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SMART CITIES

BIODIVERSITY PRESERVATION

FOR ENVIRONMENTAL SPECIALISTS

KRISHNAJI PAWAR, LEED AP BD+C, GSAS CGP, ISO 14001:2015, GCP

ENVIRONMENTAL SPECIALIST CURRICULUM

CLIMATE CHANGE SPECIALIST

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BIODIVERSITY PRESERVATION PLAN

FOR ENVIRONMENTAL PROFESSIONALS

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LEARNING OBJECTIVES



Habitat OR Biodiversity Preservation Plan

Description

Measurement Principle

Credit Score strategy

CLIMATE CHANGE SPECIALIST

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S3 HABITAT PRESERVATION

CREDIT INTENT

Encourage development that preserves and/or enhances the biodiversity of the site in order to protect the natural ecosystems of the region

REQUIREMENT FOR 3 CREDIT POINTS

Habitat Preservation Plan demonstrates compliance

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REQUIREMENT FOR 3 CREDIT POINTS

Habitat Preservation Plan demonstrates compliance

MEASUREMENT PRINCIPLE

The project will develop a strategy to conserve, restore and/or enhance habitats and the biodiversity of the site. An ecologist or land specialist is required to evaluate the site and create a Habitat Preservation Plan that identifies the following:

✓All habitats within the site and on adjacent areas

✓Ecologically sensitive habitats which house endangered species of plants or animals

✓Strategies for protecting all endangered species and their habitats

The project will identify and protect all habitats that are specified as endangered in the Habitat Preservation Plan. The Habitat Preservation Plan will be scored based on the quality of the habitats maintained on the site.

CREDIT SCORE ACHIEVEMENT STRATEGY +

As a part of the Strategic Environmental Assessment (SEA) of project, a terrestrial ecological assessment was undertaken to identify the flora and fauna at the site.

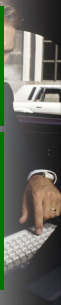
The terrestrial ecology survey indicated that approximately 500 ha of area within the project site was previously being used as a farm and animal breeding site. However, since the development of the adjacent Hamad Port Project and Canal project sites, this farm and animal breeding site is now cleared and relocated. The report also indicates that the flora and fauna within the project site has little to no ecological value. Hence no habitat preservation is envisaged at the site.

CREDIT SCORE ACHIEVEMENT STRATEGY +



Habitats of environmental importance such as salt marsh, sabhkhas and mangroves exist however are outside the Project boundary and appear distressed due to adjacent developments. As a 200 m coastal buffer zone exists where these habitats, these are not expected to be disturbed.

The project Master Plan includes the implementation of compensation measures to offset unavoidable loss of habitats, as client recognises the importance of these measures. As an offset measure, the construction of a Nature Interpretation Centre has been planned. Construction of this type of centre will likely include pods of desert-adapted plants, rehabilitated beach areas and recreated desert landscape areas and other similar representative environments.



CREDIT SCORE ACHIEVEMENT STRATEGY +



Client have to maintain the biodiversity of the affected study area by avoiding adverse effects or, where practicable, compensating for significant adverse effects. Measures to protect biodiversity to include:

✓Construction methods to avoid impacts on biodiversity construction activities. Where appropriate to be timed such that they reduce disturbance on species during sensitive periods (e.g. breeding season).

✓Biodiversity balance to be achieved by creating new landscaped areas (e.g. Landscaping Plan and Plant Nursery). To compensate the biodiversity loss by using Acacia Tortilis seeds for propagation within the Um Alhoul -project.



CREDIT SCORE ACHIEVEMENT STRATEGY +



✓Encourage the use of local species.

✓The boundary between work sites and the protected buffer to be fenced.

✓Achieve ecological inspection prior to construction works to detect Spiny-tailed Lizard specimens. Should any be found, the lizards will be trapped (avoiding breeding season, from May to August) and relocated to another suitable habitat.

✓Relocation of trees and replanting and backfilling of the existing Trees in the project area

Based on the above strategy, at the Detailed Design Stage of the Project, a score of 'three (3)' is targeted for this criterion. It is recommended that a when further project details are developed during subsequent stages of detailed design a Habitat Preservation Plan be prepared as a part of OEMP.



CREDIT SCORE ACHIEVEMENT STRATEGY +

Based on the above strategy, at the Detailed Design Stage of the Project, a score of 'three (3)' is targeted for this criterion. It is recommended that a when further project details are developed during subsequent stages of detailed design a Habitat Preservation Plan be prepared as a part of OEMP.

