SUMMARY COST ESTIMATE

Construction of LVUP (12.0 X 4.5 m) at 162+590 of NH-9 (New NH-65) on Pune Solapur Section in the State of Maharashtra

Section-6 Annexure-1

Summary of Cost Estimate

Bill. No.	Civil Works	Amount Rs.
1	SITE CLEARANCE AND DISMANTLING	-
2	EXCAVATION AND EARTHWORK	-
3	SUB-BASES, BASES (NON BITUMINOUS)	-
4	BASES & SURFACE COURSE (BITUMINOUS)	-
5	NEW CONSTRUCTION OF LVUP	-
6	NEW CONSTRUCTION OF RE WALL	-
7	EARTHWORK IN APPROACHES	-
8	WIDENING & RECONSTRUCTION OF H.P. CULVERTS	-
9	DRAINAGE AND PROTECTION WORKS	-
10	TRAFFIC SIGNS, MARKINGS & ROAD APPRUNTENANCES	-
11	MISCELLANEOUS *(Central Median, Junction Improvement, Utility Service pipe etc.)*	-
12	STREET LIGHT & HIGH MAST	-
13	HORTICULTURE/AVENUE PLANTATION	-
14	RAIN WATER HARVESTING SYSTEM	-
	TOTAL CIVIL CONSTRUCTION COST EXCLUDING GST =	**-**
	ADD GST 12% ON ABOVE COST	-
	TOTAL CIVIL CONSTRUCTION COST INCLUDING GST =	**-**

Amount in Words :

Main Terms

1. Quoted rates are inclusive of GST as per ITB Clause 42.1 and other applicable taxes
2. Item rate shall be inclusive of all material, manpower, equipment cost, royalties, transportation, etc.
3. No changes in the item rates shall be considered for adjustment of variation.
4. Contractor shall arrange all the necessary equipment's required to execute the work as per the Standards and Specifications and as per good industrial practice
5. The Construction Performance Security amounting to 5% of the contract value (valid Bank Guarantee) shall be provided by contractor to PSRDCL as per Tender document before signing of contract.
6. TDS shall be deducted at the rates applicable as per provisions of Income Tax Act from contractor's running bills. For this purpose, Contractor shall submit necessary documents / details / information's as may be required to PSRDCL from time to time.
7. 5% of amount from each Running Account Bill of Subcontractor shall be deducted and withheld by PSRDCL towards Retention Money. The retention money shall be released interest free to contractor by PSRDCL upon successful completion of Defects Liability Period.
8. The contractor shall be responsible for compliance as per prevalent Labour Laws including the labour cess compliances and its payment to Authority
9. Contractor shall arrange for all insurances including contractor's equipment if any and its own surrounding property workmen's compensation, group accident, and group Mediclaim. PSRDCL will not be liable for any compensation towards loss of life & property.
10. Above Bill of Quantities with rates shall be submitted on letterhead of the Bidder with signature of authorised signatory and company stamp

Name of Work : Construction of LVUP at 162+590 of NH-9 (New NH-65) on Pune Solapur Section in the State of Maharashtra

Section-6 Annexure-1

Bill of Quantities

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
BILL No. 1		**SITE CLEARANCE AND DISMANTLING**				
1.01		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 material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.				
		In area of light jungle	Hect	1.36		-
1.02		Dismantling of kilometre stone including cutting of earth, foundation and disposal of dismantled material with all lifts and lead up to 1000 m and back filling of pit.				
		b) Ordinary Km stone	Each	1.00		-
		c) Hectometre Stone	Each	2.00		-
					Total of Site Clearance =	**-**
Bill No.2		**EARTH WORKS**				
2.01		Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead up to 1000m	Cum	3416.20		-
2.02		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 lifts and lead up to 1000 m, trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections.	Cum	179.80		-
2.03		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 requirement of table 300-2.	Cum	15154.28		-
2.04		Preparing embankment with approved materials obtained from the road 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	883.03		-
2.05		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 No. 300-2	Cum	12805.88		-
2.06		Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified material with in all lifts and lead up to 1000 metres.	Sqm	11952.50		-
2.07		Removal of unserviceable soil / material including loading and disposal upto 5.0 Km lead but excluding replacement by suitable soil which shall be paid sepratly as per clause 305 as directed etc. complete. Spec.No.:301	Cum	1110.58		-
					Total of Earthwork =	**-**

