

Public Works Department [Government of Tripura]

Ministry of Development of North Eastern Region [Government of India]

NORTH EASTERN STATE ROADS INVESTMENT PROGRAM (NESRIP)

Country: INDIA ADB Loan No-3073

North Eastern States Roads Investment Program (Project-2)

Completion of balance work of Improvement and Up-gradation of road section of Udaipur to Melaghar (TR02)

(Tranche-2 road in the State of Tripura)
CONTRACT NO. TR-CW1.

BIDDING DOCUMENT VOLUME 2 BILL OF QUANTITIES

Contains

Section 4(b) - Letter of Price Bid & Bill of Quantities

This Section contains the forms which are to be completed by the Bidder and submitted as part of his Bid.

[September'2020]

Project Director, Project Implementation Unit(PIU),

ADB Project,

O/o of the Superintending Engineer, 3rd Circle, PWD(R&B)

Udaipur, Gomati District, Pin: -799120, TRIPURA, INDIA

Preface

This Bidding Document for the Procurement of Works is based on the Standard Bidding Document (SBD) for the Procurement of Works (SBD Works) issued by the Asian Development Bank. The Bidding Document consists of three parts, broken up into nine sections and are contained in four volumes as shown below.

This Volume 2 contains Section 4 (a) of Part I of the Bidding Document as highlighted below.

PART I BIDDING PROCEDURES (VOLUME - 1)

Section 1 -Instructions to Bidders (ITB)

This section specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. Information is also provided on the submission, opening, and evaluation of bids and on the award of contract.

Section 2 -Bid Data Sheet (BDS)

This section consists of provisions that are specific to this procurement and supplement the information or requirements included in Section 1 - Instructions to Bidders.

Section 3 -Evaluation and Qualification Criteria (EQC)

This Section contains the criteria to determine the lowest evaluated bid and the qualifications of the Bidder to perform the contract.

Section 4(a) -Bidding Forms (BDF)

This Section contains the forms which are to be completed by the Bidder and submitted as part of his Bid.

(VOLUME 2)

Section 4(b) - Letter of Price Bid & Bill of Quantities

This Section contains the forms which are to be completed by the Bidder and submitted as part of his Bid.

(VOLUME 1)

Section 5 -Eligible Countries (ELC) 1

This section contains the list of eligible countries.

PART II REQUIREMENTS

(VOLUME 3)

Section 6(a) -Employer's Requirements (ERQ)

This Section contains the Specification and supplementary information that describe the Works to be procured.

(VOLUME 4)

Section 6 (b) -Employer's Requirements (ERQ)

This Section contains the Drawings that describe the Works to be procured.

PART III CONDITIONS OF CONTRACT AND CONTRACT FORMS (VOLUME - 1)

Section 7 - General Conditions of Contract (GCC)

The General Conditions of Contract are based on FIDIC and are subject to the variations and additions set out in Section 8 (Particular Conditions of Contract).

Section 8 -Particular Conditions of Contract (PCC)

This Section contains provisions which are specific to this contract and which modify or supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Section 9 -Contract Forms (COF)1

This Section contains forms, which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

ABBREVATIONS

BC : Bituminous Concrete
BIS : Bureau of Indian Standards
CBR : California Bearing Ratio
cc. cm3 or cu cm : Cubic centimeter

cc, cm3, or cu.cm : Cubic centimeter cfm : Cubic feet per minute

Cm : Centimeter

Cum km : Cubic meter kilometer

DBM : Dense Graded Bituminous Macadam

Dia or dia : Diameter
Eg : example
Eqpt.hrs : Equipment hours

FE Loader : Equipment hours
FE Loader : Front End Loader
GSB : Granular Sub-Base

hect or ha : Hectare
HMP : Hot Mix Plant
HP : Hume Pipe
hr. : Hours
i.e. : That is

IRC : Indian Roads Congress
IS : Indian Standard
KG or kg or Kg : Kilogram
Kl : Kilolitre
KM or km : Kilometer
I : liter

Lm or LM or lm or Linm : Linear meter LS or L.S or sum : Lump Sum m : Metre

m2 or sq.m or sqm or Sqm : Square metre
m3 or cum or cu.m or Cum : Cubic metre
Max : Maximum
Min : Minimum
Mm,mm : Millimetre
Month : Calendar month

MORT & H : Ministry of Road Transport and Highways

MOST Specification(s) Specifications for Road and Bridge Works (latest revision)

issued by the Ministry of Surface Transport (Roads Wing),

Government of India, 2001

MS : Mild Steel
mt, MT or tonne : Metric Tonne
NB : Nominal Bore
Nr. of prints : Number of Prints
Nr. or No or Nos. : Number(s)

OMC : Optimum Moisture Content
P.O.L. or POL : Petrol, Oil and Lubricants
PCC : Plain Cement Concrete

Prov : Provisional PS : Provisional Sum

g : Ouintal

RCC : Reinforced Cement Concrete

RM : Running Meter
RR : Road Roller
Rs or RS : Indian Rupees
t.km : tonne kilometer

TMT : Thermo Mechanicaly Treated

Veh.Month : Vehicle month WMM : Wet Mix Macadam

PREAMBLE

Project Road Name: TR 02 Udaipur to Melaghar (Tranche 2 road in the State of Tripura)

Description of items is given briefly and linked with the relevant clauses & sections of MORT & H Specifications for Road and Bridge Works (fourth version) which may be referred to for detailed description, provisions and interpretation.

- 2 The Bill of Quantities shall be read in conjunction with the Instruction to Bidders, Conditions of Contract, Technical Specifications, Drawings, Schedules, Annexures and Addenda.
- The quantities given in the Bill of Quantities are estimated and provisional and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
- 4 As the bid is for balance works, cross sections and plan& profile need to be read in conjunction with the strip chart provided in drawings in Volume-4 of bid documents.
- 5 Due to mechanization of construction work, the BOQ items are relevant to use of plant and equipment. However, manual means are not ruled out in case, where work areas may be inaccessible.
- The contractor's rates, quoted for various item of works, shall be inclusive of overhead charges, which include all elements such as his site accommodation, setting up plant, access road, water supply, electricity and general site arrangements, expenditures on contractors office, site supervision, documentation, and "as built" drawings, mobilization/demobilization of resources, laboratory equipments, quality controls, laboratory testing, tools & plants, survey instruments, setting out of works including verification of centre line, dimensions, trial pits, bore holes, watch & ward, traffic management during construction, expenditure of safeguarding environment, sundries, finance, VAT/sales/turnover tax/GST, work insurance, compensation etc. and all expenditures incidental to works.
- 7 The contractor's rates, quoted for various item of works, shall be inclusive of all charges as stated in Preamble no. 6 above and other charges together with all general risks, liabilities and obligations set out or implied in the Contract and including remedy of any defects during the Defects Liability Period.
- 8 The rates and prices shall be quoted entirely in Indian Rupee Currency.
- 9 The rate or price shall be entered both in figures and words against those items in the Bill of Quantities, for which the quantities are given. The cost of items against which the Contractor has failed to enter a rate or price shall be deemed to have been covered by other rates and prices entered in the Bill of Quantities. However, rates are not to be quoted against those items for which quantities are not given.
- 10 The whole cost of complying with the provisions of the Contract shall be deemed to have been included in the items provided in the priced Bill of Quantities, and when no items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related items of the work.
- 11 Errors will be corrected by the Employer for any arithmetical errors pursuant to Clause 33 of the Instruction to Bidder, Section 1, Volume-I.
- 12 The Contractor shall not order materials directly against the quantities mentioned in BOQ and shall only base orders on the final working drawing and/or other instructions issued during the course of the Contract, after giving due consideration of the probable reuse of materials available at site and other dismantled materials that may accrue during execution of work.

