



GOVERNMENT OF TAMIL NADU PUBLIC WORKS DEPARTMENT

STANDARD DATA BOOK

[FOR CIVIL WORKS]

VOLUME - III

Volume - I	PWD	1-410 Pages
Volume - II	PWD | HR&CE	411-837 Pages
Volume - III	HIGHWAYS | TWAD	1-436 Pages
Volume - IV	CMWSSB	1-412 Pages
Volume - V	CMWSSB	413-795 Pages
Volume - VI	CMWSSB	796-1190 Pages
Volume - VII	CMWSSB	1191-1595 Pages
Volume - VIII	CMWSSB	1596-1992 Pages



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GOVERNMENT OF TAMIL NADU
STANDARD DATA BOOK FOR CIVIL WORKS
PREFACE

To arrive at Standard Data Book for Civil Works for the use of various departments under Government of Tamil Nadu, the Government of Tamil Nadu in G.O.Ms.No 124 Public Works (G2) Department dated 07.09.2021 and G.O.Ms.No. 9 Public Works (G2) Department dated 11.06.2024 constituted a committee comprising with the Engineer in Chief and Chief Engineer (General) Tamil Nadu Public Works Department as Chairman and Engineer in Chief and Chief Engineer (General) Water Resources Department, Representative from Finance Department, Representative from Tamil Nadu Infrastructure Development Board (TNIDB), Corporation Commissioner, Coimbatore Municipal Corporation, Representative from IIT - CUBE (Madras), Representative from Anna University, The Director (Highways), Highways Research Station, Engineering Director, Tamil Nadu Water Supply and Drainage Board, Engineering Director, Chennai Metropolitan Water Supply and Sewerage Board, Chief Engineer, Hindu Religious and Charitable Endowments as members of the Committee. Further based on needs / requirements, Special invitees from various other Departments are also invited for discussions.

The primary objective for revision and updating the standard data is to bring the estimate costing as close as possible to real time market price by incorporating the prevailing construction procedures. Many of the construction procedures adopted in the existing Standard Data Book have become obsolete and much technological advancement has happened in due course of time. Hence the revision / updation of standard data becomes inevitable. Now this Standard Data Book for Civil Works has been arrived after detailed discussions and deliberations in several Committee Meetings.

The Water Resources Department vide its letter No.S7 / OT3/SDB 2024-25 / 2024 dated: 14.11.2024 had informed that since huge voluminous nature of works are involved in studying and analysing the data, the department needs at least six months time for completing the process and hence the same will be released separately. Therefore the data pertaining to Water Resources Department could not be included in the Standard Data Book for Civil Works.

This Standard Data Book for Civil Works is a comprehensive document that summarizes the standard data required for construction projects which will be very useful for many departments in the preparation of estimates.

The Contents of the Standard Data Book for Civil Works are detailed below:

- | | | |
|---------------------|---|---|
| Volume 1 | : | Public Works Department |
| Volume 2 | : | Public Works Department and Hindu Religious and Charitable Endowments |
| Volume 3 | : | Highways Department and Tamil Nadu Water Supply and Drainage Board |
| Volume 4, 5, 6, 7&8 | : | Chennai Metropolitan Water Supply and Sewerage Board |


(Er.S.MANIVANNAN)
Chairman,
Standard Data Committee &
Engineer - in - Chief &
Chief Engineer (General), PWD,
Chepauk, Chennai-5

STANDARD DATA BOOK FOR CIVIL WORKS

VOLUME I

(PUBLIC WORKS DEPARTMENT)

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**HIGHWAYS DEPARTMENT
(HD)**

NABARD & RURAL ROADS

CENTERING RATE CALCULATIONS(STEEL PROPS) - BRIDGE WORKS & SUB WORKS

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
1(A)			Steel centering for sides and soffits including supports and strutting upto 3.00m height for plain surface such as RCC slab, rectangular beams, T or L beams lintels bedblocks, staircase waist and landing slab landing beams, canopy etc., with all cross bracings using mild steel sheets of size 90cm x 60cm x 10 gauge stiffened with welded mild steel angles of size 25mm x 25mm x 3mm for boarding laid over silver oak (country wood) joist of size 10cm x 6.50cm spaced at about 90 cms c/c and supported by steel props spaced at 75cm c/c etc., complete.			
			Sub Data 1			
			Cost of MS sheets and angles for each set			
			Weight of MS sheet 90cmx60cmx10 gauge			
			$3.175 \times 7850 / 1000 =$	24.92	kg/ sqm	
			$0.90 \times 0.60 \times 24.92 =$	13.46	kg/ No.	
			Weight of MS angle of size 25 x 25 x 3mm			
			$3.60m \times 1.11 \text{ kg / m} =$	4.00	kg/ No.	
	13.46	kg	Cost of MS sheets, 90cm x 60cm x 10 gauge		/ kg	
	4.00	kg	Cost of MS angle, 25mm x 25mm x 3mm		/ kg	
	10	%	Add contingencies for Cutting, bending and welding charges			
			Sub Data 2			
	19	Nos	Cost of MS angle and sheet		Each	
			(Assuming for 40 uses)		Total =	
			Cost for single use	/ 40	=	
	0.12	cu.m	Silver Oak country wood joist, 10cm x 6.5cm at about 90cm c/c etc. (For 5 uses)		cu.m	
			For 1 use	/ 5	=	
			Steel props, $(40 * 11.10 * \text{Rs. })/40$		=	
			For 1 use	Total =		
			Cost for single use			
			Main Data			
	1.00	Use	Cost of M.S sheets and angles		1 Use	
	1.00	Use	Cost of Silver oak joists and steel props		1 Use	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	3.80	Nos	Carpenter I Class		Each	
	5.40	Nos	Mazdoor I Class		Each	
	1.00	No	Fitter II class		Each	
	2.50	%	Add for welding grills nails etc.,(Single usage cost)			
	5.00	%	Add for oiling for MS sheets and edges etc(single usage cost of sheets, angles & props)			
			Total /10 sqm			
			Rate per sqm		=	
1			Centering for Foundation, Pile cap etc., (Below sill)			
	1.00	sqm	Centering rate		sqm	
			Deduct for strutting charges			
	0.30	Nos	Carpenter I Class		Each	
	0.30	Nos	Mazdoor I Class		Each	
			Total /10 sqm		=	
			Rate per sqm		=	
2			Centering for vertical surfaces of Abutments & Return Walls, Bed Block, Parapet,Outer Crash barrier			
	1.00	sqm	Centering rate		sqm	
	1.00	sqm	Add 10% extra for vertical surfaces		sqm	
			Rate per sqm		=	
3			Centering for Columns piers, rectangular piers			
	1.00	sqm	Centering rate		sqm	
	1.00	sqm	Add 100% extra for vertical surfaces		sqm	
			Rate per sqm		=	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
4			Centering for Capping Beam			
	1.00	sqm	Centering rate		sqm	
	1.00	sqm	Add 50% extra for vertical surfaces		sqm	
			Rate per sqm		=	
1(B)	Steel centering for sides and soffits including supports and strutting upto 3.00m height for plain surface such as RCC slab, rectangular beams, T or L beams lintels bedblocks, staircase waist and landing slab landing beams, canopy etc., with all cross bracings using mild steel sheets of size 90cm x 60cm x 10 gauge stiffened with welded mild steel angles of size 25mm x 25mm x 3mm for boarding laid over silver oak (country wood) joist of size 10cm x 6.50cm spaced at about 90 cms c/c and supported by iron gribs etc., complete. For Deck Slab & T Beam					
			Sub Data 1			
			Cost of MS sheets and angles for each set			
			Weight of MS sheet 90cmx60cmx10 gauge			
			$3.175 \times 7850 / 1000 =$	24.92	kg/ sqm	
			$0.90 \times 0.60 \times 24.92 =$	13.46	kg/ No.	
			Weight of MS angle of size 25 x 25 x 3mm			
			$3.60m \times 1.11 \text{ kg} / m =$	4.00	kg/ No.	
	13.46	kg	Cost of MS sheets, 90cm x 60cm x 10 gauge		/ kg	
	4.00	kg	Cost of MS angle, 25mm x 25mm x 3mm		/ kg	
	10	%	Add Contingencies for Cutting, bending and welding charges			
			Sub Data 2			
	19	Nos	Cost of MS angle and sheet		Each	
			(Assuming for 40 uses)		Total =	
			Cost for single use	/ 40	=	
	0.12	cu.m	Silver Oak country wood joist, 10cm x 6.5cm at about 90cm c/c etc. (For 5 uses)		cu.m	
			For 1 use	/ 5	=	
			Size of gribs, 0.60m x 0.60m x 1.20m			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
			Gribs, (36 x 100 x Rs.)/40			
			Cross bracings, (2 x 19.20m x 11.10m x Rs.)/40			
				For 1 use	Total =	
					Cost for single use	
			For Superstructure :			
			Main Data			
	1.00	Use	Cost of M.S sheets and angles		40 uses	
	1.00	Use	Cost of Silver oak joists and steel props		5 uses	
	3.80	Nos	Carpenter I Class		Each	
	5.40	Nos	Mazdoor I Class		Each	
	1.00	No	Fitter II class		Each	
	2.50	%	Add for welding grills nails etc.,(Single usage cost)			
	5.00	%	Add for oiling for MS sheets and edges etc(single usage cost of sheets, angles & props)			
			Total /10 sqm		=	
			Rate per sqm		=	

CENTERING RATE CALCULATIONS (Using Casurina Poles) - Road Works & Sub Works

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
1			Supplying and erecting centering for sides and soffits including necessary supports and strutting upto 3.29 M height for plane surfaces as detailed below in all floors with all cross bracings using Mild Steel sheets of size 90 x 60 cm and 10 BG stiffened with welded Mild Steel angle of size 25mm x 25mm x 3 mm for boarding laid over silver oak joists of size 10cm x 6.50 cm spaced at abote 90 cm centre to centre and supported by casurina props of 10cm to 13 cm dia spaced at not more than 75 cm centre to centre etc. complete complying with the standard specificaiton. (Payment for centering shall be given after the concrete is laid)			
			Sub Data 1			
			Cost of MS sheets and angles for each set			
			Weight of MS sheet 90cmx60cmx10 gauge			
			$3.175 \times 7850 / 1000 =$	24.92	kg/sqm	
			$0.90 \times 0.60 \times 24.92 =$	13.46	kg/ No.	
			Weight of MS angle of size 25 x 25 x 3mm			
			$3.60m \times 1.11 \text{ kg / m} =$	4.00	kg/ No.	
	13.46	kg	Cost of MS sheets, 90cm x 60cm x 10 gauge		/ kg	
	4.00	kg	Cost of MS angle, 25mm x 25mm x 3mm		/ kg	
	10.00	%	Add Contingencies for Cutting, bending and welding charges			
			Sub Data 2			
	19	Nos	Cost of MS angle and sheet		Each	
			(Assuming for 40 uses)		Total =	
			Cost for single use	/ 40	=	
	0.12	cu.m	Silver Oak country wood joist, 10cm x 6.5cm at about 90cm c/c etc. (For 5 uses)		cu.m	
	98.5	RM	Cost of casurina props 10 to 13cm dia.		RM	
			For 1 use	/ 5	=	
				Cost for single use		
			For Superstructure : Deck Slab			
			Main Data			
	1.00	Use	Cost of M.S sheets and angles		40 uses	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	Use	Cost of Silver oak joists and steel props		5 uses	
	3.80	Nos	Carpenter I Class		Each	
	5.40	Nos	Mazdoor I Class		Each	
	1.00	No	Fitter II class		Each	
	2.50	%	Add for welding grills nails etc.,(Single usage cost)			
	5.00	%	Add for oiling for MS sheets and edges etc(single usage cost of sheets, angles & props)			
			Total / 10 sqm		=	
			Rate per sqm		=	
1			Centering for Foundation(Below sill)			
	98.5	RM	Cost of casurina props 10 to 13cm dia.		RM	
				For 1 use	=	
	0.30	Nos	Upto 3.3m	0.00	Each	
	0.30	Nos	3.3 - 4.3m	0.00	Each	
	1.00	%	Add for nails, coirs, etc.,	0.00		
			Total / 10 sqm		=	
			Rate per sqm		=	
	1.00	sqm	Centering rate		=	
			Rate per sqm		=	
2			Rate for 1m height or part thereof but not less than 30cm 1/3 of rate allowed			
	98.5	RM	Cost of casurina props 10 to 13cm dia.		RM	
				For 1 use	=	
	0.30	Nos	Carpenter I Class		Each	
	0.30	Nos	Mazdoor I Class		Each	
	1.00	%	Add for nails, coirs, etc.,			
			Total / 10 sqm		=	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
			Rate for 1 sq.m. per 3m height		=	
			Rate for 1 sq.m. / 1m height		=	
3		For every additional 1m height of strutting above 3m or part thereof but not less than 30cm				
			Upto 3.3m / Sqm		=	
			3.3 - 4.3m / Sqm		=	
			4.3 - 5.3m / Sqm		=	
			5.3 - 6.3m / Sqm		=	
			6.3 - 7.3m / Sqm		=	
			7.3 - 8.3m / Sqm		=	
			8.3 - 9.3m / Sqm		=	
			9.3 - 10.3m / Sqm		=	
			10.3 - 11.3m / Sqm		=	
4		Above Ground Level				
		Add extra Required percentage for all items	Vertical faces	Deck Slab & T Beams	Capping Beam	Columns
			10%	20%	50%	100%
		Upto 3.3m				
		3.3 - 4.3m				
		4.3 - 5.3m				
		5.3 - 6.3m				
		6.3 - 7.3m				
		7.3 - 8.3m				
		8.3 - 9.3m				
		9.3 - 10.3m				
		10.3 - 11.3m				

Sub Data - Cement, Steel, Mortar & Grades of Concrete

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
<u>CEMENT</u>						
	1.00	MT	Price of non levy cement including all taxes and transportation charges		1 MT	
			Deduct loading & unloading		1 MT	
			Storage charges @ 5%			
					Total =	
<u>STEEL Fe - 500 / Fe - 240</u>						
	1.00	MT	Cost of steel		1 MT	
			Deduct loading & unloading		1 MT	
			Storage charges			
					Total =	
<u>CEMENT MORTAR M10(1:3:6) (using 40mm)</u>						
	0.48	MT	Cost of Cement		1 MT	
	0.067	MT	Deduct 30kg for 40mm size metal		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	
<u>CEMENT MORTAR M15(1:2:4) (using 40mm)</u>						
	0.72	MT	Cost of Cement		1 MT	
	0.067	MT	Deduct 30kg for 40mm size metal		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
<u>CEMENT MORTAR M15(1:2:4) (using 20mm)</u>						
	0.72	MT	Cost of Cement		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	
<u>CEMENT MORTAR M20(1:1.5:3) (using 40mm)</u>						
	0.76	MT	Cost of Cement		1 MT	
	0.067	MT	Deduct 30kg for 40mm size metal		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	
<u>CEMENT MORTAR M20(1:1.5:3) (Using 20mm)</u>						
	0.76	MT	Cost of Cement		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	
<u>CEMENT MORTAR M25</u>						
	0.845	MT	Cost of Cement		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	
<u>CEMENT MORTAR M30</u>						
	0.889	MT	Cost of Cement		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	
<u>CEMENT MORTAR M35</u>						
	0.934	MT	Cost of Cement		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
<u>CEMENT MORTAR M40</u>						
	0.934	MT	Cost of Cement		1 MT	
	1.00	cu.m	Cost of M Sand		1 cu.m	
					Total =	
<u>CEMENT CONCRETE - M10 (1:3:6) (Using 40mm HBG)</u>						
	9.00	cu.m	Cost of 40mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar 1:3		1 cu.m	
	1.80	No.	Mason II Class		1 No.	
	17.70	No.	Mazdoor I class		1 No.	
	14.10	No.	Mazdoor II class		1 No.	
					Total per 10 cu.m =	
					Rate per cu.m	
<u>VIBRATED CEMENT CONCRETE - M15 (1:2:4) (Using 40mm HBG)</u>						
	9.00	cu.m	Cost of 40mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar 1:2		1 cu.m	
	1.80	No.	Mason II Class		1 No.	
	17.70	No.	Mazdoor I class		1 No.	
	14.10	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
					Total per 10 cu.m =	
					Rate per cu.m	
					Rate per cu.m (without vibration charges)	
<u>VIBRATED CEMENT CONCRETE - M15 (1:2:4) (Using 20mm HBG)</u>						
	9.00	cu.m	Cost of 20mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar 1:2		1 cu.m	
	1.80	No.	Mason II Class		1 No.	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	17.70	No.	Mazdoor I class		1 No.	
	14.10	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
				Total per 10 cu.m =		
			Rate per cu.m			
<u>VIBRATED CEMENT CONCRETE - M20 (1:1.5:3) (Using 40mm HBG)</u>						
	9.00	cu.m	Cost of 40mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar 1:1.50		1 cu.m	
	1.80	No.	Mason II Class		1 No.	
	17.70	No.	Mazdoor I class		1 No.	
	14.10	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
				Total per 10 cu.m =		
			Rate per cu.m			
<u>VIBRATED CEMENT CONCRETE - M20 (1:1.5:3) (Using 20mm HBG)</u>						
	9.00	cu.m	Cost of 20mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar 1:1.50		1 cu.m	
	1.80	No.	Mason II Class		1 No.	
	17.70	No.	Mazdoor I class		1 No.	
	14.10	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
				Total per 10 cu.m =		
			Rate per cu.m			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
<u>VIBRATED REINFORCED CEMENT CONCRETE (Design mix M25)</u>						
	6.30	cu.m	Cost of 20mm ISS HBG metal		1 cu.m	
	2.700	cu.m	Cost of 12mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar 1:1.50		1 cu.m	
	3.50	No.	Mason II Class		1 No.	
	21.20	No.	Mazdoor I class		1 No.	
	35.30	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
				Total per 10 cu.m =		
			Rate per cu.m			
<u>VIBRATED REINFORCED CEMENT CONCRETE (Design mix M30)</u>						
	6.30	cu.m	Cost of 20mm ISS HBG metal		1 cu.m	
	2.700	cu.m	Cost of 12mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar M30		1 cu.m	
	3.50	No.	Mason II Class		1 No.	
	21.20	No.	Mazdoor I class		1 No.	
	35.30	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
				Total per 10 cu.m =		
			Rate per cu.m			
<u>VIBRATED REINFORCED CEMENT CONCRETE (Design mix M35)</u>						
	6.30	cu.m	Cost of 20mm ISS HBG metal		1 cu.m	
	2.700	cu.m	Cost of 12mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar M35		1 cu.m	
	3.50	No.	Mason II Class		1 No.	
	21.20	No.	Mazdoor I class		1 No.	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	35.30	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
				Total per 10 cu.m =		
			Rate per cu.m			
			Rate per cu.m	(without vibration charges for piles)		
<u>VIBRATED REINFORCED CEMENT CONCRETE (Design mix M40)</u>						
	6.30	cu.m	Cost of 20mm ISS HBG metal		1 cu.m	
	2.700	cu.m	Cost of 12mm ISS HBG metal		1 cu.m	
	4.50	cu.m	Cost of Cement mortar M35		1 cu.m	
	3.50	No.	Mason II Class		1 No.	
	21.20	No.	Mazdoor I class		1 No.	
	35.30	No.	Mazdoor II class		1 No.	
	10.00	cu.m	Vibration charges		1 cu.m	
				Total per 10 cu.m =		
			Rate per cu.m			
			Rate per cu.m	(without vibration charges for piles)		
PILE SUB DATA						
<u>(A) Cost of Initial Pile Load Test - ABUTMENT</u>						
			As per MORTH Vth Revision clause 1113.1		Minimum 2 Nos.	
			Load on Pile(Abutment)			KN
			Total number of Piles in Bridge			Nos.

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
			Total Length of Pile			m
			Total Reinforcement Qty for Piles			MT
			Total MS Liner Qty (at cut off Lvl to Scour Lvl)			MT
		MT	Initial load test charges		MT	
		RM	Cost of RCC Cast - in - situ bored Pile		RM	
		MT	Cost of Steel for Pile		MT	
		MT	Cost of MS. Liner		MT	
					Total	
(B) Cost of Initial Pile Load Test - PIER						
			Load on Pile(PIER)		KN	
		MT	Initial load test charges		MT	
		RM	Cost of RCC Cast - in - situ bored Pile		RM	
		MT	Cost of Steel for Pile		MT	
		MT	Cost of MS. Liner		MT	
					Total	
(C) Cost of Routine Pile Load Test						
			As per MORTH Vth Revision clause 1113.2		Minimum No. of Test Piles	
			upto 50		2	
			50-150		3	
			Beyond 150		2% of Total Piles	
			(fractional No. rounded to next higher integer no.)			
				=		Nos

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
		MT	Routine load test charges(Abutment)		MT	
		MT	Routine load test charges(Pier)		MT	
			<u>Abstract</u>			
		No.	Cost of Initial load test in Abutment		Each	
		No.	Cost of Initial load test in Pier		Each	
		No.	Cost of Routine load test in Abutment		Each	
		No.	Cost of Routine load test in Pier		Each	
					=	
			Cost required for per Rm of Pile		=	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
<u>BRIDGES DATA</u>						
1	Earth work excavation in all classes of soils except hard rock not requiring blasting and depositing on bank as per SS20B with all leads and lifts and all other incidental charges such as bailing out water, shoring, strutting, walling and forming protective bunds wherever necessary etc., complete as per relevent standard specification for DRESSING THE BED UPTO SILL LEVEL.					
	1.00	cu.m	W-0061		cu.m	
					Total =	
			Rate per cu.m			
2	Earth work Excavation in all classes of soils except hard rock not requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour, materials, tools, equipments and all incidental charges and sheeting, shoring, bracing and their subsequent removal, removal of all logs, stumps and other deleterious matter and obstructions, trimming of bottom of excavtion backfilling, and clearing the site and disposal of all surplus materials etc. complete as per standard specification for Foundation under Abutments & Return Walls and Piers / Pile cap under Abutments & Return Walls and Piers.					
	1.00	cu.m	W-0061		cu.m	
	1.00	cu.m	Add 100% extra (Narrow Cutting)		cu.m	
	1.00	cu.m	Providing and Maintaining protective bund		cu.m	
	1.00	cu.m	Bailing out water		cu.m	
	1.00	cu.m	Shoring, strutting and walling		cu.m	
	1.00	cu.m	Refilling the sides		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
	1.00	cu.m	Removal of protective bunds		cu.m	
			Rate per cu.m			
3	Earth work Excavation in soft rock not requiring blasting and depositing on bank with all leads and lifts including cost of all labour, materials, tools, equipments and all incidental charges and sheeting, shoring, bracing and their subsequent removal, removal of all logs, stumps and other deleterious matter and obstructions, trimming of bottom of excavtion backfilling, and clearing the site and disposal of all surplus materials etc. complete as per standard specification for Foundation under Abutments & Return Walls and Piers / Pile cap under Abutments & Return Walls and Piers.					

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	cu.m	W-0062		cu.m	
	1.00	cu.m	Add 100% extra (Narrow Cutting)		cu.m	
	1.00	cu.m	Providing and Maintaining protective bund		cu.m	
	1.00	cu.m	Bailing out water		cu.m	
	1.00	cu.m	Shoring, strutting and walling		cu.m	
	1.00	cu.m	Refilling the sides		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
	1.00	cu.m	Removal of protective bunds		cu.m	
			Rate per cu.m			
4	Earth work Excavation in hard rock requiring blasting and depositing on bank with all leads as per SS20B including cost of all labour, equipments and maintaining necessary cofferdams, and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc complete as per relevant standard specification for Foundation under Abutments & Return Walls and Piers / Pile cap under Abutments & Return Walls and Piers.					
	1.00	cu.m	W-0043(WRD)		cu.m	
	1.00	cu.m	Add 100% extra (Narrow Cutting)		cu.m	
	1.00	cu.m	Providing and Maintaining protective bund		cu.m	
	1.00	cu.m	Bailing out water		cu.m	
	1.00	cu.m	Shoring, strutting and walling		cu.m	
	1.00	cu.m	Refilling the sides		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
	1.00	cu.m	Removal of protective bunds		cu.m	
			Rate per cu.m			
5	Benching rock up to an average depth of 10cm including labour etc., complete as per relevant standard specification.					
	1.00	Sqm	W-0048(WRD)		Sqm	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
			Rate per Sqm			
6	Providing Fe-500 D grade of 25mm dia. Dowel bars, including cost and conveyance of all materials to work site, drilling 40mm holes in rock and grouting the same with cement mortar 1:2 after placing the 25mm dia. Dowel bars etc. complete in foundation of Abutment & Return walls and Piers.					
	1.00	RM	Drilling holes in hard granite 40mm dia (WRD - W-0049)		Rm	
	7.321	Kg	Cost of steel		MT	
	1.00	RM	Grouting Charges		Rm	
			Rate per metre			
7	Providing and driving in position permanent MS liners for piles from bottom of pile cap as per cl.709.1.4 of IRC 78 - 2014 (up to maximum scour level) including cost of liners and fabricating, welded construction with consumables, labour and plants and driving MS liner 6mm thick to be left permanently with the pile shaft as per requirement and as per specification and placing them in position with all lead and lift etc. complete.					
	1.05	MT	Cost of 6mm MS sheet - (M-0186)		1 MT	
	0.80	Nos.	Head Mazdoor		Each	
	4.00	Nos.	Fitter - I Class		Each	
	4.00	Nos.	Blacksmith - I Class		Each	
	4.00	Nos.	Welder - I Class		Each	
	8.00	Nos.	Mazdoor - I Class		Each	
	5	%	Electrodes, Cutting Gas & Other Consumables@ 5% on Cost of MS Sheet		1 MT	
	8.00	Hours	Mobile Hydraulic Crane 10 Tonne Capacity		Day	
			Rate for per MT			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
8	Providing Reinforced Cement Concrete cast-int-situ bored PILES of 1000mm diameter in vibrated RCC M35 (Design mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site and cost of cement at site but excluding cost and fabrication of steel and placing it in position before concreting setting up of piling equipment, shifting the same from one pile location to another pile location, dismantling them and reerceting as necessary including all labour for driving or boring and providing temporary casing where required through all soils, leading the excavated earth to a distance of 200m including forming of working platform over the river bed of accommodating piling equipment including working platform etc., forming approaches to the working platform, mixing concrete, filling it in position, compacting, cutting of pile head to cut off level for casting pile cap, including diversion of water course if necessary and all other incidental charges etc., complete as per standard specifications, forming and maintaining protective bunds and all other incidental charges etc., complete for PILES BELOW PIERS AND ABUTMENTS.					
			Materials, Machineries for boring and construction, Labours :			
			Taking output for 10m			
	7.850	cu.m	Cost of RCC M35		/Cu.m	
	350.000	Kg	Bentonite		/Kg	
	6.00	Hrs.	Hire and running charges of Hydraulic Piling rig with power unit & complete accessories including shifting from one bore location to another.(HW-0023/ HW-0024)		/Hour	
	0.500	Hrs.	Hire and running charges of Light crane for lowering reinforcement cage		/Hour	
	0.400	Hrs.	Front End Loader for removing muck 1 cu.m capacity		/Hour	
	12.56	t.km	Tipper 5.5 cu.m capacity for disposal of muck from Pile bore hole		km	
	0.16	Nos.	Head Mazdoor		Each	
	4.00	Nos.	Mazdoor I Class		Each	
			ADD			
			Labour for cutting of concrete at cut off level		Rm	
			Spill of concrete at cut off level		Rm	
			Conducting SPT test @ every Pile location		Rm	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount	
			Liner scrap above cut off level		Rm		
			Load test on pile both vertical and horizontal as per codal provision on pile		Rm		
					Total =		
			Rate per metre				
		BENTONITE should be used as per case (Usage as per guidelines of MORT&H)					
9	<p>Providing Reinforced Cement Concrete cast-in-situ bored PILES of 1200mm diameter in vibrated RCC M35 (Design mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site and cost of cement at site but excluding cost and fabrication of steel and placing it in position before concreting setting up of piling equipment, shifting the same from one pile location to another pile location, dismantling them and reerceting as necessary including all labour for driving or boring and providing temporary casing where required through all soils, leading the excavated earth to a distance of 200m including forming of working platform over the river bed of accommodating piling equipment including working platform etc., forming approaches to the working platform, mixing concrete, filling it in position, compacting, cutting of pile head to cut off level for casting pile cap, including diversion of water course if necessary and all other incidental charges etc., complete as per standard specifications, forming and maintaining protective bunds and all other incidental charges etc., complete for PILES BELOW PIERS AND ABUTMENTS.</p>						
			Materials, Machinerics for boring and construction, Labours :				
			Taking output for 9m				
	10.180	cu.m	Cost of RCC M35		/Cu.m		
	385.000	Kg	Bentonite		/Kg		
	6.00	Hrs.	Hire and running charges of Hydraulic Piling rig with power unit & complete accessories including shifting from one bore location to another.(HW-0023/ HW-0024)		/Hour		
	0.500	Hrs.	Hire and running charges of Light crane for lowering reinforcement cage		/Hour		
	0.500	Hrs.	Front End Loader for removing muck 1 cu.m capacity		/Hour		
	16.290	t.km	Tipper 5.5 cu.m capacity for disposal of muck from Pile bore hole		km		
	0.18	Nos.	Head Mazdoor		Each		
	4.50	Nos.	Mazdoor I Class		Each		

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount	
			ADD				
			Labour for cutting of concrete at cut off level		Rm		
			Spill of concrete at cut off level		Rm		
			Conducting SPT test @ every Pile location		Rm		
			Liner scrap above cut off level		Rm		
			Load test on pile both vertical and horizontal as per codal provision on pile		Rm		
					Total =		
			Rate per metre				
			BENTONITE should be used as per case (Usage as per guidelines of MORT&H)				
10			Filling with Stone Dust including cost and conveyance of material to work site including labour charges for filling, laying, compacting by manual labour under optimum moisture content to get the maximum density flooding with water as layers or built-up to the bottom level inclusive all other incidental charges etc., complete below levelling course.				
	1.00	cu.m	Cost of Stone Dust / Sand / M Sand		cu.m		
	1.00	cu.m	Labour for Filling Charges / Spreading Charges		cu.m		
			Rate per cu.m				
11			Plain Cement concrete M10 Grade using 40mm ISS size hard broken granite metal including cost and conveyance of all materials to site and cost of cement at site, including soft water, labour charges for mixing transporting, laying, compacting, curing concrete, Hire charges for Tools and plants and all incidental charges such as bailing out water, maintaining protective bunds, cofferdams, shoring etc., complete for LEVELLING COURSE BELOW FOUNDATION				
	1.00	cu.m	Cost of CC M10		cu.m		
	1.00	cu.m	Soft water for curing concrete		cu.m		
	1.00	cu.m	Hire charges for Tools and plants		cu.m		
			Rate per cu.m				

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
12	Plain Cement concrete M15 Grade using 40mm ISS size hard broken granite metal including cost and conveyance of all materials to site and cost of cement at site, including soft water, labour charges for mixing transporting, laying, compacting, curing concrete, Hire charges for Tools and plants and all incidental charges such as bailing out water, maintaining protective bunds, cofferdams, shoring etc., complete for LEVELLING COURSE BELOW Foundation / Pile caps.					
	1.00	cu.m	Cost of CC M15		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
13	Vibrated Plain Cement concrete of grade M15 using 40mm ISS size hard broken granite metal including cost and conveyance of all materials to site and cost of cement at site, including soft water, labour charges for mixing transporting, laying, compacting, curing concrete, Hire charges for Tools and plants and all incidental charges such as bailing out water, maintaining protective bunds, cofferdams, shoring etc., complete for LEVELLING COURSE BELOW PILE CAPS / Foundation.					
	1.00	cu.m	Cost of CC M15		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
14	Vibrated Plain Cement concrete of grade M20/M25/M30 using 20mm ISS size hard broken granite metal including cost and conveyance of all materials to site and cost of cement at site, including soft water, labour charges for mixing transporting, laying, compacting, curing concrete, Hire charges for Tools and plants and all incidental charges such as bailing out water, maintaining protective bunds, cofferdams, shoring etc., complete for LEVELLING COURSE BELOW PILE CAPS / FOOTINGS.					
	1.00	cu.m	Cost of CC M20/M25/M30		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
15	Vibrated Cement concrete of grade M20 (Nominal mix) using 40mm ISS HBG granite metal including cost and conveyance of all materials to site including cement at site, including cost of form work, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths, Hire charges for Tools and plants and incidental charges such as maintaining of protective bunds, cofferdams, shoring, strutting etc, complete as per relevant standard specification for Footing of Abutments, Return Walls and Piers / Cutoff Wall / Raft (BELOW SILL).					
	1.00	cu.m	Cost of Vibrated CC M20		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Depths		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
16	Vibrated Reinforced Cement Concrete of grade M30/M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specification for Foundation of Abutments and Return Walls, Piers.					
	1.00	cu.m	Cost of Vibrated CC M30/M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Depths		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
17	Vibrated Cement Concrete of grade M15/M20 (Nominal mix) using 20mm ISS size HBG metal including cost and conveyance of all materials to site and cost cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges etc., complete as per relevant standard specification for Foundation / Side Walls & Bedding of Cradle Concrete of Collection Chamber / Pipe Culvert					
	1.00	cu.m	Cost of Vibrated CC M15/M20		cu.m	
	1.000	sqm	Formwork and centering		sqm	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
18	Cement concrete M15 (Nominal mix), using 40 mm ISS HBG graded metal, including cost and conveyance of all materials to site and cost of cement at site, including soft water, labour charges for mixing, transporting, laying and curing concrete, etc., complete, as per relevant standard specification, for FILLING THE TRENCHES AROUND FOOTINGS as per. 707.4.6 of IRC 78:2014.					
	1.00	cu.m	Cost of CC M15		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
19	FILLING THE TRENCHES AROUND FOOTINGS for a depth greater than 1.5m in soft rock or 0.6m in hard rock with boulders to be grouted with cement upto top of rock / top of foundation as per. 707.4.6 of IRC 78:2014 and for the remaining with Cement concrete M15 (Nominal mix), using 40 mm ISS HBG graded metal, including cost and conveyance of all materials to site and cost of cement at site, including soft water, labour charges for mixing, transporting, laying and curing concrete, etc., complete, as per relevant standard specification.					
	0.30	cu.m	Cost of CC M15		cu.m	
	0.08	cu.m	Cost of Cement mortar 1:2		cu.m	
	1.10	Nos.	Mason II Class		cu.m	
	2.20	cu.m	Mazdoor I class		cu.m	
	3.20	cu.m	Mazdoor II class		cu.m	
			Total for 10 cu.m =			
			A - Rate per cu.m			
			Filling Boulders with Cement Grouting 1:2:4			
	11.00	cu.m	cost of Rough stone		cu.m	
	3.50	Nos.	Widders		Each	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	10.60	Nos.	Mazdoor I Class		Each	
	7.10	Nos.	Mazdoor II Class		Each	
			Total for 10 cum =			
			B - Rate per cu.m			
			(A+B) Rate per cu.m			
20	Vibrated Reinforced Cement Concrete of grade M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevent standard specification for PILE CAPS Under Abutments & Piers					
	1.00	cu.m	Cost of Vibrated CC M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
21	Vibrated Cement concrete of grade M15/M20 (Nominal mix) using 40mm ISS HBG granite metal including cost and conveyance of all materials to site including cement at site, including cost of form work, soft water, labour charges for mixing, transporting, laying and curing concrete, workingat depths, Hire charges for Tools and plants and incidental charges such as maintaining of protective bunds, cofferdams, shoring, strutting etc, complete as per relevent standard specification for Substructure of Abutments & Return Walls / Wing Wall / BODY WALL (BELOW SILL / ABOVE SILL).					
	1.00	cu.m	Cost of Vibrated CC M20		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Depths / Heights		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
22	Vibrated Reinforced Cement Concrete of grade M25/M30 (Design mix) using 20mm ISShard broken granite metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc, complete for Box culvert / FOOTPATH / DRAINS / Rainwater Harvesting Cover Slab					
	1.00	cu.m	Cost of Vibrated CC M25/M30		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
23	Vibrated Reinforced Cement concrete of grade M30/M35 (Design mix) using 20mm and below ISS HBG graded metal including cost and conveyance of all materials to site including cement at site, including cost of soft water, labour charges for mixing, transporting, laying and curing concrete, Hire charges for Tools and plants and incidental charges such as maintaining of protective bunds, cofferdams, shoring, strutting etc, complete as per relevent standard specification for Substructure of Abutments & Return Walls / Retaining Wall (BELOW SILL / ABOVE SILL).					
	1.00	cu.m	Cost of Vibrated CC M30/M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Depths / Heights		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
24	Vibrated Reinforced Cement Concrete of grade M25/M30/M35 (Design mix) using 20mm and below ISS HBG metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc. complete for Bed block cum Dirtwall Over Abutments.					
	1.00	cu.m	Cost of Vibrated CC M25/M30/M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Heights		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
25	Vibrated Reinforced Cement Concrete of grade M30/M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevent standard specification for PIERS.					
	1.00	cu.m	Cost of Vibrated CC M30/M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Heights		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
26	Vibrated Reinforced cement concrete of grade M30/M35 (Design mix) using 20mm and below HBG metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for CAPPING BEAM OVER PIER.					
	1.00	cu.m	Cost of Vibrated CC M30/M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Heights		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
27	Vibrated Reinforced cement concrete of grade M30/M35 (Design mix) using 20mm and below HBG metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for Pedsetals.					
	1.00	cu.m	Cost of Vibrated CC M30/M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Heights		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
28	Supply and fixing of Elastomeric bearing of size shown in the drawing including cost and conveyance to worksite, labour for fixing the bearing in correct position and all other incidental charges etc., complete					
	1.00	cu.cm	Cost of bearing including labour charges for fixing		cu.cm	
			Rate per cu.cm			
29	Vibrated Reinforced cement concrete of grade M30/M35 (Design mix) using 20mm and below HBG metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for Solid Deck Slab / T Beam and Cross girders / Deck Slab, Kerb & Footpath.					
	1.00	cu.m	Cost of Vibrated CC M30/M35		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Working on Heights		cu.m	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
30	Vibrated Reinforced cement concrete of grade M30 (Design mix) using 20mm and below ISS hard broken granite metal including cost and conveyance of all materials to site cost of premoulded expansion joints and fixing the same in position including cost and labour charges for formwork, labour charges for laying, compacting, curing including all other incidental charges etc., complete for Hand Rails and Posts					
		cu.m	Cost of Vibrated CC M30		cu.m	
		sqm	Formwork and centering		sqm	
		cu.m	Soft water for curing concrete		cu.m	
		cu.m	Hire charges for T&P		cu.m	
			Rate per metre			
31	Vibrated Reinforced cement concrete of grade M40 (Design mix) using 20mm and below HBG metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for Crash Barriers(INNER/OUTER) .					
	1.00	cu.m	Cost of Vibrated CC M40		cu.m	
	1.000	sqm	Formwork and centering		sqm	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for T&P		cu.m	
			Rate per cu.m			
32	Providing and fixing G.I Drainage spouts of 100mm Dia as per GOI drawing No. SD/205 with grating arrangements at top as shown in the drawing and 100mm dia drainage spouts projecting atleast 300mm beyond bottom of deck slab including cost and conveyance of all materials to site and fixing them in position etc., complete.					
	1.00	No.	Cost of G.I pipe including labour charges for fixing	As per SOR	Each	
			Rate per No.			
33	Supplying and installation of Strip Seal Expansion Joint system conforming to specifications for Roads and Bridge works published by the MORT&H and Highways in the 40mm wide expansion gap provided in between decks over piers and in between decks and dirt wall over abutment with fatigue tested structural steel section at the nosing and anchorage seembly including cost and conveyance of all materials cost of testing as per the MOST specifications including labour equipment and incidental charges for fixing the joints complete in all respects as per section 2600 of MORT&H specification.					

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	Rm	Cost of Strip Seal Exp.Jt. including labour charges for fixing	As per SOR	Rm	
			Rate per metre			
34	Vibrated cement concrete M15 (Nominal mix) using 40mm ISS size hard broken granite metal including cost and conveyance of all materials to site including cost and labour charges for formwork, centering, labour charges for laying, compacting, curing all incidental charges etc., complete for BASE COURSE BELOW APPROACH SLAB / PARAPET / BROKEN PARAPET.					
	1.00	cu.m	Cost of Vibrated CC M15		cu.m	
	1.00	sqm	Formwork and centering		sqm	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
35	Vibrated reinforced cement concrete M30/M35 Grade (Design mix) using 20mm & below ISS HBG graded size including cost and conveyance of all materials to work site but excluding cost and conveyance and fabrication of steel but including cost and labour charges for form work and centering, labour charges for laying, compacting, curing including all other incidental charges etc.,complete for APPROACH SLABS / MEDIAN / SAFETY KERB.					
	1.00	cu.m	Cost of Vibrated CC M30/M35		cu.m	
	1.00	sqm	Formwork and centering		sqm	
	1.00	cu.m	Soft water for curing concrete		cu.m	
	1.00	cu.m	Hire charges for Tools and plants		cu.m	
			Rate per cu.m			
36	Vibrated cement concrete M30 Grade (Design mix) using 20mm, 12mm and 6mm ISS size hard broken granite metal including cost and conveyance of all materials to site cost of premoulded expansion joints and fixing the same in position including cost and labour charges for formwork, labour charges for laying, compacting, curing including all other incidental charges etc.,complete for WEARING COAT 75mm UNIFORM THICKNESS OVER DECK SLAB AND OVER APPROACH SLAB.					
	0.45	cu.m	Cost of 20mm ISS metal		cu.m	
	0.17	cu.m	Cost of 12mm ISS metal		cu.m	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	0.07	cu.m	Cost of 6mm ISS metal		cu.m	
	0.34	cu.m	Cost of M Sand		cu.m	
	0.408	MT	Cost of Cement		1 MT	
	1.88	Nos.	Mazdoor I Class		Each	
	1.16	Nos.	Mazdoor II Class		Each	
	0.43	Nos.	Carpenter I class		Each	
	0.36	Nos.	Mason I class		Each	
	0.75	cu.m	Vibration charges		cu.m	
	0.75	cu.m	Soft water for curing concrete		cu.m	
	0.75	cu.m	Hire charges for Tools and plants		cu.m	
			Total for 10 sqm			
			Rate per Sqm			
37	Providing and fixing Class I PVC seepage pipes of dia of required lengths for abutments and return walls / Side Walls including costs and conveyance of all materials to work site and labour charges for fixing etc., complete to drain from the backfill as per section 2706 of MORTH specification (Rev- V)					
	1.00	Rm	Cost of PVC seepage pipe including		Rm	
	1.00	Rm	Labour charges for fixing		Rm	
			Rate per metre			
38	Providing FILTER MEDIA behind abutments and return walls for 600mm thickness using filter material conforming to clause 309.3.2.B of MORT&H(Rev -V) well packed with smaller size towards the soil and bigger size towards the wall including cost and conveyance of all materials to worksite and including labour charges and all other incidental charges etc.,complete.					
	1.00	cu.m	Cost of IRC metal incl. conveyance (22.4mm, 11.2mm, 5.6mm & 2.75mm)		cu.m	
	1.00	cu.m	Labour for filling Charges		cu.m	
			Rate per cu.m			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
39	Filling behind Abutments and return walls with clean gritty free draining gravel including cost of gravel having pi value more than 35, conveyance of gravel to worksite. Laying, handling charges and filling in layers tamping under optimum moisture content to get the maximum density, including watering, with all leads and lifts for water and all other incidental charges etc., complete					
	1.16	cu.m	Cost of Gravel		cu.m	
	1.00	cu.m	Labour for filling Charges		cu.m	
			Rate per cu.m			
40	Supply and fabrication of STEEL grade Fe500 with suitable anticorrosive measure required for all the reinforced cement concrete items of work involved in the shedule including cost of steel, cost of fabrication, labour charges for cleaning the rods, straightening, cutting, bending, tying grills, hoisting and placing the reinforcement in position as specified in the drawing including cost of binding wire, provision of spacer bars, cover blocks and all other incidental charges etc., complete.					
	1.05	MT	Cost of steel		MT	
	0.01	MT	Cost of Binding wire		MT	
	1.00	MT	Anti corrosive Treatment for steel		MT	
	35.00	Nos.	Fitter I class for fabrication		Each	
			Rate for per MT			
41	Supply of Steel Grade Fe 240 including cost of steel at site including fabrication chrages for cleaning the rods, straightening, cutting, bending, tying grills and placing the reinforcement in position as specified in the drawings, including cost of binding wire, provision of spacer bars, cover blocks and all other incidental charges etc., complete for MILD STEEL.					
	1.05	MT	Cost of Fe 240 steel		MT	
	0.01	MT	Cost of Binding wire		MT	
	1.00	MT	Anti corrosive Treatment for steel		MT	
	35.00	Nos.	Fitter I class for fabrication		Each	
			Rate for per MT			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
MISCELLANEOUS						
1	Supply and fixing of KRAFT paper for full width of seating of Deckslab and including cost and conveyance to worksite, labour for fixing the same in correct position and all other incidental charges etc., complete					
	1.00	Sqm	Cost of Kraft paper including labour charges for fixing		Sqm	
			Rate per Sqm			
2	Supplying and fixing of PVC expansion joint in between Deck slabs over abutment and pier as shown in the drawing including cost and conveyance of expansion joints including shalimar pad and joint sealent etc., complete as per section 2600 of MORTH specifications (Rev-V)					
	1.00	Rm	PVC expansion joint including labour charges for fixing		Rm	
			Rate per metre			
3	Providing and Fixing of FRP GRATINGS of 600 X 300mm size with M.S. Flats of 25 X 10mm for outer frames, 25 X 6mm for Inner Braces and PVC pipe 150mm dia fixed with Mild Steel Grating, including cost & conveyance of Pipes and Gratings and fixing them in position (@ 5m Interval).					
	1.00	Each	As per SOR		Each	
			Rate per No.			
4	Supplying and Fixing of Reinforced Cement Concrete Man Hole cover of 750 X 750mm size with frames as per IRC 50 - 1979 as directed by the departmental officers including labour charges for fixing at every intervals of 5m along the drain including all other incidental charges etc., complete.					
	1.00	Each	As per SOR		Each	
			Rate per No.			
5	Providing & maintaining of the Cofferdam for protective foundation including cost and conveyance of quarry fine(Stone dust) and empty bag including filling charges for gunny bags, thread, needle, stitching charges & labour charges for positioning the site etc., to complete as directed by the departmental officers.					
	0.0283	cu.m	Providing the Earth item given in estimate		cu.m	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	bag	Empty cement bags @ 30% of L/C		bag	
	1.00	bag	L/C for filling the empty cement gunny bags		bag	
	1.00	bag	Thread & Needle @ 15% of L/C		bag	
			Total for 0.0283 cu.m =			
			Rate per cu.m			
6	Providing and Installing dewatering system for laying of foundation of Abutment and Piers including cost and conveyance all Hire charges for Tools and plants including dewatering pump and accessories including operating charges and maintainene charges etc., complete					
			Operation Hire Requirements for Abutment	OPEN		
	1	Days	Installing Well point connecting all to leader pipes & standing the pump	8.00	Hrs	8.00
	12	Days	Earthwork excavation for foundation including leader pipes & standing the pump and Concreting Works (12*6)	6.00	Hrs	72.00
	1	Days	Centering & formwork	8.00	Hrs	8.00
	2	Days	During Concreting	12.00	Hrs	24.00
	1	Days	Removal of centering & back filling excavated portion	8.00	Hrs	8.00
				Total(A)	Hrs	120.00
			Operation Hire Requirements for Pier			
	1	Days	Installing Well point connecting all to leader pipes & standing the pump	8.00	Hrs	8.00
	8	Days	Earthwork excavation for foundation including leader pipes & standing the pump and Concreting Works (8*6)	6.00	Hrs	48.00
	1	Days	Centering & formwork	8.00	Hrs	8.00
	1	Days	During Concreting	12.00	Hrs	12.00
	1	Days	Removal of centering & back filling excavated portion	8.00	Hrs	8.00
				Total(B)	Hrs	84.00

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
			Similar operation for Total Abutments & Piers			
	Nos* Total(A)	Hrs.	Abutments - Required Nos. of Diesel Pump set for specified HP		Hrs	
	Nos* Total(B)	Hrs.	Piers - Required Nos. of Diesel Pump set for specified HP		Hrs	
				Total	Hrs	
7	Providing and Installing dewatering system for laying of foundation of Abutment and Piers including cost and conveyance all Hire charges for Tools and plants including dewatering pump and accessories including operating charges and maintainene charges etc., complete					
			Operation Hire Requirements for Abutment	PILE		
	10	Days	Earthwork excavation for foundation including leader pipes & standing the pump	8.00	Hrs	80.00
	1	Days	Lowering the water table below foundation before LC work	1.00	Hrs	1.00
	1	Days	Laying LC	5.00	Hrs	5.00
	2	Days	Lowering the water table below foundation before Pile concrete upto cutoff level	1.00	Hrs	2.00
	2	Days	During Breaking Concrete	8.00	Hrs	16.00
	1	Days	Lowering the water table below foundation before fabrication of steel	1.00	Hrs	1.00
	2	Days	During Fabrication of concrete	8.00	Hrs	16.00
	1	Days	Lowering the water table below foundation before shuttering	1.00	Hrs	1.00
	3	Days	During shuttering	8.00	Hrs	24.00
	2	Days	Lowering the water table below foundation before concreting	1.00	Hrs	2.00
	2	Days	During concreting	10.00	Hrs	20.00
	2	Days	During deshuttering & refilling	10.00	Hrs	20.00
				Total(A)	Hrs	188.00
			Operation Hire Requirements for Pier			
	5	Days	Earthwork excavation for foundation including leader pipes & standing the pump	8.00	Hrs	40.00

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1	Days	Lowering the water table below foundation before LC work	1.00	Hrs	1.00
	1	Days	Laying LC	5.00	Hrs	5.00
	2	Days	Lowering the water table below foundation before Pile concrete upto cutoff level	1.00	Hrs	2.00
	2	Days	During Breaking Concrete	8.00	Hrs	16.00
	1	Days	Lowering the water table below foundation before fabrication of steel	1.00	Hrs	1.00
	2	Days	During Fabrication of concrete	8.00	Hrs	16.00
	1	Days	Lowering the water table below foundation before shuttering	1.00	Hrs	1.00
	2	Days	During shuttering	8.00	Hrs	16.00
	1	Days	Lowering the water table below foundation before concreting	1.00	Hrs	1.00
	1	Days	During concreting	10.00	Hrs	10.00
	1	Days	During deshuttering & refilling	10.00	Hrs	10.00
				Total(B)	Hrs	119.00
			Similar operation for Total Abutments & Piers			
	Nos* Total(A)	Hrs.	Abutments - Required Nos. of Diesel Pump set for specified HP		Hr	
	Nos* Total(B)	Hrs.	Piers - Required Nos. of Diesel Pump set for specified HP		Hr	
				Total	Hrs	
8	Supply of 900mm /1000mm /1200mm dia RCC NP3 class pipes confirming to IS 458 specification as directed by the departmental officers including cost and conveyance of pipes to the worksite and all other incidental charges etc., complete as per standard specification.					
	1.00	Rm	As per SOR		Rm	
			Rate per metre			

