

**Abstract cost of Protective work along the Right Bank of Panguchi River from km 0.000 to km 4.500 ; Total = 4500 m at Sannashi to Gabtola, in between km 0.000 to km 3.262 ; Total = 2300 m at Morrelganj ferry ghat area and from km 0.000 to km 1.000 ; Total = 1000 at Ghasiakhali; Upazila - Morrelganj, District- Bagerhat under Bagerhat O&M Division, BWDB, Bagerhat.**

Sl. No. Code no.	Item Descriptions	Quantity	Unit	Rate (Tk.)	Amount (Tk.)
1	2	3	4	5	6
1 04-180	Site preparation by manually removing all miscellaneous objectional materials from entire site and removing soil upto 15cm depth including uprooting stumps, jungle clearing, levelling dressing etc. complete as per direction of Engineer in charge.	390000.00	sqm	38.130	14870700.000
2 16-100	Erection of bamboo profile with full bamboo posts and pegs not less than 60mm in diameter and coir strings etc. complete as per direction of Engineer in charge.	159	Nos	367.410	58418.190
3 04-120	Construction of B.M. Pillars at site with first class bricks in cement mortar (1:4) of size 38cmx38cmx75cm on cement concrete (1:2:4) base of size 50cmx50cmx7.5cm with 12mm thick cement plastering (1:2) on exposed surfaces of pillar and cement mortar on top (1:2), with inscription of "BWDB" with 25cm of the pillar below ground level etc. complete including ramming the backfill and the cost of all materials as per direction of Engineer in charge.	15	Nos	1421.490	21322.350
4 40-230	Manufacturing and supplying C.C. blocks in leanest mix. 1:2:4 with cement, sand (FM $\geq$ 2.0) and Stone Chips (40mm down graded) to attain a 28 days cylinder strength of 18 N/mm <sup>2</sup> including grading, washing stone chips, mixing, laying in forms, consolidation, curing for at least 21 days, including preparation of platform, shuttering and stacking in measurable stacks etc. complete including supply of all materials (steel shutter to be used) as per direction of Engineer in charge.				
A) 40-230-25	Block Size: 45cmx45cmx45cm.	1131194	Each	1442.18	1631385422.269
B) 40-230-45	Block Size: 35cmx35cmx35cm.	1602801	Each	650.79	1043086862.790
C) 40-230-40	Block Size: 40cmx40cmx20cm.	411975	Each	499.32	205707357.000
5 40-270	Labour charge for protective works in laying CC blocks of different sizes including preparation of base, watering and ramming of base etc. complete as per direction of Engineer in charge.				
A) 40-270-10	Within 200 m.	3954.960	Cum	1395.030	5517287.849
B) 40-270-20	200 m to 500 m.	9228.240	Cum	2185.100	20164627.224

6 40-290	Dumping work of Hard rock/ stone/ boulders/C.C blocks/brick blocks/sand cement blocks over a uniform area from properly positioned by engine boat upto an accuracy of 10cm monitoring with Total Station. The dumping area to be determined by conducting bathymetric survey, furnishing topographic site plan, cross section, dumping alignment, providing location of benchmark and stake at batches of dumping activity, doing by a river survey team ( including survey manager, hydrographic surveyor, Auto cad operator, etc.) with total station. Sequential stacking of Hard rock/ stone/ boulders/C.C blocks/brick blocks/sand cement blocks on the engine boat, carrying the Hard rock/ stone/ boulders/C.C blocks/brick blocks/sand cement blocks to dumping area and dumping the block from the boat by manual labour or any other means, all materials & charges etc. complete as per direction of engineer in charge, specification and design.				
A) 40-290-10	Within 200 m.	51540.045	Cum	1905.430	98205947.873
B) 40-290-20	200 m to 500 m.	120260.105	Cum	2466.670	296641992.985
7 40-320	Supplying of geo-textile bags (empty) of different sizes and capacity at project/work site, making the bag with standard Geo-Textile fabric (100% Polypropylene Fabric, mass $\geq$ 400gm/m <sup>2</sup> , unit weight : 855 Kg/m <sup>3</sup> to 946 Kg/m <sup>3</sup> , EOS $\leq$ 0.075 mm) and sewing in accordance with the detailed drawing and Technical Specifications included in the Tender Document and Schedule of Rates of BWDB, protecting the geo-textile bags form UV ray or any other damages including cost of all materials, labours, incidental charges etc. complete as per direction of Engineer in charge.				
40-320-15	Geo-bag; inner size:1100mmx850mm, outer size:1150mmx900mm, geo-fabric th. $\Rightarrow$ 3.0mm, Fill Vol: 0.1333cum; wt: 200kg	939610	Each	299.030	280971578.300

