

GABION WALL WITH SACK GABIONS FOR RIVER EMBANKMENT WORK AT DHARAVI MITTHI RIVER, MUMBAI.

HYDRAULIC/ENVIRONMENTAL/RETAINING WALL

Product: Gabion Boxes and Sack Gabion.

History of River: The **Mithi River** also known as "Mahim River" is a river on Salsette Island, the island of the city of Mumbai, India. It is a confluence of tail-water discharges of the Powai and Vihar lakes. The river has been polluted by dumping of raw sewage, industrial waste and municipal waste into the river. The organic waste, sludge and garbage dumping has reduced the carrying capacity of the river. The water with mixture of sewage and industrial waste is a threat to marine life. The river bed is full of sludge, garbage and vegetation growth like water hyacinth in many parts.

Problem: Dharavi is a huge crowded area and always flooded with vehicle traffic. The proposed Mumbai Metro Line 3 is supposed to be passing along the Mitthi river. Hence river embankment is necessary for free flowing of vehicular traffic where Mumbai metro shall work shall move simultaneously without affecting the traffic flow. Also the Mitthi river has been polluted by dumping of raw sewage, industrial waste and municipal waste into the river hence the river is full of sludge, therefore construction of Cement Concrete retaining wall was a doubt for its own stability. Also the solution was suppose to cost effective with stringent time period.



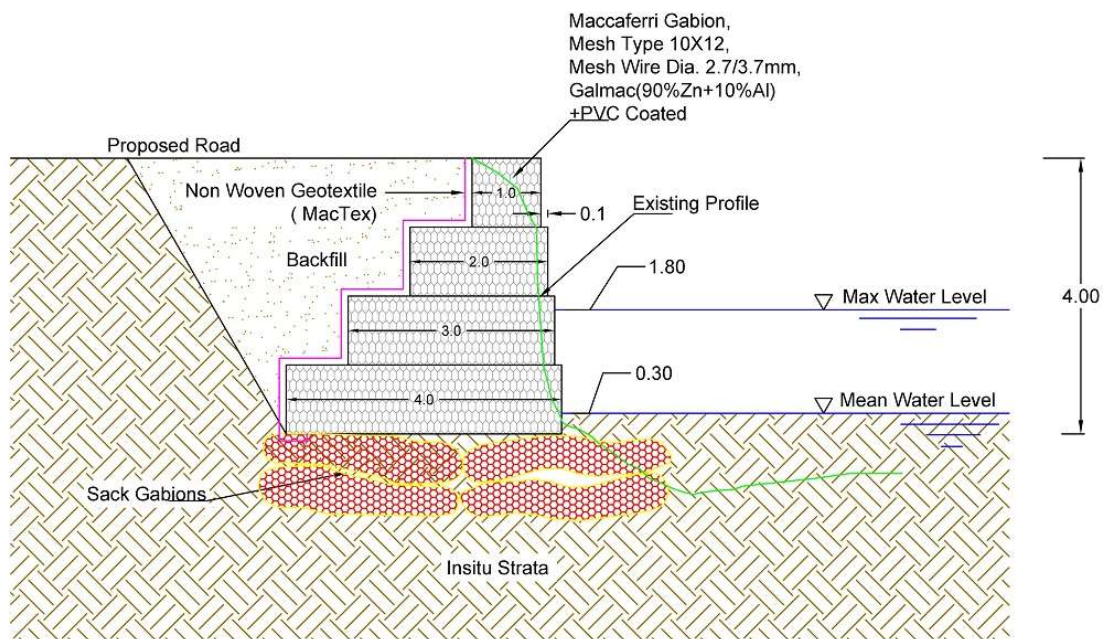
Fig:01

Solution: The Project involved launching of Pre-filled Sack gabions and thereafter constructing 4m height and 330Mts long Gabion retaining wall over launched sack gabions bed.

Client Name:	
J.kumar Infrastructure Pvt.Ltd	
Main Contractor Name:	
Atharva Construction	
Consultant:	
Maple	
Quantity:	
10000Cum of Gabions	
Product Used:	
GABION,SACK GABIONS	
Construction information:	
Construction Date:	16-09-2017
Completion Date	30-06-2018



Fig:02.Before commencement of work



TYPICAL CROSS SECTION OF 4.0m GABION WALL



Fig:03.Unfilled Sack Gabion.



Fig:04.Arrangement to fill Sack Gabion.



Fig:03. Prefilled Sack Gabion



Fig:04. Lifting Prefilled Sack Gabion.



Fig:05. Excavation and removing of sludge uptil hard strata.



Fig:06. Launching of Sack Gabions.



Fig:07. Filling of Gabion Boxes Over Prepared Sack Gabion Bed

Construction Methodology

1. The Sack Gabion (2m x 1m x 0.96) were filled in-situ with 150mm-200mm size boulders with in a 1m diameter M.S pipe partially burried in site the ground.
2. Then the filled unit was lifted by a hydra crane and stacked properly.
3. A long boom poclain was used for excavation which can go underneath the river standing on bank of the river and take out its sludge, Same long boom poclain was used to launch the stacked sack gabions inside the river on to the proposed gabion retaining wall structure.
4. Sack Gabion were placed closely each after another for a rock bed.
5. After preparation of Sack Gabions rock bed, Gabion boxes were placed over it.
6. Hence the Gabion boxes were filled with standard methodology.

Machinery Required

1. Extra Long boom Poclain.
2. Hydra-Crane.



Fig:08. Completed Structure



Fig:09. Completed Structure

Atharva Construction

Office No.23,J.K.Plaza, Plot No.240,Opp Durga Mata Mandir,Panvel-4I0206,Dist.Raigad,Maharashtra
Tele: 022-8748 287I E-Mail:atharvaconstruction@ymail.com