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NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORTION LIMITED
(MINISTRY OF ROAD TRANSPORT & HIGHWAYS)
GOVT. OF INDIA

Consultancy Services for Preparation of DPR for Development of Economic Corridors, Inter Corridors and Feeder Routes to Improve the Efficiency of Freight Movement in India under Bharatmala Pariyojana






Lot-1 : Package-II
(251.8 KM)

Section 4
Km 80+930 to Km 96+400

Final
Detailed Project Report

Volume – VI
Rate Analysis

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RATE ANALYSIS

Considerations

Following considerations are taken into account during analysis of rates:

Basic item rates are estimated as per S.O.R for roads, bridge, culvert works under P.W.(Bldg and NH) Department for 2013-14
Extra lead cost for Aggregates (Road works)are considered as per S.O.R of P.W.(Bldg and NH) Department for 2013-14.
Premium @ 5.76 % excluding GST has been considered to achieve the current rate i.e 2019-20 as per PWD circular no.HNR./41/1920/48 dated 7th August 2019.
Area Weightages (10% increase to be allowed over present schedule of rates) for Karbi-Anglong district has been considered in section-4 as per SOR.
Rates of important items as per S.O.R of P.W.(Bldg and NH) including Premium and extra lead for aggregates are provided **below:**

Items	Unit	Rates (in Rs) for Sec-4
Excavation	Cum	54
Construction of embankment with approved material from borrow area.	Cum	213
Construction of Embankment with Material Deposit from Roadway cutting	Cum	105
Construction of Subgrade & Earthen Shoulder	Cum	249
Granular Sub Base	Cum	2330
WMM	Cum	2466
DBM	Cum	10376
BC	Cum	11794
PCC-M15	Cum	5927
RCC M-30 (Foundation)	Cum	7945
RCC M-35 (Foundation)	Cum	8075
PSC M-45 (Super Structure)	Cum	10044
HYSD (Foundation)	MT	74561

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-2							
SITE CLEARANCE							
2.1	**201**	**Cutting of Trees, including Cutting of Trunks, Branches and Removal** (Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all lifts and up to a lead of 1000 mtrs and earth filling in the depression/pit.					
(i)		Girth from 300 mm to 600 mm	each	140.00	148.06		148.06
(ii)		Girth from 600 mm to 900 mm	each	272.00	287.67		287.67
(iii)		Girth from 900 mm to 1800 mm	each	498.00	526.68		526.68
(iv)		Girth above 1800 mm	each	918.00	970.88		970.88
2.2	**201**	**Clearing Grass and Removal of Rubbish** (clearing grasss and removal of rubbish upto a distance of 50m outside the periphery of the area.)	hectare	8543.00	9035.08		9035.08
2.3	**201**	**Clearing and Grubbing Road Land .**(Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials to beused or auctioned up to lead of 1000metres including removal and disposal of top organic soil not exceeding 150mm thickness.					
(i)		**By Manual Means:-**					
A		In area of light jungle	hectare	26019.00	27517.69		27517.69
B		In area of thorny jungle	hectare	34952.00	36965.24		36965.24
(ii)		**By Mechanical Means**					
A		In area of light jungle	hectare	39722.00	42009.99		42009.99
B		In area of thorny jungle	hectare	47988.00	50752.11		50752.11
2.5	**202**	**Dismantling of Flexible Pavements (Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately)**					
I		By Manual Means					
A		Bituminous courses	cum	405.00	428.33		428.33
B		Granular courses	cum	300.00	317.28		317.28
II		By Mechanical Means					
A		Bituminous course	cum	208.00	219.98		219.98
2.8	**202**	**Dismantling Kerb Stone** (Dismantling kerb stone by manual means and disposal of dismantled material with all lifts and up to a lead of 1000 metre)	metre	11.00	11.63		11.63
2.9	**202**	**Dismantling Kerb Stone channel** (Dismantling kerb stone channel by manual means and disposal of dismantled material with all lifts and up to a lead of 1000 metre)	metre	16.00	16.92		16.92
2.10	**202**	**Dismantling Kilometre Stone** (Dismantling of kilometre stone including cutting of earth, foundation and disposal of dismantled material with all lifts and lead upto 1000 m and back filling of pit.)					0.00
A		5th KM stone	each	221.00	233.73		233.73
B		Ordinary KM Stone	each	125.00	132.20		132.20
C		Hectometre Stone/200-M stone	each	25.00	26.44		26.44
2.12	**202**	**Dismantling of CI Water Pipe Line** (Dismantling of CI water pipe line 600 mm dia including disposal with all lifts and lead upto 1000 metres and stacking of serviceable material and unserviceable material separately under supervision of concerned department.)	metre	76.00	80.38		80.38

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
2.13	**202**	**Removal of Cement Concrete Pipe of Sewer Gutter** (Removal of cement concrete pipe of sewer gutter 1500 mm dia under the supervision of concerned department including disposal with all lifts and up to a lead of 1000 metres and stacking of serviceable and unserviceable materials separatelyb but excluding earth excavation and dismantling of masonry works.)	metre	121.00	127.97		127.97
2.14	**202**	**Removal of Telephone / Electric Poles and Lines** (Removal of telephone / Electric poles including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and up to a lead of 1000 metres and stacking serviceable materials and unserviceable materials separately.)	each	102.00	107.88		107.88

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-3							
EARTH WORK, EROSION CONTROL AND DRAINAGE							
3.6	**301**	**Excavation in Soil using Hydraulic Excavator CK 90 and Tippers with disposal upto 1000 metres.** (Excavation for roadwork in soil with hydraulic excavator of0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes,in accordance with requirements of lines, grades and cross sections,loading and disposal of cut road with in all lifts and leads upto 1000 metres)	cum	51.00	53.94		53.94
3.7	**301**	**Excavation in Ordinary Rock using Hydraulic ExcavatorCK-90 and Tippers with disposal upto 1000 metres.** (Excavation for roadway in ordinary rock with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, transporting to embankment site within all lift and lead up to 1000metres, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross sections.)	cum	66.00	69.80		69.80
3.9	**301**	**Excavation in Hard Rock (controlled blasting) with disposal upto 1000 metres** (Excavation for roadway in hard rock with controlled 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 road with in all lifts and leads upto 1000 metres)	cum	95.00	100.47		100.47
3.11	**301**	**Removal of Unserviceable Soil with Disposal upto 1000 metres (Removal of unserviceable soil including excavation, loading and disposal upto 1000 metres lead but excluding replacement by suitable soil which shall be paid separately as per clause 305.)**	cum	52.00	55.00		55.00
3.13	**304**	**Excavation for Structures** (Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom,backfilling the excavated earth to the extent required and utilising theremaining earth locally for road work.)					
(i)		**Ordinary soil**					
B		Mechanical Means (Depth upto 3 m))(Without dewatering)	cum	38.00	40.19		40.19
		Mechanical Means (Depth upto 3 m))(With dewatering)	cum	40.00	42.30		42.30
(ii)		**Ordinary rock (not requiring blasting)**					
B		Mechanical Means (Depth upto 3 m))(Without dewatering)	cum	51.00	53.94		53.94
		Mechanical Means (Depth upto 3 m))(With dewatering)	cum	53.00	56.05		56.05
(iv)		**Hard rock (blasting prohibited)**					
A		Mechanical Means (Without dewatering)	cum	429.00	453.71		453.71
		Mechanical Means (With dewatering)	cum	449.00	474.86		474.86
(v)		**Marshy soil**					
B		Mechanical means (upto 3 m depth)(without dewatering)	cum	277.00	292.96		292.96
		Mechanical means (upto 3 m depth)(with dewatering)	cum	275.00	290.84		290.84
3.14	**305.4.3**	**Scarifying Existing Granular Surface to a Depth of 50 mm by Manual Means** (Scarifying the existing granular road surface to a depth of 50 mm and disposal of scarified material within all lifts and leads upto 1000 metres.)	sqm	15.00	15.86		15.86

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
3.15	**305.4.3**	**Scarifying existing bituminous surface to a depth of 50 mm by mechanical means** (Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified material with in all lifts and lead upto 1000 metres.)	sqm	4.00	4.23		4.23
3.16	**305**	**Embankment Construction with Material Obtained from Borrow Pits** (Construction of embankment with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirment of table 300-2 (including compensation of earth.)(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
		(a) from private land	cum	201.00	212.58		212.58
		(b)(from Govt land)	cum	169.00	178.73		178.73
		Extra lead beyond initial lead of 3.0 Km.	cum/km	7.74	8.19		8.19
3.17	**305**	**Construction of Embankment with Material Deposited from Roadway Cutting** (Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2)	cum	99.00	104.70		104.70
3.18	**305**	**Construction of Subgrade and Earthen Shoulders** (Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table (300-2) (including compensation of earth.)(a), (Including cost of testing of materials at site and laboratory as directed by the deptt.)					
		(a) from private land	cum	235.00	248.54		248.54
		(b) from Govt land	cum	202.00	213.64		213.64
		Extra lead beyond initial lead of 3.0 Km.	cum/km	8.46	8.95		8.95
3.19	**305.3.4**	**Compacting Original Ground**					
Case-I		Compacting original ground supporting subgrade (Loosening of the ground upto a level of500 mm below the subgrade level, watered, graded and compacted in layers to meet requirement of table 300-2 for subgrade construction.)	cum	63.00	66.63		66.63
Case-II		Compacting original ground supporting embankment	cum	33.00	34.90		34.90
3.20	**305**	**Stripping and Storing Top Soil** (Stripping, storing of top soil by road side at 15 m internal and re-application on embankment slopes, cut slopes and other areas in localities where the available embankment material is not conducive to plant growth)	cum	124.00	131.14		131.14
3.21		**Stripping, storing and re-laying top soil from borrow areas in agriculture fields.** (Stripping of top soil from borrow areas located in agriculture fields, storing at a suitable place, spreading and re-laying after taking the borrow earth to maintain fertility of agricultural field,finishing it to the reqd. levels and satisfaction of the farmer.)	cum	78.00	82.49		82.49
3.22	**307**	**Turfing with Sods** (Furnishing and laying of the live sods of perennial 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 rods and watering)	sqm	27.00	28.56		28.56
3.23		**Seeding and Mulching** (Preparation of seed bed on previously laid top soil, furnishing and placing of seeds, fertilizer, mulching material, applying bituminous emulsion at the rate of0.23 litres per sqm and laying and fixing jute netting, including watering)	sqm	114.00	120.57		120.57

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
3.24	**309**	**Surface Drains in Soil** (Construction of unlined surface drains of average cross sectional area 0.40 sqm in soil to specified lines, grades, levels and dimensions to the requirement of clause 301 and 309. Excavated material to be used in embankment within a lead of 50m (Average lead 25m)					
A		Mechanical means	metre	59.00	62.40		62.40
B		Manual Means	metre	34.00	35.96		35.96
3.25	**309**	**Surface Drains in Ordinary Rock** (Construction of unlined surface drain of average cross sectional area 0.4 sqm in ordinary rock to specified lines, grades, levels and dimensions as per approved design and to the requirement of clause 301 to 309. Excavated to be used in embankment at site.)					0.00
A		Mechanical Means	metre	120.00	126.91		126.91
3.27	**309**	**Sub Surface Drains with Perforated Pipe** (Construction of subsurface drain with perforated pipe of 100 mm internal diameter of metal/ asbestos cement/ cement concrete/PVC, closely jointed, perforations ranging from 3 mm to 6 mm depending upon size of material surrounding the pipe,with 150mm bedding below the pipe and 300mm cushion above the pipe,cross section of excavation 450mmx550mm. excavated material to be utilised in road way at site.)	metre	480.00	507.65		507.65
3.28	**309**	**Aggregate Sub- Surface Drains** (Construction of aggregate sub surface drain 300 mm x 450 mm with aggregates conforming to table 300-4, excavated material to be utilised in roadway)	metre	190.00	200.94		200.94
3.29	**309**	**Underground Drain at Edge of Pavement** (Construction of an underground drain 1 m x 1 m (inside dimensions) lined with RCC-20 cm thick and covered with RCC slab10 cm in thickness on urban roads)	metre	4157.00	4396.44		4396.44
3.32	**301**	**Excavation in Hill Area in Soil by Mechanical Means** (Excavation in soil in hilly area by mechanical means including cutting and trimming of side slopes					0.00
		(a) Disposing of excavated earth with all lifts and lead upto 1000 metres)	cum	136.00	143.83		143.83
		(b) Disposing of excavated earth on the barren valley side.)	cum	93.00	98.36		98.36
3.33	**301**	**Excavation in Hilly Area in Ordinary Rock by Mechanical Means not Requiring Blasting.** (Excavation in hilly area in ordinary rock not requiring ballasting by mechanical means including cutting and trimming of slopes (a) Disposal of cut material with all lift and lead up to 1000m.)	cum	199.00	210.46		210.46
		(b) Disposal of cut material on the barren valley side.	cum	144.00	152.29		152.29
3.34	**301**	**Excavation in Hilly Areas in Hard Rock Requiring Blasting** (Excavation in hilly areas in hard rock requiring blasting, by mechanical means including trimming of slopes (a) disposal of cut material with all lifts and lead upto 1000 metres.)	cum	247.00	261.23		261.23
		(b) Disposal of cut material on the barren valley side.	cum	193.00	204.12		204.12
3.36		**Embankment Construction with Fly ash/Pond ash available from coal or lignite burning Thermal Plants as waste material.** (Construction of embankment with fly ash conforming to table 1 of IRC: SP: 58 - 2001 obtained from coal or lignite burning thermal power stations as waste materials,spread and compacted in layers of 200mm thickness each at OMC,as specified in IRC:SP:58-2001 and as per approved plans (with an initial lead of 5 Km.)	cum	139.00	147.01		147.01
3.37		**Slope Protection by Vetiver System**					

