## संस्कृति मंत्रालय MINISTRY OF CULTURE

## Birla Industrial & Technological Museum

(National Council of Science Museums, Ministry of Culture, Govt. of India)



19A, Gurusaday Road, Kolkata - 700 019

## Sub: Construction of Bituminous Road at NBSC, Siliguri.

| Sl.<br>No. | Description of item  | Qty.   | Unit | Rate     | Amount              |
|------------|--|--------|------|----------|---------------------|
| 1.0        | Earth work in excavation of foundation trenches or drains, in all sorts of soil (including mixed soil but excluding laterite or sandstone) including removing, spreading or stacking the spoils within a lead of 150 m. as directed. The item includes necessary trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water as required complete. Depth of excavation not exceeding 1,500 mm.   |        | Cum. | 119.27   | 2981.75             |
| 2.0        | Earth work in filling in foundation trenches or plinth with good earth, in layers not exceeding 150 mm. including watering and ramming etc. layer by layer complete. (Payment to be made on the basis of measurement of finished quantity of work)  With earth obtained from excavation of foundation.   |        | Cum. | 77.54    | 1938.50             |
|            | Filling in foundation or plinth by silver sand in layers not exceeding 150 mm as directed and consolidating the same by thorough saturation with water, ramming complete including the cost of supply of sand. (Payment to be made on measurement of   |        |      | 521.07   | 2605.35             |
|            | finished/compacted quantity)  Dismantling of Bituminous road manually/ by mechanical means upto a depth of 300mm for fixing of drainage pipe etc. including stacking of serviceable material and disposal of unserviceable material within 150 meters lead as per direction of Engineer-in-  |        | Cum. |          |                     |
| 5.0        | charge.  Labour for laying Single brick flat soling (thickness 75 mm) with departmental bricks including carriage of departmental bricks within a lead of 150 meters preparation of bed as necessary with brick joints properly filled in and packed with local sand or powdered earth and including necessary cushion of similar materials below the soling (and in between layers when more than one layer is used) (The item included the cost of obtaining local sand or powdered earth) |        | Sqm. | 307.00   | 15350.00<br>7168.00 |
|            | Single brick flat soling (thickness 75 mm) with picked Jhama bricks including preparation of bed as necessary with brick joints properly filled in and packed with powdered earth and including necessary cushion of similar material below the soling (and in between layers when more than one layer is used) completes as per direction.  |        | •    |          |                     |
|            | Brick work with 1st class bricks (Class designation 75) in cement mortar (1:6) In Foundation & upto plinth.  | 5<br>1 | Sqm. | 4,896.00 | 1560.00<br>4896.00  |
|            | 125mm thick brick work with 1st class bricks in cement mortar (1:4) at any floor.  |        | Sqm. | 674.00   | 10784.00            |

