

CASE HISTORY

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RIVER BANK PROTECTION & LAND RECLAMATION WITH TECHFAB METAL GABION REINFORCED SOIL WALL FOR INEOS STARLUTION AT KATOL VILLAGE, GUJARAT
KATOL, GUJARAT, INDIA



Land Reclamation and River Bank Protection Works

Client:	Products used & Quantity Supplied:
INEOS STYROLUTION INDIA LIMITED	<ul style="list-style-type: none">•TECHFAB METAL GABION 10X12, ZN+PVC COATED 2X1X0.8 - 926 NO'S•TECHFAB METAL GABION MATTRESS 10X12, ZN+PVC COATED, 0.3m THICK - 326 SQM•TECHGRID GEOGRID (TGU) - 15,500 SQM•NONWOVEN GEOTEXTILE PR 20 - 3250 SQM
Main contractor:	
UNITED CONSTRUCTIONS	
Manufacturer & Supplier:	
TECHFAB (INDIA) INDUSTRIES LTD.	
Year of construction:	
2020	

Problem:

INEOS Styrolution is a global styrenics supplier and is headquartered in Germany. It is a subcompany of INEOS and provides styrenics applications for many everyday products across a broad range of industries, including automotive, electronics, household, construction, healthcare, packaging and toys/sports/leisure. One of its plants is situated at Katol village on the bank of Orsang river. Orsang is the biggest river of Chhota Udaipur district. It is the main source of the sand in this region. In 2018, Heavy rain has caused flooding in Bodeli and nearly 4,000 people became homeless and were relocated to safer place by NDRF commanders.

Almost every year, Orsang river overflows due to heavy rain. As this plant is situated on the bank of Orsang river, the land adjoining the bank gets severely eroded due to high discharge and velocity during monsoon. The height of the river bank which was to be protected was varying from 3m to 9.6m. The length of the stretch to be protected was approximately 184m.

The client desired to adopt a solution that is technically superior and commercially viable to the heavy erosion problem as well as for the reclamation of land on the sides of the river.



Orsang river bank - Before Construction

Advantages of Gabion Fascia Reinforced Soil walls over Conventional RCC Retaining Wall :

- The proposed system did not require heavier or/and deeper foundation as required for conventional RCC retaining wall.
- The Gabion fascia of the system is permeable in nature and allows the water to drain off and Non-Woven Geotextile behind the fascia did not allow the soil to pass through so the combine system will drain off the excess water from the backfill. This process restricts the build-up of hydrostatic pressure.
- The proposed system enables to withstand differential settlement without affecting the integrity of the structure
- Vegetation was permitted to grow with the system, thus enabling it to blend into the natural environment and roots of the vegetation further increase the strength of the structure. which is not the case in RCC/Masonry Retaining Structure.
- The Gabion Fascia Reinforced Soil Walls are more cost-efficient and can construct speedily compare to any other similar Rigid structure.



Preparing site with proper surface



Installation of Gabion fascia units



Installation of TechGrid Geogrid



Compaction behind the wall



Work under Construction - Gabion Facia & Mattress Installation



During Construction Photograph



Reinforced Soil Wall with Gabion facia



Reinforced Soil Wall with Gabion facia



Top view of Wall



Completed Structure

Conclusion:

The Project is completed successfully and serving its purpose. The client was very happy and satisfied with product quality of TechFab India Industries Ltd.

For further details kindly contact :

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