Excel Dynamic Solutions (Pty) Ltd

Environmental Management Plan (EMP)

FOR

THE SUBDIVISION, REZONING AND CONSOLIDATION OF PORTION 8 & 9 OF LANGSTRAND FARM 42 IN WALVISBAY, ERONGO REGION, NAMIBIA

Document Version: Draft

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1. Introduction

1.1 Background

Mr Gunther Heimstadt of Sports Village Number Thirty-Eight CC (hereinafter referred to as *the Proponent*) intends to continue with the construction and establishment of the Ocean Key Hotel on Portion 8 and part of Portion 1 of Portion 9, Farm 42, in Long Beach, Walvis Bay. The Proponent owns Portion 8 and has obtained Walvis Municipality's approval to purchase Portion 9. Portion 9 (where Portion 1, targeted for consolidation with Portion 8, is located) is zoned public open space, hence statutory town planning procedures must be applied and necessary permits acquired as follows:

- Subdivision of Portion 9 Farm Langstrand No. 42 into Portion 1 (1000m²) and the Remainder.
- Closure of the subdivided Portion 1 (a portion of Portion 9 Farm Langstrand No.42) as Public Open Space.
- Rezoning of the subdivided Portion 1 (a portion of Portion 9 Farm Langstrand No.42) from Public Open Space to General Business.
- Consolidation of the subdivided Portion 1 (a portion of Portion 9 Farm Langstrand No.42) with Portion 8 Farm Langstrand, No. 42 into Portion X.

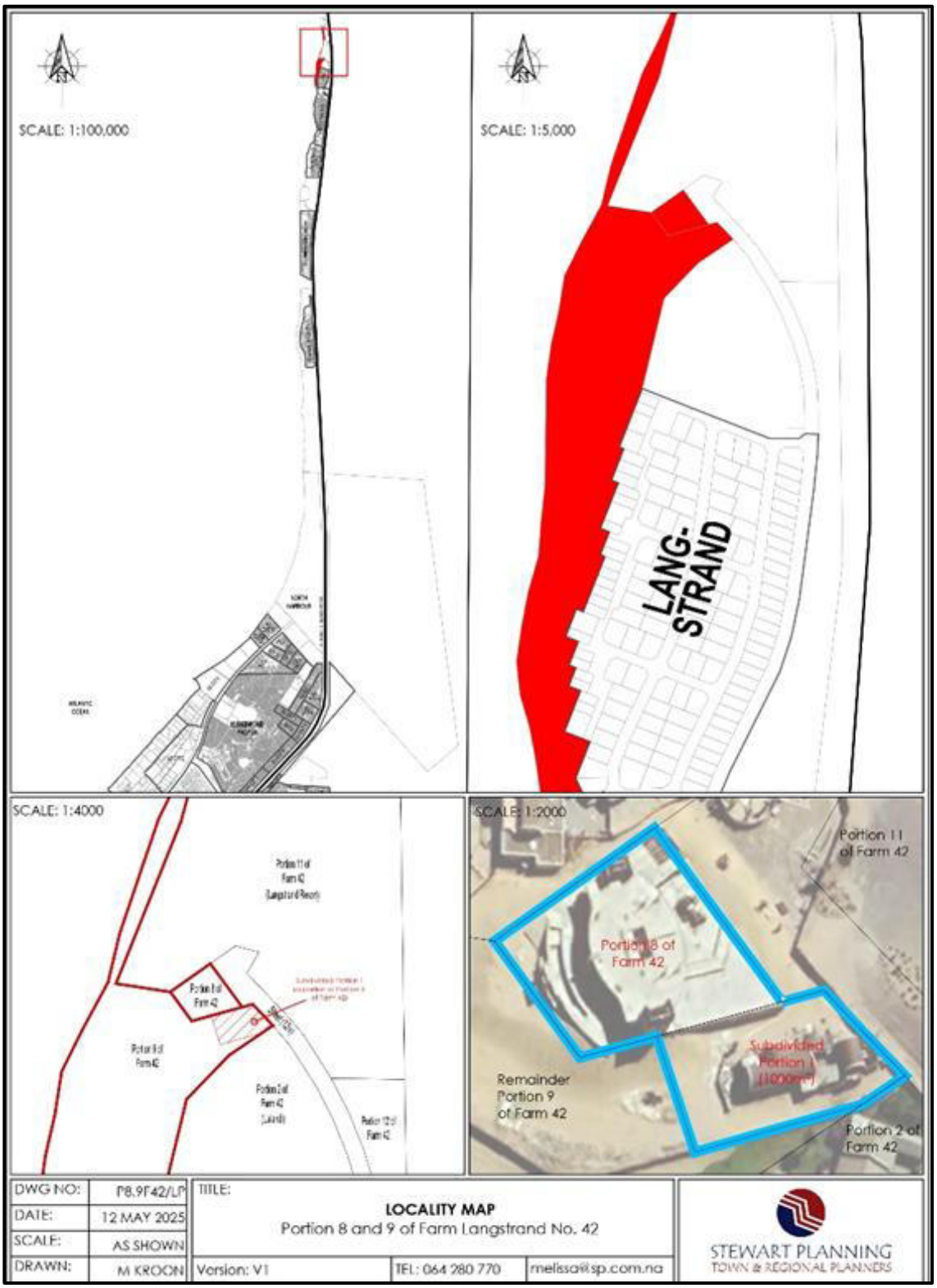

Figure 1: The locality map of the site

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This statutory document has been prepared in accordance with Section 8 of the EMA (No. 7 of 2007). The compilation of this EMP is one of the requirements (scope of work)presented to Excel Dynamic Solutions (Pty) Ltd by the Proponent. It is required of the Environmental Consultant to comply with the EMA and provide for the following:

