Mulilo Total Coega 200MW Gas-Fired Power-Plant

Plant Rescue and Protection Plan

Report Prepared for

Mulilo Renewable Project Developments

Report Number 569508/6

Report Prepared by

srk consulting

October 2023

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Report Prepared for

Mulilo Renewable Project Developments
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List of Abbreviations

AIS	Alien Invasive Species
CARA	Conservation of Agricultural Resources Act (Act No. 43 of 1983)
CDC	Coega Development Corporation
DFFE	Department of Fisheries, Forestry and the Environment
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAPASA	Environmental Assessment Practitioners Association of South Africa
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GIS	Geographical Information Systems
GPS	Global Positioning System
LNG	Liquid Natural Gas
MTC	Mulilo Total Coega
MW	Mega Watt
NPAIS	National Invasive Alien Plant Survey
NEMBA	National Environmental Management: Biodiversity Act (NEMBA) (Act 10 of 2004)
RMIPPPP	Risk Mitigation Independent Power Producer Procurement Programme
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern

1 Project Introduction

Mulilo Total Coega (MTC) has been awarded preferred bidder status in terms of the RMIPPPP for the development of a 200 MW power plant with on-site LNG storage and regasification. This will allow for operation using LNG within the timeframes required by the bidding process, in the absence of piped gas supply to the site. The CDC has assigned MTC an approximately 6 ha site in the north eastern corner of the overall 23.8 ha Zone 13 1000 MW power plant site for their project, as shown on Figure 1-1. The proposed project will comprise 11 x Wartsila 18V50SG reciprocating engines (or similar) fuelled by natural gas, each unit producing approximately 18.3 MW of electrical power, totalling a combined installed capacity of approximately 200 MW. The 200 MW Phase 1 power plant (Mulilo Total Coega) site will be fenced off and will be developed and operated independently of the Phase 2, 800 MW project, should this project also receive environmental authorisation. As required in the DFFE Environmental Authorisation (EA) for the Phase 1 MTC power plant, the EMPr is to be revised to include various management plans, including the requirement of a Plant Rescue and Protection Plan.

This Plant Rescue and Protection Plan forms part of the Mulilo Total Coega Gas Fired Power Plant EMPr (SRK, 2022) and must be read in conjunction with the EMPr and applied as required.

The main objectives of rescuing plant Species of Conservation Concern (SCC), in conjunction with rehabilitation and revegetation of the project area (refer to Revegetation and Habitat Rehabilitation Plan, SRK Report # 569508/5) are:

- Preventing the loss of species either directly or through increased vulnerability to future extinction and minimising impacts of construction on population dynamics of species of conservation concern;
- Preserving the natural configuration of habitats as part of ecosystems, thus ensuring a diverse but stable hydrology, substrate and general environment for species to be able to become established and persist;
- Preserving or re-creating the structural integrity of natural plant communities
- Actively aid the improvement of indigenous biodiversity according to a desirable end state based on a previously recorded reference state. This reference state, if healthy, will be dynamic and able to recover after occasional disturbances without returning to a degraded state; and
- Improving the ecosystem function of natural landscapes and their associated vegetation.

The purpose of this Plant Rescue and Protection Plan is to provide an overview of the vegetation types, habitats and species present within the project site and the conservation status thereof. Areas and species of particular conservation concern have been highlighted and special management measures have been recommended which are applicable to these areas/species. Additionally, the plan outlines search and rescue methodologies applicable to the various plant types and habitats.

1.1 Location and Scope

The approved site for the power plant is located within Zone 13 of the Coega SEZ, Gqeberha (Port Elizabeth), Eastern Cape, South Africa. The site is located south-east of the Dedisa Power Plant and approximately 1.2 km east of the Coega River. The site is approximately 6 ha in size.

