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#### EXPANSION OF THE KOMSBERG MAIN TRANSMISSION SUBSTATION AND ASSOCIATED INFRASTRUCTURE NEAR SUTHERLAND, WITH THE KAROO HOOGLAND LOCAL MUNICIPALITY IN THE NORTHERN CAPE

#### MONTHLY MONITORING REPORT

DATED: 30 NOVEMBER 2019

DEA REF: 14/12/16/3/3/1/1482



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#### **PROJECT INFORMATION**

REPORT TITLE:	Monitoring Report
DATE:	NOVEMBER 2019
REPORT STATUS:	Final
PROJECT TITLE:	Expansion of the Komsberg Main Transmission Substation (MTS) and Associated Infrastructure near Sutherland within the Karoo Hoogland Local Municipality in the Northern Cape Province.
CLIENT:	Eskom SOC Ltd
ENVIRONMENTAL CONSULTANTS:	Eagles Multi Skills Academy
DEA REF. NO.:	14/12/16/3/3/1/1482
REPORT NO:	07

#### **REPORT COMPILATION RESPONSIBILITIES**

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#### **EXECUTIVE SUMMARY**

In line with the requirements of the Environmental Authorisation (EA) and the Environmental Management Programme (EMPr) for expansion of the existing Komsberg Main Transmission Substation (MTS) and Associated Infrastructure near Sutherland within the Karoo Hoogland Local Municipality in the Northern Cape Province. The Environmental Control Officer (ECO) shall ensure implementation of the requirements of the EA and compliance with the requirements of the EMPr. This report presents observations made by the ECO including construction progress, Incidents, Non-Conformance Reports (NCR's) issued and Deviations.

Currently there is no NCR issued for the reporting month. One (1) insignificant or minor hydrocarbon spills due to hydraulic pipe burst from the smooth drum roller. The spill was immediately cleaned after the new hydraulic pipe burst was installed. No pre-warning issued during the reporting period.

Inspections/audit were conducted on the following activities: Bulk earthworks including breaking of rocks and layer works at Section D of 400kV terrace, crushing of stones, final layer works/wearing course at section B and C, Geo-cell preparations on V-drain, building of subsoil drainage mine halls, concrete works on the V – drain, culvert wing walls and layer works on the permanent access road.



#### **1. INTRODUCTION**

This report serves as a report back on the compliance of the Construction on the expansion of the existing Komsberg Main Transmission Substation (MTS) and Associated Infrastructure near Sutherland within the Karoo Hoogland Local Municipality in the Northern Cape Province under Environmental Authorisation (EA) (DEA Ref: 14/12/16/3/3/1/1482) and the Environmental Management Programme (EMPr) (dated January 2016) compiled for the development.

On 12<sup>th</sup> of May 2016 the Department of Environmental Affairs granted Eskom Holdings SOC Limited (hereafter referred to as "Eskom") an Environmental Authorisation (EA).

Eagle Multi Skills Academy/Consulting was appointed by Eskom Holdings SOC Limited to achieve the duties of the Independent Environmental Control Officer (ECO) responsible for environmental compliance monitoring against the EA, EMPr and other relevant legislations (National, provincial and Local) during the construction phase of the project until rehabilitation to fulfil Condition 20 of the Environmental Authorisation.

The ECO is obligated to monitor compliance of activities undertaken by the Contractor/s, to report on any non-conformances, record incidents if any, recommend corrective action required, and details of those non-conformances. This report will be submitted to the authority (Department of Environmental Affairs) and the Applicant/holder of the Authorisation as well as the Contractor for their records and to act upon the non-compliance or issue raised as required. The report will reflects the observations and findings observed by the ECO during the reporting month.

## 2. SCOPE OF THE REPORT

The scope of the monthly monitoring report is to measure and record the compliance of the project by Contractors and Sub-contractors against the requirements/objectives of the EMPr, condition 21 of the EA, WUL (General condition 6 (2) of the general Authorisation), permits and licences issued for the expansion of the Komsberg Main Transmission Substation (MTS) and associated Infrastructure for the reporting month.



