ENVIRONMENTAL MONITORING REPORT (EMR): CONSTRUCTION AND OPERATION OF AN ANIMAL RENDERING AND HIDES PROCESSING PLANT, BRAKWATER-KHOMAS REGION: NAMIBIA

Environmental Consultant:
Plan Africa Consulting cc

Project Proponent:
Anpro Hides & Skins cc

December 2019

APP-00856

PROJECT TITTLE:	ENVIRONMENTAL MONITORING REPORT (EMR): CONSTRUCTION AND OPERATION OF AN ANIMAL RENDERING AND HIDES PROCESSING PLANT, BRAKWATER-KHOMAS REGION: NAMIBIA
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Project Name:
Construction and Operation of an Animal Rendering and Hides Processing Plant, Brakwater-Khomas Region: Namibia

Period

This audit report covers the period starting from December 2014 to November 2019, this was necessitated by the fact that no biannual reports were submitted during the mining after the Environmental Clearance Certificate was issued on 09 December 2014

Stage of Report

Final Report

Client

Anpro Hides and Skins

Date of Release:

January 2019

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ACKNOWLEDGEMENTS

Plan Africa Consulting cc wishes to thank management and staff at Anpro Hides and Skins cc who participated in the environmental auditing process at the existing animal rendering facility. We are most grateful to the Site Manager for his assistance and contributions towards the successful compilation of this document. We also wish to thank MET: DEA management and staff for enforcing environmental responsibility in social entrepreneurs for the sustainability of our economy.

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Definitions

TERMS	DEFINITION
BID	Background Information Document
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EMP	Environmental Management Plan
EMR	Environmental Monitoring Report
GHG	Greenhouse Gasses
ISO	International Organization for Standardization
I&APs	Interested and Affected Parties
MET: DEA	Ministry of Environment and Tourism's Directorate of Environmental Affairs
NHC	National Heritage Council
NEMA	Namibia Environmental Management Act
PRP	Pit Rehabilitation Plan
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change

1. CHAPTER ONE: BACKGROUND

1.1. INTRODUCTION

Anpro Hides and Skins herein referred to as the "proponent" is a local business operating an Animal rendering plant in Brakwater; Windhoek -Namibia. The proponent intends to continue with the ongoing operations and expand operations into hides processing, all to be done in an environmentally responsible manner on their current operating Site in Brakwater. The animal skins processing is being proposed because the existing operations and machinery have not been in use because of the lack of clientele, thus the facility was operating below capacity.

Thus, in accordance to the requirements of the Environmental Management Act, No. 7 of 2007 Section 40 the companies' environmental clearance certificate granted on in December 2014 has come to its lapse period as section 40 of the Act states that:
- (1) An environmental clearance certificate becomes effective and operates from the date endorsed on the certificate.
-(2) An environmental clearance certificate remains effective for a period not exceeding three years, subject to cancellation or suspension under section 42.

It is under this background that this document has been prepared following a request by the proponent, to the consultant (Plan Africa Consulting cc) to conduct an environmental audit and develop an environmental management plan to accompany the application for renewal of the expired Environmental Clearance Certificate Renewal to the MET: DEA. The document gives an in-depth understanding of the nature of environmental, occupational health and safety and social (EOHS&S) risks associated with the current on-going animal rendering plant and goes on to give mitigation and prevention measures to manage environmental risks and non-compliance issues surrounding the operations of the venture.

1.2. PROJECT LOCATION

The proposed plant is situated on Portion 16 of Portion 13 of the Farm Emmarentia No. 380, Windhoek, approximately 25 kilometres from the City of Windhoek en route to Okahandja. This portion of land falls under the direct administration of the City of Windhoek. Although the site is governed under the Town Planning Scheme, 1995 of the City of Windhoek it generally and currently is semi-rural in nature and bordered by other small holding establishments many of which have been in recent times rezoned from residential/agricultural to industrial. In particular, this portion of land was rezoned from "residential" to "industrial" of which the Environmental Commissioner issued a Clearance Certificate on 13 August 2012.

