**SCHEDULE OF QUANTITIES**

# CONSTRUCTION OF CLOVER LEAVES AT KARKARI MORE (INTERSECTION OF VIKAS MARG & ROAD NO. 57) AND WIDENING OF EXISTING BRIDGE ON TRUNK DRAIN NO.1

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | **PART - A: CIVIL WORKS** | | | | | |
| | **SH-I: PILE FOUNDATION** | | | | | |
| **1.1** | Boring, providing and installing cast in situ bored vertical piles of diameter as specified below with RMC / Machine batched, machine vibrated design mix concrete of M35 grade reinforced cement concrete using Portland Slag Cement 43/53 grade all complete including temporary liner as per the specifications and drawings. Reinforcement shall be measured and paid separately as per item 3.10. In all kind of soil except Hard rocks. | | | | | |
| | (i) 1200mm diameter piles | 5800 | Metre | | | |
| | (ii) 750mm diameter piles | 2500 | Metre | | | |
| | NOTES :- | | | | | |
| **A)** | The scope of work in the above item includes: | | | | | |
| | a) All initial layout of piles after site clearance by dismantling existing structure as per instructions of Engineer-in-Charge and setting out of piles using total station survey including initial excavation (if any). | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | b) Boring through all type of soils, existing road / pavement including 100 mm dia empty boring for 5 m depth to identify the utility services at all pile locations, removal of all obstruction like boulders etc. by chiselling or any other method as approved by the Engineer - in - Charge. If a bore is abandoned by any reasons no payment shall be made for such incomplete boring and shifting of the equipment. | | | | | |
| | c) Providing, driving / placing and withdrawal of 6 mm thickness or as per design, whichever is more, temporary Mild Steel liner for each pile upto a depth beyond which the bore hole can be stabilised using Bentonite slurry or 5 m depth, whichever is more, below adjoining Group Level and as directed by Engineer-in-Charge. | | | | | |
| | d) Providing, preparation, circulation and handling of bentonite slurry including cleaning of bore bottom after completion of boring. | | | | | |
| | e) Stacking of usable earth coming out of boring or any other activity (which can be used as random fill) at location as directed by Engineer-in-Charge. | | | | | |
| | f) Disposal of all spoils, bentonite waste, dismantled meterial, surplus unusable earth for all leads and lifts and keep the work area neat and tidy during the work and thereafter, as per direction of Engineer-in-Charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | g) Providing and mixing all ingredients of cement concrete including admixture required, with computerised Automatic batching plant, transportation, placement of concrete by tremie pipe for the required lengths of pile including pile heads at all locations. | | | | | |
| | h) Placement of reinforcement cage including cost of any stiffeners, lapping and welding of bars, etc. with cover blocks of approved quality and thickness to maintain the cage in its designed shape and spacing of bars as per directions of Engineer-in-Charge. | | | | | |
| | i) Breaking of pile head (manual chipping) after a minimum of 3 days and to remove and dispose spoiled concrete to bring the pile head to the cut off level including cleaning and arranging the extended reinforcement bars as per drawings. | | | | | |
| | j) Working for all leads, pumping / bailing out of water, labour, material and equipments, etc. | | | | | |
| | k) Mobilizing to site, installation at different locations including pier locations inside the drain, transferring / dismantling, shifting, reinstalling and removal from site of the piling rigs and / or other equipments and all accessories including working platforms from site. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | l) Identification, protection and maintenance of existing services, if any, which, in the opinion of Engineer-in-Charge are likely to be affected by piling activity or any related activities including temporary shifting of such services to facilitate construction of piling job shall also have to be done. No extra cost will be admissible for the same. | | | | | |
| | m) Safety measures including barricating around the bore hole during and after boring. | | | | | |
| | n) All incidentals, labour, material and testing, equipment and works required to execute and complete the job. | | | | | |
| | o) Filling up of the abondoned empty bore with M-15 grade cement concrete. | | | | | |
| | p) The quoted rate will be applicable for all length of piles. | | | | | |
| | q) Chipping of Pile and removal of weak concrete upto top level and making of pile head to be inserted in pile cap. | | | | | |
| **B)** | Measurement : The average length of piles is estimated to be 25 m. This shall be taken as a guidance only and there will be no change in rate of pile in case of increase or decrease of the pile length. Length of pile shall be measured from cut off level to the founding level / tip of the | | | | | |
| **C)** | Reinforcement shall be measured and paid separately as per item 3.10 | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| 1.2 | Boring, providing and installing cast in situ bored Raker piles of diameter as specified below with RMC / Machine batched, machine vibrated design mix concrete of M 35 grade reinforced cement concrete using Portland Slag Cement all complete including temporary liner as per the specifications and drawings. Reinforcement shall be measured and paid separately as per item 3.10. In all kinds of soil except hard rocks. | | | | | |
| | (i) 1200mm diameter piles | 2035 | Metre | | | |
| | (ii) 750mm diameter piles | 2020 | Metre | | | |
| | NOTES :- | | | | | |
| A) | The scope of work in the above item includes: | | | | | |
| | a) All initial layout of piles after site clearance by dismantling existing structure as per instructions of Engineer-in-Charge and setting out of piles using total station survey including initial excavation (if any). | | | | | |
| | b) Boring through all type of soils, existing road / pavement including 100 mm dia empty boring for 5 m depth to identify the utility services at all pile locations, removal of all obstruction like boulders etc. by chiselling or any other method as approved by the Engineer - in - Charge. If a bore is abandoned by any reasons no payment shall be made for such incomplete boring and shifting of the equipment. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | c) Providing, driving and placing of 8 mm thickness or as per design, whichever is more, Mild Steel liner for each pile upto full depth including stabilising bore hole using Bentonite slurry and as directed by Engineer-in-Charge. | | | | | |
| | d) Providing, preparation, circulation and handling of bentonite slurry including cleaning of bore bottom after completion of boring. | | | | | |
| | e) Stacking of usable earth coming out of boring or any other activity (which can be used as random fill) at location as directed by Engineer-in-Charge. | | | | | |
| | f) Disposal of all spoils, bentonite waste, dismantled meterial, surplus unusable earth for all leads and lifts and keep the work area neat and tidy during the work and thereafter, as per direction of Engineer-in-Charge. | | | | | |
| | g) Providing and mixing all ingredients of cement concrete including admixture required, with computerised Automatic batching plant, transportation, placement of concrete by tremie pipe for the required lengths of pile including pile heads at all locations. | | | | | |
| | h) Placement of reinforcement cage including cost of any stiffeners, lapping and welding of bars, etc. with cover blocks of approved quality and thickness to maintain the cage in its designed shape and spacing of bars as per directions of Engineer-in-Charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | i) Breaking of pile head (manual chipping) after a minimum of 3 days and to remove and dispose spoiled concrete to bring the pile head to the cut off level including cleaning and arranging the extended reinforcement bars as per drawings. | | | | | |
| | j) Working for all leads, pumping / bailing out of water, labour, material and equipments, etc. | | | | | |
| | k) Mobilizing to site, installation at different locations including pier locations inside the drains, transferring / dismantling, shifting, reinstalling and removal from site of the piling rigs and / or other equipments and all accessories including working platforms from site. | | | | | |
| | l) Identification, protection and maintenance of existing services, if any, which in the opinion of Engineer-in-Charge are likely to be affected by piling activity or any related activities including temporary shifting of such services to facilitate construction of piling job shall also have to be done. No extra cost will be admissible for the same. | | | | | |
| | m) Safety measures including barricading around the bore hole during and after boring. | | | | | |
| | n) All incidentals, labour, material and testing, equipment and works required to execute and complete the job. | | | | | |
| | o) Filling up of the abondoned empty bore with M-15 grade cement concrete. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | p) The quoted rate will be applicable for all length of piles. | | | | | |
| | q) Chipping of Pile and removal of weak concrete upto top level and making of pile head to be inserted in pile cap. | | | | | |
| **B)** | Measurement : The average length of piles is estimated to be 25.12 m. This shall be taken as a guidance only and there will be no change in rate of pile in case of increase or decrease of the pile length. Length of pile shall be measured from cut off level to the founding level / tip of the pile correct to a cm. | | | | | |
| **C)** | Reinforcement shall be measured and paid separately as per item 3.10 | | | | | |
| **1.3** | Initial Vertical load testing of a single pile as per the Specified diameter as per the specifications duly supplemented with IS :2911 (Part IV) 1985 with latest amendments there to all complete as per drawings and directions of Engineer- in-Charge | | | | | |
| | (i)1200 diameter pile for 875 tonnes vertical load | 3 | Each | | | |
| | (ii) 750mm diameter pile for 437.50 tonnes | 2 | Each | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the above item includes: | | | | | |
| | a) All similar operations as described under sub paras (a) to (p) of notes item 1.1. | | | | | |
| | b) Making of pile head ready for testing as per specifications at desired level. | | | | | |
| | c)Mobilising, fabrication / making of test set up, its dismantling, removal and making good the surroundings, if any, after the test is over. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | d) Supplying all labour, materials, equipment, instrumentation etc. including its transportation complete required for testing. | | | | | |
| | e) Recording and presentation of data as required by Engineer-In-Charge. (refer Appendix D IS:2911 (Part I / Sec I) -1979 for sample Data Sheet) | | | | | |
| | f) Cost of supporting arrangement for the kentledge load / cost of reaction piles shall be designed for 1.25 times the test load) | | | | | |
| | g) All incidential work required to execute and complete the job. | | | | | |
| | h) No working pile shall be used as a reaction pile. | | | | | |
| | (i) In case of increase or decrease in the value of test load, new rate shall be arrived on pro-rata basis. | | | | | |
| **B)** | Measurement shall be made for each complete set of testing and reporting of test results. Cost of test pile shall be paid separetely under item 1.1 (A) above and cost of reinforcement for the test shall be paid separately | | | | | |
| **1.4** | Routine vertical load testing of single working pile of specified diameter duly supplemented with IS 2911 (Part IV) with latest amendments thereto all complete. | | | | | |
| | (i) 1200 diameter pile for 525 tonnes vertical load | 4 | Each | | | |
| | (ii) 750mm diameter piles for 262.50 tonnes | 3 | Each | | | |
| | NOTES | | | | | |
| | A) Item shall include all elements as described in sub paras (b) to (i) of item No. 1.1 (A) | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **B)** | Measurement shall be made for each complete set of testing and reporting of test results. | | | | | |
| **1.5** | Initial lateral load testing of specified diameter pile as per duly supplemented with IS 2911 (Part IV) with latest amendments thereto all complete. | | | | | |
| | (i)1200 diameter pile for 50 tonnes lateral load | 2 | Each | | | |
| | (ii)1200 diameter Raker pile for 50 tonnes lateral load | 2 | Each | | | |
| | (iii) 750mm diameter pile for 30 tonne lateral load | 2 | Each | | | |
| | (iv) 750mm diameter Raker pile for 30 tonne lateral load | 2 | Each | | | |
| | NOTES | | | | | |
| | A) Item shall include all elements as described in sub paras (b) to (i) of item No. 1.1 (A) | | | | | |