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
		(A) Plantation Part: Supply of approved variety of vetiver plant certified by The Vetiver Network International (TVNI) or its affiliate in India including pouching of tiller with selected soil for agricultural use mixed with farmyard manure in 8"x 6" poly pouch, maintaining the pouched plants for at least 1(one) month with application of growth promoter, fertilizer, watering, weeding etc., dressing of the area of plantation, planting the pouched plants as per design approved by The Vetiver Network International (TVNI) or its affiliate in India. (Excluding jungle clearance, earth work in trimming, cutting, filling etc.)	RM	79.00	83.55		83.55
		(B) Maintenance Part: Maintenance of the vetiver plants by watering, pruning, weeding, mulching, application of manure, fertilizer, growth promoter etc. for 4 (four) months after completion of plantation.	RM	31.00	32.79		32.79

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-4							
SUB-BASES, BASES (NON- BITUMINOUS) AND SHOULDERS							
4.1	**401**	**Granular Sub-base with Close Graded Material (Table:- 400-1)**					
A		**Plant Mix Method** (Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density,complete as per cl. 401(with an initial lead of 5 Km.)(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
(i)		for grading- I Material	cum	2040.00	2157.50	293.06	2450.56
(ii)		for grading- II Material	cum	2094.00	2214.61	293.06	2507.67
(iii)		for grading-III Material	cum	1965.00	2078.18	293.06	2371.24
B		**By Mix in Place Method** (Construction of granular sub-base by providing close 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 to achieve the desired density,complete as per cl. 401(with an initial lead of 5 Km.)(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
(i)		for grading- I Material	cum	1872.00	1979.83	293.06	2272.88
(ii)		for grading- II Material	cum	1926.00	2036.94	293.06	2329.99
(iii)		for grading-III Material	cum	1797.00	1900.51	293.06	2193.56
4.2	**401**	**Granular Sub-Base with Coarse Graded Material (Table:- 400- 2)** (Construction of granular sub-base by providing coarse 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 to achieve the desired density,complete as per cl. 401(with an initial lead of 5 Km.)					
(i)		for grading- I Material	cum	1961.00	2073.95	293.06	2367.01
(ii)		for grading- II Material	cum	2028.00	2144.81	293.06	2437.87
(iii)		for grading-III Material	cum	1958.00	2070.78	293.06	2363.84
4.5	**403**	**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.)	cum	853.00	902.13		902.13
4.6		**Cement Treated Crushed Rock or combination as per clause 403.2 and table 400.4in Sub base/ Base** (Providing, laying and spreading Material on a prepared sub grade, adding the designed quantity of cement to the spread Material, mixing in place with rotavator grading with motor grader and compacting with road roller at OMC to achieve desired unconfined compressive strength and to form a layer of sub base / base.)					
(i)		For Sub-Base course	cum	3013.00	3186.55		3186.55
(ii)		For Base course	cum	2661.00	2814.27		2814.27

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
4.12	**406**	**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 mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sb-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density (including carriage up to initial lead of 5.0 km from quarry and carriage of mixed materials up to 10.0 Km initial lead from mixing plant)	cum	2055.00	2173.37	293.06	2466.42
4.13	**407**	**Construction of Median and Island with Soil Taken from Roadway Cutting** (Construction of Median and Island above road level with approved material deposited at site from roadway cutting and excavation for drain and foundation of other structures, spread, graded and compacted as per cl. 407.0	cum	166.00	175.56		175.56
4.14	**407**	**Construction of Median and Island with Soil Taken from Borrow Areas** (Construction of median and Island above road level with approved material brought from borrow pits, spread, sloped and compacted as per clause 407)	cum	224.00	236.90		236.90
4.16		**Footpaths and Separators** (Construction of footpath/separator by providing a 150 mm compacted granular sub base as per clause 401 and 25 mm thick cement concrete grade M15, over laid with precast concrete tiles in cement mortar 1:3 including provision of all drainage arrangement.	sqm	1433.00	1515.54		1515.54

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
		CHAPTER-5					
		BASES AND SURFACE COURSES (BITUMINOUS)					
5.1	**502**	**Prime coat**					
		(A) Prime coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.)(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
		(i) With bitumen emulsion-CSS-1h	sqm	34.00	35.96		35.96
		(ii) With bitumen emulsion-CSS-1 (IS-8887-2004)	sqm	46.00	48.65		48.65
		(B) Prime coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 1.00 kg/sqm using mechanical means.)(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
		(i) With bitumen emulsion-CSS-1h	sqm	56.00	59.23		59.23
		(ii) With bitumen emulsion-CSS-1 (IS-8887-2004)	sqm	75.00	79.32		79.32
5.2	**503**	**Tack coat**					
		Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
		(I)With Bitumen emulsion CSS-1h					
		(a) Normal bituminous surface	sqm	12.00	12.69		12.69
		(b) dry & hungry bituminous surface	sqm	15.00	15.86		15.86
		(c) Granular surfaces treated with primer	sqm	15.00	15.86		15.86
		(II)With Bitumen emulsion CSS-1 (IS:8887-2004)					
		(a) Normal bituminous surface	sqm	16.00	16.92		16.92
		(b) dry & hungry bituminous surface	sqm	20.00	21.15		21.15
		(c) Granular surfaces treated with primer	sqm	20.00	21.15		21.15
		(III)With Bitumen emulsion CRS-1					
		(a) Normal bituminous surface	sqm	11.00	11.63		11.63
		(b) dry & hungry bituminous surface	sqm	14.00	14.81		14.81
		(c) Granular surfaces treated with primer	sqm	14.00	14.81		14.81
5.6	**507**	**Dense Graded Bituminous Macadam** (Providing and laying dense bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5% by weight of total mix and filler transporting the hot miox to work site,laying with a hydrostatic paver finisher with sensor control to the reqd. grade, lavel and alignment,rolling with smooth wheeled,vibratory and tandem rollers to achieve the desired compaction as per MoSRT&H cl. no. 507. complete in all respect. (including carriage up to initial lead of 5.0 km from quarry and carriage of mixed materials up to 10.0 Km initial lead from mixing plant)(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
		(a) With hydrated lime/cement as filler (refer table 500-9 of MoSRT&H specification)					

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		(I)'with 60/70 or VG-30 grade bitumen					
(i)		for Grading I (40 mm nominal size)	cum	9558.00	10108.54	293.06	10401.60
(ii)		for GradingII(19 mm nominal size)	cum	9534.00	10083.16	293.06	10376.21
		(II)'with Polymer modified bitumen 70					
(i)		for Grading I (40 mm nominal size)	cum	10449.00	11050.86	293.06	11343.92
(ii)		for GradingII(19 mm nominal size)	cum	10426.00	11026.54	293.06	11319.59
		(b) With rock dust as filler (refer table 500-9 of MoSRT&H specification)					
		(I)'with 60/70 or VG-30 grade bitumen					
(i)		for Grading I (40 mm nominal size)	cum	9181.00	9709.83	293.06	10002.88
(ii)		for GradingII(19 mm nominal size)	cum	9158.00	9685.50	293.06	9978.56
		(II)'with Polymer modified bitumen 70					
(i)		for Grading I (40 mm nominal size)	cum	10073.00	10653.20	293.06	10946.26
(ii)		for GradingII(19 mm nominal size)	cum	10050.00	10628.88	293.06	10921.94
		(c) With hydrated lime / cement as filler (refer table 500-9 of MoSRT&H specification) & anti stripping agent as per IS:14982(Refer Appendix-5 of MoSRT&H specification)					
		(I)'with 60/70 or VG-30 grade bitumen					
(i)		for Grading I (40 mm nominal size)	cum	9894.00	10463.89	293.06	10756.95
(ii)		for GradingII(19 mm nominal size)	cum	9871.00	10439.57	293.06	10732.63
		(II)'with Polymer modified bitumen 70					
(i)		for Grading I (40 mm nominal size)	cum	10786.00	11407.27	293.06	11700.33
(ii)		for GradingII(19 mm nominal size)	cum	10763.00	11382.95	293.06	11676.00
5.8	**509**	**Bituminous Concrete** (Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 % of mix and filler transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the reqd. grade, lavel and alignment,rolling with smooth wheeled,vibratory and tandem rollers to achieve the desired compaction as per MoSRT&H cl. no.509. complete in all respect. (including carriage up to initial lead of 5.0 km from quarry and carriage of mixed materials up to 10.0 Km initial lead from mixing plant)(Including cost of testing of materials at site and laboratory as directed by the deptt.)					
		(a) With hydrated lime/cement as filler (refer table 500-9 of MoSRT&H specification)					
		(I)'with 60/70 or VG-30 grade bitumen					
(i)		for Grading-I (19 mm nominal size)	cum	10854.00	11479.19	293.06	11772.25
(ii)		for Grading-II(13 mm nominal size)	cum	10875.00	11501.40	293.06	11794.46
		(II)with Polymer modified bitumen 70					
(i)		for Grading-I (19 mm nominal size)	cum	11925.00	12611.88	293.06	12904.94
(ii)		for Grading-II(13 mm nominal size)	cum	11946.00	12634.09	293.06	12927.15
		(b) With rock dust as filler (refer table 500-9 of MoSRT&H specification)					
		(I)'with 60/70 or VG-30 grade bitumen					
(i)		for Grading-I (19 mm nominal size)	cum	10469.00	11072.01	293.06	11365.07
(ii)		for Grading-II(13 mm nominal size)	cum	10491.00	11095.28	293.06	11388.34
		(II)with Polymer modified bitumen 70					
(i)		for Grading-I (19 mm nominal size)	cum	11540.00	12204.70	293.06	12497.76

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
(ii)		for Grading-II(13 mm nominal size)	cum	11562.00	12227.97	293.06	12521.03
		(c) With hydrated lime / cement as filler (refer table 500-9 of MoSRT&H specification) & anti stripping agent as per IS:14982(Refer Appendix-5 of MoSRT&H specification)					
		(I)'with 60/70 or VG-30 grade bitumen					
(i)		for Grading-I (19 mm nominal size)	cum	11243.00	11890.60	293.06	12183.65
(ii)		for Grading-II(13 mm nominal size)	cum	11265.00	11913.86	293.06	12206.92
		(II)with Polymer modified bitumen 70					
(i)		for Grading-I (19 mm nominal size)	cum	12314.00	13023.29	293.06	13316.34
(ii)		for Grading-II(13 mm nominal size)	cum	12336.00	13046.55	293.06	13339.61
		(d) With rock dust as filler (refer table 500-9 of MoSRT&H specification) & anti stripping agent as per IS:14982(Refer Appendix-5 of MoSRT&H specification)					
		(I)'with 60/70 or VG-30 grade bitumen					
(i)		for Grading-I (19 mm nominal size)	cum	10873.00	11499.28	293.06	11792.34
(ii)		for Grading-II(13 mm nominal size)	cum	10895.00	11522.55	293.06	11815.61
		(II)with Polymer modified bitumen 70					
(i)		for Grading-I (19 mm nominal size)	cum	11944.00	12631.97	293.06	12925.03
(ii)		for Grading-II(13 mm nominal size)	cum	11966.00	12655.24	293.06	12948.30

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-6							
CEMENT CONCRETE PAVEMENTS							
6.1	**601**	**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 concrete not to be less than 150kg/cum, optimum moisture content to be determined during the trial length construction, concrete strength not to be less than 10Mpa at 7 days, mixed in a batching plant, transported to the site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing.) (Including carriage up to initial lead of 5Km. from quarry and carriage of mixed materials up to 10.0 Km initial lead from mixing plant.)	cum	3574.00	3779.86	293.06	4072.92
6.2	**602**	**Cement Concrete Pavement**					
		(A) Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mixed design, transported to the site, laid with a fixed form or slip form paver, spread , compacted and finished in a continuous operation includuing provision of contraction, expansion, construction and longitudinal joints, joint filler, seperation membrane, sealent primer, sealent joint , debonding strips dowel bar, tie rod, admixured as approved, curing compopund, finishing to lines and grades as per drawing. (Including carriage up to initial lead of 5Km. from quarry and carriage of mixed materials up to 10.0 Km initial lead from mixing plant.)	cum	8293.00	8770.68	293.06	9063.73
		(B) Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed with Recron 3S fibre of Reliance Industries Ltd. or its equivalent @ 0.125 Kg. per bag of cement mixed in a batching and mixing plant as per approved mixed design, transported to the site, laid with a fixed form or slip form paver, spread , compacted and finished in a continuous operation includuing provision of contraction, expansion, construction and longitudinal joints, joint filler, seperation membrane, sealent primer, sealent joint , debonding strips dowel bar, tie rod, admixured as approved, curing compopund, finishing to lines and grades as per drawing. (Including carriage up to initial lead of 5Km. from quarry and carriage of mixed materials up to 10.0 Km initial lead from mixing plant.) as diected by the Department complete at all levels.	cum	8635.00		293.06	293.06