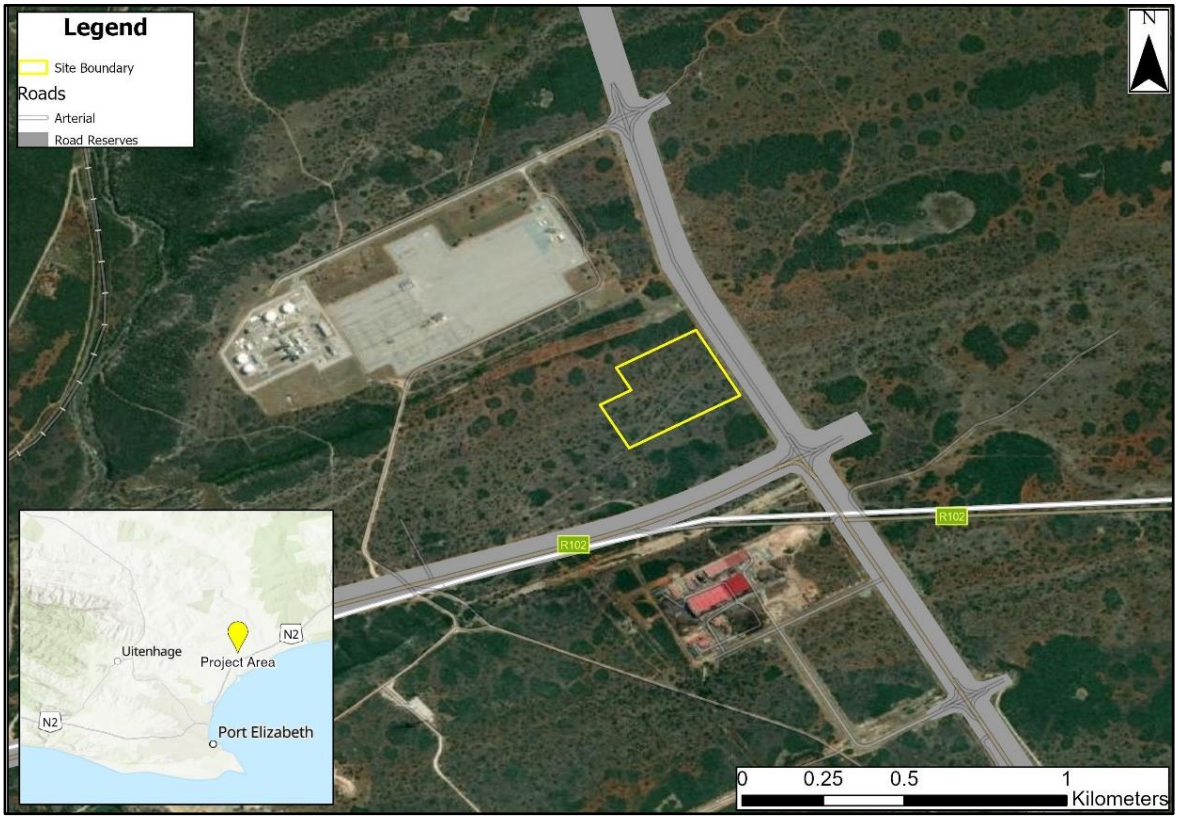

Figure 1-1: Mulilo Total Coega Gas-Fired Power Plant approved location

1.2 Legal Requirements

The following legislation is applicable to the protection of plant species of concern:

- National Environmental Management: Biodiversity Act (Act 10 of 2004), including Threatened or Protected Species Regulations;
- National Environmental Management Act (Act 107 of 1998);
- National Forests Act (Act 30 of 1998);
- Nature and Environmental Conservation Ordinance (No. 19 of 1974)

2 Baseline Environmental Description

A desktop investigation and site survey were conducted to identify potential Species of Conservation Concern (SCC) on the site which may need protection and/or relocation. The findings are presented below.

2.1 Desktop Investigation

According to the latest Vegetation Map of South Africa (Mucina, Rutherford, & Powrie, 2006-2018) the site is delineated as historically falling within *Grassridge Bontveld Thicket* (AT39) (Figure 2-1). This vegetation type occurs on lime-rich shallow clays on moderately undulating plains and consists of a mosaic of low thicket (2-3m) encompassing bush clumps and grassy dwarf-shrubland. Within the grassy-shrubland there are fynbos, karroid and grassland elements, with *Themeda triandra* often dominant.

According to SANBI BGIS 2018 National Vegetation Map (as accessed on 22 April 2022) the conservation status of *Grassridge Bontveld Thicket* (AT39) is listed as *Least Concern* with a *Moderate* protection level.

Important endemic species naturally occurring in Grassridge Bontveld Thicket include *Sideroxylon inerme* (LC), *Aloe africana* (LC) *Crassula ericoides* (LC), *Euphorbia globosa* (EN), *Rhombophyllum rhomboideum* (EN), *Berkheya heterophylla* (LC), *Acmadenia obtusata* (LC), *Blepharis procumbens* (LC), *Wahlenbergia tenella* (LC), *Euryops ericifolius* (EN), *Achyranthemum recurvatum* (EN), *Zygophyllum divaricatum* (EN), *Ruschia congesta* (LC), *Crassula calcarea* (not assessed) *Trichodiadema intonsum* (LC) and *Ficinia truncata* (LC).