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
9	Laying and fixing of 900mm /1000mm /1200mm dia RCC NP3 pipe in position excluding cost of pipes but including conveyance to work spot and handling charges on both sides including labour charges for hoisting and placing the pipes					
	1.00	Rm	As per SOR		Rm	
			Rate per metre			
10	Supplying and fixing rough stone of 30cm thickness dry packing including cost and conveyance of all materials to worksite including all other incidental charges etc., complete for Revetments & Aprons .					
	11.00	cu.m	cost of Rough stone		cu.m	
	3.50	Nos.	Wodder		Each	
	10.60	Nos.	Mazdoor I Class		Each	
	7.10	Nos.	Mazdoor II Class		Each	
			Total for 10 cu.m			
			Rate per cu.m			
11	Providing Sand bags as support to the diversion road including cost and conveyance of quarry fine(Stone dust) and empty bag including filling charges for gunny bags,charges & labour charges for positioning the site etc., to complete as directed by the departmental officers.					
	0.0283	cu.m	Providing the Earth item given in estimate		cu.m	
	1.00	bag	Empty cement bags @ 30% of L/C		bag	
	1.00	bag	L/c for filling the empty cement gunny bags		bag	
			Total for 0.0283 cu.m			
			Rate per cu.m			
12	Supplying and fixing of 83mm thick M35 grade Rubber moulded hydraulic pressed type paver block with super embedded unskids texture design making the international standard size with zig zag design for hipper interlock capacity rate inclusive of materials, transporting to the work site from the factor and labour charges for laying, compacting with paver vibrator and inclusive of taxes as per clause 410 of MORTH Vth Revision and as directed by the departmental officers etc. complete.					
	10.00	sqm	Interlocking Paver block stone 83mm thk.		Nos.	
	1.80	Nos.	Mason I Class		Each	
	3.60	Nos.	Mason II Class		Each	
	2.20	Nos.	Mazdoor I Class		Each	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	2.20	Nos.	Mazdoor II Class		Each	
	0.08	cu.m	Crushed stone filling		cu.m	
	0.50	Nos.	Stone Cutter I Class		Each	
	0.029	Hrs	Plate compactor - Compaction & Rolling		/Hr	
			Rate per 10 sqm			
			Rate per Sqm			
OBSERVED						
1	Providing and fixing Class I Cast Iron Pipe of 250mm dia of required lengths including costs and conveyance of all materials to work site and labour charges for fixing etc., complete to the Rainwater Harvesting as per section 2706 of MORTH specification (Rev- V)					
	1.00	Rm	As per Local Rate		Rm	
			Rate per metre			
2	Filling with Pebbles of 4mm to 6mm size including cost and conveyance of material to work site including labour charges for filling, laying, compacting by manual labour under optimum moisture content to get the maximum density flooding with water as layers or built-up to the bottom level inclusive all other incidental charges etc., complete for RHT WELL .					
	1.00	cu.m	Pebbles - Local Rate		cu.m	
	1.00	cu.m	Labour for Filling charges		cu.m	
			Rate per cu.m			
3	Providing & fixing handrails and posts with 65 x 65 x 6mm angle as vertical post and 32mm dia GI pipe for horizontal handrails over crash barrier including cost and supply of pipe and fixing charges etc complete as per MORT & H. No. 2700.					
	1.00	LS	Cost of bolts		LS	
	1.00	LS	Welding Charges		LS	
	1.00	LS	Post drilling & fixing charges		LS	
	1.00	LS	Concrete drilling		LS	
	1.00	LS	Fixing of pipes		LS	

Sl. No	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	LS	Conveyance charges		LS	
			Total for cost of fabrication 'A'			
	15.30	RM	Cost of 65 x 65 x 6mm angle		RM	
	48.00	RM	Cost of 32mm dia. GI Pipes		RM	
	17.00	Nos.	Cost of 6mm plate		Nos.	
			Total for cost of material 'B'			
			Total for 16 RM			
			Rate per metre			
4	Providing & fixing handrails and posts with 75mm angle as vertical post and 32mm dia GI pipe (16m length)for horizontal handrails over crash barrier including cost and supply of pipe and fixing charges etc complete as per MORT & H. No. 2700.					
	15.30	RM	Cost of 75mm dia. GI Pipes. (angle)		RM	
	48.00	RM	Cost of 32mm dia. GI Pipes		RM	
	17.00	Nos.	Cost of 6mm plate		Nos.	
	1.00	LS	Cost of bolts, screws, drilling holes		LS	
	1.00	LS	Welding Charges		LS	
	1.00	LS	Post drilling & fixing charges		LS	
	1.00	LS	Concrete drilling		LS	
	1.00	LS	Fixing of pipes		LS	
	1.00	LS	Conveyance charges		LS	
			Total for 16 RM			
			Rate per metre			

PROJECTS

RMR FOR SOR 2024 - 25

**ANNEXURE - II
RATES OF MATERIALS**

Sl. No.	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Lead in Km	Conveyance charge	Stacking/ Storage charges	Total
1	M-0002	Steel (HYSD)	MT					
2	M-0001	Cement (OPC)	MT					
3	M-0086	HBGS Jelly 40mm size (ISS)	Cu.m					
4	M-0087	HBGS Jelly 25mm size (ISS)	Cu.m					
5	M-0088	HBGS Jelly 20mm size (ISS)	Cu.m					
6	M-0089	HBGS Jelly 12mm size (ISS)	Cu.m					
7	M-0090	HBGS Jelly 10mm size (ISS)	Cu.m					
8	M-0091	HBGS Jelly 6mm size (ISS)	Cu.m					
9	M-0064	Bond Stones	Cu.m					
10	M-0093	90 mm Size (IRC)	Cu.m					
11	M-0094	75 mm Size (IRC)	Cu.m					
12	M-0095	63 mm Size (IRC)	Cu.m					
13	M-0096	53 mm Size (IRC)	Cu.m					
14	M-0097	46.5 mm Size (IRC)	Cu.m					
15	M-0098	45 mm Size (IRC)	Cu.m					
16	M-0099	37.50 mm Size (IRC)	Cu.m					
17	M-0100	26.50 mm Size (IRC)	Cu.m					

18	M-0101	25 mm Size (IRC)	Cu.m						
19	M-0102	22.40 mm Size (IRC)	Cu.m						
20	M-0103	13.20 mm Size (IRC)	Cu.m						
21	M-0104	11.20 mm Size (IRC)	Cu.m						
22	M-0105	6.7/6/5.6 mm Size (IRC)	Cu.m						
23	M-0106	4.75 mm Size & Below (IRC)	Cu.m						
24	M-0119	Gravel	Cu.m						
25	M-0123	Stone Dust	Cu.m						
26	M-0125	Crushed Stone Sand (Commercially called M-Sand)	Cu.m						
27	M-0127	Sand for Mortar *	Cu.m						
28	M-0128	Sand for Filling *	Cu.m						
29		Earth (Conveyance cost only)	Cu.m						

**ANNEXURE - I
RATES OF LABOUR**

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
30	L-0014	Blacksmith - I Class	Day			
31	L-0016	Carpenter-I Class	Day			
32	L-0018	Fitter-I Class	Day			
33	L-0019	Fitter-I Class (Pipe Laying / Bar Bending)	Day			
34	L-0029	Mason for Brick Work-I Class	Day			
35	L-0031	Mason for Stone Work-I Class	Day			
36	L-0037	Pile Driver	Day			
37	L-0036	Painter / Varnisher-I Class	Day			
38	L-0046	Welder / Bracer - I	Day			
39	L-0050	Wodder (Stone Packer)	Day			
40	L-0063	Carpenter-II Class	Day			
41	L-0068	Fitter-II Class (Pipe Laying / Bar Bending)	Day			
42	L-0071	Mason for Brick Work-II Class	Day			

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
43	L-0072	Mason for Stone Work-II Class	Day			
44	L-0073	Mazdoor Category-I	Day			
45	L-0074	Mate (Head Mazdoor - as per SOR)	Day			
46	L-0077	Painter / Varnisher-II Class	Day			
47	L-0098	Mazdoor Category-II	Day			
48	L-0087	Welder / Bracer - II	Day			
ANNEXURE - III RATES OF WORKS						
49	W-0055	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m			
50	W-0056	Sand and Silt Under Water (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Slush and silt under water upto 0.75m depth requiring the aid of basket and vessels (SS20B)	Cu.m			
51	W-0061	HGS SS.20.B. Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in Hard stiff clay, stiff black cotton, hard red earth, shales, murrum, gravel, stoney earth and earth mixed with small size boulders SS.20.B.	Cu.m			
52	W-0062	SDR - (Not Requiring Blasting) Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in Soft disintegrated rock, laterite, soft rock or kankar, not requiring blasting.	Cu.m			

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
53	W-0063	LOOSE BOULDERS Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in loose boulders in excavation of various size 150mm to 625 mm	Cu.m			
54	W-0064	MR-&-DMR (Not Requiring Blasting) Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in medium rock and dense medium rock not requiring blasting	Cu.m			
55	W-0074	Refilling with excavated sand complying with standard specification for filling in foundation and basement.	Cu.m			
56	W-0075	Refilling with excavated soil (other than sand) complying with standard specification for filling in foundation and basement.	Cu.m			
57	W-0065	Extra for every additional 10 metre lead or part thereof over the initial lead	Cu.m			
58	W-0066	Extra for every additional 1 metre lift or part thereof over the initial lift	Cu.m			
59	W-0021	Removal of Cut Stone slabs / RCC Cover Slabs	Cu.m			
60	W-0034	Dismantling Plain Cement Concrete	Cu.m			
61	W-0035	Dismantling RCC	Cu.m			
62	W-0015	Dismantling Brick / Stone Masonry in cement mortar walls under 3m high	Cu.m			
63	W-0016	Dismantling Brick / Stone Masonry in lime mortar walls, add for every additional 3m or part thereof over the initial height of 3m	Cu.m			
64	W-0100	Vibration Charges for PCC	Cu.m			
65	W-0101	Vibration Charges for RCC	Cu.m			

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
66	W-0090	Concreting at Height upto 4.5 m (Above GL)	Cu.m			
67	W-0091	Futher Addition for Concreting at Height above 4.5m (Above GL)	Cu.m			
68	W-0094	Concreting at Depth from 1.5 m to 4.5 m (Below GL)	Cu.m			
69	W-0095	Futher Addition for Concreting at Depth above 4.5 m to 9 m (Below GL)	Cu.m			
70	W-0096	Futher Addition for Concreting at Depth above every additional 2 m (Below GL)	Cu.m			
71	W-0001	Clearing Heavy Jungle	Sq.m			
72	W-0002	Clearing light Jungle	Sq.m			
73	W-0003	Clearing Scrup Jungle	Sq.m			
74	W-0104	Cleaning of Cement plastered surface	Sq.m			
75	HW-W-0068	Initial pile Load test (excluding pile cost) (Design load)	Tonne			
76	HW-W-0069	Routine Pile load Test (Design Load)	Tonne			
77	W-0167	Iron works for trussess and record racks (labour only)	Kg			
ANNEXURE - II						
RATES OF MATERIALS						
75	M-0159	Silver Oak Scantlings	Cu.m			
76	M-0173	Casurina Poles 13cm-15cm dia	Rm			
77	M-0174	Casurina Poles 10cm-13cm dia	Rm			

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
78	M-0175	Casurina Poles 8cm-10cm dia	Rm			
79	M-0176	Casurina Poles 5cm-8cm dia	Rm			
80	M-0186	Mild steel Plates or Sheets BG 10	Kg			
81	M-0187	Mild steel Angles 25 x 25 x 3 mm	Kg			
82	M-0188	Binding Wire (Black 18 G)	Kg			
83	M-0189	Binding Wire (Galvanised -18 G)	Kg			
ANNEXURE - VI						
RATES OF OTHER CONSTRUCTION MATERIALS						
84	M-0197	Water Proofing Compound	Kg			
85	M-0198	Mild steel flats of all Sizes	Kg			
86	M-0199	Mild steel Square rods of all Sizes	Kg			
87	M-0281	Bentonite Powder for construction quality	Kg			
87	M-0416	Cement Paint (First quality)	Lit			
88	M-0419	Primer for Plastic Emulsion Paint	Lit			
89	M-0420	Plastic Emulsion Paint (First quality)	Lit			
90	M-0424	Synthetic Enamel Paint for Iron Work	Lit			
91	M-0636	Special Clamp, Teakwood Plugs and Screws	Set			
92	M-0640	Manhole Cover 60x60 cm (Heavy Duty) with frame	Each			
93	M-0685	Plasticizer / Super Plasticizer	Kg			

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
94	M-0865	PVC Pipes 110mm dia (4 Kg/Sq.cm)	Rm			
95	M-0864	PVC Pipes 100mm dia (4 Kg/Sq.cm)	Rm			
96	M-0866	PVC Pipes 160mm dia (4 Kg/Sq.cm)	Rm			
97	M-0962	Bend 160mm dia	No.			
98	M-0958	Tee with Door (Double) 160mm dia	No.			
ANNEXURE - IX						
RATES OF ITEMS IN RESPECT OF HIGHWAYS DEPARTMENT						
99	W-0220	Strip seal expansion joint	RM			
100	W-0221	PVC Expansion joint	RM			
101	W-0222	GI Drainage Spouts	Each			
102	W-0223	Kraft Paper	Sq.m			
103	W-0224	Elastomeric Bearing	Cu.cm			
104	W-0225	NP 3 pipe of best quality of 1200mm dia	No.			
ANNEXURE - X						
RATES OF HIRE CHARGES FOR Hire charges for Tools and plants						
105	HW - H0003	Tipper Trucks	Per tonne/KM			
106	HW - H0023	Hydraulic piling Rig with bentonite pump	Hr			
107	HW - H0024	Hydraulic piling Rig with power unit and double acting pile driving hammer complete	Hr			

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
108	HW - H0041	Front end loader - 1 Cu.m bucket capacity	Hr			
109	H-0006	Vibratory Soil Compactor (Earth/Soil, GSB, WMM)	Hr			
110	H-0078	Tipper 10 Tonnes	Day			
111	H-0083	Hire Charges for Water Sprinkler per Day	Hr			
112	H-0101	Air Compressor 250 cfm, with two leads for Pneumatic Cutters / Hammers	Day			
113	H-0104	Hire and running charges of Crane 20 Tonne capacity	Day			
114	WR- H0001	III phase welding machine	Hr			
ANNEXURE VIII						
SUB DATA						
FOR EARTH WORK						
115	HW- W0126	Bailing out of water	Cu.m			
116	HW- W0127	Shoring and shuttering	Cu.m			
117	HW- W0128	Tools & Plants	Cu.m			
118	HW- W0129	Removal of Protective bunds and cleaning the sites.	Cu.m			
120	HW- W0130	Formation and maintaining of protective bunds and coofer dams.	Cu.m			

Pg. No. in SOR	Unique code	Description of Material	Unit	Basic rates Approved for the year 2024 - 2025	Extra % for Rates of Labour, Rates of Works and for Head Load	TOTAL RATE
FOR CONCRETE WORK						
121	HW-W0131	Curing of concrete	Cu.m			
122	HW-W0132	Hire charges for Hire charges for Tools and plants.	Cu.m			
123	HW-W0133	Drilling 40mm holes	MT			
124	HW-W0134	Grouting Charge	MT			
125	HW-W0135	Seepage pipe fixing charges	RM			
126	HW-W0136	Revertment fixing charges	10Cu.m			
127	HW-W0137	conducting SPT test at every pile location	RM			
128	HW-W0138	Anti corrosive treatment for steel	MT			
129	HW-W0139	Wearing coat over Deck slab floating charges	10Sqm			
OTHER ITEMS						
130	-	Fule Price (diesel)	Lit			
131	-	Cost of Earth (as per GO D No. 214, Industries (MMC.2 Department dated (3.11.15)	Cu.m			

CEMENT AND STEEL CALCULATION						
CEMENT						
SI No	Description					Amount
1	Cost of Cement as per PWD Schedule of rate excluding GST and all taxes.					
2	Loading and unloading charges (As per SOR)					
3	Basic Price after detection of loading and unloading.					
4	Storage Charges at 5%					
					Total / MT	
STEEL						
SI No	Description					Amount
1	Cost of Steel as per PWD Schedule of rate excluding GST and all taxes.					
2	Loading and unloading charges (As per SOR)					
3	Basic Price after detection of loading and unloading.					
4	Storage Charges at 5%					
					Total / MT	
VIBRATED CEMENT CONCRETE (M 15) Nominal Mix using 40 mm Metal with vibration						
Sl. No	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	5.40	Cu.m	HBGS Jelly 40mm size	Cu.m		
	2.700	Cu.m	HBGS Jelly 20mm size	Cu.m		
	0.90	Cu.m	HBGS Jelly 10mm size	Cu.m		
	4.50	Cu.m	Sand	Cu.m		
	2.75	M.T	Cement	M.T		
	1.80	Nos	Mason for Class-II	Day		
	17.70	Nos	Mazdoor Category-I	Day		
	14.10	Nos	Mazdoor Category-II	Day		
	10.00	Cu.m	Vibration Charges for PCC	Cu.m		

Sl. No	Quantity	Unit	Item	Unit	Rate/ Unit	Amount
					Rate / 10 Cu.m	
					Rate / Cu.m	
VIBRATED CEMENT CONCRETE (M 20) Nominal Mix using 20 mm Metal with vibration						
	5.40	Cu.m	HBGS Jelly 20mm size	Cu.m		
	3.60	Cu.m	HBGS Jelly 10mm size	Cu.m		
	4.50	Cu.m	Sand	Cu.m		
	3.47	M.T	Cement	M.T		
	1.80	Nos	Mason for Class-II	Day		
	17.70	Nos	Mazdoor Category-I	Day		
	14.10	Nos	Mazdoor Category-II	Day		
	10.00	Cu.m	Vibration Charges for PCC	Cu.m		
					Rate / 10 Cu.m	
					Rate / Cu.m	
VIBRATED REINFORCED CEMENT CONCRETE (M 25) Design Mix using 20 mm Metal						
	5.40	Cu.m	HBGS Jelly 20mm size	Cu.m		
	3.60	Cu.m	HBGS Jelly 10mm size	Cu.m		
	4.50	Cu.m	Sand	Cu.m		
	4.03	M.T	Cement	M.T		
	8.06	Kg	Admixtures 0.20% Cement Content	Kg		
	3.50	Nos	Mason for Class-II	Day		
	21.20	Nos	Mazdoor Category-I	Day		
	35.30	Nos	Mazdoor Category-II	Day		
	10.00	Cu.m	Vibration Charges for RCC	Cu.m		
					Rate / 10 Cu.m	

Sl. No	Quantity	Unit	Item	Unit	Rate/ Unit	Amount
				Rate / Cu.m		
VIBRATED REINFORCED CEMENT CONCRETE (M 30) Design Mix using 20 mm Metal						
	5.40	Cu.m	HBGS Jelly 20mm size	Cu.m		
	3.60	Cu.m	HBGS Jelly 10mm size	Cu.m		
	4.50	Cu.m	Sand	Cu.m		
	4.067	M.T	Cement	M.T		
	12.21	Kg	Admixtures 0.30% Cement Content	Kg		
	3.50	Nos	Mason for Class-II	Day		
	21.20	Nos	Mazdoor Category-I	Day		
	35.30	Nos	Mazdoor Category-II	Day		
	10.00	Cu.m	Vibration Charges for RCC	Cu.m		
				Rate / 10 Cu.m		
				Rate / Cu.m		
VIBRATED REINFORCED CEMENT CONCRETE (M 35) Design Mix using 20 mm Metal						
	5.40	Cu.m	HBGS Jelly 20mm size	Cu.m		
	3.60	Cu.m	HBGS Jelly 10mm size	Cu.m		
	4.50	Cu.m	Sand	Cu.m		
	4.22	M.T	Cement	M.T		
	16.88	Kg	Admixtures 0.40% Cement Content	Kg		
	3.50	Nos	Mason for Class-II	Day		
	21.20	Nos	Mazdoor Category-I	Day		
	35.30	Nos	Mazdoor Category-II	Day		
	10.00	Cu.m	Vibration Charges for RCC	Cu.m		
				Rate / 10 Cu.m		

Sl. No	Quantity	Unit	Item	Unit	Rate/ Unit	Amount
					Rate / Cu.m	
	VIBRATED REINFORCED CEMENT CONCRETE (M 40) Design Mix using 20 mm Metal					
	5.40	Cu.m	HBGS Jelly 20mm size	Cu.m		
	3.60	Cu.m	HBGS Jelly 10mm size	Cu.m		
	4.50	Cu.m	Sand	Cu.m		
	4.30	M.T	Cement	M.T		
	34.40	Kg	Admixtures 0.80% Cement Content	Kg		
	3.50	Nos	Mason for Class-II	Day		
	21.20	Nos	Mazdoor Category-I	Day		
	35.30	Nos	Mazdoor Category-II	Day		
	10.00	Cu.m	Vibration Charges for RCC	Cu.m		
					Rate / 10 Cu.m	
					Rate / Cu.m	

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
1	Earth work excavation in all classes of soil except kankar requiring blasting and depositing on bank as per SS20B with all leads and lifts and all other incidental charges such as bailing out water shoring strutting, walling and forming protective bunds wherever necessary etc., complete as per relevant standard specification for DRESSING THE BED UPTO SILL LEVEL. UNDER ABUTMENTS AND PIERS LOCATION.					
	1	Cu.m	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m		
					Rate / Cu.m	
2a.	Earthwork excavation in all classes of ORDINARY SOIL except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF UNDER ABUTMENTS AND PIERS FOR OPEN & PILE CAP as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m		
	1	Cu.m	Add 100% extra (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
			Sundries			
					Rate / Cu.m	

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
			Rate per 1 Cu.m upto 2m height			
			Rate per 1 Cu.m for 2m to 3m height			
			Rate per 1 Cu.m for 3m to 4m height			
			Rate per 1 Cu.m for 4m to 5m height			
			Rate per 1 Cu.m for 5m to 6m height			
			Rate per 1 Cu.m for 6m to 7m height			
2b.	Earthwork excavation in all classes of Sand and Silt Under Water except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION UNDER ABUTMENTS AND PIERS FOR OPEN & PILE CAP as per section 300 of MORTH specification (V Revision) and IS 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	Sand and Silt Under Water (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Slush and silt under water upto 0.75m depth requiring the aid of basket and vessels (SS20B)	Cu.m		
	1	Cu.m	Add 100% extra (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
			Rate per 1 Cu.m upto 2m height			
			Rate per 1 Cu.m for 2m to 3m height			
			Rate per 1 Cu.m for 3m to 4m height			

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
			Rate per 1 Cu.m for 4m to 5m height			
			Rate per 1 Cu.m for 5m to 6m height			
			Rate per 1 Cu.m for 6m to 7m height			
2c.	Earthwork excavation in all classes of HGS except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF UNDER ABUTMENTS AND PIERS FOR OPEN & PILE CAP as per section 300 of MORTH specification (V Revision) and IS 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	HGS SS.20.B. Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in Hard stiff clay, stiff black cotton, hard red earth, shales, murrum, gravel, stoney earth and earth mixed with small size boulders SS.20.B.	Cu.m		
	1	Cu.m	Add 100% extra (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
			Sundries			
				Rate / Cu.m		
			Rate per 1 Cu.m upto 2m height			
			Rate per 1 Cu.m for 2m to 3m height			
			Rate per 1 Cu.m for 3m to 4m height			
			Rate per 1 Cu.m for 4m to 5m height			
			Rate per 1 Cu.m for 5m to 6m height			

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
			Rate per 1 Cu.m for 6m to 7m height			
2d.	Earthwork excavation in Kankar / Soft disintegrated rock not requiring blasting except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF UNDER ABUTMENTS AND PIERS FOR OPEN & PILE CAP as per section 300 of MORTH specification (V Revision) and IS 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	SDR - (Not Requiring Blasting) Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in Soft disintegrated rock, laterite, soft rock or kankar, not requiring blasting.	Cu.m		
	1	Cu.m	Add 100% extra (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
			Rate per 1 Cu.m upto 2m height			
			Rate per 1 Cu.m for 2m to 3m height			
			Rate per 1 Cu.m for 3m to 4m height			
			Rate per 1 Cu.m for 4m to 5m height			
			Rate per 1 Cu.m for 5m to 6m height			
			Rate per 1 Cu.m for 6m to 7m height			

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
2e.	Earthwork excavation in LOOSE BOULDERS not requiring blasting except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF UNDER ABUTMENTS AND PIERS FOR OPEN & PILE CAP as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	LOOSE BOULDERS Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in loose boulders in excavation of various size 150mm to 625 mm	Cu.m		
	1	Cu.m	Add 100% extra (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
			Rate per 1 Cu.m upto 2m height			
			Rate per 1 Cu.m for 2m to 3m height			
			Rate per 1 Cu.m for 3m to 4m height			
			Rate per 1 Cu.m for 4m to 5m height			
			Rate per 1 Cu.m for 5m to 6m height			
			Rate per 1 Cu.m for 6m to 7m height			

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
2 f.	Earthwork excavation in MR-&-DMR (Not Requiring Blasting) except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF UNDER ABUTMENTS AND PIERS FOR OPEN & PILE CAP as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	MR-&-DMR (Not Requiring Blasting) Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in medium rock and dense medium rock not requiring blasting	Cu.m		
	1	Cu.m	Add 100% extra (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
			Rate per 1 Cu.m upto 2m height			
			Rate per 1 Cu.m for 2m to 3m height			
			Rate per 1 Cu.m for 3m to 4m height			
			Rate per 1 Cu.m for 4m to 5m height			
			Rate per 1 Cu.m for 5m to 6m height			
			Rate per 1 Cu.m for 6m to 7m height			
PILE FOUNDATION						
3	Providing and driving in position permanet M.S liner including cost and conveyance to the site and fabrication charges and Hire charges for Tools and plants and driving M.S 6mm thick liner to be left peramnently with the pile shaft as per the requirement and as per the specifications and placing from the bottom with all leads and lifts using 6mm M.S sheet etc., complete as per section 1100 and 1600 of MORT@H specifications (V Revisions)					

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
Providing and driving in position permanent M.S liner						
	1.05	MT	Cost of Steel (6mm Plates)	MT		
	1.24	Nos	Mate	Day		
	6.00	Nos	Fitter	Day		
	5.00	Nos	Blacksmith	Day		
	5.00	Nos	Welder	Day		
	10.00	Nos	Mazdoor	Day		
			Electrodes, cutting gas and other consumables @ 5 per cent on cost of Material			
	0.320	MT	Add for liner in Pile cap portion	MT		
	0.320	MT	Deduct for the scrap value to the above cutoff level liners	MT		
	-	-	Sundries	-		
				Rate / MT		
4	<p>Providing --- mm Diameter Reinforced cement concrete cast-in-situ bored piles of M40 grade Design Mix using 20mm ISS size graded HBG metal with minimum cement content of 400kg per cu.m maximum water cement ratio of 0.4 and slump of 150 - 200mm by tremie concreting including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel including placing of reinforcement in position, concreting, including all labour charges for driving or boring, mobilisation of piling equipment and other accessories required for driving the pile, cost of Bentonite solution and the temporary liners, chiselling and including forming of working platform over the river bed for accommodating piling equipments including working platform, cost of test piles both initial and routine test for vertical loads and horizontal loads, forming approaches to the working platform, mixing concrete, filling it in position, compacting, cutting of pile head to cut off level for the casting the pile caps, including diversion of water course if necessary and all other incidental charges etc., complete as per standard specifications etc., complete for PILES BELOW ABUTMENTS & PIERS as per section 1100 and 1700 of of MORT@H specifications (V Revision)</p>					
Sub Data for Pile load test						
	Description				Initial Test	Routine Test
	Diameter of pile			=		
	Pile Cap Depth			=		
	Area of Pile Cross section			=		
	Total No. of pile			=		
	Total length of pile			=		
	Average length of pile			=		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	Total Reinforcement Quantity for Piles			=		
	Total MS linear quantity (excluding pile Chiselling height)			=		
	Average Depth of Liner			=		
	Reinforcement Quantity / Pile			=		
	Reinforcement Quantity / RM of Pile			=		
	Maximum load on pile is under pier point			=		
	Initial load test as per clause 709 of IRC:78 2014			=		
	Routine load test as per clause 709 of IRC:78 2014			=		
	Total Number of test piles			=		
Sub Data - (A) COST OF INITIAL PILE LOAD TEST						
Initial Pile Cost						
	Average length of pile			=		
	Average length of pile + Pile Head			=		
	Concrete Quantity per Pile (Sq.m x _ m)			=		
	Cost of Concrete			=		
	Concrete Cost / Pile			=		
	Reinforcement Cost / Pile (_ MT x Rs.)			=		
	Weight of Liner ($\pi \times 0.006$ (Dia) x $x \times 0.006$ (Thick) x 7.85)			=		
	Liner Cost / Pile (_ MT x Rs.)			=		
	Rate of Liner to be Cut off + Total Cutting Charges Rate			=		
	Cost of a Single Initial Pile			=		
Testing Charges						
	Total Testing Charges = / 9.81 x					
	No of Initial Load tests (Required as per clause 1113.1)					
Cost of Initial pile load test per RM						
	Cost of PILE = x				=	
	Cost of Initial Pile Testing = x				=	
	Total Cost of Initial Load test				=	

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	Total length of Pile				=	
	Cost of Initial Load test per RM				=	
Sub Data - (B) COST OF ROUTINE LOAD TEST						
Routine Pile Cost						
Testing Charges						
	Total Testing Charges					
	No of Initial Load tests (Required as per clause 1113.1)					
Cost of Routine Load test per RM						
	Cost of Routine Pile Testing = x				=	
	Total Cost of Routine Load test				=	
	Total length of Pile				=	
	Cost of Routine Load test per RM				=	
Sub Data - Weight of Cut off liners						
	Weight of Liner ($\pi \times (\text{Dia}) \times \text{Thick} \times 7.85$)				=	
	Extra Liner Quantity (Sq.m x Nos)				=	
	Cost of Liner				=	
	Total Cost of Liner				=	
	Deduct Scrab value of 50%				=	
	Total Cost of Liner after scrab value					
	Total Length				=	
	Cost of Liner to be Cut off / RM of Pile				=	
Dismantling of Reinforced Concrete Pile head complete as per Drawing and Technical Specification (Rate per Out put 1.25 Cu.m)						
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	0.04	Nos	Mate	Day		
	0.50	Nos	Mazdoor with Pneumatic breaker	Day		
	0.25	Nos	Blacksmith	Day		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	0.25	Nos	Mazdoor for loading and unloading	Day		
	1.875	Hrs	Air Compressor 250 cfm, with two leads for Pneumatic Cutters / Hammers	Day		
	1.875	Cu.m	Tipper for transportation to dumping yard considering lead @ 1 km = x 2.50 =	Cu.m		
	0.292	Hrs.	Tipper for Loading & unloading time	Day		
Cutting the liner and Chiselling out Concrete (Rate per Out put for 1.25 Cu.m)						
Average Length of Pile						
Out put considered per pile				/ 1.25 Cu.m x 1.80m x		
Cost of Chiselling / m length of pile				/		
Dismantling of Reinforced Concrete Pile head Charges Rate/RM)						
Cutting the liner and Chiselling out Concrete (Rate per Out put, i.e.,10 m)						
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	0.25	Nos	Welder Class - I	Day		
	0.25	Hr	Hire Charges = /hr. x 8 hr =	Day		
		Cu.m	Labour Charges for Cutting Concrete	Cu.m		
Cutting the liner and Chiselling out Concrete (Rate per Out put, i.e.,10 m)						
Average Length of Pile						
Out put considered per pile head				/ 10 x 1.80m		
Cost of Chiselling / m length of pile				/		
Rate / Rm (Rate of Liner to be Cut off + Total Cutting Charges Rate/RM)						
Main Data - PILE						
Taking the output for 25m						
		Cu.m	Vibrated Reinforced Cement Concrete M40 (Design mix) using 20 mm ISS HBG graded metal(including additional concreting for Pile Head)	Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
		Kg	Bentonite	Kg		
	7	Hrs.	Hire and running charges of Bentonite pump	Hrs.		
			Shifting charges for above mechineries to the every pile location - Mazdoor (contingencies 10% extra)			
	2.5	Hrs.	Hire and running charges of light crane for lowering reinforcement cage, trime pipe, holding trime pipe for concreting, removal of temporary casing etc	Day		
		Hrs.	Front end loader for removing muck (1 Cu.m capacity)	Hrs.		
		Hrs.	Tipper for Loading time	Day		
		Ton	Tipper for disposal of muck from pile bore hole up to a lead of 1 km	Ton		
	0.14	Nos.	Pile Driver	Day		
	3.50	Nos.	Mazdoor	Day		
				Rate / 25 m		
				Rate / Rm		
			ADD for Reinforced Concrete Pile Head Dismantling Charges			
			ADD Cost of INITIAL LOAD TEST / RM			
			ADD Cost of ROUTINE LOAD TEST / RM			
	-	-	Sundries	-	-	
				Rate / Rm		
5	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metalincluding cost and conveyance of all materials to site including cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths, Hire charges for Tools and plants and incidental charges such as maintaining of protective bunds, cofferdams, shoring, strutting etc; complete as per relevant standard specification, etc, complete as per relevant standard specification for LEVELLING COURSE BELOW PILE CAP / ABUTMENTS, WINGS, PIERS and RETAINING WALL.					
	1	Cu.m	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal	Cu.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
6	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site excluding cost of steel but including cost of form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for PILE CAPS UNDER ABUTMENTS AND PIERS as per section 1100,1500 and 1700 of MORT@H specifications (V Revisions)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
7	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for ABUTMENTS AND RETURNS ABOVE PILECAP as per section 1500,1700 and 2200 of MORT@H specifications (V Revisions)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Above Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
8	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but including form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for COLUMN PIER ABOVE PILECAP as per section 1500 ,1700 and 2200 of MORT@H specifications (V Revisions)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working at Heights (Above Ground Level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
OPEN FOUNDATION						
9	Providing Fe-500 grade 25mm dowel bars including cost and conveyance of all materials to site drilling 65mm holes in rock and grouting the same with cm 1:2 after placing the 25mm dowel bars etc., complete					
	7.71	Kg	cost of steel	MT		
	7.71	Kg	Drilling 40mm holes as per S.I No. 46	MT		
	7.71	Kg	Grouting charge	MT		
	-	-	Sundries	-		
				Rate / MT		
10	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths, Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for FOOTING OF ABUTMENT AND RETURN.					
	1	Cu.m	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
11	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths, Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for FOOTING OF COLUMN.					
	1	Cu.m	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
			Sundries			
				Rate / Cu.m		
12	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths , Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for FILLING THE TRENCHES AROUND THE FOOTINGS UPTO 0.6m IN HARD ROCK as per cl.707.4.6 of IRC 78:2018					
	1	Cu.m	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal	Cu.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
13	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete , working at depths , Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for FOUNDATION OF RETAINING WALL					

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
14	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete , working at depths , Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for RETAINING WALL (BELOW GROUND LEVEL)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
15	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete , working at depths , Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for RETAINING WALL (ABOVE GROUND LEVEL)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Above Ground level)	Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
			Sundries	-		
				Rate / Cu.m		
16	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths, Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for ABUTMENT AND RETURN (BELOW GROUND LEVEL)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
17	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths, Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for ABUTMENT AND RETURN (ABOVE GROUND LEVEL)					
	1	Cu.m	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Above Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
18	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths, Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for COLUMN (BELOW GROUND LEVEL)					

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
19	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cost of cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete , working at depths , Hire charges for Tools and plants and maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specifications, for COLUMN (ABOVE GROUND LEVEL)					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Above Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
20	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but including form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for BED BLOCK Cu.m DIRT WALL OVER ABUTMENTS as per section 1500 ,1700					
	1	Cu.m	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Above Ground level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
21	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but including form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for CAPPING BEAM OVER PIER as per section 1500 ,1700 and 2200 of MORT@H specifications (V Revisions)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working at Heights (Above GL)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
22	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but including form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for PEDESTAL OVER PIERS AND ABUTMENTS as per section 1500 ,1700 and 2200					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working at Heights	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
23	Supply and fixing of Elastomeric bearing including cost and conveyance to work site, labour for fixing the same in correct position and all other incidental charges etc., complete as per standard specifications as per section 2000 MORT@H specifications (V Revisions) and IRC :83-2015(part II)					
	1	Cu. Cm	Cost of bearing	Cu.Cm		
				Rate / Cu.Cm		
24	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site but excluding cost and fabrication of steel but including form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for T-BEAM AND CROSS BEAMS as per section 1500 ,1700 and 2300 of MORT@H specifications (V Revisions)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M35 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
	1	Sq.m	Formwork, Centering & Staggering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working at Heights (Above Ground Level)	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
25	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site but excluding cost and fabrication of steel but including form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges,including inspection chamber, inclusive of 150mm ducts and other accessories of footpath etc., complete for DECK SLAB as per section 1500 ,1700 and 2300 of MORT@H specifications (V Revisions)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
	1	Sq.m	Formwork, Centering & Staggering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working at Heights (Above Ground Level)	Cu.m		
	-	-	Sundries	-		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
				Rate / Cu.m		
26	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cement at site including labour charges for mixing, transporting, laying, and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc, complete for HAND RAILS AND POSTS as per section 2703-3 of MORT@H specifications (V Revisions) and as per MOST drawing no SD/202					
	0.08	Cu.m	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Rm		
27	Vibrated Reinforced Cement Concrete M40 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cement at site including labour charges for mixing, transporting, laying, and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc, complete for Inner CRASH BARRIER as per section 811,1700 and 2703.3 of MORT@H specifications (V Revisions)					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1	Cu.m	Vibrated Reinforced Cement Concrete M40 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
28	Providing and fixing of Galvinised Iron drainage spouts 100mm dia as per MOST drawing SD/205 with grating arrangements at top as shown in the drawing using 12mm x 25mm flats for grating arrangements, and 100mm dia drainage spout projecting beyond the bottom of deck slab as shown in the drawing including cost and conveyance of cast iron pipes and flats and fixing them in position etc, complete. as per section 2705 of MORT@H specifications (V Revisions)					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1	No	Galvinised Iron drainage spouts 100mm dia	Each		
				Rate / No		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
29	Supply and fixing of High Quality of PVC pipes of 150mm dia. Including cost and conveyance of pipes to the site and fixing in position to proper grade and level, including labour charges for fixing and including all other incidental charges etc complete., for proving utility services in footpaths as per the directions of the departmental officers.					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1	Rm	Cost of PVC pipes (4Kg/cm ²) 160mm	Rm		
	1	Rm	Fixing Charges	Rm		
	-	-	Sundries	-		
				Rate / Rm		
30	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal including cost and conveyance of all materials to site and cement at site including cost of formwork,lead for soft water, labour charges for mixing , transporting, laying, and curing concrete working in heights and hire charges for Hire charges for Tools and plants, and all other incidental charges etc complete as per relevant specification for BASE COURSE BELOW APPROACH SLAB AND FOOTPATH RAMP as per section 1500,1700 and 2704 of MORT@H specifications (V Revision)					
	1	Cu.m	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
31	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site including cement at site including labour charges for mixing, laying, curing concrete, working at heights,hire charges for Hire charges for Tools and plants, including all other incidental chages etc., complete for APPROACH SLABS as per section 1500,1700 and 2704 of MORT@H specifications (V Revisions)					
	1	Cu.m	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
32	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site and cement at site including labour charges for mixing, transporting, laying, and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental rges, etc., complete as per standard specification for CC PARAPET as per section 1500, and 1700 of MORT@H specifications (V Revisions)					
	1	Cu.m	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
33	Vibrated Cement Concrete M-30, Grade, Design Mix, using 25mm, 12mm and 6mm ISS HBG graded metal including cost and conveyance of all materials to worksite and cement at site including all labour charges for fixing concrete, laying, vibrating, hire charges for Hire charges for Tools and plants, compacting, curing with all leads for soft water, including all other incidental charges, formwork, cost of premoulded expansion joints and fixing the same in position etc., complete for WEARING COAT OVER DECK SLAB AND APPROACH SLAB					
	For per 10 Sq.m Area					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	0.45	Cu.m	Cost of 25 mm ISS	Cu.m		
	0.17	Cu.m	Cost of 12 mm ISS	Cu.m		
	0.07	Cu.m	Cost of 6 mm ISS	Cu.m		
	0.34	Cu.m	Cost of Sand	Cu.m		
	0.41	MT	Cost of Cement	MT		
	1.88	Nos.	Mazdoor I Class	Day		
	1.16	Nos.	Mazdoor II Class	Day		
	0.43	Nos.	Carpenter I class	Day		
	0.36	Nos.	Mason I class	Day		
	0.75	Cu.m	Vibration Charges	Cu.m		
	10.00	Sqm	Floating Charges	1 Sqm		
	10	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	-	-	Sundries	-		
					Rate / 10 Sqm	
					Rate / Sqm	
34	Supplying and installation of STRIP SEAL EXPANSION joint system of 40mm wide expansion gap provided in between decks over piers and in between deck and dirt wall over abutment with fatigue tested structural steel section at the nosing and anchorage assembly, including cost and conveyance of all materials, cost of testing as per the MOST specifications, including labour, equipment and incidental charges for fixing the joints complete in all respects as per section 2600 of MORT@H specifications (V Revisions)					
	1	Rm	Strip Seal Expansion joint	Rm		
					Rate / Rm	
35	Providing and fixing Seepage pipes of 100mm dia of required lengths for abutments and wings including cost and conveyance of all materials to work site and for labour charges for fixing, etc.,to drain of the backfill as per section 2706 of MORT@H specifications (V Revisions)					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1	Rm	Cost of Seepage pipes	Rm		
	1	Rm	Fixing Charges	Rm		
	-	-	Sundries	-		
					Rate / Rm	
36	Providing Filter media behind the abutments and wings for 600mm thickness using filter materials well packed with smaller sized towards the soil and bigger size towards the wall including cost and conveyance to work site including all labours and other incidental charges including hire charges for Hire charges for Tools and plants employed etc. complete.as per CI. 710.1.4 and appendix -6 of IRC : 78-2014					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1	Cu.m	Cost of 22.4 mm IRC	Cu.m		
	1	Cu.m	Cost of 11.2 mm IRC	Cu.m		
	1	Cu.m	Cost of 6 mm IRC	Cu.m		
	1	Cu.m	Cost of 4.75 mm IRC	Cu.m		
	Average Rate (with conveyance charges)					
	1	Cu.m	Labour for filling in layers and compacting	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	
37	Filling behind Abutments and returns with clean gritty free drainig gravel including cost and draining gravel having PHI value more than 35 conveyance of gravel to worksite, laying, handling charges and filling in layers, tamping under optimum moisture content to get the maximum density including watering, with all leads for water and all other incidental charges etc,complete as per CI. 710.1.4 and appendix -6 of IRC : 78-2014					

SI No	Quantity	Unit	Item	Unit	Rate / Unit	Amount
	1.16	Cu.m	Cost of Gravel	Cu.m		
	1	Cu.m	Labour for filling in layers and compacting	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
38	Supply and fabrication of Fe-500 (HYSD) steel required in the schedule including cost of steel at site cost of providing and cost of fabrication,labour charges for cleaning the rods straightening, cutting, bending, tying grills, including overlapping to the required length whenever necessary and placing the reinforcement in position as specified in the drawings,including cost of binding wire(Galvanised-18 G), provision of spacer bars, cover blocks and all other incidental charges etc,complete,as per section 1600 of MORT@H specifications (V revision)					
	For Bars upto 16mm dia.					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1.05	MT	Steel (HYSD)	MT		
	0.01	MT	Binding Wire (Galvanised -18 G)	MT		
	35	Nos	Fitter-I Class	Day		
		MT	Anti corrosive treatment for steel	MT		
				Rate / MT		
	For Bars Above 16mm dia.					
	Quantity	Unit	Item	Unit	Rate/Unit	Amount
	1.05	MT	Steel (HYSD)	MT		
	0.01	MT	Binding Wire (Galvanised -18 G)	MT		
	35	Nos	Fitter-I Class	Day		
		MT	Anti corrosive treatment for steel	MT		
				Rate / MT		
39	Supply and fabrication of S-240 steel required in the schedule including cost of steel at site cost of providing and cost of fabrication,labour charges for cleaning the rods straightening, cutting, bending, tying grills, including overlapping to the required length whenever necessary and placing the reinforcement in position as specified in the drawings,including cost of binding wire(Galvanised-18 G), provision of spacer bars, cover blocks and all other incidental charges etc,complete,as per section 1600 of MORT@H specifications (V revisions)					
	1.05	MT	Steel (HYSD)	MT		
	0.01	MT	Binding Wire (Galvanised -18 G)	MT		
	35	Nos	Fitter-I Class	Day		
		MT	Anti corrosive treatment for steel	MT		

DATA - CONSTRUCTION OF RCC BOX CULVERT

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
1a.	Earthwork excavation in all classes of ORDINARY SOIL except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF BOX CULVERT as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
1b.	Earthwork excavation in all classes of Sand and Silt Under Water except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF BOX CULVERT as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	Sand and Silt Under Water (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Slush and silt under water upto 0.75m depth requiring the aid of basket and vessels (SS20B)	Cu.m		

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	-		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	-		
	1	Cu.m	Bailing out of water	-		
	1	Cu.m	Shoring and strutting	-		
	1	Cu.m	Tools & Plants	-		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	-		
	-	-	Sundries	-		
					Rate / Cu.m	
1c.	<p>Earthwork excavation in all classes of HGS except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF BOX CULVERT as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)</p>					
	1	Cu.m	HGS SS.20.B. Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in Hard stiff clay, stiff black cotton, hard red earth, shales, murrum, gravel, stoney earth and earth mixed with small size boulders SS.20.B.	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
1d.	Earthwork excavation in Kankar / Soft disintegrated rock not requiring blasting except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF BOX CULVERT as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	SDR - (Not Requiring Blasting) Earth work excavating and depositing on bank with initial lead of 10 m & initial lift of 2m in Soft disintegrated rock, laterite, soft rock or kankar, not requiring blasting.	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	
2	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal including Cost and Conveyance of all materials to site and cost of Cement at site including soft water, labour charges for mixing, transporting, laying compacting, curing concrete, Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specification for LEVELLING COURSE BELOW FOUNDATION.					
	1	Cu.m	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
					Rate / Cu.m	
3			Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for BASE SLAB, VERTICAL WALL AND DECK SLAB.			
	1	Cu.m	Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	
4			Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for WING WALL BELOW GROUND LEVEL			
	1	Cu.m	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Below Ground level)	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
5	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for WING WALL ABOVE GROUND LEVEL					
	1	Cu.m	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete (i) RCC	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	1	Cu.m	Working depth (Above Ground level)	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	
6	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site including cement at site including labour charges for mixing, transporting, laying, and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc, complete for CC PARAPET WALL OVER BOX CULVERT.					
	1	Cu.m	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	
7	Supply and fabrication of Fe-500 (HYSD) steel required in the schedule including cost of steel at site cost of providing and cost of fabrication, labour charges for cleaning the rods straightening, cutting, bending, tying grills, including overlapping to the required length whenever necessary and placing the reinforcement in position as specified in the drawings, including cost of binding wire (Galvanised-18 G), provision of spacer bars, cover blocks and all other incidental charges etc, complete, as per section 1600 of MORT@H specifications (V revision)					
	For Bars upto 16mm dia.					