| **B)** | Measurement shall be made for each complete set of testing and reporting of test results. | | | | | |
| **1.6** | Routine lateral load testing of specified diameter pile as per duly supplemented with IS 2911 (Part IV) with latest amendments thereto all complete. | | | | | |
| | (i)1200 diameter pile for 60 tonnes lateral load | 2 | Each | | | |
| | (ii)1200 diameter Raker pile for 60 tonnes lateral load | 2 | Each | | | |
| | (iii)750mm diameter pile for 30 tonnes lateral load | 2 | Each | | | |
| | (i) 750mm diameter raker pile for 30 tonnes lateral load | 2 | Each | | | |
| | NOTES | | | | | |
| | A) Item shall include all elements as described in sub paras (b) to (i) of item No. 1.1 (A) | | | | | |
| **B)** | Measurement shall be made for each complete set of testing and reporting of test results. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **1.7** | Integrity Testing of all piles by using pile driving analyser or equivalent as approved by Engineer-in-Charge and as detailed in the specification. Test to be carried out by a reputed agency approved by engineer-in-charge. Item to include all incidential work to execute the job. | | | | | |
| | (i)1200 diameter piles | 58 | Each | | | |
| | (ii)1200 diameter Raker piles | 20 | Each | | | |
| | (iii)750mm diameter piles | 25 | Each | | | |
| | (i) 750mm diameter Raker piles | 25 | Each | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the above item includes: | | | | | |
| | a) Making of pile head ready for testing at the desired level. | | | | | |
| | b) All incidents, labour, materials, equipement, instrumentation etc. including its transportation complete required for testing. | | | | | |
| **B)** | Measurement shall be made for each complete set of testing and reporting of test results. | | | | | |
| **1.8** | Providing and laying RCC in pile caps, open foundations for electrical poles, signages and any other foundations in M-35 grade reinforced cement concrete using Portland Slag Cement (conforming to strength requirement of IS: 8112) including the cost of steel centring and shuttering etc. with all leads, lifts and depths all complete. Item to include fixing of all types of structural steel inserts and bolts as per drawings and specification. Reinforcement shall be measured and paid separately as per item 3.10. | 6050 | Cum | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | NOTES | | | | | |
| A) | The scope of work in the item includes | | | | | |
| | a) All initial layout and setting out work using total station survey and including identification and temporary supporting and protecting of existing services. | | | | | |
| | b) Excavation through all types of soils with stable slopes including removal of all obstructions like boulders, rocks, cement concrete structures etc. | | | | | |
| | c) Disposal of all spoils, dismantled materials, surplus earth for all leads and lifts, and to keep the work area neat and tidy during the work and thereafter. | | | | | |
| | d) Cost of Pumping / bailing out of water, including its labour, material and equipments including running charges and making coffer dams and approaches etc. in the supplimentary drain. Diversion of water in the drain and cost of dewatering during pile cap construction is all included in the scope. | | | | | |
| | e) Cost of 100 mm thick bed concrete in M-15 grade cement concrete as per drawing under the pile cap and base slabs. Projection of 100 mm beyond the edge of pile caps / footing / foundation of starter retaining walls on all sides. | | | | | |
| | f) Cost of providing steel shuttering including its erection, dismantling and removal for all leads and lifts with all required tools and plants. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | g) Providing and mixing all ingredients of cement concrete including admixtures etc. with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |
| | h) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | i) Cost of compacted backfilling with approved material around the pile cap / isolated footing. | | | | | |
| | j) Cost of maintenance and protection of existing services if any which in the option of Engineer - in - Charge are likely to be affected by any related activities including temporary shifting of such services to facilitate construction of pile cap / footings shall be included in the quoted rates. | | | | | |
| | k) All incidentals, labour, materials and testing, equipment and works required to execute and complete the job as per drawings and specifications. | | | | | |
| **B)** | Measurements shall be made for the finished volume of reinforced cement concrete only. Quantity of concrete of piles, which has gone into the pile caps shall not be deducted. Reinforcement shall be measured and paid separately under item No. 3.10. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | **SH-II: SUB-STRUCTURE** | | | | | 0 |
| **2.1** | Providing and laying reinforced cement concrete for construction of piers, and pier caps and bearing pedestals etc. with M 40 grade using 43/53 grade Ordinary Portland Cement, all complete including all types of steel shuttering, staging, scaffolding, form liner finish, testing of materials etc for casting pier in one stage, necessary tools, plants, machinery and all related operations as required to complete the work as per drawings and specifications with all leads, lifts and depths true to level and position. Reinforcement shall be measured and paid separately as per item 3.10. | | | | | |
| | i) M-40 grade cement concrete | 1568 | Cum | | | |
| | NOTES: | | | | | |
| **A)** | The scope of work in this item includes | | | | | |
| | a) All incidental work required including providing, placement and removal of steel shuttering of any shape, staging, scaffolding and form liner etc for piers. | | | | | |
| | b) Casting of piers as per approved mock up pattern etc. including providing and mixing all imgredients and admixtures etc. in Automatic weigh batching plant, transportation, placement, finishing and curing, which shall also involve preparation of surface, placing in position as per specification and the direction of the Engineer-in-Charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | c) Disposal of all spoils and rubbish and to keep the work area neat and tidy during the work and thereafter. | | | | | |
| | d) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | e) All incidentals, labour, material and testing, equipment and works required to execute and complete the job as per specifications and as approved by Engineer-in-Charge. | | | | | |
| **B)** | Measurement shall be made for the finished volume of concrete only. No deduction will be made for the volume occupied by any fixture provided in the pier etc. For form finish on the pier surface, the measurement for the concrete volume shall be based on concrete dimensions measured at outside surface of form finish i.e. without deduction of grooves. | | | | | |
| **C)** | Reinforcement shall be measurement and paid separately under item No. 3.10 | | | | | |
| | **SH- III SUPERSTRUCTURE** | | | | | |
| **3.1 (a)** | Providing and laying cast-in-situ M45 grade reinforced cement concrete using 43/53 grade Ordinary Portland Cement for the construction of RCC/PSC Box Girder for superstructure complete as per darwings, specifications and provisions made in the tender documents inlcuding all types of shuttering, staging, scaffolding and necessary tools, plants and machinery, testing of materilas etc. | 5618 | Cum | | | |
| **A)** | The scope of work in these item includes | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | a) Add consumables such as binding wire, foam, packing tape, shuttering oil, Galvanised Shething duct for strand, bolt and nuts etc. | | | | | |
| | b) All cutting and threading in position including binding by insulation tape with Sheathing ducts etc.and cutting of extra length of HT strand after prestressing all complete | | | | | |
| | c) Provision of erection and dismantling of shuttering | | | | | |
| | d) Provision of concreting by batching plant and concrete pump, transit mixer all complete. | | | | | |
| | e) Provision of manual curing or application of curing compound as required where wet curing is not feasible all complete. | | | | | |
| | f) All arrangement needed to keep the required machineries required to complete job. | | | | | |
| | g) Providing and mixing all ingredients including admixtures etc with computerised Automatic batching plant, transportation, placement, finishing at all heights, lifts and lead etc. | | | | | |
| | h) Providing and placing of steel formwork in position and its removal including cleaning, oiling and maintenance during pendency of work. | | | | | |
| | i) All steel formwork and it's staging etc to be used for span construction including erecting staging inside the drain whereever required, casting, curing of finished concrete etc. complete. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | j) Provision of special shuttering panels in the curved portions of superstructure and local thicknening near supports as required as perdrawings and approval by Engineer-In-Charge. | | | | | |
| | k) Providing & installing temporary bearings for casting individual spans and their removal after casting of closure pour resting on permanent bearings at continuous support locations. This shall also include provisions of any temporary props or brackets to support the temporary bearings if they cannot be seated on pier-caps. | | | | | |
| | l) Providing pre-cast end blocks housing anchorage cones and placing them over pier-caps at locations shown in drawings before construction of Cast-in-Situ spans. | | | | | |
| | m) Providing and fixing of rain water spouts including all accessories as per drawings and as approved by the Engineer-in-Charge. All provisions to be kept in concrete for attaching the down pipe shall be provided during casting of concrete. The cost of the drainage spout shall be paid seperately as per item 3.5. | | | | | |
| | n) Providing and Fixing / embedding all necessary provisions like HDPE pipes 100 mm dia and conduits of electrical or other fixtures in railing upstand / crash barriers. | | | | | |
| | o) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | p) All incidentals, labour, material and testing, equipment and works required to execute and complete the job as per specifications and as approved by Engineer-in-Charge. | | | | | |
| | q) Contractor shall also install Bearings and Expansion Joints wherever required in the bridge deck as per approved drawings and as per manufacturer specifications / directions of Engineer-in-Charge. Nothing extra shall be paid on account of any incidental expenditure / charge required for the fixing of Bearing and Expansion Joints. Cost of Bearings and expansion joints to be paid separately under item No 3.9 &3.11 respectively. The work includes testing of Girder & testing of material etc complete. | | | | | |
| | r) Casting of concrete projection along with deck slab for supporting electric poles / signages including providing steel insert plates for fixing the same. Steel items shall be paid seperately. | | | | | |
| | Measurement shall be made for the volume of finished concrete as per drawing. The reinforcement shall be measured and paid under item 3.10. | | | | | |
| **3.1 (b)** | Providing,Pre-casting, pre-stressing, transporting and placing in position Prestressed Cement Concrete I Girders in M-45 in Super-Structure as per drawing and technical specifications | 783 | Cum | | | |
| **A)** | The scope of work in these item includes | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | a) Add consumables such as binding wire, foam, packing tape, shuttering oil, Galvanised Shething duct for strand, bolt and nuts etc. | | | | | |
| | b) All cutting and threading in position including binding by insulation tape with Sheathing ducts etc.and cutting of extra length of HT strand after prestressing all complete | | | | | |
| | c) Provision of erection and dismantling of shuttering | | | | | |
| | d) Provision of concreting by batching plant and concrete pump, transit mixer all complete. | | | | | |
| | e) Provision of manual curing or application of curing compound as required where wet curing is not feasible all complete. | | | | | |
| | f) Handling of precast girder,stacking at site and again loading in trailor etc all complete. | | | | | |
| | g) Providing and mixing all ingredients including admixtures etc with computerised Automatic batching plant, transportation, placement, finishing at all heights, lifts and lead etc. | | | | | |
| | h) Providing and placing of steel formwork in position and its removal including cleaning, oiling and maintenance during pendency of work. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | i) Providing & installing temporary bearings for casting individual spans and their removal after casting of closure pour resting on permanent bearings at continuous support locations. This shall also include provisions of any temporary props or brackets to support the temporary bearings if they cannot be seated on pier-caps. | | | | | |