## 3. ENVIRONEMNTAL INDUCTION, AWARENESS AND TRAINING

All employees before resuming construction have undergo environmental awareness training detailing:

»What is meant by "Environment"

- » Why the environment needs to be protected and conserved
- » How construction activities can impact on the environment, and
- » The Do's and Don'ts on site.

Twenty seven (27) new employees on site receive environmental induction on EMPr, EA, legal and other requirements as well as the role of ECO on the project.

Different environmental topics as per environmental calendar are discussed with all employees on site. No topic was discussed as part of the monthly environmental theme:

Any other significant topics are chosen and discussed through tool box talk to remind and refresh employees about environmental compliance as well as the significance of protecting the environment, sustainability and conserving the environment. The following environmental topics were discussed:

- » Housekeeping conducted on the 31/10/2019.
- » Use of drip trays on small plants 05/11/2019.
- » Stock theft of suspected gate left open (lock out procedure) 08/11/2019.



- » Importance of drip trays conducted on the 2/11/2019.
- » Emergency evacuation conducted on the 13/11/2019.
- » Smoking at a designated area conducted on the 18/11/2019.
- » Littering of waste conducted on the 20/11/2019.

#### 4. INSPECTION FINDINGS

These are findings observed during inspections of the construction site for the reporting month. See attached photographic inspection evidence on Appendix A.

#### Table 1: Inspection findings.

EMPr Section	Findings	Suggested Corrective Action and Actual Corrective Action.	status
Objective 3	Littering of waste around the working area.	Toolbox talk regarding litter must be conducted.	Open
Objective 16	Smoking outside the designated smoking area.	A smoking area must be placed in all area where activities is taking place.	Open
Objective 16	Hydraulic pipe burst from smooth drum roller.	Routine maintenance and servicing of plant must be conducted to minimize incidents.	Open

#### 5. CONSTRUCTION PROGRESS

This section outlines construction activities recorded during the reporting month as well as planned construction activities.

#### 5.1. Construction Progress to Date

- During the inspection the following activities was in progress:
  - 1. Bulk earth work including breaking of rocks and stockpiling and layer works at Section D of 400kV terrace.
  - 2. Crushing of stones.
  - 3. Construction of subsoil drainage pipes, mine halls and casting of mine hall covers.
  - 4. Final layer works/wearing course at Section B and C of 132kV terrace.
  - 5. Geo-cell preparations and concrete works on V-drain.
  - 6. Concrete works on culvert wing walls.
  - 7. Final layer/wearing course on works on permanent access road.



8. Site establishment for civil contract.



Photo: Construction of mine hall in progress.



Photo: Mine hall completed.

Photo: Mine hall with cover.





Photo: Casting of mine hall covers.



Photo: Layer works at Section B.

Photo: Final layer works at Section B.





Final layer works at Section A.

Photo: Layer works at section D.



Photo: Layer works in progress at section D.



Photo: Geo-cell preparations on V-drain.

Photo: Casting of concrete on V-drain.





Photo: Final finishing on V-Drain.

Photo: Casting of concrete on culvert wing wall



Photos: Culvert wing wall preparations.



Photo: Final layer on permanent access road.





Photo: Site establishment (Civil and building works).

# 6. NON-COMPLIANCES, INCIDENTS AND DEVIATIONS

This section provides a description of Non Compliance Report (NCR's) and Incidents noted during the reporting month, summary of open NCR's and Incident as well as the distribution of the non-compliances and observations raised during inspections.

# 6.1. Description of Incidents, Non-compliances and Deviations

No NCR's issued by ECO for the reporting month. No pre-warning was issued for the reporting month, however the findings on the report form part of the daily inspections for the reporting month. All findings on the report should be properly addressed to avoid reoccurrence as it will lead to Non-Compliance.



# 6.2. Distribution of Non- compliances, incidents and Deviations

Status	NCR's	NCR's		5	Deviations		
	Month	Project to Date (PTD)	Month	Project To date (PTD)	Months	Project to date (PTD)	
Open	0	0	0	0	3	3	
Closed	0	0	1	38	0	40	
In Progress	0	0	0	0	0	0	
Total	0	0	1	38	3	43	

Table 2: Distribution of Environmental NCR's, Incidents and Deviations

Currently there is no NCR issued by ECO, One (1) Incidents (minor or insignificant oil spill due to hydraulic pipe burst from smooth drum roller).