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
		(C) 'Cement Concrete Pavement (Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed with Virgin Polypropylene 18 microne Fibre @ 600gms per cum of cement concrete with tear strength greater than 450 N/sqmm mixed in a batching and mixing plant as per approved mixed design, transported to the site, laid with a fixed form or slip form paver, spread , compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, seperation membrane, sealent primer, sealent joint , debonding strips dowel bar, tie rod, admixured as approved, curing compopund, finishing to lines and grades as per drawing. (Including carriage up to initial lead of 5Km. from quarry and carriage of mixed materials up to 10.0 Km initial lead from mixing plant.) as diected by the Department complete at all levels.	cum	8678.00	9177.85	293.06	9470.91

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-8							
TRAFFIC SIGNS, MARKINGS & OTHER ROAD APPURTENANCES							
8.1	**408**	**Cast in Situ Cement Concrete M20 kerb** (Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408.					
A		Using Concrete Mixer	metre	313.00	331.03		331.03
B		Using Concrete Batching and Mixing Plant	metre	314.00	332.09		332.09
8.2	**408**	**Cast in Situ Cement Concrete M 20 Kerb with Channel** (Construction of cement concrete kerb with channel with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M10 grade foundation 150 mm thick, kerb channel 300 mm wide, 50 mm thick in PCC M20 grade , sloped towards the kerb, kerb stone with channel laid with kerb laying machine,foundation concrete manually all complete as per clause 408.)					
A		Using Concrete Mixer	metre	591.00	625.04		625.04
B		Using Concrete Batching and Mixing Plant	metre	596.00	630.33		630.33
8.3	**801**	**Printing new letter 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)					0.00
(i)		Hindi (Matras commas and the like not to be measured and paid for Half letter shall be counted as half)	cm height per letter	0.70	0.74		0.74
(ii)		English and Roman	cm height per letter	0.40	0.42		0.42
8.4		**Retro reflectorised Traffic sign:** Providing and erecting of Retro-Reflectrorised cautionary, mandatory & informatory sign as per IRC: 67 made of high intensity encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminium sheeting, 2 mm thick fixed on an angle iron of 25x25x4mm supported on a mild steel angle iron post 75mm x 75mm x 6mm firmly fixed to the ground by means of properly design foundation with M-15 grade Cement concrete 45cm x 45cm x 60cm, 60cm below ground level as per approved drawing and sign. (All the Steel work must be Tata/Sail/or any other approved brand)					0.00
(i)		90cm equilateral traingle	each	4900.00	5182.24		5182.24
(ii)		60cm equilateral traingle	each	3595.00	3802.07		3802.07
(iii)		60cm circular	each	4200.00	4441.92		4441.92
(iv)		80cmm x 60 cm rectangular	each	5300.00	5605.28		5605.28
(v)		80cmm x 45 cm rectangular	each	5200.00	5499.52		5499.52
(vi)		60cmm x 60 cm square	each	5200.00	5499.52		5499.52
(vii)		90cm high octagon	each	7850.00	8302.16		8302.16

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
8.5	**801**	**Direction and place identification sign upto 0.9sqm size board.** Providing and erecting direction and place identification retro-Reflectrorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide clause 801.3 fixed over aluminium sheeting, 2mm thick with area not exceeding 0.9sqm fixed on an angle iron of 25x25x4mm supported on a mild steel angle iron post 75mm x 75mm x 6mm firmly fixed to the ground by means of properly design foundation with M-15 grade Cement concrete 45cm x 45cm x 60cm, 60cm below ground level as per approved drawing and sign. (All the Steel work must be Tata/Sail/or any other approved brand)	sqm	10000.00	10576.00		10576.00
8.6	**801**	**'Direction and place identification sign more than 0.9sqm size board.** Providing and erecting direction and place identification retro-Reflectrorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide clause 801.3 fixed over aluminium sheeting, 2mm thick with area exceeding 0.9sqm fixed on an angle iron of 25x25x4mm supported on a mild steel angle iron post 75mm x 75mm x 6mm, 2 nos. firmly fixed to the ground by means of properly design foundation with M-15 grade Cement concrete 45cm x 45cm x 60cm, 60cm below ground level as per approved drawing and sign. . (All the Steel work must be Tata/Sail/or any other approved brand)	sqm	11000.00	11633.60		11633.60
8.7		**'Over head sign:**					0.00
A		**Providing and erecting overhead signs of anti-corrosive steel** (All the steel work must be TATA/SAIL/any other approved brand.) tubular framed structure for retro reflective signage boards made of high intensity grade encapsulated lens type retro Reflective sheeting conforming to ASTMD4956 type B III specifications and having approved pattern over its entire surface bonded on to 2.00 mm thick aluminium sheet with back supporting angle iron frame of 35x35x4mm angle iron duly riveted with solid MS & aluminum rivets. The entire face of the sign shall be covered & bounded with yellow/white/red/blue high intensity encapsulated lens reflective sheeting with distinctive hoed pattern on front site (no plain surface) with heat lamp vacuum applicator machine only. The yellow/white/red/blue portion of the board shall be screen printed on the high intensity shed base including fixing the board on portal/support/wall/dowel rod etc., with contractors clamps/cleats/bolts/rivets/wells including all contractors materials, labour, tools, lead & lifts etc. complete and all other incidental charges necessary for successful	tonne	98500.00	104173.60		104173.60
iii)		Earth work in excavation in foundation of structures as per drawing & techniclal specifications including setting out, construction of soring and bracing, removal of stumps and other deletarious matter, dressing of sides and bottom and backfilling with approved material as MoSRT&H 304 inordinary soil by manual means (without dewatring: upto 3M depth)	cum	56.00	59.23		59.23
8.8	**803**	Painting Two Coats on New Concrete Surfaces' Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	sqm	55.00	58.17		58.17
8.9	**803**	Painting on Steel Surfaces (Providing and applying two coats of ready mix paint of approved brand on steel surface after through cleaning of surface to give an even shade)	sqm	48.00	50.76		50.76
8.10	**803**	Painting on Wood Surfaces (Providing and applying two coats of ready mix paint of approved brand on wood surface after through cleaning of surface to give an even shade)	sqm	54.00	57.11		57.11

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
8.11	**803**	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 dirts, dusts and other foreign matter, demarcation at site and traffic control.)					
(i)		**Over 10 cm in width**	sqm	74.00	78.26		78.26
(ii)		Up to 10 cm in width	sqm	63.00	66.63		66.63
8.12	**803**	Painting Lines, Dashes, Arrows etc on Roads in Two Coats on Old Work (Painting lines, dashes, arrows etc on roads in two coats on old work with ready mixed road marking paint confirming to IS: 164 on bituminous surface, including cleaning the surface of all dirts, dusts and other foreign matter, demarcation at site and traffic control.)					
(i)		Over 10 cm in width	sqm	49.00	51.82		51.82
(ii)		Up to 10 cm in width	sqm	52.00	55.00		55.00
8.13	**803**	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 and conforming to the MoSrt&H specifications	sqm	750.00	793.20		793.20
8.14	**804**	Kilo Metre Stone (Reinforced cement concrete M15grade kilometre stone of standard design as per IRC:8-1980, fixing in position including painting and printing etc)					
(i)		5th kilometre stone (precast)	each	3869.00	4091.85		4091.85
(ii)		Ordinary Kilometer stone (Precast)	each	2431.00	2571.03		2571.03
(iii)		Hectometer stone (Precast)	each	628.00	664.17		664.17
(iv)		200th meter stone (Precast) as per IRC:26-1967.	each	628.00	664.17		664.17
8.16	**806**	Boundary pillar (Reinforced cement concrete M15 grade boundary pillars of standard design as per IRC:25-1967, fixed in position including finishing and lettering but excluding painting)	each	592.00	626.10		626.10
8.20	**808**	**Tubular Steel Railing on Medium Weight steel channel (ISMC series) 100 mm x 50 mm** (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 metres high above ground, 2m center to center, complete as per approved drawings.	metre	1967.00	2080.30		2080.30
8.21	**808**	**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 M20 grade RCC vertical posts1.8 metres high (1.2 m above GL) with 3 holes 50 mm dia for pipe, fixed 2meters center to center, complete as per approved drawing.	metre	1399.00	1479.58		1479.58
8.22	**809**	**Reinforced Cement Concrete Crash Barrier (Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-20 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bar 25mm dia, 450mm long at expansion joints filled with pre moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclouser to MOST circular No. RW/NH -33022/1/94-DO III dated June 1994 as per dimension in the approved drawing and at locations directed by the**					0.00
(i)		**M 20 grade concrete**	metre	3932.00	4158.48		4158.48
8.23	**810**	**Metal Beam Crash Barrier**					0.00

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
A		**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, 150 x 75 x 5 mm spaced 2m center to center, 1.8 m high, 1.1m below ground/road level, all steel parts and fitments to be galvanized by hot dip process, all fitting to conform to IS:1367 and IS:1364, metal beam rail to be fixedon the vertical post with a spacer of channel section 150mmX75mmX5mm, 330mm long complete as per clause 810.)	metre	3475.00	3675.16		3675.16
B		**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, 150 x 75 x 5 mm spaced 2m center to center, 12 m high, 1.15m below ground level, all steel parts and fitments to be galvanized by hot dip process, all fitting to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150mmX75mmX5mm, 546mm long complete as per clause 810.)	metre	4952.00	5237.24		5237.24
8.29		**Cable Duct Across the Road** (Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 mm thick layer of gtranular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450mm in case of double and triple row ducts, joint to be made leak proof , invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98-1997 and approved drawings.					0.00
(i)		Single Row for one utility service	metre	3517.00	3719.58		3719.58
(ii)		Double Row for two utility services	metre	6806.00	7198.03		7198.03
(iii)		Triple Row for three utility services	metre	10106.00	10688.11		10688.11
8.32		**U G CABLE: Supply and laying of following size PVC/XLPE insulated and PVC sheathed 1.1 KV Gd) Solid Aluminium conductor up to 10 sq mm balance stranded conductor, XLPE Insulated, cores laid up, PVC tape inner sheathed, Armour (Aluminium wire for single core up to 70 sq mm balance Aluminium strip, Galvanised wire for cables up to 2x10 sq mm.3x10 sq mm,4x6 sq mm balance all galvanised steel strip) , extruded PVC Type ST2 sheathed, 650/1100V grade as per IS 7908(Part 1) 1988 armoured U.G. Cable U.G. cable laid in ground/partially in air (as required for termination over ground) including excavation of cable trench up to depth of 75cm, refilling, protective brick covering, Sand cushioning etc complete handling of surplus spoil, debris etc) to proper place as specified and directed by the deptt.** **4 Core A2XWY A2XFY**					
		a) 16.00 Sq. mm.4 Core armoured U.G. Cable	metre	418.24	442.33		442.33
		b) 25.00 Sq. mm.4 Core armoured U.G. Cable	metre	495.21	523.73		523.73
		c) 35.00 Sq. mm.4 Core armoured U.G. Cable	metre	589.12	623.05		623.05
		d) 50.00 Sq. mm.4 Core armoured U.G. Cable	metre	709.71	750.59		750.59
		e) 70.00 Sq. mm.4 Core armoured U.G. Cable	metre	879.68	930.35		930.35

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
8.47		**Providing 'Sparkle Solar Road Studs, manufactured by Tata B.P. Solar India Ltd. Of size (125mmx125mm), 90mm height (from bottom of shank to the top of stud) with detachable battery, m6LEDs-three on each side for Bi-directional studs/3 LEDs on one side for unidirectional studs, ultra bright LED in amber and red colour, weight per stud 700+25 gms, flash rate of 50-65 times per minute completely water resistant and weather proof with replacement warranty and free maintenance fro one year from the date of installation of stud on road-(installation should be made using adhesives and procedures recommended by manufacturer under the supervision of their competent technician).**					
		a) Bi-directional Stud-	each	3500.00	3701.60		3701.60
		b) Uni-directional Stud-	each	3400.00	3595.84		3595.84
8.48		**Providing spring post of 750mm height, 80mm dia with round base of 200mm dia made of poly urethane with 3 white reflective bands made of HIG retro-reflectorised sheeting and fixing to the ground as per specifications of manufacturers**	each	1500.00	1586.40		1586.40
8.49		**Tree reflector made of heigh intensity grade retro-reflectorised sheeting fixed over aluminium sheeting of 2mm/0.28mm thick firmly fixed with necessary galvanized nail.**					
		a)100mm dia/100mmx100mm.	each	89.00	94.13		94.13
		b)150mm dia/150mmx150mm.	each	110.00	116.34		116.34
8.50		**Providing Linear Delineator System with Diamond grade reflective sheeting of size 80cmx10cm, fixing over thin gauge crimped aluminium sheeting with single colour panels of Yellow/Red/White and fixing to the object as per specification of the manufacturer.**	each	480.00	507.65		507.65
8.51		**Providing reflective pavement marker with Micro prismatic lens in both direction having thermoplastic body adhering to the specification and guidelines of MoSRT&H's fixed to the road surface using the adhesives and the procedures recommended by the manufacturers with three months replacement warranty and free maintenance.**	each	298.00	315.16		315.16
8.52		**Traffic cones: With rubber base and reflective of 7 inch sleeve, height= 750mm, bottom square: 385mm and weight 4.00 kg**	each	700.00	740.32		740.32
8.53		**Inter linking chain link for traffic cones.**	Rm	45.00	47.59		47.59
8.54		**Providing metal tubular delineator (50mm dia and 1.25mm thick) with 15cm reflector made of heigh intensity grade retro reflectorised sheeting around the pipe at top covered with wire mesh of 20cm length with two nos of similar reflective bands and bottom fastener M.S. angle including firmly fixing the delineator to the ground by means of CC(M-15) foundation of size-(25cmx25cmx25cm), 25cm below ground to the true line and level as directed by the deptt. With six months replacement warranty and free maintenance.**					0.00
a		a) 1000mm height.	each	596.00	630.33		630.33
b		b) 750mm height.	each	510.00	539.38		539.38
8.55		**Providing and erecting of city stud of dimension 220x100x40 mm plastic body with**					0.00
a		a) One- way reflective- with 1x179 glass element	Each	1300.00	1374.88		1374.88
b		b) Two- way reflective- with 2x179 glass element	Each	1345.00	1422.47		1422.47
8.56		**Providing and erecting city stud with shank of dimension 220x100x40 mm**					
a		a) One- way reflective- with 1x179 glass element and 2 anchoring shanks	Each	1375.00	1454.20		1454.20