| | j) Providing pre-cast end blocks housing anchorage cones and placing them over pier-caps at locations shown in drawings before construction of Cast-in-Situ spans. | | | | | |
| | k) Providing and Fixing / embedding all necessary provisions like HDPE pipes 100 mm dia and conduits of electrical or other fixtures in railing upstand / crash barriers. | | | | | |
| | l) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | m) All incidentals, labour, material and testing, equipment and works required to execute and complete the job as per specifications and as approved by Engineer-in-Charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | n) Contractor shall also install Bearings and Expansion Joints wherever required in the bridge deck as per approved drawings and as per manufacturer specifications / directions of Engineer-in-Charge. Nothing extra shall be paid on account of any incidental expenditure / charge required for the fixing of Bearing and Expansion Joints. Cost of Bearings and expansion joints to be paid separately under item No 3.9 &3.11 respectively. The work include testing of girder & testing of material etc complete. | | | | | |
| | Measurement shall be made for the volume of finished concrete as per drawing. The reinforcement shall be measured and paid under item 3.10. | | | | | |
| **3.1 (c)** | Providing, transporting, placing in position and finishing M45 grade concrete in cast-in-situ deck slab and diaphrams for I-girder spans in M-45 in Super-Structure as per drawing and technical specifications | 1215 | Cum | | | |
| **A)** | The scope of work in these item includes | | | | | |
| | a) Add consumables such as binding wire, foam, packing tape, shuttering oil, Galvanised Shething duct for strand, bolt and nuts etc. | | | | | |
| | b) All cutting and threading in position including binding by insulation tape with Sheathing ducts etc.and cutting of extra length of HT strand after prestressing all complete | | | | | |
| | c) Provision of erection and dismantling of shuttering | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | d) Provision of concreting by batching plant and concrete pump, transit mixer all complete. | | | | | |
| | e) Provision of manual curing or application of curing compound as required where wet curing is not feasible all complete. | | | | | |
| | f) Providing and mixing all ingredients including admixtures etc with computerised Automatic batching plant, transportation, placement, finishing at all heights, lifts and lead etc. | | | | | |
| | g) Providing and placing of steel formwork in position and its removal including cleaning, oiling and maintenance during pendency of work. | | | | | |
| | h) All steel formwork and it's staging etc to be used for span construction including erecting staging inside the drain whereever required, casting, curing of finished concrete etc. complete. | | | | | |
| | i) Provision of special shuttering panels in the curved portions of superstructure and local thicknening near supports as required as perdrawings and approval by Engineer-In-Charge. | | | | | |
| | j) Providing & installing temporary bearings for casting individual spans and their removal after casting of closure pour resting on permanent bearings at continuous support locations. This shall also include provisions of any temporary props or brackets to support the temporary bearings if they cannot be seated on pier-caps. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | k) Providing pre-cast end blocks housing anchorage cones and placing them over pier-caps at locations shown in drawings before construction of Cast-in-Situ spans. | | | | | |
| | l) Providing and fixing of rain water spouts including all accessories as per drawings and as approved by the Engineer-in-Charge. All provisions to be kept in concrete for attaching the down pipe shall be provided during casting of concrete. The cost of the drainage spout shall be paid seperately as per item 3.5. | | | | | |
| | m) Providing and Fixing / embedding all necessary provisions like HDPE pipes 100 mm dia and conduits of electrical or other fixtures in railing upstand / crash barriers. | | | | | |
| | n) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | o) All incidentals, labour, material and testing, equipment and works required to execute and complete the job as per specifications and as approved by Engineer-in-Charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | p) Contractor shall also install Bearings and Expansion Joints wherever required in the bridge deck as per approved drawings and as per manufacturer specifications / directions of Engineer-in-Charge. Nothing extra shall be paid on account of any incidental expenditure / charge required for the fixing of Bearing and Expansion Joints. Cost of Bearings and expansion joints to be paid separately under item No 3.9 &3.11 respectively. The work include testing of girder & testing of material etc complete. | | | | | |
| | q) Casting of concrete projection, Tie beams etc. along with deck slab and supporting electric poles / signages including providing steel insert plates for fixing the same. Steel items shall be paid seperately | | | | | |
| | Measurement shall be made for the volume of finished concrete as per drawing. The reinforcement shall be measured and paid under item 3.10. | | | | | |
| **3.2** | Providing and laying M 35 grade reinforced cement concrete with 43/53 grade Ordinary Portland Cement in cast in-situ approach slab, friction slab including dirt wall including its supporting beam, column structure and footing etc. over the approaches, complete as per drawing with making all joints and their sealing, interlocking keys at regular intervals in the friction slab, testing of materials etc. Reinforcement shall be measured and paid separately as per item 3.10 | 284 | Cum | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | NOTES | | | | | |
| A) | The scope of work in the item includes | | | | | |
| | a) Providing and mixing cement concrete with all ingredients and admixtures etc. with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |
| | b) Providing steel shuttering, stagging, and scaffolding, including its modification if any, erection and removal in accordance with the provisions mentioned elsewhere in the tender documents. | | | | | |
| | c) Al incidentals, labour, materials and testing, equipment and works required to execute and complete the job. | | | | | |
| | d) Cost 100 mm thick bed concrete in M 15 grade below approach slab and friction slab and at loacations as per drawings. | | | | | |
| | e) Fixing/embedding all necessary provisions like HDPE pipes 100mm dia and conduits of electrical or other fixtures in railing upstand / crash barriers. | | | | | |
| | f) All arrangement needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| B) | The measurements shall be made for the finished volume of concrete only. The reinforcement shall be measured and paid under item 3.10. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **3.3** | Providing/fabrication and stressing H.T. strands, threading them in sheathing ducts, placing them alongwith duct in proper profiles including anchorages etc. complete as per drawings and specifications including applying protective coating and recess filling, with if any with pre-packaged, free flow, high strength non shrink grouting the cable ducts after prestressing and recording prestressing data and presenting/reporting the same in the manner required by the Engineer-in-Charge treating the projected end of the strands after anchorages and covering the same such as Conbextra HF of M/s FOSROC or approved equivalent as per the specifications all complete. | 263 | MT | | | |
| **3.4** | Providing and laying 25 mm thick mastic asphalt wearing course with paving grade bitumen meeting the requirements given in Table 500-29, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 13.2 mm nominal size at the rate of 0.005 cum per 10 sqm and at an approximate spacing of 10 cm centre to centre in both directions, pressed into surface when the temprature of surfaces is not less then 100 deg.C, protruding 1 mm to 4 mm over mastic surface, all complete as per Clause 515. | 11166 | Sqm | | | |
| **3.5** | Providing and fixing drainage spouts as per drawing and Technical specification Clause 2705 including downpipes as shown in drawings. | 378 | Nos | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **3.6** | Providing and laying in position RMC/Machine batched, machine vibrated design mix concrete of M40 Grade using 43/53 grade Portland Slag Cement for cast-in-situ reinforced cement concrete in crash barrier over the superstructure and approaches as per approved drawings including the cost of steel shuttering and form liner finish wherever required and removal thereof, but excluding the cost of reinforcement which shall be paid for seperately. | 1478 | Cum | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the item includes | | | | | |
| | a) Providing and mixing cement concrete with all ingredients and admixtures, etc. with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |
| | b) Providing shuttering, staging and scaffolding, including its modification, erection and removal in accordance with the provisions mentioned elsewhere in the tender documents. | | | | | |
| | c) All incidents, labour material and testing, equipment and works required to execute and complete the job. | | | | | |
| | d) 50mm thick thermocol board above RS wall panels before casting crash barriers in the approaches as shown in the drawings. | | | | | |
| | e) Providing MS pipe and sleeve with approved paint and primers at the location of expansion joints as per the drawings. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | f) no deductions/extra shall be made on account of grooves etc. on crash barrier. | | | | | |
| | g) Fixing / embedding all necessary provisions like HDPE pipe (2 nos. 100 mm dia) and conduits of electrical or other fixtures in railing upstand etc. | | | | | |
| | i) All arrangements needed to keep the reinforement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | j) Approval of the facia patterns on crash barrier panel from the Engineer-in-charge. Nothing extra shall be payable for mock ups and trails of the crash barrier except payment for one approved sample. | | | | | |
| **B)** | MEASUREMENTS: | | | | | |
| | The measurement shall be made for the finished volume of reinforced cement concrete only. The reinforcement shall be measured and paid under item 3.10. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **3.7** | Providing and fixing hand rail over the crash barrier consisting of MS base plate, embedded fastener and nuts MS vertical plates with burr and GI pipes etc. as shown in the drawings, and as per specifications. All the railing components as mentioned above shall be painted with approved colour shade as per Architect / Engineer - in - Charge including all primers and paints as per specifications. The thickness of plates to be as shown in the drawing and paints as per specifications. The thickness of plates to be as shown in the drawings and pipe to be 65 mm diametre (NB) medium class GI pipe. Item to include all incidental works required to complete the work as per drawings and as directed by the Engineer-in-Charge. Measurement shall be made for the length of the pipe only correct to one cm. | 1900 | Mtr | | | |
| **3.8** | Providing and laying of a modular strip seal expansion joint including anchorage catering to a horizontal movement of 75 mm and upto 150mm, complete as per approved drawings and IRC,s relevant specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation. | | | | | |
| | The seal of the expansion joint shall be such as not to permit any dust collection at all times. Item to include all incidentals required to complete the job. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (a) Fixing in position Modular Strip Seal Expansion Joints as per Drawings and Specifications, Movement Capacity 150mm at pier locations . | 99 | metre | | | |
| **3.9** | Providing and laying of a modular strip seal expansion joint including anchorage catering to a horizontal movement of 75 mm and upto 150mm, complete as per approved drawings and IRC,s relevant specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation. | 194 | metre | | | |
| | The seal of the expansion joint shall be such as not to permit any dust collection at all times. Item to include all incidentals required to complete the job. | | | | | |
| | Fixing in position Strip Seal Expansion Joints as per drawings and specifications, Movement capacity 75mm at abutment locations. | | | | | |
| | No plea regarding the number of manufacturers/suppliers being limited shall be entertained. | | | | | |