- Prepare an explicit Environmental Management Plan to be used as a guideline to monitor compliance with the recommendations stipulated in the EIA and to assist in managing and monitoring activities throughout the construction of the proposed development.
- The Environmental Consultant must clearly elucidate in the EMP the roles and responsibilities of the Proponent, the contractors, and any other identified stakeholders.

1.2 Aim of the Draft Environmental Management (EMP)

Regulation 8(j) of the EIA Regulations (2012) requires that a draft Environmental Management Plan (EMP) shall be included as part of the Environmental Assessment (EA). A '**Management Plan**' is defined as:

> *"…a plan that describes how activities that may have significant environmental effects onthe environment are to be mitigated, controlled and monitored."*

An EMP is one of the most important outputs of the EA process, as it synthesises all proposed management & mitigation and monitoring actions, sets them to a timeline, and assigns specific responsibilities. It links the impacts identified in the EA process to the required mitigation measures to be implemented during the construction phase of the proposed development. It is important to note that an EMP is a statutory document, and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living

document and can be amended to adapt to address project changes and/or environmental conditions, and feedback from compliance monitoring.

The purpose of this document is, therefore, to guide environmental management throughout the different phases of the proposed development activities, namely: the pre-development (site acquisition and preparation) phase, the construction phase, the construction closure phase, and the setting up of the botanical garden.

Environmental Monitoring Requirements: To support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented alongside the mitigation plan.

This draft EMP will be used by the Proponent, employees and/or contractors to provide

management measures to be undertaken during construction and setting up the related activities, to address the environmental impacts identified in the scoping report and ensure that the impacts on the environment are avoided or limited if they cannot be avoided altogether.

1.3 Appointed Environmental Assessment Practitioner

To fulfil the requirements of the EMA and its 2012 EIA Regulations, the Proponent appointed Excel Dynamic Solutions (Pty) Ltd (EDS), an independent consulting company, to conduct the required EA process on the Proponent's behalf. This draft EMP will be submitted as part of an application for the proposed development to the Environmental Commissioner at the Department of Environmental Affairs and Forestry (DEAF), at the Ministry of Environment, Forestry and Tourism (MEFT).

1.4 Environmental Assessment Legal Requirements

The content of the EMP must meet the requirements of Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of construction activities throughout the proposed development life cycle. It must also include a system for assessment of the effectiveness of monitoring and management arrangements after project implementation.

The Proponent, therefore, has the responsibility to ensure that the proposed development activities, as well as the EA process, conform to the principles of the EMA and that employees act in accordance with those principles. **Table 1** below lists the requirements of an EMP as stipulated by Section 8(e) of the EIA Regulations, primarily regarding specific approvals and permits that may be required for the activities associated with the proposed development.

Table 1: Applicable legal requirements and permits for the activities of the proposed construction and operation of the Ocean Key Hotel

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
The Constitution of the Republic of Namibia, 1990, as amended	The Constitution of the Republic of Namibia (1990, as amended) addresses environmental protection and sustainable development. Article 91(c) defines the functions of the Ombudsman to include:	By implementing the environmental management plan, the establishment will comply with the constitution regarding environmental management and sustainability.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
	"…the duty to investigate complaints concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia…"	Ecological sustainability will be the main priority for the proposed development.
Health & Safety Regulations, 10th Draft	Makes provision for the health and safety of persons employed or otherwise present in the development area. These deal with, among other matters, clothing and devices, design, use, operation, supervision and control of machinery, fencing and guards, and safety measures during repairs and maintenance.	The Proponent should comply with all these regulations regarding their employees.
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a license or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation from the Ministry of Mines and Energy for on-site fuel storage.
Urban and Regional Planning Act No 5 of 2018	approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and deletion of conditions relating to land; and to provide for incidental matters.	The proposed development must comply with the provisions governing land subdivision and rezoning.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
The Regional Councils Act (No. 22 of 1992)	This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 “to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanisation patterns, natural resources, economic development potential, infrastructure, land utilisation pattern and sensitivity of the natural environment.	The development must comply with the provisions of the Local Authorities Act.
Local Authorities Act No. 23 of 1992	To provide for the determination, for purposes of traditional government, of traditional authority councils; and to provide for incidental matters.	The Walvis Bay Urban Constituency is the responsible local authority for the area; therefore, they should be consulted regarding any on-site development.
Water Act 54 of 1956	The Water Resources Management Act 11 of 2013 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: Prohibits the pollution of water and implements the principle that a person disposing of effluent or waste has a duty of care to prevent pollution (S3 (k)). Provides for control and protection of groundwater (S66 (1), (d (ii)).	The protection of water resources (both quality and quantity/abstraction) should be a priority.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
	Liability of clean-up costs after closure/abandonment of an activity (S3 (l)). (l)).	
Water Resources Management Act (No 11 of 2013)	The Act provides for the management, protection, development, use, and conservation of water resources; the regulation and monitoring of water services; and incidental matters. The objects of this Act are to: Ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii), which provides for preventing the contamination of the aquifer and water pollution control (Section 68).	
National Heritage Act No. 27 of 2004	To provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.	The Proponent should ensure compliance with the requirements of these Acts. The necessary management measures and related permitting requirements must be taken. This was done by consulting with the National Heritage Council of Namibia.
The National Monuments Act (No. 28 of 1969)	The Act enables the proclamation of national monuments and protects archaeological sites.	