## 7. PROJECT AUTHORISATION AND PERMITS

#	License name	License Number	Date issued	Expiry Date	Regulatory	Purpose
1.	Environmental Authorisation	14/12/16/3/3/ 1/1482	12/05/2016	Construction life cycle	DEA	Expansion of the Komsberg Main Transmission Substation (MTS) and Associated Infrastructure near Sutherland within the Karoo Hoogland Local Municipality in the Northern Cape Province.
2.	Fauna	0423/2019	03/06/2019	03/06/2020	NC DENC	Permit for ordinary capture use of prohibited hunting methods.
3	Water use registration and Authorisation	4/5/6/J11D/ Standvastigh eid 210/RE,	17/04/2019	Year (Annum) until	Breede Gouritz catchment	Taking of ground water for construction.



		Sutherland RD		reaching the volume	Managemen t Agency	
4.	Waste Water Treatment Works	B33/2/800/15	04/05/1987	N/A	Department of Water and Sanitation	Purification or treatment of water.
5.	Flora	0044/2019	28/06/2019	28/06/2020	NC DENC	Flora harvesting
6.	G:S:B landfill permit	6/2/7/J100/D 15/Z1/P286	04/12/1997	N/A	Department of environment al Affairs	General waste disposal facility.
7.	H:H landfill permit	12/2/7G203/ Y214/P176	30/07/1997	N/A	Department of environment al Affairs	H:H waste management facility

### 8. OBSERVATIONS

This section highlights observations noted during the reporting period.

### 8.1. Construction Camp Site

The following were observed as issues of concern during the reporting:

- 1. Poor housekeeping within the working area.
- 2. Evidence of cigarette buds in different working areas that is outside the designated smoking area.

#### 8.2. Flora

Endangered/protected/threatened species that are on the development foot print were identified and marked during site walk down or search and rescue. Most of those species are Protected according to Schedule 2 of the Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009). Permits will be required from NC DENC (Northern Cape Department of Environment and Nature Conservation) to remove or translocate protected plant species.

The permit for harvesting of protected plant species is in place (permit number: Flora 0044/2019) Different types of endangered/protected plant species were sampled and transplanted to the adjacent area within the property boundary (outside the development foot print). Report back as part of the condition 9 (additional permit condition) of the flora permit (Permit number: 0044/2019) was compiled on 04/07/2019 and was sent to submitted to NC DENC on (27 August 2019).



It is recommended that all other relevant conditions of the permit issued on 28/06/2019 (Permit number: 0044/2019) in terms of Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009) must be adhered to. This permit is valid for the period of one year/twelve month (until 28/06/2020).

It is also recommended that all areas of development must be clearly marked on-site to eliminate unnecessary clearing or trampling of flora and also to minimise impacts on flora and ecological processes.

### 8.3. Livestock, game and other fauna

No incident of fauna reported or noticed during the reporting month. Employees, visitors and/or subcontractors should be made well aware of the consequences of any damage to private property and/or loss of livestock, game and/or killing of other fauna.

Any fauna identified or directly threated by construction activities and might be of danger or threat to employees must be reported and removed to the safe environment by suitably qualified personnel. As per the EMPr protected plant species in any area to be cleared should be identified and rescued. The extent of the development footprint area is very limited and furthermore restricted to an area already transformed by the existing infrastructure.

The conditions of the permit issued on 03/06/2019 (Permit number: Fauna 0423/2019) in terms of Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009) must be adhered to. This permit is valid for the period of one year/twelve month (until 03/06/2020).

Unknown juvenile bird was found at the existing capacity bank 1, the bird was injured and could not fly or eat. It was evidenced that it fall from the nest built on top of the light mast. The ECO fed the bird with water and food and placed under the shade. The ECO took the bird to Aquila Animal Rescue and Rehabilitation Conservation Centre in Touwsrivier.

The ECO recommend a regular awareness on conservation of fauna to all employees on site and the role each play on the ecosystem.





Photo: Injured and heat exhausted unknown juvenile bird found at the capacitor bank 1.