The proposed development approximately covers a land portion of 2.6 hectares in extent and the portion is covered by industrial shells, parking and waste handling facilities. The map below (Fig 1) gives a locality overview of the project site

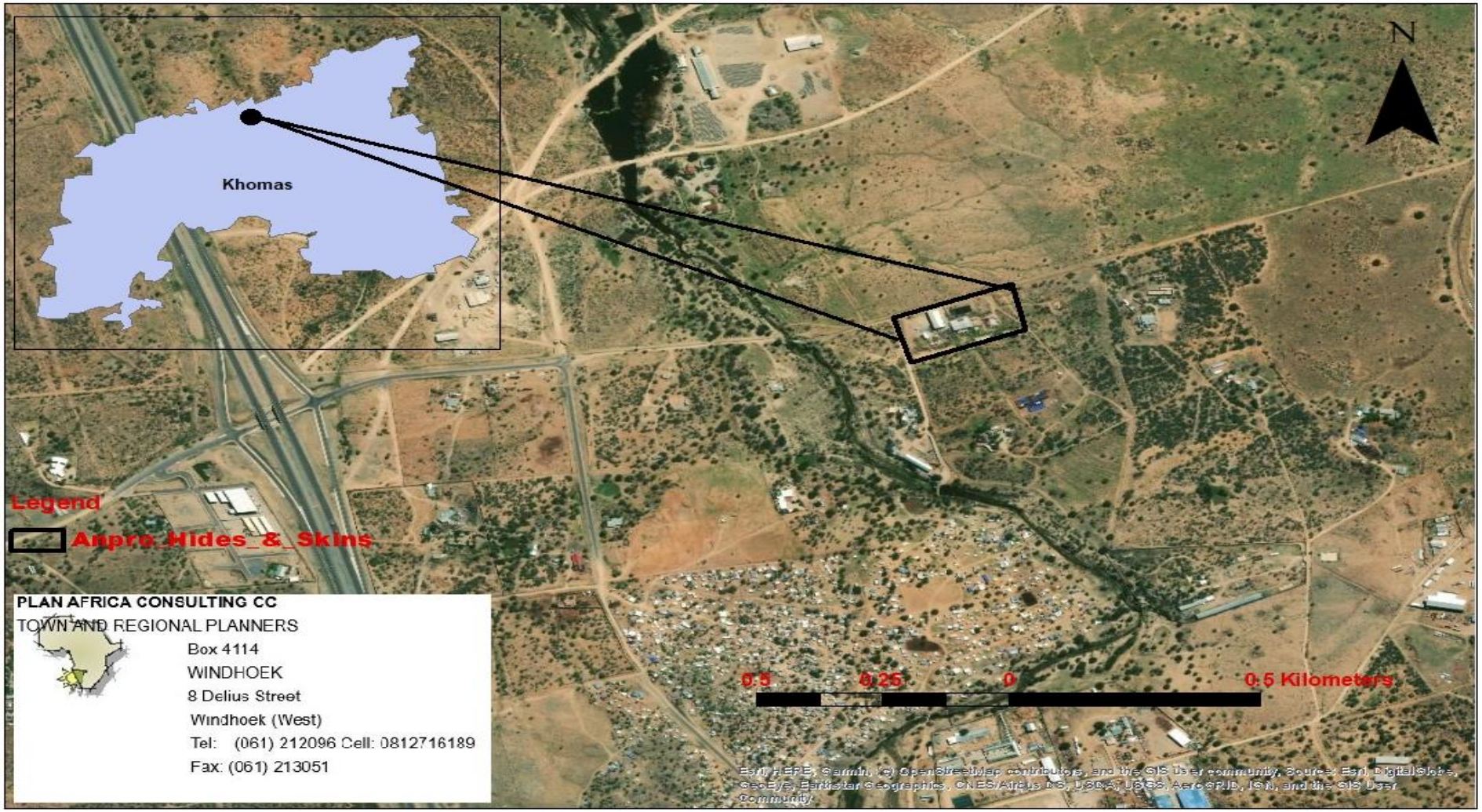

Figure 1: Anpro Hides and Skins Locality: Brakwater-Namibia

1.3. PROJECT DESCRIPTION

Process flow design (Guideline)

