Chapter 1 - LOADING, UNLOADING, CARRIAGE & SETTING OUT

Item No.	Description	Unit	Rate (Rs.)
1.1	Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work etc.		
	(i) Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work etc. including a lead upto 30m	cum	**38.00**
	(ii) Loading of Earth, Sand, Moorum, Manure, Flyash etc. including a lead upto 30 m.	cum	**20.00**
	(iii) Unloading of Earth, Sand, Lime, Moorum, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Manure, Crushed Slag, Flyash, Stone for Masonry Work etc.	cum	**8.00**
1.2	Loading and Unloading of Structural Steel and Steel Bars		
	(i) Loading of Structural Steel, Steel Bars by manual means including a lead upto 30 m	t	**133.00**
	(ii) Unloading of Structural Steel, Steel Bars including a lead upto 30 m	t	**133.00**
1.3	Loading and Unloading of Bitumen Drums		
	(i) Loading of Bitumen Drums including a lead upto 30 m	t	**143.00**
	(ii) Unloading of Bitumen Drums including a lead upto 30 m	t	**129.00**
1.4	Loading and Unloading of Hume Pipes		
	(i) Loading of RCC Hume pipes etc. including a lead upto 50 m		
	A. 1000 / 1200 mm dia Hume pipe	per pipe	**81.00**
	B. 700/800/900 mm dia Hume pipe	per pipe	**49.00**
	C. 600/500/450 mm dia Hume pipe	per pipe	**35.00**
	(ii) Unloading of RCC Hume pipes including a lead upto 50 m		
	A. 1000/1200 mm dia Hume pipe	per pipe	**57.00**
	B. 700/800/900 mm dia Hume pipe	per pipe	**34.00**
	C. 600/500/450 mm dia Hume pipe	per pipe	**24.00**
1.5	Haulage excluding Loading & Unloading up to 10 km		
	Haulage of materials by tipper excluding cost of loading, unloading and stacking.		
	Case-I : Surfaced Road	t.km	**4.00**
	Case-II: Unsurfaced Gravel Road	t.km	**5.00**
1.6	Setting out work completed with construction of reference benchmark/working benchmark (minimum 5per Km), made of concrete M-10 of size 575x575x450mm with a base of size 900x900x100mm including white washing, marking of chainage, Levels etc.(As per drawing Annex-**I**) and reference pillars made of cut stone having minimun thickness 65 mm / precast concrete poles/concrete (M-10) filled AC pipes @ 100 m interval embaded in concrete base of M-10 of size 300x300x750mm on both sides of the formation width, marking on centre line setting out curves and recording of central line levels and other required levels and distances etc. including setting out of Cross Drainage structures with required reference pillers and marking etc. as directed by Engineer-in-Charge. The setting out work will be maintaind by the contractor till the completion of work. (This item will be mesured and billed as follows after setting out is completed)		
	A. Reference benchmark/working benchmark (As per drawing annex-**I**)	Per no	**1,051.00**
	B. Reference piller (As per drawing annex-**I**)	Per no	**620.00**

Chapter 2 - SITE CLEARANCE

Item No.	Description	Unit	Rate (Rs.)
2.1	Clearing Grass and Removal of Rubbish		
	Clearing grass and removal of rubbish up to a distance of 30 m outside the periphery of the area as per Technical Specification Clause 201.	hectare	**14,132.00**
2.2	Clearing and Grubbing Road Land		
	Clearing and grubbing road land including uprooting wild vegetation, grass, bushes, shrubs, saplings and trees of girth upto 300 mm, removal of stumps of such trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150 mm in thickness as per Technical Specification Clause 201.		
	(A) In area of non-thorny jungle	hectare	**27,280.00**
	(B) In area of thorny jungle	hectare	**33,286.00**
2.3	Cutting of Trees including Cutting of Trunks, Branches and Removal of Stumps		
	Cutting of trees, including cutting of trunks, branches and removal of stumps & roots, refilling, compaction of backfilling and stacking of serviceable material by manual means with all lifts as per Technical Specification Clause 201.		
	(i) Girth above 300 mm to 600 mm	each	**241.00**
	(ii) Girth above 600 mm to 900 mm	each	**406.00**
	(iii) Girth above 900 mm to 1800 mm	each	**824.00**
	(iv) Girth above 1800 mm to 2700 mm	each	**1,590.00**
	(v) Girth above 2700 mm to 4500 mm	each	**3,246.00**
	(vi) Girth above 4500 mm	each	**9,672.00**
2.4	Uprooting and Removing Stumps & Roots		
	Lead upto 1000 m		
	(i) Girth above 300 mm to 600 mm	each	**152.00**
	(ii) Girth above 600 mm to 900 mm	each	**243.00**
	(iii) Girth above 900 mm to 1800 mm	each	**512.00**
	(iv) Girth above 1800 mm to 2700 mm	each	**1,004.00**
	(v) Girth above 2700 mm to 4500 mm	each	**2,008.00**
	(vi) Girth above 4500 mm	each	**5,719.00**

Chapter 2 - SITE CLEARANCE

Item No.	Description	Unit	Rate (Rs.)
2.5	Dismantling of Structures		
	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of cement concrete including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 m as per Technical Specification Clause 202.		
	(A) Lime Concrete	cum	**373.00**
	(B) Cement Concrete	cum	**444.00**
	(C) Reinforced Cement Concrete	cum	**1,170.00**
2.6	Dismantling Brick/Stone Masonry, stone pitching		
	Dismantling of existing structures like culverts, bridges, retaining walls and other structures comprising of brick/stone masonry, including disposal of unserviceable material and stacking the serviceable material with all lift and lead of 1000 m as per Technical Specification Clause 202.		
	a) Brick masonary		
	i) Lime mortar	cum	**232.00**
	ii) Cement Mortar	cum	**303.00**
	b) Stone masonary		
	i) Lime mortar	cum	**200.00**
	ii) Cement Mortar	cum	**243.00**
	c) Stone Pitching	cum	**144.00**
2.7	Removing all types of Hume pipes and stacking including Earthwork and Dismantling of Masonry Works as per Technical Specification Clause 202.		
	(A) Upto 600 mm dia Hume pipe	m	**183.00**
	(B) Above 600 mm to 900 mm dia Hume pipe	m	**248.00**
	(C) Above 900 mm dia Hume pipe	m	**425.00**
2.8	Dismantling of Flexible Pavements		
	Dismantling of flexible pavements and disposal of dismantled materials stacking serviceable and unserviceable materials separately as per Technical Specification Clause 202		
	Bituminous Courses	cum	**272.00**
2.9	Removal of Telephone/Electric Poles and Lines		
	Removal of telephone/electric poles with wires including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and upto a lead of 1000 m and stacking the serviceable and unserviceable material separately as per Technical Specification Clause 202.	Each	**1,043.00**

Chapter 3-EARTHWORK, EROSION CONTROL AND DRAINAGE

Item No.	Description	Unit	Rate (Rs.)
3.1	Scarifying Existing Bituminous/Granular Surface to a Depth of 150 mm		
	Scarifying the existing Bituminous/Granular road surface to a depth of 150 mm and disposal of scarified material as directed by Engineer-in-Charge with a lift upto 3 m as per Technical Specification Clause 301.3.	sqm	**7.00**
3.1 A	**Scarifying Existing Bituminous Surface to a Depth of 50 mm**		
	Scarifying the existing Bituminous road surface up to a depth of 50 mm and disposal of scarified material as directed by Engineer-in-Charge with a lift upto 3 m as per Technical Specification Clause 301.3.	sqm	**4.00**
3.2	Construction of Embankment with Material Obtained from Roadway Cutting		
	A. Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures or from borrow area graded by motor grader and compacted by using vibratory rollers of 80 to 100 kN static weight to meet requirement of Tables 300.1 and 300.2 as per Technical Specification Clauses 301.3 & 301.5 including, watering rolling etc complete.	cum	**76.00**
	B. Deduct if static roller is used in place of vibratory rollers.	cum	**6.00**
	C. Deduct if motor grader is not used.	cum	**7.00**
	D. Deduct if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**4.00**
3.3	Construction of Embankment, subgrade & earthen shoulders with Material Obtained from Borrow Pits		
	A. Construction of embankment, subgrade & earthen shoulders with approved material (Select soil having CBR > 7) obtained from borrow pits i/c all leads and lift and removal of top soil if any, including cost of land as a source of material, transporting to site, spreading, graded by motor grader to required slope and compacting using vibratory rollers of 80 to 100 kN static weight to meet requirement of Tables 300.1 and 300.2 including all leads, etc. as per Technical Specification Clauses 301.3, 301.5, and 303.	cum	**186.00**
	Note : If Select Soil (CBR > 7) is available within a lead of 250 meters , rate of Item 3.3 (B) will be payable.		
	B. Construction of embankment, subgrade & earthen shoulders with approved material obtained from borrow pits i/c all leads and lift and removal of top soil if any, including cost of land as a source of material, transporting to site, spreading, graded by motor grader to required slope and compacting using vibratory rollers of 80 to 100 kN static weight to meet requirement of Tables 300.1 and 300.2 including all leads, as per Technical Specification Clauses 301.3, 301.5, and 303.	cum	**154.00**
	C. Deduct from item A or B if static roller is used in place of vibratory rollers.	cum	**6.00**
	D. Deduct from item A or B if motor grader is not used.	cum	**7.00**
	E. Deduct from item A or B if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**4.00**
3.4	Excavation, Carting i/c Removal of Soil with Disposal upto 1000 m		
	Excavation of embankment, sub-grade and drain consisting of excavation, removal and satisfactory disposal of all excavated materials including hauling to sides of embankment and subgrade construction as also the disposal of materials in specified manner and the trimming and finishing of the road to the specified dimensions i/c all lifts, lead upto 1000 meters including dewatering, shaping and excavation in marsh and complete disposal of all muck as per clause 302. for all types of soil i/c moorum gravel etc. as directed by the Engineer-in-charge	cum	**44.00**

Chapter 3-EARTHWORK, EROSION CONTROL AND DRAINAGE

Item No.		Description	Unit	Rate (Rs.)
3.5	(i)	Excavation in ordinary Rock		
		Excavation in ordinary rock including loading in a truck and carrying of excavated material to embankment site with all lift and lead upto 1000 m as per Technical Specification Clause 302.3.5.	cum	**206.00**
3.6	(i)	Excavation in Hard Rock (requiring blasting) with disposal upto 1000 m Excavation for roadway in hard rock (requiring blasting) by drilling, blasting and breaking, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross-sections, loading and disposal of cut rock with all lift and leads upto 1000 m as per Technical Specification Clause 302.3.5 & 304	cum	**216.00**
	(ii)	Excavation in Hard Rock (blasting prohibited)		
		Excavation for roadway in hard rock (blasting prohibited) with rock breakers including breaking rock, loading in tippers and disposal with all lift and lead upto 1000 metres, trimming bottom and side slopes in accordance with requirements of lines, grades and cross- sections as per Technical Specification Clause 302.3.5		
		(To be executed with prior permission of CGM)	cum	**336.00**
3.7		Turfing with Sods		
		Furnishing and laying of the live sods of perenial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the Engineer including preparation of ground, fetching of sods and watering as per Technical Specification Clause 309. (This item will be executed with prior written permission of CGM)	sqm	**113.00**
3.8		Compacting Original Ground		
	(i)	Compacting original ground supporting embankment		
		Loosening, Levelling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Tables 300.1 and 300.2 for embankment construction as per Technical Specification Clause 301.5.4. (To be executed with prior written permision of CGM)	cum	**22.00**
3.9		Construction of Embankment with Flyash/Pond ash available from Coal or Lignite Burning Thermal Plants as Waste Material		
		Construction of embankment with flyash conforming to Table 1 of IRC:SP:58 obtained from coal or lignite burning thermal power stations as waste material, spread and compacted in layer of 200 mm thickness each at OMC by using motor grader & vibratory roller, all as specified in IRC:SP:58 and as per approved plans with lead upto 1000 m as per Technical Specification Clause 306.	cum	**165.00**
	A.	Deduct if static roller is used in place of vibratory rollers.	cum	**6.00**
	B.	Deduct if motor grader is not used.	cum	**7.00**
	C	Deduct if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**4.00**