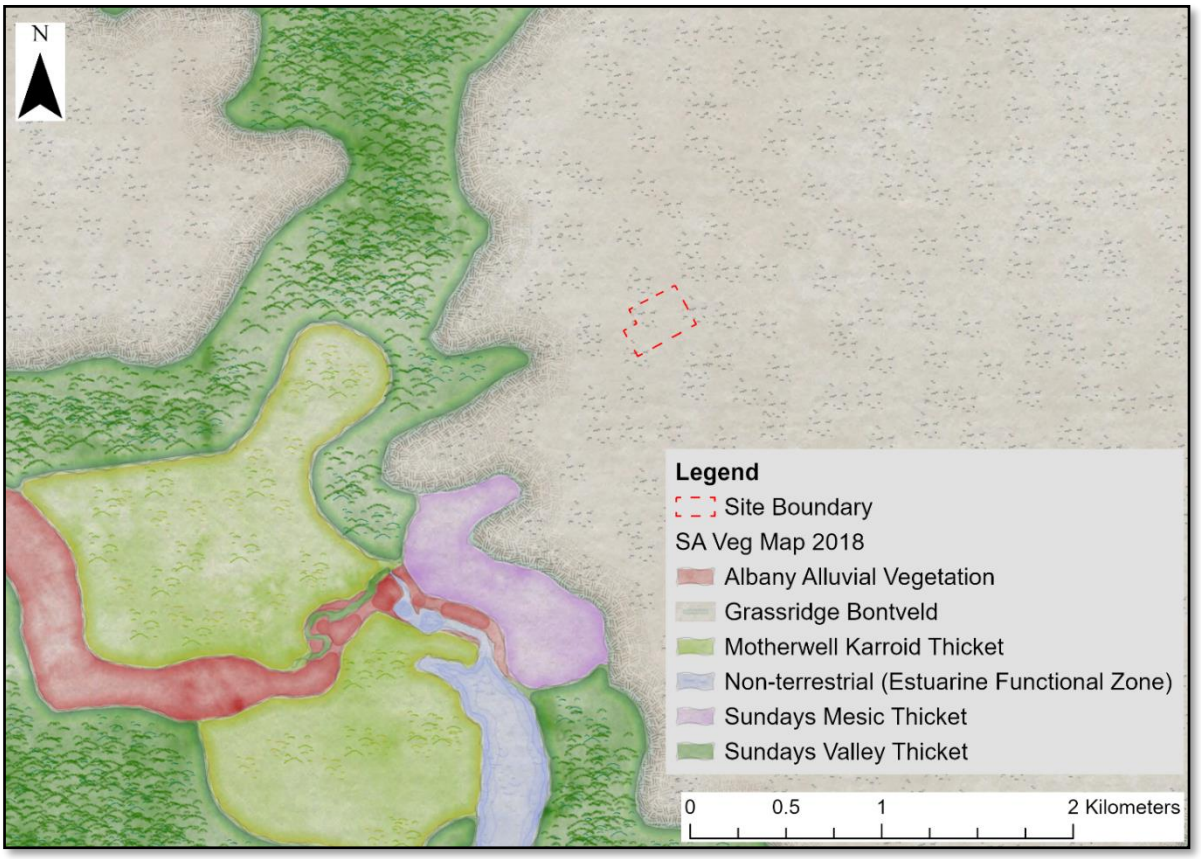

Figure 2-1 Historical Vegetation Types (Mucina, Rutherford & Powrie, 2018)

2.2 Site Investigation

A site survey was conducted on 12 April 2022. The vegetation on-site is largely intact with minor grazing impacts and disturbance from recent geotechnical investigations. A total of 37 species requiring relocation were recorded on the site, including eight species of conservation concern.

During the site survey it was established that two separate vegetation types are present on the site (Figure 2-2), and the species and soils present within the northern half of the site are more closely associated with *Motherwell Karroid Thicket* (AT44), being dominated by dense stands of *Pteronia incana*, with thicket bush clumps and open grassy-succulent patches dominated by *Eustachys paspaloides* (refer to Photo 1).

Motherwell Karroid Thicket (AT44) is described as occurring on undulating plains just above the floodplains of the local rivers on deep, loamy-clay soils and consists of a mosaic of low thicket consisting of small bush clumps in a matrix of succulent rich karroid shrubland, with the open areas between the bush clumps sometimes becoming dominated by *Themeda triandra* and *Pteronia incana* (Mucina, Rutherford, & Powrie, 2006-2018). According to SANBI BGIS 2018 National Vegetation Map (as accessed on 22 April 2022) the conservation status of *Motherwell Karroid Thicket* (AT44) is listed as *Critically Endangered* with no protection level.

Important endemic species naturally occurring in Motherwell Karroid Thicket include *Sideroxylon inerme* (LC), *Pappea capensis (LC)*, *Cussonia spicata* (LC) *Crassula ericoides* (LC), *Euphorbia meloformis* (NT), *Euphorbia stellata* (LC), *Pachypodium bispinosum* (LC). *Pachypodium succulentum* (NT), *Ruschia uncinata* (LC), *Bergeranthus addoensis* (NT), *Trichodiadema intonsum* (LC), *Anginon rugosum* (LC) *Lampranthus algoensis* (LC), *Delosperma hollandii* (CE), *Aloe bowiea* (EN), *Brunsvigia gregaria* (LC), *Pelargonium pulverulentum* (LC), *Indigofera denudata* (LC), *Pelargonium reniforme* (NT) and *Searsia longispina* (LC).

Photo 1: Typical Motherwell Karroid Thicket vegetation and soils

The southern section of the site contains typical *Grassridge Bontveld Thicket* (AT39) species and soils, with a shallow calcrete layer and dominated by sclerophyllous herbaceous Asteraceae species such as *Berkheya heterophylla, Euryops ericifolius, Jamesbrittenia microphylla* and grasses such as *Chloris virgata* and *Eustachys paspaloides* with a succulent mix dominating the calcrete outcrops. The northern *Motherwell Karroid Thicket* section is additionally dotted with small calcrete outcroppings on which typical *Grassridge Bontveld Thicket* species are present (Photo 2). Refer to Appendix A for full list of species observed on site during the site survey.

Photo 2: Typical Grassridge Bontveld Thicket calcrete outcrop

Figure 2-2: Refined Vegetation Layers (SRK, 2022)

2.3 Species of Conservation Concern

Species of Conservation Concern (SCC) are species that have a high conservation importance in terms of preserving South Africa's floristic diversity and include not only threatened species, but also

those classified in the categories Extinct in the Wild (EW), Regionally Extinct (RE), Near Threatened (NT), Critically Rare, Rare, Declining and Data Deficient - Insufficient Information (DDD). A list of SCC recorded on site during the site survey was compiled according to international, national and provincial regulations (detailed below) and is included in Table 2-1.

2.3.1 IUCN Red List species (IUCN & CITES)

South Africa uses the internationally endorsed IUCN Red List Categories and Criteria in the Red List of South African plants. This scientific system is designed to measure species' risk of extinction, and it serves as a crucial tool in assessing the conservation status of various plant species. Among the plant species evaluated, one notable inclusion is *Rhombophyllum rhomboideum* (Photo 3), which has been classified as "Endangered (EN)" according to the IUCN Red List. This designation signifies that *Rhombophyllum rhomboideum* faces a high risk of extinction in the wild. The primary purpose of employing the IUCN Red List system is to identify and bring attention to those species, like *Rhombophyllum rhomboideum*, that are most urgently in need of conservation action, thus aiding in the implementation of targeted and effective conservation measures for their protection and preservation.