| Sl.<br>No. | Description of item  | Qty. | Unit | Rate      | Amount      |
|------------|--|------|------|-----------|-------------|
| 9.0        | Providing and laying in position Ordinary Cement concrete of                               |      |      |           |             |
|            | specified grade with graded stone chips (20 mm nominal size) of                            |      |      |           |             |
|            | Pakur variety excluding the cost of centering, shuttering and                              |      |      |           |             |
|            | reinforcement, if any, in ground floor as per relevant IS codes.                           |      |      |           |             |
|            | 1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate                      |      |      |           |             |
|            | 20 mm nominal size)  | 2    | Cum. | 6,510.92  | 13021.84    |
| 10.0       | Hire and labour charges for shuttering with centering and necessary                        |      |      |           |             |
|            | staging upto 4 m using approved stout props and thick hard wood                            |      |      |           |             |
|            | planks of approved thickness with required bracing for concrete                            |      |      |           |             |
|            | slabs, beams, columns, lintels curved or straight including fitting,                       |      |      |           |             |
|            | fixing and striking out after completion of works. 25mm to 30mm                            |      |      |           |             |
|            | thick wooden shuttering without staging as per decision & direction of Engineer-In-Charge. |      | Sam  | 205.00    | 1025.00     |
| 11.0       | Reinforcement for reinforced concrete work in all sorts of structures                      | 5    | Sqm. | 203.00    | 1023.00     |
|            | including distribution bars, stirrups, binders etc. including supply of                    |      |      |           |             |
|            | rods, initial straightening and removal of loose rust (if necessary),                      |      |      |           |             |
|            | cutting to requisite length, hooking and bending to correct shape,                         |      |      |           |             |
|            | placing in proper position and binding with 16 gauge black annealed                        |      |      |           |             |
|            | wire at every intersection, complete as per drawing and direction.                         |      |      |           |             |
|            | For works in foundation and upto roof of ground floor/ upto 4 m                            |      |      |           |             |
|            | using Tor/HYSD steel.  |      |      |           |             |
|            |  | 0.10 | MT   | 70,527.00 | 7052.70     |
| 12.0       | Plaster (to wall, floor, ceiling etc.) with sand and cement mortar                         |      |      |           |             |
|            | including rounding off or chamfering corners as directed and raking                        |      |      |           |             |
|            | out joints including throating, nosing and drip course,                                    |      |      |           |             |
|            | scaffolding/staging where necessary at any height.   |      |      |           |             |
|            | With 1:6 cement mortar, 15mm thick plaster.  | 25   | Sqm. | 141.00    | 3525.00     |
|            | Neat cement punning about 1.5mm thick in wall, dado, window, sill,                         |      |      |           |             |
|            | floor etc.   |      |      |           |             |
|            | NOTE: Cement 0.152 cu.m per100 sq.m.   | 25   | Sqm. | 34.00     | 850.00      |
| 14.0       | Providing and applying tack coat with Cationic Bitumen Emulsion                            |      |      |           |             |
|            | of approved grade conforming to IS: 8887-1978 on the prepared                              |      |      |           |             |
|            | surface, cleaned with Hydraulic broom, moistening the surface                              |      |      |           |             |
|            | including cost and carriage of emulsion, hire charges of machinery                         |      |      |           |             |
|            | and labour, cost of fuel and lubricants all complete as per Clause                         |      |      |           |             |
|            | 503 of Specifications for Road & Bridge Works of MoRT&H (5th                               |      |      |           |             |
|            | Revision) On Bituminous Surface (Using Bitumen Emulsion at the rate of 0.25                |      |      |           |             |
|            | to 0.30 kg per sqm.)   | 7500 | Sam  | 9.59      | 71,925.00   |
| 15.0       | Providing and laying bituminous macadam using crushed stone                                | 7300 | Sqm  | 2.37      | 11,525.00   |
| 15.0       | aggregates of specified grading premixed with bituminous binder,                           |      |      |           |             |
|            | transported to site by tippers, laid over a previously prepared surface                    |      |      |           |             |
|            | with paver finisher equipped with electronic sensor to the required                        |      |      |           |             |
|            | grade, level and alignment and rolling with smooth wheeled,                                |      |      |           |             |
|            | vibratory and tandem rollers as per specifications to achieve the                          |      |      |           |             |
|            | desired compaction and density, complete as per specifications and                         |      |      |           |             |
|            | directions of Engineer-in-Charge.  |      |      |           |             |
|            | 50 mm compacted thickness with bitumen of grade VG 30 (50/70)                              |      |      |           |             |
|            | grade @ 3.5% (Percentage by weight of total mix) prepared in Drum                          |      |      |           |             |
|            | Type Hot Mix Plant of 60-90 TPH capacity.  | 125  | Cum. | 6,787.57  | 8,48,446.25 |