| **3.10** | Providing and placing in position at all depth & height Grade Fe-500, TMT reinforcement bars including cutting, straightening, bending, binding with GI binding wire of 18 SWG Testing of material complete as per detailed drawings & specifications. | 4124 | MT | | | |
| | **Measurement :-** | | | | | |
| | (I) Reinforcement shall be measured in length of different diameters as per drawings nearest to a centimeter. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (ii) The laps, splices, spacer bars, chairs, couplers etc. shall not be measured seperately. These are and testing charges deemed to be included in the quoted rates for reinforcement. | | | | | |
| | (iii) The standard sectional weights reffered to as Table IV in para 5.3.3 in CPWD specifications for works, 1996 Vol II will be considered for conversion of length of various sizes of TMT bars into standard weight. | | | | | |
| | (iv) The item includes two coat of anticorrosive coating of cement wash slurry (1 Kg and 600 cc inhibitate solution. (Patent No 109784 or equivalent) by dipping or brushing and drying for atleast 24 hours on the steel immediately after procurement at stacking yard for its protection from corrosion. | | | | | |
| | (v) Records of actual sectional weights shall be kept diawise and lotwise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of Engineer-in-charge shall be final for the procedure to be followed for determinig the average sectional weight of each lot. Quantity of each diameter of steel recieved at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (vi) (a) If the derived weigth as in sub-para (iv) above is lesser than the standard weight as in sub-para (iii) above then the deraived actual weight shall be taken for payment. | | | | | |
| | (b) If the derived actual weight is found more than the stanadard weight, then the standard weight as worked out in sub para (iii) above shall be taken for payment. In such case nothing extra shall be paid for the difference between the derived actual weight and the standard weight. | | | | | |
| **3.11** | Providing and installing to true lines levels PIN and/POT-cum-PTFE bearings of specified load capacity and movement/rotation as detailed here under and as per MORTH specifications. Item includes preparation of design and drawing and its approval from the Engineer-in-Charge,manufacturing testing, transportation to site, storage with all handling, lead lift etc. and placing the permanent bearings in position, grouting holes and filling the underside of base plates using prepared, free flowing high strenght, non-shrinkage grout of approved equivalent, as per manufactures specifications. Cost of providing temporary bearings/supports as required and other incidential expenses(if any) shall also be included. (Bearings shall be provided with a warranty of truoble free maintenance of 15 years. | | | | | |
| | (i) Free sliding POT-CUM- PTFE Bearing 300 Tonne Capacity | 20 | Each | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (ii) Free sliding POT-CUM- PTFE Bearing 500 Tonne Capacity | 70 | Each | | | |
| | (iii) Free sliding POT-CUM- PTFE Bearing 700 Tonne Capacity | 5 | Each | | | |
| | (iv) Free sliding POT-CUM- PTFE Bearing 1000 Tonne Capacity | 2 | Each | | | |
| | (v) Rate for additional / reduced capacity of POT-Cum-PTFE bearings ± Tonne | ±1 | Tonne | | | |
| | (vi) Guided PTFE sliding assembly bearing free longitudinally 55 Tonne capacity | 22 | Each | | | |
| | (vii) Guided PTFE sliding assembly bearing free longitudinally 100 Tonne capacity | 24 | Each | | | |
| | (viii) Rate for additional / reduced capacity of guided PTFE sliding assembly bearings | ±1 | Tonne | | | |
| | (ix) Pin bearing at fixed pier 300 Tonne capacity | 10 | Each | | | |
| | (x) Pin bearing at fixed pier 400 Tonne capacity | 12 | Each | | | |
| | (xi) Rate for additional / reduced capacity of pin bearing at fixed piers ± Tonne | ±1 | Tonne | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | **SH-IV: REINFORCED SOIL WALL APPROACHES** | | | | | |
| **4.1** | Providing and laying M 35 grade (using 43/53 grade ordinary Portland Cement ) precast concrete facia wall(Area of each facia panel shall not be less than 1.5 sqm height shall not be less than 900mm,min 180mm thick) including design and getting the approval for reinforced soil wall system, excavation, providing its "levelling pad" using M 20 grade concrete with nominal reinforcement,TMT reinforcing steel facia panels with form liner finishes as per the design requirements, PVC drainage pipes 200 mm dia, precast cover facia for drainage pipes as per drawings, logopanels, geo-textile filter fabric for wrapping pipes etc.including filter media 600mm thick, at base and sides behind the facia wall as per drg. drain sleeve in lower panels as per drawings and design, supplying and laying in position the specified and approved Geogrid / galvanised steel strips soil reinforcement including cutting in required length, placing in position and connecting with the precast facia panels as per the design and drawings and direction of the Engineer in charge and anchoring with filled up surface of earth, complet all arrangement likesemi-saucer/Kerb channel or<br><br><br>drain required for drainage | 2792 | Sqm | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | complete with all materials, labour, lead & lift plants machinery taxes royalty etc complete. Item to include all incidental work required to complete the job as per drawing and specifications. The coping beam is not permitted and the top panels shall be cast in the inclined profile as per approved shop drawings. The cost of backfill between reinforced soil wall panels(except filter media) is not included in this item and shall be paid for separately as per item 4.2. Any ground improvement works for bearing capacity enhancement of ground (if required) shall also be included in the quoted rates. | | | | | |
| | NOTES | | | | | |
| | (A) The scope of work in the above item includes: | | | | | |
| | a) All initial layout and alignment reinforced soil wall after site clearance and excavation, for the construction of RS Wall structure including all components like reinforcing element, selected reinforced fill etc., dismantling of footpath, planters, etc. as per the directions of the Engineer-in-charge and preparing designs & shop drawings giving levels etc. The work shall be started only after approval of the design and shop drawings by engineer-in-charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | b) Approval of the facia patterns on panels including name of clients etc. from the Engineer-in-charge. Nothing extra shall be payable for mock ups and trials of the facia panels other items. The approved mock up facia shall be protected from any damage during execution of the work, this will form part of landscaping works. | | | | | |
| | c) Filter media with stone crushed aggregates 600mm thick as per drawings at the bed level of the embankment of reinforced earth structure and behind the facia panels for proper drainage as per approved drawings and particular specifications. | | | | | |
| | (d) The item includes all incidental expenditure & cost of testing of all materials for completing the job. | | | | | |
| | e) Providing and placing 200 mm dia PVC perforated Pipe (perforation at top half only) wrapped in geotextile and filled with filter media, as per drawings for the drainage of seepage water from the fill between RS walls on either side. | | | | | |
| | f) All transportation, erection in position and alignment as p[er approved shop drawings to the satisfaction of Engineer in-charge. | | | | | |
| | g) Providing, Placing and laying of NP-4 pipe of required dia for future services at desired locations. | | | | | |
| | (B) MEASUREMENT | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | The reinforced Soil wall area shall be measured from top of concrete levelling pad at base to top of RCC facia wall panel for payment. No separate payment for any type of reinforcement shall be made. | | | | | |
| **4.2** | Providing, placing and compacting approved backfill material in layers as per approved methodology including testing for reinforced fill portion and random fill portion in the approaches between the Reinforced Soil (RS) Wall panels as per approved drawings and particular specifications. Item to include 500 mm thick sub-grade construction as per specifications with CBR under soaked conditions not less than 5%. All incidental work required to complete the job shall be included in the quoted rates. The item shall be measured and paid for the finished volume of backfill and subgrade placed in position excluding the volume of filter media at behind the RS walls. | 21497 | Cum | | | |
| | **SH-V: ROAD WORKS** | | | | | |
| **5.1** | Earthwork in excavation by mechanical means (Hydraulic excavator) / manual means over areas exceeding 30cm in depth, 1.50m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50m and lift upto 1.50m, disposed earth to be levelled and neatly dressed. | | | | | |
| | All kind of Soil | 1000 | Cum | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **5.2** | Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.50cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres. | 1000 | Sqm | | | |
| **5.3** | Construction of subgrade by loosening of the ground upto a level of 500mm below the subgrade level, watered, graded and compacted in layers to meet requirement of Table 300-2 for subgrade construction | 8817 | Cum | | | |
| | **SUB-BASE AND BASE COURSES** | | | | | |
| **5.4** | Providing, laying, spreading and compacting specified graded sand, stone aggregate or any other coarse material as per MORT&H specifications (Table 400-1) gradation-III and I of CBR value not less than 20 in lower granular sub-base course 150mm thick including mixing the material to OMC, spreading with motor grader on a prepared base compacting with vibratory road roller to achieve the desired density i/c all materials, labour, machinery etc. complete as per Clause-401 of MORT&H specifications. | 4135 | Cum | | | |
| | Scope of workin the item includes: | | | | | |
| | (i) The Item includes the preparation of subbase by laying of 2 layer of granular sub-base material 150mm thick each. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (ii) The item includes the cost of all the operation involved to complete the job as per MORT&H specification including the cost of arrangement of all material, machinery, tools & plants, manpower etc. complete as per direction of Engineer-In-Charge. | | | | | |
| | (iii) The item includes the cost of testing of all materials as per requirement of Section 900 of MORT&H Specification. | | | | | |
| | (iv) The item includes all other incidental expenditure for completing the job as directed by the Engineer-In-Charge. | | | | | |
| | Mode of Payment:<br>Measurement for payment shall be made for finished item on volume basis in cum, being calculating by taking levels before laying lower GSB & after finishing the top of upper GSB layer. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **5.5** | Providing, laying, spreading (with paver finisher only) and compacting wet mix macadam (WMM) base course (250 mm thick) comprising of graded stone aggregate and granular material conforming to MORT&H specifications (Table 400-II) under section 406 in two layers of equal compacted thickness of 125 mm each consolidated, including pre-mixing the material with water to OMC in mechanical mixer (Pug Mill), carriage of mixed material by tippers to site, laying in uniform layers in base course on a well prepared sub-base/base course and compacting with power vibratory-roller to achieve the desired density including all material, machinery, etc. complete as per clause 406 of MORT&H specifications. Measurement of WMM course shall be calculated by taking cross sectional level in cubic metre. | 3445 | Cum | | | |
| | Scope of work in the Item: | | | | | |
| | (i) The item includes the cost of all operations involved to complete the job as given under Section 406 of MORT&H Specifications 2001 including the cost of material, machinery, tools & plant, manpower, cost of testing of material and design mix as per Section 900 of MORT&H Specifications. | | | | | |
| | Mode of Payment:<br>Measurement for payment shall be made for finished item on volume basis in cum, by taking levels before laying and after laying of WMM layer. | | | | | |
| | **BITUMINOUS COURSES** | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **5.6** | Providing and laying 75 mm thick dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @ 5.00% by weight of total mix and lime filler @2%, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction including cost of prime coat, all as per MoRT&H Specifications Clauses 507, 502 & 503 complete in all respects.<br>75mm average compacted thickness with bitumen of 60/70 grade @5% (percentage weight if mix) as per clause 507 of MORT&H specifications. | 4308 | Cum | | | |