PREAMBLE

- 13 The Clauses of the preamble shall apply to any additional or varied work which the Contractor may be required to execute under the Contract except specifically prescribed therein.
- 14 The bidder shall be deemed to have inspected and examined the nature and extent of partly completed works as described in the bidding document including the restoration of existing defects/damaged works.
- 15 Existing top layers with significant damages, as directed by the Engineer, shall be got repaired/restored and measured under respective BOQ items. However, where the existing layers are not damaged expenses for required clearing and preparation of bed, to receive next layer, not covered in any of the BOQ item, shall be deemed to be incidental.
- 16 While starting the work, efforts required for removal/clearing of road blocks/materials at various locations shall be incidental to the work and no extra payment shall be considered for it.
- 17 Before handing over the completed work, the Contractor will ensure that the ROW of the complete project stretch i.e. from Ch. 0+000 to Ch. 20+300 is clear of all the debris and fairly level. This will be incidental to the work and no additional payment will be made.
- 18 The specifications of materials shall be governed by section 1000 of MORT & H Specifications for Road & Bridge work, Fourth Revision and stated elsewhere.
- 19 Labour deployment shall be governed by applicable labour laws prevailing in the State where the project lies.
- 20 Contractor will make his own arrangement for borrowing earth, aggregates and all other construction materials and shall be responsible for royalties that become payable to the state/owners
- 21 The dismantled materials shall become the property of contractor for which he should consider or include the salvage value in the rates quoted.
- 22 The source of materials and samples are required to be approved by the Engineer before the start of any work. However, the contractor shall be solely responsible for quality of materials as per specifications.
- 23 The rates of items include cost of testing of soil, aggregates, materials and works.
- 24 The approved earth obtained from excavation for road work/ foundations for structures has been considered to be backfilled and balance utilized for road work.
- 25 Grade of cement shall be as per mix design requirement.
- 26 Only 60/70 grade bitumen will be used in all bituminous work.
- 27 It will not be obligatory on the part of the Engineer to provide any assistance to obtaining lease/permits for extraction of minor minerals. The contractor will not be entitled to any excuse whatsoever on account of any delays in obtaining minor minerals to be used on the works.
- 28 The work of shoulders must precede the work of sub-base and base courses and succeed the bituminous courses.
- Only Cement of required specifications at the rate of 2% by weight of total aggregate will be used as filler for bituminous work. Lime will not be used as filler

PREAMBLE

- 30 Dismantling or shifting of utilities will be done by the concerned department under the supervision of the Engineer. If, however, certain minor utilities / services are affected during execution of works, contractor shall immediately inform the Engineer and carry out corrective measures, under the supervision of the concerned department with prior information to the users.
- For narrow and restricted areas, plate compactors shall be used for compaction to achieve the desired density.
- 32 Latest I.R.C codes shall be referred to during execution.
- 33 All environmental safeguard measures are incidental to the work and nothing extra, whatsoever, on this account is payable to the contractor.
- 34 The contractor shall ensure execution of work in accordance with precautions for environmental safeguards as per MORT&H Specifications Clause no. 111 and Annexure A to Clause 501" Protection of the Environment" at "construction and operation stage".
- 35 The compliance of the safeguard details in the above Appendices is mandatory and is incidental to the work and nothing extra on this account is payable.

Project Road Name: TR 02 Udaipur to Melaghar (Tranche 2 road in the State of Tripura)

Package-TR CW1

Length of Project Road: 20.300 Km

Summary of Bill Item

Sl. No	Description	Amount (Rs. In figures)
	PART A " Contract Estimate"	
1	GENERAL PROVISIONS	
2	SITE CLEARANCE	
3	EARTH WORKS	
4	SUB-BASE, BASE-COURSE (Non Bituminous)	
5	PAVEMENT (Bituminous)	
6	CROSS DRAINAGE STRUCTURES (DRAINS, PROTECTION WORKS, BRIDGES AND CULVERTS)	
7	TRAFFIC SIGNS, MARKINGS AND ROAD APPURTENANCES	
8	MISCELLANEOUS	
9	ENVIRONMENT MANAGEMENT PLAN	
10	DAY WORK - PROVISIONAL SUMS	
	Total For Package-TR CW1	
	Modifications, if any:	
	Net Total	
	Discount offered after negotiations:	
	Net Total For Package-TR CW1	
11	Provisional Sum	Rs.2,0000000.00(Rupees two cro

Project Road Name: TR 02 Udaipur to Melaghar (Tranche 2 road in the State of Tripura) Page Collection Sheet

Bill No	Description		Total Bid Price (Rupees in figures)
1	GENERAL PROVISIONS		
	Page No.	9	
	Total of Bill Item no. 1		
2	SITE CLEARANCE		
2	Page No.	10	
	Page No.	11	
	Total of Bill Item no. 2		
3	EARTH WORKS		
3	Page No.	12	
		12	
4	Total of Bill Item no. 3 SUB-BASE, BASE-COURSE (Non Bituminous)		
7	· · · · · · · · · · · · · · · · · · ·	12	
	Page No.	13	
5	Total of Bill Item no. 4		
3	PAVEMENT (Bituminous)		
	Page No.	14	
	Total of Bill Item no. 5		
6	CROSS DRAINAGE STRUCTURES (DRAINS, PROTECTION WORKS, BRIDGES AND CULVERTS)		
	Page No.	15	
	Page No.	16	
	Page No.	17	
	Total of Bill Item no. 6		
7	TRAFFIC SIGNS, MARKINGS AND ROAD APPURTENANCES		
	Page No.	18	
	Page No. Page No.	19 20	
	Page No.	21	
	Total of Bill Item no. 7		
8	MISCELLANEOUS		
ű	Page No.	22	
9	Total of Bill Item no. 8 ENVIRONMENT MANAGEMENT PLAN		
<i>)</i>	Page No.	23	
	-	43	
10	Total of Bill Item no. 9		
10	DAY WORK - PROVISIONAL SUMS	24	
	Page No.	24	
	Page No.	25	
	Total of Bill Item no. 10		