8 40-330	"[Dumping with Barge & Total Station] Filling and dumping of geo-textile bags of different sizes and capacity at project/work site, protecting from UV ray or any other damages, filling with sand (dry and minimum 80% sand must be retained on sieve no 100), sewing along one transverse (top) side after filling, staking in measurable/countable stakes, marking with synthetic enamel paint during counting, dumping from properly positioned and anchored flat top barge/pontoon over an area as per drawing, maintaining & recording the dumping position of the barge/pontoon using total station including loading, unloading, sequential piling of geo-bags on the dumping edge of barge/pontoon, cost of all materials & equipments and its mobilization, labour, incidental charges, etc. complete as per technical specification, approved design and direction of Engineer in charge. [fill volume and weight will be measured after filling with dry sand]"				
40-330-15	Geo-bag; inner size:1100mmx850mm, outer size:1150mmx900mm,, Fill Vol: 0.1333cum; wt: 200kg	1669920	Each	206.370	344621390.400
9 40-550	Supplying and laying sand as filter layers as per specific size ranges and gradation including preparation of surface, compacting in layer etc. complete with supply of all materials and as per direction of Engineer in charge.				
40-550-30	FM : 1.0 to 1.5	6624.520	Cum	1316.450	8720848.763
10 40-520	Supplying and laying dry 1st class or pick jhama chips as filter in two layers (top and bottom) as per specific size, range and gradation, including breaking chips, grading, preparation of surface, compacting each layer etc. complete with supply of all materials and as per direction of Engineer in charge:				
A)40-520-20	Well graded between 40mm to 20mm size.	3312.260	Cum	4564.590	15119107.849
B)40-520-30	Well graded between 20mm to 5mm size. (Combination of sub-item 10 & 30 or 20 & 30 shall be used)	3312.260	Cum	5028.490	16655665.159



11 40-500	Supplying and placing non-woven needle punched type geotextile fabric (100% Polypropylene Fabric, unit weight : 855 Kg/m <sup>3</sup> to 946 Kg/m <sup>3</sup> ) as filter materials of elongation at maximum force machine direction (MD) $\geq 60\%$ and $\leq 100\%$ , elongation at maximum force (CMD) $\geq 40\%$ and $\leq 100\%$ , horizontal and vertical permeability (under 2 kn/m <sup>2</sup> ssure) $\geq 2 \times 10^{-3}$ m/sec. for effective erosion protection in hydraulic structures/river training works including local handling, placing in position, providing machine seamed joints (with 100% polypropylene or nylon thread) or 35cm lap in dry condition or minimum 100cm lap under water including protecting the geotextile material from UV ray and from any other damages including supply of all materials, labours, equipment's etc. complete as per direction of Engineer in charge. (Geotextile delivered at site should be certified by ISO and clearly labelled with brand name and grade printed at regular intervals across the body of the fabric).				
40-500-40	Mass $\geq 400$ gm/m <sup>2</sup> , thickness (Under 2 kpa pressure) $\geq 3.00$ mm, EoS $\leq 0.08$ mm, strip tensile strength $\geq 23$ kn/m, grab strength $\geq 1500$ N, CBR puncture resistance $\geq 3800$ N.	99519.773	sqm	250.130	24892880.736
12 40-920	Earth work in cutting and filling of eroded bank of river, channel etc. to design slope, including levelling, dressing and compacting the earth in 150mm layers and preparation of the base for bank protection work and use the excess material for filling the ditches on the bank within 50 m or specified in the drawing, if no ditches to be filled then excess material shall be disposed of at least 100 m from the bank line on C/S etc. complete as per direction of Engineer in charge.	28267.200	Cum	218.360	6172425.792
13 16-130	Earth work by manual labour in resectioning of embankment/ canal bank/ river slopes/ road/ compound etc. manually compacted by 7.0 kg iron rammer to avoid any air pocket in clayey soil (minimum 30% clay, 0-40% silt and 0-30% sand) within the initial lead of 30m and all lifts including throwing the spoils to profile in layers not exceeding 150mm thickness with clod breaking to a maximum size of 100mm, removing roots & stumps of trees of girth upto 200mm from the ground, benching the side slopes, stripping/ ploughing the base of embankment and borrowpit areas, dug bailing, bail out of water, rough dressing including 150mm cambering at the centre of the crest (where necessary) etc. complete as per direction of Engineer in charge.				
A)16-130-10	0 m to 3 m height.	133502.000	Cum	262.030	34981529.060

<u>14</u> 16-720	Filling ditch/pond/channel/khal etc or land development/improvement by dredged earth from river bed (all kind of soil but excluding organic material) , carried by Bulkhead/cargo/ boat or any other mean, loading and unloading/ Disposing/placing the dredged materials in the designated area upto 1 km from river bank by bulkhead dredger including , maintaining slopes, levelling and dressing in layers upto finished level with all lifts & leads etc. all complete as per direction of the Engineer in charge.				
16-720-10	Bulkhead/cargo/boat or any other means: within 1 km along the river	246313.442	Cum	141.270	34796699.994
<u>15</u> 4-700	Erection and maintenance of site office and removal of the same after completion of work as per approved plans & drawings for the use of the Engineer-in-charge & his staff, Task force and field laboratory with adequate foundation, brick walls, acceptable outside & inside wall surface, concrete floor with floor tiles, false ceiling of gypsum board, windows are to be glazed & provided with steel grill & screen/blinds, doors with approved locks, furniture & fittings of approved quality, equipment & plant of approved quality, electricity, running water, sewerage, security fencing, 5 KVA stand-bye generator, IBM compatible PC with monitor, uninterruptible power supply (UPS), LaserJet printer (minimum 25ppm), first aid-box, safety helmet, level/theodolite/EDM, consumables, stationeries, day & night guards & a tea boy and site office shall be ready for occupation by the Engineer-in-charge within 28 days of commencement of work, etc. complete as per direction of Engineer-in-charge. (This is a time related item; proportionate payment for this item shall be made distributing in each bill on the basis of percentage progress of the whole works under contract)				
4-700-10	Site office of minimum 38 sqm plinth area.	16	Nos	508581.430	8137302.880
<u>16</u> 04-710	Temporary lease of land for 1 (one) year with necessary compensation for crops or this installation on land for site office, material yard, casting yard, staking yard etc. complete as per direction of Engineer in charge	780000.00	sqm	33.940	26473200.000