Chapter 4 - GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Item No.	Description	Unit	Rate (Rs.)
4.1	Granular Sub-base with Well Graded Material (CBR 20 or more) (Table 400.1)		
	Construction of granular sub-base by providing well graded material having CBR >= 20, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory rollers of 80 to 100 kN static weight to achieve the desired density, complete as per Technical Specification Clause 401 for gradings mentioned in table 400.1		
	(A) Crushed stone materials	cum	**999.00**
	(B) River Borne Materials	cum	**704.00**
	(C) Deduct from item A or B if static roller is used in place of vibratory rollers	cum	**7.00**
	(D) Deduct from item A or B if motor grader is not used.	cum	**29.00**
	(E) Deduct from item A or B if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**14.00**
4.2	Lime Stabilisation for Improving Subgrade		
	Providing, laying and spreading available soil in the subgrade on a prepared surface, pulverising, mixing the spread soil in place with rotavator with 2 per cent slaked lime having minimum 70 per cent of contents of CaO, grading with motor grader and compacting with the smooth wheel road roller at OMC to the desired density to form a layer of improved Sub-grade as per Technical Specification Cluase 403.	cum	**373.00**
	(A) Deduct from item if motor grader is not used.	cum	**29.00**
	(B) Deduct if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**14.00**
4.3	Lime Treated Soil for Sub-Base		
	Providing, laying and spreading soil on a prepared sub-grade, pulverising, mixing the spread soil in place with rotavator with 4 per cent slaked lime with minimum content of 70 per cent of CaO, to achieve CBR value > 20, grading with motor grader and compacting with the road roller at OMC to achieve atleast 98 per cent of the max dry density to form a layer of sub-base as per Technical Specification Clause 403.	cum	**689.00**
	(A) Deduct from item if motor grader is not used.	cum	**29.00**
	(B) Deduct if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**15.00**
4.4	Cement Treated Soil Sub-Base/Base		
	Providing, laying and spreading soil on a prepared sub-grade, pulverising, adding the designed quantity of cement to the spread soil, mixing in place with rotavator, grading with the motor grader and compacting with the road roller at OMC to achieve the desired unconfined compressive strength and to form a layer of sub-base/base as per Technical Specification Clause 404.		
	For 4 per cent quantity of cement by weight of soil	cum	**588.00**
	(A) Deduct from item if motor grader is not used.	cum	**29.00**
	(B) Deduct if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**15.00**

Chapter 4 - GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Item No.	Description	Unit	Rate (Rs.)
4.5	Water Bound Macadam Sub-base/base with stone screening		
	1) WBM Grading 1 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, stone screening / binding materials to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 1 as per Technical Specification Clause 405.	cum	**1,487.00**
	2) WBM Grading 2 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fill-up the interstices of coarse aggregate, watering and compacting to the required density grading 2 as per Technical Specification Clause 405.	cum	**1,665.00**
	3) WBM Grading 3 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening/binding material to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.	cum	**1,722.00**
4.6	Water Bound Macadam with Crushable Screenings		
	1) WBM Grading 1 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 1 as per Technical Specification Clause 405.	cum	**1,327.00**
	2) WBM Grading 2 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 2 as per Technical Specification Clause 405.	cum	**1,516.00**
	3) WBM Grading 3 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405. **(To be executed with prior written permision of CGM in unavoidable situations)**	cum	**1,632.00**

Chapter 4 - GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Item No.	Description	Unit	Rate (Rs.)
4.7	Wet Mix Macadam		
	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tipper to site, laying in uniform layers in sub-base/base course on a well prepared sub-base and compacting with smooth wheel roller of 80 to 100kN weight to achieve the desired density including lighting, barricating and maintenance of diversion, etc as per Tables 400.11 & 400.12 and Technical Specification Clause 406.		
		cum	**1,692.00**
4.8	Construction of Shoulders as per Technical Specification Clause 407.		
	Construction of shoulder as per clause 407 with selected soil having CBR value not less than 12 inclusive of all leads and lifts providing 4% camber I/c operations like watering, rolling and compaction etc. as per clause 303.5	cum	**343.00**
4.9	Granular sub-base/base/surface course with local materials (Table 400-1 of MORD specification) by mix in place method normal Construction of granular sub-base by providing local material spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at once and compacting with vibratory roller to achieve the desired density complete as per Clause 401.3 as per Technical Specification Clause 408.		
	For using material as GSB, CBR value should be > 20, liquid limit & PI should be as per table no. 400.1-C	cum	**484.00**
	(A) Deduct from item if static roller is used in place of vibratory rollers	cum	**7.00**
	(B) Deduct from item if motor grader is not used.	cum	**29.00**
	(C) Deduct if Tractor Mount Grader, more than 65 HP (6 wheel - 4 wheel drive) is used in place of motor grader,	cum	**14.00**
4.10	Lime-Flyash Stablised Soil Sub-base		
	Construction of sub-base using lime-flyash admixture with granular soil, free from organic matter/deleterious material or clayey silts and low plasticity clays having PI between 5 and 20 and liquid limit less than 25 and commercial dry lime, slaked at site or pre-slaked with CaO content not less than 50 per cent, flyash to conform to gradation as per Clause 4.3 of IRC:SP:20, lime+flyash content ranging between 10 to 30 per cent, the minimum un-confined compressive strength and CBR value after 28-days curing and 4-days soaking to be 0.75 MPa and 25 per cent respectively, all as specified in IRC:88 including a lead upto 1000 m as per Technical Specification Cluase 409.	cum	**623.00**
	(A) Deduct from item if motor grader is not used.	cum	**29.00**
4.11	Stone Set Pavement		
	Providing and laying stone set pavement on allready prepared compacted Granular Sub-base/WBM base course The 150 mm thick hammer dressed stones are laid in the herring one or stretched bond pattern. The stones are compacted into the bedding sand of 50 mm, Bounded by edge stone using suitable compacting device. The gaps are filled with fine sand stone dust as per Technical Specification Clause 413.4	sqm	**720.00**

Chapter 4 - GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

Item No.	Description	Unit	Rate (Rs.)
4.12	**i) Gravel/Soil-Aggregate Base (Table 400.2) Grading A** Construction of gravel/soil-aggregate base of CBR> 80 by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller of 80-100 kN static weight to achieve the desired density, complete as per Technical Specifications Clause 402	cum	**737.00**
	ii) Gravel/Soil-Aggregate Base (Table 400.2A) Grading B	cum	**710.00**
	iii) Gravel/Soil-Aggregate Base (Table 400.2A) Grading C	cum	**702.00**
	iv) Deduct from item i or ii or iii if static roller is used in place of vibratory rollers	cum	**7.00**
	v) Deduct from item i or ii or iii if motor grader is not used.	cum	**29.00**
4.13	**Gravel/Soil-Aggregate Surface Course (Table 400.3)** Construction of granular surface course by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with three wheel 80-100 kN static roller capacity to achieve the desired density, complete as per Technical Specification Clause 402	cum	**915.00**
	(A) Deduct from item 4.13 if motor grader is not used.	cum	**29.00**
4.14	Laying coir netting H2M9 (0.9kg per sqm) Type with over Lapping 15 cm, fixing with nailing by 6 mm dia nails (32.50 cm long in U Shape spacing 50 cm C/C) of Stainless Steel over and above a 25mm thick (i.e. 25 mm+25mm = 50 mm) sand layer. I/c watering and etc. complete (Coir netting supplied departmentally)	Sqm	**122.00**
4.15	Loosening, levelling and compacting gravel surface to facilitate placement of first layer of WBM/Gravel course, scarifying original surface up to a depth of 150 mm, making proper camber, super elevation, maintaining required longitudinal and cross profile using suitable methods/procedures by equipments i.e with rollers of 80-100 KN static weight to achieve the desired density with using grader etc, mixing with water at OMC complete as per specifications and direction of Engineer-in-Charge." (Applicable on constructed gravel roads for GSB portion only)	Sqm	**6.00**
4.16	**Treated Soil for Sub-Base/Base using RBI - 81** Providing, laying and spreading soil on a prepared sub-grade, pulverising, mixing the spread soil in place with rotavator with 3 per cent RBI 81 with grading with motor grader and compacting with the road roller at OMC to achieve atleast 98 per cent of the max dry density to form a layer of sub-base and base as per Technical Specification Clause 403. (90 % Soil + 10% Stone Dust+3% RBI 81)		
	(i) With motor Grader	Cum	**2,115.00**
	(ii) Tractor Mounted Grader	Cum	**2,100.00**

Chapter 5 - BASES AND SURFACE COURSES (BITUMINOUS)

Item No.	Description	Unit	Rate (Rs.)
5.1			
(i)	**Prime Coat with bitumen emulsion :-** Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.85 kg/sqm using mechanical means	sqm	**51.00**
(ii)	**Prime Coat with Silane Nanotechnology :-** Preparing and applying of water soluble organo silane nanotechnology (for bitumen emulsion application, IRC approved) with cationic bitumen emulsion CSS1 and water (<1000 ppm TDS) in the ratio of 1 kg organo silane : 100 kg cationic bitumen emulsion CSS1 : 200 liter water . Mixing & Spraying : Take 1 kg of organo silane nanotechnology and add in 200 liter water while filling water in tanker/drum and then add 100 kg cationic bitumen emulsion under circulation. Mix the solution completely. Spray the solution @ 1 liter per sqm on compacted stone base. Rates including all materials, labour, hire Charges of machery etc. complete as per MoRD specifications & direction of Engineer-in-Charge.	sqm	**27.00**
5.2	**Tack Coat**		
(i)	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.225 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.	sqm	**11.00**
(ii)	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.275 kg per sqm on the prepared dry and hungry bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.	sqm	**13.00**
(iii)	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.275 kg per sqm on the prepared granular surfaces treated with primer & cleaned with Hydraulic broom as per Technical Specification Clause 503.	sqm	**13.00**
(iv)	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion pressure distributor at the rate of 0.325 kg per sqm on the prepared non-bituminous surfaces (cement concrete pavement) cleaned with Hydraulic broom as per Technical Specification Clause 503.	sqm	**15.00**
5.3	**Bituminous Macadam**		
	Providing and laying bituminous macadam with hot mix plant using crushed aggregates of grading as per Table 500.4 premixed with bituminous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled to achieve the desired compaction as per Technical Specification Clause 504.	cum	**5,345.00**
5.4	**Built-Up Spray Grout**		
	Providing, laying and rolling of built-up spray grout layer over prepared base consisting of a two layer composite construction of crushed coarse aggregates using motor grader for aggregates. Key stone chips spreader may be used with application of bituminous binder after each layer, and with key aggregates placed on top of the second layer to serve as a base, conforming to the line, grades and cross-section specified, the compacted layer thickness being 75 mm as per Technical Specification Clause 505.		
	(I) Bitumen (VG-10)	sqm	**274.00**
	(II) Bitumen (VG-30)	sqm	**276.00**

Chapter 5 - BASES AND SURFACE COURSES (BITUMINOUS)

