

Executed project report

Works of naturalization of the Palmeral zone pond Barcelona Zoo

Author of the proposal and execution: Naturalea

Client: B:SM Zoo de Barcelona

Start and finish: July 2019

BEFORE



AFTER



INTRODUCTION

The objective of the intervention carried out in the Palmeral area of the Barcelona Zoo was to convert a concrete pond into a naturalized pond. The area of the action zone was approximately 70m².

To promote biodiversity, different work has been done to diversify the margins: revegetation with helophytes, provision of gravel and stone of different sizes and wooden structures, creating different environments and areas of ecological niche.

With this intervention, we converted a concrete pond for animals into an NBS system with effects on biodiversity, improving air and water quality - we created a hyporheic zone - in the retention of humidity and acting as a rain garden for stormwater.



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Works of naturalization of the Palmeral zone pond

Actions carried out

Removal of the existing pond

- Removal of the existing walkway and railings.
- Grinding of all the concrete and removal of the area.
- Removal of obsolete pipes.



Walkway removal work / Grinding and concrete removal



Concrete removal work



Removal of obsolete pipes

Creation of the new naturalized pond

Topography and other constructive details

- Earth movements to define the new orography of the pond.
- Displacement and adaptation of the irrigation system.
- Adaptation of the overflow system of the old pond
- Adaptation of the water entry zone.
- Creation of a low point to facilitate emptying with a pump system for special maintenance.



Earth movements to define the new orography of the pond

Waterproofing and gravels

- Installation of geotextile and EPDM sheet.
- Installation of the permanent geogrid type C350 Vmax.
- Placement of gravel on the entire pond.



Installation of geotextile and EPDM sheet anchored with trenches in the perimeter (left).
Anchorage in the area of the concrete path (right).



Installation of the permanent geogrid and placement of gravels



Placement of gravel and disposal point / Detailed picture of the placed material

Diversification of margins

- Installation of helophytic vegetation on the margins with Coir Rolls and Pre-planted mats.



Coir rolls

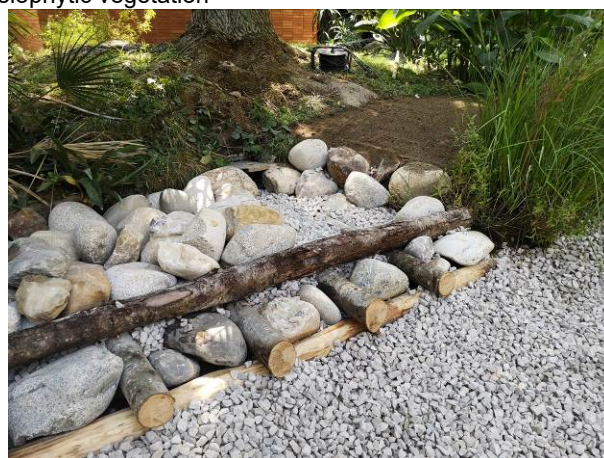


Pre-planted mats

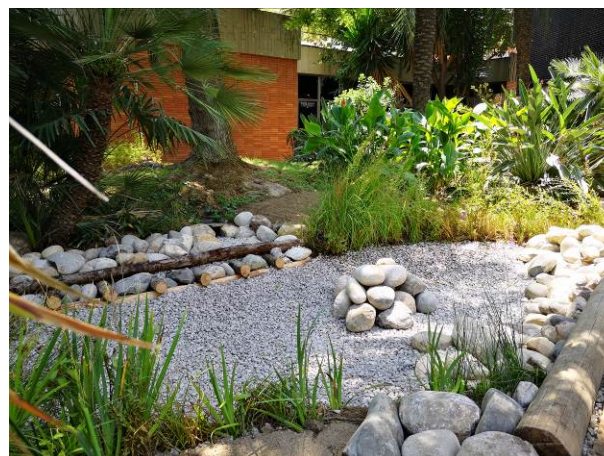
- Creation of rocky points on the margins.
- Construction of a cribwall as a refuge for amphibians.
- Provision of soil on the margins behind the vegetation to link up with the existing parterres.



Rocky points and helophytic vegetation



Assembly of a cribwall for amphibians with the overflow system



General view of the actions of margins diversification

Environment planning

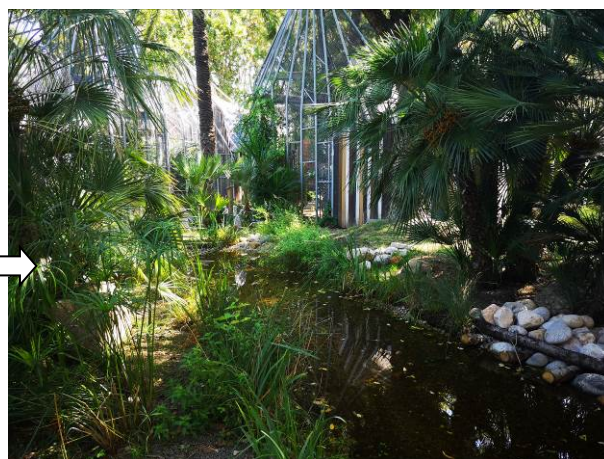
- Adaptation and repair of the existing path that borders the pond due to the impact of the works and other improvement details.
- Creation of a new path by adding granite crushing in size 3/7 mm and delimiting it with unpeeled chestnut wood logs.



Before and after of the creation of the new path with granite crushing

General images of the area

Before and after



Before the action and the day the pond began to fill.

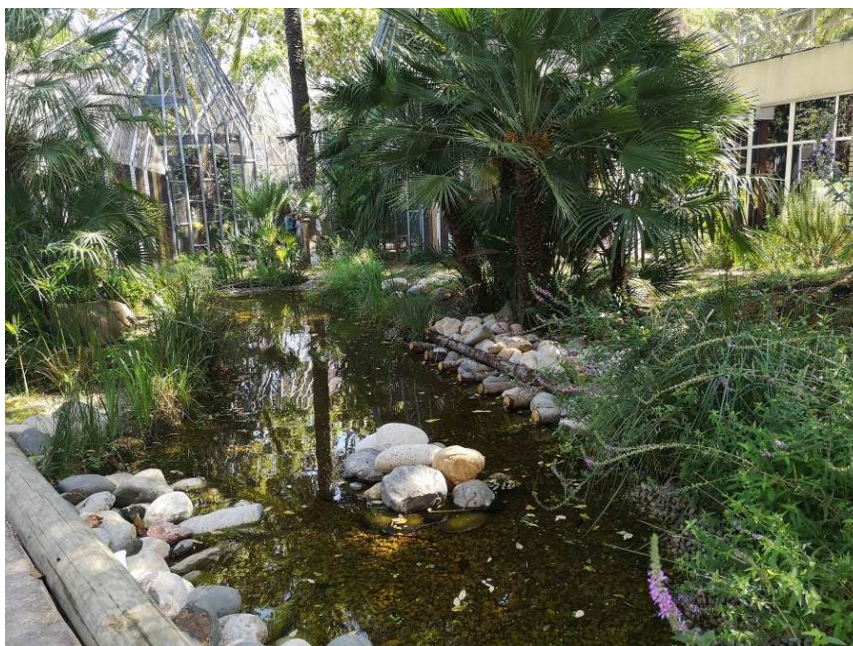


Image of the pond two months after the intervention.



Arranged passage area on the margin of the pond

KEYWORDS: naturalization, helophytes, amphibians, margin diversification.

APPLIED TECHNIQUES: Waterproofing, installation of Coir Rolls, installation of Pre-planted mats, installation of permanent geogrid type C350 Vmax, construction cribwall as refuge for amphibians.