

Government of West Bengal
Public Works Department
Works Branch
Writers' Buildings, Kolkata-700 001

No. 36/1M-01/15

Date:- February 23, 2015

MEMORANDUM

Use of Jute Geotextiles(JGT) in construction works of Engineering departments and organisations of State Government

Jute fibre is one of the main commercial crops of the State of West Bengal and the State Government is committed to promote jute which is eco-friendly material to alternate uses. Jute Geotextiles (JGT) is one such material which is a technical textile made of jute and which can be utilised in selected constructions that require ground improvement. JGT being eco-friendly would further help in reducing the carbon footprint in constructions.

Accordingly, the State Government has decided that Public Works Department; Irrigation and Waterways Department and all other engineering departments and organisations under State Government would use Jute Geotextiles after carefully examining the geotechnical and other essential parameters for sites mentioned in Annexure-I of this Memorandum.

National Jute Board (NJB), a statutory body directly under the Union Ministry of Textiles, will act as the Technology Provider. NJB has agreed to provide free consultancy services to the departments in respect of design, specifications of the selected JGT, quality assurance of the fabric and guidance in installation of JGT at site. It will also facilitate supply of the selected JGT by the mills within 3 weeks from the date of the valid order placed by contractors with mills.

The cost of JGT shall be included in the DPRs on the basis of JGT-related items appearing in the respective departmental Schedule of Rates (SoR). In respect of items not appearing in SoR, their cost with analysis will be provided by NJB.

The departments concerned may also consider conducting field trials with the two JGT-variants stated in Annexure II with the support of NJB.

This issues with the concurrence of Finance Department Gr-"T" vide their UO No. Group T/2014-2015/1099 dt. 20/02/2015.

Sd/-
Chief Secretary to the Govt of West Bengal

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cc
PM.

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No. 36/1(6)/1M-01/15

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Copy forwarded for information and necessary action to:-

- (1) Addl. Chief Secretary, Irrigation & Waterways Department
- (2) Principal Secretary, Panchayet & Rural Development Department
- (3) Principal Secretary, Urban Development Department
- (4) Principal Secretary, PWD
- (5) Principal Secretary, Municipal Affairs Department
- (6) Secretary, Water Resources Investigation & Development Department

Sd/-
Principal Secretary
Public Works Department

No. 36/2(3)/1M-01/15

Date: February 23, 2015

Copy forwarded for information and necessary follow-up action to:-

- (1) The Additional Chief Secretary
Commerce & Industries Department

- (2) The Jute Commissioner
CGO Complex
3rd MSO Building, 4th Floor
Sector-I
Salt Lake City
Kolkata - 700 064

- (3) ✓ The Secretary
National Jute Board
3rd Floor, 3A Park Plaza
Sector-I
71 Park Street
Kolkata - 700 016


Principal Secretary
Public Works Department

A. Strengthening of Road Sub-Grade with JGT

Parameters for use:

- (a) Where to use: In all roads, new and re-sectioned where the sub-grade CBR is less than 8%.
- (b) Recommended product type: Woven JGT with minimum tensile strength of 25 kN/m in both warp and weft directions having porometry range between 150-400 micron depending on average grain size distribution of soil. Other parameters such as permittivity, transmissivity, elongation-at-break, puncture strength, burst strength will as per IS: 14715: 2013(Part -I).

B. Control of riverbank erosion with JGT

Parameters for use:

- (a) Where to use: In eroded riverbanks as an economical substitute of conventional granular filter.
- (b) Recommended product type: Woven JGT with minimum tensile strength of 20 kN/m in both warp and weft directions having porometry range between 150-400 micron depending on average grain size distribution of bank soil. Other parameters such as permittivity, transmissivity, elongation-at-break, puncture strength, burst strength will be as per IS: 14715: 2013(Part -II). Woven JGT shall be treated with a suitable eco-friendly additive developed by IIT, Kharagpur/Indian Jute Industries' Research Association, Kolkata.

An armour layer of stone/pre-cast concrete slabs as appropriate shall be placed over JGT to prevent direct exposure of the fabric to weather as per direction of EIC.

NB In severe cases of bank erosion caused by vortices, waves etc. flow regulatory measures are to be taken concurrently.

C. Slope stabilization of all types of earthen embankments

Parameters for use:

- (a) Where to use: In all types of slopes in earthen embankments, hills etc. excepting those with geological vulnerability.
- (b) Recommended product type: Usually open weave JGT (500 gsm weight) as per IS 14986:2001

NB Necessary structural measures need to be taken concurrently such as easing of slope, toe protection etc.

JGT variants for considering field trials

A. Bituminized Jute Paving Fabric(BJPF)

The product developed jointly by the Department of Jute and Fibre Technology, University of Calcutta and CSIR-Central Road Research Institute(CRRI), New Delhi with funding from NJB is suitable for use as road overlay as decided by EIC. BJPF has been developed with an eye to provide an economical and a more durable substitute of mastic asphalt. It is supposed to prevent reflection cracks and ensures pothole free riding surface to roads.

Product description:-- consists of 5 layers of JGT (three woven and two non-woven) soaked in PMB 40 and compressed.

B. Pre-fabricated Vertical Jute Drain(PVJD)

An ideal material for soft soil consolidation especially in coastal zones with marine clay.

Product description:-- Made of 100 mm. Wide woven JGT-sheath (jacket) with 4-coir wicks separated by stitched compartments.