| Sl.<br>No. | Description of item  | Qty. | Unit | Rate    | Amount      |
|------------|--|------|------|---------|-------------|
| 16.0       | 2.5 cm premix carpet surfacing with 2.25 cum and 1.12 cum of stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sqm and 52 kg and 56 kg of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively, including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tone capacity etc. complete With paving Asphalt grade VG - 30 with no solvent  |      | Sqm  | 225.25  | 5,63,125.00 |
| 17.0       | Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128kg of bitumen of grade VG - 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface, including rolling and finishing with road roller all complete.   |      | 2    | 70.50   | 1.76.475.00 |
| 10.0       | Duravidin a and laving at an man anaryad lavel factory made bank atoms   | 2500 | Sqm  | 70.59   | 1,76,475.00 |
|            | Providing and laying at or near ground level factory made kerb stone (size: 300 mm x 300 mm x width 150 mm at bottom with bevelled nosing at top) of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm) and curing the mortar joints for at least 3 days, including making drainage opening wherever required and back filling the vertical piece properly with earth duly compacted, including cost and carriage of all materials etc. as per direction of Engineer-incharge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-incharge).  Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints | 25   | Cum. | 7614.52 | 190363.00   |
|            | etc. complete : 300 mm dia. R.C.C. pipe.   | 25   | Mtr. | 797.43  | 19935.75    |
|            | Priming one coat on timber or plastered surface with synthetic oil bound primer of approved quality including smoothening surfaces by sand papering etc. (This item is applicable to new work or old work when the original surface has been exposed by removal of old paint)  |      | Sqm. | 38.00   | 7,600.00    |
| 21.0       | Painting with best quality synthetic enamel paint of approved make and brand (ICI Dulux 5 in 1 or Equivalent) including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary.  Two coats (with any shade except white) with super gloss (hi-gloss) of approved quality on timber or plastered surface.  | 200  | Sqm. | 81.00   | 16,200.00   |

Cost of Civil works ::: 1966828.14

GST, as applicable over cost of Civil work @ 18% ::: 354029.07

Cost of Civil works excluding labour welfare cess ::: 2320857.21

Labour welfare cess @ 1% ::: 23208.57

**Total amount of Civil Work :::** 2344065.78

Say Rs. 2344066.00

| Sl.<br>No. | Description of item | Qty. | Unit | Rate | Amount |
|------------|---------------------|------|------|------|--------|
| - 100      |                     |      |      |      |        |

## **NOTE:**

- Tenderers should visit the site before quoting the rate to understand the nature of work and condition of the site.
- 2 Rates shall be quoted inclusive of all materials, **wastage**, labour, hire charges of all tools, plants and machinery, shifting charges, **taxes & duties** etc. required for this job. No additional payment shall be done by the BITM for this purpose.
- 3 The work shall be required to carry out without obstructing the visitor's movements and may also be required to carry out beyond office hours (if required) for which no additional payment shall be made.
- 4 The work will be carried out after following all respective precautionary measure and safety rules. Expenditure towards insurance coverage for the labourers working at site has to be included in the rate.
- 5 Required quantity of Bitumen must be brought and stack at site at a time in sealed condition, before executing the work. The sealed containers must be got signed from the authorized person of NBSC, Siliguri and the same empty containers (duly signed) will be returned back to the contractor after certification of final bill.
- 6 Consumption of Bitumen and mode of application to be strictly followed. Physical consumption of Bitumen will be verified with the actual area of work done and appropriate penalty will be imposed if any deviation is found with respect to the consumption of Bitumen according to the specifications.
- 7 Delivery chalan and invoice of Bitumen & Agreegate has to be submitted to the officer in charge of NBSC, Siliguri for verification.
- 8 Regarding the work directives of the Engineer-in-Charge shall be final and binding.
- 9 All materials must be approved by the Engineer-in- Charge before supplying at site.

*List of Approved materials*:

- i) Cement: Ultratech/ ACC/ Lafarge/ Ambuja.
- ii) Reinforcement: JSW/ JSPL/ SHYAM/ SRMB/ BMASL/ ELECTROSTEEL/ SSL.
- iii) Synthetic Enamel: Asian paints/ ICI Dulux/ Berger.

Signature with Seal of the Contractor