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Soil Conservation Act (No 76 of 1969)	The Act provides for the prevention and control of soil erosion and the protection, improvement, and conservation of soil, vegetation, and water supply sources and resources, through directives issued by the Minister.	Duty of care must be applied to soil conservation, and management measures must be included in the EMP.
Public Health Act (No. 36 of 1919)	Section 119 states that “no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”	The Proponent and all its employees should ensure compliance with the provisions of these legal instruments.
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding the health and safety of labourers.	
Road Traffic and Transport Act, No. 22 of 1999	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads; for the licensing of drivers; for the registration and licensing of vehicles; for the control and regulation of road transport across Namibia's borders; and for matters incidental thereto. Should the Proponent wish to undertake activities involving road transportation or access onto existing roads, the relevant permits will be required.	Mitigation measures should be provided; if the roads and traffic impacts cannot be avoided, the relevant permits must be applied for.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Labour Act (No. 6 of 1992)	The Ministry of Labour (MOL) aims to ensure harmonious labour relations by promoting social justice, occupational health and safety, and enhanced labour market services for the benefit of all Namibians. This ministry ensures the effective implementation of the Labour Act no. 6 of 1992.	The Proponent should ensure that the development does not compromise the safety and welfare of workers.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Urban and Regional Planning Act 5 of 2018	The Act provides to consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralise some matters regarding spatial planning; to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and deletion of conditions relating to land; and to provide for incidental matters.	The subdivision and consolidation of land, as well as the establishment of townships, are to be done in accordance with the act.

1.5 Draft EMP Limitations

This EMP has been drafted with the acknowledgement of the following limitations:

- This EMP has been drafted based on the Environmental Assessment (EA) conducted for the proposed development.
- The mitigation measures recommended in this EMP document are based on the risks/impacts in the ESA Report, which were identified based on the project description as

provided by the Proponent, site investigation and public input. Should the scope of the proposed project change, the risks/impacts will have to be reassessed and mitigation measures provided accordingly.

2. EMP ROLES AND RESPONSIBILITIES

The Proponent is ultimately responsible for implementing the EMP. However, the Proponent may delegate this responsibility at any time, as they deem necessary during the projectphases. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set out below:

2.1 Competent Monitoring Authority:
Department of Environmental Affairs andForestry (DEAF, MEFT))

The DEAF is responsible for enforcing compliance with the EMA, its regulations and full implementation of this EMP. The competent authority also reviews biannual reports and grants ECC renewal after 3 years.

The Proponent or Proponent's Representative (PR)

If the Proponent does not personally manage all aspects and phases' activities referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The PR may be appointed to manage all phases of the project, or only the EMP aspects. The PR's responsibilities may include:

- Managing the implementation of this EMP and updating and maintaining it when necessary.
- Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP.
- Issuing fines for contravening EMP provisions.

Site Manager (as appropriate)

This individual will be responsible for ensuring that the project's proposed development activities are completed on time. The site Manager's duties and responsibilities will include:

- Ensure that relevant commitments contained in the EMP Action Plans are adhered to.
- Ensure relevant staff are trained in procedures entailed in their duties.
- Maintain records of all relevant environmental documentation for the project.
- Reviewing the EMP annually and amending the document when necessary.
- Issuing fines to individuals who may be in breach of the EMP provision and, if necessary,removing such individuals from the site.
- Cooperate with all relevant interested and affected parties/stakeholders.
- Development and management of schedules for daily activities.

Environmental Control Officer (ECO)

The Proponent may assign responsibility for ensuring EMP compliance throughout the project life cycle to a designated member of staff or an external qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO). The ECO will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) regarding this EMP.
- Conducting site inspections (recommended frequency is monthly or weekly, as recommended – please refer to Table 3) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP).
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP.
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP.
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.
- Ensuring that the development activities on site are conducted in accordance with the International Organisation for Standardisation (ISO) standard 14001: 2015 (environmental management system).

Archaeology: Chance Finds Procedure (CFP) Implementation Roles

The following personnel have been assigned responsibilities as per the Chance Finds procedure (Appendix 1):

- **Operator:** To exercise due caution if archaeological remains are found.
- **Foreman**: To secure the site and advise management timeously.
- **Superintendent**: To determine the safe working boundary and request an inspection.
- **Archaeologist**: To inspect, identify, advise management, and recover remains.

The Proponent should assess these commitments in detail and should acknowledge their obligation to the specific management actions detailed in the Tables under the following sections.