Anpro hides and skins animal rendering facility involves the following process:

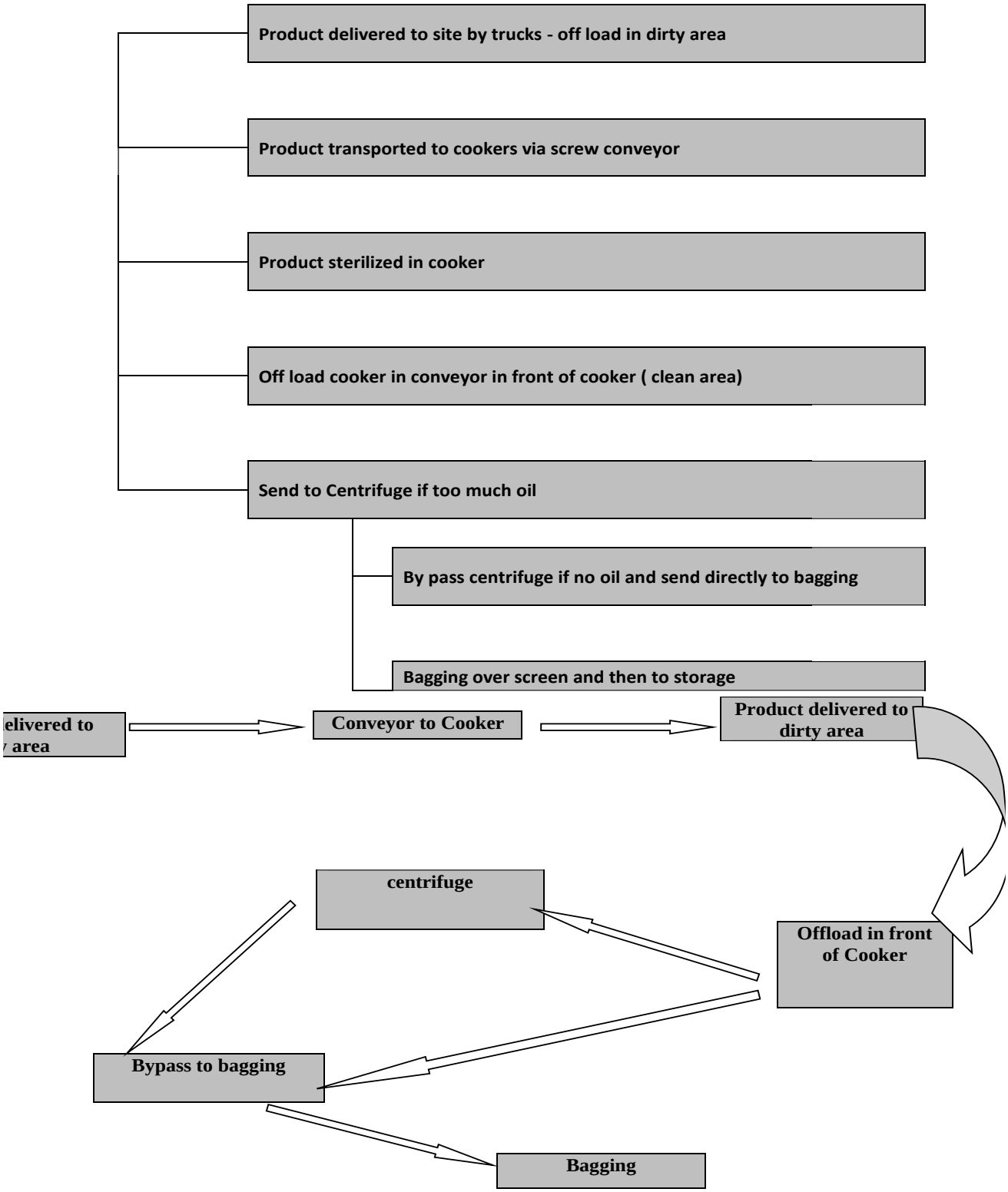

Table 1: Animal Rendering Process Flow

Product Delivery (1)

The raw material arrives in a designated vehicle, which has been constructed in a safe manner to transport raw material from the abattoir or any supplier of the raw material. The content is then tipped onto a conveyer belt, which transfers it to the by-product receiving bin.