BILL OF QUANTITIES									
			Estimated		Unit Rate in Rs.	Amount (Rs.)			
Item No	. Description	Unit	Quantity	In Figures	In Words	In Figures			
Bill No. 1	- GENERAL PROVISIONS								
1.01 a)	Construction and providing 100 Sqm base office for the Engineer and his staff complete as per Technical Specification Clause 120, along with all furniture etc. detailed therein.	each	0						
b)	Maintenance of base office for the Engineer & its furniture & equipment as per Technical Specification clause 120	Month	6						
1.02	Communications								
a)	Providing and commissioning cellular phones of standard make such as "Nokia" or other reputed make for Engineer complete as per Technical Specification Clause 123	Each	6						
b)	Maintaining cellular phones for the Engineer complete as per Technical Specification Clause 123	Phone Month	6						
c)	Providing, Operating and maintaining fax machine for the Engineer, including operable telephone line as per Technical Specifications Clause 123.	Month	18						
1.03	Providing and maintaining vehicles for the Engineer including driver, POL etc. complete as per Technical Specification Clause 124								
a)	Saloon Car	Veh. Month	0						
b)	Hard top 4 wheel drive	Veh. Month	12						
1.04	Supply of color record photographs with CD and color prints in size (4" × 6") mounted in standard size album in two copies each as per Technical Specification clause 125	No.	1,000						
1.05	Supply of additional prints ($8" \times 10"$) of colored photographs as per Technical Specification Clause 125	No.	500						
1.06	Supply of edited master video cassettes and digitized CD ROMS with four copies thereof each as per Technical Specification Clause 126.	No.	10						
BILL No	1 Page Total (carried forward to Page collection sheet)				1	1			

BILL OF QUANTITIES							
		Estimated		Unit Rate in Rs.	Amount (Rs.)		
Description	Unit	Quantity	In Figures	In Words	In Figures		
ITE CLEARANCE					•		
Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200.							
Girth from 300 mm to 600 mm	Each	95					
Girth beyond 600 mm to 900 mm	Each	0					
Girth beyond 900 mm to 1800 mm	Each	0					
Girth above 1800 mm	Each	0					
Removal of stumps and roots of trees cut by other agencies, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200.							
Girth from 300 mm to 600 mm	Each	0					
Girth beyond 600 mm to 900 mm	Each	0					
Girth beyond 900 mm to 1800 mm	Each	0					
Girth above 1800 mm	Each	0					
Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees with girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material through all leads and lifts as per Technical Specification Clause 201. In area of light jungle Scarification of existing bituminous surface up to 50 mm thick including disposal of unsuitable material with all lead and lift	Hectare	3					
	Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth from 300 mm to 600 mm Girth beyond 600 mm to 900 mm Girth above 1800 mm Removal of stumps and roots of trees cut by other agencies, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth from 300 mm to 600 mm Girth beyond 600 mm to 900 mm Girth beyond 900 mm to 1800 mm Cirth above 1800 mm Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees with girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material through all leads and lifts as per Technical Specification Clause 201. In area of light jungle Scarification of existing bituminous surface up to 50 mm	Description Unit TE CLEARANCE Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth from 300 mm to 600 mm Each Girth beyond 600 mm to 900 mm Each Girth above 1800 mm Each Removal of stumps and roots of trees cut by other agencies, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth from 300 mm to 600 mm Each Girth beyond 600 mm to 900 mm Each Girth beyond 900 mm to 1800 mm Each Cirth above 1800 mm Each Cirth above 1800 mm Each Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees with girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material through all leads and lifts as per Technical Specification Clause 201. In area of light jungle Hectare	Description	TE CLEARANCE Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth from 300 mm to 600 mm	TE CLEARANCE Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth beyond 600 mm to 900 mm Girth beyond 900 mm to 1800 mm Each 0 Girth above 1800 mm Removal of stumps and roots of trees cut by other agencies, stacking of serviceable material with all leads and lifts and back earth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth beyond 900 mm to 1800 mm Each 0 Girth above 1800 mm Each 0 Girth filling in the depressions/pits as per relevant clauses of Technical Specification Section 200. Girth from 300 mm to 600 mm Each 0 Girth beyond 600 mm to 900 mm Each 0 Girth beyond 900 mm to 1800 mm Each 0 Girth above 1800 mm Each 0 Hectare 3 Scarification of existing bituminous surface up to 50 mm		

		Unit	Estimated Quantity	TITIES	Unit Rate in Rs.	Amount (Rs.)	
Item No.	Description			In Figures	In Words	In Figures	
.05	Dismantling structures and pavement including disposal of resulting material and/or salvaging useful material as per Technical Specifications Clause 202.						
a)	Stone masonry in cement mortar	Cum	0				
b)	Dry rubble stone masonry	Cum	0				
c)	Guard stone/ kilometer stone/sign post/hectometer stones	no.	0				
d)	Plain cement concrete structures	Cum	0				
e)	RCC structures including reinforcement	Cum	29				
f)	Hume pipe of any class						
	i) Diameter between 300 mm to 900 mm	lin m	0				
	ii) Diameter of over 900 mm	lin m	0				
g)	Brick soling	Cum	5889				
06	Cleaning of Hume Pipe culverts as per Additional Technical Specifications A-1.	Lm	0				

			BILL	OF QUANTIT	TIES			
				Estimated		Unit Rate in	Amount (Rs.)	
Item	No.	Description	Unit	Quantity	In Figures	In Words	In Figures	
BILL	NO.3	- EARTH WORKS						
3.01		Roadway excavation necessary for construction of roadway complete with all lead and lift as per Technical Specification Clause 301:						
	a)	In all types of soil	cum	7574				
3.02		Providing and construction of embankment with approved materials obtained from roadway and excavation from drains, foundation of other structures and transportation through all lifts and leads including spreading, graded and compacted to meet requirement of table 300-2 and as per relevant clauses of Technical Specification Section-300.	cum	7574				
3.03		Construction of embankment / sub grade / earthen shoulders with approved material obtained from borrow pits with all lifts & leads including excavation, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2 and as per relevant clauses of Technical Specification Section 300 & 400.						
	a)	Earth (CBR not less than 7% or more) embankment and subgrade.	Cum	11972				
	b)	Earth (CBR not less than 12% or more) for shoulder filling above drainage layer.	Cum	12598				
3.04		Sand Filling obtained from selected quarry with all lifts and lead including transporting to site, spreading grading to required slope and compacted to meet requirement of table no. 300-2 and the relevan clauses of Technical Specification	Cum	0				
3.05		Turfing with sods						
		Furning and laying of the sods of perennial turf forming grass on embankment slope, verges or other locations shown in the drawing or as directed by the Engineer including preparation of ground, fetching of sods and watering as per MoRTH Technical Specification clauses of Section 300	Sqm	58803				