Item No.	Description	Unit	Rate (Rs.)
5.5	**Modified Penetration Macadam** Construction of penetration macadam over prepared base by providing a layer of compacted crushed coarse aggregate using chips spreader with alternate applications of bituminous binder and key aggregates and rolling with a three wheel 80-100 kN static roller to achieve the desired degree of compaction as per Technical Specification Clause 506.		
	(A) 50 mm thick		
	(I) Bitumen (VG-10)	sqm	**126.00**
	(B) 75 mm thick		
	(I) Bitumen (VG-10)	sqm	**157.00**
	(II) Bitumen (VG-30)	sqm	**159.00**
5.6	**Surface Dressing using Bituminous (Penetrations grade / modified bitumen) Binder** Providing and laying surface dressing as wearing course consisting of a layer of bituminous binder laid on the prepared surface, followed by a cover of crushed stone aggregates of specified size and rolling with three wheel 80-100 kN static roller including cleaning the road surface as per Technical Specification Clause 505.		
	Case – I: Nominal chipping size 13.2 mm		
	(I) Bitumen (VG-10)	sqm	**73.00**
	(II) Bitumen (VG-30)	sqm	**74.00**
	(III) Crumb Rubber Modified Bitumen	sqm	**77.00**
	Case – II: Nominal chipping size 9.5 mm		
	(I) Bitumen (VG-10)	sqm	**64.00**
	(II) Bitumen (VG-30)	sqm	**64.00**
	(III) Crumb Rubber Modified Bitumen	sqm	**67.00**
5.7	**Surface Dressing using Bitumen Emulsion** Providing and laying surface dressing as wearing course consisting of a layer of bitumen emulsion laid on the prepared surface, followed by a cover of crushed stone chippings of specified size and rolling with 80-100 kN roller including cleaning the road surface as per Technical Specification Clause 505.		
	Case – I: Nominal aggregate size 13.2 mm	sqm	**98.00**
	Case – II: Nominal chipping size 9.5 mm	sqm	**88.00**
5.8	Pre-coating Chips Pre-coating of chips with 1 per cent of paving bitumen by weight of chips in a suitable mixer duly heated to 160 degree C as per Technical Specification Clause 505		
	(I) Bitumen (VG-10)	cum	**1,048.00**
	(II) Bitumen (VG-30)	cum	**1,062.00**

Chapter 5 - BASES AND SURFACE COURSES (BITUMINOUS)

Item No.	Description	Unit	Rate (Rs.)
5.9	**(A) 20mm thick Open-Graded Premix Carpet using Bituminous (penetration grade/modified bitumen) Binder**		
	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm size @ 0.18 cum per 10 sqm & 11.2 mm size @ 0.09 cum per 10 sqm aggregates using penetration grade/modified bitumen @ 14.6 kg/10sqm to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A , Type B or Type C as per Technical Specification Clause 506.		
	(I) Bitumen (VG-10)	sqm	**106.00**
	(II) Bitumen (VG-30)	sqm	**107.00**
	(III) Crumb Rubber Modified Bitumen	sqm	**112.00**
	(B) Add extra for providing & mixining anti stripping compounds confirming to the specification given in tableA- 5.1 mixing at Hot Mix tank (Plant)in the doses as per requirement assessed as in 4,1 of appendix-5 of specification for roads & bridge works of MORTH mixing with procedure given in 4.2 of appendix -5	sqm	**2.00**
	Note - Payment to be made after verification of mixing with specified quantity. GM must satisfied with the material actually procurred & used in work before making payment.This item can be only written permission of CGM		
5.10	**20 mm thick Open Graded Premix Carpet using Bitumen Emulsion as per Technical Specification Clause 508.2**	sqm	**114.00**
	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm size @ 0.18 cum per 10 sqm & 11.2 mm size @ 0.09 cum per 10 sqm aggregates using Bitumen Emulsion (MS) @ 21.5 kg/10sqm as per MORD specifications clause 510 and IRC :SP: 100-2014 to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A , Type B or Type C as per Technical Specification Clause 506.2		
5.11	**Mix Seal Surfacing**		
	Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 11.2 mm to 0.9 mm (Type-A) or 13.2 mm to 0.9 mm (Type-B) aggregates using penetration grade bitumen to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 8-10 kN static roller and finishing to required level and grades as per Technical Specification Clause 507		
	Type A		
	(I) Bitumen (VG-10)	sqm	**123.00**
	(II) Bitumen (VG-30)	sqm	**125.00**
	(iii) Crumb Rubber Modified Bitumen	sqm	**132.00**
	Type B		
	(I) Bitumen (VG-10)	sqm	**113.00**
	(II) Bitumen (VG-30)	sqm	**114.00**
	(iii) Crumb Rubber Modified Bitumen	sqm	**120.00**
5.12	**Seal Coat**		
	Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A, Type B and Type C as per Technical Specification Clause 508		
	Case - I : Type A		
	(I) Bitumen (VG-10)	sqm	**48.00**
	(II) Bitumen (VG-30)	sqm	**49.00**
	(iii) Crumb Rubber Modified Bitumen	sqm	**52.00**
	Case - II : Type B		
	(I) Bitumen (VG-10)	sqm	**37.00**
	(II) Bitumen (VG-30)	sqm	**37.00**
	(iii) Crumb Rubber Modified Bitumen	sqm	**39.00**
	Case - III : Type C		
	(I) Bitumen (VG-10)	sqm	**37.00**
	(II) Bitumen (VG-30)	sqm	**37.00**
	(iii) Crumb Rubber Modified Bitumen	sqm	**39.00**

Chapter 5 - BASES AND SURFACE COURSES (BITUMINOUS)

Item No.	Description	Unit	Rate (Rs.)
5.13	**Dense Graded Bituminous Macadam (as per MORTH specification clause No. 507 complete)**		
	to be included in DPR only after prior written permission of CGM		
	Providing and laying dense graded bituminous macadam with appropreate batch type HMP using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects.		
	Grading I layer Thickness (80-100 mm) Bitumen (VG-30)	cum	**6,390.00**
	Grading II layer Thickness (50-75 mm) Bitumen (VG-30)	cum	**6,402.00**
5.14	**Semi-Dense Bituminous Concrete (as per MORD specification clause No. 509 complete)**		
	to be included in DPR only after prior written permission of CGM		
	Providing and laying semi dense bituminous concrete with Appropreate batch type HMP using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORD specification clause No. 509 complete in all respects		
	Grading I layer Thickness (35-40 mm) Bitumen (VG-30)	cum	**6,479.00**
	Grading II layer Thickness (25-30 mm) Bitumen (VG-30)	cum	**6,801.00**
5.15	**Seal coat with bitumen emulsion**		
	Providing and laying seal coat with emulsion sealing the voids in a bituminous emulsion surface laid to the specified levels, grade and cross fall using specified quantirty of bitumen emulsion as per MORD specifications clause 508 and IRC :SP: 100-2014 including rolling with 80-100KN Static roller as per specification complete		
	Case - I : Type A (12 to 14 Kg per 10 Sqm emulsion)	sqm	**63.00**
	Case - II : Type B (10 to 12 Kg per 10 Sqm emulsion)	sqm	**54.00**
	Case - III : Type C (9 to 11 Kg per 10 Sqm emulsion)	sqm	**50.00**
5.16	**20mm thick Open-Graded Premix Carpet using Bituminous Binder mixing with processed waste plastic (as per IRC:SP:98-2013) by replacement of 8% Bitumen binder by weight**		
	Providing, laying and rolling of 20mm thick open-graded premix carpet (Thickness not less than 20 mm at any place) composed of 13.2 mm graded aggregate size @ 0.18 cum per 10 sqm & 11.2 mm graded aggregate size @ 0.09 cum per 10 sqm using with bitumenous binder @13.43Kg per 10 sqm (i.e. 92% of standard Bitumen and 8% waste processsed plastic by weight shall be used for coating aggregate after its heating) as per IRC:SP:98-2013, laying to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades as per Technical Specification Clause 506 to be followed by seal coat of either Type A , Type B or Type C as per Technical Specification.		
	(I) Bitumen (VG-10)	sqm	**106.00**
	(II) Bitumen (VG-30)	sqm	**107.00**
5.17	**Bituminous Concrete**		
	Providing and laying bituminous concrete with 40 to 60 TPH batch type hot mix plant producing an average output of 50 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, as per design mix, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects		
	(I) for Grading-I (13 mm nominal size) VG-30	Cum	**6,649.00**
	(II) for Grading-II (10 mm nominal size) VG-30	Cum	**6,521.00**
	(III) for Grading-I (13 mm nominal size) VG-40	Cum	**6,717.00**
	(IV) for Grading-II (10 mm nominal size) VG-40	Cum	**6,590.00**

Chapter 5 - BASES AND SURFACE COURSES (BITUMINOUS)

Item No.	Description	Unit	Rate (Rs.)
5.18	**20mm thick Open-Graded Premix Carpet using Bituminous (penetration grade/modified bitumen) Binder (in Cum)**		
	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm size @ 0.18 cum per 10 sqm & 11.2 mm size @ 0.09 cum per 10 sqm aggregates using penetration grade/modified bitumen @ 14.6 kg/10sqm to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A , Type B or Type C as per Technical Specification Clause 506.		
	(I) Bitumen (VG-10)	Cum	**5,300.00**
	(II) Bitumen (VG-30)	Cum	**5,366.00**
5.19	**Bituminous Macadam (Zycotherm additive or any equivalant material added to bitumen binder @ 0.1%)**		
	Providing and laying bituminous macadam with hot mix plant using crushed aggregates of grading as per Table 500.4 premixed with bituminous binder, transported to site upto a lead of 1000 m laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled to achieve the desired compaction as per Technical Specification Clause 504. By adding organosilane addisive such as Zycotherm additive or any equivalant material to bitumen binder @ 0.1% of bitumen.	cum	**5,452.00**
5.20	**20mm thick Open-Graded Premix Carpet using Bituminous (penetration grade/modified bitumen) (Zycotherm additive or any equivalant material added to bitumen binder @ 0.1%) Binder**		
	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm size @ 0.18 cum per 10 sqm & 11.2 mm size @ 0.09 cum per 10 sqm aggregates using penetration grade/modified bitumen @ 14.6 kg/10sqm to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A , Type B or Type C as per Technical Specification Clause 506. By adding organosilane addisive such as Zycotherm additive or any equivalant material to bitumen binder @ 0.1% of bitumen.	Sqm	**109.00**
5.21	**Seal Coat (Zycotherm additive or any equivalant material added to bitumen binder @ 0.1%)**		
	Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A, Type B and Type C as per Technical Specification Clause 508. By adding organosilane addisive such as Zycotherm additive or any equivalant material to bitumen binder @ 0.1% of bitumen.	Sqm	**38.00**