| | Scope of Work:<br>(i) The item includes the cost of all testing of material and materials & Machinery etc. involved to complete the job as per clause 507& section 900 of MORT&H Specifications. | | | | | |
| | (ii) The item includes to submission of job mix formula & get it approved from Engineer-In-Charge. | | | | | |
| | Measurement:<br>Measurement for payment shall be made for finished item on volume basis in cum. Volume being computed by taking levels before and after laying of DBM. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **5.7** | Providing and laying 50mm Bituminous Concrete (40mm thick over deck slab) as per Table - 500-18 of MORT&H) Grading I wearing course using modified Bitumen with SBS, PMB-40 grade as approved by the Engineer complying with IRC SP:53-2002 and IS 15462-2004 with modified bitumen content of 5.50% (% by weight of Total mix) and using 3% lime (% by weight of Total mix) as filler, including loading of aggregate with F.E. loader and hot mixing of stone aggregate and bitumen in computerised hot mix plant, transporting the mixed material by tippers to paver and laying the mixed material with paver finisher fitted with the electronic sensing device to the required level and grade and compacting with road rollers all complete as per clauses 509 of MORT&H specification for road & bridge works (fourth revision) 2001, to achieve the desired density, including the cost of application of tack coat, all as per Section 503 & 512 of MoRT&H Specifications for road and bridge works (fourth Revision) 2001. | 3416 | Cum | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | Scope of Work:<br>(i) The item includes the cost of all operation involved to complete the job as given in section 503,512, 509 & 900 of MORT&H Specifications.<br>(ii) The item includes the submission of Job Mix Formula and get it approved from Engineer-In- Charge.<br>(iii) The item includes the cost of testing of all material.<br>(iv) The item includes all other incidental expenditure for complete the job as per the direction of Engineer-In-Charge.<br>Measurement:<br>Measurement for payment shall be made for finished item on volume basis in cum. being calculated by taking levels before & after laying of BC. | | | | | |
| | **SH - VI : WIDENING OF EXISTING BRIDGE** | | | | | |
| **6.1** | Dismantling of existing structures like footpaths, drains, railing/crash barriers, culverts, bridges, retaining walls and other structure comprising of masonary, cement concrete, RCC work, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and leads complete. | 550 | Cum | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **6.2** | Providing and laying RCC in pile caps, and Retaining walls RMC / Machine Batched, machine vibrated mix of concrete of M 35 grade reinforced cement concrete using 43/53 grade Portland Slag Cement ( Conforming to IS 455 ) including the cost of steel centring and shuttering etc. with all leads, lifts and depths all complete. Item to include fixing of all types of structural steel inserts and bolts as per drawings and specification. Reinforcement shall be measured and paid separately as per item 3.10 | 146 | Cum | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the item includes | | | | | |
| | a) All initial layout and setting out work using total station survey and including identification and temporary supporting and protecting of existing services. | | | | | |
| | b) Excavation through all types of soils with stable slopes including removal of all obstructions like boulders, rocks, cement concrete structures etc. | | | | | |
| | c) Disposal of all spoils, dismantled materials, surplus earth for all leads and lifts, and to keep the work area neat and tidy during the work and thereafter. | | | | | |
| | d) Cost of Pumping / bailing out of water, including its labour, material and equipments including running charges and making coffer dams and approaches etc. in the supplimentary drain. Diversion of water in the drain and cost of dewatering during pile cap construction is all included in the scope. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | e) Cost of 100 mm thick bed concrete in M-15 grade cement concrete as per drawing under the pile cap and base slabs. Projection of 100 mm beyond the edge of pile caps / footing / foundation of starter retaining walls on all sides. | | | | | |
| | f) Cost of providing steel shuttering including its erection, dismantling and removal for all leads and lifts with all required tools and plants. | | | | | |
| | g) Providing and mixing all ingredients of cement concrete including admixtures if required etc. with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |
| | h) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | i) Cost of compacted backfilling with approved material around the pile cap / isolated footing. | | | | | |
| | j) Cost of maintenance and protection of existing services if any which in the option of Engineer - in - Charge are likely to be affected by any related activities including temporary shifting of such services to facilitate construction of pile cap / footings shall be included in the quoted rates. | | | | | |
| | k) All incidentals, labour, materials and testing, equipment and works required to execute and complete the job as per drawings and specifications. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| B) | Measurements shall be made for the finished volume of reinforced cement concrete (excluding bed concrete) only. Quantity of concrete of piles, which has gone into the pile caps shall not be deducted. Reinforcement shall be measured and paid separately under item No. 3.10 | | | | | |
| **B** | **Substructure** | | | | | |
| **6.3** | Providing and laying reinforced cement concrete for construction of piers, pier cap & bearing pedestal, wing wall etc.etc. with M 40 grade using 43/53 grade Portland Slag Cement, all complete including all types of steel shuttering, staging, scaffolding, form liner finish, testing of materials etc for casting pier in one stage, necessary tools, plants, machinery and all related operations as required to complete the work as per drawings and specifications with all leads, lifts and depths true to level and position. Reinforcement shall be measured and separately as per item 3.10 | | | | | |
| | i) M-40 grade cement concrete | 65 | Cum | | | |
| | NOTES: | | | | | |
| A) | The scope of work in this item includes | | | | | |
| | a) All incidental work required including providing, placement and removal of steel shuttering, staging, scaffolding and form liner etc for piers, pier cap, bearing pedestal, wing wall etc. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | b) Casting of piers as per approved mock up pattern etc. including providing and mixing all imgredients and admixtures etc. in weigh batching plant, transportation, placement, finishing and curing, which shall also involve preparation of surface, placing in position as per specification and the direction of the Engineer-in-Charge. | | | | | |
| | c) Disposal of all spoils and rubbish and to keep the work area neat and tidy during the work and thereafter. | | | | | |
| | d) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | e) All incidentals, labour, material and testing, equipment and works required to execute and complete the job as per specifications and as approved by Engineer-in-Charge. | | | | | |
| | f) Approval of the Mock up for the full height pier at designated location including surface patterns / grooves from the Engineer-in-Charge. Only the cost of one approved mock up of each type shall be payable as per relevant item of concrete and reinforcement. The approved mock up shall be protected from any damage during execution of the work at site. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **B)** | Measurement shall be made for the finished volume of concrete only. No deduction will be made for the volume occupied by any fixture provided in the pier etc. For form finish on the pier surface, the measurement for the concrete volume shall be based on concrete dimensions measured at outside surface of form finish i.e. without deduction of grooves. | | | | | |
| **C)** | Reinforcement shall be measurement and paid separately under item No. 3.10 | | | | | |
| **6.4** | Providing, transporting, placing in position and finishing M40 grade concrete in cast-in-situ deck slab in M-40 in Super-Structure as per drawing and technical specifications | 227 | Cum | | | |
| **A)** | The scope of work in these item includes | | | | | |
| | a) Add consumables such as binding wire, foam, packing tape, shuttering oil, Galvanised Shething duct for strand, bolt and nuts etc. | | | | | |
| | b) Provision of erection and dismantling of shuttering | | | | | |
| | c) Provision of concreting by batching plant and concrete pump, transit mixer all complete. | | | | | |
| | d) Provision of manual curing or application of curing compound as required where wet curing is not feasible all complete. | | | | | |
| | e) Providing and mixing all ingredients including admixtures etc with computerised Automatic batching plant, transportation, placement, finishing at all heights, lifts and lead etc. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | f) Providing and placing of steel formwork in position and its removal including cleaning, oiling and maintenance during pendency of work. | | | | | |
| | g) All steel formwork and it's staging etc to be used for span construction including erecting staging inside the drain whereever required, casting, curing of finished concrete etc. complete. | | | | | |
| | h) Providing and fixing of rain water spouts including all accessories as per drawings and as approved by the Engineer-in-Charge. All provisions to be kept in concrete for attaching the down pipe shall be provided during casting of concrete. The cost of the drainage spout shall be paid seperately as per item 6.6 | | | | | |
| | i) Providing and Fixing / embedding all necessary provisions like HDPE pipes 100 mm dia and conduits of electrical or other fixtures in railing upstand / crash barriers. | | | | | |
| | j) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | k) All incidentals, labour, material and testing, equipment and works required to execute and complete the job as per specifications and as approved by Engineer-in-Charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | l) Contractor shall also install Bearings and Expansion Joints wherever required in the bridge deck as per approved drawings and as per manufacturer specifications / directions of Engineer-in-Charge. Nothing extra shall be paid on account of any incidental expenditure / charge required for the fixing of Bearing and Expansion Joints. Cost of Bearings and expansion joints to be paid separately under item No 3.9 &3.11 respectively. The work include testing of girder & testing of material etc complete. | | | | | |
| | m) Casting of concrete projection along with deck slab and for supporting electric poles / signages including providing steel insert plates for fixing the same. Steel items shall be paid seperately | | | | | |
| | Measurement shall be made for the volume of finished concrete as per drawing. The reinforcement shall be measured and paid under item 3.10. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **6.5** | Providing and laying 25 mm thick mastic asphalt wearing course with paving grade bitumen meeting the requirements given in Table 500-29, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of 13.2 mm nominal size at the rate of 0.005 cum per 10 sqm and at an approximate spacing of 10 cm centre to centre in both directions, pressed into surface when the temprature of surfaces is not less then 100 deg.C, protruding 1 mm to 4 mm over mastic surface, all complete as per Clause 515. | 252 | Sqm | | | |
| **6.6** | Providing and fixing drainage spouts as per drawing and Technical specification Clause 2705 including downpipes as shown in drawings. | 12 | Nos | | | |
| **6.7** | Provision of precast Reinforced cement concrete railing with Cast-In-Situ posts at the edges of the footpaths and approaches to bridge structures constructed with M-30 grade concrete with TMT reinforcement conforming to IRC:21 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified.The reinforcement shall be measured and paid under item 3.10 | 72 | Rm | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the item includes | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | a) Providing and mixing cement concrete with all ingredients and admixtures etc. with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |
| | b) Providing shuttering, staging and scaffolding, including its modification, erection and removal in accordance with the provisions mentioned elsewhere in the tender documents. | | | | | |