		BILI	OF QUANT	TITIES			
			Estimated	1	Unit Rate in Rs.	Amount (Rs.)	
Item No.	Description	Unit	Quantity	In Figures	In Words	In Figures	
Bill No. 4 - S	SUB-BASE, BASE-COURSE (Non Bituminous)						
4.01	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers on prepared surface and compacting at OMC with vibratory roller to achieve the desired density, complete in all respect and as per Technical Specifications Clause 401, using coarse graded materials conforming to Grading - II of Table 400-2.		1559				
	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 tippers to site, laying in uniform layers with sensor paver and compacting with vibratory roller to achieve the desired density and as per Technical Specification Clause 406.	cum	7754				

		BILI	OF QUANT	TITIES		
			Estimated		Unit Rate in Rs.	Amount (Rs.)
Item No.	Description	Unit	Quantity	In Figures	In Words	In Figures
BILL NO.5	- PAVEMENT (Bituminous)					
5.01	Providing and applying primer coat with bitumen emulsion on prepared surface of granular base with low porosity WMM including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm with pressure distributor and as per Clause 502 of Technical Specifications.	sqm	44483			
5.02	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor on the prepared bituminous/granular surface cleaned with mechanical broom and as per Clauses 503 of Technical Specifications.					
a)	@ 0.25 kg per sqm on bituminous surface	sqm	159534			
b)	@ 0.30 kg per sqm on (dry & hungry bituminous surfaces/granular surfaces treated with primer)	sqm	42317			
5.03 a)	Providing and laying Dense Graded Bituminous Macadam (DBM) course complete as per Technical Specification Clause 507 and conforming to Table 500-10. For Grading -II (50-75 mm thickness)	cum	2087			
5.04 a)	Providing and laying Bituminous Concrete (BC) wearing course complete with refinery produced bitumen as per Technical Specification Clause 509 and conforming to Table 500-18 For Grading II (30-45 mm thickness)	cum	6444			
Bill No.5 Pa	ge Total (carried forward to Page collection sheet)				1	1

BILL OF QUANTITIES Unit Pate in Pa								
Item No.	Description	Unit	Estimated	r 5:	Unit Rate in Rs.	Amount (Rs.)		
	-		Quantity	In Figures	In Words	In Figures		
LL NO.6	- CROSS DRAINAGE STRUCTURES (DRAINS, PROTECTION	s work	S, BRIDGES	S AND CULVERTS)				
5.01	Earth work in excavation in foundation of structures as per drawing							
	, for all depths in all types of soil/rock including setting							
	out, construction of shoring and bracing, dressing of sides and bottom, back filling with approved material, disposal of surplus							
	material etc. with all leads and lifts complete and as per relevant	cum	9179					
	clauses of Technical Specification Sections 300, 2100 and 2900.							
a)	In all types of soil							
6.02	Providing, laying and compacting first class bedding of granular							
	material for RCC hume pipe culverts complete as per	cum	0					
	Drawings and Technical Specification Clause 2904.							
6.03	Providing and laying Plain Cement Concrete for levelling course below foundation, below approach slab foundation,							
	abutment, return wall, wing wall, head wall, curtain wall, pillar and							
	guard wall including treatment of joints be tween existing							
	and n e w structures with all leads and lifts complete as per							
	drawings and Technical Specification Section 1500,1700,2100 and							
	2200.	cum						
	PCC Grade M 15	Cum	3233					
6.04	Providing and laying Plain Cement Concrete (PCC) for foundation							
	and substructure of abutment, return wall, wing wall, head wall of Hume Pipe Culverts, pillar, guard wall excluding cost of							
	skin reinforcement, but including treatment of joints between existing							
	and new structures with all leads and lifts as per drawings and as							
	per relevant clauses of Technical Specification S e ctions							
	1500, 1700, 2100, 2200, and 2900							
a)	PCC Grade M 20	cum	3632					
6.05	Providing and laying Reinforced Cement Concrete (RCC) for							
	foundation and sub structure of abutment, box, return wall,							
	wing wall, slab and head wall but excluding cost of							
	reinforcement including treatment of joints between existing and							
	new structures with all leads and lifts complete as per drawings and Technical Specification Section 1500,1700,2100 2200 and 2300							
	2500 and 2500							
a)	RCC Grade M 20	cum	3288					