Additionally, Schedule 82 included in the draft list of Threatened or Protected Species (TOPS) issued in terms of Section 56(1) of NEMBA includes all South African species listed in Appendices I, II & III of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

Photo 3: *Rhombophyllum rhomboideum* (Red List Status: Endangered (EN))

2.3.2 Cape Nature and Environment Conservation Ordinance (NECO)

The Cape Nature and Environment Conservation Ordinance (NECO) (No. 19 of 1974) lists provincially protected flora under Schedule 4, which require permits for removal and/or relocation. Among the species receiving this protective status is *Huernia thuretii* (Photo 4), a member of the Asclepiadaceae family. It has been classified as "Least Concern (LC)" based on its conservation status. This designation indicates that *Huernia thuretii* is not currently facing significant threats to its survival. Being protected under Schedule 4 of NECO highlights the importance of preserving this species and underscores the need for permits to ensure its sustainable management and conservation within the region. This legal protection serves as a mechanism to safeguard *Huernia thuretii* and other flora from

potential threats posed by removal or relocation activities, contributing to the broader efforts of environmental preservation and biodiversity conservation.

Photo 4: *Huernia thuretii* (LC) protected under Schedule 4 of NECO (*all species of Asclepiadaceae*)

2.3.3 Nationally protected species

These are species listed in the Appendices of the National Environmental Management: Biodiversity Act (Act 10 of 2004, as updated in R. 1187, 14 December 2007) (TOPS), as well as species protected according to the National Forests Act (Act 30 of 1998). *Euphorbia meloformis* (Photo 5) is listed as "NT," indicating its conservation status as "Near Threatened." In addition to this designation, the species is also listed under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) and TOPS (Threatened or Protected Species) Appendices. These designations reflect the international recognition of the species' need for protection and conservation due to its vulnerable status.

Euphorbia meloformis is also protected under the National Environmental Management: Biodiversity Act (Act 10 of 2004, as updated in R. 1187, 14 December 2007) through TOPS listing. This act is aimed at safeguarding biodiversity and promoting sustainable management of species. Additionally, the National Forests Act (Act 30 of 1998) extends its protection to *Euphorbia meloformis*, further emphasizing the significance of conserving this species within the context of forest ecosystems.

Photo 5: *Euphorbia meloformis (NT), CITES & TOPS listed species*

Table 2-1: List of SCC and protected plants recorded

FAMILY	SPECIES	TYPE	THREATENED STATUS	PROTECTION STATUS[1]	VEG TYPE
AIZOACEAE	*Bergeranthus addoensis*	Succulent	VU	IUCN, NECO	AT44
AIZOACEAE	*Delosperma brunnthaleri*	Succulent	DDD	IUCN, NECO	AT44
AIZOACEAE	*Delosperma uitenhagense*	Succulent	LC	NECO	AT39
AIZOACEAE	*Drosanthemum floribundum*	Succulent	LC	NECO	AT44
AIZOACEAE	*Glottiphyllum longum*	Succulent	LC	NECO	AT44
AIZOACEAE	*Lampranthus algoensis*	Succulent	LC	NECO	AT44
AIZOACEAE	*Mesembryanthemum aitonis*	Succulent	LC	NECO	AT39, AT44
AIZOACEAE	*Mesembryanthemum haekelianum*	Succulent	LC	NECO	AT44
AIZOACEAE	*Mesembryanthemum splendens subsp. splendens*	Succulent	LC	NECO	AT44
AIZOACEAE	*Ruschia depressa*	Succulent	LC	NECO	AT44
AIZOACEAE	*Ruschia orientalis*	Succulent	LC	NECO	AT39, AT44
AIZOACEAE	*Ruschia recurva*	Succulent	LC	NECO	AT39
AIZOACEAE	*Ruschia cymbifolia*	Succulent	LC	NECO	AT44
AIZOACEAE	*Ruschia congesta*	Succulent	LC	NECO	AT39
AIZOACEAE	*Trichodiadema intonsum*	Succulent	LC	NECO	AT39, AT44
AIZOACEAE	*Rhombophyllum rhomboideum*	Succulent	EN	IUCN, NECO	AT39
AIZOACEAE	*Trichodiadema orientale*	Succulent	DDD	IUCN, NECO	AT44
AMARYLLIDACEAE	*Boophone disticha*	Geophytes	LC	NECO	AT44
AMARYLLIDACEAE	*Brunsvigia gregaria*	Geophytes	LC	NECO	AT44
AMARYLLIDACEAE	*Strumaria gemmata*	Geophytes	LC	NECO	AT44
APOCHYNACEAE	*Cynanchum viminale*	Geophytes	LC	NECO	AT39
APOCHYNACEAE	*Duvalia caespitosum*	Geophytes	LC	NECO	AT39
APOCHYNACEAE	*Fockea edulis*	Geophytes	LC	NECO	AT44
APOCHYNACEAE	*Pachypodium bispinosa*	Geophytes	LC	NECO, CITES	AT44
APOCHYNACEAE	*Pachypodium succulentum*	Geophytes	LC	NECO, CITES	AT44
APOCHYNACEAE	*Carissa haematocarpa*	Shrub	LC	NECO	AT44
APOCHYNACEAE	*Huernia thurettii*	Succulent	LC	NECO	AT44
ASPHODELACEAE	*Aloe striata*	Shrub	LC	NECO	AT44
ASPHODELACEAE	*Aloe africana*	Tree	LC	NECO	AT39
ASTERACEAE	*Euryops ericifolius*	Herb	EN	IUCN	AT39
EUPHORBIACEAE	*Euphorbia meloformis*	Succulent	NT	IUCN, TOPS, NECO, CITES	AT44
EUPHORBIACEAE	*Euphorbia inermis*	Geophytes	LC	CITES	AT44
EUPHORBIACEAE	*Euphorbia caerulescens*	Succulent	LC	CITES	AT44

[1] IUCN = International Union for the Conservation of Nature

NECO = Cape Nature and Environment Conservation Ordinance (No.19 of 1974)