Dirty yard (2)

After offloading the truck is taken to the wash-bay in the Dirty yard where it is washed with hot and cold water and also disinfected.

By-product receiving bin (3)

From the by-products receiving bin the raw material could in future be transferred to the pre-breaker with a screw conveyer. The receiving bin is open at the top and is provided with a valve at the lowest point for effective cleaning and disinfection after the day's work.

Bone crusher (4)

A double anvil pre-breaker breaks the material to 20 mm pieces in order to allow effective heat penetration during cooking.

Screw conveyers (5)

The mild steal screw conveyer conveys the crushed raw material to the holding bin where it lies for 1 to 2 hours as it is being processed (transferred to the cooker).

Holding bin (6)

The screw conveyer takes the raw material to the holding bin.

Cooker 1(7)

The cooker receives the raw material via the closed screw conveyer. Hydrolyses then takes about 45 minutes. After this the condensate follows that releases into the condenser which takes about 30 minutes. After this cooking takes another 4 hours.

Cooker 2(8)

The second cooker is used as a standby cooker.

Transfer screw (8)

The hot meal exits the cooker from the front through a door. From here it is transferred to the centrifuge for fat removal by a transfer screw.

Centrifuge (9)

The steam in the centrifuge mantle heats up the meal for a second time and is then turned at a high speed of 2500 r.p.m. The fat drains out of the meal after 5 minutes and drains from the centrifuge, while running to a sunken fat bin close-by. After 5 minutes of centrifugal pressure on the meal, the lid is opened and the content is transferred with a transfer screw to the hammer mill.

Fat holding bin (10)

The fat bin is relatively large to cope with a breakdown of 48 hours. In other words, it can keep its content for 48 hours should there be a break down further down the line such as the fat transfer pump.

Fat transfer pump (11)

From the fat bin the liquid fat is pumped to the tallow tank.

Tallow (liquid oil) hopper (13)

The steam is switched on a day before delivery so that the fat becomes liquid for easy flow from the hopper to the sub-contractor's tanker. The steam in the coil must reach 45 ºC to allow the liquefying of stalled fat. After release, steam is pumped into the container in order to clean the container. The outflow from the hopper during cleaning runs through a downward pipe into a movable container, which is placed below it for the purpose of cleaning.

Hammer mill (14)

From the centrifuge the meal is transferred to the hammer mill by way of a transfer screw (this facility is not planned for now but may be an option to take place in the future). At this point the meal is milled into dust but it retains 12% moist, which is required by pet food manufacturers.

Screen drums (15)

The hammer mill outlet is provided with a screen drum in which the contents falls as it leaves the mill. The screens remove the final particles and solids, which are recycled to the cooker on a daily basis. The screen drums can accommodate 500 kg of meal per hour. These drums are also provided with an outlet valve at the lower bottom so that washing and cleaning can be done once per week with water and disinfectants. Prescribed bags are filled below the screen drums through a trap door in the same area.

Bone meal packaging (16)

Every day, in the afternoons, all filled bags are cart wheeled to a separate bone meal packaging area. The bags are stacked onto stainless steel racks, which do not come into contact with the floor. This room is independent and completely closed up with lockable doors. This area is washed once per week and also disinfected. The sub-contractors load their cargo at this store.

1.4. OBJECTIVE OF THIS STUDY

The objectives of Re-certification assessment as conducted in November 2019, was to establish the extent to which the environmental management plan approved by the DEA is being followed as well as to determine the extent to which non-compliance issues can be rectified for the effective implementation of the environmental management plan. The following issues have been looked at:

- An assessment of legal and another requirements compliance.
- Analyse the Implementation of the Environmental Management Plan in managing environmental impacts/aspects from daily operational activities.
- Document a corrective action Environmental Management Plan.
- Apply for ECC renewal with MET: DEA

1.5. SCOPE OF ASSESSMENT

The assessment was conducted based on a sample of the organisation's activities, were no non-conformances were recorded in an area of the organisation's activities, or against any requirement of the relevant standard, it does not necessarily indicate that no non-conformances exist. It should be noted that it is imperative to understand that the purpose and scope of the assessment is not to

identify and record all non-conformances but only to obtain sufficient information upon which the ECC was issued.