17 10-140	River Morphological Data Collection/ Bathymetric Survey and river bank topography survey for river/ khal section (section width 251 m to 350 m), including cost of all necessary equipments (Level Machine, Hand GPS, DGPS etc), Necessary personnels (River Morphology Expert for data consistency checking, Engineer/ Survey Specialist for data processing with survey software and Prepare necessary Table, Graph and Morphological parameters calculations, Surveyor & Unskilled Labour for field data collection), Accomodation, Transportation from Headquarter to Site and Site movement and Shaded for Bathymetric Survey for field survey team including necessary fuels and lubricant, Other necessary auxiliary items such as survey flags, pegs with provision of submission of report in hard binded copies (at least 6 copies required), soft copies and raw survet data with provision of 10% random re-survey for data consistency checking as per direction of Engineer in charge.				
10-140-40	61 m to 100m	81	Nos	1871.350	151579.350
18 Market Rate	Pre work, post work and ongoing work Photograp and video of the project work including aerial video and editing.	81	Nos	2760.000	223560.000
19 28-200	Reinforced cement concrete work in leanest mix. 1:1.5:3, with 20mm down graded coarse aggregates and sand of FM>2.0 to FM<=2.5, to attain a minimum 28 day cylinder strength of 22.0 N/mm <sup>2</sup> , including breaking, screening, grading, washing aggregates with clean water, mixing, laying in forms, consolidation to levels, curing, including supply of all materials, excluding cost of M.S. work for reinforcements and formworks etc. complete and as per direction of Engineer in charge.				
28-200-10	With stone chips.	199.277	cum	14932.160	2975637.542
20 76-110	M.S. Work for reinforcement with deformed M.S. bar, fy=300 N/mm <sup>2</sup> , (made from billet) in RCC works, including local handling, cutting, forging, bending, cleaning and fabrication with supply of deformed M.S. bar in different sizes and binding with 22 to 18 gages G.I. wire etc. complete including the cost of all materials as per direction of Engineer in charge.				
76-110-10	8mm dia to 30mm dia.	13338.06	Kg	90.320	1204693.850
21 36-300	Form work for centering and water tight shuttering as per drawing with wooden planks of different thickness including supply of polythene sheet (1 kg covering 6.5 sqm ) for making shuttering leakproof for all sorts of R.C.C. works in building construction including fitting, fixing by nails, tie rods, nuts and bolts to desired shape and size including levelling and removing the forms etc. after specified period including the cost of all materials as per direction of Engineer in charge.				
36-300-10	Individual and continuous footing of column, raft etc. with 25mm thick wooden planks.	830.23	sqm	695.990	577830.038

22 16-500	Earth work in excavation of foundation trenches in all kinds of soils including levelling, dressing, placing, removal of spoils to a safe distance with initial lead of 30m and lift of 1.5m as per direction of Engineer in charge.	7288.50	Cum	238.120	1735537.620
23 28-120	Cement concrete work in leanest mix. 1:3:6 with sand of FM $\geq$ 1.5, in foundation or floor including breaking, screening, grading and washing aggregates with clear water, mixing, laying in position, consolidation to levels, curing, including supply of all materials, excluding the cost of formworks etc. complete as per direction of Engineer in charge.				
28-120-20	With 25mm down graded stone chips.	117.750	cum	13107.460	1543403.415
24 MRP	[For Artificial Mangrove Forest] Supplying and Planting of all kinds of siblings for growing artificial Mangrove forest including 1 year maintenance and guarding the plants as per direction of Engineer-in charge	6.00	Hectare	263387.50	1580325.000
Total =					4127195134.277

(Md. Masum Billah)  
Executive Engineer(C.C)  
ID No. 901220001  
Bagerhat O&M Division  
BWDB, Bagerhat.

(Krishnandu Bikesh Sarker)  
Sub-Divisional Engineer(A.C)  
Rayenda O&M Sub-Division  
BWDB, Rayenda, Bagerhat.

  
(Md. Mahmudunnabi)  
Sub-Assistant Engineer  
Rayenda O&M Section-1  
BWDB, Rayenda, Bagerhat.