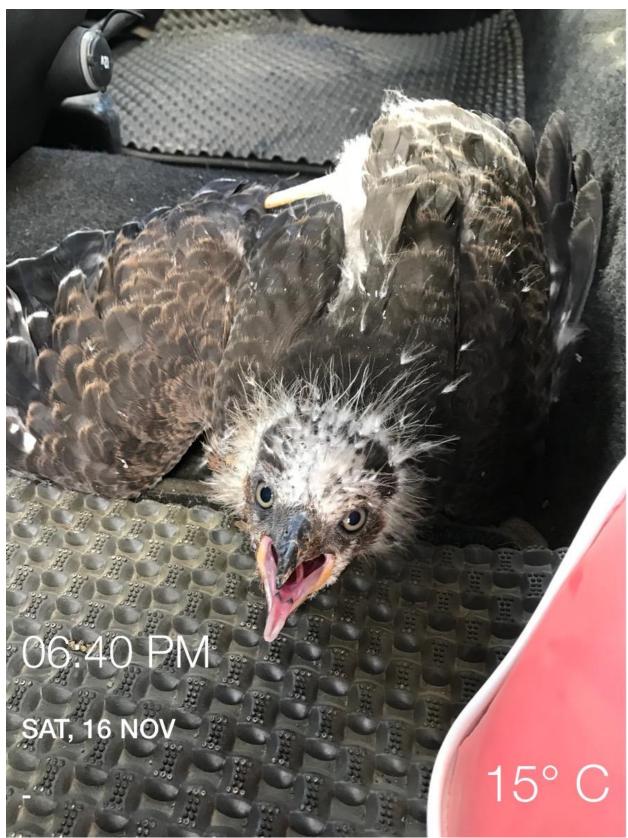


Photo: Injured unknown juvenile bird taken to Aquila Animal Rescue and Rehabilitation Conservation Centre in Touwsrivier



## 8.4. Fencing

It was noted during the inspection that there is a security controlled access at the main entrance, fence, and the site offices and laydown area is secured. New boundary fence has been constructed and completed. It is very important that construction of fence comply with the Fencing Act No.31 of 1963.

The Contractor must keep in mind of the damaged fence by excavator delivery truck that it must be properly fixed by replacing the damaged wire and posts before the completion or end of project (Earthwork contract) as it was agreed with the landowner.

### 8.5. Material Handling, Use and Storage

Poor maintenance, and improper storage handling of unused materials were observed at the laydown.

### 8.6. Hazardous Substances Storage

Poor housekeeping, lack of control access and outdated chemical inventory observed during the inspection at the Hazardous Chemical Substance Storage. It is recommended that the temporary storage of hazardous chemical substances shall meet the minimum requirements for Hazardous Substances Act (Act No. 15 of 1973) and SANS 10228, must have strict access control, bund capacity, Material Safety Data Sheet (MSDS) as well as a dedicated person to control ingoing and outgoing chemicals at the store.

## 8.7. Workshop Equipment Maintenance and Storage

Servicing are for maintenance of heavy and small plant equipped with conservacy tank for collection of all contaminants not to reach the surrounding environment.

#### 8.8. Waste Management

Waste on site is monitored and audited on site as per the requirements of National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) as amended in the government gazette notice 614 of 2016.

A provision has been made for temporary storage of waste in order manage all types of waste on site. Integrated waste management approach is encouraged on site. An effort must be made for waste minimisation, reduction and recycling.



Wastes generated on site are mostly general and construction waste (building rubble), hazardous waste (i.e. fuel, chemicals), and liquid waste (including grey water and sewage). In order to manage the wastes effectively, guidelines for the assessment, classification, and management of wastes, along with construction principles for minimising construction wastes must be implemented.

## **General Waste**

General waste is taken to a licensed Landfill site at Laingsburg which is registered under Laingsburg Municipality (permit number 6/2/7/J100/D15/Z1/P286) issued under Environment Conservation Act, 1989 (Act 73 of 1989). A copy of the license is available on site file. No general waste disposed for the reporting month.

## Reuse, reuse and recycling of waste

Integrated waste management approach is encouraged on site. An effort must be on site to minimise, reuse and recycling waste. 3400 kg of unprocessed off cuts steel was recycled for the reporting month.