	BILL	OF QUANT				
		Estimated		Unit Rate in Rs.	Amount (Rs.)	
Description	Unit	Quantity	In Figures	In Words	In Figures	
Supplying, fitting and placing HYSD bar (Fe 415) reinforcement in foundation substructure, superstructure, piles, concrete pavement, approach slab, RCC railing etc. complete as per drawing and as per relevant clauses of Technical Specification Section 1600.	MT	229				
abutment, wing wall/return wall with 100 mm dia. PVC pipe, extending through the full width of the structure with slope of 1V:20H, complete as per drawing and Technical specifications clause 2706.	m	357				
head wall or any other area with granular material of approved	cum	318				
wall and retaining wall with granular materials satisfying the requirement laid down in Technical Specification Clause 309.3.2	cum	971				
IS:458) for culverts including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets, first						
Dia 1200 mm (internal)	Rm	10				
per drawings and technical specifications with coarse sand and 6% bitumen by weight and as per relevant clauses of Technical Specification Section 2600	metre	66				
nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, center to centre		28				
	in foundation substructure, superstructure, piles, concrete pavement, approach slab, RCC railing etc. complete as per drawing and as per relevant clauses of Technical Specification Section 1600. Providing weep holes in stone masonry/Plain/Reinforced concrete abutment, wing wall/return wall with 100 mm dia. PVC pipe, extending through the full width of the structure with slope of IV:20H, complete as per drawing and Technical specifications clause 2706. Back filling behind abutments, wing wall, retaining/return wall, head wall or any other area with granular material of approved quality complete with all leads and lifts as per drawings and Technical Specification Clause 305. Providing and laying filter media behind abutment, wing/return wall and retaining wall with granular materials satisfying the requirement laid down in Technical Specification Clause 309.3.2 (B) and compacted to a firm condition complete as per drawings and Technical Specification Clause 305. Providing and Laying reinforced cement concrete pipe NP4 (as per IS:458) for culverts including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets, first class bedding of granular material complete as per Drawing and relevant clauses of Technical Specification Section-2900. Dia 1200 mm (internal) Providing and filling joint sealing compound (40mm gap) as per drawings and technical specifications with coarse sand and 6% bitumen by weight and as per relevant clauses of Technical Specification Section 2600 Construction of RCC railing of M30 Grade in-situ with 12 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, center to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per drawings and relevant clauses of	Supplying, fitting and placing HYSD bar (Fe 415) reinforcement in foundation substructure, superstructure, piles, concrete pavement, approach slab, RCC railing etc. MT complete as per drawing and as per relevant clauses of Technical Specification Section 1600. Providing weep holes in stone masonry/Plain/Reinforced concrete abutment, wing wall/return wall with 100 mm dia. PVC pipe, extending through the full width of the structure with slope of IV :20H, complete as per drawing and Technical specifications clause 2706. Back filling behind abutments, wing wall, retaining/return wall, head wall or any other area with granular material of approved quality complete with all leads and lifts as per drawings and Technical Specification Clause 305. Providing and laying filter media behind abutment, wing/return wall and retaining wall with granular materials satisfying the requirement laid down in Technical Specification Clause 309.3.2 (B) and compacted to a firm condition complete as per drawings and Technical Specification Clause 305. Providing and Laying reinforced cement concrete pipe NP4 (as per IS:458) for culverts including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets, first class bedding of granular material complete as per Drawing and relevant clauses of Technical Specification Section-2900. Dia 1200 mm (internal) Providing and filling joint sealing compound (40mm gap) as per drawings and technical specifications with coarse sand and 6% bitumen by weight and as per relevant clauses of Technical Specification Section 2600 Construction of RCC railing of M30 Grade in-situ with 12 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, center to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post not to exceed 2000 mm, leaving adequate space between vertical post of to exceed 2000 mm, leaving adequate space	Supplying, fitting and placing HYSD bar (Fe 415) reinforcement in foundation substructure, super structure, piles, concrete pavement, approach slab, RCC railing etc. complete as per drawing and as per relevant clauses of Technical Specification Section 1600. Providing weep holes in stone masonry/Plain/Reinforced concrete abutment, wing wall/return wall with 100 mm dia. PVC pipe, extending through the full width of the structure with slope of IV 20H, complete as per drawing and Technical specifications clause 2706. Back filling behind abutments, wing wall, retaining/return wall, head wall or any other area with granular material of approved quality complete with all leads and lifts as per drawings and Technical Specification Clause 305. Providing and laying filter media behind abutment, wing/return wall and retaining wall with granular materials satisfying the requirement laid down in Technical Specification Clause 309.3.2 (B) and compacted to a firm condition complete as per drawings and Technical Specification Clause 305. Providing and Laying reinforced cement concrete pipe NP4 (as per IS:458) for culverts including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets, first class bedding of granular material complete as per Drawing and relevant clauses of Technical Specifications Section-2900. Dia 1200 mm (internal) Providing and filling joint sealing compound (40mm gap) as per drawings and technical specifications with coarse sand and 6% bitumen by weight and as per relevant clauses of Technical Specification Section 2600 Construction of RCC railing of M30 Grade in-situ with 12 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, center to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post not to exceed 2000 mm, leaving adequate space between vertical post not to exceed 2000 mm, leaving adequate space b	Supplying, fitting and placing HYSD bar (Fe 415) reinforcement in foundation substructure, super structure, piles, concrete pavement, approach slab, RCC railing etc. complete as per drawing and as per relevant clauses of Technical Specification Section 1600. Providing weep holes in stone masnryPlain/Reinforced concrete abutment, wing wall/return wall with 100 mm dia. PVC pipe, extending through the full width of the structure with slope of IV 20H, complete as per drawing and Technical specifications clause 2706. Back filling behind abutments, wing wall, retaining/return wall, head wall or any other area with granular material of approved quality complete with all leads and lifts as per drawings and Technical Specification Clause 305. Providing and laying filter media behind abutment, wing/return wall and retaining wall with granular materials satisfying the requirement laid down in Technical Specification Clause 309.3.2 cum 971 (B) and compacted to a firm condition complete as per drawings and Technical Specification Clause 305. Providing and Laying reinforced cement concrete pipe NP4 (as per IS.458) for culverts including fixing collar with cement mortat 1.2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets, first class bedding of granular material complete as per Drawing and relevant clauses of Technical Specification Section-2900. Dia 1200 mm (internal) Providing and filling joint sealing compound (40mm gap) as per drawings and technical specifications with coarse sand and 6% bitumen by weight and as per relevant clauses of Technical Specification Section 2600 Construction of RCC railing of M30 Grade in-situ with 12 mm mominal size a ggregate, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, center to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertic al posts for expansion, complete as per drawings and relevant clauses of	Description	

			Estimated		Unit Rate in Rs.	Amount (Rs.)
tem No.	Description	Unit	Quantity	In Figures	In words	In Figures
	Providing and laying boulders apron/toe wall on river bed for protection against scour with stone boulders weighing not less than 40 kgeach complete as per drawing and relevant clauses of Technical Specification Section 2500.	cum	0			
.14	Providing and laying stone pitching on slopes laid over prepared filter media bed complete as per drawing and relevant clauses of Technical Specification Section 2500.	cum	0			
.15	Providing and laying filter material underneath pitching in slopes complete as per drawing and Clause 2504.2.2 of Technical Specifications.	cum	0			
	Providing and laying flooring overcement concrete bedding complete as per Drawings and Technical Specification Clause 2505.					
a)	Rubble stone laid in cement mortar 1:3 over concrete bedding	cum	0			
	Providing and laying curtain walls in cement concrete complete as per dra wing and relevant clauses of Technical Specification Sections 1400, 1700 and 2507. Cement concrete Grade M15					
		cum	0			
6.18	Construction of flexible apron comprising of loose stone boulders weighing not less than 40 kg beyond curtain wall complete as per Drawings and relevant clauses of Technical Specification Section 2500.	cum	0			
5.19	Supply and fixing of precast perforated RCC slab in M-20 concrete including the cost of all material, labour, operations, HYSD bar (Fe 415) reinforcement as per drawings and relevant clauses of Technical Specifications Section 1700 (for covered lined drains).					
a)	Unit Size 900mm x 1000mm x 100mm	No.	2990			
	Providing and applying 2 coats of water based cement paint to unplastered concrete surface all complete as per Additional Technical Specifications A-4.	sqm	210			
5.21	Painting of structure number and span arrangement, all complete as per drawings and Additional Technical Specifications A-3.	No.	92			
	Repairing and cleaning drainage spouts area around of all mortar dropping, complete as per Drawings and Additional Technical Specifications A-5.	Nos.	54			
5.23	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. PCC 1:3:6 in Foundation	cum	12			