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
	1.05	MT	Steel (HYSD)	MT		
	0.01	MT	Binding Wire (Galvanised -18 G)	MT		
	35	Nos	Fitter-I Class	Day		
	1	MT	Anti corrosive treatment for steel	MT		
	-	-	Sundries	-		
					Rate / MT	
8	Providing and fixing Seepage pipes of 100mm dia of required lengths for abutments and wings including cost and conveyance of all materials to work site and for labour charges for fixing, etc.,to drain of the backfill as per section 2706 of MORT@H specifications (V Revisions)					
	1	Rm	Cost of Seepage pipes	Rm		
	1	Rm	Fixing Charges	Rm		
	-	-	Sundries	-		
					Rate / Rm	

DATA - Providing Footpath cu.m drain

SI. No.	Quantity	Unit	Description	Unit	Rate/Unit	Amount
1	Earthwork excavation in all classes of ORDINARY SOIL except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOOTPATH Cu.m DRAIN as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m		
	1	Cu.m	Add 100% extra for Narrow foundation.	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
2	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal including Cost and Conveyance of all materials to site and cost of Cement at site including soft water, labour charges for mixing, transporting, laying compacting, curing concrete, Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specification for LEVELLING COURSE BELOW FOUNDATION.					
	1	Cu.m	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal	Cu.m		
	2.00	Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		

SI. No.	Quantity	Unit	Description	Unit	Rate/Unit	Amount
	-	-	Sundries	-		
				Rate / Cu.m		
3	Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for Drain bottom Slab.					
	1	Cu.m	Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete (i) RCC	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
4	Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for Drain Vertical Wall.					
	1	Cu.m	Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		

SI. No.	Quantity	Unit	Description	Unit	Rate/ Unit	Amount
5			Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal including cost and conveyance of all materials to site and cement at site excluding cost and fabrication of steel but form work and centering soft water labour charges for mixing, transporting, placing in position, vibrating and compacting finishing and curing concrete, working at heights, hire charges for Hire charges for Tools and plants, including all other incidental charges, etc., complete as per standard specifications for Cover Slab of Drain.			
	1	Cu.m	Vibrated Reinforced Cement Concrete M25 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete (i) RCC	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	
6			Providing and fixing Drain pipes of 100mm Dia of required lengths for abutments and wings including cost and conveyance of all materials to work site and for labour charges for fixing, etc., to drain of the backfill as per section 2706 of MORT@H specifications (V Revisions)			
	0.30	Rm	Cost of Drain pipes 100mm Dia	Rm		
	0.30	Rm	Fixing Charges	Rm		
	-	-	Sundries	-		
					Rate / Rm	
7			Supplying and fixing of fiber reinforced concrete Manholes cover 60 x 60cm with frame as per IRC :50 - 1999 and as directed by the departmental officers at every 10m intervals along the drain cover slab. For storm water drain portion.			
	1	Nos	Manholes cover 60 x 60cm with frame	Nos		
					Rate / Nos	

SI. No.	Quantity	Unit	Description	Unit	Rate/ Unit	Amount
8	Supply and fabrication of Fe-500 (HYSD) steel required in the schedule including cost of steel at site cost of providing and cost of fabrication,labour charges for cleaning the rods straightening, cutting, bending, tying grills, including overlapping to the required length whenever necessary and placing the reinforcement in position as specified in the drawings,including cost of binding wire(Galvanised-18 G), provision of spacer bars, cover blocks and all other incidental charges etc,complete,as per section 1600 of MORT@H specifications (V revision)					
	1.05	MT	Steel (HYSD)	MT		
	0.01	MT	Binding Wire (Galvanised -18 G)	MT		
	35	Nos	Fitter-I Class	Day		
	1	MT	Anti corrosive treatment for steel	-		
	-	-	Sundries	-		
				Rate / MT		

DATA - Providing Safety Kerb and Filling under the span to the ROB

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
1	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal including Cost and Conveyance of all materials to site and cost of Cement at site including soft water, labour charges for mixing, transporting, laying compacting, curing concrete, Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specification for LEVELLING COURSE Cu.m SAFETY KERB.					
	1	Cu.m	Vibrated Reinforced Cement Concrete M 30 (Design mix) using 20 mm ISS HBG graded metal	Cu.m		
	2.00	Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
2	Filling with carted earth in between trestle portion of ROB including cost and conveyance to work site , laying and filling in layers, tamping under optimum moisture content to get the maximum dry density including watering, handling charges and all other incidental charges etc. complete as per relevant specifications					
	1	Cu.m	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m		
	1	Cu.m	Cost of Earth (as per GO D No. 214, Industries (MMC.2 Department dated (3.11.15)	Cu.m		
	1	Cu.m	Conveyance Charges for 10 Km	Cu.m		

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
	1	Cu.m	Tools & Plants	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
3	Painting new iron work with two coats of best synthetic enamel paint of approved quality and colour and over one coat of primer using brushes including ordinary scrapping charges and neat finishing etc complete					
	2.22	lit	Synthetic enamel paint	Lit.		
	1.10	nos	Painter Ist Class	No.		
			Cost for 10 m ²			
			Cost for 1 m ²			
			Sundries	-		
				Cost for 1 m2		
4	Supplying and fixing the M S Grill of approved design including prime coat and two coats of synthetic enamel paint etc., complete.					
			For grill of size 1.90 m x 1.25 m = 2.38 m ²			
	Sub Data for weight of grill					
			10mm square rods at 150mm c/c vertically - Verticals - 11 x 1.15	=	12.65	m
			Weight of 10mm square rods for 1.00m length	=	0.80	Kg/m
			Total verticals rod weight	=	10.12	Kg

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
			Horizontals - 4x1.80	=	7.20	m
			Weight of 25mmx6mm for 1.00m length	=	1.18	Kg/m
			Total Horizontals rod weight	=	8.50	Kg
			Weight for square tube of 50mmx50mmx2.6mm	=	3.73	Kg/m
			Total square tube post weight - 2 x 1.5m	=	11.19	Kg
			Total weight	=	29.81	Kg
Material cost						
	29.81	Kg	As per item no.2 of Annexure VI - Rates of other materials	kg		
	2.38	m ²	Painting two coats with synthetic enamel paint	m ²		
			Add: Charges for conveyance & all other incidentals	-		
	29.81	m ²	Rate for Labour(S.No.127)	m ²		
			Cost for 2.38 m ²			
			Cost for 1 m ²			
	-	-	Sundries	-		
					Cost for 1 m2	

DATA - Painting

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
1	Painting two coat with ready mixed plastic emulsion paint and approved priming coat over the cement surface complete including scrapping clean removal of dirt parts for crash barrier, safety kerb, hand rails, bridge bottom sides, deck slab bottom, abutment, return walls and retaining wall sides with approved quality and colour including cost and conveyance of all materials to site, labour charges etc. complete as per standard specifications					
	One Coat of White washing with White cement					
	10.00	Kg	Cleaning of Plastered Surface	Kg		
	1.80	Kg	Cement Paint First quality	Kg		
	0.25	Nos	Painter I Class	Day		
	0.25	Nos	Mazdoor Category-I	Day		
	0.40	Nos	Mazdoor Category-II	Day		
	-	-	Contingencies like Brushes etc 5%	-		
	-	-	Sundries	-		
			Rate for 10 Sq.m			
			Rate for 1 Sq.m			
	For Finishing two Coats					
	3.00	Kg	Cement Paint First quality	Kg		
	0.50	Nos	Painter I Class	Day		
	0.50	Nos	Mazdoor Category-I	Day		
	0.80	Nos	Mazdoor Category-II	Day		
	-	-	Contingencies like Brushes etc 10%	-		
	-	-	Sundries	-		
			Rate for 10 Sq.m			
			Rate for 1 Sq.m			

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount	
			One Coat of White washing with White cement		=		
			For Finishing two Coats		=		
			Total		=		
			Providing One legged scaffolding using 150mm dia Casurina poles rate for 6m run and 3m height				
	16.00	RM	Vertical Post (Casurina Poles 13cm-15cm dia) (4 Nos *(3+0.5+0.5))	RM			
	14.00	RM	Horizontal Post (Casurina Poles 13cm-15cm dia) (2 Nos *(6+0.5+0.5))	RM			
	0.10	10 Use	1 Use Cost/Operation	10 Use			
	1	Nos	Mazdoor Category-I	Day			
	-	-	Contingencies like Coir Nails etc.,	-			
	-	-	Sundries	-			
			Rate / (6*3 = 18 Sq.m)				/ 18 Sq.m
			Rate for 1 Sq.m				
			For Every additional height of 1.75m taking 6m run extra cost				
	11.00	RM	Vertical Post (Casurina Poles 13cm-15cm dia) (4 Nos *(1.75+0.5+0.5))	RM			
	14.00	RM	Horizontal Post (Casurina Poles 13cm-15cm dia) (2 Nos *(6+0.5+0.5))	RM			
	0.10	10 Use	1 Use Cost/Operation	10 Use			
	1	Nos	Mazdoor Category-I	Day			
	-	-	Contingencies like Coir Nails etc.,	-			
	-	-	Sundries	-			
			Rate / (6*1.75 = 10.5 Sq.m)				/ 10.5 Sq.m
			Rate for 1 Sq.m				

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
	Total Scaffolding Charges				=	
	Painting two coat with ready mixed plastic emulsion paint and approved including priming coat over the cement surface complete including scrapping clean removal of drit of parts and for zebra marking .					
	10.00	Sq.m	Cleaning of Plastered Surface	Sq.m		
	1.44	Lit	Primer Plastic Emulsion Paint	Lit		
	2.55	Lit	Plastic Emulsion Paint	Lit		
	1.20	Nos	Painter I Class	Nos		
	0.70	Nos	Mazdoor Category-I	Nos		
	-	-	Scaffolding Charges	-		
	-	-	Contingencies like Brushes etc 10%	-		
	-	-	Sundries	-		
			Rate for 10 Sq.m			
			Rate for 1 Sq.m			

DATA - Providing Drainage arrangements to the ROB

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
1	Providing and fixing 160 mm dia PVC pipes of approved class not less than 4 kg/Sq.cm. connecting the drainage spouts of the deck slab along both the sides of the deckslab connected to the Rainwater harvesting system below for two consecutive spans with all bends tees clamps and all other accessories and fixtures complete including Hire charges for Tools and plants ,transportation etc.,					
	Consider Rain water harvesting pit at every 3 spans once					
	75.00	Rm	Cost of PVC pipe 160mm (4 kg/sq.cm)	Rm		
	24.00	Nos	PVC Tee 160mm dia ("O" Ring joint)	Nos		
	12.00	Nos	PVC bend 160mm dia ("O" Ring joint)	Nos		
			Total for 75 Rm			
			Rate / Rm			
	Data for 3m length of pipe line					
	3.00	Rm	Cost of PVC pipe 110mm	Rm		
	2.00	Set	Special Clamp, Teakwood Plugs and Screws	Set		
	0.50	No.	Fitter-I Class (Pipe Laying)	Nos		
	1.25	No.	Mazdoor Grade I	Nos		
	-	-	Add for form work at varying levels and working at heights varying	LS		
			Total for 75 Rm			
			Rate / Rm			
			Say			
2	Earthwork excavation in all classes of ORDINARY SOIL except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for Providing Drainage arrangements to the ROB as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
	1	Cu.m	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m		
	1	Cu.m	Add 100% extra for Narrow foundation.	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
			Rate per 1 Cu.m upto 2m height			
			Rate per 1 Cu.m for 2m to 3m height			
3	Filling with Sand including cost and conveyance of all materials and stacking at site to departmental guage for pre-measurements, labour charges for laying, handling and filling in layers not more than 15 cm thick including watering with all leads for good soft water and all other incidental charges, tamping, compacting under optimum moisture content to get the maximum density for the pit and Rain water harvesting well					
	1	Cu.m	Sand	Cu.m		
	1	Cu.m	Filling Charges	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
4	Filling with 40mm size ISS HBG metal in the rain water harvesting system including cost and conveyance of all material and labour charges for filling complete as directed by the Engineer.					
	1	Cu.m	Cost of 40 mm ISS metal	Cu.m		
	1	Cu.m	Filling Charges	Cu.m		
	-	-	Sundries	-		

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
				Rate / Cu.m		
5	Filling with 20mm size ISS HBG metal in the rain water harvesting system including cost and conveyance of all material and labour charges for filling complete as directed by the Engineer .					
	1	Cu.m	Cost of 20 mm ISS metal	Cu.m		
	1	Cu.m	Filling Charges	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
6	Filling with 12mm size ISS HBG metal in the rain water harvesting system including cost and conveyance of all material and labour charges for filling complete as directed by the Engineer .					
	1	Cu.m	Cost of 12 mm ISS metal	Cu.m		
	1	Cu.m	Filling Charges	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
7	Filling with 6 mm size ISS HBG metal in the rain water harvesting system including cost and conveyance of all material and labour charges for filling complete as directed by the Engineer .					
	1	Cu.m	Cost of 6 mm ISS metal	Cu.m		
	1	Cu.m	Filling Charges	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
8	Providing and laying of ISI Class NP 3 pipe of best quality of 1200mm dia. in the rain water harvesting system with all required specials including cost and conveyance of pipes and specials , labour charges for in position and all other incidental charges etc., complete for pipes as directed by the Engineer					

SI No	Quantity	Unit	Description	Unit	Rate/ Unit	Amount
	1	Rm	Cost of Seepage pipes	Rm		
	1	Rm	Fixing Charges (5% LS)	Rm		
	-	-	Sundries	-		
				Rate / RM		

DATA - Dismantling of Existing Structure

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
1	Dismantling the existing and fell down RCC concrete structures in the cause way such as deck slab, raft bed slab, pier protection side walls and disposing the demolished material including all other incidental charges etc., with a lift upto 3 m and lead upto 1 km as per specification and as per directions of Departmental officers for Dismantling the Reinforced Cement Concrete Slab					
	1	Cu.m	Dismantling RCC	Cu.m		
				Rate / Cu.m		
2	Dismantling the existing and fell down plain concrete structure in the cause way such as PCC pavement slab, pier bottom slab, pier wall, bed block, pier protection top slab and disposing the demolished material including all other incidental charges etc., with a lift upto 3 m and lead upto 1 km as per specification and as per directions of Departmental officers for Dismantling Cement Concrete Slab					
	1	Cu.m	Dismantling Plain Cement Concrete	Cu.m		
				Rate / Cu.m		
3	Dismantling the existing and fell down stone Masanory structures such as Retaining wall, revetment, pitching and disposing the demolished material including all other incidental charges etc., with a lift upto 3 m and lead upto 1 km as per specification and as per directions of Departmental officers for Dismantling Stone Masonry structures.					
	1	Cu.m	Dismantling Brick / Stone Masonry in cement mortar walls under 3m high	Cu.m		
				Rate / Cu.m		
4	Dismantling the existing RCC Pipes and dispose the demolished material including all other incidental charges etc., with a lift upto 3 m and lead upto 1 km as per specification and as per directions of Departmental officers for Dismantling the RCC pipe.					
	1	Cu.m	Dismantling RCC	Cu.m		
				Rate / Cu.m		
5	Picking the existing bituminous road surface to a depth of 75 mm and disposing of scarified materials with a lift upto 3 m and lead upto 1 km as per specification and as per directions of Departmental officers					

SI No	Quantity	Unit	Description	Unit	Rate/Unit	Amount
	1	Sq.m	Picking of BT Road	Sq.m		
				Rate / Sq.m		
6	Removal of filling inbetween retaining walls by Earthwork excavation including all classes of soil, gravel, WMM, GSB except soft disintegrated rock not requiring blasting and hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., with a lift upto 3 m and lead upto 1 km as per specification and as per directions of Departmental officers complete as per relevant standard specification.					
	1	Cu.m	Dismantling Brick / Stone Masonry in cement mortar walls under 3m high	Cu.m		
				Rate / Cu.m		

DATA - RIVER TRAINING WORKS

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
1a.	Earthwork excavation in all classes of ORDINARY SOIL except hardrock requiring blasting and depositing on bank with all leads and lifts as per SS20B, including cost of all labour, equipments and all incidental charges such as bailing out water, providing and maintaining necessary cofferdams, sheeting, shoring bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc., complete as per relevant standard specification for FOUNDATION OF TOE WALL REVERTMENT as per section 300 of MORTH specification (V Revision) and Is 1200:1992 Part 1 (IV Revision)					
	1	Cu.m	ORDINARY SOIL (SS20B) Earth work excavating and depositing on bank with initial lead of 10m & initial lift of 2m in Sand, silt or other loose soil, wet sand or silt not under water, light black cotton soil, sandy loam and ordinary soil including excavated earth (SS20B)	Cu.m		
	1	Cu.m	Refilling with excavated soil for filling in foundation and basement.	Cu.m		
	1	Cu.m	Formation and maintaining of protective bunds and coffer dams.	Cu.m		
	1	Cu.m	Bailing out of water	Cu.m		
	1	Cu.m	Shoring and strutting	Cu.m		
	1	Cu.m	Tools & Plants	Cu.m		
	1	Cu.m	Removal of Protective bunds and cleaning the sites.	Cu.m		
	-	-	Sundries	-		
				Rate / Cu.m		
2	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal including Cost and Conveyance of all materials to site and cost of Cement at site including soft water, labour charges for mixing, transporting, laying compacting, curing concrete, Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specification for LEVELLING COURSE Cu.m TOE WALL.					
	1	Cu.m	Plain Cement Concrete M15 (Nominal Mix) using 40mm ISS HBG metal	Cu.m		

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
		Sq.m	Formwork and Centering Rate	Sq.m		
	1	Cu.m	Curing of concrete (i) PCC	Cu.m		
	1	Cu.m	Hire charges for Hire charges for Tools and plants.	Cu.m		
	-	-	Sundries	-		
					Rate / Cu.m	
3	Gravel backing to revetment for 150mm thick, including cost and conveyance of gravel to worksite, laying, and filling in layers, of 150mm thick, tamping, including watering with all leads for water and all other incidental charges etc, complete.					
	11.6	Cu.m	Gravel	Cu.m		
	7.1	Nos	Mazdoor Category-I	Day		
	3.5	Nos	Mazdoor Category-II	Day		
	-	-	Sundries	-		
					Rate / 10 Cu.m	
					Rate / Cu.m	
4	Manufacturing and fixing cement concrete blocks of size 250 x 250x 300 mm in CC 1:2:4, nominal mix (M15) using 20mm ISS size HBG metal including cost and conveyance of all materials to worksite and cement site including conveyance and handling charges for the same at both ends, including all other incidental charges, etc, complete for REVETMENTS.					
	10	Cu.m	Plain Cement Concrete M20 (Nominal Mix) using 20mm ISS HBG metal	Cu.m		
	10	Cu.m	Labour for fixing	Cu.m		

SI No	Quantity	Unit	Description	Unit	Rate / Unit	Amount
		Sq.m	Formwork and Centering Rate	Sq.m		
	-	-	Curing of concrete (iI) PCC	-		
	-	-	Hire charges for Hire charges for Tools and plants.	-		
	-	-	Sundries	-		
					Rate / 10 Cu.m	
					Rate / Cu.m	
	<u>Size of Block</u>			250 mm	x 250 mm	x 300 mm
	No of blocks for One Cu.m			= 1/0.019		= 53 Nos
	Area of block			= 0.25 x 0.25		= 0.0625 Sq.m
	Area of One Cu.m			= 53x0.0625		= 3.375 Sq.m
	Rate per One Sq.m			= /3.375		= Rs.
					Rate / Sq.m	

METRO

PREAMBLE

The Model Data for Bridge works is formulated considering the factors that contributes to the completion of the works according to the latest specification and current practice of construction.

The Data presently adopted are on volume basis and becomes obsolete as the specifications are made out based on weight.

It becomes essential and warranted to make sufficient provisions in the data for carrying out the work for the present scenario, i.e., on weight basis and also it becomes harder to execute the work without revising the data.

The provisions of the Standard Data of MORT&H are used as guidelines for formulation. Other provisions are adopted as per the guidelines of the specifications to the corresponding work to execute the work as per the standards. Sub-Data are worked for the provisions made based on the field observations to scientifically justify them.

The Model data is structured in parts as,

1. Excavation
2. Piling
3. Open foundation
4. Substructure
5. Superstructure

Sub Data are provided for the large and small Bridge works. The Sample data is prepared for large bridges alone to avoid voluminous and repetitive content.

Sl. No	Qty	Unit	Description	Rate	Per	Amount
12.1	Excavation					
	Excavation for Structures					
	Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved Head Mazdoorial.					
	I. Ordinary soil					
	Unit = cu.m					
	Taking output = 10 cu.m					
	A. Manual Means					
	(i) Depth upto 3 m					
			a) Labour			
	0.14	day	Head Mazdoor		day	
	3.50	day	Mazdoor		day	
	10.00	cu.m	b) Setting out		cu.m	
	10.00	cu.m	Bailing out water		cu.m	
	10.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	10.00	cu.m	Lifting Charges for 1m		cu.m	
		Ls	Tools (for Crow bars and Pans)		Ls	
	6.90	cu.m	Back filling		cu.m	
	10.00	cu.m	Supervision Charges		cu.m	
	10.00	cu.m	Quality control charges		cu.m	
	10.00	cu.m	Labour Shed & Site Office		cu.m	
	10.00	cu.m	Watch & Ward		cu.m	
	10.00	cu.m	Traffic Management		cu.m	
			Cost for 10 cu.m			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b)/10			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
12.1 (I) A	(ii) Depth 3 m to 6 m					
			a) Labour			
	0.18	day	Head Mazdoor/Supervisor		day	
	4.50	day	Mazdoor		day	
	10.00	cu.m	b) Setting out		cu.m	
	10.00	cu.m	Bailing out water		cu.m	
	10.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	10.00	cu.m	Lifting Charges for 4m		cu.m	
			Tools (for Crow bars and Pans)			
	6.90	cu.m	Back filling		cu.m	
	10.00	cu.m	Supervision Charges		cu.m	
	10.00	cu.m	Quality control charges		cu.m	
	10.00	cu.m	Labour Shed & Site Office		cu.m	
	10.00	cu.m	Watch & Ward		cu.m	
	10.00	cu.m	Traffic Management		cu.m	
			Cost for 10 cu.m = a+b			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b)/10			
12.1 (I) A	(iii) Depth above 6 m					
			a) Labour			
	0.24	day	Head Mazdoor/Supervisor		day	
	6.00	day	Mazdoor		day	
	10.00	cu.m	b) Setting out		cu.m	
	10.00	cu.m	Bailing out water		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	10.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	10.00	cu.m	Lifting Charges for 6m		cu.m	
			Tools (for Crow bars and Pans)			
	6.90	cu.m	Back filling		cu.m	
	10.00	cu.m	Supervision Charges		cu.m	
	10.00	cu.m	Quality control charges		cu.m	
	10.00	cu.m	Labour Shed & Site Office		cu.m	
	10.00	cu.m	Watch & Ward		cu.m	
	10.00	cu.m	Traffic Management		cu.m	
			Cost for 10 cu.m = a+b			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b)/10			
						-
12.1 (I)	B. Mechanical Means					
	(i) Depth upto 3 m					
	Unit = cu.m					
	Taking output = 240 cu.m					
			a) Labour			
	0.32	day	Head Mazdoor		day	
	8.00	day	Mazdoor		day	
			b) Machinery			
	6.00	hour	Hydraulic excavator 1.0 cu.m bucket capacity		hour	
	240.00	cu.m	c) Setting out		cu.m	
	240.00	cu.m	Bailing out water		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	240.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	240.00	cu.m	Lifting Charges for 1m		cu.m	
			Tools (for Crow bars and Pans)			
	165.60	cu.m	Back filling		cu.m	
	240.00	cu.m	Supervision Charges		cu.m	
	240.00	cu.m	Quality control charges		cu.m	
	240.00	cu.m	Labour Shed & Site Office		cu.m	
	240.00	cu.m	Watch & Ward		cu.m	
	240.00	cu.m	Traffic Management		cu.m	
			Cost for 240 cu.m = a+b+c			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c)/240			
12.1 (I) B	(ii) Depth 3 m to 6 m					
	Unit = cu.m					
	Taking output = 210 cu.m					
			a) Labour			
	0.32	day	Head Mazdoor		day	
	8.00	day	Mazdoor		day	
			b) Machinery			
	6.00	hour	Hydraulic excavator 1.0 cu.m bucket capacity		hour	
	210.00	cu.m	c) Setting out		cu.m	
	210.00	cu.m	Bailing out water		cu.m	
	210.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	210.00	cu.m	Lifting Charges for 4m		cu.m	
			Tools (for Crow bars and Pans)			
	144.90	cu.m	Back filling		cu.m	
	210.00	cu.m	Supervision Charges		cu.m	
	210.00	cu.m	Quality control charges		cu.m	
	210.00	cu.m	Labour Shed & Site Office		cu.m	
	210.00	cu.m	Watch & Ward		cu.m	
	210.00	cu.m	Traffic Management		cu.m	
			Cost for 210 cu.m = a+b+c			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c)/210			
12.1 (I) B	(iii) Depth above 6m					
	Unit = cu.m					
	Taking output = 180 cu.m					
			a) Labour			
	0.40	day	Head Mazdoor		day	
	10.00	day	Mazdoor		day	
			b) Machinery			
	6.00	hour	Hydraulic excavator 1.0 cu.m bucket capacity		hour	
	180.00	cu.m	c) Setting out		cu.m	
	180.00	cu.m	Bailing out water		cu.m	
	180.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	180.00	cu.m	Lifting Charges for 6m		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			Tools (for Crow bars and Pans)			
	168.00	cu.m	Back filling		cu.m	
	180.00	cu.m	Supervision Charges		cu.m	
	180.00	cu.m	Quality control charges		cu.m	
	180.00	cu.m	Labour Shed & Site Office		cu.m	
	180.00	cu.m	Watch & Ward		cu.m	
	180.00	cu.m	Traffic Management		cu.m	
			Cost for 180 cu.m = a+b+c			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c)/180			
12.1	II. Ordinary Rock (not requiring blasting)					
	A. Manual Means					
	(i) Depth upto 3 m					
	Unit = cu.m					
	Taking output = 10 cu.m					
			a) Labour			
	0.20	day	Head Mazdoor		day	
	5.00	day	Mazdoor		day	
	10.00	cu.m	b) Setting out		cu.m	
	10.00	cu.m	Bailing out water		cu.m	
	10.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	10.00	cu.m	Lifting Charges for 1m		cu.m	
			Tools (for Crow bars and Pans)			
	6.90	cu.m	Back filling		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	10.00	cu.m	Supervision Charges		cu.m	
	10.00	cu.m	Quality control charges		cu.m	
	10.00	cu.m	Labour Shed & Site Office		cu.m	
	10.00	cu.m	Watch & Ward		cu.m	
	10.00	cu.m	Traffic Management		cu.m	
			Cost for 10 cu.m = a+b			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b)/10			
12.1(II)	B. Mechanical Means					
	Unit = cu.m					
	Taking output = 180 cu.m					
			a) Labour			
	0.24	day	Head Mazdoor		day	
	6.00	day	Mazdoor		day	
			b) Machinery			
	6.00	hour	Hydraulic excavator 1.0 cu.m bucket capacity		hour	
	180.00	cu.m	c) Setting out		cu.m	
	180.00	cu.m	Bailing out water		cu.m	
	180.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	180.00	cu.m	Lifting Charges for 1m		cu.m	
			Tools (for Crow bars and Pans)			
	124.20	cu.m	Back filling		cu.m	
	180.00	cu.m	Supervision Charges		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	180.00	cu.m	Quality control charges		cu.m	
	180.00	cu.m	Labour Shed & Site Office		cu.m	
	180.00	cu.m	Watch & Ward		cu.m	
	180.00	cu.m	Traffic Management		cu.m	
			Cost for 180 cu.m = a+b+c			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c)/180			
12.1	(IV) Hard Rock (blasting prohibited)					
	Unit = cu.m					
	Taking output = 10 cu.m					
	A. Mechanical Means					
			a) Labour			
	0.20	day	Head Mazdoor		day	
	5.00	day	Mazdoor		day	
			b) Machinery			
	6.00	hour	Air Compressor 250 cfm with 2 leads of pneumatic breaker		hour	
	10.00	cu.m	c) Setting out		cu.m	
	10.00	cu.m	Bailing out water		cu.m	
	10.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	10.00	cu.m	Lifting Charges for 1m		cu.m	
			Tools (for Crow bars and Pans)			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	6.90	cu.m	Back filling		cu.m	
	10.00	cu.m	Supervision Charges		cu.m	
	10.00	cu.m	Quality control charges		cu.m	
	10.00	cu.m	Labour Shed & Site Office		cu.m	
	10.00	cu.m	Watch & Ward		cu.m	
	10.00	cu.m	Traffic Management		cu.m	
			Cost for 10 cu.m = a+b+c+d			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c+d)/10			
12.1	(V) Marshy Soil					
	Unit = cu.m					
	Taking output = 10 cu.m					
	Depth upto 3 m					
	A. Manual means					
			a) Labour			
	0.40	day	Head Mazdoor/Supervisor		day	
	10.00	day	Mazdoor		day	
			b) Machinery			
	2.67	hour	Tractor-trolley for removal.		hour	
	10.00	cu.m	c) Setting out		cu.m	
	10.00	cu.m	Bailing out water		cu.m	
	10.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	

SI. No	Qty	Unit	Description	Rate	Per	Amount
	10.00	cu.m	Lifting Charges for 1m		cu.m	
			Tools (for Crow bars and Pans)			
	6.90	cu.m	Back filling		cu.m	
	10.00	cu.m	Supervision Charges		cu.m	
	10.00	cu.m	Quality control charges		cu.m	
	10.00	cu.m	Labour Shed & Site Office		cu.m	
	10.00	cu.m	Watch & Ward		cu.m	
	10.00	cu.m	Traffic Management		cu.m	
			Cost for 10 cu.m = a+b+c			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c)/ 10			
12.1 (V)	B. Mechanical Means					
			a) Labour			
	0.08	day	Head Mazdoor		day	
	2.00	day	Mazdoor for dressing sides, bottom and backfilling		day	
			b) Machinery			
	0.17	hour	Hydraulic excavator 1.0 cu.m bucket capacity @ 60 cu.m per hour		hour	
	0.45	hour	Tipper 5.5 cu.m capacity, 4 trips per hour.		hour	
	10.00	cu.m	c) Setting out		cu.m	
	10.00	cu.m	Bailing out water		cu.m	
	10.00	cu.m	Trimming the bed		cu.m	
		cu.m	Shoring the sides (If Necessary)		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
		cu.m	Coffer dams and Bunds (if Necessary)		cu.m	
	10.00	cu.m	Lifting Charges for 1m		cu.m	
			Tools (for Crow bars and Pans)			
	6.90	cu.m	Back filling		cu.m	
	10.00	cu.m	Supervision Charges		cu.m	
	10.00	cu.m	Quality control charges		cu.m	
	10.00	cu.m	Labour Shed & Site Office		cu.m	
	10.00	cu.m	Watch & Ward		cu.m	
	10.00	cu.m	Traffic Management		cu.m	
			Cost for 10 cu.m = a+b+c			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c)/10			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
OPEN FOUNDATION						
12.4	PCC 1:3:6 in Foundation					
	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.					
	<i>Unit = cu.m</i>					
	<i>Taking output = 15 cu.m</i>					
			a) Labour			
	0.64	day	Head Mazdoor		day	
	1.00	day	Mason		day	
	15.00	day	Mazdoor		day	
			b) Head Mazdoorrial			
	13.50	cu.m	40 mm Aggregate		cu.m	
	6.75	cu.m	coarse Sand		cu.m	
	3.45	tonne	cement		tonne	
	18.00	KL	Cost of water		KL	
			c) Machinery			
	6.00	hour	Concrete mixer (cap. 0.40/0.28 cu.m)		hour	
	6.00	hour	Generator 33 KVA		hour	
	2.00	hour	Water tanker 6 KL capacity		hour	
			d)			
	15.00	cu.m	Setting out		cu.m	
	15.00	cu.m	Vibration charges		cu.m	
	15.00	cu.m	Water charges for curing		cu.m	
	15.00	cu.m	Working at Depth		cu.m	
	15.00	cu.m	Supervision Charges		cu.m	
	15.00	cu.m	Quality control charges		cu.m	
	15.00	cu.m	Labour Shed & Site Office		cu.m	
	15.00	cu.m	Watch and Ward		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	15.00	cu.m	Traffic Management		cu.m	
			Cost for 15 cu.m = a+b+c+d			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c+d)/15			
12.8	A) Plain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications.					
	A) PCC Grade M15					
	Unit = cu.m					
	Taking output = 15 cu.m					
			a) Head Mazdoorial			
	4.13	tonne	Cement		tonne	
	6.75	cu.m	Coarse sand		cu.m	
	8.10	cu.m	40 mm Aggregate		cu.m	
	4.05	cu.m	20 mm Aggregate		cu.m	
	1.35	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.86	day	Head Mazdoor		day	
	1.50	day	Mason		day	
	20.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Concrete mixer (cap. 0.40/0.28 cu.m)		hour	
	6.00	hour	Generator 63 KVA		hour	
	1.45	KL	d) water charges		KL	
	Per Cu.m Basic Cost of Labour, Head Mazdoorial & Machinery (a+b+c+d)					
			e)			
	15.00	cu.m	Setting out		cu.m	
	15.00	cu.m	Vibration charges		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	15.00	cu.m	Water charges for curing		cu.m	
	15.00	cu.m	Working at Depth		cu.m	
	15.00	cu.m	Supervision Charges		cu.m	
	15.00	cu.m	Quality control charges		cu.m	
	15.00	cu.m	Labour Shed & Site Office		cu.m	
	15.00	cu.m	Watch and Ward		cu.m	
	15.00	cu.m	Traffic Management		cu.m	
			Cost for 15 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c+d+e)/15			
12.8	B) PCC Grade M20					
	Unit : cu.m					
	Taking output = 15 cu.m					
			a) Head Mazdoorrial			
	5.16	tonne	Cement		tonne	
	6.75	cu.m	Coarse sand		cu.m	
	5.40	cu.m	40 mm Aggregate		cu.m	
	5.40	cu.m	20 mm Aggregate		cu.m	
	2.70	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.86	day	Head Mazdoor		day	
	1.50	day	Mason		day	
	20.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Concrete mixer (cap. 0.40/0.28 cu.m)		hour	
	6.00	hour	Generator 33 KVA		hour	
	1.81	KL	d) water charges		KL	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)					
			e)			
	15.00	cu.m	Setting out		cu.m	
	15.00	cu.m	Vibration charges		cu.m	
	15.00	cu.m	Water charges for curing		cu.m	
	15.00	cu.m	Working at Depth		cu.m	
	15.00	cu.m	Supervision Charges		cu.m	
	15.00	cu.m	Quality control charges		cu.m	
	15.00	cu.m	Labour Shed & Site Office		cu.m	
	15.00	cu.m	Watch and Ward		cu.m	
	15.00	cu.m	Traffic Management		cu.m	
			Cost for 15 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c+d+e)/15			
12.8	C) RCC Grade M20					
	Using Concrete Mixer					
	Unit = cu.m					
	Taking output = 15 cu.m					
			a) Head Mazdoorrial			
	5.21	tonne	Cement		tonne	
	6.75	cu.m	Coarse sand		cu.m	
	8.10	cu.m	20 mm Aggregate		cu.m	
	5.40	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.86	day	Head Mazdoor		day	
	1.50	day	Mason		day	
	20.00	day	Mazdoor		day	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			c) Machinery			
	6.00	hour	Concrete mixer (cap. 0.40/0.28 cu.m)		hour	
	6.00	hour	Generator 33 KVA		hour	
	1.82	KL	d) water charges		KL	
Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)						
			e)			
	15.00	cu.m	Setting out		cu.m	
	15.00	cu.m	Shuttering Charges as per Sqm		cu.m	
	15.00	cu.m	Vibration charges		cu.m	
	15.00	cu.m	Water charges for curing		cu.m	
	15.00	cu.m	Working at Depth		cu.m	
	15.00	cu.m	Supervision Charges		cu.m	
	15.00	cu.m	Quality control charges		cu.m	
	15.00	cu.m	Labour Shed & Site Office		cu.m	
	15.00	cu.m	Watch and Ward		cu.m	
	15.00	cu.m	Traffic Management		cu.m	
			Cost for 15 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c+d+e/15)			
12.8 C	With Batching Plant, Transit Mixer and Concrete Pump					
	Unit : cu.m					
	Taking Output = 120 cu.m					
			a) Head Mazdoorrial			
	41.66	tonne	Cement		tonne	
	54.00	cu.m	Coarse Sand		cu.m	
	64.80	cu.m	20 mm Aggregate		cu.m	
	43.20	cu.m	10 mm Aggregate		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			b) Labour			
	0.84	day	Head Mazdoor		day	
	3.00	day	Mason		day	
	18.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Batching Plant @ 20 cu.m/ hour		hour	
	6.00	hour	Generator 100 KVA		hour	
	6.00	hour	Loader 1 cu.m capacity		hour	
	15.00	hour	Transit Mixer 4 cu.m capacity for lead upto 1 km.		hour	
	300L	tonne. km	Lead beyond 1 km, L-lead in km		tonne. km	
	6	hour	Concrete Pump		hour	
	16.66	KL	d) water charges		KL	
	166.64	kg	Admixtures		kg	
Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c+d)						
			e)			
	1.00	cu.m	Setting out		cu.m	
	1.00	cu.m	Shuttering Charges as per Sqm		cu.m	
	1.00	cu.m	Vibration/Compaction Charges		cu.m	
	1.00	Cu.m	Curing Concrete		Cu.m	
	1.00	Cu.m	Working at Depths		Cu.m	
	1.00	cu.m	Supervision Charges		cu.m	
	1.00	cu.m	Quality control charges		cu.m	
	1.00	cu.m	Labour Shed & Site Office		cu.m	
	1.00	cu.m	Watch and Ward		cu.m	
	1.00	cu.m	Traffic Management		cu.m	
			Cost for 1 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			Rate per cu.m = a+b+c+d+e			
			RCC Grade M30			-
12.8 G	Using Batching Plant, Transit Mixer and Concrete Pump					
	Unit = cu.m					
	Taking output = 120 cu.m					
			a) Head Mazdoorrial			
	48.00	tonne	Cement		tonne	
	54.00	cu.m	Coarse sand		cu.m	
	64.80	cu.m	20 mm Aggregate		cu.m	
	43.20	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.84	day	Head Mazdoor		day	
	3.00	day	Mason		day	
	18.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Batching Plant @ 20 cu.m/ hour		hour	
	6.00	hour	Generator 100 KVA		hour	
	6.00	hour	Loader 1 cu.m capacity		hour	
	15.00	hour	Transit Mixer 4 cu.m capacity for lead upto 1 km.		hour	
	300L	tonne. km	Transit Mixer 4 cu.m capacity lead beyond 1 Km, L - lead in Kilometer		tonne. km	
	6.00	hour	Concrete Pump		hour	
	19.20	KL	d) water charges		KL	
	192.00	kg	Admixtures		kg	
	Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)					
			e)			
	1.00	cu.m	Setting out		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	1.00	cu.m	Shuttering Charges as per Sqm		cu.m	
	1.00	cu.m	Vibration/Compaction Charges		cu.m	
	1.00	Cu.m	Curing Concrete		Cu.m	
	1.00	Cu.m	Working at Depths		Cu.m	
	1.00	cu.m	Supervision Charges		cu.m	
	1.00	cu.m	Quality control charges		cu.m	
	1.00	cu.m	Labour Shed & Site Office		cu.m	
	1.00	cu.m	Watch and Ward		cu.m	
	1.00	cu.m	Traffic Management		cu.m	
			cost of 1 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m (a+b+c+d+e)			
12.8	RCC Grade M35					
12.8 H	Using Batching Plant, Transit Mixer and Concrete Pump					
	Unit ; cu.m					
	Taking Output = 120 cu.m					
			a) Head Mazdoorial			
	49.20	tonne	Cement		tonne	
	54.00	cu.m	Coarse sand		cu.m	
	64.80	cu.m	20 mm Aggregate		cu.m	
	43.20	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.84	day	Head Mazdoor		day	
	3.00	day	Mason		day	
	18.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Batching Plant @ 20 cu.m/hour		hour	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	6.00	hour	Generator 100 KVA		hour	
	6.00	hour	Loader 1 cu.m capacity		hour	
	15.00	hour	Transit Mixer 4 cu.m capacity for lead upto 1 km.		hour	
	300L	tonne. km	Transit Mixer 4 cu.m capacity lead beyond 1 Km, L - lead in Kilometer		tonne. km	
	6.00	hour	Concrete Pump		hour	
	19.68	KL	d) water charges		KL	
	196.80	kg	Admixtures		kg	
Per Cu.m Basic Cost of Labour, Head Mazdoorial & Machinery (a+b+c)						
			e)			
	1.00	cu.m	Setting out		cu.m	
	1.00	cu.m	Shuttering Charges as per Sqm		cu.m	
	1.00	cu.m	Vibration/Compaction Charges		cu.m	
	1.00	Cu.m	Curing Concrete		Cu.m	
	1.00	Cu.m	Working at Depths		Cu.m	
	1.00	cu.m	Supervision Charges		cu.m	
	1.00	cu.m	Quality control charges		cu.m	
	1.00	cu.m	Labour Shed & Site Office		cu.m	
	1.00	cu.m	Watch and Ward		cu.m	
	1.00	cu.m	Traffic Management		cu.m	
			Cost of 1 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per cu.m = (a+b+c+d+e)			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			Forming Protective Bunds			
12.9	Forming Protective Bunds					
	Forming Protective Bunds/constructing temporary island of size 12.5 x12.5m perimeter of 50m					
	A. Assuming depth of water 1.0 m and height of island to be 1.25 m.					
	Unit = 1 No					
	Taking output = 1 No.					
			a) Head Mazdoorial			
	251.20	cu.m	Earth (compacted)		cu.m	
	750.00	each	Sand bags		each	
			b) Labour			
	0.40	day	Head Mazdoor		day	
	15.00	day	Mazdoor for filling sand bags, stitching and placing		day	
			c) Machinery			
	20.00	hour	Crane with grab 1 cu.m capacity		hour	
			Consumables			
			Total			
			Insurance @ 0.25%			
			Rate per No. (a+b+c)			
	Note: It is assumed that earth will be available within the working space of crane with grab bucket.					
	B. Assuming depth of water 4.0 m and height of island 4.5 m.					
	Unit = 1No					
	Taking output = 1 No					
			a) Head Mazdoorial			
	904.32	cu.m	Earth (compacted)		cu.m	
	6000.00	each	Sand bags		each	
	95.00	each	Wooden ballies 8" Dia and 9 m long		each	
	190.00	metre	Wooden ballies 2" Dia for bracing		metre	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			b) Labour			
	5.60	day	Head Mazdoor		day	
	18.00	day	Mazdoor for piling 8" dia ballies		day	
	12.00	day	Mazdoor for bracing with 2" dia ballies		day	
	110.00	day	Mazdoor for filling sand bags, stitching and placing		day	
			c) Machinery			
	50.00	hour	Crane with grab 1 cu.m capacity		hour	
	Consumables for stiching and other bracing arrangements for piling ballies.					
			Total			
			Insurance @ 0.25%			
			Rate per No. (a+b+c)			
						-
	C. Providing and constructing one span service road to reach island location from one pier location to another pier location					
	a. Assuming span length 30 m, width of service road 10m and depth of water 1m					
	Unit = 1 meter					
	Taking output = 30 metre					
			a) Head Mazdoorrial			
	450.00	cu.m	Earth		cu.m	
	300.00	each	Sand bags		each	
			b) Labour			
	0.24	day	Head Mazdoor		day	
	6.00	day	Mazdoor for filling sand bags, stitching and placing		day	
			c) Machinery			
	27.00	hour	Front end Loader 1 cu.m capacity		hour	
	28.00	hour	Tipper 5.5 cu.m capacity		hour	
			Cost for 30 m (a+b+c)			
			Insurance @ 0.25%			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			Total			
			Rate per m (a+b+c)/30			
b. Assuming depth of water 4.0 m and height of island 4.5 m.						
Unit = 1No						
Taking output = 1 No						
			a) Head Mazdoorial			
	3150.00	cu.m	Earth (compacted)		cu.m	
	7200.00	each	Sand bags		each	
	168.00	each	Wooden ballies 8" Dia and 9 m long		each	
	320.00	metre	Wooden ballies 2" Dia for bracing		metre	
			b) Labour			
	1.68	day	Head Mazdoor		day	
	42.00	day	Mazdoor for piling 8" dia ballies		day	
	19.00	day	Mazdoor for bracing with 2" dia ballies		day	
	176.00	day	Mazdoor for filling sand bags, stitching and placing		day	
			c) Machinery			
	53.00	hour	Crane with grab 1 cu.m capacity		hour	
			Consumables and other arrangements for piling ballies.			
			Total			
			Insurance @ 0.25%			
			Cost for 30m of 4.5 ht and 10m wide. (a+b+c)			
			Rate per m (a+b+c)/30			-
						-

Sl. No	Qty	Unit	Description	Rate	Per	Amount
PILE DATA						
			RCC Grade M35			
			Using Concrete Mixer			
			Unit = cu.m			
			Taking output = 15 cu.m			
			a) Head Mazdoorrial			
	6.33	tonne	Cement		tonne	
	6.75	cu.m	Coarse sand		cu.m	
	8.10	cu.m	20 mm Aggregate		cu.m	
	5.40	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.86	day	Head Mazdoor		day	
	1.50	day	Mason		day	
	20.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Concrete mixer (cap. 0.40/0.28 cu.m)		hour	
	6.00	hour	Generator 33 KVA		hour	
	6.00	hour	Light Crane 3 tonnes capacity for handling tremie pipe		hour	
	3.17	KL	d) water charges		KL	
	21.60	kg	Admixtures		kg	
	Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)					
	Using Batching Plant, Transit Mixer and Concrete Pump					
	Unit : cu.m					
	Taking Output = 120 cu.m					
			a) Head Mazdoorrial			
	49.20	tonne	Cement		tonne	
	54.00	cu.m	Coarse sand		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	64.80	cu.m	20 mm Aggregate		cu.m	
	43.20	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.84	day	Head Mazdoor		day	
	3.00	day	Mason		day	
	18.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Batching Plant @ 20 cu.m/hour		hour	
	6.00	hour	Generator 100 KVA		hour	
	6.00	hour	Loader 1 cu.m capacity		hour	
	15.00	hour	Transit Mixer 4 cu.m capacity for lead upto 1 km.		hour	
	300L	tonne. km	Transit Mixer 4 cu.m capacity lead beyond 1 Km, L - lead in Kilometer		tonne. km	
	6.00	hour	Concrete Pump		hour	
	19.68	KL	d) water charges		KL	
	196.80	kg	Admixtures		kg	
	Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)					
12.23	Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.					
	Pile diameter-750 mm					
	Unit = meter					
	Taking output = 15 m					
			a) Head Mazdoorrials			
	6.62	cu.m	Grade M35		cu.m	
	Rate for concrete may be adopted same as for bottom plug vide item no. 12.11(C) (IV)					
	Concrete to be cast with a tremie pipe 200mm dia.					
			b) Machinery (for boring and construction)			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	6.00	hour	Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.		hour	
	0.50	hour	Hire and running charges of light crane for lowering reinforcement cage		hour	
	6.00	hour	Hire and running charges of Bentonite pump		hour	
	0.30	hour	Loader I cu.m bucket capacity.		hour	
	0.30	hour	Tipper 5.5 cu.m capacity for disposal of muck from pile bore hole		hour	
	300.00	kg	Bentonite		kg	
			c) Labour			
	0.14	day	Head Mazdoor/Supervisor		day	
	3.50	day	Mazdoor		day	
			d)			
	13.24	KL	Water for washing the bore		KL	
	1.00	metre	Cost for Chiselling		metre	
			Cost for Protective bunds (If necessary)			
	15.00	metre	Cost for confirmatory bore		metre	
	15.00	metre	Cost for Initial Load test		metre	
	15.00	metre	Cost for Routine Load test		metre	
			Cost for 15 m = a+b+c+d			
			Rate per metre (a+b+c+d)/15			
12.24	Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.					
	Pile diameter-1000 mm					
	Unit = meter					
	Taking output = 10 m					
			a) Head Mazdoorials			
	7.85	cu.m	Grade M35		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	Rate for concrete may be adopted same as for bottom plug vide item no. 12.11(C) (IV)					
	Concrete to be cast with a tremie pipe 200mm dia.					
			b) Machinery (for boring and construction)			
	6.00	hour	Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.		hour	
	0.50	hour	Hire and running charges of light crane for lowering reinforcement cage		hour	
	6.00	hour	Hire and running charges of Bentonite pump		hour	
	0.40	hour	Loader I cu.m bucket capacity.		hour	
	0.40	hour	Tipper 5.5 cu.m capacity for disposal of muck from pile bore hole		hour	
	350.00	kg	Bentonite		kg	
			c) Labour			
	0.16	day	Head Mazdoor/Supervisor		day	
	4.00	day	Mazdoor		day	
			d)			
	15.70	KL	Water for washing the bore		KL	
	1.00	metre	Cost for Chiselling		metre	
			Cost for Protective bunds (If necessary)			
	10.00	metre	Cost for confirmatory bore		metre	
	10.00	metre	Cost for Initial Load test		metre	
	10.00	metre	Cost for Routine Load test		metre	
			Cost for 10 m = a+b+c+d			
			Rate per metre (a+b+c+d)/10			

Sl. No	Qty	Unit	Description	Rate	Per	Amount
12.25	Bored cast-in-situ M35 grade R.C.C. Pile excluding Reinforcement complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m.					
	Pile diameter-1200 mm					
	Unit = meter					
	Taking output = 9 m					
			a) Head Mazdoorials			
	10.17	cu.m	Grade M35		cu.m	
	Rate for concrete may be adopted same as for bottom plug vide item no. 12.11(C) (IV)					
	Concrete to be cast with a tremie pipe 200mm dia.					
			b) Machinery(for boring and construction)			
	6.00	hour	Hire and running charges of hydraulic piling rig with power unit and complete accessories including shifting from one bore location to another.		hour	
	0.50	hour	Hire and running charges of light crane for lowering reinforcement cage		hour	
	6.00	hour	Hire and running charges of Bentonite pump		hour	
	0.50	hour	Loader I cu.m bucket capacity.		hour	
	0.50	hour	Tipper 5.5 cu.m capacity for disposal of muck from pile bore hole		hour	
	385.00	kg	Bentonite		kg	
			c) Labour			
	0.18	day	Head Mazdoor/Supervisor		day	
	4.50	day	Mazdoor		day	
			d)			
	20.34	KL	Water for washing the bore		KL	
	1.00	metre	Cost for Chiselling		metre	
			Cost for Protective bunds (If necessary)			
	9.00	metre	Cost for confirmatory bore		metre	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	9.00	metre	Cost for Initial Load test		metre	
	9.00	metre	Cost for Routine Load test		metre	
			Cost for 9 m = a+b+c+d			
			Rate per metre (a+b+c+d)/9			
12.38	Cement Concrete for Reinforced Concrete in Pile Cap complete as per Drawing and Technical Specification					
12.38	RCC Grade M30					
	<i>Unit = cu.m</i>					
12.38C	Using Batching Plant, Transit Mixer and Concrete Pump					
	<i>Taking output = 120 cu.m</i>					
			a) Head Mazdoorial			
	48.00	tonne	Cement		tonne	
	54.00	cu.m	Coarse sand		cu.m	
	64.80	cu.m	20 mm Aggregate		cu.m	
	43.20	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	1.28	day	Head Mazdoor		day	
	3.04	day	Mason		day	
	20.00	day	Mazdoor for concreting		day	
	8.00	day	Mazdoor for breaking pile head, bending bars, cleaning etc.		day	
			c) Machinery			
	6.00	hour	Batching Plant @ 20 cu.m/hour		hour	
	6.00	hour	Generator 100 KVA		hour	
	6.00	hour	Loader (capacity 1 cu.m)		hour	
			Transit Mixer (capacity 4.0 cu.m)			
	15.00	hour	Lead upto 1 Km		hour	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	300L	tonne. km	Lead beyond 1 Km, L - lead in Kilometer		tonne. km	
	6.00	hour	Concrete Pump		hour	
			Formwork @ 4 per cent on cost of concrete i.e. cost of a) Head Mazdoorrial, b) Labour and c) Machinery			
	19.20	KL	d) water charges		KL	
	172.80	kg	Admixtures		kg	
Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)						
			e)			
	1.00	cu.m	Setting out		cu.m	
	1.00	cu.m	Shuttering Charges as per Sqm		cu.m	
	1.00	cu.m	Vibration/Compaction Charges		cu.m	
	1.00	Cu.m	Curing Concrete		Cu.m	
	1.00	Cu.m	Working at Depths		Cu.m	
	1.00	cu.m	Supervision Charges		cu.m	
	1.00	cu.m	Quality control charges		cu.m	
	1.00	cu.m	Labour Shed & Site Office		cu.m	
	1.00	cu.m	Watch & Ward		cu.m	
	1.00	cu.m	Traffic Management		cu.m	
			Cost for 1 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per metre (a+b+c+d+e)			
12.38	RCC Grade M35					
	Unit = cu.m					
12.38D	Using Batching Plant, Transit Mixer and Concrete Pump					
			a) Head Mazdoorrial			
	49.20	tonne	Cement		tonne	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	54.00	cu.m	Coarse sand		cu.m	
	64.80	cu.m	20 mm Aggregate		cu.m	
	43.20	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	1.28	day	Head Mazdoor		day	
	3.04	day	Mason		day	
	20.00	day	Mazdoor for concreting		day	
	8.00	day	Mazdoor for breaking pile head, bending bars, cleaning etc.		day	
			c) Machinery			
	6.00	hour	Batching Plant @ 20 cu.m/hour		hour	
	6.00	hour	Generator 125 KVA		hour	
	6.00	hour	Loader (capacity 1 cu.m)		hour	
			Transit Mixer (capacity 4.0 cu.m)			
	16.00	hour	Lead upto 1 Km		hour	
	300L	tonne. km	Lead beyond 1 Km, L - lead in Kilometer		tonne. km	
	6.00	hour	Concrete Pump		hour	
	19.68	KL	d) water charges		KL	
	259.20	kg	Admixtures		kg	
			Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)			
			e)			
	1.00	cu.m	Setting out		cu.m	
	1.00	cu.m	Shuttering Charges as per Sqm		cu.m	
	1.00	cu.m	Vibration/Compaction Charges		cu.m	
	1.00	Cu.m	Curing Concrete		Cu.m	
	1.00	Cu.m	Working at Depths		Cu.m	
	1.00	cu.m	Supervision Charges		cu.m	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	1.00	cu.m	Quality control charges		cu.m	
	1.00	cu.m	Labour Shed & Site Office		cu.m	
	1.00	cu.m	Watch & Ward		cu.m	
	1.00	cu.m	Traffic Management		cu.m	
			Cost for 1 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per metre (a+b+c+d+e)			
12.39	Levelling Course for Pile cap					
	Providing and laying of PCC M15 levelling course 100mm thick below the pile cap.					
	Unit = cu.m					
	Taking output = 15 cu.m					
			a) Head Mazdoorial			
	4.13	tonne	Cement		tonne	
	6.75	cu.m	Coarse sand		cu.m	
	8.10	cu.m	40 mm aggregate		cu.m	
	4.05	cu.m	20 mm Aggregate		cu.m	
	1.35	cu.m	10 mm Aggregate		cu.m	
			b) Labour			
	0.86	day	Head Mazdoor		day	
	1.50	day	Mason		day	
	20.00	day	Mazdoor		day	
			c) Machinery			
	6.00	hour	Concrete mixer (cap. 0.40/0.28 cu.m)		hour	
	6.00	hour	Generator 33 KVA		hour	
	2.07	KL	d) water charges		KL	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
			Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)			
			e)			
	1.00	cu.m	Setting out		cu.m	
	1.00	cu.m	Vibration/Compaction Charges		cu.m	
	1.00	Cu.m	Curing Concrete		Cu.m	
	1.00	Cu.m	Working at Depths		Cu.m	
	1.00	cu.m	Supervision Charges		cu.m	
	1.00	cu.m	Quality control charges		cu.m	
	1.00	cu.m	Labour Shed & Site Office		cu.m	
	1.00	cu.m	Watch & Ward		cu.m	
	1.00	cu.m	Traffic Management		cu.m	
			Cost for 1 cu.m = a+b+c+d+e			
			Insurance @ 0.25%			
			Total			
			Rate per metre (a+b+c+d+e)			
12.40	Supplying, Fitting and Placing un-coated HYSD bar Reinforcement in Foundation complete as per Drawing and Technical Specifications.					
	Unit = 1 MT					
	Taking output = 1 MT					
			a) Head Mazdoorrial			
	1.05	tonne	HYSD bars including 5 per cent overlaps and wastage		tonne	
	6.00	Kg	Binding wire		Kg	
			b) Labour for cutting, bending, shifting to site, tying and placing in position			
	0.40	day	Head Mazdoor		day	
	2.00	day	Blacksmith		day	
	6.00	day	Mazdoor		day	

Sl. No	Qty	Unit	Description	Rate	Per	Amount
	1.00	MT	c) Setting out		MT	
	1.00	MT	Supervision Charges		MT	
	1.00	MT	Quality control charges		MT	
	1.00	MT	Labour Shed & Site Office		MT	
	1.00	MT	Traffic Management		MT	
	1.00	MT	Hirecharges for cutting and Bending Machinery		MT	
	1.00	MT	Intercarting charges from Yard to site		MT	
	1.00	MT	Hoisting charges		MT	
	1.00	MT	Lighting Charges		MT	
			Total			
			Insurance @ 0.25%			
			Rate for per MT (a+b+c)			
12.41	Supplying, fitting and placing un-coated Mild steel reinforcement complete in foundation as per drawing and technical specification					
	Unit = 1 MT					
	Taking output = 1 MT					
			a) Head Mazdoorial			
	1.05	tonne	MS bars including 5 per cent overlaps and wastage		tonne	
	6.00	Kg	Binding wire		Kg	
			b) Labour for straightening, cutting, bending, shifting to site, tying and placing in position			
	0.43	day	Head Mazdoor		day	
	2.25	day	Blacksmith		day	
	6.50	day	Mazdoor		day	
			Total			
			Insurance @ 0.25%			
			Rate for per MT (a+b)			

SUB-STRUCTURE

Sr No	Qty	Unit		Description	Per	Rate	Amount
13.5	B	PCC Grade M20					
	(p)	Height upto 5m					
		Subdata					
	B	PCC Grade M20					
		<i>Unit : cu.m</i>					
		<i>Taking output = 15 cu.m</i>					
				a) Head Mazdoorrial			
	5.16	tonne		Cement	tonne		
	6.75	cu.m		Coarse sand	cu.m		
	5.40	cu.m		40 mm Aggregate	cu.m		
	5.40	cu.m		20 mm Aggregate	cu.m		
	2.70	cu.m		10 mm Aggregate	cu.m		
				b) Labour			
	0.86	day		Head Mazdoor	day		
	1.50	day		Mason	day		
	20.00	day		Mazdoor	day		
				c) Machinery			
	6.00	hour		Concrete mixer (cap. 0.40/0.28 cu.m)	hour		
	6.00	hour		Generator 33 KVA	hour		
				d)			
	1.81	KL		Water charges @ 0.35	KL		
	<i>Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery</i>						
	Per Cu.m Basic Cost						
				e)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering charges and Staging charges	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Curing Concrete	Cu.m		

Sr No	Qty	Unit		Description	Per	Rate	Amount
		Sqm		Covering with Gunny Cloth	Sqm		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			
13.5	G	RCC Grade M30					
	(p)	Height upto 5m					
				FOR COLUMN PIER			
13.5	G (p)	With Batching Plant, Transit Mixer and Concrete Pump					
				Unit = cu.m			
				Taking output = 120 cu.m			
				a) Head Mazdoorrial			
	48.00	tonne		Cement	tonne		
	54.00	cu.m		Coarse sand	cu.m		
	64.80	cu.m		20 mm Aggregate	cu.m		
	43.20	cu.m		10 mm Aggregate	cu.m		
				b) Labour			
	0.84	day		Head Mazdoor	day		
	3.00	day		Mason	day		
	18.00	day		Mazdoor	day		
				c) Machinery			
	6.00	hour		Batching Plant @ 20 cu.m/hour	hour		
	6.00	hour		Generator 100 KVA	hour		
	6.00	hour		Loader 1 cu.m capacity	hour		

