



Government of West Bengal
Irrigation & Waterways Directorate
Office of the Executive Engineer
Cooch Behar Irrigation Division

Postal address: Debibari, P.O. & Dist. Cooch Behar, Pin 736101 with Telephone No.03582-228305 & Fax No..... E-Mail ID- ee.cobidvn@rediffmail.com

SECTION-1: NOTICE INVITING E.O.I.

EOI No. WBIW/EE/COB/E.O.I – 01(m)/2020-21 (For Budgetary purpose)

The Executive Engineer, Cooch Behar Irrigation Division (Irrigation & waterways Directorate-West Bengal), hereby, invites expression of interest proposals from experienced and reputed contractor to provide Methodology, specification, quantification, subsequent construction Services and determination of estimated cost for the following work :-

Name of work: - Bank protection work using Geomattress and Geo Textile Bags at Char Balabhut area along the right bank of river Kaljani for a length of 1200 m in Block- Tufanganj-I, P.S. Tufanganj, Dist- Cooch Behar

1. Issue of Eol documents :

The Eol documents can be downloaded from the departmental website www.wbiwd.gov.in as well as may collect from the Office of Executive Engineer, Cooch Behar Irrigation Division, Irrigation & Waterways Directorate, Cooch Behar during Office hours on all working days up to 9th January 2021.

2. Submission of Eol :

The intending agencies/contractors should submit their most competitive budgetary quotes as per current market price as per Schedule (enclosed herewith) in a sealed envelope super scribing on the top "EOI" for the budgetary quotes for the work "*Name of work: - Bank protection work using Geomattress and Geo Textile Bags at Char Balabhut area along the right bank of river Kaljani for a length of 1200 m in Block- Tufanganj-I, P.S. Tufanganj, Dist- Cooch Behar.*" in the tender box to be available at the following office :-

- i) Office of the Executive Engineer Cooch Behar Irrigation Division, Irrigation & Waterways Directorate, Cooch Behar

The intending agencies should submit their Eol as per list of items enclosed herewith. Rates should be filled up properly.

The quoted rates should be inclusive of all taxes/duties all complete.

Before submitting EOI, the intending agencies should make themselves acquainted thoroughly with the site condition where the work would be executed. Additional data if any required may be collected after necessary site inspection programme, Intending quotationer may take assistance of this office for such inspection. He/She may contact this office in any working day in between 11 am to 4 pm.

Intending agencies or their authorized representatives may remain present while opening of the sealed covers containing Eol's.

Selection of appropriate EOI is entirely vested upon the Competent Authority. The authority reserves the right to accept or reject any or all Eols without assigning any reason thereof.

Since, the Notice Inviting Expression of Interests (Eols) is being made for subsequent e-Tender, no work order will be issued in favour of any agency against the Eol's. No payment whatsoever would be borne by I & W Department for submission of Eols

3. Pre-Qualification/Credential and Turn over :

Only the renowned construction firms fulfilling the following requirement may apply:-

(a) Average of **Gross Annual Turnover** of the bidder except for Consortiums and Joint Ventures for any three FYs within immediate preceding five FY on the date of publishing of Eol of amount **Rs. 60.00lakh** and for Consortiums and Joint Ventures is **Rs. 120.00lakh**

(b) **Credential Certificates (CC)** of the bidder except for Consortiums and Joint Ventures for one/single 100% completed **similar nature of work** of value not less than amount of **Rs. 60.00 Lakh** in government / public sector at national level, within last five financial years on the date of publication of Eol will only be accepted as valid PQ credential of work and and for Consortiums and Joint Ventures is **Rs. 180.00lakh**. Ongoing work may also be considered for valid PQ Credential if situations deem fit. Payment Certificate without containing mandatory details shall not be treated as valid CC.

The intending agencies/suppliers should possess the following and self-attested copies of the same are to be submitted with the Eol.

- i) Agencies/contractors having experience of performing similar nature of work i.e. supplying and execution of Geomattress as river bank protection work in any Govt. Sector/PSU.
- ii) Suitable document for determining financial strength of the bidder.

4. Documents to be submitted:-

(a) Completion certificates of one 100% completed work as desired in the EOI along with BOQ/SoR and Work Order/ Award of Contract of LOA/LOI duly authenticated by issuing authority.