Chapter 6 - CEMENT CONCRETE PAVEMENT

Item No.	Description	Unit	Rate (Rs.)
6.1	**(A)Cement Concrete Pavement M 30**		
	Construction of un-reinforced, dowel jointed at expansion and construction joint only, plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, dowel bars 25mm dia and 500mm long @25cm c/c or as per design, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion, construction joints, applying debonding strips, primer, sealant, dowel bars, near approaches to bridge/culvert and construction joints, admixtures as approved, curing of concrete slabs for 14-days, using curing compound (where specified) and water finishing to lines and grade as per drawing and Technical Specification Clause 1501	cum	**5,572.00**
	(B) Providing & Fixing in Position HDPE Pipe (6 kgf/cm2) as per IS code 4984-95 of 100 mm internal diameter as utility pipe in builtup area Note : - This items can be use in construction of CC Road in builtup area only with spacing of 50 m c/c .	m	**467.00**
6.2	**Roller Compacted Concrete Pavement M-30**		
	Construction of Roller Compacted Concrete Pavement (RCCP) with coarse and fine aggregates conforming to IS:383, the size of coarse aggregate not exceeding 25 mm with minimum aggregate cement ratio of 5:1 and with minimum cemnt content of 310 kg per cum, aggregate gradation to be as per Table 602.2 after blending, mixing in concrete mixer at optimum moisture content, transporting to site, laying with wheel barrows or steel pans or with mechanical paver, compacting with 80-100 kN smooth wheel, tandem vibratory roller, to achieve, the designed flexural strength, finishing and curing as per drawings and Technical Specification Clause 1502	cum	**5,106.00**
6.3	**Rectangular Concrete Block Pavement**		
	Manufacturing, laying of cement concrete blocks of Cement Concrete (C.C.) M30 garde and spreading 25 mm thick sand under neath and filling joints with sand on existing base as per Technical Specification Clause 1503.		
	A Concrete M30 grade for block, (0.600 x 0.450 x 0.200) (Concrete M30 for edge block, (0.300 x 0.300 x 0.300))	sqm	**1,337.00**
	B Concrete M30 grade for block, (0.450 x 0.300 x 0.150) (Concrete M30 for edge block, (0.300 x 0.300 x 0.300))	sqm	**1,132.00**
6.4	**Interlocking Concrete Block Pavement**		
	(1) Providing and Laying of Interlocking Concrete Block Pavements having thickness 80 mm over bedding sand conforming to table 1500.6 shall be uniformly laid to a compacted thickness of 30mm complete as per drawings and Technical Specification Clause 1504.	sqm	**529.00**
	(2) Providing and Laying of Interlocking Concrete Blcok Pavements having thickness 60 mm over bedding sand conforming to table 1500.6 shall be uniformly laid to a compacted thickness of 25mm complete as per drawing and Technical Specification Clause 1504	sqm	**429.00**
6.5	**Providing and Laying Half round Reinforced Cement Concrete Pipe as per design in Single Row**		
	Providing and laying half round reinforced cement concrete pipe Np2 type conforming to IS 458-2003 for drains in single row including joint filling with cement mortar 1:2 as per clause 1101.5 but excluding excavation,bedding, protection works, backfilling etc. complete.		
	(C) NP2 Pipes 600 mm dia	m	491.00
	(D) NP2 Pipes 500 mm dia	m	438.00
	(E) NP2 Pipes 300 mm dia	m	240.00

Chapter 6 - CEMENT CONCRETE PAVEMENT

Item No.	Description	Unit	Rate (Rs.)
6.6	**Cement Concrete cell fill Pavement**		
	Construction of un-reinforced, plain cement concrete pavement, thickness as per design, over a prepared sub base, and high density plastic (HDPE)cells consist of 200-220 micron HDPE sheet having cell of size of 150mmx150mm &100mm deep with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, as per design, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, wedges, steel plates including levelling the formwork and HDPE plastic cell streighting, threading, string, iron nailing, lacing etc complete as per drawing), spreading the concrete with shovels, rakes, labours compacted using needle, screed and plate vibrators and finished in continuous operation , admixtures as approved, curing of concrete cell for 14-days, using curing compound (where specified) and water finishing to lines and grade as per drawing and Technical Specification Clause 1501	Cum	**6,166.00**
6.7	**Dry Lean Cement Concrete Sub- base**		
	Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver , compacting with 8-10 tonnes vibratory roller, finishing and curing.	Cum	**2,543.00**
6.8	**Cement Concrete Pavement (M-40)**		
	Construction of un-reinforced, dowel jointed at expansion and construction joint only, plain cement concrete pavement, thickness as per design, over a prepared sub base, with43 grade cement or any other type as per Clause 1501.2.2 M40 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, dowel bars 25mm dia and 500mm long @25cm c/c or as per design, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion, construction joints, applying debonding strips, primer, sealant, dowel bars, near approaches to bridge/culvert and construction joints, admixtures as approved, curing of concrete slabs for 14-days,	Cum	**5,771.00**
6.9	**Cement Concrete Pavement (CC M-30 without dowel bars)**		
	Construction of un-reinforced, plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of transverse joint as per MORD 2014 Clause no. 1501.8, admixtures as approved, curing of concrete slabs for 14-days,	Cum	**5,293.00**
6.10 (i)	**Filling of Contraction Joint with bitumenus sealant using bitumenus primer bitumenus sealant and Jute rope 4mm dia (i/c 5% wastage)**	R M	**45.00**
	(ii) **Joint filler board**	Sqm	**491.00**
	(iii) **Dowel bars**	kg	**43.00**
	(iv) **Polythene sheet**	No	**5.00**

Chapter 6 - CEMENT CONCRETE PAVEMENT

Item No.	Description	Unit	Rate (Rs.)
6.11	**Cement Concrete Pavement (CC M-30 without dowel bars & without joints)**		
	Construction of un-reinforced, plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation. Including admixtures as approved, curing of concrete slabs for 14-days, MORD 2014 Clause no. 1501.8.	Cum	**5,273.00**
6.12	**Construction of Joints in Cement Concrete Slab** Cutting of joint in Cement Concrete slab (panelled slab) by joint cutting machine 1/4 to 1/3 depth of concrete slab as per MORD 2014 Clause no. 1501.8 (Unsealed Joint)		
	(ii) **For 20 cm thick CC Slab (Running meter of Joint)**	R M of Joint	**22.00**
	(iii) **For 15 cm thick CC Slab (Running meter of Joint)**	R M of Joint	**16.00**
	(iv) **For 12.5 cm thick CC Slab (Running meter of Joint)**	R M of Joint	**14.00**

Chapter 7 - CAUSEWAY AND SUBMERSIBLE BRIDGES

Item No.	Description	Unit	Rate (Rs.)
7.1	**Construction of Cut-off Walls/Head Walls**		
	(i) Earthwork in excavation for structures as per drawing and technical specifications Clause 305. including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 1000 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.		
	a Ordinary soil		
	i Upto 1.5 m depth	cum	**210.00**
	ii 1.5 m to 3 m depth	cum	**283.00**
	iii 3 m to 6 m depth	cum	**336.00**
	b Ordinary rock (not requiring blasting) Upto 3 m depth	cum	**353.00**
	c Hard rock (requiring blasting)	cum	**534.00**
	d Hard rock (blasting prohibited)	cum	**415.00**
	e Marshy soil	cum	**530.00**
	(ii) Plain cement concrete M15 grade		
	Providing concrete for plain/reinforced concrete in open foundations, head wall, cut off wall and wing wall complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203	cum	**4,328.00**
	(iii) Brick masonry in cement mortar 1:4		
	Brick masonry work in cement mortar in foundation complete excluding pointing and	cum	**5,496.00**
	(iv) Stone masonry in cement mortar 1:4		
	Coursed rubble stone masonry (2nd sort) work in cement mortar in foundation complete	cum	**3,997.00**
	(v) Providing P.C.C M20 architectural coping on top of wall		
	Providing PCC M-20 architectural coping on the top of wing wall, return wall etc. complete as per drawing and technical specification Clauses 615, 710 and 1204.5 (150mm thick & 400 mm wide)	Running m	**321.00**
7.2	Preparation of Subgrade Loosening, Levelling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Tables 300.1 and 300.2 for embankment construction as per Technical Specification Clause 301.5.4.	cum	**22.00**
7.3	Granular Sub-base Construction of granular sub-base by providing well graded material, spreading in uniform layers with appropriate equipment on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with 8-10 t static roller to achieve the desired density, complete as per Technical Specification Clause 401 for gradings mentioned in table 400.1-A, 400.1-B (CBR 20 or more)		
	(A) Crushed stone materials	cum	**970.00**
	(B) River born materials	cum	**675.00**

Chapter 7 - CAUSEWAY AND SUBMERSIBLE BRIDGES

Item No.	Description	Unit	Rate (Rs.)
7.4	**W.B.M. Base Course**		
	1) WBM Grading 1		
	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 1 as per Technical Specification Clause 405.	cum	**1,487.00**
	2) **WBM Grading 2**		
	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fill-up the interstices of coarse aggregate, watering and compacting to the required density grading 2 as per Technical Specification Clause 405.	cum	**1,665.00**
	3) **WBM Grading 3**		
	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening / binding material to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.	cum	**1,722.00**
7.5	**Cement Concrete Pavement**		
	Construction of un-reinforced and construction joint only, plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and construction joints, applying debonding strips, primer, sealant, approaches to bridge/culvert and construction joints, admixtures as approved, curing of concrete slabs for 14-days,	cum	**5,442.00**
7.6	(i) Providing and Laying Apron with Stone Boulders as per Drawings & Technical Specification Clause 1301		
	Providing and laying boulder apron for bed protection with stone boulders of minimum size and weight as per Table 1300.1, no fragment weighing less than 25 kg laid dry complete as per drawing and technical specifications Clause 1301 (Weight of stone 25 kg minimum)	cum	**931.00**
7.7	Bedding for Causeway		
	(i) Type A (concrete cradle) Bedding Clause 1101.5		
	Laying concrete cradle bedding with M15 Grade Cement Concrete as per Clause 1105 (i)	cum	**4,328.00**
	(ii) Type B (first class) Bedding Clause 1101.5		
	Laying (First Class) bedding with well compacted sand, moorum or approved granular material as per Clause 1101.5 (ii)	cum	**714.00**

Chapter 7 - CAUSEWAY AND SUBMERSIBLE BRIDGES

Item No.	Description	Unit	Rate (Rs.)
7.8	**Providing and Laying Reinforced Cement Concrete Pipe NP3 (ISI Mark) as per design**		
	Providing and laying ISI mark reinforced cement concrete hume pipe NP3 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**6,083.00**
	(B) 1000 mm dia	m	**4,983.00**
	(C) 900 mm dia	m	**3,871.00**
	(D) 800 mm dia	m	**3,730.00**
	(E) 700 mm dia	m	**2,891.00**
	(F) 600 mm dia	m	**1,952.00**
7.9	**Providing and Laying Reinforced Cement Concrete Pipe NP3 Non ISI Mark as per design**		
	Providing and laying Non ISI mark reinforced cement concrete hume pipe NP3 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**4,865.00**
	(B) 1000 mm dia	m	**4,015.00**
	(C) 900 mm dia	m	**3,324.00**
	(D) 800 mm dia	m	**2,859.00**
	(E) 700 mm dia	m	**2,713.00**
	(F) 600 mm dia	m	**1,690.00**
7.10	Providing and Laying Reinforced Cement Concrete Pipe NP4 ISI Mark as per design		
	Providing and laying ISI mark reinforced cement concrete hume pipe NP4 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**6,974.00**
	(B) 1000 mm dia	m	**5,931.00**
	(C) 900 mm dia	m	**5,554.00**
	(D) 800 mm dia	m	**4,542.00**
	(E) 700 mm dia	m	**3,532.00**
	(F) 600 mm dia	m	**2,931.00**
7.11	Providing and Laying Reinforced Cement Concrete Pipe NP4 Non ISI Mark as per design		
	Providing and laying Non ISI mark reinforced cement concrete hume pipe NP4 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling,bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**5,096.00**
	(B) 1000 mm dia	m	**4,211.00**
	(C) 900 mm dia	m	**3,485.00**
	(D) 800 mm dia	m	**2,998.00**
	(E) 700 mm dia	m	**2,874.00**
	(F) 600 mm dia	m	**1,820.00**