| | c) All incidents, labour material and testing, equipment and works required to execute and complete the job. | | | | | |
| | d) Providing MS pipe and sleeve with approved paint and primers at the location of expansion joints(junction of bridge and approaches) as per drawings. | | | | | |
| | e) No deductions / extra shall be made on account of grooves, etc. | | | | | |
| | f) Fixing / embedding all necessary provisions like HDPE pipe (2 nos. 100 mm dia) and conduits of electrical or other fixtures in footpaths etc. | | | | | |
| | g) All arrangements needed to keep the reinforement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| **B)** | MEASUREMENTS: | | | | | |
| | The measurement shall be made for the finished length of reinforced cement concrete railing measured between outer posts. The reinforcement shall be measured and paid under item 3.10. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **6.8** | Providing and laying of a strip seal expansion joint including anchorage catering to a horizontal movement upto 75mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation. | 46 | Rm | | | |
| | The seal of the expansion joint shall be such as not to permit any dust collection at all times. Item to include all incidentals required to complete the job. | | | | | |
| | Fixing in position Strip Seal Expansion Joints as per Drawings and Specifications, Movement Capacity 75mm. | | | | | |
| | No plea regarding the number of manufacturers/suppliers being limited shall be entertained. | | | | | |
| **6.9** | Providing and laying M 35 grade reinforced cement concrete with 43/53 grade Ordinary Portland Cement in cast in-situ approach slab, friction slab including dirt wall including its supporting beam, column structure and footing etc. over the approaches, complete as per drawing with making all joints and their sealing, interlocking keys at regular intervals in the friction slab, testing of materials etc. Reinforcement shall be measured and paid separately as per item 3.10 | 12 | Cum | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the item includes | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | a) Providing and mixing cement concrete with all ingredients and admixtures etc. with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |
| | b) Providing steel shuttering, stagging, and scaffolding, including its modification if any, erection and removal in accordance with the provisions mentioned elsewhere in the tender documents. | | | | | |
| | c) All incidentals, labour, materials and testing, equipment and works required to execute and complete the job. | | | | | |
| | d) Cost 100 mm thick bed concrete in M 15 grade below approach slab and friction slab and at loacations as per drawings. | | | | | |
| | e) Fixing/embedding all necessary provisions like HDPE pipes 100mm dia and conduits of electrical or other fixtures in railing upstand / crash barriers. | | | | | |
| | f) All arrangement needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| **B)** | The measurements shall be made for the finished volume of concrete only. The reinforcement shall be measured and paid under item 3.10. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | **SH-VII : RETAINING WALLS & PROTECTIVE WORKS** | | | | | |
| **7.1** | Earth work in excavation by mechanical means (Hydraulic Excavator)/Manual means in foundation trenches ( not exceeding 1.5m in width or 10 sqm in plan) including dressing of sides and ramming of bottoms, lift up to 1.50m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m. | 8618 | Cum | | | |
| **7.2** | Providing and laying of PCC M 15 levelling course 100mm thick below foundation | 312 | Cum | | | |
| **7.3** | Providing and laying RCC in Retaining walls RMC / Machine Batched, machine vibrated mix of concrete of M 35 grade reinforced cement concrete using 43/53 grade Portland Slag Cement ( Conforming to IS 455 ) including the cost of steel centring and shuttering etc. with all leads, lifts and depths all complete. Item to include fixing of all types of structural steel inserts and bolts as per drawings and specification. Reinforcement shall be measured and paid separately as per item 3.10. | 2858 | Cum | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the item includes | | | | | |
| | a) All initial layout and setting out work using total station survey and including identification and temporary supporting and protecting of existing services. | | | | | |
| | b) Excavation to be paid seperately under Item No 7.1. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | c) Cost of Pumping / bailing out of water, including its labour, material and equipments including running charges and making coffer dams and approaches etc. in the supplimentary drain. Diversion of water in the drain and cost of dewatering during construction is all included in the scope. | | | | | |
| | d) Cost of 100 mm thick bed concrete in M-15 grade cement concrete as per drawing under the base slabs. Projection of 100 mm beyond the edge of footing / oundation of retaining walls on all sides (to be paid under item No. 7.2). | | | | | |
| | e) Cost of providing steel shuttering including its erection, dismantling and removal for all leads and lifts with all required tools and plants. | | | | | |
| | f) Providing and mixing all ingredients of cement concrete including admixtures with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |
| | h) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | i) Cost of compacted backfilling with approved material around the retaining wall. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | j) Cost of maintenance and protection of existing services if any which in the option of Engineer - in - Charge are likely to be affected by any related activities including temporary shifting of such services to facilitate construction of footings shall be included in the quoted rates. | | | | | |
| | k) All incidentals, labour, materials and testing, equipment and works required to execute and complete the job as per drawings and specifications. | | | | | |
| **B)** | Measurements shall be made for the finished volume of reinforced cement concrete only. Excavation, bed concrete & Reinforcement shall be measured and paid separately under item No. 7.1, 7.2 & 7.4. | | | | | |
| **7.4** | Providing and laying RCC in pile caps, open foundations for electrical poles, signages and any other foundations in M-35 grade reinforced cement concrete using Portland Slag Cement (conforming to strength requirement of IS: 8112) including the cost of steel centring and shuttering etc. with all leads, lifts and depths all complete. Item to include fixing of all types of structural steel inserts and bolts as per drawings and specification. Reinforcement shall be measured and paid separately as per item 3.10 | 2727 | Cum | | | |
| | NOTES | | | | | |
| **A)** | The scope of work in the item includes | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | a) All initial layout and setting out work using total station survey and including identification and temporary supporting and protecting of existing services. | | | | | |
| | b) Excavation through all types of soils with stable slopes including removal of all obstructions like boulders, rocks, cement concrete structures etc. | | | | | |
| | c) Disposal of all spoils, dismantled materials, surplus earth for all leads and lifts, and to keep the work area neat and tidy during the work and thereafter. | | | | | |
| | d) Cost of Pumping / bailing out of water, including its labour, material and equipments including running charges and making coffer dams and approaches etc. in the supplimentary drain. Diversion of water in the drain and cost of dewatering during pile cap construction is all included in the scope. | | | | | |
| | e) Cost of 100 mm thick bed concrete in M-15 grade cement concrete as per drawing under the pile cap and base slabs. Projection of 100 mm beyond the edge of pile caps / footing / foundation of starter retaining walls on all sides. | | | | | |
| | f) Cost of providing steel shuttering including its erection, dismantling and removal for all leads and lifts with all required tools and plants. | | | | | |
| | g) Providing and mixing all ingredients of cement concrete including admixtures etc. with weigh batching plant, transportation, placement, finishing and curing of concrete. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | h) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | i) Cost of compacted backfilling with approved material around the pile cap / isolated footing. | | | | | |
| | j) Cost of maintenance and protection of existing services if any which in the option of Engineer - in - Charge are likely to be affected by any related activities including temporary shifting of such services to facilitate construction of pile cap / footings shall be included in the quoted rates. | | | | | |
| | k) All incidentals, labour, materials and testing, equipment and works required to execute and complete the job as per drawings and specifications. | | | | | |
| **B)** | Measurements shall be made for the finished volume of reinforced cement concrete only. Quantity of concrete of piles, which has gone into the pile caps shall not be deducted. Reinforcement shall be measured and paid separately under item No. 3.10. | | | | | |
| **7.5** | Metal Beam Crash Barrier | | | | | |
| | Type - A, "W" : Metal Beam Crash Barrier | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810 | 346 | Rm | | | |
| **7.6** | Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and retaining wall to the full height compacted to a firm condition complete as per drawing and Technical Specification. | 2378 | Cum | | | |
| **7.7** | Providing weep holes in brick masonary/ Plain/reinforced concrete abutment, wing wall/ retaining wall with 75 mm dia PVC pipe working pressure 4kg/cm2, extending through the full width of the structure with slope of 1V : 20 H . Complete as per drawing and techinical specifications. | 698 | metre | | | |
| **7.8** | Supplying and filling of earth including levelling dressing etc. complete for all leads and lifts | 3283 | Cum | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **7.9** | Banking excavated earth in layers not exceeding 20cm in depth, breaking clods, watering, rolling each layer with 1/2 tonne roller, or wooden or steel rammers and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankents for roads flood banks, marginal banks, and guide banks etc. lead upto 50m and lift upto 1.50m in all kind of soil | 3283 | Cum | | | |
| | **SH-VIII : DRAINAGE WORKS & PROTECTIVE WORKS** | | | | | |
| **8.1** | Providing and placing in position M 30 grade Reinforced Cement concrete with Portland Slag Cement 43/53 grade (conforming to strength requirement of IS : 455) in RCC box drain(Type 1) such as foundations rafts, side walls, and roof slab, including precast RCC covers with holes for ventilation and edge projection angel etc. including all centering, shuttering etc. Item to include all incidental work required to execute and complete the job as per drawings and directions of Engineer-in-charge. Reinforcement shall be measured and paid separately as per item 3.10 | 472 | Cum | | | |
| | Scope of this item includes: | | | | | |
| | a) All initial layout and setting out work using total station survey and including identification and temporary shifting of existing services. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | b) Excavating with stable slope trenches of required width and depth for drainage in all kinds of soils including taking out excavated materials backfilling the soil in layers as per the specifications and disposing the spoils/mulba of the site for leads and lifts as per the directions of the Engineer-in-charge. | | | | | |
| | c) Providing and laying plain 100 mm thick M-15 cement concrete at bottom of drain with 100mm offsets beyond the walls of the drain including the cost of cetering and shuttering. | | | | | |
| | d) Making bell mouth opening/entrance of size 100x50x50cm for drainage pipe under footpath @15 m c/c including providing M-15 grade bed concrete for shape of bell mouth including plastering with cement mortar 1:3 ( 1 cement : 3 fine sand) of 6mm thickness on exposed surface of the bell mouth and neat cement punning inside the bell mouth etc. all complete. | | | | | |
| | e) Providing and fixing 100x50x5 cm size precast R.C.C. slab over bell mouth opening in RCC grade M20 reinforced with TMT bars including plastering with cement mortar 1:3( 1cement :3 fine sand) of 6mm thickness on exposed surfaced of the slab etc. all complete. | | | | | |
| | f) Supplying and fixing of 200 mm dia class NP2 RCC pipe @ 15 m c/c complete as per drawing. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | g) Providing and fixing precast RCC covers with holes for ventilation including edge protection angle for drain at location of manhole (at spacing of 7.5 m c/c) all complete as per drawing and approval of engineer-in-charge. Size & thickness of cover as per design. | | | | | |