3 ENVIRONMENTAL MANAGEMENT & MITIGATION MEASURES

3.1 Management of Key Potential Adverse Environmental Impacts

From the assessment conducted, the following key potential negative impacts have been identified and are summarised below:

- Environmental pollution (littering)
- Health and safety: improper handling of materials and equipment may cause occupational health hazards.
- Potential soil and water resources pollution during construction
- Socio-economic issues (conflicts with locals, vandalism/theft of building materials and associated equipment)
- Potential noise during construction
- Air pollution owing to dust generation and fumes/emissions (during construction)
- Impact on archaeological and cultural heritage resources, in the case of any archaeological and heritage finds onsite (inadvertent unearthing during site preparation/excavations).

3.2 Aim of the Environmental Management Plan Actions

The EMP's management actions aim to avoid, where possible, the potential adverse impacts listed above. Where impacts cannot be avoided, measures are put in place to reduce their significance.

Management actions recommended for the potential impacts rated in the ESA carried out for the development activities were based on the following stages (phases):

- Construction phases of the Ocean Key Hotel (**Table 2**)
- Monitoring during operation (**Table 3**)
- Construction closure phases (section 4)

The responsible person(s) should assess these actions in detail and acknowledge their commitment to the specific management actions detailed in the phases given under the following subsections.

3.4 Construction Phase Management Action Plans (Mitigation Plan)

The management action plans recommended for this phase are presented in **Table 2** below.

Table 2: Management and mitigation action plans for the pre-development and construction phases

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
PRE-DEVELOPMENT PHASE						
EMP implementation and training	Lack of EMP awareness and implications thereof	-A Comprehensive Health and Safety Plan for the project activities should be compiled. This will include all necessary health, safety, and environmental considerations applicable to the respective works on site. An on-site EMP non-compliance penalty system should be implemented. The Proponent should appoint an ECO to be responsible for managing the EMP implementation and monitoring.	-All required Plans and systems are compiled and in place and the Environmental Control Officer (ECO)is appointed	Proponent	EMP Implementation Plans and Systems	Pre-development works
Authorizations	Lack of Agreements, Permits/ Licenses	-All the required agreements and licenses or permits should be applied for and signed, respectively, before commencement of work on the site, or as required. -The permits and agreements referredto herein include: o Land acquisition.	-Applicable permits and licenses to be obtained from relevant authorities and kept on site for record-keeping and future inspections. -Agreements/permits signed and obtained from on time, **min. 2**	Proponent	Proponent Respective authorities and service provider(s)	Before construction works

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		○ waste management disposal permits fromthe relevant facility operator/owner ○ Water supply agreements. ○ Electricity supply permit ○ On-site fuel storage permit from MME for any petroleum stored on-site. ○	**months prior to the construction and setting up of the hotel, and the commencement date of works.**			
Communication between the Proponent and other neighbouring land users and custodians	Lack of communication (proper liaison) between other land users and the Proponent about landuse	-The Proponent should appoint a Public Relations Officer (PRO) to liaise with the land users. -A clear communication procedure/plan, which should include a grievance mechanism.	A PRO is appointed -Ongoing Stakeholder Consultation throughout the project cycles, when and as required. PRO contact details to be provided to the affected landowners	Proponent	PRO Complaint's logbook	PRO appointment (Before project activities) and their responsibilities throughout the project activities
Employment	Creation of employment opportunities	-Non-skilled labour should be sourced from the locally affected area (people from the local communities), in accordance with procedures approved by the	-Number of locals employed for pre-development and Construction and setting up activities	Proponent in collaboration with the Site Manager (if necessary)	Record of employees	Pre-project activities and when necessary, throughout

		relevant authorities.				

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		-Preference of local people for employment for jobs should be implemented, i.e., permanent residents from the surrounding areas should be employed for the unskilled labour preferentially to out-of-area people (outsiders) where possible. Out-of-area employment should be justified, for example, by the unavailability of local skills. -Equal opportunity should be provided for both men and women, when and where possible.				
Specialised procurement of services	Contractors and services	-All services related to development activities, such as construction, that the Proponent may need; preference should be given to local providers of such services. If not available locally, the services search should be extended to the regional level (Oshikoto Region), then to the national level, and, lastly, to the international level.	Number of hired contractors.	Proponent Site Manager	Record of hired or contracted companies or service providers	Pre-project activities and ,when necessary, throughout
CONSTRUCTION AND OPERATION PHASE						
EMP implementation and training	Lack of EMP awareness and implications thereof	-EMP trainings should be provided to all new workers on-site. -All site personnel should be aware of the necessary health, safety,	Compliance monitoring should be conducted biannually and recorded.	ECO	Bi-annual reports	Throughout the Development phase and as required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		and environmental considerations applicable to their respective work. -The implementation of this EMP should be monitored. The site should be inspected, and a monthly compliance audit should be conducted throughout the project. An on-site EMP non-compliance penalty system should be implemented.			Records of EMP training conducted.	
Communication between the Proponent and other neighbouring land users and custodians	Lack of communication (proper liaison) between locals and the Proponent regarding land use.	The Proponent should compile a clear communication procedure/plan that includes a grievance and response mechanism.	PRO is part of the project personnel. -Community grievances addressed to their satisfaction	PRO	Complaint's logbook PRO contact details to be provided to the affected locals. Records of stakeholder' consultation Land acquisition agreement conditions	Throughout the development activities
Water Resources Use	Over-abstraction (water demand and availability)	- Water reuse/recycling methods should be implemented as far as practicable, such that the water used for the cleaning of project equipment, if possible.	Water supply agreements	Proponent	Water supplier Water supply agreements	Once-off supply agreement