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
Bill N0. 3		**SUB-BASE AND BASE COURSE**				
3.01	401	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 clause 401 Granular Sub-Base with Close Graded Material (Table:-400-1)	Cum	5086.60		-
3.02	406	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 sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	Cum	6090.81		-
			Total of Sub base and Base Course =			**-**

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
Bill No. 4		**BASES &SURFACE COURSES (BITUMINOUS)**				
4.01		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 complete as per MoRTH specifications clause No. 502	Sqm	24000.375		-
4.02		Providing and applying **tack coat** with bitumen emulsion using emulsion pressurre distributor at the rate of 0.2-0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom complete as per MoRTH specification clause No. 503	Sqm	26347.88		-
4.03		Providing and laying **dense graded 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 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects.				
		with Grading -II- (Bituminous binder content as per approved Job mix formula but not lesser than that specified in relevant clause of MoRT&H Specifications)				
		For Grading II (19 mm nominal size) with bitumen VG-40	Cum	2353.57		-
4.04		Providing and laying **bituminous concrete** with 100-120TPH batch type hotmix plant producing an average outputof 75 tonne per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.40 to 5.60 percent of mix and filter, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade,level and alignment rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H Specifications Clause 507 complete in all respects.				
		Grading -II- (Bituminous binder content as per approved Job mix formula but not lesser than that specified in relevant clause of MoRT&H Specifications)				
		for Grading II (10 mm nominal size) with bitumen (VG-40)	Cum	1183.34		-
		BASES & SURFACE COURSE (BITUMINOUS)				**-**

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
Bill No. 5		**LVUP Box strucrre**				
5.01		EXCAVATION FOR STRUCTURE				
		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.	Cum	1,807		-
5.02		Plain Cement Concrete Grade M 15 in levelling course, annular filling,etc. complete as per drawings and Technical Specifications Section 1500,1700 and 2100. Item rate shall be inclusive of all material, taxes, duties, manpower, equipment cost, royalties, transportation, etc.	Cum	65		-
5.03		Reinforced cement concrete in foundation (RCC M25) for raft, retaining walls etc. including formwork, machinery and workmanship complete as per drawing and Technical Specifications Section 1500, 1700 and 2100. Item rate shall be inclusive of all material, taxes, duties, manpower, equipment cost, royalties, transportation, etc.	Cum	354		-
5.04		Reinforced cement concrete (M25) in substructure and slab for Box structure, wing walls, retaining walls bracket etc. including formwork, machinery and workmanship complete as per drawing and Technical Specifications Section 1500, 1700 and 2200. Item rate shall be inclusive of all material, taxes, duties, manpower, equipment cost, royalties, transportation, etc.	Cum	631		-
5.05		**a)** Providing, Supplying and Fixing in position HYSD/TMT - Fe 500 reinforcement including cutting , bending, binding etc complete as per drawing and Specifications. Laps, chairs and wastage shall be included in the rate and shall not be considered in the measurement.	MT.	94		-
5.06		Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.	Cum	172		-
5.07		Plain Cement Concrete Grade M 15 in levelling course, annular filling,etc. complete as per drawings and Technical Specifications Section 1500,1700 and 2100. Item rate shall be inclusive of all material, taxes, duties, manpower, equipment cost, royalties, transportation, etc.	Cum	26		-
5.08		**a)** Reinforced cement concrete M-30 in approach slab including shuttering and **reinforcement** complete as per drawing and Technical Specification Sections 1500, 1700, 2300 and 2700 and with concrete surfaces painted as per SP:80:2008 . Item rate shall be inclusive of all material, taxes, duties, manpower, equipment cost, royalties, transportation, etc.	Cum	55		-
5.09	2705	Providing and fixing of drainage spouts along with drain pipes complete as per drawing and Technical Specifications Section 2705 and as directed by the Engineer.	No.	8		-
5.10		BITUMINOUS CONCRETE 40mm THK.				-