| | h) Providing and fixing 16mm dia MS square bar with PVC coating foot steps for eccess to the floor of drain at location of precast covers. | | | | | |
| | (i) Supplying and embedding in concrete M30 450mm dia class NP3 RCC pipe @45m c/c laid under road as per drawing to discharge storm water into trunk drain | | | | | |
| | j) Identification, protection and maintenance of exsisting services, if any , which in the opinion of Engineer-in-charge are likely to be effected by construction of drain or any related activities including temporary shifting of such services to facilities construction of drain shall also have to be done. No extra cost will be admissible for the same. | | | | | |
| | k) All arrangements needed to keep the reinforcement bars in position with due cover blocks of approved quality and thickness. | | | | | |
| | B. The finished volume of M35 concrete drain shall only be measured. PCC shall not be measured for payment. The reinforcement shall be measured and paid under item 3.10. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **8.2** | Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line, level and curvature jointed with cement mortar 1:3 (1cement:3 Coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to morethan 5mm) including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment) (Precast CC kerb stone shall be approved by Engineer-in-charge) | 239 | Cum | | | |
| | **SH-IX : ROAD MARKING AND APPURTENANCES** | | | | | |
| **9.1** | Providing and applying 2.5 mm thick road marking strips (rectro-reflective) of specified shade/colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of materials, labour, T&P, cleaning the road surface of all dirts, scales, oil, greese, foreign materials, etc.complete as per direction of engineer -in -charge applicable specifications. The raw materials used for marking shall conform BS 3262 -1989 Part-1 & MORT&H specifications under section 800 clause 803. Item to include all incidental required to complete the job. | | | | | |
| | Lane/centre line/edge line/transverse marking and any other marking, continuous or broken including directional arrows, lettering etc. | 2185 | Sqm | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **9.2** | Making Footpath by providing and laying 60mm thick precast cement concrete interlocking paver blocks of M-30 grade cement concrete using Ordinary Portland Cement 43/53 grade, made by block making machine with strong vibratory compaction and of approved design/shape/colour laid in required pattern over and including 25mm thick compacted bed of course sand filling the joint with joint sealer containing jamuna sand with 10% admixture of marble stone powder complete as per direction of Engineer-in-Charge. This item include levelling course of 75mm thick M-15 and filling/compaction of earth as per drawing and direction of Engineer-in-Charge. Item to include all incidental, labour, materials, equipment and works required to execute the job. | 1,311 | Sqm | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| 9.3 | Manufacturing, supplying and fixing retro reflective sign boards made up of 2mm thick aluminium sheet, face to be fully covered with high intensity unmetallised microprismatic retro reflective sheeting conforming to type IV of ASTM -D-4956-01 in blue and white or other colour combination as approved by the Engineer-in-charge including subject matter, message (bi-lingual), symbols and boarders etc. as per IRC: 67-2001, pasted on substrate by pressure sensitive adhesive backing conforming to class I of ASTM -D-4956-01 and fixing the same with suitable sized aluminium alloy rivets and/or bolts & nuts to back support frame of M.S. angle iron of size 25x25x3 mm along with theft resistant measures, mounted and fixed with 2 Nos. M.S. angles of size 35x35x5 mm to a vertical post made up of M.S. Tee of section ISNT 50x50x6 mm welded with base plate of size of 100x100x6 mm at the bottom end and including making holes in pipes, angles, flats, providing & fixing M.S. message plate of required size wherever necessary. Steel works to be painted with approved shade, primer and paints as per specifications for steel structures | | | | | |
| | (Vertical post of M.S. Tee to be painted in black and white colours). Back side of aluminium sheet to be painted with two or more coats of epoxy paint including appropriate priming coat including all leads and lifts etc. complete as per drawing, specifications and directions of Engineer-in-charge. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | **(a) Informatory signs on single or double posts** | | | | | |
| | (i) Direction signs 1200x700mm | 12 | Nos | | | |
| | (ii) Advance direction/destination 1500x900 | 12 | Nos | | | |
| | (iii) Place identification sign 400x600mm | 12 | Nos | | | |
| | **(b) Mandatory** | | | | | |
| | (i) Octagonal 900mm height for "STOP' | 12 | Nos | | | |
| | (ii) Circular 600mm diameter(No parking/No stopping sign) | 16 | Nos | | | |
| | (iii) Speed limit | 12 | Nos | | | |
| | **(c) Cautionary signs, Triangular 900mm side** | | | | | |
| | (i) Merging traffic ahead | 6 | Nos | | | |
| | A) The scope of work in the item includes: | | | | | |
| | a) The item includes the cost of all operations involved to complete the job as given under Section 801 of Specifications for Road and Bridge Works(Fourth Revision) 2001 including the cost of arrangement of all material, machinery, tools & plants, manpower of all categories, earthwork and foundations in M 30 grade as per drawings and the directions of the engineer-in-charge. | | | | | |
| | b) The item includes the cost of testing of all materials involved in the execution of the item as per the requirement given in Section 900 of Specifications for Road and Bridge works(Fouth Revision) 2001 and QAP mentioned elsewhere in the tender document. | | | | | |
| | c) The item includes all other incidental expenditures for completing the job as per the directions of the engineer-in-charge. | | | | | |
| | B) Mode of Measurement: | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | Measurement for payment shall be made for finished item on the basis of number of items counted. | | | | | |
| 9.4 | Manufacturing, supplying and fixing retro reflective overhead signage boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity unmetallised microprismatic retro reflective sheeting conforming to type IV of ASTM -D-4956-01, in blue and white colour combination i.e. subject matter, messages (bilingual), arrows, symbols etc. as per IRC: 67-2001 in silver white with blue colour background or any other colour combination as approved, pasted on substrate by pressure sensitive adhesive backing conforming to class I of ASTM-D-4956-01 and fixing the same to the plate of structural frame work by means of suitable sized aluminium alloy rivets and/or bolts & nuts @ 300 mm centre to centre all along the periphery as well as in two vertical rows alongwith theft resistant measures including the cost painting with two or more coats of epoxy paint in grey colour on the back side of aluminium sheet including appropriate priming coat. The rate includes the cost of rounding off the corners, fixing and erecting the same in position, all complete as per drawings specifications and directions of engineer-in-charge. | | | | | |
| | a) Retro-refletorised type sign boards. | 90 | sqm. | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| 9.5 | Providing and fixing approved quality retro-reflectorised road delineators, reflectors, object Markers, hazard Makers including all incidentals complete as per drawing and Technical Specification section 805 of MORT&H (4th Revision) | | | | | |
| | a) Delineator of orange coloured retro-reflective sheet fixed on vertical face of G.I. Pipe posts of 65 mm dia x 0.7 m height above finished level installed as per drawing and instructions of Engineer-in-charge including installation complete. | 60 | Each | | | |
| 9.6 | Providing and fabricating structural steel work welded and bolted up sections using large diameter steel pipe(heavy duty MS pipes) ,MS flats ,Holding down bolts, nuts and washers for overhead signage structure etc. including cutting, hoisting fixing in position and applying approved primer and finishing paints approved quality as per specifications and Instructions of Engineer-in-charge. Item to exclude earthwork, PCC ,reinforcement bars, RCC M-35 in foundation etc. and all material ,labour ,plants and equipments, incidental works and all complete as per drawing and Technical Specifications,(clause 802 and as per IRC : 67-2001 ) and directions of Engineer-in-charge. Item to also includes providing and laying 25 mm thick (average) free flow high strength non-shrink cementitious grout like conbextra-GP2 or approved equivalent below the base plate. | | | | | |
| | (a)Overhead signages of upto 18 m span length , 4.0 m cantilever arm signages etc. | 6520 | kg | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | A) The slope of work in the item includes : | | | | | |
| | a) The item includes the cost of all operations involved to complete the job as given under Section 802 of Specifications for Road and Bridge Works(Fourth Revision) 2001 including the cost of arrangement of all material , machinery ,Tools and plants, manpower of all categories as per the directions of Engineer-in-charge. | | | | | |
| | b) The item includes the cost of testing of all material involved in the execution of the item as per the requirement given in section 900 of Specifications for Road and Bridge Works (Fourth Revision) 2001 and QAP mentioned elsewhere in the tender document. | | | | | |
| | c) The item includes all other incidental expenditures for completing the job as per the directions of the Engineer-in-charge. | | | | | |
| | B) Mode of Measurement : | | | | | |
| | Measurement for payment shall be made for total weight of steel structure including base plate and bolts etc. as per approved shop drawing in metric tones. | | | | | |
| 9.7 | Supplying and fixing Solar Cat Eyes on wearing coat and other road surfaces complete as directed by the Engineer-In-Charge. | 2000 | Nos. | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | **SH- X : MISCELLANEOUS ITEMS** | | | | | |
| **10.1** | Earth work in excavation by mechanical means (Hydraulic Excavator)/Manual means in foundation trenches ( not exceeding 1.5m in width or 10 sqm in plan) in all kind of soil including dressing of sides and ramming of bottoms ,lift up to 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed with all leads & lifts. a lead of 50m. | 100 | Cum | | | |
| **10.2** | Backfilling behind abutment, wing wall and return wall complete as per drawing and Technical specifications as per Clause 710.1.4 of IRC:78 & 2200 of MORT&H Specifications (2001) all complete as directed by the Engineer-In-Charge. | 100 | Cum | | | |
| **10.3** | Brickwork with F.P.S bricks of class designation 75 in superstruture in foundation , substructure and superstructure in cement mortar 1:4 (1 cement: 4 coarse sand) - DSR Item 6.4. | 100 | Cum | | | |
| **10.4** | Pointing with cement mortar (1:4 ) on brick work in substructure as per Technical Specifications | 100 | Sqm | | | |
| **10.5** | Painting two coats new concrete surfaces with paints of approved brand and shade after filling the surface with synthetic enamel paint as per MORTH specification 803 and the directions of Engineer-in-Charge. | 100 | Sqm | | | |
| **10.6** | Providing and laying S&S class NP-4 R.C.C pipes of 450mm dia jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 Cement : 2 fine sand) including testing of joints etc. complete. | 100 | Rm | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **10.7** | (a) 12mm thick cement plaster of mix 1:4 (1cement:4 coarse sand) | 100 | Sqm | | | |
| | (b) 15mm thick cement plaster of mix 1:4 (1cement:4 coarse sand) | 100 | Sqm | | | |
| | **SH- XI : HORTICULTURE** | | | | | |
| **11.1** | Dismantling of pavement for preparing ground for developing green area | 3500 | Sqm | | | |
| **11.2** | Prepare the surface for land scaping works with following activities<br>(a) surface dressing of the ground i/c removing vegetation and inequalities not exceeding 15cm deep and disposal of rubbish lead upto 50m and lift upto 1.50m in all kind of soil | 7000 | 100Sqm | | | |
| **11.3** | Ploughing the existing ground upto a depth of 15cm to 25cm and watering the same. | 7000 | 100Sqm | | | |
| **11.4** | Rough dressing the ploughed ground i/c breaking clods | 7000 | 100Sqm | | | |
| **11.5** | Removal of malba by mechnical transport i/c loading unloading stacking lead upto 10 Kms and lift upto 1.50m | 350 | Cum | | | |
| **11.6** | Supplying & stacking of good earth at site by mechnical transport i/c loading unloading royalty and carriage with all leads and lifts (good earth measured in stacked will be reduced 20% for payment) | 780 | Cum | | | |