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		-Water storage tanks (if there are any on-site) should be inspected daily to ensure that there is no leakage, resulting in wasted water on-site. -Water conservation awareness and saving measures training should be provided to all the project workers in both phases, so	Proof/recording/quantification of water-saving efforts. Water supplier -Water permits -inspection of water storage tanks on site	Site Manager	Proponent Water storage tanks on site	Throughout the project phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		that they understand the importance of conserving water and become accountable.				
Soils	Physical soil/land disturbance and loss of topsoil	-Overburden soils and rocks should be handled more efficiently during operations to avoid erosion when subjected to erosional processes. -Soils that are not within the intended and targeted footprints of the site should be left undisturbed, and soil conservation implemented as far as possible. -Project vehicles and machinery should stick to access roads provided and or meant for the project operations, but not to unnecessarily create further tracks on site by driving everywhere, resulting in soil compaction. -The project footprint area should not be cleared entirely, and the vehicles and equipment must be placed in such a way that soil disturbance is minimised, and the site should be rehabilitated after each on-site work.	No proliferation of informal vehicle tracks. No new erosion gullies.	ECO	Proponent All personnel Complaint's logbook	Throughout the project phase
Soils and water resources	Soils and water resources pollution	-Oil and wastewater spill control Preventive measures should be in place on-site for the management of soil	No complaints of pollutants on the soils and eventually in the	ECO	Complaint's logbook	Throughout the project phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		contamination, thus preventing and minimising the contamination from reaching water resources bodies. Some of the soil control preventive measures that can be implemented include: -Spill control preventive measures should be in place on site to manage soil contamination, thus preventing and or minimising the contamination from reachingwater resource bodies. -All project employees should be sensitised about the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures. -The Proponent should develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked supply cache easily accessible. -Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training and mentor new workers as they get hired. -Project machines and equipment should be equipped with drip trays	water due to development activities No visible oil spills on the ground or pollution spots. -Waste containers provided at work sites and campsites		Non-permeable material to cover the ground surface in areas where hydrocarbons and potential pollutants are utilised.	

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		to contain potential oil spills during on-site operations. -Polluted soil should be removed immediately and put in a designated waste-type container for later disposal. -Drip trays must be readily available on this trailer and monitored to ensure thataccidental fuel spills along the tank trailer path/route around the sites are cleaned on time (soon after thespill has happened). -Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. -Washing of equipment contaminated with hydrocarbons, as well as the washing and servicing of vehicles, should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources. -Toilet water should be treated using the long drop toilet system and periodically emptied out before reaching capacity and				

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		transported to a wastewater treatment facility.				
Biodiversity	Loss of Fauna and Flora	**<u>Fauna</u>** -Access roads (even existing ones) should be utilised appropriately in a manner that disturbs as few land areas as possible, thus minimising faunal habitat destruction. -Breeding sites for faunal species that are found within the site and nearby should not be disturbed. -Environmental awareness on the importance of faunal preservation should be provided to the workers and contractors. **<u>Flora:</u>** -The Proponent should avoid unnecessary removal of vegetation, thus promoting a balance between biodiversity and their construction works. -Vegetation found on the site, but not on the site, should not be removed but left to preserve biodiversity onthe site. -Movement of vehicles and machinery should be restricted to existing roads and tracks to	No disturbance to unmarked areas. No complaints from locals regarding unauthorised vegetation removal or tree cutting. No intentional disturbance and destruction of site vegetation and faunal species Visible preservation of onsite vegetation	ECO	Barricading tape (to indicate working areas) Complaint logbook	Throughout the project phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Land Use	Conflict between land uses, construction, and setting up activities	-Construction activities should not in any way hinder the existing land use uses but instead promotes coexistence throughout the project operations while respecting other land users. -The Proponent should ensure that their activities comply with the conditions set by the competent, regulatory, and affected authorities, such that the proposed construction activities do not severely impact the different existing activities around the site.	Land access and use permits/authorisations. Compliance with conditions set within operational permits by relevant and affected authorities. Little to no complaints of significant interference from the neighbouring land users	PRO Proponent ECO	Proponent Relevant authorities (MEFT, MME, etc.)	Throughout the project phase

Road use and safety	Increase in vehicular traffic flow.	-Vehicles should be driven only on existing access roads and necessary temporary accessroads only leading to the site; no new roads should be constructedwhere possible. -The transportation of project materials, equipment and machinery should be limited to once or twice a week only, but not every day. -The heavy truck loads should comply with the maximum allowed limit while transporting materials and equipment/machinery on the public and access roads. -The carted water into the area from outside the project area	No complaints from members of the public regarding vehicular traffic issues related to the project activities. All personnel operating the project vehicles and machinery are appropriately licensed and hold valid driving licenses. Demarcated areas for parking, offloading,and loading zones are on site.	Proponent ECO	Number of project vehicles on site Names of drivers Frequency of water carting	Throughout the project phase Site access permit (s) to be applied for and obtained before commencement of project works

