must be put in place to prevent dust pollution.

The following measures are provided below to minimise dust:

- Provide a suitable screen/panels surrounding the construction site to reduce the spread of dust from the site,
- Dust palliatives need to be applied to the road surfaces to prevent dust clouds,
- A watering truck with semi-purified water should be used on gravel roads with the most vehicle movement, especially during dry and windy conditions. However, due consideration should be given to water restrictions during times of drought and applicable seasons,
- Stockpiles of building and earth material need to be kept moist, or the surfaces need to be stabilised. A nylon mesh cover which reduces dust lift with $\pm 50\%$ can be an alternative option,
- Limit the size of stockpiles of large quantities of soil, topsoil and other fine material,
- Dust protection masks should be issued to all workers exposed to dust on the site, and
- Improve awareness of ambient air quality and consideration regarding wind speed and direction when undertaking dust-generating activities.

The duration of the actions mentioned above is short-term, and the impact ceases after the operational phase starts. The responsibility for implementation and monitoring lies with the contractor, ECO of the development, and the Oshana Regional Council

9 PLAN COMPONENT 4: TRAFFIC MANAGEMENT

The construction of the infrastructure will have a disruptive impact on the surrounding traffic. Mitigation measures should be in place to minimise the anticipated disruption of the surrounding traffic during the construction of the infrastructure upgrade.

9.1 Traffic during the Construction Phase:

The following measures are provided to minimise traffic:

TRAFFIC MITIGATION:

- Develop a **Traffic Plan** to reduce traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service.
- Schedule operations, affecting traffic for off-peak hours. Minimise obstruction of through-traffic lanes. Provide a flag person to guide traffic and ensure construction site safety properly.
- Construction vehicles should be restricted during peak hours, between 07:00-08:00 and 17:00-18:30.
- Appropriate advance road warning signage needs to be used.

The duration of the actions mentioned above is short-term and will end when the operation phase commences. The responsibility for implementation and monitoring lies with the contractor. However, the road infrastructure will become permanent, and the responsibility for maintaining the streets will lie with the Oshana Regional Council after construction.

10 PLAN COMPONENT 5: ENVIRONMENTAL TRAINING AND AWARENESS

All construction workers at the development site are to undergo environmental training and awareness programs. The following aspects should be included:

- Explanation of the importance of complying with the EMP.
- Discussion of the potential environmental impacts of construction activities.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when particular workgroups carry out their respective activities.
- Explanation of the specific mitigation measures within this EMP, especially unfamiliar provisions.

During the training sessions, an attendance register should be completed, including the names, positions designations and signatures of everyone who attended the training and kept on file for auditing purposes. All the training sessions before they are conducted must be approved by the ECO.

11 PLAN COMPONENT 6: ENVIRONMENTAL CONSERVATION

11.1 Materials Camp and Lay-Down Areas:

A suitable location for the **materials camp and lay-down** areas should be identified with the assistance of the ER, and the following should be considered in selecting these sites:

- The areas designated for the proposed services infrastructure should be used as far as possible, and
- Sensitive areas should be avoided (e.g. watercourses).

The duration of the actions mentioned above is short-term. The responsibility for the implementation of the EMP lies with the contractor, ER and ECO.

12 PLAN COMPONENT 7: EMPLOYMENT/RECRUITMENT

The construction of the development will take place over several years and will employ about up to a thousand (1000) workers. At this stage, it is unclear which skill sets would be required or how much employment opportunities could be created in the project area.

The benefits to the local community from jobs could be dependent on the extent of local recruitment and the measures put in place to ensure preferential local gender-based recruitment where possible.

12.1 Recruitment:

The formal recruitment process should be compiled and shall include the following minimum provisions:

- The ER and the contractor shall design a recruitment process whereby local residents shall be given preference,
- Ensure that all sub-contractors are aware of recommended recruitment procedures and discourage any recruitment of labour outside the agreed-upon process,
- Contractors should give preference in terms of recruitment of sub-contractors and individual labourers to those from the project area and only then look to surrounding towns, and
- Clearly explain to all job-seekers the terms and conditions of their respective employment contract (e.g. period of employment, etc.) – make use of interpreters when required.

12.2 Legislation:

The contractor needs to adhere to the legal provisions in the Labour Act (Labour Act. 11 of 2007) for the recruitment of labour (target percentages for gender balance, optimal use of local labour and SME's, etc.) in the contract.