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
b		b) Two- way reflective- with 2x179 glass element and 2 anchoring shanks	Each	2000.00	2115.20		2115.20
8.63		**Providing and fixing Optical Wildlife Warning Reflector(WWR) with colour white or red Dimensions: height 184 mm, width 81mm**	Each	2000.00	2115.20		2115.20
8.64		**Providing and fixing metal road studs for permanent marking comply with standard EN1463 and BS 873(Part:IV) according to the CIL requirements to ASTM D 4280 standard.**	Each	600.00	634.56		634.56
8.66		**Providing and fixing metal road stud with dimensions 100x100x19.8 mm Length anchoring shank:50 mm Aluminum body with**					
a		a) One- way reflective with 1x43 glass elements	Each	500.00	528.80		528.80
b		b) Two- way reflective with 2x43 glass elements	Each	600.00	634.56		634.56
8.67		**Providing and fixing metal road stud with dimensions 100x50x20mm Length anchoring shank:60.4 mm Aluminum body with**					
a		a) One- way reflective with 1x43 glass elements.	Each	495.00	523.51		523.51
b		b) Two- way reflective with 2x43 glass elements..	Each	620.00	655.71		655.71
8.68		**Providing and fixing metal road stud with dimensions 149x149x27mm Length anchoring shank:80 mm Aluminum body with.**					
a		a) One- way reflective with 1x28 glass elements	Each	600.00	634.56		634.56
b		b) Two- way reflective with 2x28 glass elements	Each	700.00	740.32		740.32
8.69		**Providing and fixing Special road stud with dimensions 220x100x40 mm two anchoring shank plastic body with**					
a		a) One- way reflective with 1x179 glass elements	Each	790.00	835.50		835.50
b		b) Two- way reflective with 2x179 glass elements.	Each	1000.00	1057.60		1057.60
8.82		**Supplying of delineators(Roadway indicators) not less than 800 mm high above ground level.The delineators shall have a core and shell construction which shall be made of tough,high impact resistant,injection molded thermoplastic outer body.The inner core shall consist of powdered coated or painted mild steel of minimum thickness 1.00 mm.The delineator should consist of top retro-reflective unit consisting of white colored micro prismatic non-metallic retro-reflo-reflective sheeting of minimum exposed area 125sqcm and bottom retro-reflective unit consist of red colured micro prismatic non -metallic retro-reflective sheeting with 35 sqcm of minimum exposed area conforming with IRC-67-210 type x1 standards.The delineator shall be fixed i into the ground by inserting the root of the delineator up to the marked portion and by firm concrete filling as per the instruction by Engineer in Charge.**	Each	800.00	846.08		846.08

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
8.83		**White and yellow coloured retroreflective preformed patterened pavement markings with pre coated pressure sensitive adhesive of 4" and/ or 6" width shall be used for marking the roads for improved visibility in the night time. The retroreflective preformed patterened pavement markings shall consists of a mixture of high quality polymeric materials, pigments and glass beads distributed through out its base cross sectional area, with a reflective layer of micro crystalline ceramic beads bonded to a durable polyurethane top coat surface. The patterned surface shall have approximately 50% +/- 15% of the surface area raised and presenting a near vertical face (B angle of 0 to 60) to traffic from any direction. The channels between the raised areas shall be substancially free of exposed beads or particles retroreflectance. The white and yellow markings shall have the initial expected retroreflectance values of 500 mcd for white and 250 for yellow under dry, wet and rainy condition when measured as per ASTM's upto.**	RM	850.00	898.96		898.96

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-11							
HORTICULTURE							
11.1	**307**	**Spreading of Sludge Farm Yard Manure or/and good Earth** (Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm- yard manure or/and good earth to be paid for separately))	cum	11.00	11.63		11.63
11.2	**307**	**Grassing with ' Doobs' Grass** (Grassing with 'Doobs' grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for moving including supplying good earth if needed**)**					
(i)		In rows 15 cm apart in either direction	sqm	34.00	35.96		35.96
(ii)		In rows 7.5 cm apart in either direction	sqm	64.00	67.69		67.69
11.3	**307**	**Making Lawns including Ploughing and Dragging with 'Swagha' Breaking of Clod (Making lawns including ploughing and breaking of clod, removal of rubbish, dressing and supplying doobs grass roots and planting at 15 cm apart, including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm**	sqm	45.00	47.59		47.59
11.4	**307**	**Maintenance of Lawns or Turfing of Slopes (Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc)**	sqm	156.00	164.99		164.99
11.5	**307**	**Turfing Lawns with Fine Grassing including Ploughing, Dressing (Turfing lawns with fine grassing including ploughing, dressing including breaking of clods, removal of rubbish, dressing and supplying doobs grass roots at 10 cm apart, including supplying and spreading of farm yard manure at a rate of 0.60 cum per 100 sqm**	sqm	47.00	49.71		49.71
11.6	**307**	**Maintenance of Lawns with Fine Grassing for the First Year** **Maintenance of lawns with fine grassing for the first year including watering etc.**	sqm	165.00	174.50		174.50
11.7	**307**	**a) Planting Permanent Hedges including Digging of Trenches (Planting permanent hedges including digging of trenches, 60 cm wide and 45 cm deep, refilling the excavated earth mixed with farmyard manure, supplied at the rate of 4.65 cum per 100 metres and supplying and planting hedge plants at 30cm apart**	metre	141.00	149.12		149.12
		b). Maintenance of Hedge for one year	metre	116.00	122.68		122.68
11.8	**307.00**	**a) Planting Flowering Plants and Shrubs in Central Verge**	km	48522.00	51316.87		51316.87
		b). Maintenance of Flowering Plants and Shrubs in Central Verge for one Year	km	132875.00	140528.60		140528.60
11.9	**307**	**Planting of Trees and their Maintenance for one Year (Planting of trees by the road side (Avenue trees) in 0.60 m dia holes, 1 m deep dug in the ground, mixing the soil with decayed farm yard/sludge mannure, planting the saplings, backfilling the trenches, watering , fixing the tree guatrd and maintaining the plants for one year.**	each	636.00	672.63		672.63
11.10	**308**	**Renovation Lawns including, Weeding, Forking the Ground, Top Dressing with Forked Soil (Renovation lawns including, weeding, forking the ground, top dressing with forked soil, watering and maintenance the lawns, for 30 days or more, till the grass forms a thick lawns, free from weeds, and fit for moving and disposal of rubbish as directed, including supplying good earth, if needed but excluding the cost of well decayed farm yard manure.**	sqm	10.00	10.58		10.58

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
11.18		**Wrought Iron and Mild Steel Welded Work (Wrought iron and mild steel welded work) (using angles, square bars, tees and channel grills, grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolt and nuts complete fixed in position but without the cost of excavation and concrete for mixing which will be paid separately.**	quintal	8991.00	9508.88		9508.88
11.19		**Tree Guard with MS Iron (Providing and fixing MS iron tree guard 60 cm dia and 2 metre high above ground level formed of 4 Nos (25 x 6 mm) and 8 Nos (25 x 3 mm) vertical MS riveted to 3 Nos (25 x 6 mm) iron rings in two halves, bolted together with 8 mm dia and 30mm long bolts including painting two coats with paint pf approved brand over a coat of priming , complete in alll respects.**	each tree guard	2291.00	2422.96		2422.96
11.20		**Tree Guard with MS Angle Iron and Steel Wire (Providing and fixing tree guard 0.60 metre square, 2.00 metre high fabricated with MS angle iron 30 x 30 x 3 mm, MS iron 25 x 3 mm and steel wire 3 mm dia welded and fabricated as per design in two halves bolted together.**	each tree guard	3154.00	3335.67		3335.67
11.21		**Compensatory Afforestation (Planting trees as compensatory afforestation at the rate of 290 trees per hectare at a spacing of 6 m by grubbing and leveling the ground upto a depth of 150 mm, digging holes 0.9 m dia, 1 m deep, mixing farm yard/sludge manure with soil , planting of sapling 2m high with 25cm dia stem, backfilling the hole and watering.**	hectare	109823.00	116148.80		116148.80

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
		CHAPTER-12					
		FOUNDATIONS					
12.1	**304**	**Excavation for Structures (Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.**					
I		**Ordinary soil**					
B		**Mechanical Means**					
		(I) Without dewatering					
(i)		Depth upto 3 m	cum	52.00	55.00		55.00
(ii)		Depth 3 m to 6 m	cum	59.00	62.40		62.40
(iii)		Depth above 6m	cum	71.00	75.09		75.09
		(II) With dewatering					
(i)		Depth upto 3 m	cum	54.00	57.11		57.11
(ii)		Depth 3 m to 6 m	cum	64.00	67.69		67.69
(iii)		Depth above 6m	cum	77.00	81.44		81.44
II		**Ordinary rock (not requiring blasting)**					
B		**Mechanical Means**					
		(I) Without dewatering					
		Depth upto 3 m	cum	67.00	70.86		70.86
(ii)		With dewatering					0.00
		Depth upto 3 m		72.00	76.15		76.15
III		**Hard rock (requiring blasting)**					
A		**Mechanical Means**					
		(I) Without dewatering	cum	318.00	336.32		336.32
		(ii) With dewatering	cum	345.00	364.87		364.87
V		**Marshy soil**					
(i)		**upto 3 m depth**					
B		**Mechanical Means**					
		(I) Without dewatering	cum	93.00	98.36		98.36
		(ii) With dewatering	cum	109.00	115.28		115.28
VI		**Back Filling in Marshy Foundation Pits**	cum	235.00	248.54		248.54
12.2	**304**	**Filling Annular Space Around Footing in Rock (Lean cement concrete 1:3:6 nominal mix. Rate may be taken as per items 12.4.)**	cum	4964.00	5249.93		5249.93
12.3	**304**	**Sand Filling in Foundation Trenches as per Drawing & Technical Specification**	cum	1798.00	1901.56		1901.56
12.4	**2100**	**PCC 1:3:6 in Foundation (Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.)**	cum	4964.00	5249.93		5249.93
12.5	**1300**	**Brick masonry work in cement mortar 1:3 in foundation complete excluding pointing and plastering, as per drawing and technical specifications**	cum	6848.00	7242.44		7242.44
12.6 A		Cement mortar1:3 (1cement :3 sand)	cum	5054.00	5345.11		5345.11
B		Cement mortar1:2 (1cement :2 sand)	cum	6165.00	6520.10		6520.10
C		Cement mortar1:4 (1cement :4 sand)	cum	4313.00	4561.43		4561.43
D		Cement mortar1:6 (1cement :6 sand)	cum	3654.00	3864.47		3864.47

