

MTN

**ALCATEL SUBMARINE NETWORKS (ASN) 2AFRICA
(WEST) SUBMARINE FIBRE OPTIC CABLE SYSTEM TO BE
LANDED AT YZERFONTEIN, WEST COAST DISTRICT,
WESTERN CAPE, SOUTH AFRICA**

MOBILE TELEPHONE NETWORK (PTY) LTD

**FINAL ENVIRONMENTAL MANAGEMENT PROGRAMME
(EMPr) – ANNEXURE 2: REHABILITATION PLAN**

EIA REFERENCE: 14/12/16/3/3/2/2047

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NAME AND EXPERTISE OF PERSONS WHO COMPILED THE REHABILITATION PLAN

ACER (Africa) Environmental Consultants (ACER) is a well-established company with more than 28 years' experience and wide-ranging expertise in environmental management and assessment processes. ACER has twice won the IAIA's National Premium Award for excellence in environmental management and assessment. The qualifications and experience of the primary compiler of the Rehabilitation Plan (RP) are listed in Table 1 below.

Table 1 Details of the EAP's who compiled the Rehabilitation Plan

Name	Education Qualifications	Professional Affiliations	Experience at Environmental Management
Mr Giles Churchill	MSc	Registered with the South African Council for Natural Scientific Professions in the field of environmental science (Registration No 116348) and a Registered Environmental Assessment Practitioner with EAPASA: Number 2019/1687.	14 Years

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1. PURPOSE

The Rehabilitation Plan (RP) addresses the need to mitigate significant impacts leading to disturbed vegetation, damage to municipal infrastructure, disturbed soil surfaces, and exposed soils prone to erosion and further degradation as a result of the construction and installation of the proposed 2AFRICA (West) Cable System. The plan overlaps to some degree with the approved Environmental Management Programme (EMPr) and conditions of authorisation included in the Environmental authorisation for the proposed development. For successful rehabilitation, it is imperative that this plan is at all times used in conjunction with the other approved plans issued for the construction and operation of the 2AFRICA (West) Cable System.

The aims of the RP are to provide:

- Protocols for the rehabilitation of vegetative cover across the project area.
- Protocols for the disturbance and replacement of municipal infrastructure on site.
- Tools for planning the rehabilitation work.
- Guidelines on implementation and post-implementation tasks.
- Criteria for evaluating rehabilitation success.

2. SCOPE

The RP serves as a guideline to be applied by all contractors involved with the construction and operation of the terrestrial component of the 2AFRICA (West) Cable System. This plan and the conditions within this plan must be implemented to fulfil the requirements of the authorisation. It must be noted however, that this rehabilitation plan is an evolving guideline that needs to be updated or adapted as progress is made with the revegetation and rehabilitation of the project area, and successes and failures of procedures are identified.

The objective of revegetation and rehabilitation of the project area are:

- To preserve as best possible the natural habitats on site and to ensure ecosystem function to maintain an environment for species to be able to become established and persist.
- To ensure that current integrity of municipal infrastructure is maintained after construction of the 2AFRICA (West) Cable System has been completed.
- To preserve or re-create the structural integrity of natural plant communities.
- To actively aid the improvement of indigenous biodiversity within and around the site based on the condition of the site prior to construction commencing.
- To improve the ecosystem function of natural landscapes and their associated vegetation.

3. LEGISLATION AND STANDARDS

There are a host of legal requirements (National, Provincial and Local Government spheres) to which the project proponent must adhere for the proposed development. Fundamentally, the proponent is required to include and integrate environmental principles and values into all planning and implementation procedures taken for development purposes. Underlying the reasoning above is the Constitutional right that people have to environmental protection as set out in the Bill of Rights in the Constitution (Section 24). These rights have now been interpreted and included into the National Environmental Management Act, 1998 (Act 107 of 1998), which,

together with other national and provincial legislation, governs the way environmental principles are incorporated into any form of development.

Relevant legislation pertaining to the rehabilitation of the site are described hereunder.

3.1 National Environmental Management Act, 1998 (Act 107 of 1998)

The National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) provides for the right to an environment that is not harmful to the health and well being of South African citizens. In addition, there is recognition that development must be socially, environmentally and economically sustainable, and that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied (Government Gazette, 1998).

3.2 Conservation of Agricultural Resources Act 43 of 1983

The aim of the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) (CARA) is to provide for control over the utilisation of the natural agricultural resources within South Africa and to promote the conservation of soil and water resources, indigenous vegetation and the control of invasive plants.