10 m<sup>3</sup> of concrete rubble was donated to Mr Franchois Conradie (Owner of Farm Standvastigheid 210/RE) to be used for erosion control in the cultivation land, the agreement letter between both parties is in place.

## Hazardous Waste

Hazardous waste generated on site are temporarily stored inside the hazardous waste kip and 210 litres bins at the waste management area in the lay down area. Hazardous waste will be managed by Drizit environmental services and to be disposed at a registered landfill in Cape Town (Vissershok) as it is the closest registered hazardous landfill site.

Drizit was subcontracted to remove asbestos from old buildings as well as the fluorescent tubes. All asbestos waste and fluorescent tube removed was handled and taken by Drizit for disposal at the registered asbestos landfill site. Proper waste manifest for (asbestos waste) disposed on **11 July 2019** with the accurate quantities or weigh bridge slips from landfill disposal site (Vissershok) has not yet received.

# 8.9. Toilets / Ablutions

Boland Toilet Services is the appointed service provider for servicing ablution facilities (portable chemical toilets) and septic tank. Services of the mobile chemical toilets is done



once a week at site camp while the servicing of septic tank is done as and when required. The number of employees on site and the number of toilet available both for males and females does not meet the requirement of the EMPr of 1:15 ratio.

#### **Sewage Waste**

Mobile chemical toilets and conservacy tank on site are serviced by Boland Toilet Services. The sewage waste is taken to a licensed Waste Water Treatment Plant (Witzenberg) in Ceres registered under Witzenberg Municipality, permit number B33/2/800/15. A copy of licence is available on site file. Overflowing of septic tank connected to Eskom site offices was observed during the inspection, this is due to lack of monitoring of the capacity of septic tank to avoid overflow. **9960** litres of sewage waste was disposed for the reporting month.

#### 8.10. Water Management

Water used for construction is sourced from a borehole at Standvastigheid 210/RE with GPS coordinate (S32°56'01.9"E20°35'38.8"), Water use registration and Authorisation in terms of the National Water Act, 1998 (Act No 36. Of 1998): for taking of water from ground water is in place, though the purpose for use is defined as taking of underground water for the construction of wind farm which is the different activity to that of the expansion of the existing Komsberg Main Transmission Substation for IPP's (Independent power producer). The query was logged with the Breede Gouritz Catchment Management Agency (BGCMA) Official and he indicated that the borehole was registered for any construction use despite the project/development name. The borehole has been registered and the registration certificate is available on site.

The limit for maximum volume per annum/capacity is 40 000m<sup>3</sup>. General condition 6 (2) of the General Authorisation indicate that (the volume of water taken must be measured and recorded at the end of each month and the volume taken should be submitted to Breede Gouritz Catchment Management Agency (BGCMA) at the email address provided on the water use authorisation). This condition must be complied with by the user. There is a proof that the volume are sent to the Breede Gouritz Catchment Management Agency (BGCMA) on a monthly basis.

It is recommended that a water meter must be installed in order to measure the accurate quantity used in order to comply with the WUL.

Water at the substation has been tested by Integral Laboratories that is SANAS approved and it was found that the sample analysed taken from the borehole at the Komsberg Substation have total coliforms of 16 that is greater than (<10) which is required by SANAS



241: 2015. The lab confirms that water at Komsberg Substation is not suitable for human consumption. Water at the substation cannot be used for consumption or drinking purpose.

**5966 m<sup>3</sup> or 5 966 000 litres** of construction water was used for the reporting month. To date **23 860 m<sup>3</sup>** of water were used. Water used for drinking are purchased from the supplier (OK foods in Laingsburg and Boelhouer plaas in Matjiesfontein water) and **2440 litres** of drinking water purchased from Boelhouer plaas in Matjiesfontein was used for the reporting month.

## 8.11. Erosion and Sediment Control

No issues noted or signs of sedimentation observed during the inspections. However all areas susceptible to erosion shall be protected by installing necessary temporary and/or permanent drainage works as soon as possible and by taking suitable measures to prevent surface water concentration into nearby roadways. There might be high possibility of erosion to all area exposed during construction especially if more rain received within the area.