Chapter 8 - HILL ROADS

This Chapter is not applicable for Madhya Pradesh

Chapter 9 - PIPE CULVERTS

Item No.	Description	Unit	Rate (Rs.)
9.1	**Excavation for Structures**		
	Earthwork in excavation for foundation of structures as per drawing and technical specification Clause 1101.4 & 305 includding setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, sortingout servicible & unservicible materials and disposal of all materials upto 1000 m lead and backfilling with approved material.		
	A. Ordinary soil		
	(i) Upto 1.5 m depth	cum	**210.00**
	(a) Add extra for dewatering where required	cum	**19.00**
	(b) Add extra for Shoring and shuttering where required	cum	**6.00**
	(ii) 1.5 m to 3 m depth	cum	**283.00**
	(a) Add extra for dewatering where required	cum	**25.00**
	(b) Exra rate for Shoring and shuttering where required	cum	**12.00**
	(iii) 3 m to 6 m depth	cum	**336.00**
	(a) Add extra for dewatering where required	cum	**44.00**
	(b) Add extra for Shoring and shuttering where required	cum	**30.00**
	B. Ordinary rock (not requiring blasting)		
	Upto 3 m depth	cum	**353.00**
	(a) Add extra for dewatering where required	cum	**31.00**
	C. Hard rock (requiring blasting)	cum	**534.00**
	(a) Add extra for dewatering where required	cum	**47.00**
	D. Hard rock (blasting prohibited)	cum	**415.00**
	(a) Add extra for dewatering where required	cum	**50.00**
	E. Marshy soil	cum	**530.00**
	(a) Add extra for dewatering where required	cum	**140.00**
	(b) Add extra for Shoring and shuttering where required	cum	**70.00**
9.2	Bedding for Pipe		
	(i) Type A (Concrete Cradle) Bedding		
	Laying concrete cradle bedding with M15 Grade Cement Concrete as per Clause 1101.5		
	P.C.C grade M 15		
	(i) Nominal mix (1:2.5:5)	cum	**4,328.00**
	(ii) Type B (First Class) Bedding		
	Laying (First Class) bedding with well compacted sand, moorum or approved granular material as per Clause 1101.5		
	I. Sand filling	cum	**714.00**
9.3	**Providing and Laying Reinforced Cement Concrete Pipe NP3 ISI Marked,Plain Ends(conforming to IS Code 458-2003} as per design**		
	Providing and laying ISI mark reinforced cement concrete hume pipe NP3 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**6,083.00**
	(B) 1000 mm dia	m	**4,983.00**
	(C) 900 mm dia	m	**3,871.00**
	(D) 800 mm dia	m	**3,730.00**
	(E) 700 mm dia	m	**2,891.00**
	(F) 600 mm dia	m	**1,952.00**
9.4	**Providing and Laying Reinforced Cement Concrete Pipe NP3 Non ISI Mark ,Plain Ends(conforming to IS Code 458-2003} as per design**		
	Providing and laying Non ISI mark reinforced cement concrete hume pipe NP3 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**4,865.00**
	(B) 1000 mm dia	m	**4,015.00**
	(C) 900 mm dia	m	**3,324.00**
	(D) 800 mm dia	m	**2,859.00**
	(E) 700 mm dia	m	**2,713.00**
	(F) 600 mm dia	m	**1,690.00**

Chapter 9 - PIPE CULVERTS

Item No.	Description	Unit	Rate (Rs.)
9.5	**Providing and Laying Reinforced Cement Concrete Pipe NP4 ISI Mark ,Plain Ends(conforming to IS Code 458-2003} as per design**		
	Providing and laying ISI mark reinforced cement concrete hume pipe NP4 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**6,974.00**
	(B) 1000 mm dia	m	**5,931.00**
	(C) 900 mm dia	m	**5,554.00**
	(D) 800 mm dia	m	**4,542.00**
	(E) 700 mm dia	m	**3,532.00**
	(F) 600 mm dia	m	**2,931.00**
9.6	Providing and Laying Reinforced Cement Concrete Pipe NP4 Non ISI Mark,Plain Ends(conforming to IS Code 458-2003} as per design		
	Providing and laying Non ISI mark reinforced cement concrete hume pipe NP4 for culverts on first class bedding of granular material in single row including jointing with cement mortar 1:2 but excluding excavation, protection works, backfilling,bedding, concrete and masonry works in head walls and parapets Clause 1101.6		
	(A) 1200 mm dia	m	**5,096.00**
	(B) 1000 mm dia	m	**4,211.00**
	(C) 900 mm dia	m	**3,485.00**
	(D) 800 mm dia	m	**2,998.00**
	(E) 700 mm dia	m	**2,874.00**
	(F) 600 mm dia	m	**1,820.00**
9.7	Providing & Laying ISI mark,Plain Ends(conforming to IS Code 458-2003} Reinforced Cement Concrete hume Pipe (burried conduits) on first class bedding of granular material including fixing collar with cement sand mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonary work in head wall and parapets.		
	(A) NP3 Pipes 600 mm dia	m	**1,931.00**
	(B) NP3 Pipes 500 mm dia	m	**1,490.00**
	(C) NP2 Pipes 600 mm dia	m	**824.00**
	(D) NP2 Pipes 500 mm dia	m	**688.00**
9.8	Providing & Laying Non ISI mark ,Plain Ends(conforming to IS Code 458-2003} Reinforced Cement Concrete hume Pipe (burried conduits) on first class bedding of granular material including fixing collar with cement sand mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonary work in head wall and parapets.		
	(A) NP3 Pipes 600 mm dia	m	**1,669.00**
	(B) NP3 Pipes 500 mm dia	m	**1,448.00**
	(C) NP2 Pipes 600 mm dia	m	**805.00**
	(D) NP2 Pipes 500 mm dia	m	**663.00**
	(E) NP2 Pipes 300 mm dia	m	**422.00**
9.9	Providing & Laying ISI mark,Plain Ends(conforming to IS Code 458-2003} Reinforced Cement Concrete hume Pipe NP4 (burried conduits) on first class bedding of granular material including fixing collar with cement sand mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonary work in head wall and parapets.		
	500 mm dia	m	**2,498.00**
9.10	Providing & Laying Non ISI mark,Plain Ends(conforming to IS Code 458-2003} Reinforced Cement Concrete hume Pipe NP4 (burried conduits) on first class bedding of granular material including fixing collar with cement sand mortar 1:2 but excluding excavation, protection works, backfilling, bedding, concrete and masonary work in head wall and parapets.		
	500 mm dia	m	**1,564.00**

Chapter 9 - PIPE CULVERTS

Item No.	Description	Unit	Rate (Rs.)
9.11	**Plain Cement Concrete M10 (1:3:6 nominal mix) in levelling course below open foundation of Head walls as per drawings & Technical Specification Clause 1101.9**		
	Nominal mix 1:3:6 (with 40 mm graded metals)	cum	**4,295.00**
9.12	Brick Masonry Work in cement mortar in foundation of Head walls, Head walls, wing wall etc. complete exculding pointing and plastering as per drawing and technical specification Clause 1109.1		
	Brick Masonry in 1:4 cement mortar	cum	**5,496.00**
9.13	Stone Masonry Work in cement mortar in foundation of Head walls, Head walls, wing wall etc. complete as per drawing and technical specification Clasue 1101.9		
	In 1:4 cement mortar	cum	**3,997.00**
9.14	Pointing with Cement Mortar (1:3) on brickwork as per technical specification Clause 613.3	sqm	**68.00**
9.15	Plastering with Cement Mortar (1:4), 15 mm thick on brickwork in substructure as per technical specification clause 613.4	sqm	**167.00**
9.16	Backfilling in Foundation Trenches as per drawing and technical specification Clause 1101.8		
	I. Sand filling	cum	**714.00**
	II. Earth filling (For marshy soil)	cum	**182.00**
9.17	Providing PCC M20 Architectural Coping on the top of wing wall, return wall etc. complete as per drawing and technical specification Clause 615 (400mm wide and 150 mm thickness)	RM	**297.00**

Chapter 10 - TRAFFIC SIGNS, MARKINGS AND OTHER ROAD

Item No.	Description	Unit	Rate (Rs.)
10.1	Printing New Letters and Figures of any Shade Printing new letter and figures of any shade with synthetic enamel paint black or any other approved colour to give an even shade as per drawings and Technical Specification Clause 1701		
	i) Hindi (Matras commas and the like not to be measured and paid for. Half letters shall be counted as half only)	per cm height	**1.00**
	ii) English and Roman	per	**1.00**
10.2	Cautionary, mandatory, informatory, direction and place indentification signs		
	i) Retro-Reflective Traffic signs more than 0.90 sqm size board		
	Providing and erecting cautionary, mandatory, informatory, direction and place identification of semi reflective sign boards as per IRC-67 made of 2 mm thick M.S. Sheet duly stove enameled paint white colour in front and grey colour on back with reflective border of 70 mm width and required message, letters, figures with reflective tape of engineering grade as per MORD specifications of required shade and colour. Supported and welded on two nos. 47 mm x 47 mm of 12 SWG square tube of 3050 mm height duly strengthened by 25 mm x 5 mm MS flat iron on edges on back firmly fixed to the ground by means of properly designed foundations with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	sqm	**5,668.00**
	ii) Retro-Reflective Traffic signs up to 0.90 sqm size board Providing and erecting cautionary, mandatory, informatory, direction and place identification of semi reflective sign boards as per IRC-67 made of 2 mm thick M.S. Sheet duly stove enameled paint white colour in front and grey colour on back with reflective border of 70 mm width and required message, letters, figures with reflective tape of engineering grade as per MORD specifications of required shade and colour. Supported and welded on 47 mm x 47 mm of 12 SWG square tube of 3050 mm height duly strengthened by 25 mm x 5 mm MS flat iron on edges on back firmly fixed to the ground by means of properly designed foundations with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701		
	A **900 mm equilateral & triangle**	each	**3,448.00**
	B **600 mm Circular**	each	**3,284.00**
	C **800 mm x 600 mm rectangular**	each	**3,767.00**
	D **600 mm x 450 mm rectangular**	each	**3,252.00**
	E **600 mm equilateral & triangle**	each	**2,972.00**
	F **900 mm High Octagon**	each	**4,209.00**
10.3	Painting Two Coats on New Concrete Surfaces Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701	sqm	**113.00**
10.4	Painting on Steel Surfaces Providing and applying two coats of ready mix paint including primer coat of approved brand on steel surface after through cleaning of surface to give an even shade as per drawing and Technical Specification Clause 1701	sqm	**100.00**
10.5	Painting on Concrete/Steel Surfaces with Epoxy Painting two coats including prime coat with epoxy paint of approved brand on concrete/steel surfaces after through cleaning of surface to give an even shade as per drawing and Technical Specification Clause 1701	sqm	**123.00**

Chapter 10 - TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES

Item	Description	Unit	Rate
10.6	Kilometre Stone Reinforced cement concrete M15 grade kilometre stone/local stone of standard design as per IRC:8 fixing in position including painting and printing, etc as per drawing and Technical Specification Clause 1703		
	(A)		
	i) 5th Kilometre Stone (precast)	each	**3,447.00**
	ii) Ordinary Kilometer Stone (Precast)	each	**2,031.00**
	iii) 200 m stone (precast)	each	**558.00**
	(B) With Local Stone		
	i) 5th Kilometre Stone	each	**2,004.00**
	ii) Ordinary Kilometer Stone	each	**1,029.00**
	iii) 200 m stone	each	**335.00**
10.7	**Boundary Pillar**		
	Reinforced cement concrete M15 grade boundary pillars/local stone of standard design as per IRC:25, fixed in position including finishing and lettering but excluding painting as per drawing and Technical Specification Clause 1704	each	**505.00**
10.8	**G.I Barbed Wire Fencing 1.2 m high** Providing and fixing 1.2 m high GI barbed wire fencing with 1.8 m RCC posts 150 mm x 150 mm placed every 3 m centre-to-centre founded in M15 grade cement concrete, 0.6 m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with 9 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc. complete as per Clause 1705.	Running m	**400.00**
10.9	**G.I Barbed Wire Fencing 1.8 m high** Providing and fixing 1.8 m high GI barbed wire fencing with 2.4 m RCC M15 grade 150 mm x 150 mm concrete post placed every 3 m centre-to-centre founded in M15 grade cement concrete, 0.6 m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with 12 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc. complete as per Clause 1705.	Running m	**566.00**
10.10	**Tubular Steel Railing on Medium Weight Steel Channel (ISMC series) 100mmx50mm** Providing, fixing and erecting 50 mm dia steel pipe railing in 3 rows duly painted on medium weight steel channels (ISMC series) 100 mm x 50 mm, 1.2 m high above ground, 2 m centre-to-centre, complete as per approved drawings Clause 1706	Running m	**2,160.00**
10.11	**Tubular Steel Railing on Precast RCC posts, 1.2 m high above Ground Level** Providing, fencing and erecting 50 mm dia painted steel pipe railing in 3 rows on precast M-20 grade RCC vertical posts 175 mm x 175 mm x 1.8 m high (1.2 m above Gl) with 3 holes 50 mm dia for pipe, fixed 2 m centre-to- centre complete as per approved drawings Clause 1706	Running m	**1,892.00**