In terms of CARA, the landowner or land user is responsible for the maintenance of all soil conservation works located on his/her property. Added to this, the maintenance and improvement of the structure and function of wetlands furthers the aims of CARA.

3.3 Environment Conservation Act 73 of 1989

The primary objective of the Environment Conservation Act, 1989 (Act 73 of 1989) (ECA) is to provide for the effective protection and controlled utilisation of the environment. In terms of Section 20 of the ECA, all waste generated from the construction and operational phases of a development may only be disposed at licensed waste disposal sites.

Cognisance must also be taken of the relevant provincial legislation given that controlling authority and regulations pertaining to litter in terms of ECA (Sections 19, 19A and 24A) have been delegated to provinces.

3.4 National Forests Act, 1998 (Act 84 of 1998)

PROTECTED TREES (NATIONAL PROTECTION)

In terms of the National Forests Act, 1998 (Act 84 of 1998), trees in natural forests or protected tree species (as listed in Government Gazette Notice 1012 of 27 August 2004) may not be cut, disturbed, damaged, destroyed and their products may not be possessed, collected, removed, transported, exported, donated, purchased, or sold, except under licence granted by the Department of Forestry, Fisheries and Environment (DFFE). Each application is evaluated on merit (including site visits) before a decision is taken whether or not to issue a licence (with or without conditions). Such decisions must be in line with national policy and guidelines.

PROTECTED SPECIES (PROVINCIAL PROTECTION)

In terms of Section 62 of the Nature Conservation Ordinance, 1974 (Ordinance 19 of 1974) subject to the provisions of this ordinance, no person shall without a permit, be in possession of, sell, buy, donate, receive as a donation, pick, or import into, export from or transport in or through the province, any endangered flora.

4. DEVELOPMENT DESCRIPTION

The section of the 2AFRICA (West) Cable System which forms part of this Rehabilitation Plan includes the section of cable from where it makes landfall on Yzerfontein Main Beach until it reaches the existing WACS Cable Landing Station (CLS) outside Yzerfontein. In this context, the project description incorporates the materials comprising the 2AFRICA (West) Cable System and the methods to be used to install the cable system in the terrestrial environment.

The 2AFRICA (West) Cable System is comprised of the following project components from when it makes landfall on the beach until it reaches the existing WACS BMH at Yzerfontein:

- Laying of the cable across the beach up to the position of the WACS beach anchor block from where it will be installed in existing cable sleeves to the WACS BMH (requiring excavations within the intertidal zone to bury the cable before it being anchored into the WACS beach anchor block and BMH) and installation of a sea earth system (System Earth).
- Installation of the onshore cable between the BMH and the CLS in cable sleeves constructed when WACS was constructed.

Please note that the terrestrial cable components of the 2AFRICA (West) Cable System will be installed within existing cable conduits and no disturbance to the environment will take place once the 2AFRICA (West) Cable System has been installed to the existing WACS beach anchor block.

4.3 Construction Programme

The landing of the cable and construction across the beach to tie into the existing WACS beach anchor block is not expected to take longer than two weeks to complete.

Construction will entail the following activities for the landing of the 2AFRICA (West) Cable System at the preferred beach landing site:

- Provision of an advance party to establish the beach equipment and to prepare the beach, cordon off a working area to protect the public, etc.
- The marking of any existing in-service cables at the shore end location (with the assistance of the cable owners).
- Performance of the installation of the shore end section of the sea cable and support of the cable vessel activity.
- Installation of cable slack at the beach, as required.
- Installation of a cable loop in the beach manhole to facilitate re-terminations.
- Trenching across the beach to install the cable to the existing WACS beach anchor block.
- Securing the cable in the beach manhole by means of an armour wire anchor clamp.
- Burial of the cable from the beach anchor block to the Low Water Mark (LWM) to a depth of 2 m (or to bedrock, if reached sooner).
- Burial of the system earth plate on the beach.
- Reinstatement of the beach to the required standards.

Construction will entail the following steps for installation of the cable to the existing WACS beach anchor block:

- Site clearance.
- Demarcation of construction footprint.
- Excavation of footprint for the cable and system earth plate on the beach.
- Connection of cables.
- Rehabilitation of working areas and protection of areas susceptible to erosion.
- Testing and commissioning of the telecommunications cable.

5. INTEGRATION WITH OTHER MANAGEMENT PLANS

The most important aspect about any restoration or rehabilitation programme is that prior to the initiation of the program, the cause of transformation must be identified and first removed or mitigated. For this reason, it is imperative that this management plan is implemented in conjunction with the approved Environmental Management Programme (EMPr), specifically focussing on sensitive areas, storm water management and the impacts on municipal infrastructure and surrounding properties.