## 8.12. Access Roads, Access Control and Gate Installation

There were no issues recorded regarding access roads, access control and gates. However regular maintenance of road must be done. Dust suppressant must be applied and regularly monitored on all exposed areas, stockpiles and gravel roads as required to minimise/control airborne dust. All boundary gates must be kept closed at all times due to livestock around the neighbouring properties.

## 8.13. Dust and other air emission

During inspection it was observed that more dust is generated during crushing of stones at the crushing areas, on the haul or access road as well as the heavy plant parking area. During construction there must be a measure for control of dust in specified places or areas, either in general or by specified machinery or in specified instances as well as steps that must be taken to prevent nuisance by dust or other measures aimed at the control of dust as per the National Environmental Management: Air Quality Act (Act No. 39 of 2004).

It was evidenced during inspection that dust suppression was implemented on regular intervals. It is also recommended that dust-generating activities or earthworks as well as crushing areas need to be rescheduled or the frequency of application of dust control/suppressant increased especially during periods of high winds and if excessive visible dust is blowing towards where other employees are working or to the nearby



residences outside the site in order to achieve the objective of the EMPr. No Issues observed regarding dust suppression for the reporting month.

#### 8.14. Import Materials

Any fill material required on site must be sourced from a licensed commercial site suitable/permitted source, quarry or borrow pit. Where possible, material from foundation excavations must be used as fill on-site. G6 (import materials) used as final layer or wearing course are source from approved quarry registered under Swartbult Trust IT 4336/96, Zandrivier: permit number 02/2015 and Elandvlei sand mine: permit ML19/96 and when there is a need other import materials will be also sourced from approved quarry at Brewelskloof (ERF 3604, Worcester, Western Cape) registered by Afrimat Aggregates PTY (Ltd) previously known as Prima Klipbrekers PTY (Ltd) under Mineral and Petroleum Development Act, No 28 of 2002. 2440 m<sup>3</sup> of import materials used for wearing course was sourced from Swartbult Trust IT 4336/96 for the reporting month.

#### 8.15. Labour and Social Issues and their Control

Local employment were created to 24 unskilled workers from Matjiesfontein (which fall under ward 2 of Laingsburg Municipality under Central Karoo District Municipality) which is approximately 30km from the construction/development site. Although limited, employment opportunities could be created during the construction phase, specifically for semi-skilled and unskilled workers. Use should be made of local labour as far as possible.

#### 8.16. Accidental leaks and Spillages

The contractor shall be strongly advised to make every effort to prevent spills and leakages on site. Regular maintenance and inspections of construction vehicle is essential to prevent unnecessary oil spills. One (1) insignificant or minor hydrocarbon spills due to hydraulic pipe burst from the smooth drum roller. The spill was immediately cleaned after the new hydraulic pipe burst was installed. It is recommended that all spills must be assessed to determine the significance of the spill, reported to ECO and cleaned immediately.





Photo: Hydraulic pipe burst from smooth drum roller.

No.	Date	Description	Quantity	Location	Reported	Reported	Action	Close-out	Was a flash
		of the incident			by	to	taken	date	report completed?
1	15/11/2019	The roller pipe was leaking hydraulic oil	100 ml	400 kV yard, Section D	Operator and Mechanic	EO	The spillage was cleaned	15/11/2019	No

### Incident or spillage date

# 8.17. Drainage Lines and Periodic Streams

During the inspection no issues observed regarding impact of construction activities on the drainage line or streams. However a careful planning must be done during planning of temporary access roads for construction purposes not to impede or divert the flow of water as it will trigger General Authorisation in terms of Section 39 of the National Water Act (Act No. 36 of 1998).

## 8.18. Soil Degradation and Erosion

No issue observed regarding soil degradation and erosion noted during the reporting month. However, excavated topsoil stockpiled must be covered (during windy conditions) or vegetated until replaced during rehabilitation. The area identified as disturbed area must be restricted for construction activities.



Erosion control measures such as (reducing run-off on slopes, sand bags, logs, silt fences, storm water catch-pits, shade nets, or temporary mulching over stripped area as required) must be implemented to prevent erosion. No issue observed regarding soil degradation for the reporting month.