TOPS = NEM:BA Threatened or Protected Species

EUPHORBIACEAE	*Euphorbia rhombifolia*	Succulent	LC	CITES	AT44
EUPHORBIACEAE	*Euphorbia stellata*	Succulent	LC	CITES	AT44
EUPHORBIACEAE	*Euphorbia triangularis*	Tree	LC	CITES	AT44
GERANIACEAE	*Pelargonium reniforme*	Geophytes	VU	IUCN, TOPS	AT44
IRIDACEAE	*Freesia corymbosa*	Geophytes	LC	NECO	AT44
IRIDACEAE	*Tritonia laxifolia*	Geophytes	LC	NECO	AT44
SANTALACEAE	*Sideroxylon inerme*	Tree	LC	NFA	AT39

3 Plant Rescue plan

3.1 Principles of Plant Rescue

Plant rescue should be considered as a last resort to conserve individual plants, when authorization for development has been obtained and construction is imminent. The ecosystem within the footprint of the development, with all its species diversity, genetic variation, and ecological interrelationships will be lost due to clearing and the objective is to salvage some individuals prior to the destruction.

Some considerations are as follows:

- In situ conservation is preferable to ex situ conservation. Removing a population from its natural habitat and placing it under artificial conditions results in the erosion of the inherent genetic diversity and characteristics of that species;
- To ensure the persistence of a population, it is imperative that the ecological processes maintaining that population persist. This requires that natural habitats are maintained in an ecologically functional condition;
- Success entails not only survival of the translocated individuals but also establishment of a self-sustaining, viable population able to reproduce and adapt to changing environmental conditions;
- Relocation of rescued plants to undisturbed habitats falsifies the local history of natural dispersal and alters the natural species composition of the target site;
- Re-planting into the wild must cause as little disturbance and harm as possible to existing natural ecosystems;
- Rescue must be limited to only those areas where plants will be destroyed by the development. No plants should be removed from areas that will otherwise not be disturbed;
- Rescue should not be undertaken from any site where there is a significant risk that well established invasive alien plants or other pests will be spread by the relocation of native plants.

3.2 Relocation areas

The following considerations must be applied when selecting recipient areas for relocation of plants. The area should be:

- relatively close to the development site (<5 km);
- the same vegetation, geology and soil type as the development site footprint;
- a relatively flat or slightly sloping area; and
- preferably located in historically disturbed sections within conservation areas.

Potential relocation areas within a 5 km radius of the MTC development site have been identified using the NMBM Bioregional Plan CBA network and SAVEG Map 2018 and are highlighted in Figure 3-1.

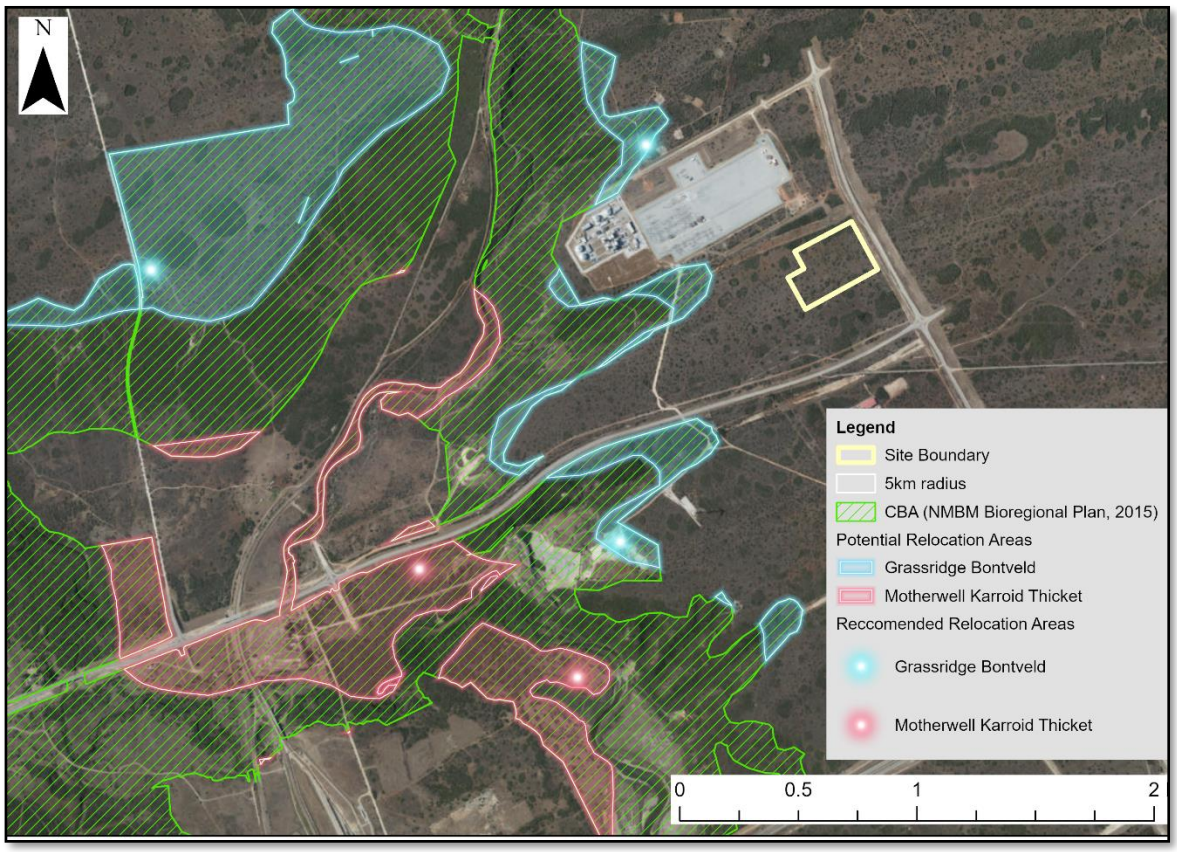

Figure 3-1: Potential Relocation Areas (SRK, 2022)

It is important that plants rescued from sections on the site within the *Motherwell Karroid Thicket* (AT44) are relocated to previously disturbed sections within the areas of *Motherwell Karroid Thicket* highlighted in Figure 3-1. The same principle applies for those rescued from sections of *Grassridge Bontveld Thicket* (AT39).