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		should be done once or twice a week in a container that can supply and store water for most of the week, thus reducing the number oftrucks on the road. -Drivers of all project phases' vehicles should have valid and appropriate driving licenses. Vehicle drivers should adhere to the road safety rules. -Drivers should drive slowly (40km/hour or less) and be on the lookout for animals and people. -Project vehicles should be in a roadworthy condition and serviced regularly to avoid accidents because of mechanical faults in vehicles.	If required, site access road permits will be obtained, and requirementsfulfilled. No creation of unnecessary tracks on the site.			
Local services and infrastructure	Overuse and maintenance	-The heavy trucks transporting materials and services to the site should be scheduled to travel at least twice or thrice a week to avoid daily travelling to the site, unless in cases of emergencies. The heavy trucks transporting materials and services to the site should be scheduled to travel at least twice or thrice a week to	-Visible efforts of maintaining access and community roads by the Proponent	Proponent Site Manager	Road clearing machinery (bull dozers)	Throughout the project phase, when necessary

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		Avoid daily travel to the site, unless in an emergency.				
Occupational Health and Safety	General health and safety associated with project activities in both phases	-The Proponent should commit to and make provision for a bi-annual complete medical check-up for all the workers at the site to monitor the impact of project-related activities on them (workers). -As part of their induction, the project workers should be provided with an awareness training of the risks of mishandling equipment and materials on site, as well as health and safety risks associated with their respective jobs. -employees should be adequately equipped with adequate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc. -Heavy vehicle, equipment and fuel storage sites should be secured appropriately, and appropriate warning signage should be placed where visible. -Drilled boreholes that will no longer be in use, or to be used later after being drilled, should be	A comprehensive health and safety plan for all construction activities shall be compiled.	Proponent Site Manager ECO	Occupational Health and Safety Personnel Health and Safety Trainings First aid kits Trained worker to administer first aid	Throughout the project phase and trainings offered as and when required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		properly marked for visibility and capped/closed off. -An emergency preparedness plan should be compiled, and all personnel appropriately trained. -Workers should not be allowed to drink alcohol before and during working hours, nor allowed on site when under the influence of alcohol, as this may lead to mishandling of equipment, which results in injuries and otherhealth and safety risks. -The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs.				

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
	Potential increase in theprevalence ofHIV and AIDS, as well as other sexually transmitted diseases (STDs) prevalence	-The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations, which result in contracting HIV/AIDS and other sexually transmittedinfections. -Provision of condoms and sex education through the distribution of pamphlets and health training. These pamphlets can be obtained from local health facilities.	No new infections recorded linked to workers	Proponent ECO	Occupational health and safety personnel Sex and Health Education/Awareness Provision of condoms at the campsite	Throughout the project phase
	Accidental fire outbreak	-Portable fire extinguishers should be provided on site. -No open fires to be created by project personnel on farms. -Potential flammable areas and structures such as fuel storage tanks should be marked as such with clearly visible signage.	No wildfires recorded (due to the presence of workers)	Proponent ECO	Fire extinguishers (1 per vehicle) and 1 per working site	Throughout the project phase
Archaeology and heritage	Accidental disturbance and destruction of archaeological	-On-site personnel (s) and contractor crews must be sensitised to exercise and	Preservation of all artefacts and objects that are discovered on and around the project site	Proponent	Salvage equipment Archaeologist	As and when required, i.e., before site set

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
	or heritage objects and sites	recognise “chance finds heritage” in the course of their work. -During the construction works, it is essential to take note and recognise any significant material being unearthed and make the correct judgment on which actions should be taken (refer to CFP Appendix attached to the EMP). -A landscape approach to site management must consider culture and heritage features in the overall planning of construction infrastructures within and beyond the license boundaries. -The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in the event significant heritage and culture features are discovered while conducting works. -Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project Archaeological Management Plan (AMP)/EMP, compliance should be ensured. -An archaeologist or Heritage specialist should be on-site to	No-Go Areas avoided	ECO Operator Foreman Superintended Archaeologist	Flag tapes GPS (site marking)	up, and during construction.

