PLANT RESCUE AND PROTECTION MANAGEMENT PLAN

1. PURPOSE

The purpose of the plant rescue and protection plan is to implement avoidance and mitigation measures, in addition to the mitigation measures included in the Environmental Management Programme (EMPr) to reduce the impact of the development of the Komsberg West Wind Energy Facility on listed and protected plant species and their habitats, and to provide guidance on search and rescue of species of conservation concern.

2. RELEVANT ASPECTS OF THE SITE

Based on the results of the walkdown (2021) and the amended layout, the approximate areas of occurrence of several protected species throughout the development site were identified. However, most of the species are easy to relocate and with a degree of success can be re-established outside of the footprint areas, noting that all of the species are still well represented in areas that won't be disturbed.

All protected plant species, (protected in terms of the Western Cape legislation) are listed below. The disturbance, destruction and/or relocation, whichever is more relevant, of these species would require the relevant permits from the provincial authority, noting that the majority of the species listed below were found outside of the June 2021 project layout/alignments. This does not however preclude them from being found within the final footprints or especially after the recent rains. The types and amounts of protected plant species to be rescued and relocated are indicated in the 2021 ecological walkthrough report (EnviroSci, July 2021), however this plant rescue and protection plan can be updated/supplemented as appropriate prior to construction, in consultation with the appropriate specialist.

Table 1: List of potential listed and protected plants that may be encountered during construction and which will require permits from the provincial authority for their removal/ relocation. Species observed during the June 2021 Walkthrough survey within the project footprint area indicated, where those listed under IUCN other than LC will also require a Biodiversity Permit from the respective provinces (ToPs)

Family	Genus	Species	Subspecies	IUCN Status	2021 Survey	NCNCA (No 9 of 2009) Observed	Protected WC NCO (No 3 of 2000) Observed
AIZOACEAE	*Aloinopsis*	*spathulata*		LC	X	X	
AIZOACEAE	*Antimima*	*prolongata*		LC	X	X	
AIZOACEAE	*Antimima*	*pumila*		DDT	X	X	
AIZOACEAE	*Cheiridopsis*	*namaquensis*		LC	X	X	
AIZOACEAE	*Cleretum*	*lyratifolium*		LC		X	
AIZOACEAE	*Cleretum*	*Papulosum*		LC	X	X	
AIZOACEAE	*Delosperma*	*sphalmanthoides*		DDT	X	X	
AIZOACEAE	*Drosanthemum*	*spp*		LC	X	X	
AIZOACEAE	*Hammeria*	*meleagris*		LC	X	X	
AIZOACEAE	*Lampranthus*	*spp*		LC	X	X	
AIZOACEAE	*Ruschia*	*caroli*		LC	X	X	
AIZOACEAE	*Ruschia*	*inclusa*		DDT	X	X	
AIZOACEAE	*Ruschia*	*pungens*		DDT	X	X	

Family	Genus	Species	Subspecies	IUCN Status	2021 Survey	NCNCA (No 9 of 2009) Observed	Protected WC NCO (No 3 of 2000) Observed
AIZOACEAE	*Stomatium*	*suaveolens*		LC	X	X	
AMARYLLIDACEAE	*Boophone*	*disticha*		Declining	X	X	X
AMARYLLIDACEAE	*Brunsvigia*	*josephinae*		VU		X	X
AMARYLLIDACEAE	*Gethyllis*	*spiralis*		LC	X	X	X
AMARYLLIDACEAE	*Gethyllis*	*verticillata*		LC	X	X	X
AMARYLLIDACEAE	*Strumaria*	*karooica*		Rare		X	X
ANACAMPSEROTACEAE	*Anacampseros*	*marlothii*		LC	X		
APOCYNACEAE	*Hoodia*	*gordonii*		DDD		X	X
APOCYNACEAE	*Hoodia*	*pilifera*	*pillansii*	DDT		X	X
ASPARAGACEAE	*Asparagus*	*capensis*		LC	X		
ASPHODELACEAE	*Aloe*	*microstigma*		LC	X		X
ASPHODELACEAE	*Bulbine*	*torta*		Rare			
ASPHODELACEAE	*Bulbine*	*torta*		Rare			
ASTERACEAE	*Cotula*	*coronopifolia*		LC	X		
ASTERACEAE	*Dimorphotheca*	*cuneata*		LC	X		
ASTERACEAE	*Elytropappus*	*rhinocerotis*		LC	X		
ASTERACEAE	*Eriocephalus*	*ericoides*		LC	X		
ASTERACEAE	*Eriocephalus*	*grandiflorus*		Rare			
ASTERACEAE	*Eriocephalus*	*grandiflorus*		Rare			
ASTERACEAE	*Euryops*	*lateriflorus*		LC	X		
ASTERACEAE	*Euryops*	*marlothii*		Rare			
ASTERACEAE	*Euryops*	*petraeus*		Rare			
ASTERACEAE	*Felcia*	*filifolia*		LC	X		
ASTERACEAE	*Gnaphalium*	*declinatum*		NT			
ASTERACEAE	*Petronia*	*glomerata*		LC	X		
ASTERACEAE	*Phymaspermum*	*schroeteri*		Rare			
ASTERACEAE	*Rosenia*	*oppositifolia*		LC	X		
COLCHICACEAE	*Colchicum*	*coloratum*	*burchellii*	LC			
CRASSULACEAE	*Adromischus*	*humilis*		Rare		X	
CRASSULACEAE	*Adromischus*	*humilis*		Rare		X	
CRASSULACEAE	*Adromischus*	*phillipsiae*		Rare	X	X	
CRASSULACEAE	*Crassula*	*corallina*	*macrorrhiza*	LC	X	X	
CRASSULACEAE	*Crassula*	*roggeveldii*		Rare		X	
CRASSULACEAE	*Crassula*	*rupestris*	*commutata*	Rare		X	
CRASSULACEAE	*Tylecodon*	*paniculatus*		LC	X	X	
EBENACEAE	*Diospyros*	*austro-africana*		LC	X		
ERICACEAE	*Erica*	*caffrorum*	*glomerata*	DDT			
EUPHORBIACEAE	*Euphorbia*	*hamata*		LC	X	X	