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
12.7	**1400**	**Stone masonry work in cement mortar 1:3 in foundation complete as drawing and Technical Specification**					
(a)		**Square Rubble Coursed rubble masonry(first sort)**	cum	4333.00	4582.58		4582.58
(b)	**1405.3**	**Random Rubble Masonry**	cum	3942.00	4169.06		4169.06
12.8	**1500,1700 & 2100**	**Plain/Reinforced cement concrete, in open foundation complete as per drawing and technical specification including steel shuttering formwork.**					
(N)		**Without plasticiser**					
A		**PCC Grade M15**	cum	5605.00	5927.85		5927.85
B		**PCC Grade M20**	cum	6346.00	6711.53		6711.53
C		**(I)RCC Grade M20**					
Case II		With Batching Plant, Transit Mixer and Concrete Pump	cum	6929.00	7328.11		7328.11
D		**PCC Grade M25**					
Case II		With Batching Plant, Transit Mixer and Concrete Pump	cum	7409.00	7835.76		7835.76
E		**RCC Grade M25**					
Case II		With Batching Plant, Transit Mixer and Concrete Pump	cum	7495.00	7926.71		7926.71
F		**PCC Grade M30**					
Case II		Using Batching Plant, Transit Mixer and Concrete Pump	cum	7447.00	7875.95		7875.95
G		**RCC Grade M30**					
Case II		Using Batching Plant, Transit Mixer and Concrete Pump	cum	7513.00	7945.75		7945.75
H		**RCC Grade M35**					
Case II		Using Batching Plant, Transit Mixer and Concrete Pump	cum	7636.00	8075.83		8075.83
(P)	**1500,1700 & 2100**	**With plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999.**					
A		PCC Grade M15	cum	6514.00	6889.21		6889.21
B		PCC Grade M20	cum	7482.00	7912.96		7912.96
C		**(I)RCC Grade M20**					
Case II		With Batching Plant, Transit Mixer and Concrete Pump	cum	8075.00	8540.12		8540.12
D		**PCC Grade M25**					
Case II		With Batching Plant, Transit Mixer and Concrete Pump	cum	8739.00	9242.37		9242.37
E		**RCC Grade M25**					
Case II		With Batching Plant, Transit Mixer and Concrete Pump	cum	8837.00	9346.01		9346.01
F		**PCC Grade M30**					
Case II		Using Batching Plant, Transit Mixer and Concrete Pump	cum	8792.00	9298.42		9298.42
G		**RCC Grade M30**					
Case II		Using Batching Plant, Transit Mixer and Concrete Pump	cum	8864.00	9374.57		9374.57
H		**RCC Grade M35**					
Case II		Using Batching Plant, Transit Mixer and Concrete Pump	cum	9030.00	9550.13		9550.13
12.9	**1200**	**Providing and constructing temporary island 16 m diameter for construction of well foundation for 8m dia. Well.**					

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
A		**Assuming depth of water 1.0 m and height of island to be 1.25m.**	each	57977.00	61316.48		61316.48
B		**Assuming depth of water 4.0 m and height of island 4.5 m.**	each	885693.00	936708.92		936708.92
C		**Providing and constructing one span service road to reach island location from one pier location to another pier location**	metre	2472.00	2614.39		2614.39
12.10	**1200 & 1900**	**Providing and laying cutting edge of mild steel weighing 40 kg per metre for well foundation complete as per drawing and technical specification.**	tonne	101302.00	107137.00		107137.00
12.21	**1207**	**Sand filling in wells complete as per drawing and technical specifications**	cum	1798.00	1901.56		1901.56
12.22	**1200 & 1900**	**Providing steel liner 10 mm thick for curbs and 6mm thick for steining of wells including fabricating and setting out as per detailed drawing**	tonne	93488.00	98872.91		98872.91
12.23A	**1100 & 1700**	**Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. (Pile diameter-750 mm)**	metre	6365.00	6731.62		6731.62
12.23B	**1101 & 1700**	**Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. including providing plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (asterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999 (Pile diameter-750 mm)**	metre	6778.00	7168.41		7168.41
12.24A	**1100,1600 & 1700**	**Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. (Pile diameter-1000 mm)**	metre	10622.00	11233.83		11233.83
12.24B	**1100,1600 & 1701**	**Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. including providing plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999) (Pile diameter-1000 mm)**	metre	11357.00	12011.16		12011.16
12.25A	**1100&1700**	**Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. (Pile diameter-1200 mm)**	metre	13895.00	14695.35		14695.35
12.25B	**1100&1701**	**Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. including providing plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999 (Pile diameter-1200 mm)**	metre	14953.00	15814.29		15814.29
12.26A	**1100 & 1700**	**Driven cast-in-place vertical M35 grade R.C.C. pile excluding reinforcement complete as per drawing and & Technical Specification (Pile diameter - 750 mm)**	metre	4289.00	4536.05		4536.05

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
12.26B	**1101 & 1700**	**Driven cast-in-place vertical M35 grade R.C.C. pile excluding reinforcement complete as per drawing and & Technical Specification including providing plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999 (Pile diameter - 750 mm)**	metre	4702.00	4972.84		4972.84
12.27A	**1100 & 1700**	**Driven cast-in-place vertical M35 grade R.C.C. piles excluding reinforcement complete as per drawing and & Technical Specification (Pile diameter - 1000 mm)**	metre	7244.00	7661.25		7661.25
12.27B	**1100 & 1700**	**Driven cast-in-place vertical M35 grade R.C.C. piles excluding reinforcement complete as per drawing and & Technical Specification including providing plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999 (Pile diameter - 1000 mm)**	metre	7979.00	8438.59		8438.59
12.28A	**1100&1700**	**Driven cast-in-place vertical M35 grade R.C.C. piles excluding reinforcement complete as per drawing and & Technical Specification (Pile diameter - 1200 mm)**	metre	10499.00	11103.74		11103.74
12.28B	**1100&1701**	**Driven cast-in-place vertical M35 grade R.C.C. piles excluding reinforcement complete as per drawing and & Technical Specification including providing plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999 (Pile diameter - 1200 mm)**	metre	11557.00	12222.68		12222.68
12.37	**1100**	**Pile load test on single vertical pile in accordance with IS:2911(Part-IV).** i) Initial and Routine load test.	Ton	363.00	383.91		383.91
		ii) Lateral load test	Ton	6050.00	6398.48		6398.48
12.38 (I)	**1100, 1500 & 1700**	**Cement concrete for reinforced concrete in pile cap complete as per drawing and Technical Specification.**					
A		**RCC Grade M20**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	6892.00	7288.98		7288.98
B		**RCC Grade M25**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	7512.00	7944.69		7944.69
C		**RCC Grade M30**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	7574.00	8010.26		8010.26
D		**RCC Grade M35**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	7748.00	8194.28		8194.28
12.38 (II)	**1100, 1500 & 1700**	**Cement concrete for reinforced concrete in pile cap complete as per drawing and Technical Specification including providing plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999.**					
A		**RCC Grade M20**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	8019.00	8480.89		8480.89

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
B		**RCC Grade M25**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	8844.00	9353.41		9353.41
C		**RCC Grade M30**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	8931.00	9445.43		9445.43
D		**RCC Grade M35**					
(ii)		Using Batching Plant, Transit Mixer and Concrete Pump	cum	9157.00	9684.44		9684.44
12.39	1100 &1700	Levelling course for Pile cap	cum	5383.00	5693.06		5693.06
12.40	1600	Reinforcement in Foundation: Supplying, fitting and placing un-coated TMT bar reinforcement in foundation complete as per drawing and technical specifications					
(a)		From Primary Sources: TATA/SAIL/Esser Steel/ Jindal steel/Shyam steel					
		(i) TMT Corrosion Resistant Steel (CRS) reinforcement bar of Fe-500 N/mm2	tonne	73279.00	77499.87		77499.87
		(ii)Super Ductile (SD) TMT reinforcement bar of Fe-500 N/mm2	tonne	70507.00	74568.20		74568.20
(b)		Other make ISI approved TMT reinforcement bar of Fe-415 N/mm2	tonne	62191.00	65773.20		65773.20
12.41	1600	Supplying, fitting and placing un-coated Mild steel reinforcement complete in foundation as per drawing and technical specification	tonne	69317.00	73309.66		73309.66

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-13							
SUB-STRUCTURE							
13.1	**1300 & 2200**	**Brick masonry work in 1:3 in sub-structure complete excluding pointing and plastering, as per drawing and technical specifications**	cum	7032.00	7437.04		7437.04
13.2	**1300 & 2200**	**Pointing with cement mortar (1:3) on brick work in substructure as per Technical specifications**	sqm	50.00	52.88		52.88
13.3	**1300 & 2200**	**Plastering with cement mortar (1:3) on brick work in sub-structure as per Technical specifications**	sqm	126.00	133.26		133.26
13.4	**1400 & 2200**	**Stone masonry work in cement mortar 1:3 for substructure complete as per drawing and Technical Specifications**					
A		Random Rubble Masonry	cum	4068.00	4302.32		4302.32
B		Coursed rubble masonry (first sort)	cum	4139.00	4377.41		4377.41
C		Ashlar masonry (first sort)	cum	5341.00	5648.64		5648.64
13.5 (N)	**1500,1700 & 2200**	**Plain/Reinforced cement concrete, in sub structure complete as per drawing and technical specification and steel shuttering formwork**					
(N)		**Without plasticiser**					
A		PCC Grade M15	cum	6048.00	6396.36		6396.36
		Height upto 5m					
B		PCC Grade M20	cum	6713.00	7099.67		7099.67
		Height upto 5m					
C		PCC Grade M25					
a		**Height upto 5m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	7883.00	8337.06		8337.06
b		**Height 5m to 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8170.00	8640.59		8640.59
c		**Height above 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8528.00	9019.21		9019.21
D		**PCC Grade M30**					
a		**Height upto 5m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	7942.00	8399.46		8399.46
b		**Height 5m to 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8231.00	8705.11		8705.11
c		**Height above 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8592.00	9086.90		9086.90
E		**RCC Grade M20**					
a		Height upto 5m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	7356.00	7779.71		7779.71
b		Height 5m to 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	7623.00	8062.08		8062.08
c		Height above 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	7958.00	8416.38		8416.38
F		**RCC Grade M25**					
a		Height upto 5m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	7974.00	8433.30		8433.30
b		Height 5m to 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8235.00	8709.34		8709.34
c		Height above 10m					

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8627.00	9123.92		9123.92
G		**RCC Grade M30**					
a		Height upto 5m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8012.00	8473.49		8473.49
b		Height 5m to 10m					
Case I		Using concrete Mixer	cum	7668.00	8109.68		8109.68
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8238.00	8712.51		8712.51
c		Height above 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8631.00	9128.15		9128.15
H		**RCC Grade M35**					
a		Height upto 5m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8182.00	8653.28		8653.28
b		Height 5m to 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8361.00	8842.59		8842.59
c		Height above 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8628.00	9124.97		9124.97
(P)		**With plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser(Masterplast ACPL or equivalent)**					
A		**PCC Grade M15**					
		Height upto 5m	cum	7453.00	7882.29		7882.29
B		PCC Grade M20					
		Height upto 5m	cum	8120.00	8587.71		8587.71
C		PCC Grade M25					
a		**Height upto 5m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8817.00	9324.86		9324.86
b		**Height 5m to 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8170.00	8640.59		8640.59
c		**Height above 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9538.00	10087.39		10087.39
D		**PCC Grade M30**					
a		**Height upto 5m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8889.00	9401.01		9401.01
b		**Height 5m to 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9212.00	9742.61		9742.61
c		**Height above 10m**					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9616.00	10169.88		10169.88
E		**RCC Grade M20**					
a		Height upto 5m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8761.00	9265.63		9265.63
b		Height 5m to 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9080.00	9603.01		9603.01
c		Height above 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9478.00	10023.93		10023.93
F		**RCC Grade M25**					
a		Height upto 5m					

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8917.00	9430.62		9430.62
b		Height 5m to 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9209.00	9739.44		9739.44
c		Height above 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9646.00	10201.61		10201.61
G		**RCC Grade M30**					
a		Height upto 5m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	8965.00	9481.38		9481.38
b		Height 5m to 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9217.00	9747.90		9747.90
c		Height above 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9576.00	10127.58		10127.58
H		**RCC Grade M35**					
a		Height upto 5m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9169.00	9697.13		9697.13
b		Height 5m to 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9369.00	9908.65		9908.65
c		Height above 10m					
CaseII		With Batching Plant, Transit Mixer and Concrete Pump	cum	9670.00	10226.99		10226.99
13.6		**Supplying, fitting and placing TMT bar reinforcement in sub-structure complete as per drawing and technical specifications**					
(a)		From Primary Sources: TATA/SAIL/Esser Steel/ Jindal steel/Shyam steel					
		(i) TMT Corrosion Resistant Steel (CRS) reinforcement bar of Fe-500 N/mm2	tonne	73343.00	77567.56		77567.56
		(ii)Super Ductile (SD) TMT reinforcement bar of Fe-500 N/mm2	tonne	70571.00	74635.89		74635.89
(b)		Other make ISI approved TMT reinforcement bar of Fe-415 N/mm2	tonne	62255.00	65840.89		65840.89
13.7		**Supplying, fitting and placing Mild steel reinforcement complete in sub-structure as per drawing and technical specification**	tonne	68793.00	72755.48		72755.48
13.8		**Providing weep holes in Brick masonry/Plain/Reinforced concrete abutment, wing wall/return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing foce. Complete as per drawing and Technical specification.**	each	204.00	215.75		215.75
13.9		**Back filling behind abutment, wing wall and return wall complete as per drawing and Technical specification**					
A		Granular material	cum	1524.00	1611.78		1611.78
B		Sandy material	cum	1948.00	2060.20		2060.20
13.10		**Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size toeards the wall and provided over the entire surfaces behind the abutement, wing wall and return wall to the full height compacted to firm condition complete as per drawing and technical specification.**	cum	1766.00	1867.72		1867.72