Sr No	Qty	Unit		Description	Per	Rate	Amount
	15.00	hour		Transit Mixer 4 cu.m capacity for lead upto 1 km.	hour		
	300L	tonne. km		Transit Mixer 4 cu.m capacity lead beyond 1 Km, L - lead in Kilometer	tonne. km		
	6.00	hour		Concrete Pump	hour		
	19.20	KL		d) water charges @ 0.5	KL		
	192.00	kg		Admixtures @ 5%	kg		
Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)							
Per Cu.m Basic Cost							
				e)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering charges and Staging charges	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Curing Concrete	Cu.m		
		Sqm		Covering with Gunny Cloth	Sqm		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			

Sr No	Qty	Unit		Description	Per	Rate	Amount
13.5 G	(q)	Height 5m to 10m					
13.5 G (q)		With Batching Plant, Transit Mixer and Concrete Pump					
		PIER CAP					
		Per Cu.m Basic Cost					
	e)						
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering Charges as per Sqm	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Curing Concrete	Cu.m		
		Sqm		Covering with Gunny Cloth	Sqm		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			
13.5 G	(r)	Height above 10m					
13.5 G (r)		With Batching Plant, Transit Mixer and Concrete Pump					
		Per Cu.m Basic Cost					
				e)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering Charges as per Sqm	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Curing Concrete	Cu.m		

Sr No	Qty	Unit		Description	Per	Rate	Amount
		Sqm		Covering with Gunny Cloth	Sqm		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			
13.5	H	RCC Grade M35					
	(p)	Height upto 5m					
13.5	H (p)	With Batching Plant, Transit Mixer and Concrete Pump					
		Unit ; cu.m					
		Taking Output = 120 cu.m					
				a) Head Mazdoorrial			
	49.20	tonne		Cement	tonne		
	54.00	cu.m		Coarse sand	cu.m		
	64.80	cu.m		20 mm Aggregate	cu.m		
	43.20	cu.m		10 mm Aggregate	cu.m		
				b) Labour			
	0.84	day		Head Mazdoor	day		
	3.00	day		Mason	day		
	18.00	day		Mazdoor	day		
				c) Machinery			
	6.00	hour		Batching Plant @ 20 cu.m/hour	hour		
	6.00	hour		Generator 100 KVA	hour		
	6.00	hour		Loader1 cu.m capacity	hour		

Sr No	Qty	Unit		Description	Per	Rate	Amount
	15.00	hour		Transit Mixer 4 cu.m capacity for lead upto 1 km.	hour		
	300L	tonne.km		Transit Mixer 4 cu.m capacity lead beyond 1 Km, L - lead in Kilometer	tonne.km		
	6.00	hour		Concrete Pump	hour		
	19.68	KL		d) water charges @ 0.5	KL		
	196.80	kg		Admixtures @ 5%	kg		
Per Cu.m Basic Cost of Labour, Head Mazdoorrial & Machinery (a+b+c)							
Per Cu.m Basic Cost							
				e)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering Charges as per Sqm	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Curing Concrete	Cu.m		
		Sqm		Covering with Gunny Cloth	Sqm		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			
13.5 H	(q)	Height 5m to 10m					
13.5 H (q)		With Batching Plant, Transit Mixer and Concrete Pump					
		For PIER CAP					
		Per Cu.m Basic Cost					

Sr No	Qty	Unit		Description	Per	Rate	Amount
				e)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering Charges as per Sqm	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Curing Concrete	Cu.m		
		Sqm		Covering with Gunny Cloth	Sqm		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			
13.5 H	(r)	Height above 10m					
13.5 H (r)		With Batching Plant, Transit Mixer and Concrete Pump					
		Per Cu.m Basic Cost					
				e)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering Charges as per Sqm	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Curing Concrete	Cu.m		
		Sqm		Covering with Gunny Cloth	Sqm		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		

Sr No	Qty	Unit		Description	Per	Rate	Amount
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			
13.8	Providing weep holes in /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 1V :20H towards drawing force. Complete as per drawing and Technical Specifications						
	Unit = Nos.						
	Taking output = 30 Nos.						
				a) Material			
	31.50	metre		PVC pipe 100 mm dia. including wastage @ 5 per cent)	metre		
				Average length of weep hole is taken as one metre for the purpose of estimating.			
				b) Labour			
	0.03	day		Mate	day		
	0.50	day		Mason	day		
	0.25	day		Mazdoor	day		
				c)			
				Setting out			
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Cost for 30 m = a+b+c			

Sr No	Qty	Unit		Description	Per	Rate	Amount
				Rate per m (a+b+c)/30			
				Insurance @ 0.25%			
				Total			
13.9	Back filling behind abutment, wing wall and return wall complete as per drawing and Technical Specification						
	Unit = cu.m						
	Taking output = 10 cu.m						
	A Granular material						
				a) Labour			
	0.28	day		Mate	day		
	7.00	day		Mazdoor	day		
				b) Material			
	12.00	cu.m		Granular material	cu.m		
				c) Machinery			
	0.25	hour		Vibratory roller	hour		
	0.05	hour		Water Tanker	hour		
				d)			
	10.00	Cu.m		Setting out	Cu.m		
	2.00	KL		Water Charges @ 20%	KL		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Cost for 10 cu.m of granular backfill = a+b+c+d			
				Rate per cu.m = (a+b+c+d)/10			
				Insurance @ 0.25%			

Sr No	Qty	Unit		Description	Per	Rate	Amount
				Total			
13.9	B	Sandy material					
				a) Labour			
	0.28	day		Mate	day		
	7.00	day		Mazdoor for filling, watering, ramming etc.	day		
				b) Material			
	12.00	cu.m		Sand	cu.m		
				c) Machinery			
	2.50	hour		Plate compactor/power rammer	hour		
	0.06	hour		Water Tanker	hour		
				d)			
	10.00	Cu.m		Setting out	Cu.m		
	2.00	KL		Water Charges @ 20%	KL		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Cost for 10 cu.m of Sandy backfill = a+b+c+d			
				Rate per cu.m = (a+b+c+d)/10			
				Insurance @ 0.25%			
				Total			

Sr No	Qty	Unit	Description	Per	Rate	Amount
13.10	Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size 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.					
	Unit = cu.m					
	Taking output = 10 cu.m.					
			a) Labour			
	0.32	day	Mate	day		
	7.00	day	Mazdoor for filling, watering, ramming etc.	day		
	1.00	day	Mazdoor (Skilled)	day		
			b) Material			
	12.00	cu.m	Filter media of stone aggregate conforming to clause 2504.2.2. of MoRTH specifications.	cu.m		
			c) Machinery			
	0.06	hour	Water Tanker of 6 KL capacity	hour		
			d)			
	10.00	Cu.m	Setting out	Cu.m		
	0.50	sqm	Geo Synthetic wrapper	sqm		
			cost for 10 cu.m of Fiter Media = a+b+c+d			
			Rate per cu.m = (a+b+c+d)/10			
			Insurance @ 0.25%			
			Total			

SUPER-STRUCTURE

Sr No	Quantity	Unit	Description	Per	Rate	Cost
RCC Grade M35 for T- Beam Deck slab Super Structure for 6m Ht						
Using Batching Plant, Transit Mixer and Concrete Pump						
Unit = cu.m						
Taking output = 120 cu.m						
a) Material						
	49.20	tonne	Cement	tonne		
	54.00	cu.m	Coarse sand	cu.m		
	64.80	cu.m	20 mm Aggregate	cu.m		
	43.20	cu.m	10 mm Aggregate	cu.m		
b) Labour						
	0.88	day	Mate	day		
	3.00	day	Mason	day		
	19.00	day	Mazdoor	day		
c) Machinery						
	6.00	hour	Batching Plant @ 20 cu.m/ hour	hour		
	6.00	hour	Generator 100 KVA	hour		
	6.00	hour	Loader	hour		
			Transit Mixer (capacity 4.0 cu.m)			
	15.00	hour	Transit Mixer 4 cu.m capacity lead upto1 Km	hour		
	300L	tonne. km	Lead beyond 1 Km, L - lead in Kilometer	tonne. km		
	6.00	hour	Concrete Pump	hour		
	19.68	KL	d) Water charges		KL	
	216.00	kg	Admixtures	kg		
Basic Cost of Labour, Material & Machinery (a+b+c+d) for 120 cu.m						
Cost per Cu.m						
Basic cost per Cu.m						

Sr No	Quantity	Unit		Description	Per	Rate	Cost
				e)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Shuttering Charges/Form work as per Sqm	cu.m		
	1.00	cu.m		Centering /Staging with working Platform as per Requirement	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Water charges for Curing Concrete	Cu.m		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per Cu.m			
				Insurance @ 0.25%			
				Total			
14.2	Supplying, fitting and placing HYSD bar reinforcement complete as per drawing and technical specifications						
	Unit = 1 MT						
	Taking output = 1 MT						
				a) Material			
	1.05	tonne		HYSD bars including 5 per cent for laps and wastage	tonne		
	8.00	Kg		Binding wire	Kg		
				b) Labour for cutting, bending, tying and placing in position			
	0.44	day		Mate (Fitter I Class)	day		
	3.00	day		Blacksmith	day		
	8.00	day		Mazdoor	day		
				Basic Cost of Labour & Material (a+b)			

Sr No	Quantity	Unit		Description	Per	Rate	Cost
	1.00	MT		c) Setting out	MT		
	1.00	MT		Supervision Charges	MT		
	1.00	MT		Quality control charges	MT		
	1.00	MT		Labour Shed	MT		
	1.00	MT		Traffic Management	MT		
	1.00	MT		Hire charges for cutting and Bending Machinery	MT		
	1.00	MT		Intercarting charges from Yard to site	MT		
	1.00	MT		Hoisting charges	MT		
	1.00	MT		Lighting Charges	MT		
	1.00	MT		Charges for Fabrication Yard	MT		
	1.00	MT		Fabrication Yard Watch and Ward	MT		
				Total			
				Insurance @ 0.25%			
				Rate for per MT = a+b+c			
14.4	Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and Technical Specifications						
	Unit = 1 cu.m						
	Taking output = 1 cu.m						
				a) Material			
	1.00	cu.m		Cement concrete M30 Grade excluding formwork	cu.m		
				Add Steel Reinforcement as Seperate item			
				b) Labour			
	0.15	day		Mazdoor for cleaning deck slab concrete surface.	day		
				c)			
	1.00	cu.m		Setting out	cu.m		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Water charges for Curing Concrete	Cu.m		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		

Sr No	Quantity	Unit	Description	Per	Rate	Cost
	1.00	cu.m	Quality control charges	cu.m		
	1.00	cu.m	Labour Shed & Site Office	cu.m		
	1.00	cu.m	Watch and Ward	cu.m		
	1.00	cu.m	Traffic Management	cu.m		
			Rate per cu.m (a+b+c)			
			Insurance @ 0.25%			
			Rate per Cu.m Total			
14.6	Construction of precast RCC railing of M30 Grade, aggregate size not exceeding 12 mm, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.					
	Unit = 1 RM					
	Taking output = 2 x 24 m span = 48 m					
			a) Material			
	4.09	cu.m	Cement concrete M30 Grade Refer relevant item of concrete in Item 14.1(C) by using batching plant, excluding formwork i.e. per cu.m basic cost (a+b+c)	cu.m		
			No. of vertical posts = $(12 + 2)2 = 28$ Nos., External area of vertical post $0.25 \times 0.275 = 0.069$ sqm, Concrete in Vertical posts = $0.069 \times 28 = 1.932$ cu.m, Hand rail in 3 tiers = $3 \times 24 = 72$ m, External area = $0.170 \times 0.175 = 0.03$ sqm, Concrete in hand rails = $0.03 \times 72 = 2.16$ cu.m, Total Concrete = $1.932 + 2.16 = 4.092$ cu.m. (Refer MoRTH SD / 202).			
			Add Steel Reinforcement as Necessary			
			Refer MoRTH SD / 202.			
			b)			
	1.00	cu.m	Setting out	cu.m		
		Sqm	Form work Charges	Sqm		
	1.00	cu.m	Handling Charges	cu.m		
	1.00	cu.m	Vibration/Compaction Charges	cu.m		

Sr No	Quantity	Unit		Description	Per	Rate	Cost
	1.00	Cu.m		Water charges for Curing Concrete	Cu.m		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate for 48 m (a+b)			
				Rate per metre (a+b)/48			
				Insurance @ 0.25%			
				Rate per M			-
	Note 1.Quantities of material have been adopted from standard plans of MoRTH vide drawing no. SD/202.						
	2.48 m length is the total linear length adding both sides of 24 m span.						
14.10	PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specification						
	Unit = 1 cu.m						
	Taking output = 1 cu.m						
				Material			
	1.00	cu.m		Concrete, Rate excluding formworks	cu.m		
				b)			
	1.00	cu.m		Setting out	cu.m		
		sqm		Centering Charges	sqm		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Water charges for Curing Concrete	Cu.m		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per cu.m			-
				Insurance @ 0.25%			-

Sr No	Quantity	Unit		Description	Per	Rate	Cost
				Rate per Cu.m			-
14.11	Reinforced cement concrete approach slab including reinforcement and formwork complete as per drawing and Technical specification						
				Unit = 1 cu.m			
				Taking output = 1 cu.m			
				a) Material			
	1.00	cu.m		Cement concrete M30 Grade by using batching plant, excluding formwork	cu.m		
				Add Steel Reinforcement as Seperate item			
				b)			
	1.00	cu.m		Setting out	cu.m		
		sqm		Centering Charges	sqm		
	1.00	cu.m		Vibration/Compaction Charges	cu.m		
	1.00	Cu.m		Water charges for Curing Concrete	Cu.m		
	1.00	Cu.m		Working at Heights	Cu.m		
	1.00	cu.m		Supervision Charges	cu.m		
	1.00	cu.m		Quality control charges	cu.m		
	1.00	cu.m		Labour Shed & Site Office	cu.m		
	1.00	cu.m		Watch and Ward	cu.m		
	1.00	cu.m		Traffic Management	cu.m		
				Rate per cu.m (a+b)			
				Insurance @ 0.25%			
				Rate per Cu.m			-
	Note: The grade of reinforced cement concrete may be adopted as M30 for severe conditions and M25 for moderate conditions.						
14.22	Strip Seal Expansion Joint						
	Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 70 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.						
	Unit = Running meter						

Sr No	Quantity	Unit	Description	Per	Rate	Cost
	Taking output = 12 m					
			a) Labour			
	0.05	day	Mate	day		
	1.00	day	Mazdoor	day		
	0.25	day	Mazdoor (Skilled)	day		
			b) Material			
	12.00	metre	Supply of complete assembly of strip seal expansion joint comprising of edge beams, anchorage, strip seal element and complete accessories as per approved specifications and drawings.	metre		
			Add 5 per cent of cost of material for anchorage reinforcement, welding and other incidentals.			
			c)			
	1.00	cu.m	Setting out	cu.m		
	1.00	cu.m	Vibration/Compaction Charges	cu.m		
	1.00	Cu.m	Water charges for Curing Concrete	Cu.m		
	1.00	Cu.m	Working at Heights	Cu.m		
	1.00	cu.m	Supervision Charges	cu.m		
	1.00	cu.m	Quality control charges	cu.m		
	1.00	cu.m	Labour Shed & Site Office	cu.m		
	1.00	cu.m	Watch and Ward	cu.m		
	1.00	cu.m	Traffic Management	cu.m		
			Cost for 12 m = (a+b+c)			
			Rate per m = (a+b+c)/12			
			Insurance @ 0.25%			
			Rate per RM			-

SUB-DATA

General Items to be Covered in the Data

- 1 Supervision Charges
- 2 Quality control charges
- 3 Labour Shed & Site Office
- 4 Traffic Management

These items shall be added to all Earth work, Filling, concreting, GSB, WMM and Bituminous works in Bridges

- 5 Watch and Ward

1 **Supervision Charges**

Considering a Bridge work having a duration of -- years. It is required to Employ the following list of Engineers for Supervising the Planning the day to day activities at site

Project Manager	(above 15 yrs Exp)	-	1	x	=
Site Engineer	(10 yrs Exp)	-	1	x	=
Junior Engineer	(5 yrs Exp)	-	3	x	=
Quantity surveyor	(5 yrs Exp)	-	1	x	=
Electrical Engineer	(5 yrs Exp)	-	1	x	=
	per month			A	=
For --- yrs	A X Months	:		x	24 = B

This value shall be distributed to all items of work

A bridge of -----m length

No of spans	:	nos of
Solid Ramp portion	:	m on either side

Calculating the Quantities

Quantity of all items

- 1 Earth work all quantites
 - 2 PCC M10
 - 3 RCC Quantities
- a Footing
 - b Substructure
 - c Superstructure
 - d Wearing coat

- e Crash Barrier
 - f Drain / Kerb
 - g Retaining wall
- 4 Road work Quantities
- a Earth work cutting and filling
 - b GSB
 - c WMM
 - d DBM
 - e BC

Total Quantity C =

Distributing in the items of work

B / C

Hence Charges per M³ of work

/ =

2 Quality control charges

Quality control charges can be assumed as per the test charges given by HRS

The test charges for each item of work at the respective intervals are taken

3 Labour Shed & Site Office

Considering

Number of Labour :

Drivers, Operator & cleaner :

Watch and Ward :

Total A :

Assuming 4 labours can occupy a Shed of 3x3m

No of shed A / 4

/ 4 :

or

Add for Office 2

Add for Rest rooms 6

Total

Area

$$x \quad 9 = \quad m^2$$

Cost of Construction per Sqm for Shed using Tin Sheet ,cc flooring and Electrification

$$x \quad 2300 =$$

Distributing in the items of work

$$\text{Hence Charges per } m^3 \text{ of work} \quad / \quad =$$

4 Traffic Management

Barricading the work site is essential in modern day construction. The main purpose for barricading is to provide safety for the road users. Primarily it is to differentiate the Construction area from the Traffic. Barricades with reflective signage help in guiding the traffic in a safe manner.

Fully covered MS sheet Barricade for 3m ht and 3m long

	L	wt	Rate
ISMC 100 Horizontal	3 x	9.2 x	=
ISMC 100 Vertical	6 x	9.2 x	=
MS sheet 1.5mm Th	9 x	11.78 x	=
ISMC 200 Horizontal bottom leg	2 x	22.1 x	=
Bracing ISA 60x60x6	12 x	5.4 x	=
Cost of Materials			
Deduct Depreciation after 2 yrs@ 40%			= -0.00
Cost of Fabrication	290.5 x	- x	=
Cost of Painting	18 sqm	x	=
Reflective Tapes	L.S		= 50.00
Nails for Fixing	L.S		= 100.00
Lifting Crane	L.S		= 100.00
Lighting with LED strip lights	3 x	- x	= 1500
Cost of Barricade for 3m length			=
Cost of Barricade per m length			=
considering Project length of ----m			=
Barricading both sides along the road of 2 x ---- m			=
Cost of Barrication			=
Distributing in the items of work			
Hence Barricading Charges per m ³ of work			/ =

5 Watch and Ward at Fabrication Yard

Employing 2 persons per shift 3 shifts per day

No of Persons required

$$2 \times 3 \times \text{days} \times \text{yrs} = \text{nos.}$$

Cost per month

$$\text{nos} \times =$$

Hence Charges per M³ of work

$$= / =$$

Mazdoor II : @ / =
 Total =
 Cost of Bailing out : / = per Cu.m
 or per 10 cu.m

b Moderate intensity recharging area where pumping with higher capacity is need to be operated continuously

Excavation Volume =
 Considering Filled with water = A
 Pumping operation done continuously or with stoppages
 Considered as three times the volume =

Machinery required

10Hp motor Discharge capacity 108.00 cu.m per hr
 Time required = / 108.00 = hrs

Cost involved

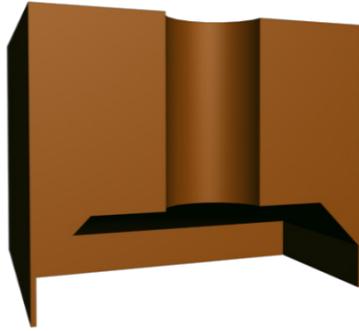
Hire charges for 10 hp motor : @ / day =
 Diesel charges (/ltr) : @ 3 Lts/ hr =
 Mazdoor II 2 x : @ / day =
 Total =
 Cost of Bailing out : / = per Cu.m
 or per 10 cu.m

c For High intensity Recharging areas where Deep well or Well point Dewatering system required Dewatering shall be Considered as a seperate Bill of Quantity item

Trimming the Bed and Removing of Deleterious Material

Cleaning the last 300mm by manual means (3.5nos Mazdoor for 10 cu.m)
 Volume of Earth removed x x = cu.m
 Mazdoor Required for removal nos x @ =
 Cost per cu.m / = per cu.m

Back filling



Back filling considered with cut material. In urban areas where dumping of materials is not possible. Disposal can be provided for suitable distance as separate item. Refilling the Footing Excavation can be done with quarry fines and shall be considered as separate item

Footing concrete

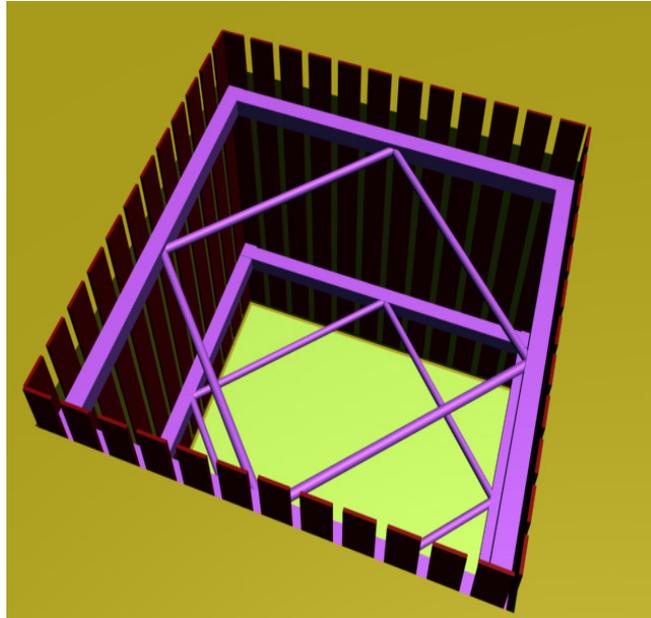
Base	:	x	x	=	cu.m
Trapezoidal	:	x	x	=	cu.m
			Total	=	cu.m
Column Concrete	0.785 x	1.8 x	1.8 x	=	cu.m
Total concrete				=	cu.m
Refilling Quantity	:	-		=	cu.m
% of Refilling	:	/		=	%

Cost for Filling

Considering 180 cu.m per day for excavator	/	180	=	day
cost		x	=	
Cost of Refilling	:	/	=	per cu.m

Shoring for Foundations

Shoring in foundations shall be considered only in Soft soils and suitable locations



	a	b	c	
Size of Footing assumed	x	x		
Shoring assumed to be done with				
1 Wooden Planks of size @ 0.4m c/c	(c+0.5) ←		x	0.3 x 0.04
2 Horizontal Bracers using Channels	(a) →		x	0.15 x 0.075
3 Tie using Turn buckkle or Pipes			5.0 x	0.1 dia

Cost of Materials

1 Cost of Wooden planks

Quantity of each plank	x	0.3	x	0.04	=	cu.m
No of planks	4 x	→	(b/0.4)		=	nos
Total quantity of planks		x			=	cu.m
cost of planks		x			=	
Considering 10 operations		/	10			A

2 Horizontal Bracers using Channels

cost of Channel 12 nos x @ 24 kg/m = kg

3 Tie using Turn buckle or Pipes

Cost of Turn buckle 12 nos x @ 14 kg/m = kg

Total Steel cost x =

Considering 25 operations / 25 **B**

4 Cost of labour

Head mazdoor 1 nos x =

Mazdoor I 6 nos x =

C

5 Cost for Installation

Cost for cranes 4 Hrs x =

Bolts and other consumables =

D

Total cost involved for Shoring (A+B+C+D) =

Cost per Cu.m / = per cu.m

2 Water Charges for Mixing of Concrete

Water Charges for Mixing shall be calculated based on the Water Cement ratio. For design mixes actual water content specified shall be adopted.

assumption made

Grade	W/C ratio	
PCC M15	0.35	Concrete Mixer
PCC M20	0.35	Concrete Mixer
PCC M25	0.4	Concrete Mixer
PCC M25	0.4	Batching Plant and Transit Mixer
PCC M30	0.4	Concrete Mixer
PCC M30	0.4	Batching Plant and Transit Mixer
RCC M20 -25	0.4	Concrete Mixer
RCC M20 -25	0.4	Batching Plant and Transit Mixer
RCC M30 -35	0.4	Concrete Mixer & Batching Plant and Transit Mixer

3 Cost for Admixtures in Concrete

Admixtures are used as Retarders in RMC for transit purpose

Admixtures are also used to increase the Workability in concrete

Admixtures are used in higher grade concretes above M20 to limit the cement content and increase the strength

For Design Mixes Actual Content of Admixtures shall be adopted

assumption made for model calculation

Grade	Admixture	
PCC M15	nil	Concrete Mixer
PCC M20	nil	Concrete Mixer
PCC M25	0.4	Concrete Mixer
PCC M25	0.4	Batching Plant and Transit Mixer
PCC M30	0.4	Concrete Mixer
PCC M30	0.4	Batching Plant and Transit Mixer

RCC M20 -25	0.4	Concrete Mixer
RCC M20 -25	0.4	Batching Plant and Transit Mixer
RCC M30 -35	0.4	Concrete Mixer & Batching Plant and Transit Mixer

4 Cost for Shuttering /Form work

Considering form work for foundation of the above Major bridge

Shuttering for one pier foundation is considered for calculation as a sample

Shuttering area of 1 footing

1x4

$$4 \times \quad \times \quad - \quad \times \quad 1.00 = \quad \text{sqm}$$

Shuttering area per cu.m of concrete is

$$/ \quad = \quad \text{sqm/cu.m}$$

Cost of Fabrication of a 1.2x0.9m wall form sheets

Materials

Using BG 10 sheets

Area of the sheet

$$1 \times \quad 1.20 \times \quad 0.90 \times \quad - \quad = \quad 1.1 \text{ sqm}$$

wt of the sheet

$$1 \times \quad 1.08 @ \quad 23.50 \times \quad - \quad = \quad 25.4 \text{ kg}$$

Angles ISA 40x40x5

Length of Angles

$$2 \times \quad 1.20 \times \quad - \quad \times \quad - \quad = \quad 2.4 \text{ m}$$

$$2 \times \quad 0.90 \times \quad - \quad \times \quad - \quad = \quad 1.8 \text{ m}$$

$$4.2 \text{ m}$$

$$\text{wt of Angles} \quad 1 \times \quad 4.20 @ \quad 3.00 \times \quad - \quad = \quad 12.6 \text{ kg}$$

Flats 40x5

$$1 \times \quad 1.20 \times \quad - \quad \times \quad - \quad = \quad 1.2 \text{ m}$$

$$1 \times \quad 0.90 \times \quad - \quad \times \quad - \quad = \quad 0.9 \text{ m}$$

$$2.1 \text{ m}$$

$$\text{wt of Flats} \quad 1 \times \quad 2.10 @ \quad 1.57 \times \quad - \quad = \quad 3.3 \text{ kg}$$

$$\text{Total Wt of Materials in the floor form sheet} \quad = \quad 41.3 \text{ kg}$$

Cost of Fabrication of a 1.2x0.9m floor form sheets

Material cost	1 x	41.28 @	x	-	=
Welding cost	1 x	41.28 @	x	-	=
					=

Similarly Pipes 80mm required for bracing the sheets

2x4

	8 x	x	-	x	-	=	m
Stirrup heads and Strutting materials	@ 10%					=	m
							m
Wt of Pipes	1 x	@	6.46	x	-	=	kg
Cost of Pipes	1 x	@		x	-	=	

Quantity of material required for Form work in Footing

No of Sheets required when sheets placed 1.2m vertically

Perimeter of the footing

	4 x	x	-	x	-	=	m
No of Sheets required		/	0.90			=	nos
						or	nos

Cost of ---- Sheets

	x	x			=
--	---	---	--	--	---

Cost of Pipes

=

Total cost of Materials

=

Assuming usage of 40 cycles

Cost per usage

/ =

Cost of Labour

Carpenter Gr- I 0.5 x =

Carpenter Gr- II 0.5 x =

Mazdoor Gr - II 2 x =

=

Total cost of Materials and Labour + =

Cost per Cu.m / =

5 Vibration Charges (Adopted as per SOR)

6 Water charges for Curing Concrete

Assuming Curing done in foundation for 7 days

Labour Charges

0.25x7

Mazdoor II : 1.75 no @ =

Assuming it requires 100 ltrs per time for 5 times a day

Hence water required for curing a footing

Water qty : 5 times x 100 ltrs x 7 days = 3500.00 ltrs

Cost of water : 3500 @ per ltr =

Total cost required for Curing + =

Cost of curing per cu.m / =

Sub Datas for Piling works

- 1 **Bund formation**
- 2 **Bund road formation**
- 3 **Water for boring and washing** (2 times the bore shaft Vol.@Rs75/1000ltr)
- 4 **Water for Concreting**
- 5 **Admixture for concreting**
- 6 **Cost for chiseling out excess concrete**
- 7 **Initial load test**
- 8 **Routine load test**

Essential Inputs

PILE Dia	:		m
Pile Length	:		m
Depth of Liner	:		m
Total no of Piles	:		no
Total Length of Piles	:		m
No of Initial Load tests	:		no
No of Routine Load tests	:		no
Load on Pile	:		MT
Wt of steel reinforcement for single pile	:		MT

Sub Data for Chiselling out excess concrete

6a	0.75 m dia Pile				
	Taking Extra concrete as	0.75	m	ht	
	Concrete Quantity	$3.14 \times ((0.75)^2) / 4$			
		1 x	0.442	x	0.75 = 0.33 cu.m
	Cutting the liners				
	Welder	1 x	0.25	x	=
	Hire charges	1 x	0.25	x	=
	Labour charges for Chiselling	1 x	0.3315	x	=
	Total				

Length of Pile is =
 Out put considered for 15.0 m =
 Cost for Chiselling for a out put of 15.0 m =

b

1.00 m dia Pile
 Taking Extra concrete as 1.00 m ht
 Concrete Quantity $3.14 \times ((1.0)^2) / 4$
 1 x 0.785 x 1.00 = 0.79 cu.m

Cutting the liners

Welder 1 x 0.25 x =
 Hire charges 1 x 0.25 x =
 Labour charges for Chiselling 1 x 0.785 x =

Total

Length of Pile is =
 Out put considered for 10.0 m =
 Cost for Chiselling for a out put of 10.0 m =

c

1.20 m dia Pile
 Taking Extra concrete as 1.20 m ht
 Concrete Quantity $3.14 \times ((1.2)^2) / 4$
 1 x 1.13 x 1.20 = 1.36 cu.m

Cutting the liners

Welder 1 x 0.25 x =
 Hire charges 1 x 0.25 x =
 Labour charges for Chiselling 1 x 1.356 x =

Total

Length of Pile is =
 Out put considered for 9.0 m =
 Cost for Chiselling for a output of 9.0 m =

7 Initial Load Test for 1.0m dia pile

Considering

Load on Pile = MT

Test Load = MT

Dia of the Pile = 1.0 m

Length of Pile = m

Length of Liner = m

Wt of liner 3.14×1.003

$0.006 \times 3.149 \times$ =

wt 1×7850.00 = MT

Wt of Reinforcement = MT

Cost of Test Pile

Cost for Concreting $1 \times$ =

Cost for Reinforcement $1 \times$ =

Cost for Liner $1 \times$ =

=

Cost of Concrete Blocks

size $1 \times 1 \times 1$ = 1.00 cu.m

wt of each block 1×2.4 = 2.40 MT

Total Block required $\frac{\text{Test load}}{\text{wt of oneblock}} / 2.4$ = nos

Cost of Concrete \times =

Cost per usage considering 25 usage $/ 25$ =

Cost for Testing

Hire charges for ISMB 600 5 nos =

Hire charges for ISMB 450 16 nos =

Hire Charges for 6mm plate 144 sqm =

Hire Charges for Floor plate 2 nos =

Hire charges for Jack =

Hire charges for Crane days hrs

Loading 3 8 @ =

UnLoading 3 8 @ =

Cost of Concrete blocks =

Testing Charges = 20000

=

No of Initial Load tests = nos

Cost of Initial Load test per RM

Piles	x	=	
load test	x	=	
Total		=	
Total length of Piles		=	
Cost of initial load test per RM of Pile		=	

8 Routine Load Test

Considering

Load on Pile	=	MT
Test Load	=	MT
Dia of the Pile	=	1.0 m
Length of Pile	=	m
Length of Liner	=	m

Cost of Concrete Blocks

size	1 x	1 x	1	=	1.00 cu.m
wt of each block	1 x		2.4	=	2.40 MT
Total Block required	Test load /	/	2.4	=	nos
	wt of oneblock				

Cost of Concrete	x	=	
Cost per usage considering 25 usage	/	25	=

Cost for Testing

Hire charges for ISMB 600	4 nos	=	
Hire charges for ISMB 450	16 nos	=	
Hire Charges for 6mm plate	144 sqm	=	
Hire Charges for Floor plate	2 nos	=	
Hire charges for Jack		=	
Hire charges for Crane	days	hrs	
Loading	2	8 @	=
UnLoading	2	8 @	=
Cost of Concrete blocks		=	
Testing Charges		=	20000
		=	
No of Routine Load tests		=	nos

Cost of Routine Load test per RM

load test	x	=	
Total length of Piles		=	
Cost of Routine load test per RM of Pile		=	

7b Initial Load Test for 1.2m dia pile

Considering

Load on Pile		=	MT
Test Load		=	MT
Dia of the Pile		=	1.2 m
Length of Pile		=	m
Length of Liner		=	m
Wt of liner	3.14 x 1.003		
	0.006 x 3.149 x	=	
wt	1 x	x	7850.00 = MT

Wt of Reinforcement = MT

Cost of Test Pile

Cost for Concreting	1 x	x	=
Cost for Reinforcement	1 x	x	=
Cost for Liner	1 x	x	=
			=

Cost of Concrete Blocks

size	1 x	1 x	1 =	1.00 cu.m
wt of each block	1 x		2.4 =	2.40 MT
Total Block required	Test load /	/	2.4 =	nos
	wt of oneblock			

Cost of Concrete x =

Cost per usage considering 25 usage / 25 =

Cost for Testing

Hire charges for ISMB 600	5 nos	=
Hire charges for ISMB 450	16 nos	=
Hire Charges for 6mm plate	144 sqm	=
Hire Charges for Floor plate	2 nos	=

Hire charges for Jack			=	
Hire charges for Crane	days	hrs		
Loading	4	8 @	=	
UnLoading	4	8 @	=	
Cost of Concrete blocks			=	
Testing Charges			=	20000
			=	
No of Initial Load tests			=	nos

Cost of Initial Load test per RM

Piles		x	=	
load test		x	=	
Total			=	
Total length of Piles			=	
Cost of initial load test per RM of Pile			=	

8 Routine Load Test

Considering

Load on Pile			=	MT
Test Load			=	MT
Dia of the Pile			=	1.2 m
Length of Pile			=	m
Length of Liner			=	m

Cost of Concrete Blocks

size	1 x	1 x	1	=	1.00 cu.m
wt of each block	1 x		2.4	=	2.40 MT
Total Block required	Test load /	/	2.4	=	nos
	wt of oneblock				

Cost of Concrete		x	=	
Cost per usage considering 25 usage		/	25	=

Cost for Testing

Hire charges for ISMB 600	5	nos	=	
Hire charges for ISMB 450	16	nos	=	
Hire Charges for 6mm plate	144	sqm	=	

Hire Charges for Floor plate	2	nos	=	
Hire charges for Jack			=	
Hire charges for Crane	days	hrs		
Loading	2	8 @	=	
UnLoading	2	8 @	=	
Cost of Concrete blocks			=	
Testing Charges			=	20000
			=	
No of Routine Load tests			=	nos
Cost of Routine Load test per RM				
load test		2 x	=	
Total length of Piles			=	
Cost of Routine load test per RM of Pile			=	

Sub Data for Substructure

- 1 Water Charges for Mixing Concrete
- 2 Cost for Admixtures in Concrete
- 3 Setting out
- 4 Cost for Shuttering /Form work
- 5 Cost for Staging/Centering with working platform based on Dead & operating wt and Ht of the Substructure
- 6 Vibration Charges (Adopted as per SOR)
- 7 Water charges for Curing Concrete
- 8 Cost for Covering the Exposed area of Concrete with Gunny Cloth (Same as Shuttering area)
- 9 Working at Heights (Adopted as per SOR)

1 Water Charges for Mixing of Concrete

Water Charges for Mixing shall be calculated based on the Water Cement ratio. For design mixes actual water content specified shall be adopted.

assumption made

Grade	W/C ratio	
PCC M15	0.35	Concrete Mixer
PCC M20	0.35	Concrete Mixer
PCC M25	0.4	Concrete Mixer
PCC M25	0.4	Batching Plant and Transit Mixer
PCC M30	0.4	Concrete Mixer
PCC M30	0.4	Batching Plant and Transit Mixer
RCC M20 -25	0.4	Concrete Mixer
RCC M20 -25	0.4	Batching Plant and Transit Mixer
RCC M30 -35	0.4	Concrete Mixer &Batching Plant and Transit Mixer

2 Cost for Admixtures in Concrete

Admixtures are used as Retarders in RMC for transit purpose

Admixtures are also used to increase the Workability in concrete

Admixtures are used in higher grade concretes above M20 to limit the cement content and increase the strength

For Design Mixes Actual Content of Admixtures shall be adopted assumption made for model calculation

Grade	Admixture %	
PCC M15	nil	Concrete Mixer
PCC M20	nil	Concrete Mixer
PCC M25	0.4	Concrete Mixer
PCC M25	0.4	Batching Plant and Transit Mixer
PCC M30	0.4	Concrete Mixer
PCC M30	0.4	Batching Plant and Transit Mixer
RCC M20 -25	0.4	Concrete Mixer
RCC M20 -25	0.4	Batching Plant and Transit Mixer
RCC M30 -35	0.4	Concrete Mixer & Batching Plant and Transit Mixer

3 **Setting out**

For Substructure

Abutments & Piers Quantities

Total no of Sub structure nos

Assuming concreting done in 3 layers (---- Sub structure x0.5 days)

Total days of Marking x 3 = days

Technical Assitant Gr - I x =

Mason Class - I x =

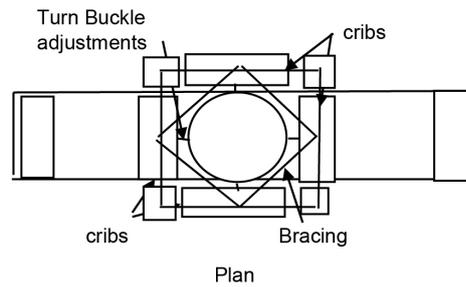
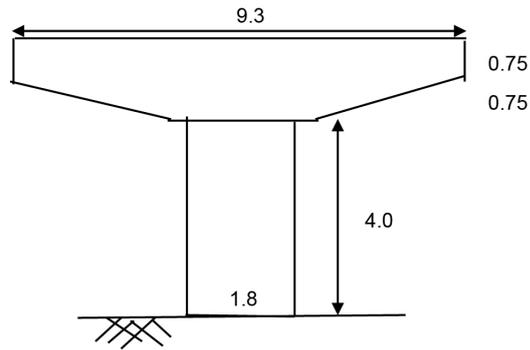
Mazdoor Gr- II 2 nos x =

Instrument Rental = 10000

Total =

Cost per Cu.m = / =

4 **Cost for Shuttering /Form work**



Calculating Shuttering area for

Column

$$3.14 \times \quad \times \quad = \quad \text{sqm}$$

Calculating cost of shuttering for Column pier

Materials

Area of 3mm sheet = sqm

Wt of 3mm sheets sqm @ 23.55 kg/m² = kg

Length of Angles and Flats

ISA 40x40x5

Along circumference @ 0.5m

$$8 \times 3.14 \times 0.5 = 12.56 \text{ m}$$

Along vertical for making 2 halves

$$2 \times 3.14 \times 0.5 = 6.28 \text{ m}$$

Wt of ISA 40x40x5 $12.56 \text{ m} @ 3.00 \text{ kg/m} = 37.68 \text{ kg}$

Flats 40x5 along vertical @ 0.3m

$$6 \times 3.14 \times 0.3 = 5.89 \text{ m}$$

Wt of flats 40x5 $5.89 \text{ sqm} @ 1.57 \text{ kg/m}^2 = 9.25 \text{ kg}$

Total Wt of Materials for Column Pier

$$37.68 \text{ kg} + 9.25 \text{ kg} = 46.93 \text{ kg}$$

Cost of Materials $46.93 \text{ kg} @ 1.50 \text{ /kg} = 70.395$

Cost of Fabrication $46.93 \text{ kg} @ 1.50 \text{ /kg} = 70.395$

Total Cost $70.395 + 70.395 = 140.79$

Assuming usage of 25 cycles

Cost per usage $140.79 / 25.00 = 5.63 \text{ A}$

Crips

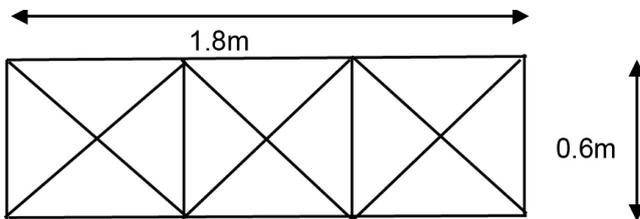
Wt of Each Crip

Angle size 75x75x6mm

Flat size 75x6mm

Angle

Longitudinal



1) $1 \times 4 \times 1.8 = 7.2$

2) Cross $4 \times 4 \times 0.6 = 9.6$

16.8 RM

Length of the Flats size 40x6mm

1) Cross $3 \times 4 \times 0.85 = 10.2$

10.2 RM

Total Wt of one CRIP

MS Angles

$$16.8 \text{ Rm} @ 6.8 \text{ kg/Rm} = 114.24 \text{ kg}$$

MS Flats

$$10.2 \text{ RM} @ 2.1 \text{ kg/Rm} = 21.42 \text{ kg}$$

$$114.24 + 21.42 = 135.66 \text{ kg}$$

Cost of Material	135.66	x	/kg	(change the cost as per SOR)	=
Cost of Fabrication	135.66	x	/kg	S.O.R	=

Cost of Single crip

Calculating No of Crips

sides	1x4				
		4	x		= nos
corners	1x4				
		4	x		= nos
Total crips required					= nos

Cost of Crips		x			=
Add 10% for Bracings , Stirup heads , Clamps,Turn Buckles etc					=

Assuming usage of 25 cycles

Cost per usage		/	25.00		= B
----------------	--	---	-------	--	-----

Cost of Labour

	days		nos		
Carpenter Gr- I	2	x	1	x	=
Mazdoor Gr - II	2	x	2	x	=
					= C

Cost of Machinery

Hire Charges for Crane	2	x	4	x	= D
------------------------	---	---	---	---	-----

Total Cost (A+B+C+D)

+ + + =

Concrete quantity			(D^2)/4		
	3.14	x	x		= cu.m

Cost of Shuttering and Staging for column pier

Cost per cu.m of concrete		/			=
---------------------------	--	---	--	--	---

Pier Cap

Calculating Shuttering area for

Capping beam

Shuttering area of Pier cap		=			sqm
-----------------------------	--	---	--	--	-----

Calculating cost of shuttering for Pier cap

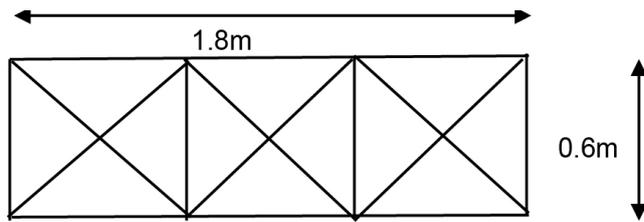
Materials

Area of 3mm sheet		=			sqm
-------------------	--	---	--	--	-----

Wt of 3mm sheets			sqm	@	23.55	kg/m ²	=		kg
Length of Angles and Flats									
ISA 40x40x5									
Along Horizontal									
top & mid	2 x 2								
	4 x	-	x		x	-	=		m
Bottom	2 x	-	x		x	-	=		m
taper	2 x 2								
	4 x	-	x		x	-	=		m
Sides	2 x 2								
	4 x	-	x		x	-	=		m
Sides	2 x 2								
	4 x	-	x		x	-	=		m
Total length of angles									= m
Wt of ISA 40x40x5			m	@	3.00	kg/m ²	=		kg
Flats 40x5 along vertical									
	2 x 18								
	36 x		x	-	x	-	=		m
Wt of flats 40x5			m	@	1.57	kg/m ²	=		kg
ISMC 100									
	2 x 3								
	6 x		x	-	x	-	=		m
Wt of ISMC 100			m	@	9.20	kg/m ²	=		kg
Total Wt of Materials for Pier cap									
	+		+		+		=		kg
Cost of Materials			kg	@		/kg	=		
Cost of Fabrication			kg	@		/kg	=		
Total Cost							=		
Assuming usage of 25 cycles									
Cost per usage			/		25.00		=		A

Crips

Wt of Each Crip
 Angle size 75x75x6mm
 Flat size 75x6mm
 Angle



Longitudinal	1)	1 x	4 x	1.8	=	7.2	
Cross	2)	4 x	4 x	0.6	=	9.6	
						16.8	RM

Length of the Flats size 40x6mm

Cross	1)	3 x	4 x	0.85	=	10.2	
						10.2	RM

Total Wt of one CRIP

MS Angles

$$16.8 \text{ Rm} @ 6.8 \text{ kg/Rm} = 114.24 \text{ kg}$$

MS Flats

$$10.2 \text{ RM} @ 2.1 \text{ kg/Rm} = 21.42 \text{ kg}$$

$$135.66 \text{ kg}$$

$$\text{Cost of Material} \quad 135.66 \quad \times \quad /\text{kg} \quad =$$

$$\text{Cost of Fabrication} \quad 135.66 \quad \times \quad /\text{kg} \quad \text{S.O.R} \quad =$$

Cost of Single crip

Calculating No of Crips

$$\begin{aligned} \text{sides} & \quad 2 \times 3 \\ & \quad 6 \times & = & \quad \text{nos} \end{aligned}$$

$$\text{Total crips required} \quad = \quad \text{nos}$$

$$\text{Cost of Crips} \quad \times \quad =$$

$$\text{Add 10\% for Bracings, Stirup heads, Clamps} \quad = \quad \mathbf{B}$$

Assuming usage of 25 cycles

$$\text{Cost per usage} \quad / \quad 25.00 \quad =$$

Cost of Labour

days nos

$$\text{Carpenter Gr- I} \quad 2 \times \quad 1 \times \quad =$$

$$\text{Mazdoor Gr - II} \quad 2 \times \quad 2 \times \quad =$$

$$= \quad \mathbf{C}$$

Water qty	:	5 times	x	100 ltrs	x	14 days	=	7000.00 ltrs
Cost of water	:	7000		@		per ltr	=	
Cost for pumping 0.5 Hp (including hire charges and working cost)								
		3.5		days		@	=	
Total cost required for Curing			+		+		=	
Cost of curing per cu.m					/		=	

8 **Cost for Covering the Exposed area of Concrete with Gunny Cloth
(Same as Shuttering area)**

Cost of Gunny bags @ Rs: 10/sqm

9 **Working at Heights (Adopted as per SOR)**

Sub Data for Super structure

- 1 Water Charges for Mixing Concrete
- 2 Cost for Admixtures in Concrete
- 3 Setting out
- 4 Cost for Shuttering /Form work
- 5 Cost for Staging/Centering with working platform based on Dead & operating wt and Ht of the Super structure
- 6 Vibration Charges (Adopted as per SOR)
- 7 Water charges for Curing Concrete
- 8 Working at Heights (Adopted as per SOR)

1 Water Charges for Mixing of Concrete

Water Charges for Mixing shall be calculated based on the Water Cement ratio. For design mixes actual water content specified shall be adopted.

assumption made

Grade	W/C ratio	
RCC M20 -25	0.4	Concrete Mixer
RCC M20 -25	0.4	Batching Plant and Transit Mixer
RCC M30 -35	0.4	Concrete Mixer & Batching Plant and Transit Mixer
RCC M35 -40	0.4	Concrete Mixer & Batching Plant and Transit Mixer
RCC M40 & above	0.4	Concrete Mixer & Batching Plant and Transit Mixer

2 Cost for Admixtures in Concrete

Admixtures are used as Retarders in RMC for transit purpose

Admixtures are also used to increase the Workability in concrete

Admixtures are used in higher grade concretes above M20 to limit the cement content and increase the strength

For Design Mixes Actual Content of Admixtures shall be adopted

assumption made for model calculation

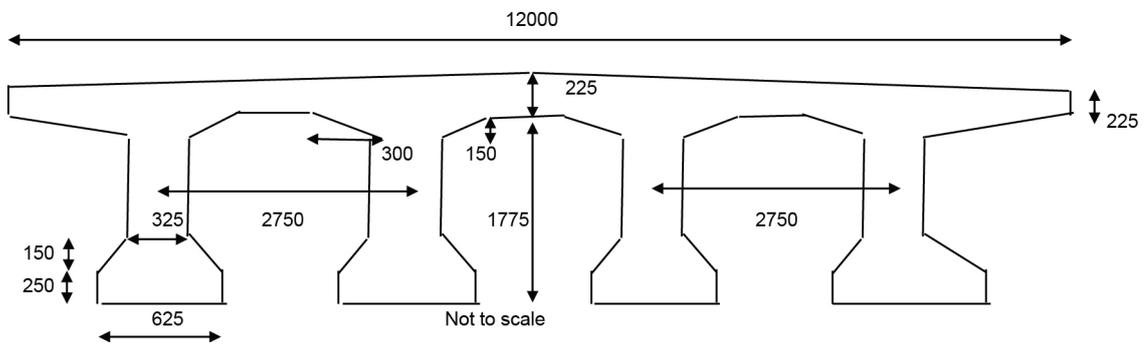
Grade	Admixture %	
RCC M20 -25	0.4	Concrete Mixer
RCC M20 -25	0.4	Batching Plant and Transit Mixer
RCC M30 -35	0.4	Concrete Mixer & Batching Plant and Transit Mixer
RCC M40 -50	0.4	Concrete Mixer & Batching Plant and Transit Mixer
RCC M50 -55	0.4	Concrete Mixer & Batching Plant and Transit Mixer

3 Setting Out

Quantity for T BEAM - Deck slab

			Total	=	cu.m
For Marking					
Technical Assistant	Gr-I	4	x	=	
Mason	Gr - I	1	x	=	
Mason	Gr - II	1	x	=	
Mazddor	Gr-I	2	x	=	
Carpenter	Gr- I	1	x	=	
Carpenter	Gr- II	1	x	=	
Instrument Rental					5000
				Total	=
Cost per Cu.m for Setting out in Superstructure			=	/	=

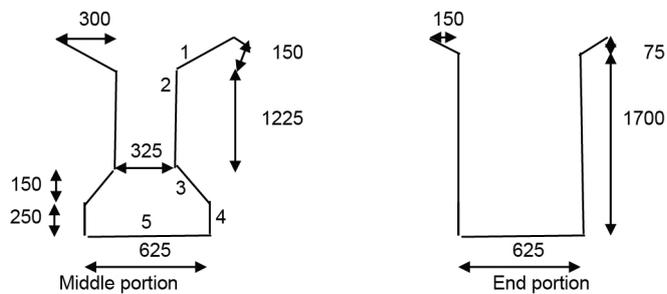
4 Shuttering and Form work



Calculation of Shuttering cost for Girders

Shuttering area

Girder



Middle Portion	Length	m	
1)	2 x		=
2)	2 x		=
3)	2 x		=
4)	2 x		=
5)	1 x		=

End Portion	Length	m	
1)	2 x		=
2)	2 x		=
3)	1 x		=

Varying Portion	Length	m	
Average		+ /2	

Calculating Surface Area for 3mm sheet in Shuttering

End portion		x	=	
Varying Portion		x	=	
Middle Portion		x	=	
Exp joint side	2	x	=	
				Total = sqm

Calculating length of Angle 40x40x5mm in Shuttering

Angles are welded on the periphery of the Shuttering panels
Average length of the each side shutters is considered as 1.2m