Chapter 10 - TRAFFIC SIGNS, MARKINGS AND OTHER ROAD

Item No.	Description	Unit	Rate (Rs.)
10.12	**Providing and Fixing 'PMGSY Sign board' and 'Logo' of PMGSY Project**		
	(A) PMGSY Sign Board		
	Providing and fixing of typical PMGSY informatory sign board with Logo as per MORD specifications and drawing. Three MS Plates of 1.6 mm thick, top and middle plate duly welded with MS flat iron 25mm x 5m size on back on edges. The lower plate will be welded with MS angle iron frame of 25mm x 25mm x 5mm. The angle iron frame of the lower most plate and flat iron frame of middle plate will be welded to 2 nos. 75mm x 75 mm of 12 SWG sheet tubes posts duly embedded in cement concrete M-15 grade blocks of 450mm x 450mm x 600mm, 600mm below ground level. The top most diamond plate will be welded to middle plate by 47mm x 47mm of 12 SWG steel plate tube. All M.S. will be stove enameled on both sides. Lettering and printing arrows, border etc. will be painted with ready mixed synthetic enamel paint of superior quality in required shade and colour. All sections of framed posts and steel tube will be painted with primer and two coats of epoxy paint as per drawing Clause 1701 and Annexure 1700.1	each	**13,360.00**
	(B) PMGSY Logo Board		
	Providing and fixing Logo Board of PMGSY size 600×600mm diamond shape with 1 plate of size 900×250 mm made of 16 gauge sheet over frame of angle iron 25×25×3mm as per PMGSY specifications & drawing, painted with ready mixed synthetic enamel paint of superior quality in required shade and colour. All sections of framed posts and steel will be painted with primer and two coats of epoxy paint as per drawing Clause 1701 and Annexure 1700.1	each	**4,173.00**
	(C) Construction of cement concrete PMGSY information board		
	Construction of cement concrete PMGSY information board in CC 1:2.5:5 (M15) with skin reinforcement of 8 mm dia TMT bars @ 300 mm C/C both ways size (as per drawing annexure-ii) including excavation, base concrete (M-15), priming, painting two coats synthetic enamel paint on new concrete surface including painting-figring Logo and Slogen including writing of all information about the road etc. complete. As directed by the Engineer incharge.	each	**9,698.00**
10.13	**Providing and Fixing 'citizen's information board' of PMGSY Project**		
	Providing and fixing of typical PMGSY **CITIZEN'S INFORMATION BOARD** with Logo as per MORD specifications and drawing, made of 75mm square or 75mm dia. circular steel tube of 12 SWG 3.2 m hight and cross member 2 Nos. 1m long, fixed with Angle iron 50 x 50 x 5 mm MS angle on the back side 2Nos vertical and 4 Nos horizontal. It is mounted by 2 plates of 1.6mm thick and size 900 x 750 mm, the pipe shall be erracted on 600 x 600 x 750 mm foundation blocks at appropriate depth made of cement concrete 1:2:4, painted by standard color as per drawing with lettering, border, heading and logo etc. using sinthetic enamel paint of superior quality and all details as per standard drawing of PMGSY including welding, excavation, concreting, painting of base, border and lettering, painting cross section of road and other required details etc complete as directed by engineer-in-charge for any type of board wheather for flexible pavement or concrete pavement as prescribed for PMGSY.	each	**18421.00**
10.14	**Speed Braker**		
	Providing and laying rounded hump type of Speed Breaker confirming to IRC – 99 and as per guidelines and drawings of NRRDA circular no. DO No. P-17019/6/2006/PII Dated 16 Sept 2009, including providing, laying and compaction of GSB, G II, G III, OGPC, Seal Coat Type B, as per specifications and appended drawing on both the sides of carriage way up to formation width maintaining rounded hump type shape with bituminous mix material i/c providing and painting of black and white strips, providing and fixing of two no. 600mm equilateral retro reflecting sign boards, i/c cost of all materials, labour T & P & Machinery etc complete on flexible or rigid pavment and as directed by engineer in charge as per relevant clauses of MORD specifications.		
	A For 7.50 M Formation Width	Each	**25285.00**
	B For 6.00 M Formation Width	Each	**20108.00**
10.15	**Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface**		
	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes. **This item for edge line only and to be executed with prior written permission of CGM**	sqm	**601.00**

Chapter 10 - TRAFFIC SIGNS, MARKINGS AND OTHER ROAD

Item No.	Description	Unit	Rate (Rs.)
10.16	**White washing of parapet walls of CD work and tree truncks** White washing two coats on parapet walls and tree trunks including preparation of surface by cleaning scraping etc. as per technical specifications Clause 1916	sqm	**18.00**
10.17	**Speed Braker (For 9.0 Mt Formation Width (5.50 carriage way width))** Providing and laying rounded hump type of Speed Breaker confirming to IRC – 99 and as per guidelines and drawings of NRRDA circular no. DO No. P-17019/6/2006/PII Dated 16 Sept 2009, including providing, laying and compaction of GSB, G II, G III, OGPC, Seal Coat Type B, as per specifications and appended drawing on both the sides of carriage way up to formation width maintaining rounded hump type shape with bituminous mix material i/c providing and painting of black and white strips, providing and fixing of two no. 600mm equilateral retro reflecting sign boards, i/c cost of all materials, labour T & P & Machinery etc complete on flexible or rigid pavment and as directed by engineer in charge as per relevant clauses of MORD specifications.	each	**29244.00**
10.18 (I)	**Type- A, "W" : Metal Beam Crash Barrier** 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, 150X75X5mm 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 t IS:1367 & IS:1364 metal beam mail) be fixed on the vertical post with a spacer of channel section 150x75x5mm. 330mm long complete as per MoRTH Clause 811.	RM	**3423.00**
(II)	**Type- B, "THRIE" : Metal Beam Crash Barrier** Providing and erecting a "Thrie" Metal Beam Crash Barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150X75X5mm spaced 2 m centre-to-centre, 2 m high, 1.15 m below ground 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 channel section 150x75x5mm. 546mm long complete as per MoRTH Clause 811.	RM	**4653.00**
10.19	**Painting Lines, Dashes, Arrows, etc., on Roads in two coats on new work** Painting Lines, Dashes, Arrows, etc., on Roads in two coats on new work with ready mixed road marking paint conforming to IS: 164 on bituminous surface, including cleaning the surface of all dirt dust and other foreign matter, demarcation at site and traffic control.		
	(i) Over 10 cm in width	sqm	**126.00**
	(ii) upto 10 cm in width	sqm	**107.00**
10.20	**Road Markers/Road stud with lens reflector** Providing and fixing of road stud 100 x 100mm, diecast in aluminium, resistant to corrosive effect of salt and grill, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS : 873)Part 4) 1973. **(with written permission of regional CGM)**	Nos	**294.00**
10.21	**Road Delineators** Supplying and installation of delineators (road way indicators, hazard markers, object markers), 80-100 cm high above ground level, painted black and white in 15 cm wide strips, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed into the ground and conforming toIRC-79 and the drawings.	each	**1567.00**
10.22	**Retro Reflective Tape** Providing & fixing in position red retro reflective tape 40-50 mm wide of approved quality at trees, eclectic poles, CD / Bridge parapet etc or any type of hindrance / obstructions. The tape should be fixed preferably at 1 m above ground level {(i). with minimum three rounds in bands with spacing 150 mm to 200 mm c/c (ii) or in shape of straight strips with spacing 150 mm to 200 mm c/c} as per requirement and direction of engineer incharge.	RM	**23.00**

Chapter 11 - FOUNDATION

Item No.	Description	Unit	Rate (Rs.)
11.1	**Excavation for Structures** Earthwork in excavation for structures as per drawing and technical specifications Clause 305 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 1000 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.		
	I. Ordinary soil		
	(i) Upto 1.5 m depth	cum	**210.00**
	(a) Add extra for dewatering where required	cum	**19.00**
	(b) Add extra for Shoring and shuttering where required	cum	**6.00**
	(ii) 1.5 m to 3 m depth	cum	**283.00**
	(a) Add extra for dewatering where required	cum	**25.00**
	(b) Add extra for Shoring and shuttering where required	cum	**12.00**
	(iii) 3 m to 6 m depth	cum	**336.0**
	(a) Add extra for dewatering where required	cum	**44.00**
	(b) Add extra for Shoring and shuttering where required	cum	**30.00**
	II. Ordinary rock (not requiring blasting)		
	Upto 3 m depth	cum	**353.00**
	(a) Add extra for dewatering where required	cum	**31.00**
	III. Hard rock (requiring blasting)	cum	**534.00**
	(a) Add extra for dewatering where required	cum	**47.00**
	IV. Hard rock (blasting prohibited)	cum	**415.00**
	(a) Add extra for dewatering where required	cum	**50.00**
	V. Marshy soil	cum	**530.00**
	(a) Add extra for dewatering where required	cum	**140.00**
	(b) Add extra for Shoring and shuttering where required	cum	**70.00**
11.2	Fillling in foundation trenches as per drawing and technical specification Clause 305.3.9		
	I. Sand filling	cum	**714.00**
	II. Granular material filling	cum	**437.00**
	III. Earth filling	cum	**182.00**

Chapter 11 - FOUNDATION

Item No.	Description	Unit	Rate (Rs.)
11.3	Filling annular space around footing in rock as per technical specification Clause 1203.2.3.		
	Nominal mix 1:2.5:5	cum	**4,280.00**
11.4	Providing concrete for plain/reinforced concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203		
	I. P.C.C grade M 10		
	(i) Nominal mix 1:3:6 with 40 mm and down graded metal	cum	**4,295.00**
	II. P.C.C grade M 15		
	(i) Nominal mix (1:2.5:5) with 40 mm and down graded metal	cum	**4,328.00**
	III. P.C.C. grade M 20		
	(i) Nominal mix (1:2:4) with 40 mm and down graded metal	cum	**4,677.00**
	IV. R.C.C grade M 20 with 20 mm and down graded metal	cum	**4,875.00**
	V. R.C.C. grade M 25 with 20 mm and down graded metal	cum	**5,203.00**
11.5	Brick masonry work in cement mortar in foundation complete excluding pointing and plastering as per drawing and technical specifications Clauses 600, 1202 & 1203		
	I. Brick masonry in 1:3 cement mortar	cum	**5,678.00**
	II. Brick masonry in 1:4 cement mortar	cum	**5,496.00**
11.6	Stone masonry work in cement mortar in foundation complete as per drawing and technical specifications Clauses 702, 704, 1202 & 1203.		
	I. Coursed rubble masonry (1st sort)		
	(i) In 1:3 cement mortar	cum	**4,449.00**
	(ii) In 1:4 cement mortar	cum	**4,221.00**
	II. Coursed rubble masonry (2nd sort)		
	(i) In 1:3 cement mortar	cum	**4,247.00**
	(ii) In 1:4 cement mortar	cum	**3,997.00**
	III. Random Rubble Masonry		
	(i) In 1:3 cement mortar	cum	**4,099.00**
	(ii) In cement mortar 1:4	cum	**3,848.00**
11.7	Supplying, fixing and placing TMT bar reinforcement in foundation complete as per drawings and technical specifications Clauses 1000 and 1202	t	**56,493.00**
11.8	Supplying, fixing and placingTMT bar reinforcement in foundation complete as per drawings and technical specifications Clauses 1000 and 1202	t	**56,493.00**
11.9	Supplying, fixing and placing MS bar reinforcement in foundation complete as per drawings and technical specifications Clauses 1000 and 1202	t	**54,904.00**