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
13.11		**Supplying, fitting and fixing in position true to line and level cast steel rocker bearing conforming to IRC: 83(Pt.-1) section IX and clause 2003 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications.**	tonne capacity	953.00	1007.89		1007.89
13.12		**Supplying, fitting and fixing in position true to line and level forged steel roller bearing conforming to IRC: 83(Pt.-1) section IX and clause 2003 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications.**	tonne capacity	1191.00	1259.60		1259.60
13.13		**Supplying, fitting and fixing in position true to line and level sliding plate bearing with PTFE surface sliding on stainless steel complete including all accessories as per drawing and Technical Specifications and BS: 5400, section 9.1 & 9.2 (for PTFE) and clause 2004 of MORT&H specification.**	tonne capacity	303.00	320.45		320.45
13.14		**Supplying, fitting and fixing in position true to line and level elastomeric bearing conforming to IRC: 83 (Part-II) section IX and clause 2005 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications.**	cubic centimetre	1.02	1.08		1.08
13.15		**Supplying, fitting and fixing in position true to line and level sliding plate bearing with stainless steel plate sliding on stainless steel plate with mild steel matrix complete including all accessories as per drawing and Technical Specifications.**	tonne capacity	212.00	224.21		224.21
13.16		**Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or unreinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainlesssteel matting surfaces, complete assembly to be of cast steel/fabricated structural steel, meatal and elastomer elements to be as per IRC:83 part-I &II respectively and parts conforming to BS:5400, section 9.1 & 9.2 and clause 2006 of MORTH&S Specification complete as per drawing and approved technical specification.**	tonne capacity	371.00	392.37		392.37

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-14							
SUPER-STRUCTURE							
14.1		**Furnishing and Placing Reinforced/Prestressed cement concrete in super-structure as per drawing and Technical Specification' including steel shuttering**					
(N)		**Without Plasticiser**					
A		**RCC Grade M20**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	7921.00	8377.25		8377.25
b		Height 5m to 10m	cum	8251.00	8726.26		8726.26
c		Height above 10m	cum	8581.00	9075.27		9075.27
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	8251.00	8726.26		8726.26
b		Height 5m to 10m	cum	8581.00	9075.27		9075.27
c		Height above 10m	cum	8911.00	9424.27		9424.27
B		**RCC Grade M25**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	8629.00	9126.03		9126.03
b		Height 5m to 10m	cum	8988.00	9505.71		9505.71
c		Height above 10m	cum	9348.00	9886.44		9886.44
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	8988.00	9505.71		9505.71
b		Height 5m to 10m	cum	9348.00	9886.44		9886.44
c		Height above 10m	cum	9707.00	10266.12		10266.12
C		**RCC Grade M 30**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump.**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	8720.00	9222.27		9222.27
b		Height 5m to 10m	cum	9083.00	9606.18		9606.18
c		Height above 10m	cum	9447.00	9991.15		9991.15
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	9083.00	9606.18		9606.18
b		Height 5m to 10m	cum	9447.00	9991.15		9991.15
c		Height above 10m	cum	9810.00	10375.06		10375.06
D		**RCC/PSC Grade M35**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	8749.00	9252.94		9252.94
b		Height 5m to 10m	cum	9120.00	9645.31		9645.31
c		Height above 10m	cum	9491.00	10037.68		10037.68
(ii)		**For T-beam & slab**					
a		**Height upto 5m**	cum	9120.00	9645.31		9645.31
b		**Height 5m to 10m**	cum	9491.00	10037.68		10037.68
c		Height above 10m	cum	9862.00	10430.05		10430.05

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
(iii)		**For box girder and balanced cantilever**					
a		Height upto 5m	cum	10232.00	10821.36		10821.36
b		**Height 5m to 10m**	cum	10974.00	11606.10		11606.10
c		Height above 10m	cum	11715.00	12389.78		12389.78
E		**PSC Grade M-40**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	8848.00	9357.64		9357.64
b		Height 5m to 10m	cum	9223.00	9754.24		9754.24
c		Height above 10m	cum	9598.00	10150.84		10150.84
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	9223.00	9754.24		9754.24
b		Height 5m to 10m	cum	9598.00	10150.84		10150.84
c		Height above 10m	cum	9973.00	10547.44		10547.44
(iii)		**For box girder and balanced cantilever**					
a		Height upto 5m	cum	10348.00	10944.04		10944.04
b		Height 5m to 10m	cum	11097.00	11736.19		11736.19
c		Height above 10m	cum	11847.00	12529.39		12529.39
F		**PSC Grade M-45**					
(i)		**For solid slab/voided slab super-structure**					
a		Height upto 5m	cum	9105.00	9629.45		9629.45
b		Height 5m to 10m	cum	9498.00	10045.08		10045.08
c		Height above 10m	cum	9890.00	10459.66		10459.66
(ii)		**For I-beam & slab including launching of precast girders by launching truss upto 40 m span**					
a		Height upto 5m	cum	9498.00	10045.08		10045.08
b		Height 5m to 10m	cum	9890.00	10459.66		10459.66
c		Height above 10m	cum	10283.00	10875.30		10875.30
(iii)		**For cast-in-situ box girder, segmental construction and balanced cantilever**					
a		Height upto 5m	cum	10675.00	11289.88		11289.88
b		Height 5m to 10m	cum	11460.00	12120.10		12120.10
c		Height above 10m	cum	12245.00	12950.31		12950.31
G		**PSC Grade M-50**					
(i)		**For cast-in-situ box girder, segmental construction and balanced cantilever**					
a		Height upto 5m	cum	10935.00	11564.86		11564.86
b		Height 5m to 10m	cum	11745.00	12421.51		12421.51
c		Height above 10m	cum	12555.00	13278.17		13278.17
H		**PSC Grade M- 55**					
(i)		**For cast-in-situ box girder, segmental construction and balanced cantilever**					
a		Height upto 5m	cum	11466.00	12126.44		12126.44
b		Height 5m to 10m	cum	12315.00	13024.34		13024.34
c		Height above 10m	cum	13164.00	13922.25		13922.25
(P)		**With plasticiser (Masterplast PL-1/SPL-2 or equivalent), air entraining and water reducing plasticiser (Masterplast PAE or equivalent) and accelerating plasticiser (Masterplast ACPL or equivalent) conforming to IS-9103-1999.**					
A		**RCC Grade M20**					

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	9220.00	9751.07		9751.07
b		Height 5m to 10m	cum	9604.00	10157.19		10157.19
c		Height above 10m	cum	9988.00	10563.31		10563.31
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	9604.00	10157.19		10157.19
b		Height 5m to 10m	cum	9988.00	10563.31		10563.31
c		Height above 10m	cum	10372.00	10969.43		10969.43
B		**RCC Grade M25**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	10167.00	10752.62		10752.62
b		Height 5m to 10m	cum	10591.00	11201.04		11201.04
c		Height above 10m	cum	11014.00	11648.41		11648.41
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	10591.00	11201.04		11201.04
b		Height 5m to 10m	cum	11014.00	11648.41		11648.41
c		Height above 10m	cum	11438.00	12096.83		12096.83
C		**RCC Grade M 30**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump.**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	10286.00	10878.47		10878.47
b		Height 5m to 10m	cum	10714.00	11331.13		11331.13
c		Height above 10m	cum	11143.00	11784.84		11784.84
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	10714.00	11331.13		11331.13
b		Height 5m to 10m	cum	11143.00	11784.84		11784.84
c		Height above 10m	cum	11571.00	12237.49		12237.49
D		**RCC/PSC Grade M35**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	10347.00	10942.99		10942.99
b		Height 5m to 10m	cum	10786.00	11407.27		11407.27
c		Height above 10m	cum	11224.00	11870.50		11870.50
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	10786.00	11407.27		11407.27
b		Height 5m to 10m	cum	11224.00	11870.50		11870.50
c		Height above 10m	cum	11662.00	12333.73		12333.73
(iii)		**For box girder and balanced cantilever**					
a		Height upto 5m	cum	12101.00	12798.02		12798.02
b		Height 5m to 10m	cum	12978.00	13725.53		13725.53
c		Height above 10m	cum	13855.00	14653.05		14653.05
E		**PSC Grade M-40**					
Case II		**Using Batching Plant, Transit Mixer and Concrete Pump**					

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
(i)		**For solid slab super-structure**					
a		Height upto 5m	cum	10476.00	11079.42		11079.42
b		Height 5m to 10m	cum	10920.00	11548.99		11548.99
c		Height above 10m	cum	11364.00	12018.57		12018.57
(ii)		**For T-beam & slab**					
a		Height upto 5m	cum	10920.00	11548.99		11548.99
b		Height 5m to 10m	cum	11364.00	12018.57		12018.57
c		Height above 10m	cum	11808.00	12488.14		12488.14
(iii)		**For box girder and balanced cantilever**					
a		Height upto 5m	cum	12252.00	12957.72		12957.72
b		Height 5m to 10m	cum	13139.00	13895.81		13895.81
c		Height above 10m	cum	14027.00	14834.96		14834.96
F		**PSC Grade M-45**					
(i)		**For solid slab/voided slab super-structure**					
a		Height upto 5m	cum	10836.00	11460.15		11460.15
b		Height 5m to 10m	cum	11303.00	11954.05		11954.05
c		Height above 10m	cum	11770.00	12447.95		12447.95
(ii)		**For I-beam & slab including launching of precast girders by launching truss upto 40 m span**					
a		Height upto 5m	cum	11303.00	11954.05		11954.05
b		Height 5m to 10m	cum	11770.00	12447.95		12447.95
c		Height above 10m	cum	12237.00	12941.85		12941.85
(iii)		**For cast-in-situ box girder, segmental construction and balanced cantilever**					
a		Height upto 5m	cum	12704.00	13435.75		13435.75
b		Height 5m to 10m	cum	13638.00	14423.55		14423.55
c		Height above 10m	cum	14573.00	15412.40		15412.40
G		**PSC Grade M-50**					
(i)		**For cast-in-situ box girder, segmental construction and balanced cantilever**					
a		Height upto 5m	cum	13058.00	13810.14		13810.14
b		Height 5m to 10m	cum	14025.00	14832.84		14832.84
c		Height above 10m	cum	14992.00	15855.54		15855.54
H		**PSC Grade M- 55**					
(i)		**For cast-in-situ box girder, segmental construction and balanced cantilever**					
a		Height upto 5m	cum	13758.00	14550.46		14550.46
b		Height 5m to 10m	cum	14777.00	15628.16		15628.16
c		Height above 10m	cum	15796.00	16705.85		16705.85
14.2		**Reinforcement in Super Structure: Supplying, fitting and placing TMT bar reinforcement in super-structure including splicing complete as per drawing and technical specifications**					
(a)		From Primary Sources: TATA/SAIL/Esser Steel/ Jindal steel/Shyam steel					
		(i) TMT Corrosion Resistant Steel (CRS) reinforcement bar of Fe-500 N/mm2	tonne	77554.00	82021.11		82021.11
		(ii)Super Ductile (SD) TMT reinforcement bar of Fe-500 N/mm2	tonne	74667.00	78967.82		78967.82
(b)		Other make ISI approved TMT reinforcement bar of Fe-415 N/mm2	tonne	66004.00	69805.83		69805.83

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
14.3		**High tensile steel wires/strands including all accessories for stressing, stressing operations and grouting complete as per drawing and Technical Specifications**	tonne	167708.00	177367.98		177367.98
14.4		**Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical Specifications**	cum	12993.00	13741.40		13741.40
14.5		**Mastic Asphalt**					
(A)		**Providing and laying 12 mm thick mastic asphalt wearing course on top of deck slab excluding prime coat with paving grade bitumen meeting the requirements given in table 500-29, prepared by using mastic cooker and laid to required level and slope aftering cleaning the surface, including providing antiskid surface with bitumen pre coated fine grained hard stone shipping of 9.5mm nominal size at the rate of .005 cum per 10sqm and at approximate spaciong of 10cm center to center in both directions, pressed into surfaces when temperature of the surfaces not less than 100 degC. , protuding 1mm to 4mm over mastic surfaces, all complete as per clause 515.**	sqm	329.00	347.95		347.95
(B)		**Providing and laying Bituminous wearing course comprising of tack coat with bitumen emulsion CSS-1h as per APWD SOR item no 5.2 & MOSRT&H Specification Nos 503, 6mm thick mastic asphalt as per APWD SOR item no 14.5 & MOSRT&H Specification Nos 515 & 2702 and 2 layers of 25 mm thick Asphalt concrete including of close Graded Premix Surfacing(CGPS) materials with Type -a aggregate as per APWD SOR tem no 5.11 & MOSRT&H Specification Nos 512 including all lead and lift as directed.**	sqm	688.00	727.63		727.63
14.6		**Construction of precast RCC railing of M30 Grade, aggregate size not exceeding 12 mm, true to line and grade, tolurence of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequat space between vertical posts for expansion, complete as per approved drawings and technical specifications.**	metre	2100.00			
14.7		**Construction of RCC railing of M30 Grade in-situ with 20 mm nominal size aggregate, true to line and grade, tolurence of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequat space between vertical posts for expansion, complete as per approved drawings and technical specifications.**	metre	2044.00	2161.73		2161.73
14.8		**Providing, fitting and fixing mild steel railing complete as per drawing and Technical Specification**	metre	3756.00	3972.35		3972.35
14.9		**Drainage Spouts complete as per drawing and Technical specification**	Each	10197.00	10784.35		10784.35
14.10		**PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specification**	cum	5498.00	5814.68		5814.68
14.11		**Reinforced cement concrete approach slab including reinforcement and formwork complete as per drawing and Technical specification**					
(a)		**With TATA make TMT CRS (Fe-500) grade rebar**	cum	12025.00	12717.64		12717.64
(b)		**With TATA make TMT grade rebar**	cum	12184.00	12885.80		12885.80
(c)		**With other ISI marked TMT grade rebar**	cum	11471.00	12131.73		12131.73
14.13		**Precast - pretensioned Girders (Providing, precasting, transportation and placing in position precast pretensioned concrete girders as per drawing and technical specifications)**	cum	23082.00	24411.52		24411.52