			BILI	OF QUANT	TITIES		
		Description		Estimated		Unit Rate in Rs.	Amount (Rs.)
Item N	lo.		Unit	Quantity	In Figures	In Words	In Figures
BILL N	0.7	- TRAFFIC SIGNS, MARKINGS AND ROAD APPURTENANC	ES				
7.01		Providing and fixing retro-reflectorised cautionary and mandatory signs as per standard type design in accordance with IRC: 67, made of encapsulated lense type retro reflective sheeting confirming to specifications in Clause 801.3 of Technical Specifications fixed over aluminium sheeting, 2mm thick, supported on M.S. angle iron posts 75mm x 75mm x 6mm (height from crown level of the road to bottom of the sign board not less than 1.5m) firmly embedded into ground in M-15 grade cement concrete block of size 45cm x 45cm x 60cm, 60cm below ground level including painting of vertical post complete as per drawings and Technical Specifications Section 800.					
a	a)	60 cm equilateral triangle Cautionary signs.	each	262			
ł	b)	60 cm circular Mandatory Signs	each	23			
C	c)	60 cm size octagon Stop signs.	each	41			
7.02		Providing and erecting direction and place identification retro- reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting as per Drawings and Technical Specification Section 800.					
8	a)	800 mm x 600 mm	each	11			
ł	b)	600 mm x 450 mm	each	95			
7.03		Providing and erecting direction and place identification retro- reflectorised sign as per IRC :67 made of encapsulated lens type reflective sheeting as per Drawings and Technical Specification Section 800.					
8	a)	1200 mm x 1800 mm	each	6			
Bill No.7	7 Pa	ge Total (carried forward to Page collection sheet)					

	BILL OF QUANTITIES								
			Estimated		Unit Rate in Rs.	Amount (Rs.)			
Item No.	Description	Unit	Quantity	In Figures	In Words	In Figures			
7.04	Providing reinforced cement concrete M15 grade distance stones of standard design as per IRC:8-1980 and IRC:26-1967, fixing in position including painting and printing etc as per relevant clauses of Technical Specification Section 800.								
a)	5th kilometre stone (precast)	each	4						
b)	Ordinary kilometer stone (precast)	each	17						
c)	Hectometer stone (precast)	each	80						
7.05	Providing and laying road markings as per relevant clauses of Technical Specification Section 800.								
a)	Lane/centreline/edge marking/transverse and any other markings	sqm	8164						
b)	Directional arrows, lettering, etc., as per MORT&H type design of inter section for State Highways.	Nos.	162						
7.06	Providing and fixing roadway indicators, hazard markers and object markers of type and size confirming to Technical Specifications Clause 805 in general:								
a)	Triangular object marker 300 mm side with four red reflectors, made out of 2 mm thick alluminium sheet, face to be fully covered by high intensity grade white retro reflective sheeting of encapsulated lens type. The bakeground/border/symbols shall be made by screen printing of desired colour as per sign details and drawings. Sign mounted on 50 mm (NB) dia, medium weight, 500 mm high MS pipe in general confirming to Technical Specifications Section 800. All components of signs and supports shall be throughly descaled, cleaned, primed and painted with two coats of epoxy paint. The sign back side shall be painted with grey colour and post shall be painted with white & black colour. The post below ground shall be painted with 3 coats of red oxide paint and is fixed into the ground in cement concrete block - M15 as per drawings.	each	8						