Chapter 12 - SUBSTRUCTURE

Item No.	Description	Unit	Rate (Rs.)
12.1	Brick masonry work in cement mortar in substructure complete excepting pointing and plastering, as per drawing and technical specification Clauses 602, 603, 604 & 1202		
	I. In 1:3 cement mortar	cum	**5,962**
	II. In 1:4 Cement mortar	cum	**5,771**
	III. In 1:5 cement mortar	cum	**5,668**
12.2	Pointing with cement mortar (1:3) on brick work/stone work as per drawing and technical specification Clauses 613.3	sqm	**68**
12.3	Plastering with cement mortar (1:4), 15 mm thick on brickwork in substructure as per technical specification Clauses 613.4	sqm	**167**
12.4	Stone masonry in cement mortar for substructure complete as per drawing & technical specification Clauses 702, 704, 1202		
	I. Coursed rubble masonry (1st sort)		
	(i) In cement mortar (1:3)	cum	**4,671**
	(ii) In cement mortar (1:4)	cum	**4,432**
	(iii) In cement mortar (1:5)	cum	**4,089**
	II. Coursed Rubble masonry (2nd sort)		
	(i) In cement mortar (1:3)	cum	**4,460**
	(ii) In cement mortar (1:4)	cum	**4,196**
	(iii) In cement mortar (1:5)	cum	**4,055**
	III. Random rubble masonry		
	(i) In cement mortar (1:3)	cum	**4,303**
	(ii) In cement mortar (1:4)	cum	**4,040**
	(iii) In cement mortar (1:5)	cum	**3,898**
12.5	Plain/reinforced cement concrete in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202		
	I P.C.C grade M 10		
	(I) Nominal mix (1:3:6)	Cum	**4,295.00**
	II P.C.C grade M 15		
	(i) Nominal mix (1:2.5:5)	cum	**4,578.00**
	III. P.C.C. grade M 20		
	(i) Nominal mix (1:2:4)	cum	**4,947.00**
	IV. R.C.C grade M 20	cum	**5,156.00**
	V **R.C.C. grade M 25 (For Box Type Structhure Bottom Slab)**	cum	**5,203.00**
	VI **R.C.C. grade M 25 (For Box Type Structhure Side Wall & Top Slab)**	cum	**5,754.00**

Chapter 12 - SUBSTRUCTURE

Item No.	Description	Unit	Rate (Rs.)
12.6	Supplying, fixing and placing TMT bar reinforcement (Fe 500) in substructrue complete as per drawings and technical specification Clauses 1002, 1005, 1204.15 & 1202	t	**56,493.00**
12.7	Supplying, fixing and placing TMT bar reinforcement (Fe 500) in substructrue complete as per drawings and technical specification Clauses 1002, 1005, 1204.15 & 1202	t	**56,493.00**
12.8	Supplying, fixing and placing with MS bar reinforcement (Fe 500) in substructrue complete as per drawings and technical specification Clauses 1002, 1000, 1204.15 & 1202	t	**54,904.00**
12.9	Providing weepholes in brick masonry/stone masonry, plain/reinforced concrete abutment, wing wall, return wall with 100 mm dia AC pipe extending through the full width of the structures with slope of 1(V):20(H) towards drawing face complete as per drawing and technical specification Clauses 614, 709, 1206.6	RM	**158.00**
12.10	Backfilling behind abutment, wing wall and return wall complete as per drawings & technical specification Clause 1206.3.		
	I) Granular material	cum	**694.00**
	II) Sandy material	cum	**976.00**
12.11	Providing and laying filter media with granular crushed aggregates as per specification to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and providing over the entire surface behind abutment, wing wall, return wall to the full height, compacted to firm condition complete as per drawing and technical specification Clause 1203.2.3.	cum	**1,053.00**
12.12	Supplying, fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) Section IX complete, including all accessories as per drawings and technical specification Clause 1402	cucm	**0.52**
12.13	Providing PCC M-20 architectural coping on the top of wing wall, return wall etc. complete as per drawing and technical specification Clauses 615, 710 (150mm thick & 400 mm wide)	RM	**321.00**
12.14	Providing pressure relief pipes 100 mm dia in bottom slab of box cell on a filter media base of 500 mm x 500 mm as per drawing and technical specification Clause 1207.2.3	Nos.	**498.00**
12.15	**Anchor bar for RCC slabs of submersible bridges** Providng and fixing 20mm dia MS anchor bar duly welded at bottom with MS plate of size 500mm x 75mm x 10mm including all material labour charges etc. as per plate no. 7.22 SP-20 or otherwise as directed by Engineer incharge.		
	A) Fixed end anchor bar	each	**494.00**
	B) Free end anchor bar	each	**984.00**
12.16	Providng and fixing in position bituminious paper bearing for slabs as per approved drawing and confirming to IS:1398	sqm	**46.00**
12.17	Providng and fixing in position anchor bar / dowel bar in 1.5 mtr. deep 65 mm dia drill hole with 25mm dia MS bar, 1.5 mtr. in hole and 1.5 mtr above hole including placing, fixing of bar, grouting of hole with 1:3 cement mortar including cost of all T&P, cost of air and water, drilling of hole curing etc. complete.	per bar	**857.00**

Chapter 13 - SUPERSTRUCTURE

Item No.	Description	Unit	Rate (Rs.)
13.1	Providing and laying reinforced cement concrete in superstructure as per drawing and technical specifications Clauses 800, 1400 I. R.C.C grade M 20		
	(i) For nominal mix 1:2:4	cum	**5,625.00**
	(iii) For design mix RCC M 20	cum	**5,485.00**
	II. R.C.C M 25	cum	**5,917.00**
	III. R.C.C. Grade M 30	cum	**6,093.00**
13.2	Supplying, fixing, and placing TMT bar reinforcement in superstructure complete as per drawing and technical specifications Clauses 1002, 1204.15 and 1202	t	**56,493.00**
13.3	Supplying, fixing, and placing TMT bar reinforcement in superstructure complete as per drawing and technical specifications Clauses 1002, 1204.15 and 1202	t	**56,493.00**
13.4	Supplying, fixing, and placing MS bar reinforcement in superstructure complete as per drawing and technical specifications Clauses 1002, 1204.15 and 1202	t	**54,904.00**
13.5	Providing and laying cement concrete wearing coat 75 mm thick M 30 grade including reinforcement of 8 mm diameter and 150 mm spacing in both direction shall be provided at the mid depth of the wearing coat etc complete as per drawing and technical specifications Clauses 800 and 1400	cum	**10,670.00**
13.6	Construction of R.C.C. railing of M 25 grade in cast-in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical railing post not to exceed 1 in 500, centre-to-centre spacing between vertical posts not to exceed 2000 mm as per drawing and technical specifications Clauses 800, 900, 1404 & 1706	m	**2,586.00**
13.7	Providing and fixing in position pipe railing consisting of IS Rolled steel joist posts designation IS MB 100 (100x75) at 2.5 m interval and three rows of 50 mm dia GI pipes (Type-A) including fixing in position on bridge deck complete as per drawing and technical specifications Clause 1404 & 1706	m	**2,111.00**
13.8	Brick masonry work in cement mortar 1:3 in parapet excluding pointing and plastering as per drawing and technical specifications Clauses 600 and 900	cum	**5,678.00**
13.9	Drainage spouts complete as per drawing and technical specifications Clause 1404.5	Nos.	**1,431.00**
13.10	P.C.C. M 15 ordinary grade (1:2.5:5) levelling course below approach slab complete as per drawing and technical specifications Clauses 800 and 1211		
	(i) Nominal mix (1:2.5:5)	cum	**4,162.00**
13.11	Stone masonry in cement mortar 1:3 for parapet complete as per drawing and technical specifications Clauses 700 and 704.3		
	I. Random rubble masonry	cum	**4,303.00**
	II. Coursed rubble masonry (2nd sort)	cum	**4,460.00**
	III. Coursed rubble masonry (1st sort)	cum	**4,671.00**
13.12	Pointing with cement mortar (1:3) on brickwork in parapet as per technical specifications	sqm	**68.00**

Chapter 13 - SUPERSTRUCTURE

Item No.	Description	Unit	Rate (Rs.)
13.13	Plastering with cement mortar (1:3) 15 mm thick on brickwork in parapet as per technical specifications Clauses 613.4	sqm	**167.00**
13.14	Providing and laying parapet with PCC M 15 as per drawing & technical specifications Clauses 800		
	Nominal mix (1:2.5:5)	cum	**4,578.00**
13.15	Providing & Laying reinforced cement concrete arch complete including centering and shuttering excluding reinforcement as per drawings and technical specifications Clauses 800, 900 and 1401		
	I. RCC grade M20 (1:2.4) nominal mix	cum	**5,917.00**
	II. RCC Grade M 25	cum	**6,312.00**
13.16	**Filler Joint**		
	I) Providing and fixing 2 mm thick corrugated copper plate in expansion joint as per drawing and technical specifications Clause 1403.4	RM	**3,407.00**
	II) Providing and fixing 25 mm thick compressible fibre board in expansion joint complete as per drawing and technical specifications	sqm	**714.00**
	III) Providing and fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing and technical specifications	sqm	**601.00**
	IV) Providing and fixing in position 25 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans, covered with sealant complete as per drawing and technical specifications	RM	**178.00**
	V) Providing and fillling joint in CC pavement as per IS 3873/ IRC specification 100x10 recess to be filled with coarse sand with bitumin (6.0% by weight) sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight.		
	A For joint size 12mmx70mm	RM	**38.00**
	B For joint size 5mmx70mm	RM	**22.00**
13.17	Reinforced Cement Concrete M 30 grade approach slab including reinforcement and formwork complete as per general note drawing and technical specifications Clauses 800 and 1404.4	cum	**11,742.00**