Records, including the species, location, photographs, number translocated are to be logged and included in a final translocation report to be submitted to the ECO and DEDEAT upon completion of translocation activities.

3.3 Plant Rescue plan

The plan must make provision for the rehabilitation of areas of the site that fall outside the development footprint and the long-term maintenance thereof.

This section provides details on the actions that are required to rescue any TOPS and/or listed plant species from the path of development and what steps are to be taken to house them temporarily and then to place them back into suitable habitats.

Before construction commences (including site establishment) the actions described in Table 3-1 must be undertaken.

Table 3-1: Plant Search and Rescue Action Plan

Action	Responsible Person
Permits Permits to collect, relocate and propagate plant material and to collect seed or cuttings for the contract must be obtained from DEDEAT prior to disturbance of the vegetation.	Developer / ECO
Demarcate the construction area The footprint of proposed development must be marked out prior to breaking ground, to demarcate the area within which the search and rescue operation must be undertaken, as well as the limits of the area to be cleared or disturbed during construction.	Contractor / Engineer / Developer
Appoint horticulturalist Appoint an experienced horticulturalist or landscaping contractor to undertake the rescue operation, manage the rescued plant material and operate a nursery to house the rescued plants, if this is required.	Developer
Search and Rescue The physical search and rescue activity involves several steps: I. A botanist familiar with the vegetation of the area must accompany the horticulturalist on site at the onset of the search and rescue operation to familiarise them with the relevant SCC. II. Habitats that are currently disturbed/transformed and that are located within the highlighted areas in Figure 3-1 must be identified for use as relocation areas and approved by the ECO / botanist, as well as CDC. III. Rescued plants must be planted into a container to be housed within a temporary nursery on site or immediately planted into the target habitat. If planted into natural habitat, it must be protected from construction activities and monitored to ensure survival. IV. The collecting of plants by unauthorized persons must be prevented. V. Once the search and rescue activity has been completed, the site should preferably be opened to the public, including nurseries, medicinal healers, researchers, and the plant enthusiasts to be allowed to collect remaining plants before vegetation clearance commences.	Horticulturalist / Botanist / ECO / Developer
ECO Approval ECO to monitor that vegetation clearing only happens once all search and rescue operations have been completed, and within the approved development footprint area only.	ECO

4 Monitoring

The following monitoring activities are recommended as part of the search and rescue plan:

- It is recommended that the ECO conduct spot checking during the search and rescue operation to confirm that the requirements of this plan are adequately adhered to, and no undue disturbance of SCC occurs; and
- Post-relocation monitoring of plants translocated during the search and rescue operation to evaluate whether the translocation activities were successful. This can be undertaken by the ECO and recorded in the monthly audit reports including photographic records of successfully or unsuccessfully transplanted individuals.

4.1 SCC Rescue indicators and targets

Recommended indicators and targets to evaluate the success of the search and rescue operation are detailed in Table 4-1.

Table 4-1: Search and Rescue success indicators and targets

Indicators	Targets
Written and photographic records from all search and rescue operations	All species of conservation concern identified removed prior to clearing.
Survival rate of translocated plants	50-80% (based on probable survival rate of thicket species)

5 Conclusion

The site is located within an area historically classified as Grassridge Bontveld Thicket (AT39). According to SANBI BGIS 2018 National Vegetation Map the conservation status of Grassridge Bontveld Thicket (AT39) is listed as Least Concern with a Moderate protection level.

A site survey was conducted on 12 April 2022. The vegetation on-site is largely intact with minor grazing impacts and disturbance from past geotechnical investigations. A total of 37 species requiring relocation were recorded on the site, including eight species of conservation concern.

During the site survey it was established that two separate vegetation types are present on the site, and the species and soils present within the northern half of the site are more closely associated with Motherwell Karroid Thicket (AT44), being dominated by dense stands of *Pteronia incana*, with thicket bush clumps and open grassy-succulent patches dominated by *Eustachys paspaloides*

Prior to construction commencing the relevant permit from DEDEAT for translocation of SCC is required as well as confirmation from the ECO of adherence to the Search and Rescue Action plan detailed in Table 3-1.

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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Appendix A: List of species recorded during field study