(b) The firm shall submit Profit & Loss accounts and audited balance sheets along with relevant annexures containing the designated Forms 3CA/ 3CB/3CD, as applicable under IT Act, in the name of the bidder for any three financial years within the zone of preceding five financial years from date of publication of e-EOI.

(c) Latest Professional Tax Payment Certificate (PTPC) or, PT deposit challan for current financial year or Government Order for exemption in other States where ever applicable.

(d) Valid PAN Card in the name of bidder/organization.

(e) For Proprietorship Firms, Partnership Firms, Registered Companies, Registered Cooperative Societies, valid Joint Venture or Consortiums Valid Trade License/ acknowledgement or Receipt of application for Trade License/ Revalidation.

(f) 1.For Partnership Firms:

Legally valid Partnership Deed, Form-VIII/Memorandum of Registration of Registrar of Firms

2. For Companies: Incorporation Certificate, Memorandum of Articles of ROC, List of current owners/ Directors/Board Members

2 For State Registered Co-operative Societies:

Society Registration certificate from ARCS of the State, Society by-Laws, latest available Auditor's Report of Directorate of Co-operative Audit within proceeding five years as per Societies Act & Rules

3. For legally constituted Consortiums/ Joint Venture of Firms/ Companies:

Registered MoU or Agreement for Consortium /JV, Registration under ACRS/ROC in addition to satisfying requirements stated earlier for individual constituent Firms/Companies forming the Consortium/JV

Tender Inviting Authority reserves the right to consider acceptance of qualifying criteria of the proposal having minor deficiency from the prescribed limits if the situations so demands.

5. Schedule of Dates for Eols :

Sl No.	Activity	Date & Time	Remarks
1.	Publishing date	28.12.2020	
2.	Eol Dropping end date	11.01.2021 upto 3:00 pm	
3.	Eol Papers opening date	11.01.2021 at 3:30 pm	

6. Scope of Bid :

With the rivers perennially changing their patterns and flow-paths year after year, use of boulders has visibly begun to damage the environment since the threshold of its usage has been crossed. While the focus has shifted from conservation to protection with the continuing depletion of natural resources, engineers the world-over have evolved & proven many techniques to support the cause of protecting the environment. Effectually, usage of boulders has become a huge environmental issue. In particular, river-bank protection mechanisms have now been replaced by systems with increased usage of geosynthetics which uses only the locally available resources with itself to offer the desired technical properties to solve a problem related to soil and water - river. Geomattress is one such system, proven worldwide in the last three decades or so, which has very effectively substituted boulders for river-bank protection works. India has been no exception to its usage and apart from stopping the breaking of mountains to convert rocks into usable boulder forms, use of Geomattress has offered many extra-ordinary benefits experienced.

Geomattress is a double-layered, composite Geo-textile, fabricated to form a three-dimensional mattress after hydraulically filling sand/silt in its predefined tubular pockets running down the slope. The upper layer of the mattress is heavily woven having two polypropylene fabric layers (woven and nonwoven intertwined through needle-punching process) injected with a heavy dosage of UV-stabilized green fibres. It allows the cattle and local habitation to continue their natural life which is to a great extent impeded in boulder usage.

Over time, vegetation grows inside out of the Geomattress and the slope turns into a grass-land. Both the layers have different functions to perform and they jointly make the Geomattress structure a monolithic structural component on the slope giving very high resistance to hydrodynamic pressures. The porosity of the material is designed to manage seepage and pore pressure building/dissipation which is aimed at completely stopping soil erosion from underneath. The installation work is so fast as to finish a Km of normal slope length in just 2-3 days with an adequate quality assurance plan.

It needs only the locally available sand/river-silt as the fill-material with the locally available unskilled labour etc to complete the job. This also does not pose any threat to the workers who used to get hurt during placement of boulders in most of the site conditions. The quality of the work to ensure desired performance of Geomattress system gets very well defined by only three factors. Proper *design of the Geomattress placement with its anchor offset and depth, product selection and identification at site, & predefined & site-specific installation procedure* are the only components. These three factors are built-into the *quality assurance plan* which can be designed for any site at hand. Slope pitching with boulders or even Geobags has taken a huge step forward with usage of Geomattress for its exceptionally sound technical properties which make it almost a 'fail-proof concept.'

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23/12/2020

(S.Mandal)
Executive Engineer
Cooch Behar Irrigation Division,
Irrigation & Waterways Directorate.