Length of the Angles

Verticals	1)	2 x	x	=
Horizontal long	2)	2 x	x	=
Horizontal short	3)	1 x	x	=

RM

Length of Flats 40x5mm

Verticals	1)	1 x	x	=
Horizontal long	2)	1 x	x	=
Horizontal short	3)	1 x	x	=

RM

Similarly for Deck Slab

Calculating Surface Area for 3mm sheet in Deck slab Shuttering

Area of the Slab	1)	1	x		x	=	
Deduction for Girders		4	x		x	=	
						=	Area

Calculating length of Angle 40x40x5mm in Deck slab Shuttering

Angles are Welded on the periphery of the Shuttering panels

Average size of the each side shutters is considered as 0.6x1.2m

Length of the Angles

Longitudinal	1)	x	2	x	3	x	=	
Cross	2)	x	2	x	3	x	=	
								RM

Length of the Flats size 40x5mm

Longitudinal	1)	x	1	x	3	x	=	
Cross	2)	x	1	x	3	x	=	
								RM

Total Requirement of Steel for Fabrication

Steel plate of 3mm Thick

Girder	x	sqm	@	23.6	kg/sqm	=	kg
Decks slab	x	sqm	@	23.6	kg/sqm	=	kg

MS Angles of size 40x40x5mm

Girder	x	sqm	@	3	kg/sqm	=	kg
Decks slab	x	sqm	@	3	kg/sqm	=	kg

MS Flats of size 40x5mm

Girder	x	sqm	@	1.57	kg/sqm	=	kg
Decks slab	x	sqm	@	1.57	kg/sqm	=	kg

Total Steel for Fabrication = kg

Cost of Material x /kg =

Cost of Fabrication x /kg S.O.R =

Add for Periodic Maintenance @ 10% =

Add for Bolts, fasteners, foam rubber sheets for joints, Tie rods etc @ 10% =

Total cost of 1 shuttering set for 1 span =

Considering 25 repetitions / 25 =

Surface Area	+	=	sqm
Shuttering Area per Cu.m of Concrete	/	=	
Material Cost of Shuttering per sqm	/	=	
Material Cost of Shuttering per Cu.m of Concrete	A	/	=

Cost of Labour

Beam Bottom

Girders

Carpenter Gr- I	2	x	=
Carpenter Gr- II	2	x	=
Mazdoor Gr - II	4	x	=

Beam sides

Girders

Carpenter Gr- I	4	x	=
Carpenter Gr- II	4	x	=
Mazdoor Gr - II	8	x	=

Deck Slab

Carpenter Gr- I	2	x	=
Carpenter Gr- II	4	x	=
Mazdoor Gr - II	6	x	=
Deshuttering			
Carpenter Gr- II	8	x	=
Mazdoor Gr - II	8	x	=

Total cost of Labour =

Labour Cost of Shuttering per Cu.m of Concrete **B** / =

Cost of Machinery

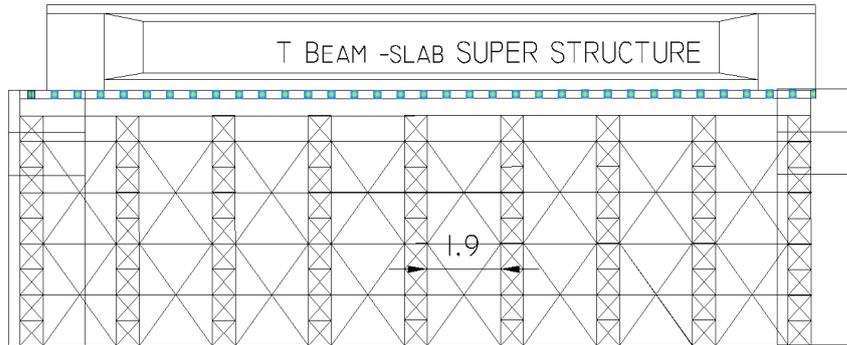
Hire Charges for Crane 4 x 8 x =

Hire charges for Cost of Shuttering per Cu.m of Concrete **C** / =

TOTAL COST OF SHUTTERING PER Cu.m **A + B + C** =

or

5 Cost for Staging/Centering with working platform based on Dead & operating wt and Ht of the Super structure



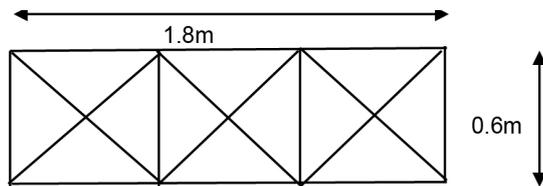
Considering a span of $\quad\quad\quad$ m c/c
 Staging using Crips of size 1.8x0.6x0.6m
 Ht of staging considered as $\quad\quad\quad$ m
 Spacing of the Crips tower is considered as 2.5mc/c
 ISMB 200 is Spread above Crips for Placing the stirrup Head at approximate spacing of 0.5m

Calculation of Materials

Crips

No of Towers	+	=		
end			Centre	
Calculation of No of Crips	row	col	ht	
Ends by the side of Pier cap	x	x	=	nos
Centre	x	x	=	nos
Total Crips			=	nos

Wt of Each Crip
 Angle size 75x75x6mm
 Flat size 75x6mm
 Angle



Longitudinal	1)	1 x	4 x	1.8	=	7.2
Cross	2)	4 x	4 x	0.6	=	9.6
						16.8 RM

Length of the Flats size 40x6mm

Cross	1)	x	4 x	0.85	=	10.2
-------	----	---	-----	------	---	------

Total Wt of one CRIP **10.2 RM**

MS Angles								
	16.8	Rm	@	6.8	kg/Rm	=	114.24	kg
MS Flats								
	10.2	RM	@	2.1	kg/Rm		21.42	kg
							135.66	kg
Cost of Material	135.66	x		/kg		=		
Cost of Fabrication	135.66	x		/kg	S.O.R	=		
	Cost of Single crip							
Total cost of the Crips		x			nos	=		
ISMB200 Longitudinal								
No of ISMB section	/			0.5		=		
Length	x					=		RM
Cost of Material	x			29.8	kg/m @	/kg	=	B
ISMC75 @ Beam Bottom Cross								
	x	4	x	0.7		=		
Cost of Material	x			17	kg/m @	/kg	=	C
ISMC75 @ Deck floor form Bottom Longitudinal								
	no of spans			Length				
	x	3	x			=		
Cost of Material	x			17	kg/m @	/kg	=	C
Vertical Pipes for supporting Deck slab								
No of Pipes	x		x			=		nos
Total length of the pipes	x		ht			=		RM
Cost of the Pipe	x	3.5	wt	x		/kg	=	D
Total cost of Staging Materials	=	(A+B+C+D)				=		
Assuming to be used for 25 repetitions				/	25	=		X
Cost of Labour								
Carpenter Gr- I				4	x	=		
Mazdoor Gr - II				8	x	=		
						=		E
Cost of Machinery								
Hire Charges for Crane		5	x		8	x	=	F

Cost of Staging	(X+E+F)	=
Add for Clamps and Bracings, Stirrup Heads	10%	=
Add for Periodic Maintenance	10%	=
	Total	=
Total cost of Staging per Cu.m	/	=

b. Considering span of 40 m with Obligatory of 2 x 7.5m

Considering a span of m c/c Box Girder Superstructure

Staging using Crips of size 1.8x0.6x0.6m

Ht of staging considered as-----m

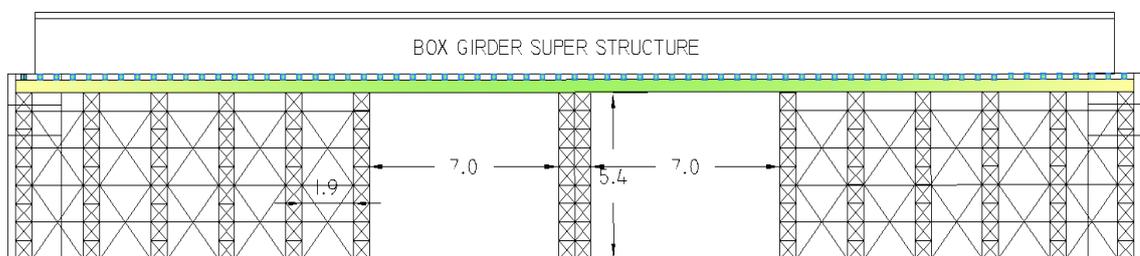
Spacing of the Crips tower is considered as 2.5mc/c

ISMB 400 is Spread above Crips for Placing the stirrup Head at approximate spacing of 0.5m

Calculation of Materials

Crips

No of Towers	2	+		=	
	end		Centre		
Calculation of No of Crips	row		col		ht
Ends by the side of Pier cap	2	x	4	x	= nos
Centre		x		x	= nos
Total Crips					= nos
Total cost of the Crips		x		nos	= A



ISMB400 Longitudinal

No of ISMB section	L		nos	=	4.00
Length		x	6	=	RM
Cost of Material		x	49.4 kg/m @	/kg	= B

ISMC100 Transverse

No of ISMC section	/	0.5	=	
Length	12 x		=	RM
Cost of Material	x	9.2 kg/m @	/kg =	B

Pipes for supporting Deck slab

No of Pipes	x	x	=	nos
Total length of the pipes	x	ht	=	RM
Cost of the Pipe	x	3.5 wt x	/kg =	D

Total cost of Staging Materials = (A+B+C+D) =

Assuming to be used for 25 repetitions / 25 = **X**

Cost of Labour	days	nos		
Carpenter Gr- I	6 x	2 x	=	
Mazdoor Gr - II	6 x	8 x	=	
			=	E

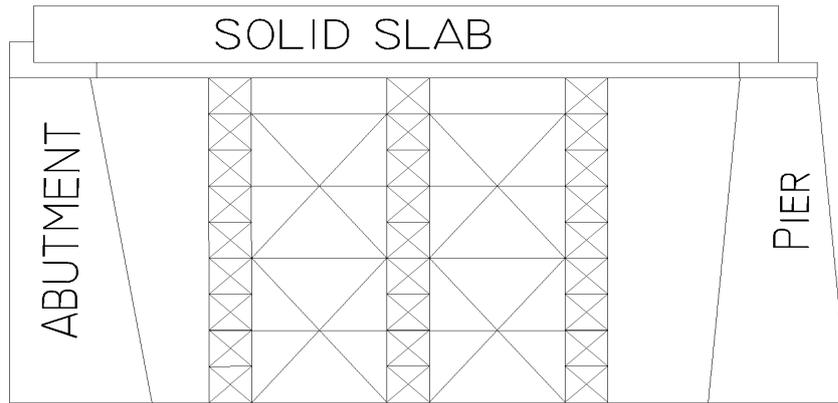
Cost of Machinery

Hire Charges for Crane	6 x	8 x	=	F
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Cost of Staging	(X+E+F)	=	
Add for Clamps and Bracings, Stirrup Heads	10%	=	
Add for Periodic Maintenance	10%	=	
	Total	=	

Total cost of Staging per Cu.m / =

c **Considering span of 6.0 m clear, 12 m wide Deck**



Staging using Crips of size 1.8x0.6x0.6m

Ht of staging considered as----m

Spacing of the Crips tower is considered as 1.5mc/c

ISMB 200 is Spread above Crips for Placing the stirrup Head at approximate spacing of 0.5m

Calculation of Materials

Crips

No of Towers

	end	Centre			
Calculation of No of Crips	row	col	ht		
Centre	x	x	=		nos
Total Crips			=		nos
Total cost of the Crips	x	nos	=		A

ISLB200 Longitudinal

No of ISLB section	L	nos	=	
Length	x		=	RM
Cost of Material	x	19.8 kg/m @ /kg	=	B
Total cost of Staging Materials	=	(A+B)	=	
Assuming to be used for 25 repetitions			/ 25 =	X

Cost of Labour

	days	nos		
Carpenter Gr- I	2 x	1 x	=	

Mazdoor Gr - II	2 x	2 x	=	E
			=	

Cost of Machinery **F**

Hire Charges for Crane	2 x	4 x	=	
Cost of Staging (X+E+F)			=	
Add for Clamps and Bracings, Stirrup Heads		10%	=	
Add for Periodic Maintenance		10%	=	
		Total	=	
Total cost of Staging per Cu.m	/	cu.m	=	

7 Water charges for Curing Concrete

The Main Purpose of curing is to Prevent moisture escaping from the concrete during the process of hydration of the cement .Curing is done on the exposed surface of the concrete to prevent the moisture loss in the concrete . Various components of the bridge structure have various exposed area. The provision for curing will differ based on the exposed surface .

Assuming a Deck slab for -----m span and -----m wide with -----Cu.m concrete
 Water required for stagnation for 2.5 cm height for 14 Days

Qty for 1 day	x	x	0.025	=	cu.m	
				or	ltrs	
For 14 days	14 x			=	ltrs	
Cost of Water	x	0.075	Rs	=	A	
Cost of Cement Mortar to form bunds to retain water						
Longitudinal	x			=	RM	
Cross	x			=	RM	
				=		
Quantity of Mortar	x	0.075 x	0.05 /2	=		
				say	=	Cu.m
Cost of Mortar	x	/cu.m	Rs	=	B	
Labour Charges						

For Forming Bund

Mason Gr-II 0.5 x

Rs =

Mazdoor Gr - II 2 x

Rs =

for Curing 14 days

Mazdoor Gr - II 14 x

Rs =

Total Labour Charges

Rs. = C

Cost for Curing (A+B+C)

Rs =

Add for Pumping Charges @ 5 %

=

Cost of Curing Per Cu.m of Concrete is /

=

or
Rs

Sub Data for Steel Reinforcement

Assuming ---m span ----m carriageway Superstructure

Steel Reinforcement required

Deck Slab	-		MT
Girders	-		MT
Total			MT

Setting Out

Girders & slabs

Technical Assistant	Gr-I	2	x		=
Barbender Gr-I		2	x		=
					=
Cost per MT		=		/	=

Cutting and Bending Machinery

Hirecharges for Cutting Machine Including cost of Electricity		6	days	x	=
Hirecharges for Bending Machine including Electrical Charges		6	days	x	=
Cost per MT		=		/	=

Intercarting From Yard to Site

Loading	4 mazdoor	3 days			
at Yard	Mazdoor Gr-II	3	x	4 nos	x
Long body Vehicle				36 hr	x
Cost per MT				=	/

Hoisting Charges At site

5T crane		48	hr	x	=
Cost per MT		=		/	=

Providing Lighting Arrangements

Providing 2 at yard and 4 at site					
750watts		6	nos	x	=
Considering 6 months life				/	24
Electricity	Charges	day	6	x	12 x
			Add	hr	=
Cost per MT			=		/

Fabrication Yard

Assuming a yard of minimum 1000sqm

Rental 1000 sqm x =

On average 4 Decks are laid per month

So steel Handled per month 4 nos x =

Cost per MT = / =

Watch and Ward at Fabrication Yard

Employing 4 persons per shift 3 shifts per day

No of Persons required

4 x 3 x 30 = 360

Cost per month

360 sqm x = 0

Cost per MT = / =

Labour Shed

Considering

Number of Labour :

Watch and Ward :

Total :

Assumming 4 labours can occupy a Shed of 3x3m

No of shed

/ 4 :
or

Rest rooms

Total

Area

x 9 = m²

Cost of Construction per Sqm for Shed using Tin Sheet ,cc flooring and Electrification

x =

Distributing in the items of work

Assuming total steel used in projects as ---- MT

Cost per MT = / =

**CONSTRUCTION & MAINTENANCE
(C&M)**

C&M - BRIDGE

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
BASIC DATA						
1	<u>CEMENT</u>					
		1.00 MT	Price of non levy cement including all taxes and transportation charges Deduct loading & unloading		MT	
			Deduct loading & unloading		MT	
			Storage charges @ 5%		MT	
			Total			
2	<u>STEEL</u>					
		1.00 MT	Cost of Steel		MT	
			Deduct loading & unloading		MT	
			Storage charges @ 5%		MT	
			Total			
3	<u>CEMENT MORTAR M10 (using 40mm)</u>					
	0.48	MT	Cost of Cement		1 MT	
	0.067	MT	Deduct 30kg for 40mm size metal		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
			Total			
4	<u>CEMENT MORTAR M15 (using 40mm)</u>					
	0.72	MT	Cost of Cement		1 MT	
	0.067	MT	Deduct 30kg for 40mm size metal		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
			Total			
5	<u>CEMENT MORTAR M15 (using 20mm)</u>					
	0.72	MT	Cost of Cement		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Total			
6	<u>CEMENT MORTAR M20 (using 40mm)</u>					
	0.76	MT	Cost of Cement		1 MT	
	0.067	MT	Deduct 30kg for 40mm size metal		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
			Total			
7	<u>CEMENT MORTAR M20 (Using 20mm)</u>					
	0.76	MT	Cost of Cement		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
			Total			
8	<u>CEMENT MORTAR M25</u>					
	0.845	MT	Cost of Cement		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
			Total			
9	<u>CEMENT MORTAR M30</u>					
	0.889	MT	Cost of Cement		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
			Total			
10	<u>CEMENT MORTAR M35 and above</u>					
	0.934	MT	Cost of Cement		1 MT	
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
			Total			
11	<u>CEMENT CONCRETE M10 (Nominal Mix) using 40 mm Metal</u>					
	9.00	Cu.m	HBGS Jelly 40mm size (M-0086)		Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	1.86	M.T	Cement		M.T	
	1.80	Nos	Mason for Class-II (L-0071)		Day	
	17.70	Nos	Mazdoor Category-I (L-0073)		Day	
	14.10	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for PCC (W-0100)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
12	VIBRATED CEMENT CONCRETE M15 (Nominal Mix) using 40 mm Metal					
	9.00	Cu.m	HBGS Jelly 40mm size (M-0086)		Cu.m	
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	2.94	M.T	Cement		M.T	
	1.80	Nos	Mason for Class-II (L-0071)		Day	
	17.70	Nos	Mazdoor Category-I (L-0073)		Day	
	14.10	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for PCC (W-0100)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
13	VIBRATED CEMENT CONCRETE M20 (Nominal Mix) using 40 mm Metal					
	9.00	Cu.m	HBGS Jelly 40mm size (M-0086)		Cu.m	
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	3.12	M.T	Cement		M.T	
	1.80	Nos	Mason for Class-II (L-0071)		Day	
	17.70	Nos	Mazdoor Category-I (L-0073)		Day	
	14.10	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for PCC (W-0100)		Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
14	VIBRATED CEMENT CONCRETE M20 (Nominal Mix) using 20 mm Metal					
	9.00	Cu.m	HBGS Jelly 20mm size (M-0088)		Cu.m	
	3.42	M.T	Cement		M.T	
	1.80	Nos	Mason for Class-II (L-0071)		Day	
	17.70	Nos	Mazdoor Category-I (L-0073)		Day	
	14.10	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for PCC (W-0100)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
15	VIBRATED REINFORCED CEMENT CONCRETE M25 (Design Mix)					
	6.30	Cu.m	HBGS Jelly 20mm size (M-0088)		Cu.m	
	2.700	Cu.m	HBGS Jelly 12mm size (M-0089)		Cu.m	
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	3.80	M.T	Cement		M.T	
	8.06	Kg	Admixtures 0.20% Cement Content		Kg	
	3.50	Nos	Mason for Class-II (L-0071)		Day	
	21.20	Nos	Mazdoor Category-I (L-0073)		Day	
	35.30	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for RCC (W-0101)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
16	VIBRATED REINFORCED CEMENT CONCRETE M30 (Design Mix)					
	6.30	Cu.m	HBGS Jelly 20mm size (M-0088)		Cu.m	
	2.700	Cu.m	HBGS Jelly 12mm size (M-0089)		Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	4.000	M.T	Cement		M.T	
	12.21	Kg	Admixtures 0.30% Cement Content		Kg	
	3.50	Nos	Mason for Class-II (L-0071)		Day	
	21.20	Nos	Mazdoor Category-I (L-0073)		Day	
	35.30	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for RCC (W-0101)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
17	VIBRATED REINFORCED CEMENT CONCRETE M35 (Design Mix)					
	6.30	Cu.m	HBGS Jelly 20mm size (M-0088)		Cu.m	
	2.700	Cu.m	HBGS Jelly 12mm size (M-0089)		Cu.m	
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	4.20	M.T	Cement		M.T	
	16.88	Kg	Admixtures 0.40% Cement Content		Kg	
	3.50	Nos	Mason for Class-II (L-0071)		Day	
	21.20	Nos	Mazdoor Category-I (L-0073)		Day	
	35.30	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for RCC (W-0101)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
18	VIBRATED REINFORCED CEMENT CONCRETE M40 (Design Mix)					
	6.70	Cu.m	HBGS Jelly 20mm size (M-0088)		Cu.m	
	2.30	Cu.m	HBGS Jelly 12mm size (M-0089)		Cu.m	
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	4.20	M.T	Cement		M.T	
	34.40	Kg	Admixtures 0.80% Cement Content		Kg	
	3.50	Nos	Mason for Class-II (L-0071)		Day	
	21.20	Nos	Mazdoor Category-I (L-0073)		Day	
	35.30	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for RCC (W-0101)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
19	VIBRATED REINFORCED CEMENT CONCRETE M45 (Design Mix)					
	6.70	Cu.m	HBGS Jelly 20mm size (M-0088)		Cu.m	
	2.30	Cu.m	HBGS Jelly 12mm size (M-0089)		Cu.m	
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	4.20	M.T	Cement		M.T	
	43.00	Kg	Admixtures 1% Cement Content		Kg	
	3.50	Nos	Mason for Class-II (L-0071)		Day	
	21.20	Nos	Mazdoor Category-I (L-0073)		Day	
	35.30	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for RCC (W-0101)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
20	VIBRATED REINFORCED CEMENT CONCRETE M50 (Design Mix)					
	6.70	Cu.m	HBGS Jelly 20mm size (M-0088)		Cu.m	
	2.30	Cu.m	HBGS Jelly 12mm size (M-0089)		Cu.m	
	4.50	Cu.m	M Sand (M-0125)/Sand (M-0127)		Cu.m	
	4.20	M.T	Cement		M.T	
	34.40	Kg	Admixtures 0.80% Cement Content		Kg	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	215.00	Kg	Silica Fume @ 5% of Cement		Kg	
	3.50	Nos	Mason for Class-II (L-0071)		Day	
	21.20	Nos	Mazdoor Category-I (L-0073)		Day	
	35.30	Nos	Mazdoor Category-II (L-0098)		Day	
	10.00	Cu.m	Vibration Charges for RCC (W-0101)		Cu.m	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			
<u>EARTH WORK EXCAVATION</u>						
1	Earth work excavation in all classes of soils except hard rock not requiring blasting and depositing on bank as per SS20B with all leads and lifts and all other incidental charges such as bailing out water, shoring, strutting, walling and forming protective bunds wherever necessary etc., complete as per relevent standard specification for DRESSING THE BED UPTO SILL LEVEL.					
	1.00	Cu.m	Earth work excavation (W- 0061)		1 Cu.m	
			Total			
			Rate per 1 Cu.m			
2	Earth work Excavation in all classes of soils except hard rock not requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour, materials, tools, equipments and all incidental charges and sheeting, shoring, bracing and their subsequent removal, removal of all logs, stumps and other deleterious matter and obstructions, trimming of bottom of excavtion backfilling, and clearing the site and disposal of all surplus materials etc. complete as per standard specification for Foundation of Abutments and Piers / Pile Cap					
	1.00	Cu.m	Earth work excavation (W- 0061)		1 Cu.m	
	1.00	Cu.m	Add 100% extra for narrow foundation		1 Cu.m	
			Shoring, strutting and walling (HW-W 0127)		1 Cu.m	
			Refilling the sides (W-0075)		1 Cu.m	
			Hire charges for Tools and plants (HW-W 0128)		1 Cu.m	
			Providing and Maintaining protective bund (HW-W 0130)		1 Cu.m	
			Bailing out water (HW-W 0126)		1 Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Removal of protective bunds (HW-W 0129)		1 Cu.m	
			Rate per 1 Cu.m			
3	Earth work Excavation in soft rock not requiring blasting and depositing on bank with all leads and lifts including cost of all labour, materials, tools, equipments and all incidental charges and sheeting, shoring, bracing and their subsequent removal, removal of all logs, stumps and other deleterious matter and obstructions, trimming of bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc. complete as per standard specification for Foundation under Abutments and Piers.					
	1.00	Cu.m	Earth work Excavation in soft rock not requiring blasting		1 Cu.m	
	1.00	Cu.m	Add 100% extra for narrow foundation		1 Cu.m	
			Shoring, strutting and walling (HW-W 0127)		1 Cu.m	
			Refilling the sides (W-0074)		1 Cu.m	
			Hire charges for Tools and plants (HW-W 0128)		1 Cu.m	
			Providing and Maintaining protective bund (HW-W 0130)		1 Cu.m	
			Bailing out water (HW-W 0126)		1 Cu.m	
			Removal of protective bunds (HW-W 0129)		1 Cu.m	
			Rate per 1 Cu.m			
4	Earth work Excavation in hard rock requiring blasting and depositing on bank with all leads as per SS20B including cost of all labour, equipments and maintaining necessary cofferdams, sheeting, shoring, bracing and their subsequent removal, removal of all logs, stumps, grubs and other deleterious matter and obstructions, trimming bottom of excavation backfilling, and clearing the site and disposal of all surplus materials etc. complete as per relevant standard specification for Foundation under Abutments and Piers.					
	1.00	Cu.m	Earth work Excavation in hard rock requiring blasting		1 Cu.m	
	1.00	Cu.m	Add 100% extra for narrow foundation		1 Cu.m	
			Shoring, strutting and walling (HW-W 0127)		1 Cu.m	
			Hire charges for Tools and plants (HW-W 0128)		1 Cu.m	
			Providing and Maintaining protective bund (HW-W 0130)		1 Cu.m	
			Bailing out water (HW-W 0126)		1 Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Removal of protective bunds (HW-W 0129)		1 Cu.m	
			Rate per 1 Cu.m			
5	Benching hard rock upto an average 10 cm depth					
	1.00	Sq.m	As per SOR W-0048		Sq.m	
			Rate per 1 Sq.m = Rs.			
6	Providing dowel bars for footing under Abutment & Piers					
	6.936	Kg	Cost of Fe 500 steel		Kg	
	0.90	Rm	Drilling 40mm dia (As per Sch. Item. No46) (W-0049)		Rm	
	0.90	Rm	Grouting with CM 1:2		Rm	
			Rate per 1 Cu.m			
7	Cement concrete M15 (Nominal mix) using 40 mm ISS size hard broken granite metal including cost and conveyance of all materials to site including cost and labour charges for formwork, centering, labour charges for laying, compacting, curing all incidental charges etc., complete for Filling the trenches around footing upto the top of rock					
	1.00	Cu.m	Cost of CC M15		1 Cu.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
	<u>BRIDGE DATA</u>					
	<u>Foundation</u>					
1	Plain Cement concrete M10 Grade using 40mm ISS size hard broken granite metal including cost and conveyance of all materials to site and cost of cement at site, including soft water, labour charges for mixing transporting, laying, compacting, curing concrete, Hire charges for Tools and plants and all incidental charges such as bailing out water, maintaining protective bunds, cofferdams, shoring etc., complete for Levelling course below foundation.					
	1.00	Cu.m	Cost of CC M10		1 Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Soft water for curing concrete (HW -W 0131)		LS	
			Bailing out water (HW-W 0126)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
2	Vibrated cement concrete of grade M15 (Nominal mix) using 40mm ISS hard broken granite metal including cost and conveyance of all materials to site, including cost and labour charges for form work and centering, labour charges for compacting, curing and all incidental charges etc., complete as per standard specification for Levelling course below Pile Cap / Foundation					
	1.00	Cu.m	Cost of VCC M15		1 Cu.m	
			Soft water for curing concrete (HW -W 0131)			
			Bailing out water (HW-W 0126)			
			Hire charges for Hire charges for Tools and plants (HW -W 0132)			
			Rate per 1 Cu.m			
3	Vibrated Cement Concrete of grade M20 (Nominal mix) using 40mm ISS size HBG metal including cost and conveyance of all materials to site and cost cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges etc., complete as per relevant standard specification for Foundation of Abutments, Return walls and Piers, Cutoff wall, Raft					
	1.00	Cu.m	Cost of Vibrated CC M20		1 Cu.m	
		Sq.m/ Cu.m	Formwork and centering		Sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights		LS	
			Rate per 1 Cu.m			
4	Vibrated Reinforced Cement Concrete of grade M30 (Design mix) using 20mm and below ISS graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specification for Foundation of Abutments, Return walls and Piers, Cutoff wall, Raft					

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	1.00	Cu.m	Cost of Vibrated CC M30		1 Cu.m	
		Sq.m/ Cu.m	Formwork and centering		Sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Bailing out water (HW-W 0126)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
5	Filling inside the raft with sand including cost and conveyance of sand to worksite, laying, handling charges and filling in layers, tamping under optimum moisture content to get the maximum density including watering with all leads for water and all other incidental charges etc., complete for Filling inside the Raft.					
	1.00	Cu.m	Cost of M Sand		1 Cu.m	
	1.00	Cu.m	Labour charges for filling (W-0074)		1 Cu.m	
			Rate per 1 Cu.m			
6	Providing and driving in position permenent MS liners for piles from bottom of pile cap as per cl.709.1.4 of IRC 78 - 2014 (up to maximum scour level) including cost of liners and fabricating, welded construction with consumables, labour and plants and driving MS liner 6mm thick to be left permenantly with the pile shaft as per requirement and as per specification and placing them in position with all lead and lift etc. complete.					
	1.05	MT	Cost of 6mm MS sheet (M-0186)		1 MT	
	0.80	day	Mate (Head Mazdoor) (L-0074)		day	
	4.00	day	Fitter (I - Class) (L-0018)		day	
	4.00	day	Blacksmith (I - Class) (L-0040)		day	
	4.00	day	Welder (L-0046)		day	
	8.00	day	Mazdoor (Category - I) (L-0073)		day	
			Consumables @ 5% of material			
	8.00	Hour	Hydraulic Crane 10T capacity for lifting shifting (HW-H0038)		Hour	
			Rate for per MT			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
7	Providing Reinforced Cement Concrete cast-int-situ bored PILES of 1000mm diameter in vibrated RCC M35 (Design mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site and cost of cement at site but excluding cost and fabrication of steel and placing it in position before concreting setting up of piling equipment, shifting the same from one pile location to another pile location, dismantling them and reerceting as necessary including all labour for driving or boring and providing temporary casing where required through all soils, leading the excavated earth to a distance of 200m including forming of working platform over the river bed of acomodating piling equipment including working platform etc., forming approaches to the working platform, mixing concrete, filling it in position, compacting, cutting of pile head to cut off level for casting pile cap, including diversion of water course if necessary and all other incidental charges etc., complete as per standard specifications, forming and maintaining protective bunds and all other incidental charges etc., complete for PILES BELOW PIERS AND ABUTMENTS.					
	0.785	Cu.m	Cost of CC M35		1 Cu.m	
			Machinery for boring and construction :		Output 10.0 Rm.	
	6.00	Hrs	Hydraulic piling rig with power unit and complete accessories including shifting from one bore to another bore location. (HW-H0023)		/ Hour	
	0.50	Hrs	Hire and running charges for Light crane for lowering reinforcement gauge (HW-H0018)		/ Hour	
	0.40	Hrs	Hire and running charges for Loader 1 Cu.m capacity (H-0079)		/ Hour	
	28.00	t-km	Hire and running charges for Tipper 5.5 Cu.m capacity for disposal of muck from pile bore hole (H-0003)		t-km	
			Total for 10.0 Rm			
			For 1 Rm			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Labour :			
	0.16	Nos	Head mazdoor (L-0074)		/ Hour	
	4.50	Nos	Mazdoor I class (L-0073)		/ Hour	
			Total for 10.0 Rm		=	
			For 1 Rm			
			LS provisions :			
			Cutting of concrete at cut off level		LS	
			Spill of concrete		LS	
			Conducting confirmatory bores		LS	
			Liner scrap above cut off level		LS	
			Load test on pile both vertical and horizontal as per codel provision on pile		L.S	
			Sundries			
			Total			
			Rate per metre			
8	<p>Providing Reinforced Cement Concrete cast-int-situ bored PILES of 1200 mm diameter in vibrated RCC M35 (Design mix) using 20mm ISS HBG metal including cost and conveyance of all materials to site and cost of cement at site but excluding cost and fabrication of steel and placing it in position before concreting setting up of piling equipment, shifting the same from one pile location to another pile location, dismantling them and reerceting as necessary including all labour for driving or boring and providing temporary casing where required through all soils, leading the excavated earth to a distance of 200m including forming of working platform over the river bed of acomodating piling equipment including working platform etc., forming approaches to the working platform, mixing concrete, filling it in position, compacting, cutting of pile head to cut off level for casting pile cap, including diversion of water course if necessary and all other incidental charges etc., complete as per standard specifications, forming and maintaining protective bunds and all other incidental charges etc., complete for PILES BELOW PIERS AND ABUTMENTS.</p>					
	1.131	Cu.m	Cost of CC M35		1 Cu.m	
			Machinery for boring and construction :		Output 9.0 Rm.	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	6.00	Hrs	Hydraulic piling rig with power unit and complete accessories including shifting from one bore to another bore location. (HW-H0023)		/ Hour	
	0.50	Hrs	Hire and running charges for Light crane for lowering reinforcement gauge (HW-H0018)		/ Hour	
	0.50	Hrs	Hire and running charges for Loader 1 Cu.m capacity (H-0079)		/ Hour	
	36.60	t-km	Hire and running charges for Tipper 5.5 Cu.m capacity for disposal of muck from pile bore hole (H-0003)		t-km	
			Total for 10.0 Rm			
			For 1 Rm			
			Labour :			
	0.18	Nos	Head mazdoor (L-0074)		/ Hour	
	4.50	Nos	Mazdoor I class (L-0073)		/ Hour	
			Total for 9.0 Rm			
			For 1 Rm			
			LS provisions :			
			Cutting of concrete at cut off level		LS	
			Spill of concrete		LS	
			Conducting confirmatory bores		LS	
			Liner scrap above cut off level		LS	
			Load test on pile both vertical and horizontal as per codel provision on pile		L.S	
			Sundries			
			Total			
			Rate per metre			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
9			Vibrated Reinforced Cement Concrete of grade M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges such as bailing out water, maintaining of protective bunds, cofferdams, shoring, strutting etc., complete as per relevant standard specification for PILE CAPS UNDER ABUTMENT & PIERS			
	1.00	Cu.m	Cost of Vibrated CC M35		1 Cu.m	
		Sq.m/ Cu.m	Formwork and centering		Sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Bailing out water (HW-W 0126)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)			
			Rate per 1 Cu.m			
SUBSTRUCTURE						
1			Vibrated Cement Concrete of grade M20 (Nominal mix) using 40mm ISS size HBG metal including cost and conveyance of all materials to site and cost cement at site including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges etc., complete as per relevant standard specification for Substructure of Abutments, Return walls and Piers, Body wall.			
	1.00	Cu.m	Cost of Vibrated CC M20		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights		LS	
			Rate per 1 Cu.m			
2			Vibrated Reinforced Cement Concrete of grade M30/M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants and incidental charges etc., complete as per relevant standard specification for Abutment / Pier/Retaining wall.			
	1.00	Cu.m	Cost of Vibrated CC M30/M35		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights			
			Rate per 1 Cu.m			
3	Vibrated Reinforced cement concrete of grade M25/M30/M35 (Design mix) using 20mm and below ISS hard broken granite metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for Bed block Cum Dirtwall / Box Culvert/Drain/ Reinforcement wall.					
	1.00	Cu.m	Cost of Vibrated CC M25/M30/M35		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
4	Supply and fixing of KRAFT paper for full width of seating of deckslab and including cost and conveyance to worksite, labour for fixing the same in correct position and all other incidental charges etc., complete.					
	1.00	sq.m	Cost of Kraft paper including labour charges for fixing (W-0223)			
			Rate per 1 sq.m			
5	Vibrated Reinforced Cement Concrete of grade M30/M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants etc., complete as per relevant standard specification for Capping beam					
	1.00	Cu.m	Cost of Vibrated CC M30/M35		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Rate per 1 Cu.m			
6			Vibrated Reinforced Cement Concrete of grade M30/M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants etc., complete as per relevant standard specification for Pedestal			
	1.00	Cu.m	Cost of Vibrated CC M30/M35		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights			
			Rate per 1 Cu.m			
7			Supply of 1000mm dia RCC NP3 class pipes confirming to IS 458 specification as directed by the departmental officers including cost and conveyance of pipes to the worksite and all other incidental charges etc., complete as per standard specification.			
			SOR rate = Rs. (W-0226)	/ Rm		
8			Laying and fixing of 1000 mm dia RCC NP3 pipe in position excluding cost of pipes but including conveyance to work spot and handling charges on both sides including labour charges for hoisting and placing the pipes			
			SOR rate per Rm (W-0229)	/ Rm		
9			Stone dust filling including cost and conveyance of Stone dust to worksite including labour charges for filling in layers as specified by the departmental officers including watering with all leads for water including labour charges for compacting, tamping, ramming under optimum moisture content to obtain the maximum density and all other incidental charges etc. complete as per standard specification.			
	1.00	Cu.m	Cost of Stone dust/Sand/M-Sand (M-0123/M-0127/M-0125)		1 Cu.m	
	1.00	Cu.m	Filling charges (W-0075)		1 Cu.m	
			Rate per 1 Cu.m			
SUPERSTRUCTURE						
1			Vibrated Reinforced Cement Concrete of grade M30/M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water,labour charges for mixing, transporting, laying and curing concrete, working at depths etc., complete as per relevant standard specification for Solid Deck slab			
	1.00	Cu.m	Cost of Vibrated CC M35		1 Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights			
			Rate per 1 Cu.m			
2	Vibrated Reinforced Cement Concrete of grade M30/M35/M40 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water,labour charges for mixing, transporting, laying and curing concrete, working at depths etc., complete as per relevent standard specification for T Beam / Deck slab/ Diaphragm / void slab					
	1.00	Cu.m	Cost of Vibrated CC M30/M35/ M40		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights			
			Rate per 1 Cu.m			
3	Vibrated Reinforced Cement Concrete of grade M40/M45/M50 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at depths Hire charges for Tools and plants etc., complete as per relevent standard specification for Box Girder .					
	1.00	Cu.m	Cost of Vibrated CC M40/M45/ M50		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Working on heights			
			Rate per 1 Cu.m			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
4	Vibrated Reinforced cement concrete of grade M40/M45M50 (Design mix) using 20mm and below HBG metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for PSC 'Y' & 'I' Girders.					
	1.00	Cu.m	Cost of Vibrated CC M450/M45/M50		1 Cu.m	
	1.72	kg	Admixture at 0.4% of cement		kg	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Steam curing :			
	37.00	Lts.	LDO for steam curing		Lt.	
	0.01	No.	Mate / Head mazdoor (L-0074)		Each	
	0.35	Nos.	Mazdoor I class (L-073)		Each	
			Handling charges in stacking yards			
			palcing of girders over pier caps			
	0.05	Hrs	Generator 100 kVA (M-2332)		1 Hr	
	0.15	Hrs	Crane 80 Tonnes capacity (H-0106)		1 Hr	
	0.05	Hrs	Loader (H-0079)		1 Hr	
	5.25	Hrs	Trailer 30 Tonnes capacity (HW-H0035)		T.km	
	0.02	Nos.	Mate / Head mazdoor (L-0074)		Each	
	0.55	Nos.	Mazdoor I class (L-0073)		Each	
			Rate per 1 Cu.m			
5	Prestressed Cement Concrete of grade M50 (Design mix) using 20mm ISS graded metal including cost and conveyance of all materials to site, cost of cement but excluding cost of steel/strands and including cost of formwork, labour charges for mixing, casting, steam curing, stacking at stock yard and transporting the precast girders to the site, erection in position and level as per drawing and including working at heights, soft water, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete as per relevent standard specification for PSC Segmental Box Girders.					
			Taking out put : 120 Cu.m			
			a) Material :			
	58.80	MT	Cost of cement		1 Cu.m	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	54.00	Cu.m	Cost of coarse sand (M-0127)		1 Cu.m	
	64.80	Cu.m	Cost of 20mm metal (M-0088)		1 Cu.m	
	43.20	Cu.m	Cost of 10mm metal (M-0090)		1 Cu.m	
	235.20	kg	Admixture at 0.4% of cement		kg	
			b) Labour :			
	0.94	No.	Mate / Supervisor (L-0074)		Each	
	3.50	No.	Mason Gr II (L-0071)		Each	
	20.00	Nos.	Mazdoor Gr I (L-0073)		Each	
			c) Machinery :			
	6.00	Hrs	Batching plant @ 20 Cu.m/hour (HW-H0013)		1 Hr	
	6.00	Hrs	Generator 100 KVA (M-2332)		1 Hr	
	6.00	Hrs	Loader (HW-H0079)		1 Hr	
	15.00	Hrs	Transit Mixer 4 Cu.m capacity (HW-H0036)		T.km	
	6.00	Nos.	Concrete pump (HW-H0020)		Each	
			Sub total			
			Rate per 1 Cu.m			
			d) Transportation and erection in position :			
	0.15	Hour	Crane 80 Tonne capacity (H-0106)		Hour	
	30.00	T. km	Trailer 120 T capacity to transit		T.km	
			from yard to site (2.50 x 12 km)			
	0.15	Hour	Trailer 120 T capacity during		Hour	
			placement			
			e) Steam curing :			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	37.00	lit	LDO for steam curing		/lit	
	0.01	No.	Mate (L-0074)		Each	
	0.35	Nos	Mazddor - I (L-0073)		Each	
			e) For formwork and staging:			
			i) For height up to 5m - 35 % of cost of concrete			
			ii) For height 5m to 10m - 45 % of cost of concrete			
			iii) For height 10m to 15m - 55 % of cost of concrete			
			Cost of PSC segmental Box girder for 0 to 5m height			
			Cost of PSC segmental Box girder for 5 to 10m height			
			Cost of PSC segmental Box girder for 10 to 15m height			
6	Vibrated Reinforced Cement Concrete of grade M25/M30/M35 (Design mix) using 20mm and below HBG graded metal including cost and conveyance of all materials to site excluding cost of steel including cost of formwork, soft water, labour charges for mixing, transporting, laying and curing concrete, working at heights Hire charges for Tools and plants and incidental charges etc., complete as per relevant standard specification for Box Culvert/Drain/Retaining wall.					
	1.00	Cu.m	Cost of Vibrated CC M25/M30/M35		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
7	Supply and fabrication of STEEL Fe500/ Fe500D/ Fe550/ Fe550D grade_with suitable anticorrosive measure required for all the reinforced cement concrete items of work involved in the shedule including cost of steel, cost of fabrication, labour charges for cleaning the rods, straightening, cutting, bending, tying grills, hoisting and placing the reinforcement in position as specified in the drawing including cost of binding wire, provision of spacer bars, cover blocks and all other incidental charges etc., complete.					
	1.05	MT	Cost of steel		1 MT	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	0.01	MT	Cost of Binding wire (M-0188)		1 MT	
	35.00	No.	Fitter I class for fabrication (L-0019)		Each	
	1.00	MT	Anti corrosive treatment (HW-W0318)		1 MT	
			Rate for per MT			
8	Supply and fabrication of STEEL Fe240 grade_with suitable anticorrosive measure required for all the reinforced cement concrete items of work involved in the shedule including cost of steel, cost of fabrication, labour charges for cleaning the rods, straightening, cutting, bending, tying grills, hoisting and placing the reinforcement in position as specified in the drawing including cost of binding wire, provision of spacer bars, cover blocks and all other incidental charges etc., complete.					
	1.05	MT	Cost of steel		1 MT	
	0.01	MT	Cost of Binding wire (M-0188)		1 MT	
	35.00	No.	Fitter I class for fabrication (L-0019)		Each	
	1.00	MT	Anti corrosive treatment (HW-W0138)		1 MT	
			Rate for per MT			
MISCELLANEOUS						
1	Vibrated Reinforced cement concrete of grade M30 (Design mix) using 20mm and below hard broken granite metal including cost and conveyance of all materials to site cost of premoulded expansion joints and fixing the same in position including cost and labour charges for formwork, labour charges for laying, compacting, curing including all other incidental charges etc.,complete for WEARING COAT 75mm UNIFORM THICKNESS OVER DECK SLAB AND OVER APPROACH SLAB					
	0.75	Cu.m	Cost of Vibrated CC M30		1 Cu.m	
			Hire charges for mixers (HW-W0132)		LS	
			Soft water for curing concrete (HW -W 0131)		LS	
			Rate per 1 sq.m			
2	Vibrated Cement Concrete of grade M15 (Nominal mix) using 40mm ISS hard broken granite metal including cost and conveyance of all materials to site, including cost and labour charges for form work and centering, labour charges for compacting, curing and all incidental charges etc., complete as per standard specification for Parapet / Base course below Approach slab.					
	1.00	Cu.m	Cost of Vibrated CC M15		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
3	Vibrated Reinforced cement concrete of grade M30/M35 (Design mix) using 20mm and below ISS hard broken granite metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for Approach Slabs / Safety Kerb / Median					
	1.00	Cu.m	Cost of Vibrated CC M30/M35		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
4	Vibrated Reinforced cement concrete of grade M30 (Design mix) using 20mm and below HBG metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for Hand Rails and Posts					
		Cu.m	Cost of Vibrated CC M30		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Rm			
5	Vibrated Reinforced cement concrete of grade M40 (Design mix) using 20mm and below ISS hard broken granite metal including cost and conveyance of all materials to site and cost of cement excluding cost and fabrication of steel but including cost of form work, labour charges for mixing, transporting, laying and curing concrete, working at heights, hire charges for Hire charges for Tools and plants including all other incidental charges etc., complete for Crash Barrier .					
	1.00	Cu.m	Cost of Vibrated CC M40		1 Cu.m	
		sq.m/ Cu.m	Formwork and centering		sq.m	
			Soft water for curing concrete (HW -W 0131)		LS	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Hire charges for Hire charges for Tools and plants (HW -W 0132)		LS	
			Rate per 1 Cu.m			
6	Providing and fixing Class I PVC seepage pipes of 110mm dia of required lengths for abutments and return walls including costs and conveyance of all materials to work site and labour charges for fixing etc., complete to drain from the backfill as per section 2706 of MORTH specification (Rev- V)					
	1.00	Rm	Cost of PVC seepage pipe including (M-0865)		Rm	
	1.00	Rm	Seepage pipe fixing charges (HW-W0135)		Rm	
			Rate per 1 Rm			
7	Providing FILTER MEDIA behind abutments and return walls for 600mm thickness using filter material conforming to clause 309.3.2.B of MORTH well packed with smaller size towards the soil and bigger size towards the wall including cost and conveyance of all materials to worksite and including labour charges and all other incidental charges etc.,complete.					
	1.00	Cu.m	Cost of IRC metal 53mm to 5.75mm		1 Cu.m	
	1.00	Cu.m	Labour charges for filling (W-0075)		1 Cu.m	
			Rate per 1 Cu.m			
8	Filling behind Abutments and return walls with clean gritty free draining gravel including cost of gravel having pi value less than 6, conveyance of gravel to worksite. Laying, handling charges and filling in layers tamping under optimum moisture content to get the maximum density, including watering, with all leads and lifts for water and all other incidental charges etc., complete.					
	1.16	Cu.m	Cost of Gravel		1 Cu.m	
	1.00	Cu.m	Labour charges for filling (W-0075)		1 Cu.m	
			Rate per 1 Cu.m			
9	Granite rough stone dry packing for the specified thickness for apron using good size granite rough stone, properly wedged with quarry spalls including cost and conveyance of all materials to site labour charges for packing the same in position and all other incidental charges etc., complete for Apron .					
	11.00	Cu.m	Cost of Rough stone (M-0045)		1 Cu.m	
	3.50	Nos	Wodder (L-0050)		Each	
	10.60	Nos	Mazdoor I Class (L-0073)		Each	
	7.10	Nos	Mazdoor II Class (L-0098)		Each	
			Rate per 10 Cu.m			
			Rate per 1 Cu.m			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
10			Stone dust filling including cost and conveyance of Stone dust to worksite including labour charges for filling in layers as specified by the departmental officers including watering with all leads for water including labour charges for compacting, tamping, ramming under optimum moisture content to obtain the maximum density and all other incidental charges etc. complete as per standard specification.			
	1.00	Cu.m	Cost of Stone dust (HW-M-0123)		1 Cu.m	
	1.00	Cu.m	Labour charges for filling (W-0075)		1 Cu.m	
			Rate per 1 Cu.m			
<u>PILE LOAD TEST CHARGES CALCULATION</u>						
			Total number of piles in bridge		Nos	
			Total length of pile		m	
			As per MORTH Vth revision clause 1113.1			
			Initial load test			
			Routine load test		Nos.	
			Total number of Initial tests		Nos.	
			Total number of Routine load tests		Nos.	
			Load on Abutment		MT	
			Load on Pier		MT	
			Initial load test in Abutment			
		MT	Initial load test charges		MT	
		Rm	Cost of RCC cast in situ bored pile		Rm	
		MT	Cost of steel for pile		MT	
		MT	Cost of MS liners		MT	
			Initial load test in Pier			
		MT	Initial load test charges	MT		
		Rm	Cost of RCC cast in situ bored pile	Rm		

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
		MT	Cost of steel for pile	MT		
		MT	Cost of MS liners	MT		
		MT	Routine load test in Abutment	MT		
		MT	Routine load test in Pier	MT		
			ABSTRACT			
		No.	Cost of Initial load test in Abutment	Each		
		No.	Cost of Initial load test in Pier	Each		
		No.	Cost of Routine load test in abut	Each		
		No.	Cost of routine load test in pier	Each		
			Cost of required per Rm of pile			
			Cost per Rm		/ Rm	

CENTERING RATE CALCULATIONS

1	Steel centering for sides and soffits including supports and strutting upto 3.00m height for plain surface such as RCC slab, rectangular beams, T or L beams lintels bedblocks, staircase waist and landing slab landing beams, canopy etc., with all cross bracings using mild steel sheets of size 90cm x 60cm x 10 gauge stiffened with welded mild steel angles of size 25mm x 25mm x 6mm for boarding laid over silver oak (country wood) joist of size 10cm x 6.50cm spaced at about 90 cms c/c and supported by steel props spaced at 75cm c/c etc., complete.					
			Sub Data 1			
			Cost of MS sheets and angles for each set			
			Weight of MS sheet 90cmx60cmx10 gauge			
			$3.175 \times 7850 / 1000 =$	24.92	kg/sq.m	
			$0.90 \times 0.60 \times 24.92 =$	13.46	kg/ No.	
			Weight of MS angle of size 25 x 25 x 3mm			
			$3.60m \times 1.11 \text{ kg / m} =$	4.00	kg/ No.	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	13.46	kg	Cost of MS sheets, 90cm x 60cm x 10 gauge (M-0186)		/ kg	
	4.00	kg	Cost of MS angle, 25mm x 25mm x 3mm (M-0187)		/ kg	
			Cutting, bending and welding charges (10% of material)			
			Sub Data 2			
	19	Nos	Cost of MS angle and sheet (Assuming for 40 uses)		Each	
			Total			
			Cost for single use		/ 40	
	0.12	Cu.m	Silver Oak country wood joist, 1cm x 6.5cm at about 90cm c/c etc. (For 5 uses) (M-0159)		Cu.m	
			For 1 use		/ 5	
			Steel props, 40 * 11.10 * Rs. / 40			
			Total			
			For 1 use			
			Cost for single use			
			Main Data			
	1.00	Use	Cost of M.S sheets and angles		1 Use	
	1.00	Use	Cost of Silver oak joists and steel props		1 Use	
	3.80	Nos	Carpenter I Class (L-0016)		Each	
	5.40	Nos	Mazdoor I Class (L-0073)		Each	
	1.00	No	Fitter II class (L-0067)		Each	
	LS		Add for welding grills nails etc.,		LS	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	LS		Add for oiling for MS sheets and edges etc		LS	
			Rate per 10 sq.m			
			Rate per 1 sq.m			
1	Centering for Foundation, Pile cap, Pedestal etc.,					
	1.00	sq.m	Centering rate		sq.m	
			Deduct for strutting charges			
	0.30	Nos	Carpenter I Class (L-0016)		Each	
	0.30	Nos	Mazdoor I Class (L-0073)		Each	
			Total per 10 sq.m			
			Rate per 1 sq.m			
2	Centering for Abutment, Capping beam, Bed Block, Crash barrier, Parapet etc.,					
	1.00	sq.m	Centering rate		sq.m	
	1.00	sq.m	Add 10% extra for vertical surfaces		sq.m	
			Total per 1 sq.m			
3	Centering for Columns piers, rectangular piers etc,					
	1.00	sq.m	Centering rate		sq.m	
	1.00	sq.m	Add 100% extra for vertical surfaces		sq.m	
			Total per 1 sq.m			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
<u>CENTERING RATE CALCULATIONS</u> <u>for Bridge Super Structure</u>						
1			Steel centering for sides and soffits including supports and strutting upto 3.00m height for plain surface such as RCC slab, rectangular beams, T or L beams lintels bedblocks, staircase waist and landing slab landing beams, canopy etc., with all cross bracings using mild steel sheets of size 90cm x 60cm x 10 gauge stiffened with welded mild steel angles of size 25mm x 25mm x 6mm for boarding laid over silver oak (country wood) joist of size 10cm x 6.50cm spaced at about 90 cms c/c and supported by iron gribs etc., complete.			
			Sub Data 1			
			Cost of MS sheets and angles for each set			
			Weight of MS sheet 90cmx60cmx10 gauge			
			3.175 x 7850 /1000 =	24.92	kg/Sq.m	
			0.90 x 0.60 x 24.92 =	13.46	kg/ No.	
			Weight of MS angle of size 25 x 25 x 3mm			
			3.60m x 1.11 kg / m =	4.00	kg/ No.	
	13.46	kg	Cost of MS sheets, 90cm x 60cm x 10 gauge (M-0186)		/ kg	
	4.00	kg	Cost of MS angle, 25mm x 25mm x 3mm (M-0187)		/ kg	
			Cutting, bending and welding charges (10% of material)			
			Sub Data 2			
	19	Nos	Cost of MS angle and sheet (Assuming for 40 uses)		Each	
			Total			
			Cost for single use		/ 40	
	0.12	Cu.m	Silver Oak country wood joist, 1cm x 6.5cm at about 90cm c/c etc. (M-0159)		Cu.m	
			For 1 use			
			Size of gribs, 0.60m x 0.60m x 1.20m			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Gribs, 36 x 100 x 70 / 40			6300.00
			Cross bracings, 2 x 19.20m x 11.10m x 70 / 40			745.92
			Steel props, 40 * 11.10 * 70 / 40			
			Total			
			For 1 use			
			Cost for single use			
			For Superstructure :			
			Main Data			
	1.00	Use	Cost of M.S sheets and angles		40 uses	
	1.00	Use	Cost of Silver oak joists and steel props		5 uses	
	3.80	Nos			Each	
	5.40	Nos			Each	
	1.00	No			Each	
	LS		Add for welding grills nails etc.,		LS	
	LS		Add for oiling for MS sheets and edges etc		LS	
			Total per 10 sq.m			
			Rate per 1 Sq.m			
			(Height from Sill level to BOD)			
			Up to 4.5m height	Rate x 1		
			For 4.5 to 7.5m height - 50% Extra	Rate x 1.5		
			For above 7.50m height - 100% Extra	Rate x 2.0		

Note: In this standard Data book (Highways Department) the code as per Standard Schedule of Rates has been indicated against the corresponding items for reference only.