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
		Providing and laying Bituminous Concrete 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 @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 509 complete in all respects.	Cum	13		-
5.11		Providing and applying **tack coat** with bitumen emulsion using emulsion pressurre distributor at the rate of 0.2-0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.				-
	(ii)	(b) At 0.25 kg per sqm (granular/bituminous surfaces cleaned with mechanical broom)	Sqm	336		-
5.12		MASTIC ASPHALT 25mm THK.				-
		Providing & laying 25mm mastic asphalt on deck slab over bituminous concrete surface with specified graded crushed aggregate including heating & mixing of aggregates ,filler & 15.5% of 10/20 grade bitumen in mechanically agitated mastic cooker,transporting the mixed material to laying site and laying mixed material to the required level and grade to achieve desired 6mm compacted thickness & density excluding cost of tackcoatbutincludingthecosofalllabours,materials, transportation,T&P,lighting,guarding,barricating,p roviding anti skid surface with bitumen precoated fine grained hard stone chipping of 13.2mm nominal size @0.005cum/10sqm and at an approximate spacing of 10 cm c/c in both directions ,pressed into surface when the temp of surfaces is not less than 100c protuding 1mm to4mm over mastic surface,etc required for the proper completion of the work as per clause 515 of MORT&H specification	Sqm	336		-
14		CRASH BARRIER IN RCC M40				-
		Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-40 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm 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 enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified	Rmt	56		-
5.13		PIPE RAILING OVER CRASH BARRIER				-
		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 2 metres centre to, complete as per approved drawing	Rmt	56		-
5.14		PAINTING ON CRASH BARRIER				-
		Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces.	Sqm	112		-
		TOTAL AMOUNT FOR NEWCONSTRUCTION OF LIGHT VEHICULAR UNDERPASS -				**-**

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
Bill No. 6		**NEW CONSTRUCTION OF RE WALL**				
6.01		EXCAVATION FOR RE WALL				
		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.	Cum	12780		-
6.02		PCC LEVEL BEDDING				
		Plain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications.	Cum	51.12		-
6.03		REINFORCEMENT FOR FRICTION SLAB				
		Providing, Supplying and Fixing in position HYSD/TMT - Fe 500 reinforcement including cutting , bending, binding etc complete as per drawing and Specifications. Laps, chairs and wastage shall be included in the rate and shall not be considered in the measurement.	tonne	44.73		-
6.04		CONSTRUCTION OF RE WALL				
		Construction of Reinforced earth Retaining Wall including foundation concrete & cement concrete grooved sealing in foundation for facing elements & placement,assembling, joining & laying of reinforcing element complete. The above item shall be payable only after back filling behind the wall is completed by granular material duly watered, rolled & completed. (filling behind the facing element shall be paid separately)				
	a	Facing Elements of RCC including reinforcing element of synthetic geogrids	Sqm	3761.818		-
	c	Providing and constructing RCC Friction Slab on RE Wall approaches M-35 grade including PCC for levelling, centering, shuttering and complete as per approved Drawings and Technical Specifications. Item rate shall be inclusive of all material, taxes, duties, manpower, equipment cost, royalties, transportation, etc.	Cum	447.3		-
6.05		FILTER MEDIA				
		Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.	Cum	2103.7308		-
6.06		CRASH BARRIER IN RCC M40				
		Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-40 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm 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 enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified	Rmt	852		-
6.07		PIPE RAILING OVER CRASH BARRIER				
		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 2 metres centre to, complete as per approved drawing	Rmt	852		-
6.08		PAINTING ON CRASH BARRIER				