6. UNDERSTANDING REHABILITATION

For any rehabilitation measures to be successful, the following items must be understood by the project proponent:

- Rehabilitation of a site requires a long-term commitment.
- Successful rehabilitation requires practical and adaptive management.
- The rehabilitation plan must have achievable goals and set timeframes for implementation.

Prior to construction and rehabilitation of the development footprint taking place, the Swartland District Municipality must be consulted to determine:

- What the rehabilitation is ultimately aiming to achieve.
- Who will take long-term ownership and, hence, responsibility for rehabilitation and its subsequent monitoring and management.

7. CONSTRUCTION PHASE

The construction phase refers to the period of the project during which the actual works are carried out, deemed to include site establishment and site works. When carrying out the works during the construction phase, the environmental objective is to minimise the footprint of damage, disturbance and/or nuisance (to the social and biophysical environment), to properly manage use of water resources and to prevent pollution. Unless otherwise specified, it is the responsibility of the Contractor to comply with that described hereunder.

7.1 Demarcation of the site

- Prior to demarcation of the site taking place the contractor must visit the site with representatives from the Swartland District Municipality to agree on the construction footprint and any site-specific conditions which the Swartland District Municipality requires to be implemented on site.
- The Contractor must identify and demarcate the extent of the site and associated work areas. Appropriate barriers and easily understood signage must be in place to block public access to unsafe areas.

- ❑ If the construction footprint and construction activities block a regularly used public access route/s, then suitable alternative/s public access route/s must be identified and demarcated accordingly.
- ❑ The size of the construction footprint must be kept to a minimum by constructing suitable boundaries to avoid infringement of the development on the natural habitat.
- ❑ All construction activities must remain within the boundaries of the demarcated areas.
- ❑ The Contractor must ensure that the site is not used for any purpose other than for the proper carrying out of the works under the Contract.

7.2 Stockpile areas and storage areas

- ❑ Agreement on the location of storage areas must be obtained from the Swartland District Municipality .
- ❑ The materials stockpiles must be sited within existing disturbed areas, outside of any no-development area.
- ❑ The material stockpiles are fenced and has controlled security access.
- ❑ Construction workers may not be housed on site.
- ❑ All storage areas and material laydown sites must be located within predetermined zones as agreed with the Swartland District Municipality .
- ❑ The construction site must be kept secure and neat at all times.

7.3 Municipal Infrastructure

- ❑ Direct liaison is required between the Project/Resident Engineer and the relevant Swartland District Municipality departments in order to identify exact positions of current municipal service infrastructure within the development footprint.
- ❑ The contractor/Resident Engineer must obtain way leaves from the Swartland District Municipality to cross any servitudes and/or services infrastructure (if required).
- ❑ Together with representatives from the Swartland District Municipality the contractor/Resident Engineer must identify optimal ways to minimise disruption and interruptions to services.
- ❑ The Project/Resident Engineer must notify neighbouring residents, businesses, schools, and other landowners before construction commences in close proximity to their property and facilities, and well in advance of potential disruptions to essential services such as water, electricity, access, etc.

8. IMPLEMENTING REHABILITATION MEASURES

8.1 Identification of Required Interventions

For all development footprints and working areas, the project proponent will have to decide what intervention will be necessary, desirable, and feasible to enable the development to occur as well as the long-term maintenance of infrastructure.

Thus, for every area, there must be an operational guideline, which will outline the following:

- What will happen in each area (no-go, some rehabilitation or extensive rehabilitation)?
- What needs to be mitigated (this includes stormwater and erosion management)?
- Which areas need priority intervention/mitigation?
- How will this mitigation/intervention be undertaken (method statements)?
- What is the realistic and desirable end state for each area following rehabilitation?

8.3 Setting Realistic Rehabilitation Goals

Rehabilitation efforts typically aim at improving ecosystem function that consists of a series of processes, which can be evaluated against a desired outcome or referenced state of the environment. Attainable goals of rehabilitation should be possible and viable for at least the following:

- Stabilisation of soils on site.
- Stabilisation of riparian areas on site (if applicable).
- Storm water reduction through management and wetland integrity.
- Clearing of invasive plants.
- Ensuring the integrity of existing municipal services and infrastructure.

The degree of rehabilitation, which takes place on site, should be determined according to available project funding, personnel, and project requirements. It is important to note that the rehabilitation measures should at least result in an improvement to the current conditions on site and the condition of the environment should never be worse than prior to project implementation.