13 PLAN COMPONENT 8: STAKEHOLDER COMMUNICATION

Within the construction phase, the developer should draft a **Communication Plan**. Thereby, the ER must appoint an ECO to liaise between the contractor, stakeholders, developer, and consultants in collaboration with the developer. The appointed contractor shall appoint a person from the construction team to take responsibility for implementing all provisions of this EMP.

13.1 Communication Plan:

In addition, the plan shall specify:

- How stakeholders, who require ongoing communication for the duration of the construction period, will be identified and recorded and who will manage and update these records,
- How will these stakeholders be consulted on an ongoing basis, and
- How grievances shall be handled – i.e. how concerns can/ will be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the event that feedback is deemed unsatisfactory.

13.2 General Communication:

- The contractor shall, at every site meeting, report on the status of the implementation of all provisions of the EMP,
- The ECO must list the stakeholders of the project and their contact details with whom ongoing communication would be required for the duration of the contract. This list, together with the **Communication Plan**, must be agreed upon and given to the ER before construction commences,
- The Communication Plan, once agreed upon by the developer, shall be binding,
- All communication with the stakeholders must take place through the ECO,
- A copy of the EMP must be available at the site office and should be accessible to all stakeholders,
- The contractor should liaise with the developer regarding all issues related to community consultation and negotiation before construction commences,

- A procedure should be put in place to ensure that concerns raised have been followed-up and addressed, and
- All people on the stakeholder's list should be informed about the availability of the complaints register in writing by the ER prior to the commencement of construction activities.

Table 7: Public Consultation Process

THE PROCESS:	DESCRIPTION OF THE PROCESS:
PLANNING PHASE:	
I&APs IDENTIFICATION:	Key Interested and Affected Parties (I&APs) were identified and included in a list of I&APs.
NEWSPAPER NOTICES:	Notices were placed for two consecutive weeks in two widely circulated newspapers, briefly describing the developments and their locality, inviting the public to register as I&APs.
INFORMATION PROVISION:	A Background Information Document (BID) was compiled that contained essential information about the project.
PUBLIC COMMENTS PERIOD:	The public comments period was from 3 August to 2 September 2022.
THE CONSTRUCTION PHASE:	
COMMUNICATION PLAN:	<ul style="list-style-type: none"> – At every site meeting, the contractor shall report on the status of the implementation of all provisions of the EMP. – The ECO must list the stakeholders of the project and their contact details with whom ongoing communication would be required for the duration of the contract. Together with the Communication Plan, this list must be agreed upon and given to the ER before construction commences. – Once agreed upon by the developer, the Communication Plan shall be binding. – All communication with the stakeholders must take place through the ECO. – A copy of the EMP must be available at the site office and should be accessible to all stakeholders. – The contractor should liaise with the developer regarding all community consultation and negotiation issues before construction commences. – A procedure should be implemented to ensure that concerns raised have been followed-up and addressed. – All people on the stakeholder's list should be informed about the availability of the complaints register in writing by the ER before the commencement of construction activities.

14 PLAN COMPONENT 9: SOCIO-ECONOMIC AND MISCELLANEOUS

No heritage or archaeological sites were found in the area. However, the EMP's standard procedures for heritage or archaeological sites are still included in this plan. No formal survey for archaeological remains was conducted during the field studies of the site, therefore, the possibility of it containing some or the other form of remnants cannot be ruled out, especially when excavations are done.

Heritage or Archaeological Sites

In the case where a heritage or archaeological site is uncovered or discovered during the construction phase of the development, a 'chance find' procedure should be applied as follows:

- If operating machinery or equipment to stop work immediately;
- Demarcate the site with danger tape;
- Determine GPS position if possible;
- Report findings to foreman;
- Cease any works in the immediate vicinity;
- Visit the site and determine whether the work can proceed without damage to the findings;
- Determine and demarcate exclusion boundary;
- Inspect site and confirm the exact location.
- Advise the National Heritage Council (NHC) and request written permission to remove findings from the work area; and
- Recovery, packaging and labelling of findings for transfer to National Museum.

Should human remains be found, the following actions will be required:

- Apply the 'chance find' procedure as formerly described;
- Schedule a field inspection with an archaeologist to confirm that the remains are human;
- Advise and liaise with the NHC and Police; and
- Remains will be recovered and removed either to the National Museum or the National Forensic Laboratory.

If it is found that the construction site is on a heritage site or an archaeological site, the developer will need to apply for a permit from the National Heritage Council in order to carry out works in a protected place, as indicated in the National Heritage Act 27 of 2004.