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
		Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces.	Sqm	3632.144		-
		TOTAL AMOUNT FOR NEW CONSTRUCTION OF RE WALL -				**-**

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
Bill No. 7		**EARTHWORK IN APPROACHES**				
7.01		Construction of sub-grade 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 No. 300-2	Cum	19314.4		-
		TOTAL AMOUNT FOR EARTHWORK IN APPROACHES -				**-**
Bill No. 8		**WIDENING & RECONSTRUCTION OF H.P. CULVERTS**				
8.01		Earthwork in excavation for foundation of structures as per drawings and technical specifications, 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.	Cum	372.850		-
8.02		**RUBBLE FILLING BELOW FOUNDATION**				
		Providing & laying Boulder layer below foundation at cross drainage works etc. complete as per drawing and Technical Specifications	Cum	28.359		-
8.03		**PCC M15 IN FOUNDATION**				
		Plain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications.	Cum	14.623		-
8.04		**SAND FILLING**				
		Sand Filling in Foundation Trenches as per Drawing & Technical Specification	Cum	25.597		-
8.05		**COMPACTED GRANULAR MATERIAL**				
		Back filling behind abutment, wing wall and return wall complete as per drawing and Technical specification	Cum	41.318		-
8.06		**NP4 PIPE**				
		Supplying, Laying, jointing Reinforced cement concrete pipe NP4/Presteressed concrete pipe for culvert on first class bedding of granular material in single/double row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonary works in head walls and parapets. 1 x 1200 mm	Rmt	77.000		-
8.07		**FACE WALL IN PCC M15**				
		Plain/Reinforced Cement Concrete in substructure complete as per Drawing and Technical Specifications.	Cum	89.489		-
8.08		**BOULDER APRON**				
		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.	Cum	32.456		-
8.09		**TOE WALL IN RUBBLE STONE MASONARY**				
		Providing and construction of Coursed Rubble Stone masonry work in cement mortar 1:3 for foundation/substructure including staging and treatment of joints complete as per drawing etc. complete as per technical specifications and as directed by the Engineer. Item rate shall be inclusive of all material, taxes, duties, manpower, equipment cost, royalties, transportation, etc.	Cum	9.126		-
8.10		**GUARD STONE**				
		Providing and fixing M20 R.C.C. guard stone/ indicator stones/boundary stones of standard size and shape including fixing in C.C. 1:4:8 and white washing etc. complete.	No.	6.000		-
8.11		**PAINTING**				
		Painting with approved enamel paint in two coats including cleaning surface and lettering on masonry works with nalla flow direction, span number and location etc. complete.	No.	6.000		-
		TOTAL FOR RECONSTRUCTION & WIDENING OF H.P.CULVERT -				**-**

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
Bill No. 9		**DRAINAGE AND PROTECTION WORKS**				
9.01		Construction of covered lined drain including cover slab and reinforcement complete as per drawing and technical Specification Section 300, 1000, 1400, 1500, 1600, 1700 and as directed by Engineer.				
		1.5 m Wide RCC coverd drain cum footpath	metre	1430		-
9.02		Providing and Construction of pipe drain of dia 300 mm NP-2 pipe with Craddle, and other arrengement as per specification and drawing complete.				
		Cross pipe connecting drains in all 4 Sides	metre	30		-
		TOTAL AMOUNT FOR DRAINAGE AND PROTECTIVE WORKS=				**-**