Chapter 14 - PROTECTION WORKS

Item No.	Description	Unit	Rate (Rs.)
14.1	Providing and laying boulder apron for bed protection with stone boulders of minimum size and weight as per Table 1300.1, no fragment weighing less than 40 kg laid dry complete as per drawing and technical specifications Clause 1301	cum	**931.00**
14.2	Providing and laying pitching on slopes laid over prepared filter media as per drawing and technical specifications Clause 1302 with minimum size and weight of stone as per table 1300.2, no stone weight weighting less than 25 kg.		
	Stone/Boulder	cum	**931.00**
14.3	Providing and laying filter material underneath pitching in slopes complete as per drawing and technical specifications Clause 1302 with thickness of filter 150 mm unless otherwise specified.	cum	**1,421.00**
14.4	Providing and laying flooring laid over 150mm thick cement concrete M10 grade bedding complete as per drawing and technical specification Clause 1303		
	Rubble stone laid in cement mortar 1:3	cum	**3,305.00**
14.5	Construction of toe walls for protection of slopes as per drawing and technical specifications Clause 1302.5		
	I. Random rubble masonry in case of stone pitching laid with cement mortar (1:5)	cum	**3,898.00**
	II. Cement concrete grade M 10 in case of concrete block pitching Nominal mix 1:3:6	cum	**4,295.00**
14.6	Providing and fixing circular type tree guard's made of 10mm of size square bars of 1500mm hight, 6 No. vertical out of which 3 fixed with hold fast for fastening in concrete and 3 No circular rings to make tree gard of 1000 mm dia and 1500 mm high including welded mesh with 18 gauge with 25 x 25 mm i/c fixing in ground with CC (M-10) including excavation of pits welding, coating of red oxide primer and painting with enamel paint etc. complete.	Nos.	**2326.00**
14.7	Tree Plantation with including cost of tree and labours & as directed by Engineer incharge	Nos.	**60.00**
14.8	Providing and laying of boulder apron laid in wire crates with 4 mm dia GI wire conforming to IS:280 and IS:4826 in 100 mm x 100 mm mesh (woven diagonally) including 10 per cent extra for laps and joints laid with stone boulders weighing not less than 25 kg each wire crates built in-situ, shall not be larger then 7.5m x 3 m x 0.6 m. , nor smaller than 2m x 1 m x 0.3 m. & as per drawing and technical specifications Clause 1301	cum	**1802.00**
14.9	Providing and laying of dry rubble flooring complete as per drawings and technical specifications Clause 1303.3 where the flow in insignificant (less than 1.5M/Sec) and no singnificant scour is expected with minimum thickness as 150mm made with one flat stone only.	cum	**1300.00**
14.10	**Guard stones** Providing and fixing guard stones on curves or at any other place as directed by engineer incharge made of 220 X220X1000 mm hammer dressed stones / RCC M-15 and fixed 400mm into the ground in morum and broken agreegates block of size 500X500X500mm and painted with white and black bands in 2 coat with redimix enamel paint including excavation of pit etc. complete.	each	**492.00**
14.11	Construction of boulder/stone masonary wall as per drawing and specifications in mudmorter or dry including white washing 3 coats to one side of the wall for guard walls, temporary diversion etc. including all materials, labour complete.	cum	**1079.00**
14.12	**Gabian Structure for Retaining Earth** Providing and construction of a gabian structure for retaining earth with segments of wire crates of size 7 m x 3 m x 0.6 m each divided into 1.5 m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be tied with 4 mm galvanised steel wire	cum	**1256.00**

Chapter 15 - MAINTENANCE OF ROADS

Item No.		Description	Unit	Rate (Rs.)
15.1		**Restoration of Rain Cuts**		
	i)	Restoration of rain cuts with soil, moorum gravel or a mixture of these, clearing the loose soil, benching for 300mm width laying fresh material in layers not exceeding 250 mm and compaction with plate compactor or power rammer to restore the original alignment, level and slopes as per drawings and technical specifications Clause 1902		
		A. Manual Means	cum	**260.00**
		B. Mechanical Means	cum	**178.00**
15.2	**A**	**Maintenance of Hard shoulder (filling with fresh hard shoulder material)** Making up loss of material/irregularities on shoulders to the design level by adding fresh approved hard shoulder material having CBR > 12 and compacting it with appropriate equipment at OMC upto a lead of 1000 m as per technical specification Clause 1903		
	(I)	**For depression upto 15 cm**	sqm	**26.00**
	(ii)	**For depression upto 7.5 cm**	sqm	**14.00**
	B.	**Maintenance of Earthen shoulder (stripping of excess soil)** Stripping excess soil from the shoulder surface to achieve the approved level and compacting with plate compactor at OMC as per drawings and Technical Specification Clause 1903		
		Average thickness 7.5 cm	sqm	**13.00**
15.3		**Maintenace of bituminous surface road**		
	i.	Repair to pot holes by removal of failed material, trimming the sides to vertical and levelling the bottom, cleaning the same with compressed air or any appropriate method filled with 50mm to 75mm Bituminous macadam with binder content 3.5% as per clause 504 applying bitumen emulsion prime coat at the bottom and bitumen emulsion tack coat on sides and on bottom compacting with appropriate compacting equipment as per technical specifications Clauses 502 and 503. (Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)	cum	**6,793.00**
	ii	Repair to pot holes by removal of failed material, trimming the sides to vertical and (Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)	cum	**5,030.00**
	iii.	Patch repair on already filled pot holes with 50mm to 75 mm Bituminous macadam/BUSG with binder content 3.5% with tack coat, 20 mm premix carpet and seal coat Type B as per drawings and technical specification Clause 1904.2 and compacting with appropriate compacting equipment (Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)	sqm	**183.00**
	iv.	Repair to pot holes and removal of loose material, trimming of sides, cleaning of surface by providing Primer coat, tack coat, 20 mm thick pre-mix carpet material having binder content 3.65% and seal coat type B specification Clause 1904.2 and compacting with appropriate compacting equipment (Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)	sqm	**235.00**
	v	Repair to pot holes and removal of loose material, trimming of sides, cleaning of surface by providing tack coat with bitumen emulsion, 20 mm thick pre-mix carpet using catonic bitumen emulsion and seal coat type B with bitumen emulsion and compacting with appropriate compacting equipment (Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)	sqm	**253.00**
	vi	Repair to pot holes by removal of failed material, trimming the sides to vertical and levelling the bottom, cleaning the same with compressed air or any appropriate method with Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 11.2 mm to 0.9 mm (Type-A) or 13.2 mm to 0.9 mm (Type-B) aggregates using penetration grade bitumen to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 8-10 kN static roller and finishing to required level and grades as per Technical Specification Clause 509 including applying tack coat of bitumen emulsion (RS-1) @ 0.275 kg/sqm		
		Type A Bitumen (VG-30)	sqm	175.00
		Type B Bitumen (VG-30)	sqm	168.00
		(Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)		

Chapter 15 - MAINTENANCE OF ROADS

Item No.	Description	Unit	Rate (Rs.)
15.4	**Maintenance of Gravel Road**		
	Maintenance of gravel road including making up the loss of profile, rectifying corrugated surface, filling up of depressions, pot holes and erosion gullies by adding fresh material and compacting it with appropriate equipment or to strip excess of material from the road surface as per drawings and technical specification Clause 1906		
	Rate per sqm for depression upto 15 cm	sqm	**168.00**
	Rate per sqm for depression upto 7.5 cm	sqm	**60.00**
	(Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)		
15.5	**Maintenance of WBM Road**		
	Maintenance of WBM road including filling up of pot holes, ruts and rectifying corrugated surface, damaged edges and ravelling as per technical specification Clause 1907.		
	Rate per sqm for depression upto 7.5 cm	sqm	**65.00**
	(Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)		
15.6	**Maintenance of Drains**		
	The maintenance of drains include erosion, repair, clearing, cleaning, reshaping, regrading, deepening of side drains as well as catch water drains as per technical specification Clause 1908.	per M	**3.00**
15.7	**(I) Maintenance of Culverts**		
	(a) Maintenance of Hume pipe Culvert by way of Clearing of silt or debris on both up stream & down stream Cleaning, Erosion repair, repairs to cracks, parapet wall, protection work and invert to restore in original condition as per drawing and technical specification Clause 1909 (For one row)	For one row of Hume pipe	**1,177.00**
	(b) Extra rate for each row when culvert is having more than one row of Pipe		**294.00**
	(II) Maintenance of Culverts Slab type		
	Maintenance of slab Culvert by way of Clearing of silt or debris on both up stream & down stream Cleaning, Erosion repair, repairs to cracks, parapet wall, protection work and invert to restore in original condition as per drawing and technical specification Clause 1909	each	**2,048.00**
15.8	**Maintenance of Causeway**		
	Maintenance of Causeway by way of minor Surface repairs, replacing Guide Posts, repair of flood gauges, removal of debris, providing boulders and protection work and painting as per technical specification Clause 1910		
	Rate per metre for vented causeway	RM	**100.00**
	Rate per metre for Flush causeway (Taking 50% of VCW)	RM	**50.00**
15.9	**Maintenance of Road Signs**		
	Maintenance of road signs by way of cleaning and repainting of mandatory / requlatory / cautionary / informatory and place identifications sign board as perdrawings and technical specification Clause 1911	sqm	**313.00**
15.10	**Maintenance of steel and RCC Railing**		
	(i) Repair of steel railing to bring it to original shape cleaning and repainting as per drawing and technical specification Clause 1912	metre	**273.00**
	(ii) Repair of RCC railing to bring it to the original shape and cleaning as per drawings and technical specification Clause 1912	metre	**1,653.00**
	(iii) Rate of Painting for RCC railling shall be as per Item 10.3	sqm	**113.00**
15.11	**Maintenance of 200 metre and km stones**		
	Maintenance of 200 metre, km stone and 5th km stones by way of refiting of tilted stones repairing with cement mortar, cleaning, repairing and lettering on 200 metre km stone and 5th km stone as per drawing and technical specification Clause 1913	km	**844.00**
15.12	**Cutting of branches of trees shrubs and trimming of grass and weeds**		
	(i) Cutting of branches of trees from the road way or with in R.O.W including disposal of wood and leaves to suitable location as per technical specification Clause 1915	each tree	**116.00**
	(ii) Cutting of shrubs and trimming of grass and weeds from the shoulders/berms and disposing off the same to suitable locations as per technical specifications Clause 1915	sqm	**2.00**
15.13	**Cutting of branches of trees shrubs and trimming of grass and weeds**		
	White washing two coats on parapet walls and tree trunks including preparation of surface by cleaning scraping etc. as per technical specifications Clause 1915	sqm	**15.00**
15.14	**Repair of old Joints Sealant**		
	Removal of existing sealant and re sealing of contraction, longitudinal or expansion joints in concrete pavement with fresh sealant material	RM	**35.00**

Chapter 15 - MAINTENANCE OF ROADS

Item No.	Description	Unit	Rate (Rs.)
15.15	**Crack Filling**		
	Filling of crack bituminus (in flexible pavement) using slow - curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.	RM	**5.00**
15.16	**Repair to old hungry bituminous surface**		
	Repair to old hungry bituminous surface by providing & laying of seal coat including leveling as an integral part of seal coat, sealing the voids in a bituminous surface laid to the specified level grade and cross fall using Type A, Type B and Type C as per Technical Specification Clause 508 after including tack coat as par clouse 503		
	Bitumen (VG-30)		
	Type A	sqm	**71.00**
	Type B	sqm	**57.00**
	Type C	sqm	**57.00**
	(Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)		
15.17	**Fog Seal Coat**		
	Providing and applying low viscosity bitumen emulsion for sealing cracks less than 3 mm wide or incipient fretting or disintegration in an existing bituminous surfacing.	sqm	**45.00**
15.18	**Renewal Work with 20mm thick Open-Graded Premix Carpet & type B Seal Coat including patch repair using Bituminous (penetration grade/modified bitumen) Binder**		
	Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm size@0.18 cum per 10 sqm and 11.2mm size@ 0.09 cum per 10 sqm aggregates using VG 30 grade bitumen as per clause 508 including leveling course as an integral part of PMC followed by seal coat type B as per clause 508 to required line, grade and level to including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades including repair to pot holes with BM prior to PMC by removal of failed material, trimming the sides to vertical and levelling the bottom, cleaning the same with compressed air or any appropriate method filled with bituminous mixed material with bitumen content 3.5%, Bitumen emulsion prime coat at the bottom and bitumen emulsion tack coat for pot hole as well as premix carpet area as per technical specifications (**Note:- This item is aplicable for repairing of pot holes when single pot hole of size less than 10 sqm is to be repaired)**	sqm	**189.00**
15.19	Maintenance of hard shoulder after renewal of bituminous surface including making up of loss of profile, rectifyilg corrugated surface, filling of depressions, erosion gullies by adding fresh material (selected soil havind CBR value not less than 12), all lead and lift maintaining 4% camber, operations like watering, rolling, compaction with roller to achieve desired etc. as per clouse 303.5. (Note:-This Item can be used only in renewal of BT not incase of upgradation of road.)	sqm	**11.00**