Family	Genus	Species	Subspecies	IUCN Status	2021 Survey	NCNCA (No 9 of 2009) Observed	Protected WC NCO (No 3 of 2000) Observed
EUPHORBIACEAE	*Euphorbia*	*mauritanica*		LC	X	X	
EUPHORBIACEAE	*Euphorbia*	*multifolia*		LC	X	X	
FABACEAE	*Lotononis*	*venosa*		VU			
HYACINTHACEAE	*Drimia*	*capensis*			X		
HYACINTHACEAE	*Lachenalia*	*congesta*		Rare		X	X
IRIDACEAE	*Babiana*	*crispa*		LC	X	X	X
IRIDACEAE	*Geissorhiza*	*karooica*		NT		X	X
IRIDACEAE	*Ixia*	*brevituba*		Rare		X	X
IRIDACEAE	*Ixia*	*trifolia*			X	X	X
IRIDACEAE	*Moraea*	*contorta*		Rare		X	X
IRIDACEAE	*Moraea*	*miniate*		LC	X	X	X
IRIDACEAE	*Romulea*	*eburnea*		VU		X	X
IRIDACEAE	*Romulea*	*komsbergensis*		NT		X	X
IRIDACEAE	*Romulea*	*multifida*		VU		X	X
IRIDACEAE	*Romulea*	*subfistulosa*		NT		X	X
IRIDACEAE	*Romulea*	*syringodeoflora*		VU		X	X
OXALIDACEAE	*Oxalis*	*obtusa*		LC	X	X	
POACEAE	*Helictotrichon*	*namaquense*		VU			
PROTEACEAE	*Protea*	*venusta*		EN		X	X
ROSACEAE	*Cliffortia*	*arborea*		VU			
SANTALACEAE	*Thesium*	*marlothii*		DDT			
SCROPHULARIACEAE	*Manulea*	*incana*		DDD			
SCROPHULARIACEAE	*Selago*	*articulata*		LC	X		
GERANIACEAE	*Pelargonium*	*Spp*		LC	X	X	

Where LC = Least Concern, DDD = Data Deficient - Insufficient Information, DDT = Data Deficient - Insufficient Information, NT = Near Threatened, VU = Vulnerable & EN = Endangered.

3. Effect of removing individual species of conservation concern

Species of conservation concern are declining either due to overexploitation or because their range of occupancy is limited and further infringed on by development. Most plant populations require a certain minimum number of individuals within a population or metapopulation to allow for sufficient genetic transfer between individuals. This prevents genetic erosion and hence weakening of the ability of individuals to persist in their environments. Similarly, where the distance between metapopulations is significantly increased due to fragmentation and the resultant loss of some populations, populations may suffer genetic decline due to restricted movement of pollen. Pollinators or other species that depend on a particular plant species for a specific microhabitat or food source may be equally affected because of the reduction of available resources. Therefore, the aim of plant rescue actions are always to maintain as many individuals of a plant population in as close proximity to the original habitat as possible to minimise loss of individuals and fragmentation of populations to prevent the creation of future extinction debts of the development.

4. PLANT RESCUE AND PROTECTION

Successful plant rescue can only be achieved if:

» Species can be removed from their original habitat with minimal damage to the plant, especially the roots.
» All plants removed are safely stored and treated according to their specific requirements prior to being transplanted again.
» They are relocated into a suitable habitat and protected from further damage and all disturbances to aid their re-establishment.
» Timing of planting activities is planned with the onset of the growing season.
» Steps are taken where necessary to aid the initial establishment of vegetation, including occasional watering.

5. TIME OF PLANTING

All planting shall be carried out as far as is practicable during the period most likely to produce beneficial results (i.e. during the peak growing season), but as soon as possible after completion of a section of earthworks.

Drainage line rehabilitation preparation must be done during autumn, and planting of appropriate species in these areas should commence during early spring after the first rains.

6. Plant Search and Rescue

Prior to construction, once all the areas where topsoil will be removed or areas will be transformed have been demarcated, the ESO, ECO and contractor will be responsible to remove all bulbous species from the topsoil, as well as succulents and small indigenous shrubs that can be transplanted. These are to be directly transplanted outside of the development footprint, or kept in a raised, protected position in a designated area until they can be replanted again as part of the rehabilitation process.