FAMILY	SPECIES	TYPE	THREATENED STATUS	PROTECTION STATUS	VEG TYPE
ACANTHACEAE	*Barleria pungens*	Herb	LC	-	AT39
ACANTHACEAE	*Blepharis integriflia*	Herb	LC	-	AT44
ACANTHACEAE	*Blepharis procumbens*	Herb	LC	-	AT39
ACANTHACEAE	*Dyschoriste setiger*	Herb	LC	-	AT39
AGAVACEAE	*Chlorophytum crispum*	Herb	LC	-	AT44
AIZOACEAE	*Bergeranthus addoensis*	Succulent	VU	IUCN, NECO	AT44
AIZOACEAE	*Delosperma brunnthaleri*	Succulent	DDD	IUCN, NECO	AT44
AIZOACEAE	*Delosperma uitenhagense*	Succulent	LC	NECO	AT39
AIZOACEAE	*Drosanthemum floribundum*	Succulent	LC	NECO	AT44
AIZOACEAE	*Glottiphyllum longum*	Succulent	LC	NECO	AT44
AIZOACEAE	*Lampranthus algoensis*	Succulent	LC	NECO	AT44
AIZOACEAE	*Mesembryanthemum aitonis*	Succulent	LC	NECO	AT39, AT44
AIZOACEAE	*Mesembryanthemum haeckeliana*	Succulent	LC	NECO	AT44
AIZOACEAE	*Mesembryanthemum splendens subsp. splendens*	Succulent	LC	NECO	AT44
AIZOACEAE	*Ruschia depressa*	Succulent	LC	NECO	AT44
AIZOACEAE	*Ruschia orientalis*	Succulent	LC	NECO	AT39, AT44
AIZOACEAE	*Ruschia recurva*	Succulent	LC	NECO	AT39
AIZOACEAE	*Ruschia cymbifolia*	Succulent	LC	NECO	AT44
AIZOACEAE	*Ruschia congesta*	Succulent	LC	NECO	AT39
AIZOACEAE	*Trichodiadema intonsum*	Succulent	LC	NECO	AT39, AT44
AIZOACEAE	*Rhombophyllum rhomboideum*	Succulent	EN	IUCN, NECO	AT39
AIZOACEAE	*Trichodiadema orientale*	Succulent	DDD	IUCN, NECO	AT44
AMARYLLIDACEAE	*Boophone disticha*	Geophytes	LC	NECO	AT44
AMARYLLIDACEAE	*Brunsvigia gregaria*	Geophytes	LC	NECO	AT44
AMARYLLIDACEAE	*Strumaria gemmata*	Geophytes	LC	NECO	AT44
ANACARDIACEAE	*Searsia pterota*	Tree	LC	-	AT39
ANACARDIACEAE	*Searsia rehmanniana*	Tree	LC	-	AT39
APIACEAE	*Anginon rugosum*	Herb	VU	IUCN	AT44
APOCHYNACEAE	*Cynanchum viminale*	Geophytes	LC	NECO	AT39
APOCHYNACEAE	*Fockea edulis*	Geophytes	LC	NECO	AT44
APOCHYNACEAE	*Pachypodium bispinosa*	Geophytes	LC	NECO	AT44
APOCHYNACEAE	*Pachypodium succulentum*	Geophytes	LC	NECO	AT44
APOCHYNACEAE	*Carissa haematocarpa*	Shrub	LC	-	AT44
APOCHYNACEAE	*Huernia thurettii*	Succulent	LC	-	AT44
ARALIACEAE	*Cussonia spicata*	Tree	LC	-	AT44
ASPHODELACEAE	*Aloe striata*	Shrub	LC	NECO	AT44
ASPHODELACEAE	*Bulbine frutescens*	Succulent	LC	-	AT44
ASPHODELACEAE	*Gasteria bicolor*	Succulent	LC	-	AT44
ASPHODELACEAE	*Aloe africana*	Tree	LC	NECO	AT39

ASPHODELACEAE	*Aloe ferox*	Tree	LC	-	AT39
ASTERACEAE	*Euryops algoensis*	Herb	LC	-	AT44
ASTERACEAE	*Euryops anthemoides*	Herb	LC	-	AT44
ASTERACEAE	*Euryops ericifolius*	Herb	EN	IUCN	AT39
ASTERACEAE	*Felicia filifolia*	Herb	LC	-	AT39
ASTERACEAE	*Gazania krebsiana*	Herb	LC	-	AT39
ASTERACEAE	*Hertia kraussii*	Herb	LC	-	AT39
ASTERACEAE	*Osteospermum imbricatum*	Herb	LC	-	AT39
ASTERACEAE	*Osteospermum calendulaceum*	Herb	LC	-	AT44
ASTERACEAE	*Senecio crassiusculus*	Herb	LC	-	AT44
ASTERACEAE	*Senecio oxyriifolius*	Herb	LC	-	AT44
ASTERACEAE	*Senecio linifolius*	Herb	LC	-	AT44
ASTERACEAE	*Chrysocoma ciliata*	Shrub	LC	-	AT44
ASTERACEAE	*Oedera genistifolia*	Shrub	LC	-	AT44
ASTERACEAE	*Pteronia incana*	Shrub	LC	-	AT44
ASTERACEAE	*Curio acualis*	Succulent	LC	-	AT44
ASTERACEAE	*Curio radicans*	Succulent	LC	-	AT44
BORAGINACEAE	*Ehretia rigida*	Tree	LC	-	AT44
CAMPANULACEAE	*Jamesbrittenia microphylla*	Herb	LC	-	AT39
CAMPANULACEAE	*Wahlenbergia albens*	Shrub	LC	-	AT39
CELASTRACEAE	*Lauridia tetragona*	Shrub	LC	-	AT39
CELASTRACEAE	*Gymnosporia capitata*	Tree	LC	-	AT39
CELASTRACEAE	*Putterlicka pyracantha*	Tree	LC	-	AT39
COMMELINACEAE	*Cyanotis speciosa*	Geophytes	LC	-	AT44
CRASSULACEAE	*Cotyledon velutina*	Succulent	LC	-	AT44
CRASSULACEAE	*Crassula capitella*	Succulent	LC	-	AT39
CRASSULACEAE	*Crassula ericoides*	Succulent	LC	-	AT39
CRASSULACEAE	*Crassula expansa var. expansa*	Succulent	LC	-	AT44
CRASSULACEAE	*Crassula mesembryanthoides*	Succulent	LC	-	AT44
CRASSULACEAE	*Crassula mollis*	Succulent	LC	-	AT44
CRASSULACEAE	*Crassula muscosa*	Succulent	LC	-	AT39
CRASSULACEAE	*Crassula tetragona*	Succulent	LC	-	AT44
CRASSULACEAE	*Crassula ovata*	Succulent	LC	-	AT44
CRASSULACEAE	*Kalanchoe rotundifolia*	Succulent	LC	-	AT44
CYPERACEAE	*Ficinia truncata*	Herb	LC	-	AT39
EBENACEAE	*Euclea undulata*	Tree	LC	-	AT44
EUPHORBIACEAE	*Euphorbia inermis*	Geophytes	LC	-	AT44
EUPHORBIACEAE	*Euphorbia caerulescens*	Shrub	LC	-	AT44
EUPHORBIACEAE	*Euphorbia meloformis*	Succulent	NT	TOPS, NECO	AT44
EUPHORBIACEAE	*Euphorbia rhombifolia*	Succulent	LC	-	AT44
EUPHORBIACEAE	*Euphorbia stellata*	Succulent	LC	-	AT44
EUPHORBIACEAE	*Euphorbia triangularis*	Tree	LC	-	AT44
FABACEAE	*Dolichos hastiformis*	Herb	LC	-	AT44
FABACEAE	*Indigofera heterophylla*	Herb	LC	-	AT44
FABACEAE	*Argyrolobium molle*	Herb	LC	-	AT39