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		Monitor all significant earth-moving activities that may be undertaken as part of the proposed project. -Show overall commitment and compliance by adopting a "minimalistic or zero damage approach".				
Littering and waste management (general waste and sanitation)	Environmental Pollution	-Workers should be sensitised to dispose of waste responsibly and not to litter. -After each daily work, the Proponent should ensure that there are no wastes left on the sites. -All domestic and general project waste produced daily should be contained until it is transported to designated waste sites in the nearby town. -No waste may be buried or burned on site or anywhere else. -Sewage waste should be stored as per the available sewage system supplied on site and regularly disposed of at the nearest treatment facility.	No visible litter around the project area Provision of sufficient waste storage containers Waste management awareness	ECO	Waste storage containers Waste disposal permits to municipalities. Environmental, Health and Safety Statements and Policy	Throughout the project phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		-Oil spills should be taken care of by removing and treating the soil affected by the spill. -A penalty system for the irresponsibledisposal of waste on-site and anywhere in the area should be implemented. -Careful storage and handling of hydrocarbons on site is essential; therefore, it should be enforced. -Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of in accordance with municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater.				
	On-site workers generate wastewater.	-Provision of toilet facilities for workers (mobile/portable chemical toilet if possible). -Emptying of chemical toilets according to the manufacturer's specifications.	Adequate toilet and basic ablution facilities on site.	Proponent ECO	Chemical toilets Sewage removal operator waste treatment agents/chemicals	Throughout the project phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Air Quality	Dust generation	-Vehicles should not drive at a speed of more than 40 km/h to avoid dust generation around the area. -Dust masks, eye protective glasses and other respiratory personal protective equipment (PPE) such as face masks should be provided to the workers on site, where they are exposed to dust. -Excavating equipment should be regularly maintained to ensure excavation efficiency and to reduce dust generation and harmful gaseous emissions.	No complaints from the public about vehicle emissions or dust. Visible efforts to curb dust	ECO	Complaint's logbook Dust suppressant (Water)	Throughout the project phase
Noise	Nuisance	-Noise from project vehicles and equipment on the working sites should be at acceptable levels. -The construction times should be set such that no such activities are carried out during the night or very early in the mornings (to be limited between 8 am and 5 pm on weekdays). -Construction hours should be restricted to between 08h00 and 17h00 to avoid noise and vibrations generated by equipment and the movement of vehicles before or after hours.	Complaints from neighbouring land users about excessive noise.	ECO	Complaint's logbook Noise protective equipment for workers	Throughout the project phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		-When operating machineryonsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce noise exposure.				
Social nuisance	Local properties disturbance and values	-Any workers or site employees who will be found guilty of intruding on people's privately owned properties should be called in for a disciplinary hearing and/or dealt with as per their employer's (Proponent) code of employment conduct -The project workers should be advised to respect the community and locals' private properties, values, and norms. -No worker should be allowed to wander in people's private yards or fences without permission. -Out-of-area workers who may be employed (due to their unique work skills) on site should be sensitised on the importance of respecting the local values and norms.	No complaints from stakeholders about property theft, disturbance, or intrusion	ECO	Grievance logbook Land access agreement conditions	Throughout the project phase
CONSTRUCTION CLOSURE PHASE						

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Construction closure phase	Disturbance and damage to land	-All drilled boreholes should be capped and backfilled. -All waste generated and stored on site during construction activities should be disposed of at the nearest solid waste management sites. -Any temporary setup on site should be dismantled as far as practicable. -Provision of both financial and technical resources forprogressive construction closure.	Capped boreholes and backfilled pits No signs of waste or littering were observed on or around the site. Carrying away of waste, and removal of vehicles and equipment from the site Campsite dismantled and materials taken away from the site.	Proponent	Excavators and other backfilling/demolishing machinery Record of boreholes drilled Waste containers on sites Records of financesset aside for project construction closure activities	Progressive construction was done throughout the project phase.

3.5 Monitoring Action Plans (Monitoring Plan)

To support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented. The monitoring action plans recommended for planned construction works are presented in **Table 3** below.

Table 3: Management action plans for Monitoring

Environmental Feature	Impact	Monitoring Actions	Implementation responsibility	Frequent	Threshold	Action if the threshold is exceeded
Archaeology and Heritage	Presence or unearthing of archaeological or cultural heritage resources	To prevent the destruction of artefacts and sites. Preservation of all artefacts and sites that are discovered within the site boundary or around the project site area. Inspection of records of findings.	ECO Archaeologist	Daily	Unearthing of archaeological or cultural heritage resources	Cease all activities on site and wait for NHC to inspect the site and give further instructions / actions
Soils	Loss of topsoil	All measures should be considered to present the loss of topsoil	ECO and site Manager	weekly	Proliferation of new vehicle tracks	Rehabilitation of affected areas
Monitoring	EMP non-compliance	The ECO or the Proponent/Contractor should monitor the implementation of this EMP to ensure compliance. The ECO(s) should inspect the site throughout the construction period and after completion.	ECO	Daily	Increase in health, safety and environmental damage incidence	Daily safety talks, remedy the consequences

Environmental Feature	Impact	Monitoring Actions	Implementation responsibility	Frequent	Threshold	Action if the threshold is exceeded
Health and Safety	Health and safety of the workers	-Workers should be trained on how to handle materials and equipment on site (if they do not already know how to) to avoid injuries. -Construction equipment and materials transported to the site should be securely fastened to the vehicles (trucks and cars). This is to ensure that materials and equipment do not fall from the vehicles and injure anyone during transport. - All personnel should be provided with appropriate personal protective equipment (PPE), such as gloves, masks, safety boots, safety glasses and hard hats, always during construction hours on site to prevent serious injuries or loss of life. -No employee should be allowed to drink alcohol before and during working hours, as this may lead to mishandling of equipment, which results in injuries and other health and safety risks.	ECO Worker Involved in this phase	Daily/Weekly	Health and safety incident	Remedy the consequences