Description ectangular hazard marker 600 mm x 300 mm made out of 2	Unit	Estimated Quantity	In Figures	Unit Rate in Rs.	Amount (Rs.)
ectangular hazard marker 600 mm x 300 mm made out of 2	Unit	Quantity	T . T.	T TX/ 1	
-		Quantity	in Figures	In Words	In Figures
m thick aluminum sheet, face to be fully covered by gh intensity grades white retro reflective sheeting of neapsulated lens type. The background/border/symbols shall be ade by screen printing of desired colour as per sign details and rawings and fixed to 80 mm dia (NB) MS pipe (MW) support ith nut bolts and welding. It is fixed into the ground in cement oncrete block - M15 as per drawings in general confirming to exchnical Specifications Section 800.	Nos.	12			
pe hume pipe conforming to I S:458-1988 for guard stone and formation indicators etc. filled with earth except 0.15 m from p and with cement concrete of M-10 topping embedded in M-0 grade cement concrete block of size 600 mm x 600 mm x 450 m complete in all respects including cost of painting with white ad black paint as per drawings and Technical Specifications 1 a u s e 805.3.	Nos.	1527			
einforced cement concrete M-15 grade boundary pillars standard design as per IRC:25-1967, fixed in position including nishing, painting and lettering complete as per Technical pecification Clause 806.	each	202			
roviding and laying of precast cement concrete kerbs with top and oftom width 115 and 165 mm respectively, 250 mm high in M 20 ade PCC on M-10 grade foundation 150 mm thick, undation having 50 mm projection beyond kerb stone, kerb one laid manually, all complete and as per Drawings and echnical Specification clause 408.	metre	951			
roviding and erecting Type 'A' "W" metal beam crash arrier comprising of 3 mm thick corrugated sheet metal beam rail, 0 cm above road/ground level, fixed on ISMC series channel ertical posts, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m gh, 1.1 m below ground/road level, with steel parts and fitments alvanised by hot dip process and fittings conforming to IS:1367 and IS:1364 including fixing metal beam rail fixed on vertical posts ith spacer of channel section 150 x 75 x 5 mm, 330 mm long omplete as per drawings and Technical Specification clause 810.	metre	5000			
ration ecopolitic properties of the control of the	wings and fixed to 80 mm dia (NB) MS pipe (MW) support in nut bolts and welding. It is fixed into the ground in cement crete block - M15 as per drawings in general confirming to chnical Specifications Section 800. viding an d fixing of RCC guide post 300 mm dia NP-2 in hume pipe conforming to I S:458-1988 for guard stone formation indicators etc. filled with earth except 0.15 m from and with cement concrete of M-10 topping embedded in M-grade cement concrete block of size 600 mm x 600 mm x 450 in complete in all respects including cost of painting with white black paint as per drawings and Technical Specifications at u.s. e 805.3. Inforced cement concrete M-15 grade boundary pillars standard design as per IRC:25-1967, fixed in position including shing, painting and lettering complete as per Technical conficiation Clause 806. viding and laying of precast cement concrete kerbs with top and tom width 115 and 165 mm respectively, 250 mm high in M 20 de PCC on M-10 grade foundation 150 mm thick, industion having 50 mm projection beyond kerb stone, kerb ne laid manually, all complete and as per Drawings and chinical Specification clause 408. viding and erecting Type 'A' "W" metal beam crash rier comprising of 3 mm thick corrugated sheet metal beam rail, can above road/ground level, fixed on ISMC series channel tical posts, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m h, 1.1 m below ground/road level, with steel parts and fittments vanised by hot dip process and fittings conforming to IS:1367 IS:1364 including fixing metal beam rail fixed on vertical posts in spacer of channel section 150 x 75 x 5 mm, 330 mm long	wings and fixed to 80 mm dia (NB) MS pipe (MW) support in nut bolts and welding. It is fixed into the ground in cement crete block - M15 as per drawings in general confirming to chinical Specifications Section 800. viding an d fixing of RCC guide post 300 mm dia NP-2 en hume pipe conforming to I S:458-1988 for guard stone formation indicators etc. filled with earth except 0.15 m from and with cement concrete of M-10 topping embedded in M-10 grade cement concrete block of size 600 mm x 600 mm x 450 mm x 450 mm x 600 mm x 450 mm x 600 mm	wings and fixed to 80 mm dia (NB) MS pipe (MW) support in the nut bolts and welding. It is fixed into the ground in cement crete block - M15 as per drawings in general confirming to chinical Specifications Section 800. viding and fixing of RCC guide post 300 mm dia NP-2 en hume pipe conforming to 1 S:458-1988 for guard stone of formation indicators etc. filled with earth except 0.15 m from and with cement concrete of M-10 topping embedded in M-grade cement concrete block of size 600 mm x 600 mm x 450 m complete in all respects including cost of painting with white black paint as per drawings and Technical Specifications at us e 805.3. Inforced cement concrete M-15 grade boundary pillars standard design as per IRC:25-1967, fixed in position including shing, painting and lettering complete as per Technical crification Clause 806. viding and laying of precast cement concrete kerbs with top and tom width 115 and 165 mm respectively, 250 mm high in M 20 de PCC on M-10 grade foundation 150 mm thick, andation having 50 mm projection beyond kerb stone, kerb are laid manually, all complete and as per Drawings and chinical Specification clause 408. viding and erecting Type 'A' "W" metal beam crash rier comprising of 3 mm thick corrugated sheet metal beam rail, cm above road/ground level, fixed on ISMC series channel tical posts, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m h, 1.1 m below ground/road level, with steel parts and fitments vanised by hot dip process and fittings conforming to IS:1367 IS:1364 including fixing metal beam rail fixed on vertical posts in spacer of channel section 150 x 75 x 5 mm, 330 mm long	wings and fixed to 80 mm dia (NB) MS pipe (MW) support h nut bolts and welding. It is fixed into the ground in cement crete block - M15 as per drawings in general confirming to thinical Specifications Section 800. viding and fixing of RCC guide post 300 mm dia NP-2 en hume pipe conforming to 1 S:458-1988 for guard stone formation indicators etc. filled with earth except 0.15 m from and with cement concrete of M-10 topping embedded in M-grade cement concrete block of size 600 mm x 600 mm x 450 to complete in all respects including cost of painting with white black paint as per drawings and Technical Specifications at us e 805.3. Inforced cement concrete M-15 grade boundary pillars tandard design as per IRC:25-1967, fixed in position including shing, painting and lettering complete as per Technical each concrete condition and the stone width 115 and 165 mm respectively, 250 mm high in M 20 de PCC on M-10 grade foundation 150 mm thick, andation having 50 mm projection beyond kerb stone, kerb nee laid manually, all complete and as per Drawings and chinical Specification clause 408. viding and erecting Type 'A' "W" metal beam rail, cm above road/ground level, fixed on ISMC series channel tical posts, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m, 1.1 m below ground/road level, with steel parts and fittments vanised by hot dip process and fittings conforming to IS:1367 including fixing metal beam rail fixed on vertical posts in spacer of channel section 150 x 75 x 5 mm, 330 mm long	wings and fixed to 80 mm dia (NB) MS pipe (MW) support hand bolts and welding. It is fixed into the ground in cement crete block - M15 as per drawings in general confirming to chinical Specifications Section 800. widing and fixing of RCC guide post 300 mm dia NP-2 chume pipe conforming to 1 S - 458-1988 for guard stone flormation indicators etc. filled with earth except 0.15 m from and with cement concrete of M-10 topping embedded in M-grade cement concrete block of size 600 mm x 600 mm x 450 complete in all respects including cost of painting with white black paint as per drawings and Technical Specifications au s e 805.3. Inforced cement concrete M-15 grade boundary pillars tandard design as per IRC:25-1967, fixed in position including shing, painting and lettering complete as per Technical crification Clause 806. widing and laying of precast cement concrete kerbs with top and tom width 115 and 165 mm respectively, 250 mm high in M 20 de PCC on M-10 grade foundation 150 mm thick andation having 50 mm projection beyond kerb stone, kerb ne laid manually, all complete and as per Drawings and chricial Specification clause 408. widing and erecting Type 'A' "W" metal beam crash rice comprising of 3 mm thick corrugated sheet metal beam rail, cm above road/ground level, fixed on ISMC series channel tical posts, 150 x 75 x 5 mm, 320 mm long solutions and recting time to the stone process and fittenest vanised by hot dip process and fittings conforming to IS:1364 including fixing metal beam rail fixed on vertical posts h spacer of channel section 150 x 75 x 5 mm, 330 mm long

7.10	Providing and fixing in position tubular gantry mounted Overhead/ cantilever signs by erecting mild steel framed stretles and trusses properly fixed with RCC column-foundation as per detail design and drawing including priming and painting with two coats of epoxy paint and fixing sign boards made out of 2mm thick aluminum sheet, face to be fully covered by high intensity grade white retro reflective sheeting of encapsulated lens type. The background/ border/ symbols/ legend/ arrows shall be made by transparent overlay film of desired colour as per sign details except those in black which shall be of non-reflective type complete as per IRC-67-2001 and Technical Specifications Clause 801& 802.				
	12M Span Tubular Gantry mounted Overhead Sign	Nos	3		
7.11	Providing and fixing road studs/RPMs for permanent marking comply with standard EN1463 and BS 873 (Part:IV) according to the CIL requirements to ASTM D 4280 standard	Nos	1082		
7.12	Providing and fixing retro-reflectorised Road delineators complete as per drawing and Technical Specification section 800 and as directed by the Engineer.	Nos	162		
Bill No.7 Pa	age Total (carried forward to Page collection sheet)				

BILL OF QUANTITIES										
			Estimated		Unit Rate in Rs.	Amount (Rs.)				
Item No.	Description	Unit	Quantity	In Figures	In Words	In Figures				
BILL NO.8	ILL NO.8 – MISCELLANEOUS									
8.01	Routine maintenance of existing road, during construction period including repairs of potholes, patch work, shoulders, rain cuts, clearing of drains/culverts, clearing of roadway, clearing/removal of vegetation/dead animals, maintaining road signs, KM stones, traffic markings, etc as per Technical Specifications Section 3000.									
a)	MDR - Single Lane	Km. month	11							
8.02	Cattle Catcher with MS Plate, Channel including Welding, fabricated and erecting at site as per drawings and specifications as directed by Engineer	Kg	2500							