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
Bill No. 10		**TRAFFIC SIGNS, MARKINGS & ROAD APPURTENANCES.**				
10.01		Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC :67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.				
	a	900 mm equilateral triangle	No.	2		-
	b	600 mm diameter circular boards	No.	4		-
	c	Informatory Signs of 800 x 600 mm size boards	No.	4		-
10.02		Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 2 mm thick with area not exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 x 45 x 60 cm, 60 cm below ground level as per approved drawing.	Sqm	3.60		-
10.03		Providing and erecting direction and place identification retro- reflectorised sign as per IRC :67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.	Sqm	6.00		-
10.04		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.	Sqm	1141.91		-
10.05		Reinforced cement concrete M15 grade kilometre stone of standard design as per IRC:8-1980, fixing in position including painting and printing etc.				-
		iii) Hectometer Stone	No.	6.00		-
10.06		Supplying and installation of delineators (road way indicators, hazard markers, object markers), 80-100 cm high above ground level, painted black and white in 15 cm wide strips, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed into the ground and conforming toIRC-79 and the drawings.	Nos.	78.00		-
10.07		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	Nos.	6.00		-
10.08		Providing and fixing of road stud 100x 100 mm, die-cast in aluminium, resistant to corrosive effect of salt and grit, fitted with lenses reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm up to a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS 873 part 4:1973	Nos.	394.00		-
10.09		Providing and erecting OVERHEAD SIGNS & Cantilever Sign including gantry using retro-reflective sheet confirming ASTM Type IX Specifications bonded on 4mm Aluminum Composite Panel (0.25+3.50+0.25 - Pvdf Coated) on both sides supported by M.S angle iron frame complete as per drawing, and as directed by the Engineer.				-
	a	Cantilever overhead sign including gantry	Nos.	4		-

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
10.10		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, 2 m centre to centre, complete as per approved drawings	Rmt	1269		-
10.11		Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC :67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing i) 60 cm x 45 cm	No	4.00		-
10.12		**Zebra Crossing** at Service road	Sqm	24.00		-
		TRAFFIC SIGNS, MARKINGS & ROAD APPURTENANCES =				**-**
Bill No. 11		**Miscellaneous**				
11.01		Construction of cement concrete kerb with top and bottom width 150 and 165 mm respectively, 405mm high in M 20 grade PCC on M-10 grade foundation 100 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	Rmt	1390.00		-
11.02		Construction of cement concrete kerb with top and bottom width 150 and 165 mm respectively, 325mm high in M 20 grade PCC on M-10 grade foundation 100 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				-
		Kerb Stone Type -II	Rmt	1686.47		-
11.03		Construction of cement concrete drain side kerb with top and bottom width 225 mm and 500mm respectively, 325 mm high in M 20 grade , kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408	Rmt	1686.47		-
11.04		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 clause 407	Cum	2117.20		-
11.05		Construction of median and Island above road level with approved material brought from borrow pits, spread, sloped and compacted as per clause 407	Cum	0.00		-
11.06		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, 2 m centre to centre, complete as per approved drawings)	Rmt	56.47		-

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
11.07		Construction and Improvement of T, X & Y NH/SH/VR/ Type Junction complete as per drawings and technical specification and as directed by the Engineer.				-
		Major Junction and Minor Junction				-
	i	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 material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness. In area of light jungle	Hect	0.30		-
	ii	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead up to 1000m	Cum	675.00		-
	iii	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 lifts and lead up to 1000 m, trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections.	Cum	75.00		-
	iv	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 No. 300-2	Cum	1,678.97		-
	v	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 clause 401 Granular Sub-Base with Close Graded Material (Table:-400-1)	Cum	642.40		-
	vi	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 sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	Cum	520.25		-
	vii	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 complete as per MoRTH specifications clause No. 502	Sqm	2,041.00		-
	viii	Providing and applying tack coat with bitumen emulsion using emulsion pressurre distributor at the rate of 0.2-0.25 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom complete as per MoRTH specification clause No. 503	Sqm	3,706.25		-
	ix	Providing and laying dense graded 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 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects.	Cum	159.18		-