FABACEAE	*Argyrolobium collinum*	Herb	LC	-	AT44
FABACEAE	*Lotononis micrantha*	Herb	LC	-	AT39
FABACEAE	*Lotononis pungens*	Herb	LC	-	AT39
FABACEAE	*Tephrosia capensis*	Herb	LC	-	AT39
FABACEAE	*Indigofera denudata*	Shrub	LC	-	AT44
FABACEAE	*Indigofera sessiliflora*	Shrub	LC	-	AT44
FABACEAE	*Indigofera disticha*	Shrub	LC	-	AT39
FABACEAE	*Schotia afra var. afra*	Tree	LC	-	AT39
GERANIACEAE	*Monsonia emarginata*	Geophytes	LC	-	AT39
GERANIACEAE	*Pelargonium reniforme*	Geophytes	VU	IUCN, TOPS	AT44
GERANIACEAE	*Pelargonium lobatum*	Geophytes	LC	-	AT44
GERANIACEAE	*Pelargonium peltatum*	Herb	LC	-	AT44
HYACYNTHACEAE	*Albuca tortuosa*	Geophytes	LC	-	AT44
HYACYNTHACEAE	*Drimia altissima*	Geophytes	LC	-	AT44
HYACYNTHACEAE	*Drimia ciliata*	Geophytes	LC	-	AT44
HYACYNTHACEAE	*Drimia haworthioides*	Geophytes	LC	-	AT44
HYACYNTHACEAE	*Ledebouria ensifolia*	Geophytes	LC	-	AT44
HYACYNTHACEAE	*Sanseviera hyacynthoides*	Geophytes	LC	-	AT44
HYACYNTHACEAE	*Asparagus burchelli*	Shrub	LC	-	AT44
HYACYNTHACEAE	*Asparagus striatus*	Shrub	LC	-	AT44
HYPOXIDACEAE	*Hypoxis stellipilis*	Geophytes	LC	-	AT44
HYPOXIDACEAE	*Pauridia trifurcillata*	Geophytes	LC	-	AT44
HYPOXIDACEAE	*Empodium gloriosum*	Geophytes	LC	-	AT39
IRIDACEAE	*Freesia corymbosa*	Geophytes	LC	NECO	AT44
IRIDACEAE	*Tritonia laxifolia*	Geophytes	LC	NECO	AT44
LAMIACEAE	*Plectranthus madagascariensis*	Herb	LC	-	AT44
LAMIACEAE	*Ocimum burchellianum*	Shrub	LC	-	AT44
LAMIACEAE	*Leucas capensis*	Shrub	LC	-	AT44
LOBELIACEAE	*Cyphia sylvatica*	Herb	LC	-	AT44
MALVACEAE	*Hermannia althaeoides*	Herb	LC	-	AT44
MALVACEAE	*Hibiscus pusillus*	Herb	LC	-	AT44
MALVACEAE	*Grewia robusta*	Tree	LC	-	AT44
MOLLUGINACEAE	*Pharnaceum trigonum*	Herb	LC	-	AT39
OLEACEAE	*Olea europaea*	Tree	LC	-	AT44
OXALIDACEAE	*Oxalis punctata*	Geophytes	LC	-	AT44
OXALIDACEAE	*Oxalis smithii*	Geophytes	LC	-	AT44
OXALIDACEAE	*Oxalis stellata*	Geophytes	LC	-	AT44
POACEAE	*Chloris virgata*	Graminoid	LC	-	AT39
POACEAE	*Digitaria eriantha*	Graminoid	LC	-	AT39, AT44
POACEAE	*Eragrostis obtusa*	Graminoid	LC	-	AT39, AT44
POACEAE	*Eragrostis pyramidalis*	Graminoid	LC	-	AT39
POACEAE	*Eustachys paspaloides*	Graminoid	LC	-	AT39, AT44
PORTULACACEAE	*Portulacaria afra*	Tree	LC	-	AT44
RUSCACEAE	*Eriospermum paradoxum*	Geophytes	LC	-	AT44

RUSCACEAE	*Eriospermum porphyrium*	Geophytes	LC	-	AT44
SANTALACEAE	*Sideroxylon inerme*	Tree	LC	NFA	AT39
SAPINDACEAE	*Hippobromus pauciflorus*	Tree	LC	-	AT39
SAPINDACEAE	*Pappea capensis*	Tree	LC	-	AT44
SOLANACEAE	*Lycium ferocissimum*	Tree	LC	-	AT44
SCROPHULARIACEAE	*Selago corymbosa*	Herb	LC	-	AT44
SCROPHULARIACEAE	*Selago decipiens*	Herb	LC	-	AT39
VERBENACEAE	*Lantana rugosa*	Shrub	LC	-	AT39
VISCACEAE	*Viscum rotundifolium*	Epiphyte	LC	-	AT44