Environmental Feature	Impact	Monitoring Actions	Implementation responsibility	Frequent	Threshold	Action if the threshold is exceeded
Neighbouring land users to the site	Disturbance	The construction works schedule should be limited to regular working hours, between 08h00 and 17h00. This is to ensure that the generated noise does not become a nuisance to the neighbours.	ECO Site Manager	Weekly	A logged complaint about excessive noise	Revision of site activities
Waste	Environmental Pollution	-The site should always be kept tidy. All domestic and general construction waste produced daily should be cleaned and contained to prevent environmental pollution. -Separate waste containers (bins) for hazardous and domestic/generalwaste must be provided on site to avoid mixing of waste.	ECO All workers are involvedin this phase.	Daily	Visible litter around project tesite A logged complaint	Clean-up of the affected areas and ensuring that construction workers utilise the provided waste containers.
Vehicular traffic Safety	Increase in local traffic flow.	-All drivers of the project vehicles should have a valid and appropriate driving licenses to operate such vehicles.	ECO	Weekly	A logged complaint about traffic increase or damage to roads	Find alternative access roads for the team. Rehabilitation of affected roads

Environmental Feature	Impact	Monitoring Actions	Implementation responsibility	Frequent	Threshold	Action if the threshold is exceeded
		-Project vehicles should be in a roadworthy condition and serviced regularly to avoid accidents because of mechanical faults in vehicles. -Vehicle drivers should not be allowed to operate vehicles while under the influence of alcohol. -No heavy trucks or project-related vehicles should be parked in biologically sensitive areas.				

4 CONCLUSIONS AND RECOMMENDATIONS

If the Environmental Commissioner considers ECC issuance for the proposed development, it is recommended that an ECC for this project be granted, subject to the followingrecommendations:

- All mitigations provided in this Report and the management action plans in the EMP should be implemented, and monitoring should be conducted as recommended.
- All the necessary environmental and social (occupational health and safety) precautions provided should be adhered to.
- The monitoring of the implementation of mitigation measures should be conducted, including applicable impacts, actions taken, reporting done and recorded as recommended in the Draft EMP.

The proposed construction of the hotel involves sensitive environmental and social components that may be affected. Therefore, potential negative impacts stemming from these activities were acknowledged, assessed, and mitigation measures were put in place. The mitigation measures endorsed in the ESA report and the management action plans provided in the draft Environmental Management Plan can be considered adequate to eliminate or reduce the risks to acceptable levels. Therefore, Excel Dynamic Solutions (Pty) Ltd assures that these measures are sufficient to enable environmentally sustainable and safe construction of the hotel works on the site. Therefore, it is recommended that written approval for the ECC may be issued on the condition that the provided management measures and action plans are effectively implemented on site and monitored. In general, monitoring of the environmental components described in the ESA should be conducted by the Proponent and the applicable Competent Authorities. This is to ensure that all potential impacts identified in this study, as well as any that might arise during the proposed development, are identified in time and addressed.

APPENDIX 1: CHANCE FINDS PROCEDURE (AFTER KINAHAN, 2020)

Proposed development areas are subject to heritage survey and assessment at the planning stage. These surveys are based solely on surface indications, and it is therefore possiblethat sites or items of heritage significance will be found during development work. The procedureset out here covers the reporting and management of such finds.

Scope: The "*chance finds*" procedure covers the actions to be taken from the discovery of a heritage site or item to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

Compliance: The "chance finds" procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): "*a person who discovers any archaeological …. object ……must as soon as practicable report the discovery to the Council*". The procedure for reporting set out below must be observed so that heritage reported to the NHC is correctly identified in the field.

The Manager/Supervisor must report the findings to the following competent authorities:

3.5.1 National Heritage Council of Namibia (061 244 375)

3.5.2 National Museum (061 276800),

3.5.3 National Forensic Laboratory (061 240461).

Archaeological material must NOT be touched. Tampering with the materials is an offence under the Heritage Act and is punishable upon conviction.

Responsibility:

Operator: To exercise due caution if archaeological remains are found.

Foreman: To secure the site and advise management timeously.

Superintendent: To determine the safe working boundary and request an inspection. **Archaeologist:** To inspect, identify, advise management, and recover remains

Procedure:

<u>Action by a person identifying archaeological or heritage material:</u>

a) If operating machinery or equipment, stop work

b) Identify the site with flag tape

c) Determine GPS position if possible

d) Report findings to the foreman

Action by the foreman

a) Report findings, site location and actions taken to the superintendent

b) Cease any works in the immediate vicinity

Action by the superintendent

a) Visit the site and determine whether work can proceed without damage to findings

b) Determine and mark the exclusion boundary

c) Site location and details to be added to the project GIS for field confirmation by the archaeologist

Action by an Archaeologist

a) Inspect the site and confirm the addition to the project GIS

b) Advise NHC and request written permission to remove findings from the work area

c) Recovery, packaging and labelling of findings for transfer to the National Museum

In the event of discovering human remains

a) Actions as above

b) Field inspection by an archaeologist to confirm that the remains are human

c) Advise and liaise with NHC and Police

d) Recovery of remains and removal to the National Museum or the National Forensic Laboratory, asdirected.