8.4 Management Actions Required

The plan must make provision for the rehabilitation of all areas of the site and the long-term maintenance thereof. This plan must include the following actions, which should be updated based on site conditions and construction progress at the time:

8.4.1 Bio-physical Environment

- Bare soil should be kept to a minimum.
- Areas of bare sand on the site are particularly prone to wind erosion and, thus, precautions should be taken to avoid excessive disturbance. Any cleared areas within the development footprint that are no longer or not required for construction or operational activities should be re-seeded with locally sourced seed of suitable species. Brush-packing with locally cleared indigenous vegetation will allow local plant seed to enter the topsoil and allow the re-establishment/re-generation of vegetation on these bare areas, as well as limit erosion.
- The verges of hardened surfaces must be re-seeded with locally sourced seed of suitable species to encourage vegetation re-generation and to limit erosion.

- ❑ Regular monitoring for erosion must be conducted across the site (particularly near hardened surfaces and infrastructure) to ensure that no erosion problems are occurring. Rectification of erosion problems should include brush-packing and re-vegetation as far as possible.
- ❑ Regular monitoring must be undertaken to ensure that alien plants do not establish or increase in numbers on site because of construction and operational disturbances.
- ❑ Final levels of all disturbed areas are, where feasible, to be consistent with the natural topography of the area.
- ❑ All drainage lines affected by construction are to be reinstated to approximate their original profile. Where this is not feasible due to technical constraints, the profile is to be agreed upon by the ECO and Principal Agent/Engineer.
- ❑ The concept of progressive reinstatement is fundamental to cost effective (both financial and environmental) rehabilitation of a site. This concept must be followed at all times.
- ❑ Where landscaping is utilised, the concept is to use and restore indigenous plants occurring within a 50 km radius of the site, in accordance with the concept of xeriscaping¹.
- ❑ The area from which this material is taken must be approved by the ECO and must not result in environmental degradation.
- ❑ Only in exceptional circumstances will sourcing of plant material from further afield or grass seed mixes be considered and approved by the ECO.
- ❑ Reinstatement and rehabilitation are required for all areas disturbed by the project. This includes the entire development site, construction camps/lay-down areas and servitudes for any services that may have been established.
- ❑ The contractor shall reinstate and rehabilitate all disturbed areas outside the demarcated working area at his own cost and to the satisfaction of the ECO and Swartland District Municipality officials.
- ❑ All areas disturbed by contract activities are to be revegetated to the satisfaction of the ECO.
- ❑ Methods of vegetation removal and re-establishment, where required, shall be specified by the ECO, in terms of:
 - Removal and storage of vegetation.
 - Source of vegetative material.
 - Ground preparation.
 - Weed removal.
 - Irrigation.
 - Planting times.
- ❑ All sites disturbed by construction activities shall be monitored for colonisation by invasive alien plant species.
- ❑ The ECO shall identify those plants that require removal during both the construction and maintenance period, for the contractor's action.
- ❑ The ECO shall provide advice as to effective methods of removal and control of alien plant species.
- ❑ Existing alien plants are to be removed and their spread prevented.

8.5 Timeframes and Monitoring

The rehabilitation of the site should take place as outlined below during the construction and operational phases of the proposed development:

¹ Landscaping with vegetation that has a low water usage. The objective is to conserve as much water as possible, whilst still beautifying an area (i.e., conservation and aesthetics). The concept embraces utilising indigenous plants occurring within a 50 km radius of the development site.

- ❑ Progressive rehabilitation will occur during construction, as areas for the re-application of topsoil and plant rehabilitation become available.
- ❑ The initial revegetation period post construction is estimated to be over a period of 6 months (maximum).
- ❑ Succession of natural plant species should be encouraged on site.
- ❑ Monitoring of rehabilitation success and follow-up adaptive management, together with clearing of emerging invasives shall be carried out during the operational phase of the proposed development.

Throughout the lifecycle of the development, regular monitoring and adaptive management must be in place to detect any impacts to the environment caused by the proposed development and to remedy these as soon as detected. During the construction phase, the ECO and contractor will be responsible for initiating and maintaining a suitable monitoring system. Once the development is operational, the project proponent will have to identify a suitable entity that will be able to take over and maintain the monitoring cycle and initiate adaptive management as soon as it is required. Monitoring personnel must be adequately trained in identifying both the impacts and causes of the impacts observed on site.

9. CONCLUSION

This RP provides the contractor, the developer, and the ECO with guidelines on how to plan rehabilitation work and assists in understanding the concepts behind successful rehabilitation. This plan must be implemented in conjunction with the approved EMPr as well as other management plans prepared for this proposed development.