It therefore follows that future non-conformances, not identified during this assessment, could be recorded during subsequent assessments. It is the responsibility of the organization to determine if similar non-conformances, such as those recorded during the assessment, exist in other areas of the environmental management plan and identify other potential negative impacts on the environment during their internal audit processes, to take the necessary corrective action.

2. METHOD OF ASSESSMENT

2.1. LITERATURE REVIEW

An analysis of the animal rendering plant's operational environmental files was conducted, this included reports and recommendations from routine inspections by DEA's Environmental Officers, scrutiny of previous EMPSs and initial Scoping assessment for the project as well as other Namibian legal requirements and similar reports conducted previously.

2.2. KEY INTERVIEWS

Interviews with the Site manager, plant operators and two general hand employees was conducted to:

- Understand all the activities and process operations of the project proponent.
- Establish the extend of environmental impacts, measures being employed to manage environmental aspects/impacts.
- To source first-hand information on environmental and social issues about the operation of the project
- Lobby for possible solutions to some of the environmental challenges being faced by the proponent.

2.3. SITE INVESTIGATION

Physical inspection of operational areas, with the plant manager as well as other employees. These included the use of photographical evidence for further scrutiny. A site audit checklist based on the Environmental Management Plan developed for the facility. Non-conformances were discussed during the preceding meeting after the audit investigation.

3. ENVIRONMENTAL MANAGEMENT COMPLIANCE

3.1. POLICY AND LEGISLATORY COMPLIANCE

The operation of the animal rendering facility was assessed in relation to compliance with guiding legal requirements in Namibia, international conventions and best practices for environmental management and the existing Environmental Management Plan for the facility.

Compliance was categorised in the following:

a. Non-Compliance (NC)

b. Partial compliance (PC)

c. Compliant (C)

Table 2: Legal and other requirements compliancy assessment

Aspect	Legislation	Compliance Status	Comments
The Constitution	Namibian Constitution First Amendment Act 34 of 1998	C	-The Proponent through conducting environmental impact assessments and applying for environmental clearance certificate renewal is complying with the requirements of the constitution.
Archaeology	National Heritage Act 27 of 2004	C	-The contractor had strict directives during construction to ensure that if they come across artefacts, graves or seeming culturally important objects and sites they were to notify the relevant authorities.
Environmental	Environmental Management Act 7 of 2007	PC	-By applying for the ECC renewal The Proponent is complying the Act. -The proponent has failed to conduct biannual reports and submit annual reports

			to MET: DEA as stated by the Act and its regulations.
	Pollution and Waste Management Bill (draft)	C	-The sand animal rendering plant has a clear waste management system, where there are two skip containers managed by Rent A drum used for waste collection. One for general waste and the other one for hazardous waste.
	Soil Conservation Act 76 of 1969	PC	-There is no evidence of soil erosion on site caused by current operations or during construction. However, there is potential for soil pollution from wastewater from the plant.
Forestry	Forest Act 12 of 2001	C	-The project does not have cumulative impacts on vegetation.
	Nature Conservation Ordinance 4 of 1975	C	-Employees have been trained against indiscriminate tree harvesting, hunting and gathering of forest produce.
Health and Safety	Labour Act (No 11 of 2007) in conjunction with Regulation 156, 'Regulations Relating to the Health and Safety of Employees at work'.	NC	-Employees' PPE is not sufficient. -Employees are not trained not health and safety -There are no SHE Representatives on site
	Public Health and Environmental Act, 2015	NC	-Site health and sanitation needs to be improved with an effective wastewater handling system.

Land Use	Mineral Act 1992	C	-All relevant renewals with the City of Windhoek have been obtained.