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
	x	Providing and laying bituminous concrete with 100-120TPH batch type hotmix plant producing an average outputof 75 tonne per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.40 to 5.60 percent of mix and filter, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade,level and alignment rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H Specifications Clause 507 complete in all respects.	Cum	120.25		-
	xi	Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC :67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.	Nos.	12.00		-
	xii	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.	Sqm	156.73		-
	xiii	Providing and fixing of road stud 100x 100 mm, die-cast in aluminium, resistant to corrosive effect of salt and grit, fitted with lenses reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm up to a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS 873 part 4:1973	Nos.	36.00		-
11.08		Rumble strips :- Providing and Construction Rubmle strips to approch road of Junction at cross road junction(Provision of 15 nos rumble strips covered with premix bitumous carpet, 15-20 mm high at center, 250 mm wide placed at 1m center to center at approved locations to control speed, marked with white strips of road marking paint)	Sqm	399.00		-
11.09		Providing and Construction of Utility service pipe of dia 900 mm NP-4 pipe with Craddle, face wall and other arrengement as per specification and drawing complete.				
		Utility pipe at 55.0m Roadway(Type-II)	Nos.	55.0		-
11.10		Providing and laying chequered tiles of approved quality of size 30 cm x 30 cm, confirming to corresponding I.S. for flooring in required position laid on a bed of 1:4 cement mortar including cement float, filling joint with cement slurry cleaning curing etc. complete.	Sqm	1501.50		-
11.11		Kerb Painting - Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	Sqm	1181.02		-
		TOTAL AMOUNT FOR MISCELLANEOUS =				**-**
Bill No. 12		**Miscellaneous**				

SR. No.		Description	Unit	Quantity	Rate in Rs.	Amount Rs.
12.01		Providing and installing Conical Double bended tapered pole with 9m height made out of 4 mm GI thickness with average galvanisation of 70 microns etched, primerd and PU painted in desired color. Top dia is 76 mm and bottom dia is 165 mm having base plate of 400 mm X 400 mm X 20 mm. The pole should have bracket to fixing LED street light as required. It should be single section and bended uniformly equivalent to Philips. Rates are inclusive of foundation	Nos.	44		-
12.02		Providing and installation of Double arm Bracket, 2m length	Nos.	44		-
12.03		25 m High Mast designed to withstand forces exerted with wind speeds of 180 km per hour with 3 seconds gust, as per IS:875 (Part 3) - 1978, fitted with a base flange, door at the base of mast with heavy duty internal lock, lantern carriage, suitable winching arrangement for safe working load complete with all accessories luminaires suitable for 12 nos 280 W LED Floodlight luminare , BVP410, Philips make. including installation and foundation all complete as per approved design and drawings This is a specialised work and is generally done by firms who specialise in such jobs	Nos.	1		-
12.04		Providing Solar lights blinkers at major & minor junction.	Nos.	4		-
		TOTAL AMOUNT FOR STREET LIGHTING =				**-**
Bill No. 13		**Horticulture /Avenue Plantation**				
13.01		**Planting small and mediumsize ornamental / Flowering plant :-** Digging pit with size 0.6m x 0.6m x 0.6m removing and conveying unwanted stuff to a required distance as directed filling pit with fresh garden soil & Farm yard Manure upto a height of 0.60m in 3:1 proportion Mixing soil and Manuarr throughty Well levelling watering on previous night Planting 4 metre healthy plant saplings as per specification Maintaing till well established by watering, stirring of soil and manure replacing casualties etc. complete.	Per Rmt	695.00		-
13.02		Maintenance of flowering plants and shrubs in central verge for one year	Per Rmt	695.00		-
				TOTAL AMOUNT FOR HORTICULTURE =		**-**
Bill No. 14		**Rain water Harvesting system**				
14.01		Developoing of Rainwater Harvesting system as per technical specifications as per the instruction indepedent Engineer/ NHAI	Per Rmt	695.00		-
			TOTAL AMOUNT FOR RAIN WATER HARVESTING =			**-**