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
14.16		**Painting on concrete surface (Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 Sq.m.)**					
(A)		**For Plain surface**	sqm	45.00	47.59		47.59
(B)		**For RCC Railing**	RM	160.00	169.22		169.22
14.17		**Burried Joint (Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised wieldable structural steel plate as per IS: 2062, placed symmetrical to centre line of the joint, resting freely over the top surfaces of the deck concrete, welding of 8mm dia, 100mm long galvanized nails spaced 300mm C/C along the center line of the plate , all as specified in clause 2604.)**	metre	2172.00	2297.11		2297.11
14.18		**Filler joint**					
(i)		**Providing & fixing 2 mm thick corrugated copper plate in expansion joint complete as per drawing & Technical Specification.**	metre	1640.00	1734.46		1734.46
(ii)		**Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.**	metre	558.00	590.14		590.14
(iii)		**Providing and fixing in position 20 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specification.**	metre	317.00	335.26		335.26
(iv)		**Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6% bitumen by weight**	metre	17.00	17.98		17.98
14.19		**Asphaltic Plug joint (Providing and laying of asphaltic plug joint to provide for horizontal movement of 25 mm and vertical movement of 2 mm, depth of joint varying from 75 mm to 100 mm, width varying from 500 mm to 750 mm (in traffic direction), covered with a closure plate 200mmX 6mm of wiedable structural steel conforming to IS:2062, asphaltic plug consist of polymer modified bitumen binder, carefully selected singl;e size aggregate of 12.5mm nominal size and heat resistant foam caulking/backer rod, all as per approved drawing and specifications.)**	metre	1861.00	1968.19		1968.19
14.20		**Elastomeric Slab Steel Expansion Joint (Providing and laying of an elastomeric slab steel expansion joint, catering to right or skew (less than 20 deg., moderately curved with maximum horizontal movement upto 50 mm, complete as per approved drawings and standard specification to be installed by the manufacture/supplier or their authorisedrepresentative ensuring compliance to the manufacturers instructios for installation and clause 2506 of MORTS&H specification of bridge works.)**	metre	19674.00	20807.22		20807.22
14.21		**Compression Seal Joint (Providing and laying of compression seal joint consisting of steel armoured nosing at two edges of the joint gap suitably anchored to the deck concrete and a preformed chloroprene elastomer or closed cell foam joint sealer compressed and fixed into the gap with special adhesive binder to cater for a horizontal movement up to 40mm and vertical movement of 3mm.)**	metre	16618.00	17575.20		17575.20

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
14.22		**Strip Seal Expansion Joint (Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 70 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instruction for installation).**	metre	11804.00	12483.91		12483.91
14.23		**Modular Strip / Box Seal Joint (Providing and laying of a modular strip Box steel expansion joint including anchorage catering to a horizontal movement beyond 70 mm and upto 140mm, complete as per approved drawings and standard specifications to be installed by teh manufacture/supplier or their authorised representative ensuring compliance to the manufacturer's instruction**	metre	187135.00	197913.98		197913.98
14.24		**Modular Strip / Box Seal Joint (Providing and laying of a modular strip box seal expansion joint catering to a horizontal movement beyond 140mm and upto 210mm, complete as per approved drawings and standard specifications to be installed by the manufactu/supplier or their authorised representative ensuring compliance to the manufacturer's instruction for installation.)**	metre	248488.00	262800.91		262800.91
14.25		**Extra for providing water proofing compound (Providing and applying cement mortar(1 cement 3 sand) with MasterCrete M81or its equivalent as per specification and as directed by the Department**	sqm	420.00	444.19		444.19
14.26		**Extra for providing water proofing compound (Cleaning the surface and applying two coats of MasterCrete M81 or its equivalent as per specification and as directed by the Department**	sqm	291.00	307.76		307.76

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-15							
RIVER TRAINING AND PROTECTION WORKS							
15.1	**2403**	**Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.**					
A		**Boulder laid dry without wire crates.**	cum	1463.00	1547.27		1547.27
15.2	**2503**	**Boulder apron laid in wire crates (Providing and laying of boulder apron laid in wire crates made with 4mm dia GI wire conforming to IS: 280 & IS:4826 in 100mm x 100mm mesh (weaved diagonally) including 10% extra for laps and joints laid with stone boulders weighting not less than 40Kg each.)**	cum	2916.00	3083.96		3083.96
15.3	**2503**	**Cement concrete blocks (size 0.5 x 0.5 x 0.5 m) (Providing and laying of apron with cement concrete blocks of size 0.5x0.5x0.5 m cast in-situ and made with nominal mix of M-15 grade cement concrete with a minimum cement content of 250 kg/cum as per IRC: 21-2000.)**	cum	5831.00	6166.87		6166.87
15.4	**2504**	**Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications**					
A		**Stone/Boulder**	cum	1463.00	1547.27		1547.27
B		**Cement Concrete blocks of size 0.3x0.3 x0.3 m cast in cement concrete of Grade M15**	cum	5831.00	6166.87		6166.87
15.5	**2504**	**Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification**	cum	1862.00	1969.25		1969.25
15.8	**2505**	**Providing and laying Flooring complete as per drawing and Technical specifications laid over cement concrete bedding.**					
A		**Rubble stone laid in cement mortar 1:3**	cum	5273.00	5576.72		5576.72
B		**Cement Concrete blocks Grade M15**	cum	9465.00	10010.18		10010.18
15.9	**2506**	**Dry rubble Flooring, Construcytion of dry rubbl flooring at cross drainage works for relatively less important works.**	cum	1679.00	1775.71		1775.71
15.10	**2507.2**	**Curtain wall complete as per drawing and Technical specification**					
A		**Stone masonry in cement mortar (1:3)**	cum	4333.00	4582.58		4582.58
B		**Cement concrete Grade M15**	cum	7046.00	7451.85		7451.85
15.11	**2507.2**	**Flexible Apron :Construction of flexible apron 1 m thick comprising of loose stone boulders weighing not less than 40 kg beyond curtain wall.**	cum	1485.00	1570.54		1570.54
15.12	**2503.3**	**Gabian Structure for Retaining Earth (Providing and construction of a gabain 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 @ 32Kgs per 10Sqm having minimum tensil strength of 300Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into meshes with double twist, mesh size not exceeding to 100mmX100mm , firred with boulders at least dimension of 200mm , all loose ends to be tied with 4mm galvenized steel wire.)**	cum	3230.00	3416.05		3416.05

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
15.13	**2503.3**	**Gabian Structure for Erosion Control, River Training Works and Protection works (Providing and constructing gabain structures for erosion control, river training works and protection works with wire crates of size 2 m x 1 m x 0.3 m each divided into 1m compartments by cross netting, made from 4 mm galvanised steel wire@ 32Kgs per 10Sqm having minimum tensil strength of 300Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into meshes with double twist, mesh size not exceeding to 100mmX100mm , firred with boulders at least dimension of 200mm , all loose ends to be tied with 4mm galvenized steel wire.)**	cum	5624.00	5947.94		5947.94

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
CHAPTER-16							
REPAIR AND REHABILITATION							
16.1	**2809**	**Removal of existing cement concrete wearing coat including its disposal complete as per Technical specification without causing any detrimental effect to any part of the bridge structure and removal of dismantled material with all lifts and lead upto 1000.(Thickness 75mm.)**	sqm	78.00	82.49		82.49
16.2	**2809**	**Removal of existing asphaltic wearing coat comprising of 50 mm thick asphaltic concrete laid over 12 mm thick mastic asphalt including disposal with all lift and lead upto 1000m.**	sqm	59.00	62.40		62.40
16.3	**2807**	**Guniting concrete surface with cement mortar applied with compressor after cleaning surface and spraying with epoxy complete as per Technical specification**	sqm	1340.00	1417.18		1417.18
16.4	**2800**	**Providing and inserting nipples with approved fixing compound after drilling holes for grouting as per Technical specifications including subsequent cutting/removal and sealing of the hole as necessary of nipples after completion of grouting with Cement/Epoxy.**	each	178.00	188.25		188.25
16.5	**2806**	**Sealing of cracks/porous concrete by injection process through nipples/Grouting complete as per Technical specification.**					0.00
A		**Cement Grout**	kg	157.00	166.04		166.04
B		**Cement mortar (1:1) Grouting**	kg	150.00	158.64		158.64
16.6	**2800**	**Patching of damaged concrete surface with polymer concrete and curing compounds, initiator and promoter, available in present formulations, to be applied as per instructions of manufacturer and as approved by the Engineer.**	sqm	1445.00	1528.23		1528.23
16.7	**2803**	**Sealing of crack / porous concrete with Epoxy Grout by injection through nipples complete as per clause 2803.1.**	kg	1511.00	1598.03		1598.03
16.8	**2804**	**Applying epoxy mortar over leached, honey combed and spalled concrete surface and exposed steel reinforcement complete as per Technical specification**	sqm	1035.00	1094.62		1094.62
16.9	**2807**	**Removal of defective concrete, cleaning the surface thoroughly, applying the shotcrete mixture mechanically with compressed air under pressure, comprising of cement, sand, coarse aggregates, water and quick setting compound in the proportion as per clause 2807.1. sand and coarse aggregates conformiong to IS : 383 and table 1 of IS:9012 respectively, water cement ratio ranging from 0.35 to 0.50, density of gunite not less than 2000Kg/cum. , strength not less than 25Mpa and workmanship conforming to to clause no.2807.6**	sqm	335.00	354.30		354.30
16.10	**2800**	**Applying pre-packed cement based polymer mortar of strength 45 Mpa at 28 days for replacement of spalled concrete**	sqm	248.00	262.28		262.28
16.11	**2805**	**Eproxy bonding of new concrete to old concrete**	sqm	245.00	259.11		259.11
16.12		**Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestessing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical specification**	tonne	480476.00	508151.42		508151.42
16.13		**Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestessing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical specification**	tonne	456731.00	483038.71		483038.71

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
16.14		**Providing external prestressing with high tensile steel wires/strands including drilling for passage of prestessing steel, all accessories for stressing and stressing operation and grouting complete as per drawing and Technical specification**	tonne	417808.00	441873.74		441873.74
16.15	**2808**	**Labour for replacement of Bearings complete as per Technical Specification (Cost of bearing to be paid extra)**	each	3339.00	3531.33		3531.33
16.16	**2808**	**Lifting of superstructure by jack (Cost of bearing to be paid extra) as per approved drawing and technical specification.**					
A		**I) Cost of lifting of superstucture for span upto 10 metre**	each	15946.00	16864.49		16864.49
B		**I) Cost of lifting of superstucture for span above 10 metre to 16 metre**	each	18278.00	19330.81		19330.81
		II) Cost of lifting of superstucture for span above 16 metre to 24 metre	each	46262.00	48926.69		48926.69
		III) Cost of lifting of superstucture for span above 24 metre	each	51242.00	54193.54		54193.54
C		**(I) Extra for construction of auxilary structure upto 6M height including dismentling and removal of same for lifting of super structure.**	each	930000.00	983568.00		983568.00
		(II) Extra for construction of auxilary structure above 6M height including dismentling and removal of same for lifting of super structure.	each	1328823.00	1405363.20		1405363.20
16.17		**Replacement of Expansion Joints complete as per drawings**	metre	3628.00	3836.97		3836.97
16.18		**Replacement of damaged concrete railing.**	metre	136.00	143.83		143.83
16.19		**Replacement of crash barrier.**	metre	229.00	242.19		242.19
16.20		**Replacement of damaged mild steel railing**	metre	117.00	123.74		123.74
16.21		**Repair of crash barrier (Repair of concrete crash barrier with cement concrete of M-30 grade by cutting and trimming the damaged portion to a regular shape, cleaning the area to be repaired thoroughly, applying cement concrete after erection of proper f**	metre	220.00	232.67		232.67
16.22		**Repair of RCC Railing (Carrying out repair of RCC M30 railing to bring it to the original shape.)**	metre	148.00	156.52		156.52
16.23		**Repair of steel Railing (Repair of steel railing to bring it to the original shape)**	metre	338.00	357.47		357.47
16.24		**Chipping of deteriorated concrete and removal of all loose & friable materials and fully exposing rusted reinforcement followed by proper cleaning and removing of rusts and other foreign materials using sand blasting/ emery cloths/ wire brush etc. including formwork as directed and specified by the department complete**	sqm	134.00	141.72		141.72
16.25		**Replacement of corroded reinforcement by cutting and welding new reinforcement of minimum 25mm dia. including lapping on both sides to the specified length as directed and as per relevant IS/IRC codes and cost of gas ,welding rods,higher charge of welding machines etc. including formwork as required.(Reinforcement to be measured and paid seperately)**	metre	258.00	272.86		272.86
16.26		**Anticorrosive treatment**					
(A)		**Supplying and applying two coats of Zinc rich anti-corrosive protective coating with'Techguard 102' of Choksey Chemicals or euivalent @ 0.50 Lit per Sqm over thoroughly cleaned and prepared steel bars including formwork as directed and specified by the department complete.**	sqm	417.00	441.02		441.02

