Report on site inspection to provide installation guidance on JGT for construction of rural road at Nanoor Block, Birbhum on 25.03.2019 by P K Choudhury

As requested by Sri SabyasachiOjha - Executive Engineer of Birbhum district under WBSRDA and with the concurrence of the Secretary, NJB Sri P K Choudhury- Principal Technologist, NJB visited the road site for inspection and to provide installation guidance on application of JGT on 25th March,2019.

A stretch of 3.83 km rural road from Baligram bus Stop to Uchkaran, Block- Nanoor, Birbhum was the proposed site. During demonstration Sri S Ojha –EE and Sri Sandip Das- AE, concerned SAE along with the entire team members of the agency, M/S DebasisGhosh were present at site. Agency of another site, M/S RebatiSinha was also present at site during the demonstration. 21,065sq.m.woven JGT of 724 gsm, 25 kN/m tensile strength was procured by the agency from ShyamnagarNorth Jute Mills. The fabric was tested by IJIRA and technical parameters as per test report were found in order. However, ends & picks/dm , width, along with weaving faults of the fabric were verified by Sri Choudhury at site before laying JGT. Disappointingly, in this site also the fabric was found to possess number of major weaving faults like, multiple warp breakage, numerous floats etc. Photographs of the weaving defects were taken for sending to Sri SumantPodder – MD of Shyamnagar North Jute Mills to make him alert so that in future the mill may be very careful to produce fabric of standard quality and never supply defective fabrics for use in this emerging field of geotechnical engineering.

As per designed cross-section of the road shown in the DPR the existing unpaved road surface was widened, cleaned and leveled. The silty clay sub-grade soil having the CBR of about 3.2 % were compacted with roller. The agency initiated application of JGT about a week back under the guidance of AE which was checked. It was observed that 25 mm thin layer of sand was spread uniformly over the compacted sub-grade. Five number of 1m wide JGT were laid side by side with an overlap of about 100 mm and 300 mm overlap was provided longitudinally . In the instant case the total width of sub-grade covered with JGT was 4.6 m and instead of fixing JGT on to the ground with the help peg they simply joined the adjacent fabrics by hand knotting at an interval of about 50 mm. One layer of GSB III of 150 mm thick was spread followed by roller compaction. As per DPR 75 mm thick 1st layer of WBM-II will be spread and compacted followed by spreading of another layer of 75 mm thick WBM-III and compaction.

On advice of NJB the agency fixed the fabric on to the ground with country nail at an interval of 80 mm at the stretches where GSB layer was not spread and also the stretches already covered with GSB after removing the GSB material. Further, the major fabric faults like multiple warp breakage and floats found in fabric already laid was covered with the small pieces of good quality JGT so that separation and filtration function is not impaired.

The storing site of JGT was checked and found that the fabric rolls were placed directly on to the ground ( soil). As advised, the fabrics were removed from the go down, thick polythene sheets were laid on the floor and fabric rolls were again placed there in order to avoid chances of microbial attack on fabric. Photographs of the site were taken during installation and the
engineers were requested to take photographs of the subsequent stages including the road being opened to traffic.

As requested by the EE inspection was carried out for another road of 7.38 km length treated with JGT from Mohanpur Bus Stop to Moraipur at Nanoor Block where spreading and compaction of 2nd layer of GSB was already done. On removing GSB layers the quality of fabric and width of road sub-grade covered with JGT was checked and found to be 4.6 m. M/S RebatiSinha, the agency of this site procured 40,590 sq.m. 724 gsm from Reliance Jute Mills. The IJIRA test report of the fabric was found in order. On physical inspection of the remaining fabrics kept at their store was observed to be very good in terms of texture, width, ends and pick per dm, fabric faults etc.

In view of utilizing the time in befitting manner a meeting was arranged at the hotel on 26th morning with Sri SahadebSaha-Asst Engineer, Agri- irrigation, Birbhum. He was provided with all the clarifications on application of JGT (OW) in 14 number of Rain Water Harvesting Tanks (RWHT) at Seuri, Tech. documents, Installation Guidance etc. were also handed over to him for his better understanding. It was also learnt from Mr. Saha that based on suggestion provided by NJB, Mayrakhyi Command Area Development Authority (MCADA) under Water Resource Dept, Govt. of WB had prepared and submitted the DPR for construction of 34 number of RWHT which has been approved by the competent authority.

GLIMPSE OF ROAD UNDER CONSTRUCTION WITH JGTFROM MOHONPUR BUS STOP TO MORAIPUR, NANOOR, BIRBHUM
**GLIMPSE OF ROAD UNDER CONSTRUCTION WITH JGT FROM BALIGRAMBUS STOP TO UCHKARAN, NANOOR, BIRBHUM**

<table>
<thead>
<tr>
<th>2nd layer of GSB laid over JGT</th>
<th>Properly stored JGT in go down</th>
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<tr>
<td>Signage</td>
<td>Improper way of storing JGT rolls</td>
</tr>
<tr>
<td>Modified storing method adopted</td>
<td>Quality of fabric checked at site</td>
</tr>
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JGT laid on Sub-grade overlain by 25mm sand cushion

Faulty patches of JGT covered with piece of good quality cloth

1st layer of GSB spread over JGT

Roller compacted GSB layer