| **11.7** | Supplying and stacking of cowdung manure at site by mechnical transport i/c loading, unloading, royalty and carriage with all lead and lifts(cowdung manure measured in stacks will be reduced 8% for payment) | 350 | Cum | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **11.8** | Spreading of good earth and cow dung manure at site in required thickness(cost of good earth and cow dung manure to be paid separately) | 350 | Cum | | | |
| **11.9** | Fine dressing the ploughed ground | 6500 | 100Sqm | | | |
| **11.10** | Preparation of beds for hedging and shrubby by excavating 60cm deep and trenching the excavated base to a further depth of 30cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1(8 parts of stacked volume of cow dung manure after reduction by 8% and 1 part of stacked earth after deduction of 20% voids), flooding with water, filling with earth if necessary watering and finally fine dressing, levelling etc. i/c stacking and disposal of material declared unserviceable and surplus earth by spreading and levelling as directed within lead of 50m lift upto 1.5m complete(cost of sludge or extra good earth to be paid separately) | 160 | Cum | | | |
| **11.11** | Digging of holes in ordinary soil and refilling the same with the excavated earth mixed with manure and sludge in the ratio of 2:1(2 part of stacked volume of earth after reduction by 20% and 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing i/c removal of rubish and surplus earth if any with all lead and lift(cost of manure/sludge or extra good earth to be paid separately) | 90 | each | | | |
| **11.12** | Supply of selection No. 1 grass at site(one sqm. rotted grass will be planted in 10sqm. area) | 1300 | Sqm. | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **11.13** | Grassing with selection No.1 grass i/c watering and maintenance of lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for moving i/c supplying of good earth if needed(good earth shall be paid separately) in row 5cm about in either direction | 6500 | 100Sqm. | | | |
| **11.14** | Supply of shrubby/hedges plants like clerodendron/murrya 1' to 1.5' ht. in plastic bags at site | 890 | each | | | |
| **11.15** | Supply of flowering shrubs for shrubby like allamanda, narium 1' to 1.5' ht. in plastic bags at site | 780 | each | | | |
| **11.16** | Supply of fercaria speices 1' ht. in plastic bags at site | 20 | each | | | |
| **11.17** | Supply of ficos speices plant 6'-7' ht. in pots at site | 40 | each | | | |
| **11.18** | Supply of tabubea roses2'-3' ht. in plastic bags at site | 5 | each | | | |
| **11.19** | Supply of spathoodia sp plant 2'- 3' ht. in plastic bags at site | 12 | each | | | |
| **11.20** | Supply of travellers palm plant 2' to 3' ht. in pots at site | 3 | each | | | |
| **11.21** | Supply of shade trees 4' to 5' ht. in plastic bags | 10 | each | | | |
| **11.22** | P/F circular tree guard of 40cm intedia with overall height 1.82m i/c bent framed with threee numbers vertical MS angle iron size 25x25x3mm having 7.50cm bent at the bottom welded full length at all meeting points with three numbers MS circular rings made of 25x3 i/c and welding and fixing with steel points with MS flat i/c painting with two coats synthetic enamel paint over a coat of red oxide primer of approved brand and manufacture etc. complete as per drawings and direction of Engineer-in-harge. | 70 | each | | | |
| **11.23** | Plantation of tree and shrub plants | 75 | each | | | |
| **11.24** | Plantation of hedge plants | 1500 | each | | | |
| **11.25** | Supply of insecticide / pesticide at site | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (i) for lawn 10 litre for 1 acre lawn (6000/4047(10))=14.83 | 25 | litre | | | |
| | **SH- XII: SUBWAY** | | | | | |
| **12.1** | Reinforced cement concrete M-35 grade including centering & shuttering but excluding the cost of reinforcement, all complete as per drawings and Technical Specification Sections 1500 & 1700. | 750 | Cum | | | |
| | Notes | | | | | |
| **(A)** | The scope of work in the item include | | | | | |
| | a) All initial layout and setting out work using total station survey & including identification & temporary supporting and protecting of Existing services. | | | | | |
| | b) Excavation through all type of soil with stable slopes including removal of obstructions like boulder, rocks, cement concrete structures etc. | | | | | |
| | c) Disposal of all soils, dismantled materials, surplus earth for all lead and lifts, and to keep the work area neat and tidy during the work and there after. | | | | | |
| | d) Cost of 100 mm thick bed concrete in M-15 grade cement concrete as per drawing under Subway ( Base slab of underpass, below staircas & sump) | | | | | |
| | e) cost of providing steel shuttering including its erection , dismantling and removal for all leads & lifts with all required tool & plants. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | f) Cost of compacted backfilling with approved material around subway ( Underpass, Staircase & sumps). | | | | | |
| | | | | | | |
| **12.2** | Providing and placing in position at all depth & height Grade 500, TMT reinforced bars including cutting, straighteining, binding with GI binding wire of 15 SWG Testing of material complete as per detailed drawing & specification. | 97 | MT | | | |
| | | | | | | |
| | | | | | | |
| **12.3** | Providing and laying of filter media with granular material/stone crushed aggregates satisfying the requiremments laid down in clause 2504.2.2 of MORT&H specification to a thickness of not less than 600 mm. | 380 | Cum | | | |
| | | | | | | |
| | | | | | | |
| **12.4** | Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of subway as per DSR Item no. 22.7. | 740 | Sqm | | | |
| | | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **12.5** | Providing and laying I$^{st}$ quality Ceramic Glazed wall Tiles confirming to IS 15622 of approved make and shades and of size as approved by Engineer-in-charge laid over 12 mm thick bed of cement sand Mortar (1:3) and jointing with grey cement slury @ 3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete as per Item 11.36 of DSR. | 340 | Sqm | | | |
| | | | | | | |
| **12.6** | 25 mm thick Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing complete with base of cement mortar 1:4 (1 cement : 4 Coarse Sand) as per DSR ITEM No. 11.26 | 190 | Sqm | | | |
| | | | | | | |
| **12.7** | Brick work with FPS bricks of class designation 75 in Foundation, Substructure and Superstructure in cement mortar 1:4 ( 1 cement :4 Coarse sand)- DSR item 6.4. | 17 | Cum | | | |
| | | | | | | |
| **12.8** | 12 mm thick Cement Plaster of 1:4 ratio ( 1 Cement : 4 Fine Sand) on Brick massonary as per DSR item No. 13.1 | 138 | Sqm | | | |
| | | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **12.9** | Painting two coats of new concrete surfaces with synthetic enamel paint of approved branded shade after filling the surface as per MORT&H specification 803 and the direction of Engineer-in-Charge. | 177 | Sqm | | | |
| | | | | | | |
| **12.10** | Providing and fixing at all height 12.5 mm thick tapered edge gusum board confirming to IS 2095-Part-I false ceiling (including providing and fixing frame work ) as per DSR Item 12.45 | 115 | Sqm | | | |
| | | | | | | |
| **12.11** | Construction of sub grade by loosening of the ground up to a level of 500 mm below the subgrade level, graded and compacted in layers to meet requiremnt of MORT&H specification (table 300-2 )for subgrade construction. | 348 | Cum | | | |
| | | | | | | |
| **12.12** | Providing & Laying, spreading and compacting specified graded sand, stone aggregate or any other coarse material as per MORT&H specifications (Table 400-1) gradation - III and I of CBR value not less than 20 in lower granular sub-base course 150 mm thick | 95 | Cum | | | |
| | Scope of work in item includes. | | | | | |
| | (i) The item includes the preparation of subbase by laying of 2 layer of granular sub base material 150 mm thick each. | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (ii) The item includes the cost of all operation involved to complete the job as per MORT&H specification including the cost of arrangement of all material, machinery, tools & plants, manpower etc. complete as per directed by Engineer - In-Charge. | | | | | |
| | (iii) The item includes the cost of testing of all materials as per requirement of Section 900 of MORT&H specification. | | | | | |
| | (iv) The item includes all other incidental expenditure of completing the job as per directed by Engineer - In-Charge. | | | | | |
| | **Mode of Payment:** Measurement for Payment shall be made for finished item on volume basis in Cum, being calculated by taking levels before laying lower GSB & after finishing the top of upper GSB layer. | | | | | |
| | | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **12.13** | Providing, laying spreading ( With paver finisher only ) and compacting wet mix macadam (WMM) base course (250 mm thick) comprising of graded stone agregate and granular material confirming to MORT&H specifications (Table 400-II) under section 406 of two lyers of equal compacted thickness of 125mm each consolidated including pre mixing the material with water to OMC in mechanical layers in base course course on a well prepared sub-base/base course and compacting with power vibratory roller to acheive the desired density including all materials, machinery, etc. complete as per clause 406 of MORT&H specifications. Measurement of WMM course shall be calculated by taking cross-section level in cubic meter. | 158 | Cum | | | |
| | **Scope of work** | | | | | |
| | (i) The item includes the cost of all operations involved to complete the job as given under section 406 of MORT&H Specification 2001 including the cost of material, machinery, tools & plants, Manpower, cost of testing of material and design mix as per Table 900-3 of MORT&H specification. | | | | | |
| | **Mode of Payment:** Measurement for Payment shall be made for finished item on volume basis in Cum, by taking levels before laying and after laying of WMM layer. | | | | | |
| | | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| **12.14** | Providing and laying 75 mm thick dense graded bituminous macadam using crushed aggregate of specified grading, premixed, with bituminous binder @ 5.0 % by weight of total mix and lime filler @ 2% transporting the hot mix to work site, laying with a hydros | 47 | Cum | | | |
| | **Scope of work** | | | | | |
| | (i) The item includes the cost of testing of all materials & Machinery etc. involved to complete the job as per clause 507 & section of MORT&H Specification. | | | | | |
| | (ii) The item includes to submission of job mix formula & get it approved from Engineer - In - Charge. | | | | | |
| | **Mode of Payment:** Measurement for Payment shall be made for finished item on volume basis in Cum, Volume being computed by taking levels before & after laying of DBM. | | | | | |
| | | | | | | |
| **12.15** | Providing & laying 50 mm Bituminous Concrete as per Table - 500-18 of MORT&H ) Grading I wearing course using modified Bitumen with SBS, PMB-40 grade as approved by the Engineer complying with IRC SP:53- 2002 and IS 15462-200 | 27 | Cum | | | |
| | Scope of work | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| | (i) The item includes the cost of all operation involved to complete the job as given in section 503, 512 & 900 of MORT&H specifications. | | | | | |
| | (ii) The item includes the submission of Job Mix Formula and get it approved from Engineer - in - Charge. | | | | | |
| | (iii) The item includes the cost of testing of all materials. | | | | | |
| | (iv) The item includes all other incidental expenditure of completing the job as per directed by Engineer - In-Charge. | | | | | |
| | **Mode of Payment:** Measurement for Payment shall be made for finished item on volume basis in Cum, being calculated by taking levels before & after laying of BC. | | | | | |
| | | | | | | |

| SL. No. | Sub Heads and Description of items | Quantity | Unit | Rate ( Rs.) | Amount (Rs) | |
|---|---|---|---|---|---|---|
| | | | | | In Figures | In words |
| 12.16 | Providing & laying 25 mm thick mastic asphalt wearing course with paving grade bitumen meeting the requirement given in table 500-29, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing anti-skid surface with bitumen pre coated fine grained hard stone chipping of 13.2mm nominal size @0.005Cum. per 10 Sqm. and at an approximate spacing of 10cm centre to centre in both directions, pressed into when the temperature of the surface is not less than 100 degree celcius, protuding 1mm to 4mm over mastic surface all complete as per clause 515 of MORT&H specifications. | | | | | |
| | | 546 | Sqm | | | |
| | | | | | | |
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| | | | | | | |
| | | **GRAND TOTAL** | | | | |