Ecology Strategic Action Plan objectives, targets, and monitoring requirements

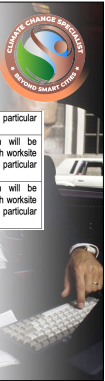
Category	Objectives	Targets
Permitting Requirements		Removal or disturbance of vegetation or wildlife in nature reserves (e.g. Coastal Buffer) needs an application by MANATEQ to the General Directorate of Natural Reserves. The Main Contractor shall prepare the application in English and Arabic. No works shall be started without the written approval. An environmental assessment and mitigation plan might be required as it will be stated in the responding letter. Removal or disturbance of vegetation or wildlife outside of natural reserves needs an application by MANATEQ's Environmental Department with MoE Natural Resources Department. The Main Contractor shall prepare the application in English and Arabic. No works shall be started without the written MoE approval. An environmental assessment and mitigation plan might be required as it will be stated in MoE's responding letter.
Locally indigenous vegetation	Protect, expand and improve condition of naturally occurring locally indigenous vegetation, including possible remnants	Environmental Protection Law (Law No.30 of 2002); Executive by-laws 2005, Article (8); Law No. 32 of 1995 on the protection of vegetation and its components and Law No. 19 of 2004 on the protection of wildlife and their natural habitats.
Fauna	Protect and enhance sites that provide habitat for priority fauna species	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
Terrestrial Biodiversity	AJP is responsible for removal, replacement or mitigation of trees in accordance with the requirements stated here.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.

		sensitive receptors.
	The removal process for trees and shrubs shall be made in accordance with the procedures and conditions prescribed by the Department of Agriculture at the Ministry of Environment.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	Relocated trees and shrubs shall be planted only at the specific sites approved by the management of protected flora and wildlife.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	AJP shall consider design features that will ensure biodiversity through the establishment of wildlife corridors, preservation of native flora along the route of the work and take measures to prevent weed invasion.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	Undisturbed areas of desert habitat or other sensitive and ecologically important habitats shall be preserved.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	Excessive weeding, spraying of pesticides/herbicides or other disturbance of existing plants should be avoided. All weeds shall be removed from the vicinity of the proposed works, where possible.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	Store topsoil, if present, under suitable conditions on-site to retain the natural seed bank prior to re-spreading during landscaping, where removed from the surface of construction Sites.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	Avoid unnecessary spraying of insecticide to minimize impacts on insects critical to food chains and the pollination of native vegetation.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	Preserve existing mature native trees, such as Sisso, Siam and Acacia where possible. Where not possible, seeds shall be collected and propagated for replanting.	The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.
	Collect and house fauna, identified within the	The detailed control measures which will be

	<p>proposed work area under scientifically controlled conditions, following the International Union for the Conservation of Nature (IUCN) guidelines, until they can be transferred to temporary care or suitable habitat nearby. Such translocations should be coordinated with the concerned staff from the MOE's Wildlife Department.</p> <p>During Excavation and site grading, unnecessary movement of machinery around the Site has to be avoided where possible (Lizard Burrows)</p> <p>Segment -1 & Segment -2</p> <p>Dedicated transport access ways has to be designated to avoid damage to the existing natural vegetation.</p> <p>Any mature trees which will be retained adjacent to or within the construction site must be appropriately fenced at a distance appropriate to ensure that root damage will not occur associated with adjacent excavations etc.</p> <p>Construction activities have to be limited to the work site and measures taken to avoid damage to adjacent areas such as fencing.</p> <p>Wastes from construction have to be adequately managed in terms of a waste management regime so that the waste does not end up in the terrestrial environment. Waste management plan will also serve to reduce the attraction of pest species such as rats and flies to the Site.</p> <p>If sightings of any animal species (Lizards etc.) are made in the vicinity of the site, the AUP has to be informed immediately.</p> <p>Works will cease in that particular area until the animal(Lizards etc.) has moved away.</p>	<p>developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p>
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	<p>If the animal does not, or cannot move away, the AUP will then inform the MoE and, where possible, organise relocations of these animals by a trained ecologist.</p> <p>Care has to be taken not to inadvertently fence in these animals during site preparation periods.</p>	<p>by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p> <p>The detailed control measures which will be developed will need to be specific to each worksite by taking account of, for example, particular sensitive receptors.</p>
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THANK YOU

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