	BILL OF QUANTITIES							
1				Estimated		Unit Rate in Rs.	Amount (Rs.)	
Item N	lo.	Description	Unit	Quantity	In Figures	In Words	In Figures	
BILL NO	0.9 -	ENVIRONMENT MANAGEMENT PLAN						
9.01		Providing and constructing hollow brick wall panel noise barriers, 3.5 m height above ground level, near sensitive locations like schools and hospitals as per drawings and Technical Specifications (Addl. Clause A.6), at locations under direction of the Engineer		180				
9.02		Providing and erecting Cement Concrete sitting benches, as per designs and Technical Specifications (Addl. Clause A.7) and directions of the Engineer	Each	30				
9.03		Providing and erecting barbed wire fencing as per drawings and Technical Specifications (Addl. Clause A.8) and directions of the Engineer.	RM	200				
Bill No.9) Pag	ge Total (carried forward to Page collection sheet)				1	1	

	D	TT *4	Estimated		Unit Rate in Rs.	Amount (Rs.)	
Item No.	Description	Unit	Quantity	In Figures	In Words	In Figures	
ill No.10 B	Bill of Dayworks-Provisional Sums						
10.01	Providing the following manpower with tools and instruments including overheads						
i)	Unskilled Labour	Mandays	150				
ii)	Semi skilled Labour	Mandays	100				
iii)	Skilled Labour	Mandays	50				
10.02	Providing following machinery complete with accessories, operator, fuel, depreciation, overhead etc.:						
i) ii)	Dozer D-50-A 15	Hours	50				
iii)	Dozer D-80-A 12	Hours	50				
iv)	Motor Grader 3.35m blade	Hours	45				
v)	Hydraulic excavator with 1 cum bucket capacity	Hours	40				
vi)	Front End Loader 1 cum bucket capacity	Hours	96				
vii)	Tipper - 5 cum capacity	Km	143				
viii)	Vibratory Roller 8 tonne	Hours	40				
ix)	Smooth wheel roller 8 tonne	Hours	40				
x)	Water tanker 6KL	Km	150				
xi)	Tractor - 50 Horse Power	Hours	100				
xii)	Ripper - 60 cum per hour	Hours	50				
xiii)	Air compressor 170 cfm	Hours	50				
xiv)	Crane - 3 tonnes	Hours	50				
xv)	Concrete mixer 0.28 cum capacity	Hours	50				
xvi)	Generator 33 KVA	Hours	50				
	Truck 5.5 cum / 10 tonnes capacity	Km	100				

BILL OF QUANTITIES								
		Unit Estimated Quantity	Estimated		Unit Rate in Rs.	Amount (Rs.)		
Item No.	Description		In Figures	In Words	In Figures			
	Providing materials including cost of materials, carriage and stacking including all taxes, overheads and profit etc.							
i)	Ordinary portland Cement (Grade 43)	tonne	50					
ii)	HYSD Fe 415 bars	tonne	50					
iii)	River Coarse sand	cum	50					
iv)	Crushed stone aggregate 20 mm	cum	50					
v)	Crushed stone aggregate 13.2 mm	cum	50					
vi)	Dresed stone for masonry work	no.	300					
vii)	Stone boulders with average weight not less than 40 Kgs	cum	100					
viii)	Moorum with CBR more than 20 % & PI less than 6	cum	50					
ix)	Paving bitumen 60/70 grade packed	tonne	10					
Bill No.10 P	age Total (carried forward to Page collection sheet)	1			1	1		

Letter of Price Bid

			Date:	
			ICB No.:	
		Invitation fo	or Bid No.:	
To:				
Sul	oject: Tender for Contract N	No. INDIA, <i>ADB Proje</i>	ct No.3073	
We,	the undersigned, declare that:			
(a)	We have examined and have no Nos. <i>[insert Addenda numbers</i>]			
(b)	We offer to execute in conformity the following Works:	with the Bidding Docun	nents and the Technica	I Bid submitted for
	[Insert Brief Description of t	he Works for the rele	evant Contract]	
lm road	provement and Up-gradation of I in the State of Tripura) under I	Road Section of Uda North Eastern State R	nipur to Melaghar (TR Roads Investment Pro	.02) (Tranche-2 gram.
(c)	The total price of our Bid, exclude total price in words and figures		red in item (d) below is	s: Bidder to insert
(d)	The discounts offered and the rapplicable]	methodology for their a	pplication are: [Bidder	to insert if
(e)	Our Bid shall be valid for a perior in accordance with the Bidding accepted at any time before the expression of the state	Documents, and it sh		
(f)	If our Bid is accepted, we comr Bidding Documents;	mit to obtain a perform	ance security in accord	dance with the
(g)	We have paid, or will pay the bidding process or execution of the	following commissions ne Contract: **	s, gratuities, or fees w	vith respect to the
	Name of Recipient	Address	Reason	Amount
(h)	Mo understand that this bid t	agathar with your weith	ton accontance theree	f included in ver-
(h)	We understand that this bid, to notification of award, shall cons			

prepared and executed; and

(i)	We understand that you are not bound to accept the lowest evaluated bid or any comay receive.	other bid that you
Name	e:	_In
the ca	apacity of:	-
Signe	ed:	_
Duly	authorized to sign the Bid for and on behalf of:	
Date:		

^{**} If none has been paid or is to be paid, indicate "none"

Volume -2 – Letter of Price Bid

Schedules

Schedule of Payment Currencies

Forinsert name of Section of t	the Works
Improvement and Ungradation of Poad	Section of Udainur to Malaghar (TP02) (Tranche (

Improvement and Upgradation of Road Section of Udaipur to Melaghar (TR02) (Tranche-2 road in the State of Tripura) under North Eastern State Roads Investment Program

Separate tables may be required if the various sections of the Works (or of the Bill of Quantities) will have substantially different foreign and local currency requirements. The Employer should insert the names of each Section of the Works.

	Α	В	С	D
Name of Payment Currency	Amount of Currency	Rate of Exchange to Local Currency	Local Currency Equivalent C = A x B	Percentage of Net Bid Price (NBP) <u>100xC</u> NBP
Local currency		1.00		
Foreign Currency #1				
Foreign Currency #2				
Foreign Currency #				
Net Bid Price				100.00
Provisional Sums Expressed in Local Currency	2,0000000.00	1.00	2,0000000.00	
BID PRICE				

Volume -2 – Letter of Price Bid

Tables of Adjustment Data

Table A - Local Currency

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Local Currency Amount	Bidder's Proposed Weighting
	Nonadjustable		_	_	A:
			Total		1.00

Table B - Foreign Currency
Name of Currency:
If the Bidder wishes to quote in more than one foreign currency, this table should be repeated for each foreign currency.

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Currency in Type/Amount	Equivalent in FC1	Bidder's Proposed Weighting
	Nonadjustable	_	_	_		A: B: C: D:
Total						1.00