

Biological South Waste Water Treatment Plant

Project:

Biological South Waste Water Treatment Plant (WWTP) with energy 1000m2/Day

Location:

El-Wahat Road – 6th of October

Client:

National Organization for Drinking Potable water & Sanitary

Consultant:

Misr Consultant (Dr.Sameh Abd El-Gawad)

Period of Construction:

2010 -2014

Main Contractor:

Orascom (OCI)

Budget of the Project:

230 Million EGP

Applicator:

ABuild & Arcon

Master Builders Solutions System Used :

- . Surface improvement System
- . Cementitious Water proofing System
- . Water Stops ranges
- . Repairing System
- . Joint Seal System



Project General Description

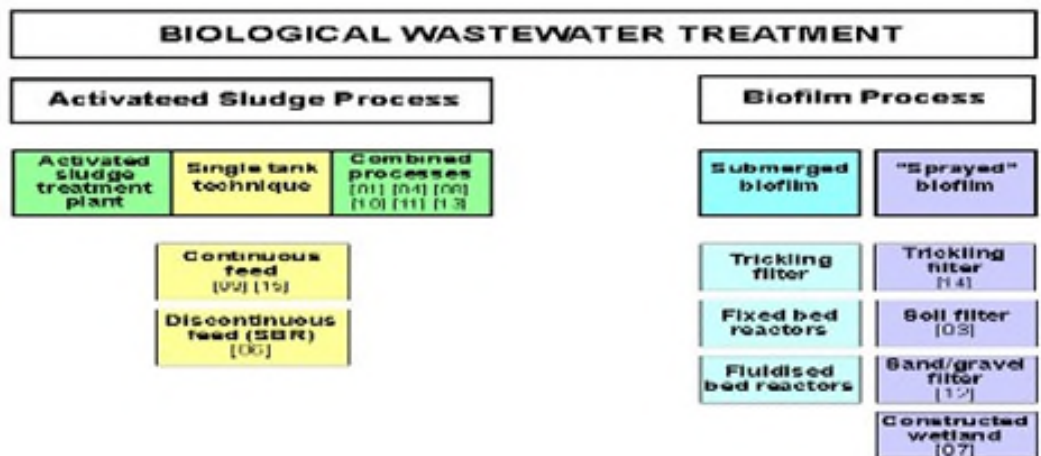
The waste Water is collected in a sewer system and is let by pumps to the site of the WWTP near the Town . The pumping Station will deliver the raw sewage to the plant through pressurized pipe . It will be as nearest as possible to the WWTP to reduce pressure drop and avoid hydraulic fluctuations in the WWTP.

The Project Consists of :

- . Mechanical Screen
- . Grift and sand removal System

Chlorination

- . Inlet Equal Distribution Stage
- . Bio Work Integral (Aerated Lagoon with integral Clarifier)
- . Tertiary Filters





The challenge

- 30,000 M2 Water Treatment Tanks need to be water proofed internally with a Material that had a high flexibility , crack Bridging and had a certificate from Authority of Potable Drinking water and Sanitary .
- 30,000 M2 Water Treatment Tanks need to be water proofed Externally with a Crystalline Material that can penetrate inside the Concrete & became one unit with the structure .
- Need Traditional PVC WaterStops & swelling Bars that had swelling rate up to 200 %
- Need high Quality Repair products that have a shrinkage Compensated additives & contains fiber for ilimination of hair cracks .

Our solution.

- 1- For Waterproofing system
Using three Different types of Master Builders Solutions Water Proofing : A damp Proofing System using our Product MasterSeal 622 for all Foundations , internal Water proofing System using our Product MasterSeal 599 & finally external Crystalline waterproofing by using MasterSeal 501
- 2- Using two types of WaterStops , for expansion & Construction joints we used our Products Masterseal 940 C-32 & E-32 , also we used MasterFlex 910 which is a swelling bar that is used around the Black Steel pipes .
- 3- For Mortar Additives :
Using Master Builders Solutions Products MasterCast 141 which is SBR that gives a high Bond Strength & MasterCast 222 which is a Powder Plasticizer that gave a high Workability & increase in Mortar Volume through an air molecules to the Mortar .
- 4- For Repair System :
Using the Emaco Range MasterEmaco S488 which is a Non-Shrinkage , thixotropic repair mortar , fiber polymer modified that possess excellent bond characteristics to steel reinforcement and to concrete that subject to a repetitive Loading.



Customers Benefit

The Client was satisfied with the performance of Master Builders Solutions products, as per the many contractors work in the project the main common item with them is using Master Builders Solutions product in all ranges and Specially for our Cementitious Water Proofing , WaterStops & Repair Products.

Project facts at a glance:

For Water proofing Products :

- . Retain Flexible when Submerged
- . Good Chemical Resistance against soft , domestic waste water .
- . Water Vapour Permeability .
- . Co2 Barrier

For Swelling Water Stops :

. Will not transport water through their polymer matrix and thus will not act as a capillary duct.

. Increase in volume by the swelling action can be up to 200% (depending on type of water used .

. The pressure of the swelling action will cause the MASTERFLEX 610 Waterbar to profile itself exactly into the joint filling all cavities and effectively stopping water seepage, even at high external water pressure.

Products used:

- MasterFinish 202
- MasterSeal 622
- MasterCast 141
- MasterEmaco S 488
- MasterSeal 930
- MasterFlow 544
- MasterFlow 928
- MasterFlex 910
- MasterSeal 599
- MasterSeal 501

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of MBCC construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

<https://www.master-builders-solutions.com/en-eg>

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**More Pictures that were taken during Construction by using Master Builders Solutions
WaterStops, Swelling Bars, Surface Improvement & Repair Products**