The conveyance charges should be included accordingly for those items.

C&M - OBSERVED DATA

OBSERVED DATA ADOPTED IN CIRCLE OFFICE (PART)

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
1	Hire charges for providing and maintaining of Barricades of minimum 2.00 m length and 1.5m height, in the working locations of drain using ISMC 75 transom and verticals with min wt of 7.14 kg / m in addition with L angle support of 50 x 50 x 5 mm size and covered with 3 mm thick M.S sheet of Size 2m x 1.20m including nailing to the floor, cost of fabrication, transportation, lifting, and placing, with reflective stickers of required size and placing the barricades without hindrance to the traffic, including shifting of barricades and the e barricading shall remain in the same location for minimum period of 21 days or till completion of work on the particular location. (All the barricading material shall be disposed and taken away from the site by the contractor. No additional payment shall be made for extended period of contract) etc complete.					
	28.56	Kgs	ISMC 75 Transom (2 Nos x 2.00 x 7.14)		Kg	
	25.70	Kgs	ISMC 75 Verticals (2 Nos x 1.80 x 7.14)		Kg	
	56.52	Kgs	M.S Sheet (3 mm thick plate) (2.00 x 1.20 x 23.55)		Kg	
	19.76	Kgs	Angle Size 50 x 50 x 5mm (additional Support) (2 x 1.00) + 2.00 + 1.20 x *3.8		Kg	
			D/F Depreciation cost @ 30%			
	130.54	Kgs	Labour charges for Fabrication (S. Item No 167 Pg34)		Kg	
	4.00	Nos	HD Sticker (HW -- W0115) P.No 2.70		Nos	
	4.80	Sq.m	Painting		Sq.m	
			Total cost for 2Rm			
			Cost per Rm			
			Sundries			
			Rate per Rm for 1.5 years			
			Rate per Rm / Day			
			Rate per Rm			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
2	<p>Providing RCC Centre Median height of 0.250m at bottom 0.250m at middle 0.400 at top and to a total height of 0.900m from the road level including cost and conveyance of all materials to work site including providing form work for shuttering on both sides and chamfered edges at top, including cost of steel reinforcement as per the Bar bending schedule appended here with, fabrication and placing in position of steel grills including cost of binding wire, laying of R.C.C M25 concrete using ISS HBG graded metal including cost and conveyance of all materials to work site from the approved sources including labour charges for mixing laying curing etc middle of the median as directed by the departmental officers, Rendering Smoothness over the CC surface with 10 kg of cement for 10 Sq.m area and painting two coats over the CC surfaces with best approved quality of synthetic enamel paint including primer etc., including all labour charges, hire and fuel charges for the Hire charges for Tools and plants employed and as per the standard specification and in accordance with the drawings appended here with and as directed by the departmental officers etc., complete.</p>					
	2.07	Sq.m/RM	Form work		Sq.m/RM	
	26.90	Kg	Steel		Kg	
	0.34	Cu.m	Vibrating RCC M25		Cu.m	
	2.07	Sq.m	Painting 2 coats synthetic enamel paint		Sq.m	
	L.S		Sundries for curing charges		L.S	
			For 1 Rm			
3	<p>Providing and Laying 25mm thick Mastic Asphalt Wearing Course with paving grade bitumen meeting the requirements given in table 500 -- 29 prepared by using mastic cooker and slope after cleaning the surface including providing and anto skid surface with bitumen percolated fine grained hard stone chipping of 13.2mm nominal size at the rate of 0.005 Cu.m per 10Sq.m and at an approx spacing of 10 cm center to center in both directions pressed into surface when the temprature of surfaces is not less than the 100 centigrade protruding 1mm to 4mm over mastic surface all complete as per standard specification.</p>					
			BITUMEN MASTIC WEARING COAT 25 MM THICK			
			Bitumen Mastic Wearing Coat = 25mm thick			
			Unit -- 1 1 Sq.m and taking output as 17.40 Sq.m			
	HIRE CHARGES FOR MACHINERIES					
			Mastic Cooker			

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Hire Charges / Day (Local Rate)			
			Full Charges @ 100 Litres of Diesel @	100		
			Hire Charges per 17.40 Sq.m			
			Hire Charges per 10 Sq.m			
	1.50	Nos	Mazdoor I Class for allowing mastic covers (HW-L0106)		Each	
	0.50	Nos	Mazdoor II Class (HW-L0107)		Each	
	3.50	Nos	Mazdoor I Class for spraying (HW-L0104)		Each	
	0.25	Nos	Mazdoor II Class for surface (HW-L0107)		Each	
	0.50	Nos	Head Mazdoor		Each	
			Total Labour Charges for 17.40 Sq.m			
			Labour Charges for 10.00 Sq.m			
			DATA			
	80.00	Kg	Cost of Bitumen of 60 / 70 Grade		MT	
	0.11	Cu.m	Cost of Lime Powder (M-0133)		Cu.m	
	(or) 220 Kg					
	0.08	Cu.m	Cost of Quarry Dust (M-0123)		Cu.m	
	(or) 160 kg					
	0.20	Cu.m	Cost of 13.20 mm IRC Metal (M-0103)		Cu.m	
	(or) 300 kg					
	10.00	Sq.m	Hire Charges for Machineries		10 Sq.m	
	10.00	Sq.m	Labour Charges		10 Sq.m	
		LS	For 20mm stones for grips		LS	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
			Rate For 10Sq.m of 25mm thick			
4	Engaging JCB for road maintenance activities including pay and allowances of crews and fuel charges etc., complete as directed by departmental Engineers.					
	8.000	Hrs	Hire Charges for JCB (H-0094)		/8 Hrs	
	40.00	lit	Fuel Charges / Hr. 5.00 Lit		/Lit	
	1.00	No	Driver (Heavy Duty) (SOR 2024 - 25, L0024, Pg. no. 12)		/Each	
			Total			
			Rate for 8 Hours			
			Rate per 1 Hour			
5	Providing RCC Pre cast Box Culvert (Fabrication and Manufacturing of Solid Precast Cement Element) of Size including cost of RMC M35, Steel, Erection and Installation of Precast / Pre-stressed Concrete Elements in correct and final position. (Solid Concrete Wall Elements) , hire charges for Crane 20 Ton Capacity,Transportation of Precast Elements by Flat Bed Traylor (Up to 15 Kilometere) including cost and conveyance of all materials to work site from the approved sources including labour charges for mixing laying curing etc as per standard specification and in accordance with the drawings as directed by the departmental officers etc., complete.					
		Cu.m	Cost of RMC M 35 (as per SOR -W-0377)		No	
		MT	Cost of Steel		Kg	
		Cu.m	Crane 20 Ton Capacity (H-0104)		Cu.m	
		MT	Transportation of Precast Elements by Flat Bed Traylor (Up to 15 Kilometere) (W-0281)		Sq.m	
			Rate For 1.50 Rm			
			Rate For 1 Rm			
6	Construction of reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per Cu.m, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing					
	1.00	Cu.m	Cement Mortar M40		Cu.m	
		Sq.m	Shuttering cost		Sq.m	
	0.009	MT	32mm Steel dowel bars		MT	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	0.004	MT	Dummy cap for Dowel Bar dowel bars		MT	
	0.0011	MT	16mm Deformed steel tie bars		MT	
	0.05	Cu.m	M sand (M-0125)		Cu.m	
	3.50	Sq.m	Impermeable plastic sheet-125 micron		Sq.m	
	0.900	Cu.m	Sealant filling		Cu.m	
	0.016	Cu.m	Pre-moulded joint filler		Cu.m	
			Primer, Barker road, Masking tape		LS	
			Laying cost - Labour		LS	
			Machinery			
			Concrete joint Cutting Machine including labour		LS	
			Screed Paver		LS	
	3.330	Sq.m	Finishing surface with textured broom		Sq.m	
			Soft water for curing concrete (HW-W0131)		Cu.m	
			Hire Charges for Hire charges for Tools and plants (HW- W0132)		Cu.m	
			Rate for 1 Cu.m			
7	Constuction of Cast in Situ Catch Pit of inner size 450x 450 x 450mm including necessary earth work excavation including providing foundation in PCC 1:4:8 under wall 150mm thick and cutting the existing storm water of size 300 x 150mm for fixing 2 Nos of 160mm dia PVC pipe of the storm water drain mouth with RCC Cast in situ wall of size 120mm in RCC 1:1.5:3 with steel of 18.32 KG including fixing Ductile Iron Gratings hinged with Frame clear opening 450 x 450mm Ductile Iron Gratings hinged with Frame of Class C -- 250 (Heavy Duty 25MT) of appropriate size and load capacity of approved brand confirming to BSEN 124:1994 Standards. Raw material should be of grade SG/500/7 as per IS-1865. Product should be tested in NABL/NTH accredited test lab for load capacity					
	0.38	Cu.m	Earthwork		Cu.m	
	0.048	Cu.m	PCC M15 40mm metal		Cu.m	
	0.147	Cu.m	M25 Box		Cu.m	
	16.55	KG	Steel		Kg	
	1.00	No	Grating Size 300 x 200 mm (HW-W022)		No	

Sl. No.	Qty	Unit	Description of work	Rate	Per	Amount
	2.59	Sq.m	Centering		Sq.m	
	0.74	RM	PVC Pipe 160mm dia (Drain wall 0.250 + Catch pit Wall 0.120) = 0.37 RM 2 Nos x 0.37 = 0.74 RM (M-0866)		RM	
	1.00	No	SUPPLYING AND FIXING Ductile Iron grating hinged with frame clear opening of size 450 x 450mm Ductile Iron grating hinged with frame of class C-250 (Heavy Duty 25MT) of appropriate size and load capacity of approved brand confirming to BSEN 124:1994 Standards. Raw material should be of grade SG/500/7 as per IS-1865. Product should be tested in NABL/NTH accredited test lab for load capacity (SWD 27 -- COC)		No	
			Sundries			
			Rate For 1No.			

C&M - ROAD

Highways Schedule of Rates
IRC HBG Metal Rates

Si.No.	Description	Rate
1	90mm (HW-M0093)	/Cum
2	75mm (HW-M0094)	/Cum
3	63mm (HW-M0095)	/Cum
4	53mm (HW-M0096)	/Cum
5	46.50mm (HW-M0097)	/Cum
6	45mm (HW-M0098)	/Cum
7	37.50mm (HW-M0099)	/Cum
8	26.50mm (HW-M0100)	/Cum
9	25mm (HW-M0101)	/Cum
10	22.40mm (HW-M0102)	/Cum
11	13.20mm (HW-M0103)	/Cum
12	11.20mm (HW-M0104)	/Cum
13	6.70mm (HW-M0105)	/Cum
14	6mm (HW-M0105)	/Cum
15	5.60mm (HW-M0105)	/Cum
16	4.75&Below (HW-M0106)	/Cum
RATES OF WORK AS PER PWD SCHEDULE OF RATES		
1	Clearing Heavy Jungle (W-0001)	/Sqm
2	Clearing Light Jungle (W-0002)	/Sqm
3	Clearing Scrub Jungle (W-0003)	/Sqm
4	Cleaning Juliflora Jungle with Uprooting (W-0007)	/Sqm
5	Cleaning Juliflora Jungle without Uprooting (W-0008)	/Sqm
6	Earth Work Excavation SS 20B (W-0061)	/Cum
7	Earth Work Excavation SS 20B for Foundation	/Cum
8	Refilling with excavated Sand (W-0074)	/Cum
9	Refilling with excavated soil(other than Sand)(W-0075)	/Cum
10	Vibrator Charges for PCC rate per Cum (W-0100)	/Cum

Si.No.	Description	Rate
11	Vibrator Charges for RCC rate per Cum (W-0101)	/Cum
12	Mixing Mortar Cement by Manual (W-0164)	/Cum
13	Mixing Mortar Cement by Machine (W-0165)	/Cum
Labour Charges for Road work		
1	Bitumen Heat Master Operator (HW-L0099)	/Day
2	Bitumen Raker Man (HW-L0100)	/Day
3	Mini Hot Mix Plant Operator (HW-L0101)	/Day
4	Bitumen Sprayer Man (HW-L0102)	/Day
5	Gunning Gun Operator (HW-L0103)	/Day
6	Head Mazdoor (HW-L0104)	/Day
7	Gunning Plant Operator (HW-L0105)	/Day
8	Road Mazdoor Grade - I (HW-L0106)	/Day
9	Road Mazdoor Grade -II (HW-L0107)	/Day

Cement Rate		
Cost of Cement as per PWD Schedule of Rates	=	
Deduct loading and unloading charges	=	(-)
Basic Cement Rate		
Add Storage Charges at 5% of Basic Cost		
Cost of Cement incl. Storage at 5% of Basic cost		
Rate for per MT		
Steel Rate		
Cost of Steel as per PWD Schedule of Rates	=	
Deduct loading and unloading charges	=	(-)
Basic Steel Rate		
Add Storage Charges at 5% of Basic Cost		
Cost of Steel incl. Storage at 5% of Basic cost		
Rate for per MT		

Hire Charges for Machinery

Si.No.	Description	Rate
1	Power Roller (HW-H0077)	/Day
2	Water Sprinkler (HW-H0083)	/Day
3	Mini Hot Mix Plant (HW-H0082)	/Day
4	Bitumen Boiler per Day (HW-H0092)	/Day
5	Vibrator Roller/ Hr	/Hour
6	Water / KL (HW-H0002)	/KL
7	Central Hot Mixing Plant (HW-H0091)	/Day
8	Vibratory Roller (HW-H0081) 8-10 Tonne	/Day
9	Paver Finisher (HW-H0080)	/Day
10	Tipper (10 Tonnes) (HW-H0078)	/Day
11	Loader 5 cum capacity (HW-H0079)	/Day
12	Water tanker (WMM) (HW-H0089)	/Day
13	Motor grader (110 HP) (HW-H0087)	/Day
14	Pug mill (Base Mix Plant) (HW-H0090)	/Day
15	Electrical Generator 125KVA (HW-H0085)	/Day
16	Tractor per hour	/Hour
17	Tipper Trucks-per tonne /km (HW-H0003)	/tonne/Km
18	Rotovator per hour	/Hour
19	Wet Mix Plant 75MT capacity (HW-H0084)	/Day
20	Bitumen emulsion sprayer/10 sqm (HW-H0004)	/10Sqm
21	Paver Finisher (more than 5m) per hour (HW-H0001)	/Hour
22	Pneumatic tyred roller per hr (HW-H0005)	/Hour
23	Tractor Rotovator (incl fuel /day) (HW-H0088)	/Day
24	Water 6KL Capacity (GSB) (HW-H0086)	/Day
25	Tractor with dozer (HW-H0093)	/Day
26	JCB (HW-H0094)	/Day
27	Dewatering Pump with Engine (HW-H0095)	/Day
28	Ajax Self Loading Concrete Mixer (HW-H0096)	/Day
29	Milling Machine with 1 Meter Drum Width (HW-H0007)	/Hr.
30	Vibrator Soil Compactor (Earth/Soil, GSB, WMM)(HW-H0006)	/Hr.
31	Plate Compactor (HW-H0030)	/Hr.
32	Kerb Casting and laying Machine (HW-H0028)	/Hr.
33	Transit Truck Agitator for Transportation (6Cum) (HW-H0039)	/Hr.

<u>WORKING OUT METAL RATE FOR GRANULAR SUB BASE</u>		
Granular Sub Base Grade - V		
<u>Cost of 53mm to 9.50mm Broken Stone</u>		
Cost of 53mm (HW-M0096) Metal		/Cum.
Cost of 46.50mm (HW-M0097) Metal		/Cum.
Cost of 45mm (HW-M0098) Metal		/Cum.
Cost of 37.50mm (HW-M0099) Metal		/Cum.
Cost of 26.50mm (HW-M0100) Metal		/Cum.
Cost of 25mm (HW-M0101) Metal		/Cum.
Cost of 22.40mm (HW-M0102) Metal		/Cum.
Cost of 13.20mm (HW-M0103) Metal		/Cum.
Cost of 11.20mm (HW-M0104) Metal		/Cum.
	Average Rate	/Cum.
<u>Cost of 9.50mm to 2.36mm Broken Stone</u>		
Cost of 6.70mm (HW-M0105) Metal		/Cum.
Cost of 6mm (HW-M0105) Metal		/Cum.
Cost of 5.60mm (HW-M0105) Metal		/Cum.
Cost of 4.75&Below (HW-M0106) Metal		/Cum.
Cost of 2.36mm (M-0106) Metal		/Cum.
	Average Rate	/Cum.
<u>Cost of 2.36mm & Below of Sand</u>		
Cost of 2.36mm (M-0106) Metal		
	Rate	/Cum.
<u>METAL RATE FOR GRANULAR SUB BASE (TABLE NO.400.1)</u>		
Granular Sub Base Grade - III		
<u>Cost of 46.50 - 26.50 mm Broken Stone</u>		
Cost of 46.50mm (HW-M0097) Metal		/Cum.
Cost of 45mm (HW-M0098) Metal		/Cum.
Cost of 37.50mm (HW-M0099) Metal		/Cum.
Cost of 26.50mm (HW-M0100) Metal		/Cum.
	Average Rate	/Cum.
<u>Cost of 26.50 - 4.75mm Broken Stone</u>		

Cost of 25mm (HW-M0101) Metal		/Cum.
Cost of 22.40mm (HW-M0102) Metal		/Cum.
Cost of 13.20mm (HW-M0103) Metal		/Cum.
Cost of 11.20mm (HW-M0104) Metal		/Cum.
Cost of 6.70mm (HW-M0105) Metal		/Cum.
Cost of 6mm (HW-M0105) Metal		/Cum.
Cost of 5.60mm (HW-M0105) Metal		/Cum.
Average Rate		/Cum.
<u>Cost of 4.75mm & Below of Sand</u>		
Cost of 4.75&Below (HW-M0106) Metal		/Cum.
Rate		/Cum.
<u>WORKING OUT METAL RATE FOR</u>		
<u>WET MIX MACADAM</u>		
<u>Cost of 45mm to 22.40mm Broken Stone</u>		
Cost of 45mm (HW-M0098) Metal		/Cum.
Cost of 37.50mm (HW-M0099) Metal		/Cum.
Cost of 26.50mm (HW-M0100) Metal		/Cum.
Cost of 25mm (HW-M0101) Metal		/Cum.
Cost of 22.40mm (HW-M0102) Metal		/Cum.
Average Rate		/Cum.
<u>Cost of 22.40mm to 2.36mm Broken Stone</u>		
Cost of 22.40mm (HW-M0102) Metal		/Cum.
Cost of 13.20mm (HW-M0103) Metal		/Cum.
Cost of 11.20mm (HW-M0104) Metal		/Cum.
Cost of 6.70mm (HW-M0105) Metal		/Cum.
Cost of 6mm (HW-M0105) Metal		/Cum.
Cost of 5.60mm (HW-M0105) Metal		/Cum.
Cost of 4.75&Below (HW-M0106) Metal		/Cum.
Average Rate		/Cum.
<u>WORKING OUT METAL RATE FOR</u>		

CRUSHER RUN MACADAM		
Cost of 53mm to 45 mm Broken Stone		
Cost of 53mm (HW-M0096) Metal		/Cum.
Cost of 46.50mm (HW-M0097) Metal		/Cum.
Cost of 45mm (HW-M0098) Metal		/Cum.
Average Rate		/Cum.
Cost of 45mm - 22.40mm Broken Stone		/Cum.
Cost of 45mm (HW-M0098) Metal		/Cum.
Cost of 37.50mm (HW-M0099) Metal		/Cum.
Cost of 26.50mm (HW-M0100) Metal		/Cum.
Cost of 25mm (HW-M0101) Metal		/Cum.
Cost of 22.40mm (HW-M0102) Metal		/Cum.
Average Rate		/Cum.
Cost of 22.40 mm to 5.60mm Broken Stone		
Cost of 13.20mm (HW-M0103) Metal		/Cum.
Cost of 11.20mm (HW-M0104) Metal		/Cum.
Cost of 6.70mm (HW-M0105) Metal		/Cum.
Cost of 6mm (HW-M0105) Metal		/Cum.
Cost of 5.60mm (HW-M0105) Metal		/Cum.
Average Rate		/Cum.
Cost of 2.36mm (M-0106) Metal		
Rate		/Cum.

WORKING OUT METAL RATE FOR BM 50mm thick

Qty	Unit	Description	Rate	Per	Amount
For 26.50 mm to 13.20 mm IRC					
0.180	Cum	Cost of 25 & 22.40mm IRC (Average)		/Cum	
0.820	Cum	Cost of 13.20mm IRC		/Cum	
Rate of metal for 26.50 mm to 13.20 mm IRC for BM 50 MM				Rs.	
For 13.20 mm to 2.36 mm IRC					
0.570	Cum	Cost of 11.2, 6.70, 6,5.6 & 4.75mm (Average)		/Cum	
0.430	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 13.20 mm to 2.36 mm IRC for BM 50 MM				Rs.	
For 2.36 mm & below					
1.000	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 2.36 mm IRC for BM 50 MM				Rs.	
<u>WORKING OUT METAL RATE FOR DBM 50mm thick</u>					
For 26.50 mm to 13.20 mm IRC					
0.160	Cum	Cost of 26.50mm IRC		/Cum	
0.370	Cum	Cost of 25 & 22.40mm IRC (Average)		/Cum	
0.470	Cum	Cost of 13.20mm IRC		/Cum	
Rate of metal for 26.50 mm to 13.20 mm IRC for DBM 50 MM				Rs.	
For 13.20 mm to 2.36 mm IRC					
0.550	Cum	Cost of 11.2, 6.70, 6,5.6 & 4.75mm (Average)		/Cum	
0.450	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 13.20 mm to 2.36 mm IRC for DBM 50 MM				Rs.	
For 2.36 mm & below					
1.000	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 2.36 mm IRC for DBM 50 MM				Rs.	
<u>WORKING OUT METAL RATE FOR BM 80mm thick</u>					
For 37.50 mm to 13.20 mm IRC					

Qty	Unit	Description	Rate	Per	Amount
0.100	Cum	Cost of 37.50mm IRC		/Cum	
0.380	Cum	Cost of 26.50mm IRC		/Cum	
0.520	Cum	Cost of 25,22.40 &13.20mm IRC (Average)		/Cum	
Rate of metal for 37.50 mm to 13.20 mm IRC for BM 80mm				Rs.	
<u>For 13.20 mm to 2.36 mm IRC</u>					
0.830	Cum	Cost of 11.2, 6.70, 6,5.6 & 4.75mm (Average)		/Cum	
0.170	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 13.20 mm to 2.36 mm IRC for BM 80mm				Rs.	
<u>For 2.36 mm & below</u>					
1.000	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 2.36 mm IRC for BM 80mm				Rs.	
<u>WORKING OUT METAL RATE FOR DBM 75 mm thick</u>					
<u>For 37.50 mm to 13.20 mm IRC</u>					
0.140	Cum	Cost of 37.50mm IRC		/Cum	
0.490	Cum	Cost of 26.50mm IRC		/Cum	
0.370	Cum	Cost of 25,22.40 &13.20mm IRC (Average)		/Cum	
Rate of metal for 37.50 mm to 13.20 mm IRC for DBM 75 mm thick				Rs.	
<u>For 13.20 mm to 2.36 mm IRC</u>					
0.370	Cum	Cost of 11.2, 6.70, 6,5.6 & 4.75mm (Average)		/Cum	
0.630	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 13.20 mm to 2.36 mm IRC for DBM 75 mm thick				Rs.	
<u>For 2.36 mm & below</u>					
1.000	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 2.36 mm IRC for DBM 75 mm thick				Rs.	
<u>WORKING OUT METAL RATE FOR BC 30/40 mm thick</u>					
<u>For 19.00 mm to 9.50 mm IRC</u>					
0.240	Cum	Cost of 13.20mm IRC		/Cum	

Qty	Unit	Description	Rate	Per	Amount
0.760	Cum	Cost of 11.20mm IRC		/Cum	
Rate of metal for 19.00 mm to 9.50 mm IRC for BC 30/40 mm thick				Rs.	
<u>For 9.50 mm to 2.36 mm IRC</u>					
0.660	Cum	Cost of 6.70, 6,5.6 & 4.75mm (Average)		/Cum	
0.340	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 9.50 mm to 2.36 mm IRC for BC 30/40 mm thick				Rs.	
<u>For 2.36 mm & below</u>					
1.000	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 2.36 mm IRC for BC 30/40 mm thick				Rs.	
<u>WORKING OUT METAL RATE FOR BC 50 mm thick</u>					
<u>For 26.50 mm to 13.20 mm IRC</u>					
0.160	Cum	Cost of 25mm & 22.40 mm IRC (Average)		/Cum	
0.840	Cum	Cost of 11.20mm IRC		/Cum	
Rate of metal for 26.50 mm to 13.20mm IRC for BC 50 mm thick				Rs.	
<u>For 13.20 mm to 2.36 mm IRC</u>					
0.730	Cum	Cost of 11.20,6.70, 6,5.6 & 4.75mm (Average)		/Cum	
0.270	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 13.20 mm to 2.36 mm IRC for BC 50 mm thick				Rs.	
<u>For 2.36 mm & below</u>					
1.000	Cum	Cost of 2.36mm IRC		/Cum	
Rate of metal for 2.36 mm IRC for BC 50 mm thick				Rs.	
<u>WORKING OUT METAL RATE FOR CLOSE GRADED PREMIX CARPET</u>					
<u>For 13.20 mm to 11.20 mm IRC</u>					
1.000	Cum	Cost of 11.20 mm IRC		/Cum	
Rate of metal for 13.20 mm to 11.20mm				Rs.	
<u>For 11.20 mm to 5.60 mm IRC</u>					

Qty	Unit	Description	Rate	Per	Amount
1.000	Cum	Cost of 6.70mm IRC		/Cum	
1.000	Cum	Cost of 6mm IRC		/Cum	
1.000	Cum	Cost of 5.60mm IRC		/Cum	
Rate of metal for 11.20 mm to 5.60 mm IRC				Rs.	
<u>For 5.6MM to 2.80 mm & below</u>					
1.000	Cum	Cost of 4.75mm IRC		/Cum	
Rate of metal for 5.60 mm - 2.80 mm				Rs.	

Granular Sub-Base with Close Graded Material (Table:- 400-1)

	Description	Unit	Quantity	Rate (Rs)	Cost (Rs)
A	Plant Mix Method				
	Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory soil compactor to achieve the desired density, complete as per clause 401				
	Taking output = 225 cu.m (450 tonne)				
	a) Labour				
	Mate	day	0.400		
	Mazdoor skilled	day	2.000		
	Mazdoor	day	8.000		
				Total	
	b) Machinery				
	Wet Mix Plant 75 tonne capacity/ hr	hour	6.000		
	Electric generator 125 KVA	hour	6.000		
	Water tanker 6 KL capacity 5 km lead with one trip per hour	hour	4.500		
	Front end loader 1 cu.m bucket capacity	hour	6.000		
	Tipper 10 tonne; conveyance: 40 km	tonne. km	450 x L		
	Add 10 per cent of cost of carriage to cover loading and unloading				
	Motor Grader 110 HP	hour	6.000		
	Vibratory Soil Compactor (HW-H0006)	hour	6.000		
				Total	
	c) Material as per table 400-1				
	For Grading-V Material (Filter/ Separation Layer at Bottom)				
	Cost of 53mm to 9.50mm Broken Stone	cu.m	144.000		
	Cost of 9.50mm to 2.36mm Broken Stone	cu.m	100.000		
	Cost of 2.36mm & Below of Sand	cu.m	43.000		
	Cost of water	KL	27.000		
				Total	
	For Grading-III Material (Drainage Layer at Top)				
	46.5 mm to 26.50 mm	cu.m	101.000		

	Description	Unit	Quantity	Rate (Rs)	Cost (Rs)
	26.5 mm to 4.75 mm	cu.m	130.000		
	4.75 mm below	cu.m	58.000		
	Cost of water	KL	27.000		
				Total	
(i)	Rate per cu.m for grading-V Material				
	Cost for 225 cu.m = a+b+c				
	Rate per cu.m = (a+b+c)/225				
					-
(ii)	Rate per cu.m for grading-III Material				
	Cost for 225 cu.m = a+b+c				
	Rate per cu.m = (a+b+c)/225				

Granular Sub Base

Hire charges for Machineries

BY PLANT MIX METHOD

Motor Grader including fuel / Hour =Rs. /Hour

Wet Mix Plant 75 tonne capacity/ hr =Rs. /Hour

Vibratory Soil Compactor (HW-H0006)

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day 3.00 lit/Hr x 8.00 Hrs. x /lit =Rs.

Total Hire charges per day including Fuel =Rs.

Hire charges of Vibrator soil compactor per Hour / 8 =Rs. /Hour

Tipper Trucks

Hire charges excluding fuel charges per Hour / 8 =Rs.

Fuel charges per day 3.25 lit/Hr x /lit =Rs.

Total Hire charges per Hour including Fuel =Rs. /Hour

Water Tanker (HW-H0086)

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day /Day /lit =Rs.

Total Hire charges per day including Fuel =Rs.

Hire Charges for Water Tanker per Hour / 8 =Rs. /Hour

Front end loader 5 cu.m capacity (HW-H0079)

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day 10.00 lit/Hr x 8.00 Hrs. x /lit =Rs.

Total Hire charges per day including Fuel =Rs.

Hire charges of Front end loader per Hour / 8 =Rs. /Hour

EARTH WORK FOR BOXING INCL: CONVEYANCE OF CUT EARTH

Earthwork excavation in all classes of soils except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour charges, materials, tools, equipments and all incidental charges, removal of other deleterious matter and obstructions, trimming of bottom of excavation back filling, clearing up the site and disposal of all surplus materials etc., complete as per standard specification. **For Box cutting including conveyance of cut earth away from the site with average lead**

Lead for removal :

1.00 Cu.m.	Cost of Boxing cut	=Rs.
Km.	Conveyance Charges as per PWD Schedule of Rates	=Rs.
	Rate for 1.00 cu.m.	=Rs.

EW for boxing with conveyance = =Rs.

EARTH WORK FOR FORMATION OF EMBANKMENT / SUB GRADE

Earthwork excavation in all classes of soils except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour charges, materials, tools, equipments and all incidental charges, **including compacting with vibratory soil compactor, watering, including all hire and fuel charges for all Hire charges for Tools and plants**, removal of other deleterious matter and obstructions, trimming of bottom of excavation back filling, clearing up the site and disposal of all surplus materials etc., complete as per standard specification. **For embankment / sub grade**

CBR : & Lead:

Hire charges for Machineries

Vibratory Soil Compactor (HW-H0006)

Hire charges excluding fuel charges per day	=Rs.
Fuel charges per day 2.5lit/Hr x 8Hrs x /Lit	=Rs.
Total Hire charges per day including Fuel	=Rs.
Daily Out turn 425Cu.m / Day	
Hire charges of Power Roller per Cu.m. = / 425	=Rs.

Water Sprinklers (HW-H0083)

Hire charges excluding fuel charges per day	=Rs.
Fuel charges per day 3.25lit/Hr x 8Hrs x /Lit	=Rs.
Total Hire charges per day including Fuel	=Rs.

Daily Out turn 1000Cu.m / Day

Hire charges of Water Sprinklers per Cu.m. = / 1000 =Rs.

Total Hire charges for Machineries per Cu.m = =Rs.

Labour charges for Laying Earth for 100cu.m

2.00 Nos. Mazdoor Ist Class =Rs.

Total Labour charges for laying earth per 100cu.m =Rs.

Total Labour charges for laying earth per Cu.m = / 100 =Rs.

=Rs.

1.16 Cu.m. Earth Work of CBR =Rs.

1.00 Cu.m. Hire & Fuel charges =Rs.

1.00 Cu.m. Labour charges =Rs.

Rate for 1.00 cu.m. =Rs.

Rate of Earth work for Embankment / Sub Grade of CBR =Rs.

EARTH WORK FOR FORMATION OF EMBANKMENT / SUB GRADE

Earthwork excavation in all classes of soils except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour charges, materials, tools, equipments and all incidental charges, **including compacting with vibratory soil compactor, watering, including all hire and fuel charges for all Hire charges for Tools and plants**, removal of other deleterious matter and obstructions, trimming of bottom of excavation back filling, clearing up the site and disposal of all surplus materials etc., complete as per standard specification. **For embankment / sub grade**

CBR : & Lead:

Hire charges for Machineries

Vibratory Soil Compactor (HW-H0006)

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day 2.5lit/Hr x 8Hrs x /Lit =Rs.

Total Hire charges per day including Fuel =Rs.

Daily Out turn 425Cu.m / Day

Hire charges of Power Roller per Cu.m. = / 425 =Rs.

Water Sprinklers

Hire charges excluding fuel charges per day	=Rs.
Fuel charges per day 3.25lit/Hr x 8Hrs x /Lit	=Rs.
Total Hire charges per day including Fuel	=Rs.
Daily Out turn 1000Cu.m / Day	
Hire charges of Water Sprinklers per Cu.m. = / 1000	=Rs.
Total Hire charges for Machineries per Cu.m =	=Rs.

Labour charges for Laying Earth for 100cu.m

2.00 Nos. Mazdoor Ist Class	=Rs.
Total Labour charges for laying earth per 100cu.m	=Rs.
Total Labour charges for laying earth per Cu.m = / 100	=Rs.
	=Rs.
1.16 Cu.m. Earth Work of CBR	=Rs.
1.00 Cu.m. Hire & Fuel charges	=Rs.
1.00 Cu.m. Labour charges	=Rs.
Rate for 1.00 cu.m.	=Rs.
Rate of Earth work for Embankment / Sub Grade of CBR	=Rs.

EARTH WORK FOR BERMS INCL. COMPACTION

Earthwork excavation in all classes of soils except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour charges, materials, tools, equipments and all incidental charges, **including compacting with power roller, watering, including all hire and fuel charges for all Hire charges for Tools and plants,** removal of other deleterious matter and obstructions, trimming of bottom of excavation back filling, clearing up the site and disposal of all surplus materials etc., complete as per standard specification. **For making up of low berms with conveyance**

Lead for Earth:

Hire charges for Machineries

Power Roller 8-10 tonne (HW-H0077)

Hire charges excluding fuel charges per day	=Rs.
Fuel charges per day 2.5lit/Hr x 8Hrs x /Lit	=Rs.

Total Hire charges per day including Fuel		=Rs.	
Daily Out turn 425Cu.m / Day			
Hire charges of Power Roller per Cu.m. =	/ 425	=Rs.	/Cu.m

Water Sprinklers (HW-H0083)

Hire charges excluding fuel charges per day		=Rs.	
Fuel charges per day 3.25lit/Hr x 8Hrs x	/Lit	=Rs.	
Total Hire charges per day including Fuel		=Rs.	
Daily Out turn 1000Cu.m / Day			
Hire charges of Water Sprinklers per Cu.m. =	/ 1000	=Rs.	/Cu.m
Total Hire charges for Machineries per Cu.m =		=Rs.	/Cu.m

Labour charges for Laying Earth for 100cu.m

2.00 Nos. Mazdoor Ist Class		=Rs.	
Total Labour charges for laying earth per 100cu.m		=Rs.	
Total Labour charges for laying earth per Cu.m =	/ 100	=Rs.	/Cu.m
		=Rs.	

Cost of Earth including conveyance

1.16 Cu.m.	Cost of Earth Work	=Rs.	
1.00 Cu.m.	Hire & Fuel charges	=Rs.	
1.00 Cu.m.	Labour charges	=Rs.	
	Rate for 1.00 cu.m.	=Rs.	
	Rate for Carted Earth with conveyance	=Rs.	

GRAVEL FOR BERMS INCL. COMPACTION

Providing and laying of Gravel including cost and conveyance of the same to work site from approved quarry including stacking the same to departmental gauge for premeasurement including all labour charges for laying, spreading, including all hire and fuel charges for power roller for compaction, etc., complete and as directed by the departmental engineers for making up of low berms

Lead for Gravel :

Hire charges for Machineries

Power Roller 8-10 tonne

Hire charges excluding fuel charges per day =Rs.
 Fuel charges per day (Diesel) 2.50lit/Hr x 8Hr. x /Lit =Rs.
 Total Hire charges per day including Fuel =Rs.
 Daily Out turn of 8-10 tonne Power Roller 425Cu.m.
 Hire charges of Power Roller per Cu.m. = / 425 =Rs.

Water Sprinklers

Hire charges excluding fuel charges per day =Rs.
 Fuel charges per day (Diesel) 3.25lit/Hr x 8Hr. X /Lit =Rs.
 Total Hire charges per day including Fuel =Rs.
 Daily Out turn of Water Sprinklers is 1000Cu.m
 Hire charges of Water Sprinklers per Cu.m = /1000 =Rs.

Total Hire charges for Machinerie per 10sqm = =Rs.

Labour charges for Laying U.S. Gravel for 100cu.m

2.00 Nos Mazdoor Ist Class =Rs.
 Total Labour charges for laying gravel per 100cu.m =Rs.
 Total Labour charges for laying gravel per Cu.m / 100 =Rs.
 =Rs.

Cost of Gravel including conveyance

1.16 Cu.m. Cost of Gravel =Rs.
 1.00 Cu.m. Hire & Fuel charges =Rs.
 1.00 Cu.m. Labour charges =Rs.
Rate for 1.00 cu.m. =Rs.
Rate of Gravel for Berms =Rs.

COMPACTION ONLY FOR UTILIZING AVAILABLE BOX CUT EARTH

Providing **compaction for embankment / making up of low berms using the available box cut earth** including all hire and fuel charges for power roller for compaction, water sprinkler, including all labour charges for laying, spreading, watering etc., complete and as directed by the departmental engineers.

Hire charges for Machinerie

Power Roller 8-10 tonne

Hire charges excluding fuel charges per day =Rs.
 Fuel charges per day 2.5lit/Hr x 8Hrs x /Lit =Rs.
 Total Hire charges per day including Fuel =Rs.
 Daily Out turn 425Cu.m / Day
 Hire charges of Power Roller per Cu.m. = / 425 =Rs.

Water Sprinklers

Hire charges excluding fuel charges per day =Rs.
 Fuel charges per day 3.25lit/Hr x 8Hrs x /Lit =Rs.
 Total Hire charges per day including Fuel =Rs.
 Daily Out turn 1000Cu.m / Day
 Hire charges of Water Sprinklers per Cu.m. = / 1000 =Rs.
 Total Hire charges for Machineries per Cu.m = =Rs.

Labour charges for Laying Earth for 100cu.m

2.00 Nos. Mazdoor Ist Class =Rs.
 Total Labour charges for laying earth per 100cu.m =Rs.
 Total Labour charges for laying earth per Cu.m = / 100 =Rs.

Hire and Labour Charges for Compacting only per Cu.m =Rs.

EARTH WORK FOR FORMATION OF EMBANKMENT / SUB GRADE

Earthwork excavation in all classes of soils except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour charges, materials, tools, equipments and all incidental charges, **including compacting with vibratory soil compactor, watering, including all hire and fuel charges for all Hire charges for Tools and plants**, removal of other deleterious matter and obstructions, trimming of bottom of excavation back filling, clearing up the site and disposal of all surplus materials etc., complete as per standard specification. **For embankment / sub grade**

CBR :

Hire charges for Machineries

Vibratory Soil Compactor (HW-H0006)

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day 2.5lit/Hr x 8Hrs x /Lit =Rs.

Total Hire charges per day including Fuel =Rs.

Daily Out turn 425Cu.m / Day

Hire charges of Power Roller per Cu.m. = / 425 =Rs.

Water Sprinklers

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day 3.25lit/Hr x 8Hrs x /Lit =Rs.

Total Hire charges per day including Fuel =Rs.

Daily Out turn 1000Cu.m / Day

Hire charges of Water Sprinklers per Cu.m. = / 1000 =Rs.

Total Hire charges for Machineries per Cu.m = =Rs.

Labour charges for Laying Earth for 100cu.m

2.00 Nos. Mazdoor Ist Class =Rs.

Total Labour charges for laying earth per 100cu.m =Rs.

Total Labour charges for laying earth per Cu.m = / 100 =Rs.

Total Hire and Labour Charges for laying and compacting per cu.m =Rs.

EARTH WORK FOR MAKING UP OF LOW BERMS

Earthwork excavation in all classes of soils except hard rock requiring blasting and depositing on bank with all leads and lifts as per SS20B including cost of all labour charges, materials, tools, equipments and all incidental charges, **including compacting with power roller, watering, including all hire and fuel charges for all Hire charges for Tools and plants,** removal of other deleterious matter and obstructions, trimming of bottom of excavation back filling, clearing up the site and disposal of all surplus materials etc., complete as per standard specification. **For Carted Earth with compaction for making up of low berms**

Hire charges for Machineries

Power Roller 8-10 tonne

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day 2.5lit/Hr x 8Hrs x /Lit =Rs.

Total Hire charges per day including Fuel =Rs.

Daily Out turn 425Cu.m / Day

Hire charges of Power Roller per Cu.m. = / 425 =Rs.

Water Sprinklers

Hire charges excluding fuel charges per day =Rs.

Fuel charges per day 3.25lit/Hr x 8Hrs x /Lit =Rs.

Total Hire charges per day including Fuel =Rs.

Daily Out turn 1000Cu.m / Day

Hire charges of Water Sprinklers per Cu.m. = / 1000 =Rs.

Total Hire charges for Machineries per Cu.m = =Rs.

Labour charges for Laying Earth for 100cu.m

2.00 Nos. Mazdoor Ist Class =Rs.

Total Labour charges for laying earth per 100cu.m =Rs.

Total Labour charges for laying earth per Cu.m = / 100 =Rs.

Total Hire and Labour Charges for laying and compacting per cu.m =Rs.

**Labour Charges for Patch Work with Bituminous Premix Materials
for 0.625 cu.m of Bituminous Materials**

1. In patches and cutting Mazdoor Ist Class 1.08 x 1/6 x	/E	=Rs.
2. Removing the Picked up stuff Mazdoor Ist 1.08x1/8 x	/E	=Rs.
3. Brushing and Cleaning the Surface - - L. S. - -		=Rs.
4. Spreading the Bitumen for Tack Coat excluding cost of Bitumen -L.S.		=Rs.
5. Premixing the chips with hot Bitumen in the drum mixer and laying 0.625 cu.m of metal with 44 kg per cu.m of chips excluding the cost of the bitumen		=Rs.
- - L. S. - -		
6. Levelling and tamping the premix in the patches and pot holes rolling		=Rs.
7. Special tools such as wire brushes etc., - L. S. - -		=Rs.
8. Regulation of Traffic - - L.S. - -		=Rs.
9. Sundries such as barricading arrangements - L. S. - -		=Rs.
Labour for laying 0.625 cu.m of Bituminous materials		=Rs.

Therefore for laying 1.00 cu.m of Bituminous materials /0.625 /cu.m.

Patch work using 45mm IRC metal (for Each KM separately)

-	-	-		
1.00 Cu.m.	Cost of 45mm IRC	at Rs.	/cu.m.	=
44 Kg	Cost of VG10 Bitumen	at Rs.	/MT	=
1.00 Cu.m.	Labour charges	at Rs.	/cu.m.	=
Rate for 1.00 cu.m.				Rs.

Patch work using 13.20mm IRC metal (for Each KM separately)

1.00 Cu.m.	Cost of 13.20 mm IRC	at Rs.	/cu.m.	=
44 Kg	Cost of VG10 Bitumen	at Rs.	/MT	=
1.00 Cu.m.	Labour charges	at Rs.	/cu.m.	=
Rate for 1.00 cu.m.				Rs.

B. M. 50mm Thick Using Mini Hot Mix Plant & VG30 Bitumen

Providing and Laying 50mm thick **Bituminous Macadam** using course aggregate and **VG30 bitumen** which shall consist of construction in a single course base/binder course conforming to the specification on a previously prepared base, **(using Mini Hot Mix Plant and Power Roller)** including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per clause 504 MORTH Rev-5 **(For Patch Works)**

Hire charges for Machineries

Mini Hot Mix Plant

Hire charges excluding fuel charges per hour				/8	=Rs.
Fuel charges per hour diesel (running plant)	15.00 Lit	x		/lit	=Rs.
Fuel for heating aggregates per hour	45.00 Lit	x		/lit	=Rs.
					Total Hire charges including Fuel =Rs.
Daily Out turn for BM 50mm thick		=	75	sqm.	
Hire charges of Mini Hot Mix Plant per 10 sqm.			x 10		=Rs.
			75		

Power Roller 8-10 tonne

Hire charges excluding fuel charges per day					=Rs.
Fuel charges per day (Diesel)	2.50 lit/Hr	x	8 Hrs.	x	/lit =Rs.
					Total Hire charges per day including Fuel =Rs.
Daily Out turn for BM 50mm thick		=	300	sqm	
Hire charges for BM 50mm thick per 10 sqm.			x 10		=Rs.
			300		

Bitumen Boiler 750 lit capacity

Hire charges excluding fuel charges per day					=Rs.
Fuel charges per day Kerosene	25.00 Lit	x		/lit	=Rs.
					Total Hire charges per day including Fuel =Rs.
Hire and fuel charges of boiler per hour		=		/8	=Rs.
Daily Out turn of Bitumen Boiler per hour		=	125	Kg.	
Bitumen Required for BM 50mm thick per 10 sqm		=	37	kg	
Bitumen to be utilised for BM 50mm	125x10/37	=	33.784	sqm	
Hire charges for BM per 10 sqm	=	x10	=		=
			8x33.784	270.27	
					Total Hire Charges for Machineries per 10 sqm =Rs.

Labour charges for BM 50mm thick per 1200sqm

83 Nos.	Cost of Mazdoor Ist Class	@Rs.	/E	=Rs.
55 Nos.	Cost of Mazdoor IInd Class	@Rs.	/E	=Rs.
				Total Labour charges for BM 50mm thick per 1200sqm =Rs.
			x 10	=Rs.
			1200	
Total Hire and Labour charges per 10sqm	=	+		=Rs.

BITUMINOUS MACADAM 50MM THICK (For Patch Works) (for Each KM separately)

0.20 Cu.m.	Cost of 26.5-13.20mm IRC	at Rs.	/cu.m.	=
0.43 Cu.m.	Cost of 13.20-2.36mm IRC	at Rs.	/cu.m.	=
0.08 Cu.m.	Cost of 2.36mm & below IRC	at Rs.	/cu.m.	=
37.00 Kgs.	Cost of VG30 Bitumen	at Rs.	/MT	=
10.00 Sqm	Hire charges	at Rs.	/10sqm	=
10.00 Sqm	Labour charges	at Rs.	/10sqm	=
	Rate for 10 sqm			=Rs.
	Rate per cu.m of 50 mm thick =		=	Rs.

PROVIDING GRAVEL FOR BERMS INCL. COMPACTION

Providing and laying of Gravel including cost and conveyance of the same to work site from approved quarry including stacking the same to departmental gauge for premeasurement including all labour charges for laying, spreading, including all hire and fuel charges for power roller for compaction, etc., complete and as directed by the departmental engineers for making up of low berms

Hire charges for Machineries

Power Roller 8-10 tonne

Hire charges excluding fuel charges per day		=Rs.
Fuel charges per day (Diesel) 2.50lit/Hr x 8Hr. x	/Lit	=Rs.
Total Hire charges per day including Fuel		=Rs.
Daily Out turn of 8-10 tonne Power Roller	425Cu.m.	
Hire charges of Power Roller per Cu.m. =	/ 425	=Rs.

Water Sprinklers

Hire charges excluding fuel charges per day		=Rs.
Fuel charges per day (Diesel) 3.25lit/Hr x 8Hr. x	/Lit	=Rs.
Total Hire charges per day including Fuel		=Rs.
Daily Out turn of Water Sprinklers is	1000Cu.m	
Hire charges of Water Sprinklers per Cu.m =	/1000	=Rs.

Total Hire charges for Machineries per10sqm = **=Rs.**

Labour charges for Laying U.S. Gravel for 100cu.m

2.00 Nos	Mazdoor Ist Class	=Rs.
Total Labour charges for laying gravel per 100cu.m		=Rs.
Total Labour charges for laying gravel per Cu.m	/ 100	=Rs.
Total Hire and Labour charges per Cu.m		=Rs.

WET MIX MACADAM				
Providing, laying, spreading and compacting graded stone aggregates for Wet Mix Macadam 250mm thick, including premixing the materials with water at OMC in mechanical mix plant, conveyance of mixed materials by tipper to site, laying in uniform layers using pavers in Sub Base/ Base course on well prepared surface and compacting with vibratory soil compactor to achieve the desired density including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per clause 406 of MORTH Rev-5				
HIRE CHARGES FOR MACHINERIES				
Loader 5 Cu.m. Capacity (HW-H0079)				
Hire charges excluding fuel charges per day			= Rs.	
Fuel charges per day 80 liters of diesel at Rs. /Lit			= Rs.	
Total Hire charges per day including Fuel			= Rs.	
Total Hire charges per Hour including Fuel			= Rs.	Hr /
Tipper (HW-H0078)				
Hire charges excluding fuel charges per day			= Rs.	
Fuel charges per day 3.25lit. of diesel x 8 hrs at Rs. /Lit			= Rs.	
Total Hire charges per day including Fuel			= Rs.	
Total Hire charges per Hour including Fuel			= Rs.	Hr /
Water Tankers (HW-H0089)				
Hire charges excluding fuel charges per day			= Rs.	
Fuel charges per day 25 liters of diesel at Rs. /Lit			= Rs.	
Total Hire charges per day including Fuel			= Rs.	
Total Hire charges per Hour including Fuel			= Rs.	Hr /
Vibratory Soil Compactor (HW-H0006)				
Hire charges excluding fuel charges per day			= Rs.	
Fuel charges per day 3.00lit. of diesel x 8 hrs at Rs. /Lit			= Rs.	
Total Hire charges per day including Fuel			= Rs.	
Total Hire charges per Hour including Fuel			= Rs.	Hr /

Motor Grader including fuel per Hour		(HW-H0087)	= Rs.	/ Hr
Base Mix Plant (pug mill) including fuel per hour		(HW-H0090)	= Rs.	/ Hr
Total Hire Charges for machineries for 100 Cu.m of WMM				
1. Loader for 6 Hours		at R.s. /Hr	= Rs.	
2. Base Mix Plant (Pug Mill) for 6 Hours		at R.s. /Hr	= Rs.	
3. Tipper for 24 Hours		at R.s. /Hr	= Rs.	
4. Water Tanker for 24 Hours		at R.s. /Hr	= Rs.	
5. Motor Grader including fuel per Hour for 4 Hours		at R.s. /Hr	= Rs.	
6. Vibratory Soil Compact for 6 Hours		at R.s. /Hr	= Rs.	
Total Hire Charges for machineries for 100 Cu.m of WMM			= Rs.	
Total Hire Charges for machineries for 1.00 Cu.m of WMM			= Rs.	/Cu.m
Labour Charges for 100 cu.m of WMM				
0.50 Nos.	Head Mazsoor	at R.s. / Each	= Rs.	
8.63 Nos.	Mazdoor Ist Class	at R.s. / Each	= Rs.	
2.00 Nos.	Mazdoor IInd Class	at R.s. / Each	= Rs.	
Total Labour Charges of 100 cu.m of WMM			= Rs.	
Total Labour Charges of 1.00 cu.m of WMM			= Rs.	/Cu.m
Total Hire and Labour charges			= Rs.	/Cu.m
WET MIX MACADAM 250 mm thick				
0.396 Cu.m	Cost of 45-22.40mm IRC	/Cu.m	= Rs.	
0.528 Cu.m	Cost of 22.40-2.36mm IRC	/Cu.m	= Rs.	
0.396 Cu.m	Cost of 2.36mm IRC	/Cu.m	= Rs.	
0.08 KL	Cost of water	/KL	= Rs.	
1.00 Cu.m	Hire & Labour charges	/Cu.m	= Rs.	