## 8.19. Heritage Resource

No archaeological sites/materials were observed during the reporting month within the development footprint. Although it is unlikely that archaeological remains will be found in situ especially during excavation, there is always a possibility that human remains and/or other archaeological and historical material may be uncovered during the development.

Employees must be made aware of the possibility of discovering heritage sites, if concentrations of historical and pre-colonial archaeological heritage material and/or human remains (including graves and burials) are potentially uncovered during construction, all work in the immediate area must be cease immediately and be reported to the ECO so that it will be reported to South African Heritage Resource Agency (SAHRA).

### 8.20. Visual Impacts

No Visual impacts observed during the reporting month. Movement of construction workers and vehicles to the immediate construction site and existing access roads/ tracks must be restricted. It is advisable that construction activities must be restricted to daylight hours whenever possible in order to reduce lighting impacts (Ref: EMPr objective 14).



### 8.21. Noise Control

No excessive noise generated during working hours (daylight) were reported during this period. However, on-site construction activities should be limited to daylight hours as far as possible (Ref: EMPr objective 15) and construction noise to be managed in accordance with the Noise Control Regulations and SANS 10103.

It is recommended that all construction equipment, including vehicles, must be properly and appropriately maintained in order to minimize noise generation, e.g. silencers must be in good working in order to achieve the EMPr objectives 15.

### 8.22. Traffic Management

The construction phase of the project is most significant in terms of generating traffic impacts; resulting from the transport of equipments, materials and construction crews to the site and the return of the vehicles after delivery of materials.

The construction site is created with a single track road entering the substation to ensure safe entry and exit and to minimize the footprint as well as the least environmental impacts.

The movement of all vehicles within the site must be on designated roadways or tracks created for the purpose of construction, or where possible, on existing tracks.

## 8.23. Public/Land Owner's Complaint

On 30<sup>th</sup> of October 2019 a formal complaint received from Mr Dauglas Caldo (Owner of Aprilskraal portion) regarding the 20 lost sheep's. According to the landowner this was discovered on 28<sup>th</sup> October 2019. The ECO forwarded the complaint to the contractor (Rigamani) and Eskom on the 07<sup>th</sup> November 2019 to investigate and take reasonable steps to resolve the complaint. The complaint is still open.



#### 8.24. Rehabilitation

All area that are badly damaged needs to be rehabilitated as soon as possible or as required, the rest of the area will be rehabilitation during the completion earth work contract and the rest of the area will be rehabilitated at the end of the construction phase before commissioning. Alien species that might have been introduced during construction phase must be monitored, controlled and removed.

Unnecessary removal of vegetation must be avoided as it adds stability to soil. All the disturbed area must be identified to restrict construction in such area and must be demarcated as a "no go" area for quick recovery.

Rehabilitation will be required on most of the area along new permanent access road, this are areas disturbed by heavy plant such as grader turning during construction of such road and excavators when preparing the V-drain along the permanent road. Other areas that need rehabilitation is the heavy plant parking area, old farm tracks deviated from the permanent access road, laydown area and office area for the Earthwork Contractor after disestablishment of the site and removal of all temporary structure that are not required. The method of rehabilitation shall include ripping, seeding with Karoo seed mix and watering.



Photos: Damaged area used as a turning point by graders and excavators require rehabilitation.





Photos: Damaged area used as a turning point by graders, excavators during preparation of culverts and V-drain require rehabilitation.



Photos: Damaged area used by excavators during preparation of culverts and V-drain require rehabilitation.

## 9. Conclusion

Ensure that the site activities remain within the development footprint and do not impact negatively on the biophysical environment. All deviations noted during inspections must be properly addressed, managed and implemented throughout the project duration to prevent reoccurrence of the same findings.

All recommendations must be taken into considerations as it may have negative impact on the environment. The contractor must ensure that all condition/s of permits or any form of authorisation issued for the project are complied with.



All area disturbed or damaged during construction must be rehabilitated to the similar condition where it was. This can be achieved by using the right seed mix of the region, regular watering of rehabilitated area and a good timing (when, where, who and how).