Name of work				
Bank protection work using Geomattress and Geo Textile Bags at Char Balabhut area along the right bank of river Kaljani for a length of 1200 m in Block- Tufanganj-I, P.S. Tufanganj, Dist- Cooch Behar				
Item No.	Description of Item	Unit of Rate	Rate In Rs.	Remarks
1	2	3	4	5
1.00	<p>Supplying at site Geomattress (with GST & other applicable taxes) made up of double-layered composite Geo-textile fabricated to form a three-dimensional mattress after filling sand at designed slope: the upper layer of mattress being heavily woven with polypropylene fabric needle-punched with a mixture of UV stabilized green fibers and cut-tape yarns. Top surface of the mattress should have scrim fabric finish with sand up to 2mm retention capacity under a uniform pressure of 0.12KPa.</p> <p>UPPER LAYER PROPERTIES: [1] Mass per unit area (ASTM D5261) \geq 650g/m², [2] Tensile Strength (ASTM D 4595) \geq 42KN/m, [3] Pore Size (ASTM D 6767-2011) \leq 0.35mm, [4] Abrasion resistance (ASTM D4886) = Retained tensile strength \geq 35kN/m, [5] UVStability (strength retained =80% as per ASTM D 4355 @500 hours), [6] Resistance to Oxidation (strength retained as per ISO/TR 13438:1999(E) @ 100 deg C for 28 days \geq 80%.)</p> <p>LOWER LAYER PROPERTIES: [1] Mass per unit area (ASTM D 5261) \geq 400g/m², [2] Tensile Strength (ASTM D 4595) \geq 76Kn/m², [3] Pore Size (ASTM D 6767-2011) \leq 0.35 mm. The sewing thread of hightenacity polyester shall be used in continuous parallel stitches positioned 350mm apart with a stitch-length not exceeding 40mm (Typical value of tensile strength of stitch thread > 1000N, elongation at break 20%). Anchoring shall be done by cutting trench at slope's upper end (at a designed offset having a depth of 1.00m & width of 0.75m) & Geomattress shall be laid along the slope-side vertical & bottom width trench surface & filled with earth-filled cement/HDPE bags. Seaming of Geomattress shall be done at right angle to the sloping direction with a double-lock chain-stitch at not less than 3 stitches per inch to achieve a minimum seam strength of 2kN/m². The sewing yarn shall be made of high tenacity polyester having tensile strength of 200N & elongation at break of 20%. Anchoring at the toe (slope bottom) is done by pulling the Geomattress under the toe protection material which may be gabions or Megabags or crates filled with earth-filled HDPE/cement bags.</p> <p>N.B. Test certificate from approved NABL accredited and ISO certified laboratory should invariably submitted against each batch of materials.</p>			
2.00	<p>Labour charges for handling Geo mattress, laying on slope/trench in designed profile, filling with sand by pumping, stitching with thread, lapping and tamping wherever required, fine dressing of slope/ trench as per design profile including hire charges of pump set with suction /delivery pipe & supplying of stitching thread and including GST & other taxes as applicable.</p> <p>N.B. Payment will be made on the basis of area of slope/trench on which Geo mattress will be laid. Lapping area will not be considered in measurement for payment. Anchorage system of Geomattress at top & bottom will be paid separately.</p>			

Memo No.1302(13)

Date :-23.12.2020

Copy with enclosures forwarded for kind information and taking necessary action for wide circulation to the

1. Chief Engineer, North East, I & W Dte, Club Road, Jalpaiguri.
2. Superintending Engineer, North East Irrigation Circle-I, Debibari, Coochbehar
3. Superintending Engineer & P.A. to the Chief Engineer, North East, Club Road, Jalpaiguri.
4. District Magistrate, Cooch Behar.
- 5-7. Executive Engineer, Jalpaiguri/Siliguri/Alipurduar Irrigation Division.
- 8-11. Sub-Divisional Officer, Cooch Behar /Tufanganj/Mathabhanga Irrigation Sub- Division and Cooch Behar Investigation Sub-Division No-I.
12. Sr.Divisional Accounts Officer, Cooch Behar Irrigation Division.
13. Office Notice Board.

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23/12/2020

(S.Mandal)

**Executive Engineer
Cooch Behar Irrigation Division,
Irrigation & Waterways Directorate**