3.2. ENVIRONMENTAL MANAGMENT PLAN COMPLIANCE

The operation of the animal rendering facility has not been operating as planned because there are less clients making use of the facility. However, its operations were assessed in relation to compliance with the commissioned Environmental Management Plan upon which the previous ECC was operating under. The major environmental impacts and/ aspects identified and addressed in the EMP were assessed in relation to remediation or impact prevention with the corrective action measures provided for in the EMP. Compliance was categorised in the following:

a. Non-Compliance (NC)

b. Partial compliance (PC)

c. Compliant (C)

Table 3: Environmental Management Compliance Summary

Environmental Aspect	Environmental Impact	Compliance Status	Comments
Vegetation	Protected Species destruction.	C	-There are no protected tree species on site that would require special authorisation before clearance or for operations to continue.
	Indiscriminate tree cutting	C	-The plant area has sparse vegetation and if for any reason there are any developments to be done on site, vegetation removal will be minimised or prevented completely.
Fauna	Driving away of local wild animals	C	-The area is already affected by the local communities, there are few wild animals in the area.
	Indiscriminate killing and hunting of animals	C	-Employees have been trained on the importance of animals and the non-hunting policy of the company.

Culture and Heritage	Archaeology	C	-Employees have been trained and informed of the course of action if they come across artefacts, graves or seeming culturally important objects and sites.
	Proliferation of local cultures	C	-The Proponent employed local people to ensure that the operations blend with the local cultural values -Employees from other areas of different cultural values have been given guidelines on conduct with the public. -The Proponent works hand in hand with the Village Headman.
Environmental Quality	Soil erosion	PC	-There is no visible erosion on site.
	Water abstraction	C	-Water is supplied by City of Windhoek.
	Water pollution	NC	-Polluted soil can result in hydrocarbons and chemicals deposition in nearby streams during the rainy season. Thus, there is need to put in mechanisms to ensure that wastewater and hazardous waste are effectively contained. -Effluent ponds are not being monitored and there are no Quarterly water sampling records. -The effluent sump has sludge above 40% filled from the bottom, thus it needs maintenance and emptying
	Noise pollution	C	-Operations are only done during the day.
	Aesthetic pollution	NC	-Housekeeping on site need to be improved to ensure that standard processing industrial areas and workspaces housekeeping standards are

			achieved in terms of waste management, site cleanliness, and structures quality.
Land Use	Land Use change and resource depletion	PC	-There are no appropriate signs in place to notify the on-going activities on site -In terms of local area carrying capacity, the proponent has ensured that the project fits into the area and uses as minimal resources as possible.
Health and Safety	Workplace injuries and illnesses	NC	-Employees did not have appropriate PPE -There is no Safety training given to employees -The site does not have safety markings and or Signs.
	Flies control	NC	-There is no fly control mechanism in place
Socio-Economic issues	Employment	C	-The Proponent has local employees.
	Social responsibility	C	-Access roads are being maintained. -The Proponent also sponsor local sports and activities.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. CONCLUSIONS

Environmental performance / compliance monitoring activities were not implemented by Anpro Hides and Skins for the period under review, because there were no actual operations of the rendering plant. During this period under review, the client identified the possibility of using the facility for other uses by remodelling it.

4.2. 5.2 RECOMMENDATIONS

The following are key recommendations that may be considered for implementation once the proposed skin processing and animal rending operations starts in full effect.

1) The continued operation of Anpro Hides and Skins animal rendering plant and proposed skin processing line is highly desirable in the Khomas region because of the lack of such a facility in the region as well as provision of opportunity to different farm owners. Surrounding environments are less risky and not likely to be immensely affected by the project as alluded in EMR.
2) Based on the findings of the basic assessment, potential project impacts during operation phases can be minimized to an acceptable level. An Updated Environmental Management Plan has been developed to ensure that it addresses all potential negative impacts anticipated from the project and enhance all positive impacts for a more beneficial impact.
3) Based on the findings of the ESR/EMR, the consultant recommends that The Department of Environmental Affairs Approve the Environmental Clearance Certificate Application on Basis of full compliance to the developed Updated Environmental Management Plan, amongst the others as follows;
4) Ensure that from the issuance of the ECC Renewal, biannual reports are conducted and submitted to MET accordingly.
5) Appoint a Safety Health and Environmental personnel to ensure that EMP compliance is done accordingly on a day to day basis.
6) Implement a continuous wastewater quality sampling and testing programme quarterly.

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