		Rate for 1.00 cu.m.		
Picking 5cm to 10cm old metalled surface and sectioning 1Sqm.				
Labour for 10Sqm.				
1/4 X 1.08 Nos. of Mazdoor Class-I at Rs.		/E = Rs.		
/10Sqm				
Picking 5cm to 10cm old metalled surface and sectioning 1Sqm			=	/ Sqm
Removal of the Black Topped (BT) surface to 50 to 70mm depth using Milling machine, including conveying the milled waste materials away from the worksite to an average distance including hire and running charges for the machine, conveyance charges, unload				
Removal of the Black Topped (BT) surface to 50 to 70mm depth using Milling machine, including conveying the milled waste materials away from the worksite to an average distance including hire and running charges for the machine, conveyance charges, unloading at unobjectionable place, cleaning the milled surface as to avoid slippery including all other incidental charges etc. complete as per the direction of the departmental officers				
HIRE CHARGES FOR MACHINERIES				
Milling Machine				
Hire charges excluding fuel charges per Hour (HW-H0007)			= Rs.	
Fuel charges per Hour 40 liters of diesel at Rs.			/Lit	= Rs.
Total Hire charges per Hour including Fuel			= Rs.	
Total Hire charges per Hour including Fuel (a)			= Rs.	/Hr
Labour Charges for Cleaning the surface, barricading/ traffic safety measures etc.				
5.00 Nos.	Mazdoor Ist Class	/ Each	= Rs.	
Total Labour Charges of 220Sqm (b)			= Rs.	
			Rs.	/ Hr
(v) Labour for replacement of Cutting tools				
Labour at Rs. /Each (c)				/Hr

Holder Replacement - 50% of cutting tool charges (d)			/Hr
Sub Total (a+b+c+d)			/Hr
Add 25% for Corporation limit & Night works			
Total Charges per Hour			/Hr
Out turn of Milling machine per Hour			220 Sqm.
Hire and Labour charges for Milling machine / 220			/Sqm
Conveyance of debries away from the work site Average Km			
Out turn of debries per hour of Milling Machine 220*0.07			15.40 Cu.m.
Conveyance Charges for debries			
Rate for milling per Sqm			

CRUSHER RUN MACADAM			
Providing, laying, spreading and compacting graded stone aggregates for Crusher Run Macadam, including premixing the materials with water at OMC in mechanical mix plant, conveyance of mixed material by tipper to site, laying in uniform layers with pavers in Sub Base/ Base course on well prepared surface and compacting with vibratory soil compactor to acheive the desired density, including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per Clause 407 of MORTH Rev-5			
HIRE CHARGES FOR MACHINERIES			
Loader 5 Cu.m. Capacity (HW-H0079)			
Hire charges excluding fuel charges per day		= Rs.	
Fuel charges per day 80 liters of diesel at Rs. /Lit		= Rs.	
Total Hire charges per day including Fuel		= Rs.	
Total Hire charges per Hour including Fuel		= Rs.	/Hr
Tipper (HW-H0078)			
Hire charges excluding fuel charges per day		= Rs.	
Fuel charges per day 3.25lit. of diesel x 8 hrs at Rs. /Lit		= Rs.	
Total Hire charges per day including Fuel		= Rs.	
Total Hire charges per Hour including Fuel		= Rs.	/Hr

Water Tankers (HW-H0089)			
Hire charges excluding fuel charges per day		= Rs.	
Fuel charges per day 25 liters of diesel at Rs. /Lit		= Rs.	
Total Hire charges per day including Fuel		= Rs.	
Total Hire charges per Hour including Fuel		= Rs.	/Hr
Vibratory Soil Compactor (HW-H0006)			
Hire charges excluding fuel charges per day		=Rs.	
Fuel charges per day 3.00lit. of diesel x 8 hrs at Rs. /Lit		= Rs.	
Total Hire charges per day including Fuel		= Rs.	
Total Hire charges per Hour including Fuel		= Rs.	/Hr
Motor Grader including fuel per Hour (HW-H0087)		= Rs.	/Hr
Total Hire Charges for machineries for 100 Cu.m of CRM			
1. Loader for 6 Hours		= Rs.	
2. Tipper for 24 Hours		= Rs.	
3. Water Tanker for 24 Hours		= Rs.	
4. Motor Grader including fuel per Hour for 4 Hours		= Rs.	
5. Vibratory soil compactor for 6 Hours		= Rs.	
Total Hire Charges for machineries for 100 Cu.m of CRM		= Rs.	
Total Hire Charges for machineries for 1.00 Cu.m of CRM		= Rs.	/Cu.m
Labour Charges for 100 cu.m of CRM			
0.50 Nos.	Head Mazsoor	/Each	= Rs.
8.63 Nos.	Mazdoor Ist Class	/Each	= Rs.
2.00 Nos.	Mazdoor IInd Class	/Each	= Rs.
Total Labour Charges of 100 cu.m of CRM		= Rs.	
Total Labour Charges of 1.00 cu.m of CRM		= Rs.	/Cu.m
Total Hire and Labour charges		= Rs.	/Cu.m
CRUSHER RUN MACADAM 300mm THICK			

0.090 Cu.m.	Cost of 53-45mm IRC	/Cu.m	= Rs.	
0.460 Cu.m.	Cost of 45-22.40mm IRC	/Cu.m	= Rs.	
0.300 Cu.m.	Cost of 22.40-5.6mm IRC	/Cu.m	= Rs.	
0.460 Cu.m.	Cost of 900mm Micron and below	/Cu.m	= Rs.	
1.00 Cu.m.	Hire & Labour charges	/Cu.m	= Rs.	
	Rate for 1.00 cu.m.			

BM (Grade-II) 50mm Thick Using VG30

Providing, laying **50mm** consolidated thick **Bituminous Macadam** using 0.20cu.m of 26.50-13.20mm, 0.43cu.m of 13.20-2.36mm and 0.08cu.m of 2.36mm & below size IRC metal with 37 Kgs of **VG30 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature using Central hot mix plant 20-30ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5

HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for BM = 135sqm. of 50 mm thick				
Hire Charges for CMP per 10sqm. (/ 135) x 10		= Rs.		
2. BITUMEN BOILER				
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3. VIBRATOR ROLLERS (HW-H0081)				
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Vibrator Roller per hour= 350sqm. of 50 mm thick				
Hire Charges for Vibrator roller/10sqm (/350) x10		= Rs.		/ 10Sqm
4. PAVER FINISHER (HW-H0080)				
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Paver Finisher per hour = 135 sqm. of 50 mm thick				
Hire Charges for Paver Finisher /10sqm (/135) x 10		= Rs.		/ 10 Sqm

5. TIPPER TRUCKS (HW-H0078)				
Hire charges excluding fuel charges /Hr at Rs.		/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.		/Lit	= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (		/135) x 6 x 10	= Rs.	/ 10Sqm
Total hire charges for machineries /10sqm =				
		/10Sqm		
LABOUR CHARGES PER 1200SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1200sqm			= Rs.	
Labour Charges per 10sqm		/ 1200) x 10	= Rs.	/10Sqm
BM 50mm thick using VG30 Bitumen and Paver per cu.m rate				
0.200 Cu.m	Cost of 26.5-13.20mm IRC	/Cu.m	= Rs.	
0.430 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.080 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.	
37.00 Kg	Cost of VG30 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
Rate for cu.m of 50 mm thick (		/10 x 0.05)		
			= Rs.	
BM (Grade-I) 80mm Thick Using VG30 Bitumen				

Providing, laying **80mm** consolidated thick **Bituminous Macadam** using 0.64cu.m of 37.5 - 13.20mm, 0.44cu.m of 13.2 - 2.36mm and 0.13cu.m of 2.36mm and below size IRC metal with 62 Kgs of **VG30 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature in central hot mix plant 20-30t capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 80mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5.

HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for BM = 90sqm. of 75 mm thick				
Hire Charges for CMP per 10sqm. (	/ 90) x 10	= Rs.		/10Sqm
2. BITUMEN BOILER				
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3. VIBRATOR ROLLERS				
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Vibrator Roller per hour= 250sqm. of 80 mm thick				
Hire Charges for Vibrator roller per 10sqm (	/ 250) x 10	= Rs.		/10Sqm
4. PAVER FINISHER				
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Paver Finisher per hour = 90 sqm. of 80 mm thick				
Hire Charges for paver finisher per 10sqm (	/ 90) x 10	= Rs.		/10Sqm

5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs. /8			= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 90 sqm. of 80 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper per 10sqm (/90) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
			/10Sqm	
LABOUR CHARGES PER 1000SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1000sqm			= Rs.	
Labour Charges per 10sqm (/ 1000) x 10			= Rs.	
BM 80mm thick using VG30 Bitumen per cu.m rate				
0.640 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.	
0.440 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.130 Cu.m	Cost of 2.36mm & below	/Cu.m	= Rs.	
62.00 Kg	Cost of VG30 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10 Sqm	= Rs.	
10.00 Sqm	Labour charges	/10 Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
Rate per cu.m of 80 mm thick (/ 10 x 0.08)			= Rs.	/Cu.m

BM (Grade-II) 50mm Thick Using VG40

Providing, laying **50mm** consolidated thick **Bituminous Macadam** using 0.20cu.m of 26.50-13.20mm, 0.43cu.m of 13.20-2.36mm and 0.08cu.m of 2.36mm & below size IRC metal with 37 Kgs of **VG40 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature using Central hot mix plant 20-30ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5

HIRE CHARGES FOR MACHINERIES

1. CENTRAL HOT MIX PLANT

Hire charges excluding fuel charges per hour /8 = Rs.

Running the Plant/Hr 30 lit of diesel at Rs. /Lit = Rs.

Heating bitumen/Hr 25lit of furnace oil at Rs. /Lit = Rs.

Heating aggregates/Hr 170lit of furnace oil at Rs. /Lit = Rs.

Hire Charges including fuel charges per hour = **Rs.**

Out turn of CMP per Hour for BM = 135sqm. of 50 mm thick

Hire Charges for CMP per 10sqm. (/ 135) x 10 = **Rs. /10Sqm**

2. BITUMEN BOILER

Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary

3. VIBRATOR ROLLERS

Hire charges excluding fuel charges/Hr at Rs. /8 = Rs.

Fuel charges/Hr 2.50lit at Rs. /Lit = Rs.

Hire Charges including fuel charges per hour = **Rs.**

Out turn of Vibrator Roller per hour= 350sqm. of 50 mm thick

Hire Charges for Vibrator roller/10sqm (/350) x10 = **Rs. /10Sqm**

4. PAVER FINISHER

Hire charges excluding fuel charges/Hr at Rs. /8 = Rs.

Fuel charges/Hr 6lit at Rs. /Lit = Rs.

Hire Charges including fuel charges per hour = **Rs.**

Out turn of Paver Finisher per hour = 135 sqm. of 50 mm thick

Hire Charges for Paver Finisher /10sqm (/135) x 10 = **Rs. /10Sqm**

5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs.	/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (	/135) x 6 x 10	= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
= / 10Sqm			
LABOUR CHARGES PER 1200SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm 51,187.00 / 1200) x 10		= Rs.	/10Sqm
BM 50mm thick using VG40 Bitumen and Paver per cu.m rate			
0.200 Cu.m	Cost of 26.5-13.20mm IRC	/Cu.m	= Rs.
0.430 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.
0.080 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.
37.00 Kg	Cost of VG40 Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10Sqm	= Rs.
10.00 Sqm	Labour charges	/10Sqm	= Rs.
Rate for 10 sqm		= Rs.	
		= Rs.	
BM (Grade-I) 80mm Thick Using VG40 Bitumen			

Providing, laying **80mm** consolidated thick **Bituminous Macadam** using 0.64cu.m of 37.5 - 13.20mm, 0.44cu.m of 13.2 - 2.36mm and 0.13cu.m of 2.36mm and below size IRC metal with 62 Kgs of **VG40 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature in central hot mix plant 20-30t capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 80mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5.

HIRE CHARGES FOR MACHINERIES

1. CENTRAL HOT MIX PLANT

Hire charges excluding fuel charges per hour	/8	= Rs.
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.
Hire Charges including fuel charges per hour		= Rs.
Out turn of CMP per Hour for BM = 90sqm. of 75 mm thick		
Hire Charges for CMP per 10sqm. (	/ 90) x 10	= Rs. /10Sqm

2. BITUMEN BOILER

Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary

3. VIBRATOR ROLLERS

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.
Hire Charges including fuel charges per hour		= Rs.
Out turn of Vibrator Roller per hour= 250sqm. of 80 mm thick		
Hire Charges for Vibrator roller per 10sqm (	/ 250) x 10	= Rs. /10Sqm

4. PAVER FINISHER

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.
Hire Charges including fuel charges per hour		= Rs.
Out turn of Paver Finisher per hour = 90 sqm. of 80 mm thick		
Hire Charges for paver finisher per 10sqm (	/ 90) x 10	= Rs. /10Sqm

5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs.	/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 90 sqm. of 80 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper per 10sqm (	/90) x 6 x 10	= Rs.	/10Sqm
Total hire charges for machineries /10sqm			
Rest.			
LABOUR CHARGES PER 1000SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
Total Labour Charges per 1000sqm		= Rs.	
Labour Charges per 10sqm (	/ 1000) x 10	= Rs.	
BM 80mm thick using VG40 Bitumen per cu.m rate			
0.640 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.
0.440 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.
0.130 Cu.m	Cost of 2.36mm & below	/Cu.m	= Rs.
62.00 Kg	Cost of VG40 Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10 Sqm	= Rs.
10.00 Sqm	Labour charges	/10 Sqm	= Rs.
Rate for 10 sqm		= Rs.	
Rate per cu.m of 80 mm thick (/ 10 x 0.08) = Rs. /Cu.m			

BM (Grade-II) 50mm Thick Using VG30 and more than 5m width Paver

Providing, laying **50mm** consolidated thick **Bituminous Macadam** using 0.20cu.m of 26.50-13.20mm, 0.43cu.m of 13.20-2.36mm and 0.08cu.m of 2.36mm & below size IRC metal with 37 Kgs of **VG30 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature using Central hot mix plant 20-30ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical **paver finisher hydrostatic (more than 5m width)** to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5

HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for BM = 135sqm. of 50 mm thick				
Hire Charges for CMP per 10sqm. (	/ 135) x 10	= Rs.		/10Sqm
2.BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.PNEUMATIC TYRED ROLLERS (HW-H0005)				
Hire charges	/Hr at Rs.	= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Pneumatic Roller /Hr = 350sqm. of 50 mm thick				
Hire Charges for Pneumatic Roller/10sqm (	/350) x10	= Rs.		/10Sqm
4.Paver Finisher Hydrostatic (more than 5m width) 170 HP (HW-H0001)				
Hire charges	/Hr at Rs.	= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Paver Finisher /Hr = 135 sqm. of 50 mm thick				
Hire Charges for more than 5m width Paver /10sqm (	135) x 10	= Rs.		/10Sqm

5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.		/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.		/Lit	= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (		/135) x 6 x 10	= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
		/10Sqm		
LABOUR CHARGES PER 1200SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1200sqm			= Rs.	
Labour Charges per 10sqm		/ 1200) x 10	= Rs.	/10Sqm
BM 50mm thick using VG30 Bitumen and more than 5m width Paver cu.m rate				
0.200 Cu.m	Cost of 26.5-13.20mm IRC	/Cu.m	= Rs.	
0.430 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.080 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.	
37.00 Kg	Cost of VG30 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
			= Rs.	
BM (Grade-I) 80mm Thick Using VG30 Bitumen and more than 5m width Paver				

Providing, laying **80mm** consolidated thick **Bituminous Macadam** using 0.64cu.m of 37.5 - 13.20mm, 0.44cu.m of 13.2 - 2.36mm and 0.13cu.m of 2.36mm and below size IRC metal with 62 Kgs of **VG30 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature in central hot mix plant 20-30t capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 80mm with mechanical **more than 5m width Paver** to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5.

HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for BM = 90sqm. of 75 mm thick				
Hire Charges for CMP per 10sqm. (	/ 90) x 10	= Rs.		/10Sqm
2. BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3. PNEUMATIC TYRED ROLLERS				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges /Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Pneumatic Roller per hour = 250sqm. of 80mm thick				
Hire Charges for Pneumatic roller /10sqm (	/ 250) x 10	= Rs.		/10Sqm
4. PAVER FINISHER more than 5m width Paver (HW-H0001)				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges /Hr 6lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Paver Finisher per hour = 90 sqm. of 80 mm thick				
Hire Charges for more than 5m width Paver per 10sqm (	/ 90) x 10	= Rs.		/10Sqm

5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs.		/8	= Rs.
Fuel charges /Hr 3.25lit at Rs.		/Lit	= Rs.
Hire Charges including fuel charges per hour			= Rs.
Out turn of Tipper Truck per hour = 90 sqm. of 80 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper per 10sqm (		/90) x 6 x 10	= Rs.
			/10Sqm
Total hire charges for machineries /10sqm =			
			/10Sqm
LABOUR CHARGES PER 1000SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IIInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
Total Labour Charges per 1000sqm			= Rs.
Labour Charges per 10sqm (		/ 1000) x 10	= Rs.
			/10Sqm
BM 80mm thick using VG30 Bitumen and more than 5m width Paver per cu.m rate			
0.640 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.
0.440 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.
0.130 Cu.m	Cost of 2.36mm & below	/Cu.m	= Rs.
62.00 Kg	Cost of VG30 Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10 Sqm	= Rs.
10.00 Sqm	Labour charges	/10 Sqm	= Rs.
Rate for 10 sqm			= Rs.
Rate per cu.m of 80 mm thick (		/ 10 x 0.08)	= Rs.
			/Cu.m

BM (Grade-II) 50mm Thick using VG40 and more than 5m width Paver

Providing, laying **50mm** consolidated thick **Bituminous Macadam** using 0.20cu.m of 26.50-13.20mm, 0.43cu.m of 13.20-2.36mm and 0.08cu.m of 2.36mm & below size IRC metal with 37 Kgs of **VG40 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature using Central hot mix plant 20-30ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical **paver finisher hydrostatic (more than 5m width)** to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5

HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for BM = 135sqm. of 50 mm thick				
Hire Charges for CMP per 10sqm. (	/ 135) x 10	= Rs.		/10Sqm
2.BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.PNEUMATIC TYRED ROLLERS				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Pneumatic Roller /Hr = 350sqm. of 50 mm thick				
Hire Charges for Vibrator roller/10sqm (	/350) x10	= Rs.		/10Sqm
4.Paver Finisher Hydrostatic (more than 5m width) 170 HP				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Paver Finisher /Hr. = 135 sqm. of 50 mm thick				

Hire Charges for more than 5m width Paver /10sqm (/135) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs. /8			= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (/135) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
		/10Sqm		
LABOUR CHARGES PER 1200SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm / 1200) x 10			= Rs.	/10Sqm
BM 50mm thick using VG40 Bitumen and more than 5m width Paver per cu.m rate				
0.200 Cu.m	Cost of 26.5-13.20mm IRC	/Cu.m	= Rs.	
0.430 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.080 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.	
37.00 Kg	Cost of VG40 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
			= Rs.	
BM (Grade-I) 80mm Thick Using VG40 Bitumen and more than 5m width Paver				

Providing, laying **80mm** consolidated thick **Bituminous Macadam** using 0.64cu.m of 37.5 - 13.20mm, 0.44cu.m of 13.2 - 2.36mm and 0.13cu.m of 2.36mm and below size IRC metal with 62 Kgs of **VG40 Grade** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in required temperature in central hot mix plant 20-30t capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 80mm with mechanical **more than 5m width Paver** to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 504 of MORTH Rev-5.

HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for BM = 90sqm. of 75 mm thick				
Hire Charges for CMP per 10sqm. (	/ 90) x 10	= Rs.		/10Sqm
2. BITUMEN BOILER				
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3. PNEUMATIC TYRED ROLLERS				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Pneumatic Roller per hour= 250sqm. of 80 mm thick				
Hire Charges for Pneumatic roller /10sqm (	/ 250) x 10	= Rs.		/10Sqm
4. PAVER FINISHER (more than 5m width Paver)				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Paver Finisher /Hr. = 90 sqm. of 80 mm thick				
Hire Charges for more than 5m width Paver /10sqm (	/ 90) x 10	= Rs.		/10Sqm

5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.		/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.		/Lit	= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 90 sqm. of 80 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper per 10sqm (		/90) x 6 x 10	= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
		/10Sqm		
LABOUR CHARGES PER 1000SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1000sqm			= Rs.	
Labour Charges per 10sqm (		/ 1000) x 10	= Rs.	/10Sqm
BM 80mm thick using VG40 Bitumen and more than 5m width Paver per cu.m rate				
0.640 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.	
0.440 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.130 Cu.m	Cost of 2.36mm & below	/Cu.m	= Rs.	
62.00 Kg	Cost of VG40 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10 Sqm	= Rs.	
10.00 Sqm	Labour charges	/10 Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
Rate per cu.m of 80 mm thick (		/ 10 x 0.08)	= Rs.	/Cu.m

DBM

DBM (Grade-II) 50mm Thick Using VG30				
<p>Providing, laying 50mm consolidated thick Dense Bituminous Macadam using 0.24cu.m of 26.50-13.20mm, 0.25cu.m of 13.20-2.36mm and 0.23cu.m of 2.36mm & below and with 53.20Kgs of VG30 Grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in Central Hot Mix Plant 20-30 ton capacity, conveying the mix by tipper trucks to work site, spreading the mix to uniform thickness of 50mm using paver to the specified grades and cross sections and compacted by Vibratory / Pneumatic Roller to the required density etc., including labour for attending to paver at site etc., including hire and fuel charges for 20-30ton CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory rollers and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 MORTH Rev-5</p>				
HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour of DBM = 135sqm. of 50 mm thick				
Hire Charges for CMP per 10sqm.	(/ 135) x 10	= Rs.		/10Sqm
2. BITUMEN BOILER				
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3. VIBRATOR ROLLERS				
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Vibrator Roller per hour = 320sqm. of 50 mm thick				
Hire Charges for Vibrator roller/10sqm (	/320) x10	= Rs.		/10Sqm
4. PAVER FINISHER				
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Paver Finisher per hour = 135 sqm. of 50 mm thick				

Hire Charges for paver finisher /10sqm (/135) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/135) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		= /10Sqm	
LABOUR CHARGES PER 1200SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm / 1200)		= Rs.	/10Sqm
x 10			
DBM 50mm thick using VG30 Bitumen and Paver per cu.m rate			
0.240 Cu.m	Cost of 26.50 - 13.20mm IRC	/Cu.m	= Rs.
0.250 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.
0.230 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.
53.20 Kg	Cost of VG30 Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10Sqm	= Rs.
10.00 Sqm	Labour charges	/10Sqm	= Rs.
Rate for 10 sqm		= Rs.	
Rate per cu.m of 50 mm thick (/ 10 x 0.05)		= Rs.	/Cu.m

DBM (Grade-I) 75mm Thick Using VG30 Bitumen			
<p>Providing, laying 75mm consolidated thick Dense Bituminous Macadam using 0.40cu.m of 37.50-13.20mm, 0.35cu.m of 13.20-2.36mm and 0.36cu.m of 2.36mm & below size IRC metal with 71.30kgs of VG30 grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to site, spreading the mix to uniform thickness of 75mm with mechanical paver to the specified grades and cross sections and consolidated by Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 of MORTH rev-5.</p>			
HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for DBM = 90sqm. of 75 mm thick			
Hire Charges for CMP per 10sqm.	(/ 90) x 10	= Rs.	/10Sqm
2. BITUMEN BOILER			
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3. VIBRATOR ROLLERS			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 220sqm. of 75 mm thick			
Hire Charges for Vibrator roller per 10sqm (x 10	(/ 220)	= Rs.	/10Sqm
4. PAVER FINISHER			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	

Out turn of Paver Finisher per hour = 90 sqm. of 75 mm thick			
Hire Charges for paver finisher per 10sqm (/ 90) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 90 sqm. of 75 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper per 10sqm (/90) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		/10Sqm	
LABOUR CHARGES PER 1000SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
	Total Labour Charges per 1000sqm	= Rs.	
Labour Charges per 10sqm (/ 1000) x 10		= Rs.	/10Sqm
DBM 75mm thick using VG30 Bitumen and Paver per cu.m rate			
0.400 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.
0.350 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.
0.360 Cu.m	Cost of 2.36mm & Below IRC	/Cu.m	= Rs.
71.30 Kg	Cost of VG30 Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10Sqm	= Rs.
10.00 Sqm	Labour charges	/10Sqm	= Rs.
	Rate for 10 sqm	= Rs.	
Rate per cu.m of 75 mm thick (/ 10 x 0.075)		= Rs.	/Cu.m

DBM (Grade-II) 50mm Thick Using VG40			
<p>Providing, laying 50mm consolidated thick Dense Bituminous Macadam using 0.24cu.m of 26.50-13.20mm, 0.25cu.m of 13.20-2.36mm and 0.23cu.m of 2.36mm & below and with 53.20Kgs of VG40 Grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in Central Hot Mix Plant 20-30 ton capacity, conveying the mix by tipper trucks to work site, spreading the mix to uniform thickness of 50mm using paver to the specified grades and cross sections and compacted by Vibratory / Pneumatic Roller to the required density etc., including labour for attending to paver at site etc., including hire and fuel charges for 20-30ton CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory rollers and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 MORTH Rev-5</p>			
HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour of DBM = 135sqm. of 50 mm thick			
Hire Charges for CMP per 10sqm. (	/ 135) x 10	= Rs.	/10Sqm
2.BITUMEN BOILER			
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.VIBRATOR ROLLERS			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour = 320sqm. of 50 mm thick			
Hire Charges for Vibrator roller/10sqm (	/320) x10	= Rs.	/10Sqm
4. PAVER FINISHER			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	

Out turn of Paver Finisher per hour = 135 sqm. of 50 mm thick			
Hire Charges for paver finisher /10sqm (/135) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/135) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		=	/10Sqm
LABOUR CHARGES PER 1200SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
	Total Labour Charges per 1200sqm	= Rs.	
Labour Charges per 10sqm (/ 1200) x 10		= Rs.	/10Sqm
DBM 50mm thick using VG40 Bitumen and Paver per cu.m rate			
0.240 Cu.m	Cost of 26.50 - 13.20mm IRC	/Cu.m	= Rs.
0.250 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.
0.230 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.
53.20 Kg	Cost of VG40 Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10Sqm	= Rs.
10.00 Sqm	Labour charges	/10Sqm	= Rs.
	Rate for 10 sqm	= Rs.	
Rate per cu.m of 50 mm thick (/ 10 x 0.05)		= Rs.	/Cu.m

DBM (Grade-I) 75mm Thick Using VG40 Bitumen			
<p>Providing, laying 75mm consolidated thick Dense Bituminous Macadam using 0.40cu.m of 37.50-13.20mm, 0.35cu.m of 13.20-2.36mm and 0.36cu.m of 2.36mm & below size IRC metal with 71.30kgs of VG40 grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to site, spreading the mix to uniform thickness of 75mm with mechanical paver to the specified grades and cross sections and consolidated by Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 of MORTH rev-5.</p>			
HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for DBM = 90sqm. of 75 mm thick			
Hire Charges for CMP per 10sqm.	(/ 90) x 10	= Rs.	/10Sqm
2.BITUMEN BOILER			
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.VIBRATOR ROLLERS			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 220sqm. of 75 mm thick			
Hire Charges for Vibrator roller per 10sqm	(/ 220) x 10	= Rs.	/10Sqm
4. PAVER FINISHER			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	

Out turn of Paver Finisher per hour = 90 sqm. of 75 mm thick			
Hire Charges for paver finisher per 10sqm (/ 90) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 90 sqm. of 75 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper per 10sqm (/90) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		/10Sqm	
LABOUR CHARGES PER 1000SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
	Total Labour Charges per 1000sqm	= Rs.	
Labour Charges per 10sqm (/ 1000) x 10		= Rs.	/10Sqm
DBM 75mm thick using VG40 Bitumen and Paver per cu.m rate			
0.400 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.
0.350 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.
0.360 Cu.m	Cost of 2.36mm & Below IRC	/Cu.m	= Rs.
71.30 Kg	Cost of VG40 Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10Sqm	= Rs.
10.00 Sqm	Labour charges	/10Sqm	= Rs.
	Rate for 10 sqm	= Rs.	
Rate per cu.m of 75 mm thick (/ 10 x 0.075)		= Rs.	/Cu.m

DBM (Grade-II) 50mm Thick Using VG30 and more than 5m width Paver			
<p>Providing, laying 50mm consolidated thick Dense Bituminous Macadam using 0.24cu.m of 26.50-13.20mm, 0.25cu.m of 13.20-2.36mm and 0.23cu.m of 2.36mm & below and with 53.20Kgs of VG30 Grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in Central Hot Mix Plant 20-30 ton capacity, conveying the mix by tipper trucks to work site, spreading the mix to uniform thickness of 50mm using paver finisher hydrostatic (more than 5m width) to the specified grades and cross sections and compacted by Vibratory / Pneumatic Roller to the required density etc., including labour for attending to paver at site etc., including hire and fuel charges for 20-30ton CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory rollers and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 MORTH Rev-5</p>			
HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour of DBM = 135sqm. of 50 mm thick			
Hire Charges for CMP per 10sqm.	(/ 135) x 10	= Rs.	/10Sqm
2.BITUMEN BOILER			
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.PNEUMATIC TYRED ROLLERS			
Hire charges	/Hr at Rs.	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Pneumatic Tyred Roller per hour = 320sqm. of 50 mm thick			
Hire Charges for Pneumatic roller/10sqm	(/320) x10	= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges	/Hr at Rs.	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	

Hire Charges including fuel charges per hour			= Rs.	
Out turn of Paver Finisher per hour = 135 sqm. of 50 mm thick				
Hire Charges for more than 5m width paver /10sqm (/135) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs. /8			= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (/135) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
			=	/10Sqm
LABOUR CHARGES PER 1200SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1200sqm			= Rs.	
Labour Charges per 10sqm (/ 1200) x 10			= Rs.	/10Sqm
DBM 50mm thick using VG30 Bitumen and more than 5m width Paver per cu.m rate				
0.240 Cu.m	Cost of 26.50 - 13.20mm IRC	/Cu.m	= Rs.	
0.250 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.230 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.	
53.20 Kg	Cost of VG30 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
Rate per cu.m of 50 mm thick (/ 10 x 0.05)			= Rs.	/Cu.m

DBM (Grade-I) 75mm Thick Using VG30 Bitumen and more than 5m width Paver				
<p>Providing, laying 75mm consolidated thick Dense Bituminous Macadam using 0.40cu.m of 37.50-13.20mm, 0.35cu.m of 13.20-2.36mm and 0.36cu.m of 2.36mm & below size IRC metal with 71.30kgs of VG30 grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to site, spreading the mix to uniform thickness of 75mm with mechanical paver finisher hydrostatic (more than 5m width) to the specified grades and cross sections and consolidated by Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 of MORTH rev-5.</p>				
HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for DBM = 90sqm. of 75 mm thick				
Hire Charges for CMP per 10sqm.	(/ 90) x 10	= Rs.		/10Sqm
2.BITUMEN BOILER				
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.PNEUMATIC TYRED ROLLERS				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Pneumatic tyred roller per hour= 220sqm. of 75mm thick				
Hire Charges for Pneumatic roller per 10sqm	(/ 220) x 10	= Rs.		/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		

Hire Charges including fuel charges per hour			= Rs.	
Out turn of Paver Finisher per hour = 90 sqm. of 75 mm thick				
Hire Charges for more than 5m width paver /10sqm (90) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.		/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 90 sqm. of 75 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper per 10sqm (/90) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
				/10Sqm
LABOUR CHARGES PER 1000SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1000sqm			= Rs.	
Labour Charges per 10sqm (/ 1000) x 10			= Rs.	/10Sqm
DBM 75mm thick using VG30 Bitumen and more than 5m width Paver per cu.m rate				
0.400 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.	
0.350 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.360 Cu.m	Cost of 2.36mm & Below IRC	/Cu.m	= Rs.	
71.30 Kg	Cost of VG30 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
Rate per cu.m of 75 mm thick (/ 10 x 0.075)			= Rs.	/Cu.m

DBM (Grade-II) 50mm Thick Using VG40 and more than 5m width Paver			
Providing, laying 50mm consolidated thick Dense Bituminous Macadam using 0.24cu.m of 26.50-13.20mm, 0.25cu.m of 13.20-2.36mm and 0.23cu.m of 2.36mm & below and with 53.20Kgs of VG40 Grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in Central Hot Mix Plant 20-30 ton capacity, conveying the mix by tipper trucks to work site, spreading the mix to uniform thickness of 50mm using paver finisher hydrostatic (more than 5m width) to the specified grades and cross sections and compacted by Vibratory / Pneumatic Roller to the required density etc., including labour for attending to paver at site etc., including hire and fuel charges for 20-30ton CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory rollers and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 MORTH Rev-5			
HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour of DBM = 135sqm. of 50 mm thick			
Hire Charges for CMP per 10sqm.	(/ 135) x 10	= Rs.	/10Sqm
2.BITUMEN BOILER			
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.PNEUMATIC TYRED ROLLERS			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Pneumatic Tyred Roller per hour = 320sqm. of 50 mm thick			
Hire Charges for Pneumatic roller/10sqm	(/320) x10	= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	

Hire Charges including fuel charges per hour			= Rs.	
Out turn of Paver Finisher /Hr = 135 sqm. of 50 mm thick				
Hire Charges for more than 5m width paver /10sqm (/135) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.		/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 135 sqm. of 50 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (/135) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
		'=	/10Sqm	
LABOUR CHARGES PER 1200SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1200sqm			= Rs.	
Labour Charges per 10sqm		/ 1200) x 10	= Rs.	/10Sqm
DBM 50mm thick using VG40 Bitumen and more than 5m width Paver per cu.m rate				
0.240 Cu.m	Cost of 26.50 - 13.20mm IRC	/Cu.m	= Rs.	
0.250 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.230 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.	
53.20 Kg	Cost of VG40 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
Rate per cu.m of 50 mm thick (/ 10 x 0.05)			= Rs.	/Cu.m

DBM (Grade-I) 75mm Thick Using VG40 Bitumen and more than 5m width Paver				
<p>Providing, laying 75mm consolidated thick Dense Bituminous Macadam using 0.40cu.m of 37.50-13.20mm, 0.35cu.m of 13.20-2.36mm and 0.36cu.m of 2.36mm & below size IRC metal with 71.30kgs of VG40 grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to site, spreading the mix to uniform thickness of 75mm with mechanical paver finisher hydrostatic (more than 5m width) to the specified grades and cross sections and consolidated by Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire and fuel charges for 20-30t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 of MORTH rev-5.</p>				
HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8	= Rs.		
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.		
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.		
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of CMP per Hour for DBM = 90sqm. of 75 mm thick				
Hire Charges for CMP per 10sqm.	(/ 90) x 10	= Rs.		/10Sqm
2.BITUMEN BOILER				
Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.PNEUMATIC TYRED ROLLERS				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.		
Hire Charges including fuel charges per hour		= Rs.		
Out turn of Pneumatic tyred roller per hour= 220sqm. of 75mm thick				
Hire Charges for Pneumatic roller per 10sqm	(/ 220) x 10	= Rs.		/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP				
Hire charges /Hr at Rs.		= Rs.		
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.		

Hire Charges including fuel charges per hour			= Rs.	
Out turn of Paver Finisher per hour = 90 sqm. of 75 mm thick				
Hire Charges for more than 5m width paver /10sqm (/ 90) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs. /8			= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 90 sqm. of 75 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper per 10sqm (/90) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
			/10Sqm	
LABOUR CHARGES PER 1000SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1000sqm		= Rs.	
Labour Charges per 10sqm (/ 1000) x 10			= Rs.	/10Sqm
DBM 75mm thick using VG40 Bitumen and more than 5m width Paver per cu.m rate				
0.400 Cu.m	Cost of 37.50-13.20mm IRC	/Cu.m	= Rs.	
0.350 Cu.m	Cost of 13.20-2.36mm IRC	/Cu.m	= Rs.	
0.360 Cu.m	Cost of 2.36mm & Below IRC	/Cu.m	= Rs.	
71.30 Kg	Cost of VG40 Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per cu.m of 75 mm thick (/ 10 x 0.075)			= Rs.	/Cu.m

Prime Coat Over WBM/ WMM Surface						
Providing and laying Prime Coat over WBM/ WMM surface using 7 Kg of Emulsion Bitumen (SS1) per 10 sqm for preparatory to another bituminous construction over it, including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per Clause 502 of MORTH Rev-5						
Labour Charges per 500 sqm for preparation of surface						
10.00 Nos	Mazdoor Ist Grade	@Rs		/each	=Rs	
16.00 Nos	Mazdoor IIst Grade	@Rs		/each	=Rs	
For Applying Primer						
4.00 Nos	Mazdoor IIst Grade	@Rs		/each	=Rs	
Total Labour Charges per 500 sqm					=Rs	
Total Labour Charges per 10 sqm		=		x10	Rs.	
			500			
Rate for Prime Coat over WBM/ WMM surface						
7.00 Kgs	Cost of Bitumen Emulsion - SS1	@Rs		/MT	=Rs	
10.00 Sqm	Hire for Bitumen Emulsion Pressure Distributor (HW-H0004)	@Rs		/10sqm	=Rs	
10.00 Sqm	Labour Charges	@Rs		/10sqm	=Rs	
Rate for 10 sqm					=Rs	
Rate per 1.00 sqm		=Rs		/sqm		
Prime Coat Over CRM/ Gravel base						
Providing and laying Prime Coat over CRM/ Gravel base using 9 Kg of Emulsion Bitumen (SS1) per 10 sqm for preparatory to another bituminous construction over it including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per Clause 502 of MORTH Rev-5						
Labour Charges per 500 sqm for preparation of surface						
10.00 Nos	Mazdoor Ist Grade	@Rs		/each	=Rs	
16.00 Nos	Mazdoor IIst Grade	@Rs		/each	=Rs	
For Applying Primer						
4.00 Nos	Mazdoor IIst Grade	@Rs		/each	=Rs	
Total Labour Charges per 500 sqm					=Rs	
Total Labour Charges per 10 sqm		=		x10	Rs.	
			500			
Rate for Prime Coat over Crusher Run Macadam surface						
9.00 Kgs	Cost of Bitumen Emulsion (SS1)	@Rs		/MT	=Rs	
10.00 Sqm	Hire for Bitumen Emulsion Pressure Distributor (HW-H0004)	@Rs		/10sqm	=Rs	
10.00 Sqm	Labour Charges	@Rs		/10sqm	=Rs	
Rate for 10 sqm					=Rs	

		Rate per 1.00 sqm =Rs		/sqm		
Tack Coat over Dry Lean Cement Concrete Surface						
Providing and laying Tack Coat over Dry Lean Cement Concrete surface using 3.00 Kg of Bitumen Emulsion (RS1) per 10 sqm for preparatory to another bituminous construction over it including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per Clause 503 of MORTH Rev-5						
Labour Charges per 500 sqm						
3.00 Nos	Mazdoor IInd Grade (Applying TC)	@Rs		/each	=Rs	
Total Labour Charges per 500 sqm					=Rs	
Total Labour Charges per 10 sqm		=		x10	Rs.	
			500			
Rate for Tack Coat over Dry Lean Cement Concrete Surface						
3.00 Kgs	Cost of RS-I Bitumen emulsion	@Rs		/MT	=Rs	
10.00 Sqm	Hire for Bitumen Emulsion Pressure Distributor (HW-H0004)	@Rs		/10sqm	=Rs	
10.00 Sqm	Labour Charges	@Rs		/10sqm	=Rs	
Rate for 10 sqm					=Rs	
Rate per 1.00 sqm =Rs				/sqm		

Tack Coat Over Existing BT Surface						
Providing and laying Tack Coat over Existing BT surface using 2 Kg of Bitumen Emulsion (RS1) per 10 sqm for preparatory to another bituminous construction over it including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per Clause 503 of MORTH Rev-5						
Labour Charges per 500 sqm						
5.00 Nos	Mazdoor Ist Grade Preparing Surface	@Rs		/each	=Rs	
5.00 Nos	Mazdoor Ist Grade (Applying TC)	@Rs		/each	=Rs	
Total Labour Charges per 500 sqm					=Rs	
Total Labour Charges per 10 sqm		=		x10	Rs.	
			500			

Rate for Tack Coat over Existing BT surface					
2.00 Kgs	Cost of RS-I Bitumen emulsion	@Rs		/MT	=Rs
10.00 sqm	Hire for Bitumen Emulsion Pressure Distributor (HW-H0004)	@Rs		/10sqm	=Rs
10.00 sqm	Labour Charges	@Rs		/10sqm	=Rs
				Rate for 10 sqm	=Rs
		Rate per 1.00 sqm =Rs		/sqm	
Tack Coat Over Primed Surface					
Providing and laying Tack Coat over WBM/ WMM surface (treated with primer) using 2.50 Kg of Bitumen Emulsion (RS1) per 10 sqm for preparatory to another bituminous construction over it including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per Clause 503 of MORTH Rev-5					
Labour Charges per 500 sqm					
3.00 Nos	Mazdoor IInd Grade(Applying TC)	@Rs		/each	=Rs
				Total Labour Charges per 500 sqm	=Rs
		Total Labour Charges per 10 sqm =		x10	Rs.
			500		
Rate for Tack Coat over primed WBM / WMM Surface					
2.50 Kgs	Cost of RS-I Bitumen emulsion	@Rs		/MT	=Rs
10.00 Sqm	Hire for Bitumen Emulsion Pressure Distributor (HW-H0004)	@Rs		/10sqm	=Rs
10.00 Sqm	Labour Charges	@Rs		/10sqm	=Rs
				Rate for 10 sqm	=Rs
		Rate per 1.00 sqm =Rs		/sqm	

BC 30/40mm Thick (Grade-II) Using VG30 Bitumen

Providing and laying **Bituminous Concrete to 30/40mm thick** using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with **50.30kgs of VG30 bitumen** for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5

HIRE CHARGES FOR MACHINERIES

1. CENTRAL HOT MIX PLANT

Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (	/ 170) x 10	= Rs.	/10Sqm

2. BITUMEN BOILER

Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary

3. VIBRATOR ROLLERS

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (	/ 400) x10	= Rs.	/10Sqm

4. PAVER FINISHER

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	

Hire Charges including fuel charges per hour			= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick				
Hire Charges for paver finisher /10sqm (		/170) x 10	= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.		/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.		/Lit	= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (		/ 170) x 6 x 10	= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
			/10Sqm	
LABOUR CHARGES PER 1200 SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1200sqm			= Rs.	
Labour Charges per 10sqm (		/ 1200) x 10	= Rs.	/10Sqm
BC 30/40mm Thick (Grade-II) Using VG30 Bitumen				
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.	
0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
50.30 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	

	Rate for 10 sqm		= Rs.	
	Rate per Cu.m of 30/40mm thick (/ (10*0.04))		= Rs.	/Cu.m
BC 30/40mm Thick (Grade-II) Using VG40 Bitumen				
<p>Providing and laying Bituminous Concrete to 30/40mm thick using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with 50.30kgs of VG40 bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5</p>				
HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8		= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit		= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit		= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick				
Hire Charges for CMP per 10sqm (/ 170) x 10			= Rs.	/10Sqm
2.BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.VIBRATOR ROLLERS				
Hire charges excluding fuel charges/Hr at Rs.	/8		= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick				

Hire Charges for Vibrator roller /10sqm (/ 400) x10		= Rs.	/10Sqm
4. PAVER FINISHER			
Hire charges excluding fuel charges/Hr at Rs. /8		= Rs.	
Fuel charges/Hr 6lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		/10Sqm	
LABOUR CHARGES PER 1200 SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (/ 1200) x 10		= Rs.	/10Sqm
BC 30/40mm Thick (Grade-II) Using VG40 Bitumen			
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.

0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
50.30 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 30/40mm thick (/ (10*0.04))			= Rs.	/Cu.m

BC 30/40mm Thick (Grade-II) Using VG30 Bitumen and Plastic Waste

Providing and laying **Bituminous Concrete to 30/40mm thick** using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with **47.28kgs of VG30 bitumen and 3.02Kgs of Waste Plastic** for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5

HIRE CHARGES FOR MACHINERIES

1. CENTRAL HOT MIX PLANT

Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (/ 170) x 10		= Rs.	/10Sqm

2. BITUMEN BOILER

Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary

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3.VIBRATOR ROLLERS			
Hire charges excluding fuel charges/Hr at Rs. /8		= Rs.	
Fuel charges/Hr 2.50lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (/ 400) x10		= Rs.	/10Sqm
4. PAVER FINISHER			
Hire charges excluding fuel charges/Hr at Rs. /8		= Rs.	
Fuel charges/Hr 6lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		/10Sqm	
<u>LABOUR CHARGES PER 1200 SQM</u>			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.

	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (	/ 1200) x 10		= Rs.	/10Sqm
<u>BC 30/40mm Thick (Grade-II) Using VG30 Bitumen and Plastic Waste</u>				
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.	
0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36mm & below IRC	/Cu.m	= Rs.	
47.28 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.	
3.02 Kg	Cost of Waste Plastic	/Kg	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 30/40mm thick (			= Rs.	/Cu.m
	/ (10*0.04))			
<u>BC 30/40mm Thick (Grade-II) Using VG40 Bitumen and Plastic Waste</u>				
<p>Providing and laying Bituminous Concrete to 30/40mm thick using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with 47.28kgs of VG40 bitumen and 3.02Kgs of Waste Plastic for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5</p>				
<u>HIRE CHARGES FOR MACHINERIES</u>				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour	/8		= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit		= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit		= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC	= 170sqm. of 40 mm thick			

Hire Charges for CMP per 10sqm (/ 170) x 10		= Rs.	/10Sqm
2.BITUMEN BOILER			
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.VIBRATOR ROLLERS			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (	/ 400) x10	= Rs.	/10Sqm
4. PAVER FINISHER			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (	/170) x 10	= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs.	/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (	/ 170) x 6 x 10	= Rs.	/10Sqm
Total hire charges for machineris /10sqm =			
			/10Sqm
LABOUR CHARGES PER 1200 SQM			

For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (/ 1200) x 10			= Rs.	/10Sqm
<u>BC 30/40mm Thick (Grade-II) Using VG40 Bitumen and Plastic Waste</u>				
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.	
0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
47.28 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	
3.02 Kg	Cost of Waste Plastic	/Kg	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.mm of 30/40mm thick (/ (10*0.04))			= Rs.	/Cu.m

<u>BC 30/40mm Thick (Grade-II) Using VG30 Bitumen and Plastic Waste (more than 5m width Paver)</u>				
<p>Providing and laying Bituminous Concrete to 30/40mm thick using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with 47.28kgs of VG30 bitumen and 3.02Kgs of Waste Plastic for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, paver finisher hydrostatic (more than 5m width), Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5</p>				
<u>HIRE CHARGES FOR MACHINERIES</u>				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour		/8	= Rs.	

Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (/ 170) x 10		= Rs.	/10Sqm
2. BITUMEN BOILER			
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3. PNEUMATIC TYRED ROLLER			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (/ 400) x10		= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs.	/8	= Rs.	
Fuel charges /Hr 3.25lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			

Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
		/10Sqm		
LABOUR CHARGES PER 1200 SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (/ 1200) x 10			= Rs.	/10Sqm
BC 30/40mm Thick (Grade-II) Using VG30 Bitumen and Plastic Waste (9m Paver)				
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.	
0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
47.28 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.	
3.02 Kg	Cost of Waste Plastic	/Kg	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 30/40mm thick (/ (10*0.04))			= Rs.	/Cu.m

BC 30/40mm Thick (Grade-II) Using VG40 Bitumen and Plastic Waste (more than 5m width)			
<p>Providing and laying Bituminous Concrete to 30/40mm thick using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with 47.28kgs of VG40 bitumen and 3.02Kgs of Waste Plastic for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory / Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, paver finisher hydrostatic (more than 5m width), Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5</p>			
HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges per hour	/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.	/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.	/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (/ 170) x 10		= Rs.	/10Sqm
2.BITUMEN BOILER			
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.PNEUMATIC TYRED ROLLER			
Hire charges	/Hr at Rs.	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (/ 400) x10		= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges	/Hr at Rs.	= Rs.	

Fuel charges/Hr 6lit at Rs.	/Lit		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick				
Hire Charges for paver finisher /10sqm (	/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.	/8		= Rs.	
Fuel charges /Hr 3.25lit at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (	/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
				/10Sqm
<u>LABOUR CHARGES PER 1200 SQM</u>				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (	/ 1200) x 10		= Rs.	/10Sqm
<u>BC 30/40mm Thick (Grade-II) Using VG40 Bitumen and Plastic Waste (more than 5m width)</u>				
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.	
0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
47.28 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	

3.02 Kg	Cost of Waste Plastic	/Kg	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.mm of 30/40mm thick (			/ (10*0.04))	= Rs.
				/Cu.m

BC 30/40mm Thick (Grade-II) Using VG30 Bitumen(more than 5m width Paver)

Providing and laying **Bituminous Concrete to 30/40mm thick** using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with **50.30kgs of VG30 bitumen** for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, **paver finisher hydrostatic (more than 5m width)**, Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5

HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour		/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.		/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.		/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.		/Lit	= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick				
Hire Charges for CMP per 10sqm (/ 170) x 10			= Rs.	/10Sqm
2.BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.PNEUMATIC TYRED ROLLER				
Hire charges /Hr at Rs.			= Rs.	
Fuel charges/Hr 2.50lit at Rs.		/Lit	= Rs.	

Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (/ 400) x10		= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 6lit at Rs. /Lit		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		= Rs.	/10sqm
LABOUR CHARGES PER 1200 SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
	Total Labour Charges per 1200sqm		= Rs.
Labour Charges per 10sqm (/ 1200) x 10		= Rs.	/10Sqm

BC 30/40mm Thick (Grade-II) Using VG30 Bitumen (9m Paver)				
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.	
0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
50.30 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 30/40mm thick (/ (10*0.04))			= Rs.	/Cu.m
BC 30/40mm Thick (Grade-II) Using VG40 Bitumen (more than 5m width)				
<p>Providing and laying Bituminous Concrete to 30/40mm thick using 0.13 cu.m of 19.00-9.50mm, 0.17 cu.m of 9.50-2.36mm and 0.26 cu.m of 2.36 and below with 50.30kgs of VG40 bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, paver finisher hydrostatic (more than 5m width), Vibratory / Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5</p>				
HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges per hour		/8	= Rs.	
Running the Plant/Hr 30 lit of diesel at Rs.		/Lit	= Rs.	
Heating bitumen/Hr 25lit of furnace oil at Rs.		/Lit	= Rs.	
Heating aggregates/Hr 170lit of furnace oil at Rs.		/Lit	= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick				
Hire Charges for CMP per 10sqm (/ 170) x 10			= Rs.	/10Sqm

2.BITUMEN BOILER			
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.PNEUMATIC TYRED ROLLER			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 2.50lit at Rs. /Lit		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (/ 400) x10		= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 6lit at Rs. /Lit		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		/10Sqm	
LABOUR CHARGES PER 1200 SQM			
For loading materials into CMP			

33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (/ 1200) x 10			= Rs.	/10Sqm
BC 30/40mm Thick (Grade-II) Using VG40 Bitumen (more than 5m width)				
0.130 Cu.m	Cost of 19.00-9.50mm IRC	/Cu.m	= Rs.	
0.170 Cu.m	Cost of 9.50 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
50.30 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 30/40mm thick (/ (10*0.04))			= Rs.	/Cu.m

BC 50mm Thick (Grade - I) Using VG30 Bitumen

Providing and laying **Bituminous Concrete to 50mm thick** using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with **62.40 kgs of VG30** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.