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
(B)		**Spplying and applying two coats of Nitozinc Primer a two component epoxy zinc rich primer on the properly cleaned and prepared steel bars after the required chipping and cleaning of the concrete surface as per the manufacturer"s specifications as directed and specified by the department complete.**	sqm	594.00	628.21		628.21
16.28		**Bonding between old and new concret surfaces**					
(A)		**Supplying and applying Epoxy based bonding agent Masterbond EP of Choksey Chemicals or euivalent @ 0.50 Lit pe sqm after totally saturating the cleaned concrete surface with clean water for proper bonding of old and new concrete including formwork as specified and directed by the department complete.**	sqm	614.00	649.37		649.37
(B)		**Providing and applying coating of the cleaned patches with two part of polymer based bonding agent Nitobond SBR of Fosroc or equivalent @ 0.22 Lit per Sqm prior to application of polymer modified mortar with brush after totally saturating the cleaned concrete surface with clean water for proper bonding of old and new concrete including formwork as specified and directed by the department complete**	sqm	343.00	362.76		362.76
16.29		**Plastering the surface with high rich polymer modified mortar 10mm thick with cement sand mortar in prop. 1:4 mixed with 100% acrylic polymer Mastercrete M-81 of Chosey chemicals or equivalent @15% by weight of cement followed by proper curing as specified and directed by the department complete including formwork.**	sqm	536.00	566.87		566.87
16.30		**Concreting of the structure with nonshrink cementitious microconcrete with properly graded 5mm to 12mm slit free aggregate with Mastergrout CNS250 of Choksey Chemicals or equivalent, (mixing ratio CNS250 - 1part : graded 12mm down aggregate-0.6part and water/powder ratio-0.16) with water @ 0.16 w/p ratio and poured at a super fluid consistency only from one side to avoid air entrapment continuously without vibration followed by proper curing for minimum 7 days. as specified and directed by the department complete including formwork.**	cum	75289.00	79625.65		79625.65
16.31		**Concreting of the structure with free flow nonshrink cementitious microconcrete with Rendorec RG of Fosroc or equivalent after proper mixing with cleanwater including formwork followed by proper curing for 28 days as per manufacturer's specifications complete and as directed by the Department .**	cum	106484.00	112617.48		112617.48
16.33		**Structural Strengthening with carbon Fibre:**					0.00
(A)		**Patching in depression of concrete surface wherever necessary by laying epoxy putty , Nitocote VF of Fosroc Chemicals or equivalent @ 1 Lit per sqm after proper surface preparation and proper scraping of concrete protrusion as specified and directed by the department complete including formwork .**	sqm	2301.00	2433.54		2433.54
(B)		**Applying Nitowrap 410 saturant Fosroc Chemicals or equivalent with wet film thickness @ 250 microns (0.27Lit per sqm) over a coat of saturant epoxy primer Nitowrap 30 of Fosroc Chemicals or equivalent @ 0.11Lit per sqm with brush followed by fixing carbon fibre composite system Nitowrap EP (CF) of Fosroc Chemicals or equivalent by pressing on the saturant and impregnate the same by applying a final coat of Nitowrap 410 saturant Fosroc Chemicals or equivalent as specified and directed by the department complete including formwork.**	sqm	5794.00	6127.73		6127.73

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
(C)		**Applying two coats of UV resistant coating Nitocote UR 512 (FOSROC) Chemicals or equivalent over fibre system having wet film thickness of 100 micron @ 0.11Lit per sqm as specified and directed by the department complete including formwork.**	sqm	391.00	413.52		413.52
16.34		**Providing & fixing 16mm dia MS nozzles in a grid of 1m c/c up to the half of the thickness of the concrete structure.A grout slurry of neat cement & chloride free expanding grout Mastergrout CPG-1 of Choksey Chemicals or equivalent @ 0.5% by weight of cement water cement ratio 0.35 to 0.40 and viscosity not more than 1.02 centipoise with grouting pressure till the refusal of injection grout Mastergrout CPG-1. The grouting operation pressure shall be 2Kg/sq.cm.Cutting the exposed nozzle after the grouting with a good cutter to make the surface free from the grouting pipes and to seal the gap with plugging compound Masterplug of Choksey Chemicals as per the specification and the direction of the department complete including formwork.**	Each	947.00	1001.55		1001.55
16.35		**Providing & fixing PVC pipes in a grid of 0.5m c/c throughout the crack of the concrete structure.A low viscous Epoxy grout with Mastergrout EP 150 of Choksey Chemicals or equivalent should be inserted throughout the crack to fill the crack.Cutting the exposed nozzle after the grouting with a good cutter to make the surface free from the grouting pipes and to seal the gap with the appeared crack with Epoxy putty of Choksey Chemicals as per the specification and the direction of the department complete including formwork.**	metre	1228.00	1298.73		1298.73
16.36		**Fibre reinforcement**			0.00		
A		**Extra for fibre reinforcing concrete/mortars by providing and mixing Recron3S (CT 2024 12mm fibre cut length / CT 2012 6mm fibre cut length) of Reliance Industries Ltd. @ 125gms per bag (50Kg) of cement as specified and directed by the Department complete at all levels**			0.00		
(I)		**In concrete**					
		(i) In M-20 grade.	cum	341.00	360.64		360.64
		(ii) In M-25 grade.	cum	396.00	418.81		418.81
		(iii) In M-30 grade.	cum	399.00	421.98		421.98
		(iv) In M-35 grade.	cum	415.00	438.90		438.90
(II)		In cement morter Plastering					
		(i) 1:3 (1 cement: 3 coarse sand)	sqm	5.00	5.29		5.29
		(ii) 1:4 (1 cement: 4 coarse sand)	sqm	4.00	4.23		4.23
B		**Extra for fibre reinforcing concrete by providing and mixing Virgin Polypropylene 18 microne Fibre @ 600gms per cum of cement concrete with tear strength greater than 450 N/sqmm as specified and directed by the Department complete at all levels.**	cum	437.00	462.17		462.17
16.37		**Applying 2-coats of anti-carbonation - a protective coating Techguard 103 of Choksey Chemicals or equivalent @ 0.275 Lit per sqm with brush over exposed portion of the concrete structure of the bridge & other structure works etc. complete as desired to protect the reinforced concrete by preventing the process of carbonation and directed by the department including formwork.**	sqm	289.00	305.65		305.65

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
16.38		**Applying and placing Antiwash, non-shrink, cementatious, high strength Renderoc UW of Fosroc Chemicals or equivalent by mixing with clean water to repair the damaged and deteriorated underwater structural elements including formwork as per the department's instructions with labour, tools complete as specified and directed by the department including formwork.**	cum	143986.00	152279.59		152279.59
16.39		**Drilling 14 mm dia holes on the concrete surface to a depth of 75mm using a rotary cum hammering,drilling machine as per specification and throughly cleaning the hole using compressed air & water jet and fixing of shear connectors of 8mm dia and anchoring it with polyester resin anchor grout Lokfix P of Fosroc india and as per manufacture's specifications.(Cost inclusive of drilling,cleaning,fixing, steel,labour,tools and tackles)**	each	88.00	93.07		93.07
16.40		**Fabrication and fixing of steel pedestal support for bearing**	MT	25480.00	26947.65		26947.65
16.41		**Providing and fixing of Foundation bolts for steel pedestals.**	Each	774.00	818.58		818.58
16.42		**Providing and fixing of Steel plates for placing of bearings**	MT	81900.00	86617.44		86617.44
16.43		**Non-destuctive testing with Ultrasonic Pulse Velocity Meter with data storage facility for detection of cracks, voids and other imperfections in Reinforced concrete structures and furnishing the findings thereof in proper comprehensible format , complete as directed by the department.**	Each	500.50	529.33		529.33
16.44		**Non-destuctive testing with Profometer 5 Scanlog or equivalent equipment with facility for built-in memory storage and statistical analysis of data for detection of location and orientation of rebars in Reinforced concrete structures and furnishing the findings thereof in proper comprehensible format , complete as directed by the department.**	Sqm	2145.00	2268.55		2268.55
16.45		**Non-destuctive testing with Permeability Tester, without causing damages to the structure, for determination the water permeability and water absorption into the near surface zone of the concrete structure and furnishing the findings thereof in proper comprehensible format , complete as directed by the department.**	Each	550.00	581.68		581.68
16.46		**Conducting PH tests on concrete stucture, as per stipulated procedures, for determination the PH (alkalinity) of the concrete structure and furnishing the findings thereof in proper comprehensible format , complete as directed by the department.**	Each	88.00	93.07		93.07
16.47		**Conducting Carbonation tests on concrete stucture, as per stipulated procedures, for determination the depth of carbonation of cover concrete of the structures and furnishing the findings thereof in proper comprehensible format , complete as directed by the department.**	Each	88.00	93.07		93.07
16.48		**Conducting suitable tests on concrete stucture, including preparation of samples etc. as per stipulated procedures, for determination the chloride and sulphate concentration in the concrete of the structures and furnishing the findings thereof in proper comprehensible format , complete as directed by the department.**	Each	715.00	756.18		756.18
16.49		**Conducting Concrete Core tests of 75mm diacores, on concrete stucture, as per stipulated procedures, for determination the equivalent cube compressive strength, concrete of the structures including preparation and furnishing the report showing the findings thereof in proper comprehensible format , complete as directed by the department.**	Each	5005.00	5293.29		5293.29

Item No.	Ref. of MoRT&H	Descriptions	Unit	Rate as per SOR (13-14)	Escalation @ 5.76% excluding GST	Extra lead Cost	Final Rate
16.50		**Evaluation of Loss of pre-stress in superstructure PSC girders including measurement of deflection by suitable instruments and necessary calculations for estimation of the probable loss in pre-stress and furnishing the findings thereof in a proper comprehensible format with all details, complete as directed by the department.**	Each Spar	200000.00	211520.00		211520.00
16.51		**Stressing operation and grouting complete, including all accessories for stressing of dummy cables, as per drawing and technical specifications of section 1800 of MORTH Specification of Roads and Bridge Work .**	MT	10861.00	11486.59		11486.59
16.52		**Load testing of existng foundation to ensire no void/ gap/ loose pocket below the foundation with a total weight of 250MT (in form of sand bags filling with locally available sand/ soil etc. placed uniformly on top of well-cap) placed concentric & uniform w.r.t existing well foundation, including dewatering and making arrangement with atleast 4 nos dial gauges, for measurement of settlement of foundation during application and release of the load, all complete as per specification as directed byb the department.**	Each	70000.00	74032.00		74032.00
16.53		**Providing, placing and fixing in position Chemical rebar fastners (of M/s Hilti or M/s Sika or approved equivalent conforming to Europian standard CSTB/ETA and Civil Aid standard) of vaious diameters in Piers, Pier caps, including drilling holes of specified size and depth, cleaning holes, placing chemicals inside the holes and fixing reinforcing bars as per specifications of the chemical rebar supplier, and under supervision of the authorized representative of the supplier and conducting pull-out test of atleast 5% of total nos. of chemical re-ba fastners (cost of reinforcing bars to be paid seperately) all complete as per specification as directed byb the department.**					
a		a) 12 mm dia re-bar fastners.	Each	500.00	528.80		528.80
b		b) 16 mm dia re-bar fastners.	Each	700.00	740.32		740.32
c		c) 20 mm dia re-bar fastners.	Each	750.00	793.20		793.20
d		d) 25 mm dia re-bar fastners.	Each	800.00	846.08		846.08
16.54		**Non-destructive testing with rebound hammer for detection of damage zones in Reinforced concrete structures and furnishing the findings thereof in proper comprehensible format.**	Each	385.00	407.18		407.18
16.55		**Non-destuctive testing with Corrosion analysis instrument (Copper & Copper sulphate half cell potentiometer) with all accessories, for determination the risk of corrosion of rebars located within a concrete structure and furnishing the findings thereof in proper comprehensible format , complete as directed by the department.**	Each	3575.00	3780.92		3780.92
16.56		**Pile intrigity test: Integrity testing of all piles by using pile driving analyser or equivalent as approved by Engineer-in-Charge and detailed in specification .Test to be carried out by an approved reputed agency.Item to include all incidental work to execute the job**	Each	1600.00	1692.16		1692.16

Calculation of extra lead (Section-4)												
Sl. No.	**Item**	**Location of Quarry (Aggregate)**	**Lead from Quarry to Plant (KM)**	**Lead Considered in SOR (KM)**	**Lead from Plant to Site(KM)**	**Lead Considered in SOR (KM)**	**Extra lead (KM)**	**Loose Factor of Aggregate**	**Rate / Cum as per SOR (2013-14)**	**Total amount / Cum**	**Escalation @ 5.76%**	**Net Amount per Cum**
1	GSB , WMM, DBM and BC	Longdit	36.5	5	8.5	10	30	1.45	6.37	277	15.96067	293.0557
2	Embankment	Beside Project Road	3	3					7.74			
3	Subgrade	Beside Project Road	3	3					8.46			