HIRE CHARGES FOR MACHINERIES

1. CENTRAL HOT MIX PLANT

Hire charges excluding fuel charges /Hr.	/8	= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit	= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit	= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (	/ 170) x 10	= Rs.	/10Sqm

2. BITUMEN BOILER

Since Bitumen boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary

3. VIBRATOR ROLLERS

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (	/ 400) x10	= Rs.	/10Sqm

4. PAVER FINISHER

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	

Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		/10Sqm	
LABOUR CHARGES PER 1200 SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IIInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (/ 1200) x 10		= Rs.	/10Sqm
BC 50mm Thick (Grade - I) Using VG30 Bitumen			
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.
0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.
62.40 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.
10.00 Sqm	Hire charges	/10Sqm	= Rs.
10.00 Sqm	Labour charges	/10Sqm	= Rs.
Rate for 10 sqm		= Rs.	
Rate per Cu.m of 50mm thick (/ (10*0.05))		= Rs.	/Cu.m

BC 50mm Thick (Grade - I) Using VG40 Bitumen

Providing and laying **Bituminous Concrete to 50mm thick** using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with **62.40 kgs of VG40** bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.

HIRE CHARGES FOR MACHINERIES

1. CENTRAL HOT MIX PLANT

Hire charges excluding fuel charges /Hr.	/8	= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit	= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit	= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (	/ 170) x 10	= Rs.	/10Sqm

2. BITUMEN BOILER

Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary

3. VIBRATOR ROLLERS

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (	/ 400) x10	= Rs.	/10Sqm

4. PAVER FINISHER

Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	

Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick				
Hire Charges for paver finisher /10sqm (/170) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs. /8			= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
			=	/10Sqm
LABOUR CHARGES PER 1200 SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IIInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1200sqm			= Rs.	
Labour Charges per 10sqm (/ 1200) x 10			= Rs.	/10Sqm
BC 50mm Thick (Grade - I) Using VG40 Bitumen				
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.	
0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
62.40 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
Rate for 10 sqm			= Rs.	
Rate per sqm of 50mm thick (/ (10*0.05))			= Rs.	/Cu.m

BC 50mm Thick (Grade - I) Using VG30 Bitumen (more than 5m width Paver)			
<p>Providing and laying Bituminous Concrete to 50mm thick using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with 62.40 kgs of VG30 bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, paver finisher hydrostatic (more than 5m width), Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.</p>			
HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges /Hr.	/8	= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit	= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit	= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (		/ 170) x 10	= Rs. /10Sqm
2.BITUMEN BOILER			
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.PNEUMATIC TYRED ROLLER			
Hire charges	/Hr at Rs.	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (		/ 400) x10	= Rs. /10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges	/Hr at Rs.	= Rs.	

Fuel charges/Hr 6lit at Rs.	/Lit		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick				
Hire Charges for paver finisher /10sqm (	/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.	/8		= Rs.	
Fuel charges /Hr 3.25lit at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (	/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
				/10Sqm
LABOUR CHARGES PER 1200 SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (	/ 1200) x 10		= Rs.	/10Sqm
BC 50mm Thick (Grade - I) Using VG30 Bitumen (more than 5m width Paver)				
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.	
0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
62.40 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	

10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 50mm thick (/ (10*0.05))			= Rs.	/Cu.m
<u>BC 50mm Thick (Grade - I) Using VG40 Bitumen (more than 5m width Paver)</u>				
<p>Providing and laying Bituminous Concrete to 50mm thick using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with 62.40 kgs of VG40 bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, paver finisher hydrostatic (more than 5m width), Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.</p>				
<u>HIRE CHARGES FOR MACHINERIES</u>				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges /Hr.	/8		= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit		= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit		= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick				
Hire Charges for CMP per 10sqm (/ 170) x 10			= Rs.	/10Sqm
2.BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.PNEUMATIC TYRED ROLLER				
Hire charges /Hr at Rs.			= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick				

Hire Charges for Vibrator roller /10sqm (/ 400) x10		= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP			
Hire charges /Hr at Rs.		= Rs.	
Fuel charges/Hr 6lit at Rs. /Lit		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick			
Hire Charges for paver finisher /10sqm (/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS			
Hire charges excluding fuel charges /Hr at Rs. /8		= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick			
Number of tipper required per CMP unit = 6 trucks			
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =			
		/10Sqm	
LABOUR CHARGES PER 1200 SQM			
For loading materials into CMP			
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.
For attending Paver Finisher			
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.
Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (/ 1200) x 10		= Rs.	/10Sqm
BC 50mm Thick (Grade - I) Using VG40 Bitumen (more than 5m width Paver)			
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.

0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
62.40 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 50mm thick (			= Rs.	/Cu.m

BC 50mm Thick (Grade - I) Using VG30 & Plastic Waste

Providing and laying **Bituminous Concrete to 50mm thick** using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with **58.66 kgs of VG30 bitumen with 3.74kg of Plastic Waste** for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.

HIRE CHARGES FOR MACHINERIES			
1. CENTRAL HOT MIX PLANT			
Hire charges excluding fuel charges /Hr.	/8	= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit	= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit	= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick			
Hire Charges for CMP per 10sqm (		= Rs.	/10Sqm
	/ 170) x 10		
2.BITUMEN BOILER			
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary			
3.VIBRATOR ROLLERS			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit	= Rs.	
Hire Charges including fuel charges per hour		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick			
Hire Charges for Vibrator roller /10sqm (		= Rs.	/10Sqm
	/ 400) x10		
4. PAVER FINISHER			
Hire charges excluding fuel charges/Hr at Rs.	/8	= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit	= Rs.	

Hire Charges including fuel charges per hour			= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick				
Hire Charges for paver finisher /10sqm (/170) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs. /8			= Rs.	
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
			/10Sqm	
LABOUR CHARGES PER 1200 SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
Total Labour Charges per 1200sqm			= Rs.	
Labour Charges per 10sqm (/ 1200) x 10			= Rs.	/10Sqm
BC 50mm Thick (Grade - I) Using VG30 & Plastic Waste				
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.	
0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
58.66 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.	
3.74 Kg	Cost of Waste Plastic	/10Sqm	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	

10.00 Sqm	Labour charges		= Rs.	
	Rate for 10 sqm		= Rs.	5204.30
Rate per Cu.m of 50mm thick (/ (10*0.05))			= Rs.	/Cu.m
BC 50mm Thick (Grade - I) Using VG40 Bitumen & Plastic Waste				
<p>Providing and laying Bituminous Concrete to 50mm thick using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with 58.66 kgs of VG40 bitumen and 3.74Kg of Plastic Waste for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.</p>				
HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges /Hr.	/8		= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit		= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit		= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick				
Hire Charges for CMP per 10sqm (/ 170) x 10			= Rs.	/10Sqm
2.BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3.VIBRATOR ROLLERS				
Hire charges excluding fuel charges/Hr at Rs.	/8		= Rs.	
Fuel charges/Hr 2.50lit at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick				
Hire Charges for Vibrator roller /10sqm (/ 400) x10			= Rs.	/10Sqm

4. PAVER FINISHER					
Hire charges excluding fuel charges/Hr at Rs. /8			= Rs.		
Fuel charges/Hr 6lit at Rs. /Lit			= Rs.		
Hire Charges including fuel charges per hour			= Rs.		
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick					
Hire Charges for paver finisher /10sqm (/170) x 10			= Rs.		/10Sqm
5. TIPPER TRUCKS					
Hire charges excluding fuel charges /Hr at Rs. /8			= Rs.		
Fuel charges /Hr 3.25lit at Rs. /Lit			= Rs.		
Hire Charges including fuel charges per hour			= Rs.		
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick					
Number of tipper required per CMP unit = 6 trucks					
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10			= Rs.		/10Sqm
Total hire charges for machineries /10sqm =					
			=		/10Sqm
LABOUR CHARGES PER 1200 SQM					
For loading materials into CMP					
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.		
25.00 Nos	Mazdoor IIInd Class	/Each	= Rs.		
For attending Paver Finisher					
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.		
Total Labour Charges per 1200sqm			= Rs.		
Labour Charges per 10sqm (/ 1200) x 10			= Rs.		/10Sqm
BC 50mm Thick (Grade - I) Using VG40 Bitumen & Plastic Waste					
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.		
0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.		
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.		

58.66 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	
3.74 Kg	Cost of Waste Plastic	/Kg	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per sqm of 50mm thick (/ (10*0.05))			= Rs.	/Cu.m

BC 50mm Thick (Grade - I) Using VG30 Bitumen & Plastic Waste (More than 5m Paver)

Providing and laying **Bituminous Concrete to 50mm thick** using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with **58.66 kgs of VG30 bitumen and 3.74Kg of Plastic Waste** for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, **paver finisher hydrostatic (more than 5m width)**, Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.

HIRE CHARGES FOR MACHINERIES

1. CENTRAL HOT MIX PLANT

Hire charges excluding fuel charges /Hr.	/8		= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit		= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit		= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick				
Hire Charges for CMP per 10sqm (/ 170) x 10			= Rs.	/10Sqm

2.BITUMEN BOILER

Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary

3.PNEUMATIC TYRED ROLLER

Hire charges	/Hr at Rs.		= Rs.	
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Fuel charges/Hr 2.50lit at Rs.	/Lit		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick				
Hire Charges for Vibrator roller /10sqm (	/ 400) x10		= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP				
Hire charges	/Hr at Rs.		= Rs.	
Fuel charges/Hr 6lit at Rs.	/Lit		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick				
Hire Charges for paver finisher /10sqm (	/170) x 10		= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges /Hr at Rs.	/8		= Rs.	
Fuel charges /Hr 3.25lit at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (	/ 170) x 6 x 10		= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
			/10Sqm	
LABOUR CHARGES PER 1200 SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (			= Rs.	/10Sqm
	/ 1200) x 10			

BC 50mm Thick (Grade - I) Using VG30 Bitumen & Plastic Waste (9m Paver)				
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.	
0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
58.66 Kg	Cost of VG30 grade Bitumen	/MT	= Rs.	
3.74 Kg	Cost of Waste Plastic	/Kg	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 50mm thick (/ (10*0.05))			= Rs.	/Cu.m
BC 50mm Thick (Grade - I) Using VG40 Bitumen & Plastic Waste (more than 5m width Paver)				
<p>Providing and laying Bituminous Concrete to 50mm thick using 0.22 cu.m of 26.5-13.20mm, 0.24 cu.m of 13.20-2.36mm and 0.26cu.m of 2.36 & below IRC HBG metal with 58.66 kgs of VG40 bitumen and 3.74Kg of Plastic Waste for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, paver finisher hydrostatic (more than 5m width), Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH.</p>				
HIRE CHARGES FOR MACHINERIES				
1. CENTRAL HOT MIX PLANT				
Hire charges excluding fuel charges /Hr.	/8		= Rs.	
Running the Plant 30Lit of diesel at Rs.	/Lit		= Rs.	
Heating the bitumen 25Lit of furnace oil at Rs.	/Lit		= Rs.	
Heating the aggregates 170Lit of furnace oil at Rs.	/Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of CMP per Hour for BC = 170sqm. of 40 mm thick				
Hire Charges for CMP per 10sqm (/ 170) x 10			= Rs.	/10Sqm

2. BITUMEN BOILER				
Since Bitumem boiler is attached with CMP unit hire charges for separate bitumen boiler is not necessary				
3. PNEUMATIC TYRED ROLLER				
Hire charges	/Hr at Rs.		= Rs.	
Fuel charges/Hr	2.50lit at Rs. /Lit		= Rs.	
Out turn of Vibrator Roller per hour= 400sqm. of 40 mm thick				
Hire Charges for Vibrator roller /10sqm (/ 400) x10			= Rs.	/10Sqm
4. Paver Finisher Hydrostatic (more than 5m width) 170 HP				
Hire charges	/Hr at Rs.		= Rs.	
Fuel charges/Hr	6lit at Rs. /Lit		= Rs.	
Out turn of Paver Finisher per hour = 170 sqm. of 40 mm thick				
Hire Charges for paver finisher /10sqm (/170) x 10			= Rs.	/10Sqm
5. TIPPER TRUCKS				
Hire charges excluding fuel charges	/Hr at Rs. /8		= Rs.	
Fuel charges /Hr	3.25lit at Rs. /Lit		= Rs.	
Hire Charges including fuel charges per hour			= Rs.	
Out turn of Tipper Truck per hour = 170 sqm. of 40 mm thick				
Number of tipper required per CMP unit = 6 trucks				
Hire Charges for Tipper /10sqm (/ 170) x 6 x 10			= Rs.	/10Sqm
Total hire charges for machineries /10sqm =				
		/10Sqm		
LABOUR CHARGES PER 1200 SQM				
For loading materials into CMP				
33.00 Nos	Mazdoor Ist Class	/Each	= Rs.	

25.00 Nos	Mazdoor IInd Class	/Each	= Rs.	
For attending Paver Finisher				
10.00 Nos	Mazdoor Ist Class	/Each	= Rs.	
	Total Labour Charges per 1200sqm		= Rs.	
Labour Charges per 10sqm (/ 1200) x 10			= Rs.	/10Sqm
BC 50mm Thick (Grade - I) Using VG40 Bitumen & Plastic Waste (more than 5m width Paver)				
0.220 Cu.m	Cost of 26.5 - 13.20mm IRC	/Cu.m	= Rs.	
0.240 Cu.m	Cost of 13.20 - 2.36mm IRC	/Cu.m	= Rs.	
0.260 Cu.m	Cost of 2.36 mm and below	/Cu.m	= Rs.	
58.66 Kg	Cost of VG40 grade Bitumen	/MT	= Rs.	
3.74 Kg	Cost of Waste Plastic	/Kg	= Rs.	
10.00 Sqm	Hire charges	/10Sqm	= Rs.	
10.00 Sqm	Labour charges	/10Sqm	= Rs.	
	Rate for 10 sqm		= Rs.	
Rate per Cu.m of 50mm thick (/ (10*0.05))			= Rs.	/Cu.m

Note: In this standard Data book (Highways Department) the code as per Standard Schedule of Rates has been indicated against the corresponding items for reference only.

The conveyance charges should be included accordingly for those items.

**TAMIL NADU WATER SUPPLY
AND DRAINAGE BOARD
(TWAD)**

**7(a) Lowering of C.I. pipes and specials in the trenches and laying to proper grade and alignment
and as directed by the TWAD Boards officers**

(TWAD)		PIPE LAYING WORKS												Total cost	Rate/m	
		80 to 900 mm DIA						Using JCB machine								
Size in mm	Depth in metre	Qty in metre	Mazdoor Cat I			Fitter II class			Fitter I class			Using JCB machine			Total cost	Rate/m
			Nos	Rate	Amount	Nos	Rate	Amount	Nos	Rate	Amount	Hrs	Rate	Amount		
1	2	3	4			7	8	9	10	11	12	13	14	15	16	17
80	2.00	247.50	1			1			1			1.60				
100	2.00	242.00	1			1			1			2.00				
125	2.00	220.00	2			1			1			2.00				
150	2.00	154.00	2			1			1			2.00				
200	2.00	127.50	2			1			1			2.00				
250	2.00	115.50	1			1			1			3.00				
300	2.00	121.00	1			1			1			3.75				
350	2.00	99.00	1			1			1			4.00				
400	2.00	93.50	2			1			1			4.00				
450	2.00	82.50	2			1			1			4.15				
500	2.00	82.50	3			1			1			4.15				
600	2.00	77.00	4			1			1			4.60				
700	2.00	60.50	4			1			1			4.70				
750	2.00	60.50	4			2			1			5.00				
800	2.00	55.00	4			2			1			5.40				
900	2.00	49.50	5			2			1			5.40				
Note	For depth between 2m to 4m - 10% over basic rates and for 4m to 6m - 20% over basic rate allowed															
	For work of laying CI connecting pipe/ syphon basic pipe below water, double the above rates shall be allowed.															
	For laying pipes in sewerline except pumping main 10% more is allowed															

**7(a) Lowering of D.I. Pipes and specials in the trenches and laying to proper grade and alignment
and as directed by the TWAD Board officers**

(TWAD)		PIPE LAYING WORKS										Using JCB machine	Total cost	Rate/m		
		80 to 900 mm DIA					Fitter I class									
Size in mm	Depth in metre	Qty in metre	Mazdoor Cat I			Fitter II class			Fitter I class			Hrs	Rate	Amount	Rate/m	
			Nos	Rate	Amount	Nos	Rate	Amount	Nos	Rate	Amount					
1	2	3	4	5	6	7	8	9	10	11	12	12	14	15	16	17
80	2.00	258.50	2			1						1.30				
100	2.00	253.00	2			1						1.75				
125	2.00	209.00	2			1						2.00				
150	2.00	154.00	2			1						2.00				
200	2.00	127.50	2			1						2.10				
250	2.00	126.50	2			1						3.00				
300	2.00	126.50	2			1						3.70				
350	2.00	104.50	2			1						3.90				
400	2.00	93.50	2			1						4.00				
450	2.00	88.00	3			1						4.25				
500	2.00	88.00	3			1						4.75				
600	2.00	77.00	3			1						5.40				
700	2.00	66.00	3			1						6.00				
750	2.00	66.00	3			2						6.25				
800	2.00	55.00	4			2						5.50				
900	2.00	49.50	5			2						5.50				
Note	For depth between 2m to 4m - 10% over basic rates and for 4m to 6m - 20% over basic rate allowed															
	For work of laying CI connecting pipe/ syphon basic pipe below water, double the above rates shall be allowed.															
	For laying pipes in sewerline except pumping main 10% more is allowed															

7(b) Laying and Jointing of G.I. pipes & Spls.																	
(TWAD)	Size in mm	Depth in metre	Qty in metre	PIPE LAYING WORKS			Mazdoor I			Plumber II class			Plumber I class			Total cost	Rate/m
				Nos	Rate	Amount	Nos	Rate	Amount	Nos	Rate	Amount	Nos	Rate	Amount		
	1	2	3	4	5	6	7	8	9	10	11	12	16	17			
	15 to 40	2.0	74.00	1			1			0							
	50 to 65	2.0	74.00	1			1			0							
	80 to 100	2.0	55.00	1			1			0							
	125 to 150	2.0	55.00	1			1			0							
11(b) I Laying and Jointing of P.V.C. DWSC pipes & Spls.																	
	Up to 40	2.0	126.00	1			1			0							
	50 to 75	2.0	107.00	2			1			0							
	90 to 110	2.0	106.00	2			1			0							
	125 to 160	2.0	98.00	3			1			0							
	180 to 250	2.0	98.00	3			2			0							
	Above 250	2.0	97.00	4			2			1							

7(d) Lowering of MS pipes and specials in the trenches and laying to proper grade and alignment and as directed by the TWAD Boards officers

RATES TWAD		PIPE LAYING WORKS						UPTO 1600 mm						Total cost	Rate/m	
Size in mm	Depth in metre	Qty in metre	Mazdoor I class			Fitter II class			Fitter I class			Using JCB machine				
			Nos	Rate	Amount	Nos	Rate	Amount	Nos	Rate	Amount	Hrs	Rate			Amount
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Upto 350	2.00	72.000	1			1			1			1.30				
400	2.00	72.000	1			1			1			2.10				
450	2.00	66.000	1			1			1			2.15				
500	2.00	64.000	1			1			1			2.20				
600	2.00	60.000	1			1			1			3.00				
700	2.00	60.000	3			1			1			3.40				
900	2.00	48.000	4			1			1			3.75				
1000	2.00	42.000	4			2			1			3.90				
1050	2.00	42.000	4			2			1			4.35				
1100	2.00	42.000	4			2			1			4.70				
1200	2.00	42.000	4			2			1			5.00				
1400	2.00	30.000	4			2			2			5.00				
1600	2.00	24.000	4			3			2			5.00				
Note	For depth between 2m to 4m - 10% and for 4m to 6m - 20% excess allowed over basic rate															

8 (a) Jointing the C.I./D.I- S/S pipes and specials with molten lead and yarn including caulking the joints (including cost of jointing materials).

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		80mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		3
1	no	Fitter I class		day	
0	no	Fitter II class		day	
1	no	Mazdoor I category		day	
1.81	kg	Lead (Market rate)		kg	
0.12	kg	Yarn		kg	
		Cost of melting			
		Total for 3 joints			
		Rate per joint			
For depth up to 2m		100mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		5
1	no	Fitter I class		day	
0	no	Fitter II class		day	
4	no	Mazdoor I category		day	
2.19	kg	Lead (Market rate)		kg	
0.17	kg	Yarn		kg	
		Cost of melting			
		Total for 5 joints			
		Rate per joint		Rs.	
For depth up to 2m		125mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		3
1	no	Fitter I class		day	
1	no	Fitter II class		day	
1	no	Mazdoor I category		day	
2.94	kg	Lead (Market rate)		kg	
0.298	kg	Yarn		kg	
		Cost of melting			
		Total for 3 joints			
		Rate per joint		Rs.	

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		150mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		4
1	no	Fitter I class		day	
2	no	Fitter II class		day	
2	no	Mazdoor I category		day	
3.44	kg	Lead (Market rate)		kg	
0.34	kg	Yarn		kg	
		Cost of melting			
		Total for 4 joints			
		Rate per joint		Rs.	
For depth up to 2m		200mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		3
1	no	Fitter I class		day	
2	no	Fitter II class		day	
2	no	Mazdoor I category		day	
4.6	kg	Lead (Market rate)		kg	
0.53	kg	Yarn		kg	
		Cost of melting			
		Total for 3 joints			
		Rate per joint		Rs.	
For depth up to 2m		250mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		2
1	no	Fitter I class		day	
1	no	Fitter II class		day	
2	no	Mazdoor I category		day	
6.74	kg	Lead (Market rate)		kg	
0.652	kg	Yarn		kg	
		Cost of melting			
		Total for 2 joints			
		Rate per joint		Rs.	
For depth up to 2m		300mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		3

Quantity	Unit	Description	Rate	Per	Amount
2	no	Fitter I class		day	
2	no	Fitter II class		day	
4	no	Mazdoor I category		day	
7.33	kg	Lead (Market rate)		kg	
0.737	kg	Yarn		kg	
		Cost of melting			
		Total for 3 joints			
		Rate per joint		Rs.	
For depth up to 2m		350mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		3
2	no	Fitter I class		day	
3	no	Fitter II class		day	
5	no	Mazdoor I category		day	
9.104	kg	Lead (Market rate)		kg	
0.823	kg	Yarn		kg	
		Cost of melting			
		Total for 3 joints			
		Rate per joint		Rs.	
For depth up to 2m		400mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		2
1	no	Fitter I class		day	
2	no	Fitter II class		day	
4	no	Mazdoor I category		day	
11.21	kg	Lead (Market rate)		kg	
0.935	kg	Yarn		kg	
		Cost of melting			
		Total for 2 joints			
		Rate per joint		Rs.	
For depth up to 2m		450mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		1
1	no	Fitter I class		day	
	no	Fitter II class		day	

Quantity	Unit	Description	Rate	Per	Amount
1	no	Mazdoor I category		day	
17.01	kg	Lead (Market rate)		kg	
1.24	kg	Yarn		kg	
		Cost of melting			
		Total for 1 joint			
		Rate per joint		Rs.	
For depth up to 2m		500mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		1
1	no	Fitter I class		day	
	no	Fitter II class		day	
1	no	Mazdoor I category		day	
18.95	kg	Lead (Market rate)		kg	
1.53	kg	Yarn		kg	
		Cost of melting			
		Total for 1 joint			
		Rate per joint		Rs.	
For depth up to 2m		600mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		1
1	no	Fitter I class		day	
	no	Fitter II class		day	
2	no	Mazdoor I category		day	
22.76	kg	Lead (Market rate)		kg	
1.81	kg	Yarn		kg	
		Cost of melting (cost of materials to melt lead - old tyres, kerosene, kadai, karandi etc)			
		Total for 1 joint			
		Rate per joint		Rs.	
For depth up to 2m		700mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		1
1	no	Fitter I class		day	
	no	Fitter II class		day	
2	no	Mazdoor I category		day	

Quantity	Unit	Description	Rate	Per	Amount
25.72	kg	Lead (Market rate)		kg	
1.98	kg	Yarn		kg	
		Cost of melting			
		Total for 1 joint			
		Rate per joint		Rs.	
For depth up to 2m		750mm dia - C.I./D.I S/S pipes and specials	No.of joints per day		1
1	no	Fitter I class		day	
1	no	Fitter II class		day	
2	no	Mazdoor I category		day	
30.96	kg	Lead (Market rate)		kg	
2.27	kg	Yarn		kg	
		Cost of melting			
		Total for 1 joint			
		Rate per joint		Rs.	

8{b} Jointing the C.I./D.I- S/S pipes and specials with Rubber Gaskets (Tyton Joint) including cost of lubricants. including cost of jointing materials)

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		80mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	60 Joints	
0	No	Fitter I class		day	
0	No	Fitter II class		day	
1	No	Mazdoor I category		day	
60	Nos	Rubber gasket		No	
		Total for 60 joints			
		Rate per joint		Rs.	
For depth up to 2m		100mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	60 Joints	
0	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
60	Nos	Rubber gasket		No	
		Total for 60 joints			
		Rate per joint		Rs.	
For depth up to 2m		125mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	60 Joints	
0	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
60	Nos	Rubber gasket		No	
		Total for 60 joints			
		Rate per joint		Rs.	
For depth up to 2m		150mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	60 Joints	
0	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
60	Nos	Rubber gasket		No	
		Total for 60 joints			
		Rate per joint		Rs.	

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		200mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	50 Joints	
0	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
50	Nos	Rubber gasket		No	
		Total for 50 joints			
		Rate per joint		Rs.	
For depth up to 2m		250mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	40 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
40	Nos	Rubber gasket		No	
		Total for 40 joints			
		Rate per joint		Rs.	
For depth up to 2m		300mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	35 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
35	Nos	Rubber gasket		No	
		Total for 35 joints			
		Rate per joint		Rs.	
For depth up to 2m		350mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	35 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
35	Nos	Rubber gasket		No	
		Total for 35 joints			
		Rate per joint		Rs.	

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		400mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	35 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
35	Nos.	Rubber gasket		No	
		Total for 35 joints			
		Rate per joint		Rs.	
For depth up to 2m		450mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	20 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
20	Nos	Rubber gasket		No	
0.5	hr	JCB machine hire charges		hr	
		Total for 20 joints			
		Rate per joint		Rs.	
For depth up to 2m		500mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	20 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
20	Nos	Rubber gasket		No	
0.5	hr	JCB machine hire charges		hr	
		Total for 20 joints			
		Rate per joint		Rs.	
For depth up to 2m		600mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	20 Joints	
Quantity	Unit	Description	Rate	Per	Amount
1	No	Fitter I class		day	
1	No	Fitter II class		day	
2	No	Mazdoor I category		day	

Quantity	Unit	Description	Rate	Per	Amount
20	Nos	Rubber gasket		No	
1	hr	JCB machine hire charges		hr	
		Total for 20 joints			
		Rate per joint		Rs.	
For depth up to 2m		700mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	15 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
15	Nos	Rubber gasket		No	
1	hr	JCB machine hire charges		hr	
		Total for 15 joints			
		Rate per joint		Rs.	
For depth up to 2m		750mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	10 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
10	Nos	Rubber gasket		No	
1	hr	JCB machine hire charges		hr	
		Total for 10 joints			
		Rate per joint		Rs.	
For depth up to 2m		800mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	7 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
7	Nos	Rubber gasket		No	
1	hr	JCB machine hire charges		hr	
	kg	Total for 7 joints			
		Rate per joint		Rs.	

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		900mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	5 Joints	
1	No	Fitter I class		day	
1	No	Fitter II class		day	
2	No	Mazdoor I category		day	
5	Nos	Rubber gasket		No	
1	hr	JCB machine hire charges		hr	
		Total for 5 joints			
		Rate per joint		Rs.	

8 (C) Jointing the C.I./D.I- Double flanged pipes and specials with Rubber Insertion with IS M.S Bolts and nuts of IS 1364-1 (2002), including cost of jointing materials such as bolt & nuts Rubber insertion and labour charges etc., complete.

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m (for works above water level)		80mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	40	Joints
0	no	Fitter I class		day	
1	no	Fitter II class		day	
1	no	Mazdoor I category		day	
40	kg	MS Bolts and nuts		kg	
7.44	kg	Rubber Insertion sheet 1.55gm/cm ³		kg	
		Total for 40 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		100mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	40	Joints
0	no	Fitter I class		day	
1	no	Fitter II class		day	
1	no	Mazdoor I category		day	
80	kg	MS Bolts and nuts		kg	
9.002	kg	Rubber Insertion sheet		kg	
		Total for 40 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		125mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	35	Joints
0	no	Fitter I class		day	
1	no	Fitter II class		day	
1	no	Mazdoor I category		day	
70	kg	MS Bolts and nuts		kg	
10.172	kg	Rubber Insertion sheet		kg	
		Total for 35 joints			
		Rate per joint		Rs.	

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m (for works above water level)		150mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	25	Joints
0	no	Fitter I class		day	
1	no	Fitter II class		day	
1	no	Mazdoor I category		day	
80	kg	MS Bolts and nuts		kg	
9.442	kg	Rubber Insertion sheet		kg	
		Total for 25 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		200mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	22	Joints
1	no	Fitter I class		day	
1	no	Fitter II class		day	
1	no	Mazdoor I category		day	
70.4	kg	MS Bolts and nuts		kg	
11.826	kg	Rubber Insertion sheet		kg	
		Total for 25 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		250mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	20	Joints
1	no	Fitter I class		day	
1	no	Fitter II class		day	
1	no	Mazdoor I category		day	
96	kg	MS Bolts and nuts		kg	
14.510	kg	Rubber Insertion sheet		kg	
		Total for 20 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		300mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	15	Joints
1	no	Fitter I class		day	

Quantity	Unit	Description	Rate	Per	Amount
1	no	Fitter II class		day	
2	no	Mazdoor I category		day	
72	kg	MS Bolts and nuts		kg	
13.812	kg	Rubber Insertion sheet		kg	
		Total for 15 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		350mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	13	Joints
1	no	Fitter I class		day	
1	no	Fitter II class		day	
2	no	Mazdoor I category		day	
83.2	kg	MS Bolts and nuts		kg	
15.416	kg	Rubber Insertion sheet		kg	
		Total for 15 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		400mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	10	Joints
1	no	Fitter I class		day	
2	no	Fitter II class		day	
2	no	Mazdoor I category		day	
96	kg	MS Bolts and nuts		kg	
14.844	kg	Rubber Insertion sheet		kg	
		Total for 15 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		450mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	15	Joints
1	no	Fitter I class		day	
2	no	Fitter II class		day	
3	no	Mazdoor I category		day	
180	kg	MS Bolts and nuts		kg	

Quantity	Unit	Description	Rate	Per	Amount
26.381	kg	Rubber Insertion sheet		kg	
		Total for 15 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		500mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	5	Joints
1	no	Fitter I class		day	
1	no	Fitter II class		day	
3	no	Mazdoor I category		day	
60	kg	MS Bolts and nuts		kg	
10.437	kg	Rubber Insertion sheet		kg	
		Total for 8 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		600mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	3	Joints
1	no	Fitter I class		day	
2	no	Fitter II class		day	
2	no	Mazdoor I category		day	
45	kg	MS Bolts and nuts		kg	
8.487	kg	Rubber Insertion sheet		kg	
		Total for 5 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		700mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	6	Joints
1	no	Fitter I class		day	
2	no	Fitter II class		day	
4	no	Mazdoor I category		day	
108	kg	MS Bolts and nuts		kg	
22.349	kg	Rubber Insertion sheet		kg	
		Total for 5 joints			
		Rate per joint		Rs.	

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m (for works above water level)		750mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	5	Joints
1	no	Fitter I class		day	
2	no	Fitter II class		day	
3	no	Mazdoor I category		day	
90	kg	MS Bolts and nuts		kg	
21.427	kg	Rubber Insertion sheet		kg	
		Total for 5 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		800mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	7	Joints
2	no	Fitter I class		day	
2	no	Fitter II class		day	
4	no	Mazdoor I category		day	
126	kg	MS Bolts and nuts		kg	
33.534	kg	Rubber Insertion sheet		kg	
		Total for 7 joints			
		Rate per joint		Rs.	
For depth up to 2m (for works above water level)		900mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	5	Joints
1	no	Fitter I class		day	
2	no	Fitter II class		day	
4	no	Mazdoor I category		day	
105	kg	MS Bolts and nuts		kg	
28.905	kg	Rubber Insertion sheet		kg	
		Total for 5 joints			
		Rate per joint		Rs.	

8{d} Jointing the C.I./D.I- S/S pipes and specials with neat Cement or cement mortar and spun yarn including caulking the joints, curing (including cost of jointing materials)

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		80mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	10	Joints
0	No	Fitter I class		day	
1	No	Fitter II class		day	
1	No	Mazdoor I category		day	
10	kg	Cement 1.00kg		kg	
2.5	kg	Yarn 0.25kg		kg	
		Total for 10 joints			
		Rate per joint		Rs.	
For depth up to 2m		100mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	18	Joints
0	No	Fitter I class		day	
1	No	Fitter II class		day	
3	Nos	Mazdoor I category		day	
18	kg	Cement 1.00kg		kg	
4.5	kg	Yarn 0.25kg		kg	
		Total for 18 joints			
		Rate per joint		Rs.	
For depth up to 2m		125mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	17	Joints
0	No	Fitter I class		day	
1	No	Fitter II class		day	
4	Nos	Mazdoor I category		day	
21.25	kg	Cement 1.25kg		kg	
5.1	kg	Yarn 0.3kg		kg	
		Total for 17 joints			
		Rate per joint		Rs.	
For depth up to 2m		150mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	12	Joints
0	No	Fitter I class		day	
1	No	Fitter II class		day	

Quantity	Unit	Description	Rate	Per	Amount
3	Nos	Mazdoor I category		day	
18	kg	Cement 1.5kg		kg	
4.2	kg	Yarn 0.35kg		kg	
		Total for 12 joints			
		Rate per joint		Rs.	
For depth up to 2m		200mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	10	Joints
1	No	Fitter I class		day	
1	No	Fitter II class		day	
3	Nos	Mazdoor I category		day	
20	kg	Cement 2kg		kg	
7	kg	Yarn 0.70kg		kg	
		Total for 10 joints			
		Rate per joint		Rs.	
For depth up to 2m		250mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	10 Joints	
1	No	Fitter I class		day	
2	Nos	Fitter II class		day	
3	Nos	Mazdoor I category		day	
8	kg	Cement 0.80kg		kg	
3.5	kg	Yarn 0.35		kg	
		Total for 10 joints			
		Rate per joint		Rs.	
For depth up to 2m		300mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	9 Joints	
1	No	Fitter I class		day	
2	Nos	Fitter II class		day	
3	Nos	Mazdoor I category		day	
29.25	kg	Cement 3.25kg		kg	
9.9	kg	Yarn 1.1kg		kg	
		Total for 9 joints			
		Rate per joint		Rs.	

Quantity	Unit	Description	Rate	Per	Amount
For depth up to 2m		350mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	12	
1	No	Fitter I class		day	
3	Nos	Fitter II class		day	
6	Nos	Mazdoor I category		day	
54	kg	Cement 4.50kg		kg	
15	kg	Yarn 1.25kg		kg	
		Total for 12 joints			
		Rate per joint		Rs.	
For depth up to 2m		400mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	9	
2	Nos	Fitter I class		day	
3	Nos	Fitter II class		day	
3	Nos	Mazdoor I category		day	
49.5	kg	Cement 5.5kg		kg	
13.5	kg	Yarn 1.5kg		kg	
		Total for 9 joints			
		Rate per joint		Rs.	
For depth up to 2m		450mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	6	Joints
1	No	Fitter I class		day	
2	Nos	Fitter II class		day	
4	Nos	Mazdoor I category		day	
36	kg	Cement 6.0kg		kg	
10.5	kg	Yarn 1.75kg		kg	
		Total for 6 joint			
		Rate per joint		Rs.	
For depth up to 2m		500mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	6	Joints
1	No	Fitter I class		day	
2	Nos	Fitter II class		day	
5	Nos	Mazdoor I category		day	

Quantity	Unit	Description	Rate	Per	Amount
39	kg	Cement 6.5kg		kg	
12	kg	Yarn 2kg		kg	
		Total for 6 joint			
		Rate per joint		Rs.	
For depth up to 2m		600mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	5	Joints
2	Nos	Fitter I class		day	
2	Nos	Fitter II class		day	
4	Nos	Mazdoor I category		day	
35	kg	Cement 7kg		kg	
12.5	kg	Yarn 2.5kg		kg	
		Total for 5 joint			
		Rate per joint		Rs.	
For depth up to 2m		700mm dia - C.I./D.I S/S pipes and specials	No.of joints per day	3	Joints
1	No	Fitter I class		day	
2	Nos	Fitter II class		day	
2	Nos	Mazdoor I category		day	
30	kg	Cement 10kg		kg	
12	kg	Yarn 4kg		kg	
		Total for 3 joint			
		Rate per joint		Rs.	

Hire Charges for Dewatering using Diesel Engine Pumpset
Dewatering using 3HP to 70HP diesel engine pumpset including Hire charges, cost of Diesel, Engine oil, pump operator, labour charges, conveyance of pumpset and fuel to site and back, loading, unloading and any other incidental charges etc., complete.

Sl. No.	Description	Qty	Unit	Rate Rs.	per	Amount/Hr
For 3 HP						
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	Hr
2	Diesel Consumption	0.60	Litre		1.00	Lit
3	Cost of Engine Oil	0.03	Litre		1.00	Lit
4	Pump Operator without ITI	1.00	hr		8.00	Hr
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	Hr
6	Freight charges for Diesel Shifting	0.60	Litre		210.00	Lit
Total Amount/Hr						
For 5 HP						
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	Hr
2	Diesel Consumption	1.00	Litre		1.00	Lit
3	Cost of Engine Oil	0.05	Litre		1.00	Lit
4	Pump Operator without ITI	1.00	hr		8.00	Hr
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	Hr
6	Freight charges for Diesel Shifting	1.00	Litre		210.00	Lit
Total Amount/Hr						
For 7.5 HP						
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	Hr
2	Diesel Consumption	1.50	Litre		1.00	Lit
3	Cost of Engine Oil	0.08	Litre		1.00	Lit
4	Pump Operator without ITI	1.00	hr		8.00	Hr
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	Hr
6	Freight charges for Diesel Shifting	1.50	Litre		210.00	Lit
Total Amount/Hr						
For 10 HP						

Sl. No.	Description	Qty	Unit	Rate Rs.	per		Amount/Hr
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	Hr	
2	Diesel Consumption	2.00	Litre		1.00	Lit	
3	Cost of Engine Oil	0.10	Litre		1.00	Lit	
4	Pump Operator without ITI	1.00	hr		8.00	Hr	
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	Hr	
6	Freight charges for Diesel Shifting	2.00	Litre		210.00	Lit	
Total Amount/Hr							
For 12.5 HP							
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	Hr	
2	Diesel Consumption	2.50	Litre		1.00	Lit	
3	Cost of Engine Oil	0.13	Litre		1.00	Lit	
4	Pump Operator without ITI	1.00	hr		8.00	Hr	
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	Hr	
6	Freight charges for Diesel Shifting	2.50	Litre		210.00	Lit	
Total Amount/Hr							
For 15 HP							
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	hr	
2	Diesel Consumption	3.00	Litre		1.00	Litre	
3	Cost of Engine Oil	0.15	Litre		1.00	Litre	
4	Pump Operator without ITI	1.00	hr		8.00	hr	
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	hr	
6	Freight charges for Diesel Shifting	3.00	Litre		210.00	Litre	
Total Amount/Hr							
For 20 HP							
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	hr	
2	Diesel Consumption	4.00	Litre		1.00	Litre	

Sl. No.	Description	Qty	Unit	Rate Rs.	per		Amount/Hr
3	Cost of Engine Oil	0.20	Litre		1.00	Litre	
4	Pump Operator without ITI	1.00	hr		8.00	hr	
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	hr	
6	Freight charges for Diesel Shifting	4.00	Litre		210.00	Litre	
Total Amount/Hr							
For 40 HP							
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	hr	
2	Diesel Consumption	8.00	Litre		1.00	Litre	
3	Cost of Engine Oil	0.40	Litre		1.00	Litre	
4	Pump Operator without ITI	1.00	hr		8.00	hr	
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	hr	
6	Freight charges for Diesel Shifting	8.00	Litre		210.00	Litre	
Total Amount/Hr							
For 50 HP							
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	hr	
2	Diesel Consumption	10.00	Litre		1.00	Litre	
3	Cost of Engine Oil	0.50	Litre		1.00	Litre	
4	Pump Operator without ITI	1.00	hr		8.00	hr	
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	hr	
6	Freight charges for Diesel Shifting	10.00	Litre		210.00	Litre	
Total Amount/Hr							
For 60 HP							
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	hr	
2	Diesel Consumption	12.00	Litre		1.00	Litre	
3	Cost of Engine Oil	0.60	Litre		1.00	Litre	
4	Pump Operator without ITI	1.00	hr		8.00	hr	

Sl. No.	Description	Qty	Unit	Rate Rs.	per		Amount/Hr
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	hr	
6	Freight charges for Diesel Shifting	12.00	Litre		210.00	Litre	
Total Amount/Hr							
For 70 HP							
1	Hire charges for Diesel Pumpset alone	1.00	hr		24.00	hr	
2	Diesel Consumption	14.00	Litre		1.00	Litre	
3	Cost of Engine Oil	0.70	Litre		1.00	Litre	
4	Pump Operator without ITI	1.00	hr		8.00	hr	
5	Labour for Pump Maintaining (Maz.Cat.II)	1.00	hr		8.00	hr	
6	Freight charges for Diesel Shifting	14.00	Litre		210.00	Litre	
Total Amount/Hr							

Shoring with sheet piles From GL: depth of 0 to 3 m - for laying Pipe - for 30m

Sl. No.	Description	Rate	Unit	Amount
	400mm width X 3 m height x 9mm thickness Flat-Type Pile as per IS 2314-1986			
	No. of piles for 30 m length for 3 m height		Nos	
	For 2 sides in 3 m height		Nos	
	No of sheet piles for depth from 0 to 3 m		No	
	Total Number of piles required for the full height		Nos	
	Weight of One sheet pile as per IS 2314 Table 4 (55.2 X 3 m)		kg	
	Total weight for 150 Nos of Sheet piles		kg	
	MS Sheet cost/Kg (SoR)		Rs/kg	
	Total cost for 150 sheets		RS	
	Fabrication charges/ kg (SoR)		Rs.	
	Total fabrication cost for 150 sheets		Rs.	
	Total cost for 150 completed pile sheets		Rs.	
	Assuming 40 uses, for one use		Rs.	
A	Hence cost of sheet piles		Rs.	
	For framing the Sheet piles using the above sheet piles			
	No of sheet piles required per row		Nos	
	No of rows		Nos	
	No of sheet piles required .			
B	Cost of Sheet piles for framing		Rs.	
	Casurina Poles for struting at interval of 1.50m in 2 Rows			
	Length of Casurina Pole of size 8 to 10 cm		m	
	No. poles required		Nos	
	Total length		m	
	Rate for Casurina Pole of size 8 to 10 cm (SOR)		Rs. / RM	
C	Total amount for Casurina pole		Rs.	
	Assuming 5 uses for 1 use		Rs.	
	Labour for Timbering			
1 No	Carpenter II class (SOR)		Rs.	
12 Nos	Mazdoor cat. II (SOR)		Rs.	
10 Nos	Pile driver (SOR)		Rs.	
D	Total amount of Labour For fixing and removing sheet piles		Rs.	
	Total amount for shoring and shuttering for 30M A+B+C+D		Rs.	
	For 1 m Rs.		per RM	

Shoring with sheet piles From GL: depth of 0 to 4 m - for laying Pipe - for 30m

Sl. No.	Description	Rate	Unit	Amount
	400mm width X 3 m height x 9mm thickness Flat-Type Pile as per IS 2314-1986			
	No. of piles for 30 m length for 3 m height		Nos	
	For 2 sides in 3 m height		Nos	
	No of sheet piles for depth from 0 to 4 m		No	
	Total Number of piles required for the full height		Nos	
	Weight of One sheet pile as per IS 2314 Table 4 (55.2 X 3 m)		kg	
	Total weight for 201 Nos of Sheet piles		kg	
	MS Sheet cost/Kg		Rs/kg	
	Total cost for 201 sheets		RS	
	Fabrication charges/ kg		Rs.	
	Total fabrication cost for 201 sheets		Rs.	
	Total cost for 201 completed pile sheets		Rs.	
	Assuming 40 uses, for one use		Rs.	
A	Hence cost of sheet piles		Rs.	
	For framing the Sheet piles using the above sheet piles			
	No of sheet piles required per row		Nos	
	No of rows		Nos	
	No of sheet piles required .			
B	Cost of Sheet piles for framing		Rs.	
	Casurina Poles for strutting at interval of 1.50m in 3 Rows			
	Length of Casurina Pole of size 8 to 10 cm		m	
	No. poles required		Nos	
	Total length		m	
	Rate for Casurina Pole of size 8 to 10 cm		Rs./RM	
C	Total amount for Casurina pole		Rs.	
	Assuming 5 uses for 1 use		Rs.	
	Labour for Timbering			
2Nos	Carpenter II class		Rs.	
15Nos	Mazdoor cat. II		Rs.	
12Nos	Pile driver		Rs.	
D	Total amount of Labour For fixing and removing sheet piles		Rs.	
	Total amount for shoring and shuttering for 30M A+B+C+D		Rs.	
	For 1 m Rs.		per RM	

Shoring with sheet piles From GL: depth of 0 to 5 m - for laying Pipe - for 30m

Sl. No.	Description	Rate	Unit	Amount
	400mm width X 3 m height x 9mm thickness Flat-Type Pile as per IS 2314-1986			
	No. of piles for 30 m length for 3 m height		Nos	
	For 2 sides in 3 m height		Nos	
	No of sheet piles for depth from 0 to 5 m		No	
	Total Number of piles required for the full height		Nos	
	Weight of One sheet pile as per IS 2314 Table 4 (55.2 X 3 m)		kg	
	Total weight for 250.5 Nos of Sheet piles		kg	
	MS Sheet cost/Kg (SoR)		Rs/kg	
	Total cost for 250.5 sheets		RS	
	Fabrication charges/ kg (SoR)		Rs.	
	Total fabrication cost for 250.5 sheets		Rs.	
	Total cost for 250.5 completed pile sheets		Rs.	
	Assuming 40 uses, for one use		Rs.	
A	Hence cost of sheet piles		Rs.	
	For framing the Sheet piles using the above sheet piles -			
	No of sheet piles required per row		Nos	
	No of rows		Nos	
	No of sheet piles required .			
B	Cost of Sheet piles for framing		Rs.	
	Casurina Poles for strutting at interval of 1.50m in 4 Rows			
	Length of Casurina Pole of size 8 to 10 cm		m	
	No. poles required		Nos	
	Total length		m	
	Rate for Casurina Pole of size 8 to 10 cm SoR P. No. 140 - 67.c		Rs./RM	
	Total amount for Casurina pole		Rs.	
C	Assuming 5 uses for 1 use		Rs.	
	Labour for Timbering			
2Nos	Carpenter II class (SoR)		Rs.	
21Nos	Mazdoor cat. II (SoR)		Rs.	
15Nos	Pile driver (SoR)		Rs.	
D	Total amount of Labour For fixing and removing sheet piles		Rs.	
	Total amount for shoring and shuttering for 30M A+B+C+D		Rs.	
	For 1 m Rs.		per RM	

Shoring with sheet piles From GL: depth of 0 to 6 m - for laying Pipe - for 30m

Sl. No.	Description	Rate	Unit	Amount
	400mm width X 3 m height x 9mm thickness Flat-Type Pile as per IS 2314-1986			
	No. of piles for 30 m length for 3 m height		Nos	
	For 2 sides in 3 m height		Nos	
	No of sheet piles for depth from 0 to 6 m		No	
	Total Number of piles required for the full height		Nos	
	Weight of One sheet pile as per IS 2314 Table 4 (55.2 X 3 m)		kg	
	Total weight for 300 Nos of Sheet piles		kg	
	MS Sheet cost/Kg		Rs/kg	
	Total cost for 300 sheets		RS	
	Fabrication charges/ kg		Rs.	
	Total fabrication cost for 300 sheets		Rs.	
	Total cost for 300 completed pile sheets		Rs.	
	Assuming 40 uses, for one use		Rs.	
A	Hence cost of sheet piles		Rs.	
	For framing the Sheet piles using the above sheet piles			
	No of sheet piles required per row		Nos	
	No of rows		Nos	
	No of sheet piles required .			
B	Cost of Sheet piles for framing		Rs.	
	Casurina Poles for strutting at interval of 1.50m in 5 Rows			
	Length of Casurina Pole of size 8 to 10 cm		m	
	No. poles required		Nos	
	Total length		m	
	Rate for Casurina Pole of size 8 to 10 cm		Rs./RM	
B	Total amount for Casurina pole		Rs.	
	Assuming 5 uses for 1 use		Rs.	
	Labour for Timbering			
3Nos	Carpenter II class		Rs.	
24Nos	Mazdoor cat. II		Rs.	
18 Nos	Pile driver		Rs.	
D	Total amount of Labour For fixing and removing sheet piles		Rs.	
	Total amount for shoring and shuttering for 30M A+B+C+D		Rs.	
	For 1 m Rs.		per RM	

Shoring with sheet piles From GL: depth of 0 to 7 m - for laying Pipe - for 30m

Sl. No.	Description	Rate	Unit	Amount
	400mm width X 3 m height x 9mm thickness Flat-Type Pile as per IS 2314-1986			
	No. of piles for 30 m length for 3 m height		Nos	
	For 2 sides in 3 m height		Nos	
	No of sheet piles for depth from 0 to 7 m		No	
	Total Number of piles required for the full height		Nos	
	Weight of One sheet pile as per IS 2314 Table 4 (55.2 X 3 m)		kg	
	Total weight for 351 Nos of Sheet piles		kg	
	MS Sheet cost/Kg		Rs/kg	
	Total cost for 351 sheets		RS	
	Fabrication charges/ kg		Rs.	
	Total fabrication cost for 351 sheets		Rs.	
	Total cost for 351 completed pile sheets		Rs.	
	Assuming 40 uses, for one use		Rs.	
A	Hence cost of sheet piles		Rs.	
	For framing the Sheet piles using the above sheet piles			
	No of sheet piles required per row		Nos	
	No of rows		Nos	
	No of sheet piles required .			
B	Cost of Sheet piles for framing		Rs.	
	Casurina Poles for strutting at interval of 1.50m in 6 Rows			
	Length of Casurina Pole of size 8 to 10 cm		m	
	No. poles required		Nos	
	Total length		m	
	Rate for Casurina Pole of size 8 to 10 cm		Rs./RM	
C	Total amount for Casurina pole		Rs.	
	Assuming 5 uses for 1 use		Rs.	
	Labour for Timbering			
3Nos	Carpenter II class		Rs.	
30Nos	Mazdoor cat. II		Rs.	
20Nos	Pile driver		Rs.	
D	Total amount of Labour For fixing and removing sheet piles		Rs.	
	Total amount for shoring and shuttering for 30M A+B+C+D		Rs.	
	For 1 m Rs.		per RM	

Shoring with sheet piles From GL: depth of 0 to 8 m - for laying Pipe - for 30m

Sl. No.	Description	Rate	Unit	Amount
	400mm width X 3 m height x 9mm thickness Flat-Type Pile as per IS 2314-1986			
	No. of piles for 30 m length for 3 m height		Nos	
	For 2 sides in 3 m height		Nos	
	No of sheet piles for depth from 0 to 8 m		No	
	Total Number of piles required for the full height		Nos	
	Weight of One sheet pile as per IS 2314 Table 4 (55.2 X 3 m)		kg	
	Total weight for 400.5 Nos of Sheet piles		kg	
	MS Sheet cost/Kg		Rs/kg	
	Total cost for 400.5 sheets		RS	
	Fabrication charges/ kg		Rs.	
	Total fabrication cost for 400.5 sheets		Rs.	
	Total cost for 400.5 completed pile sheets		Rs.	
	Assuming 40 uses, for one use		Rs.	
A	Hence cost of sheet piles		Rs.	
	For framing the Sheet piles using the above sheet piles			
	No of sheet piles required per row		Nos	
	No of rows		Nos	
	No of sheet piles required .			
B	Cost of Sheet piles for framing		Rs.	
	Casurina Poles for strutting at interval of 1.50m in 7 Rows			
	Length of Casurina Pole of size 8 to 10 cm		m	
	No. poles required		Nos	
	Total length		m	
	Rate for Casurina Pole of size 8 to 10 cm		Rs./RM	
C	Total amount for Casurina pole		Rs.	
	Assuming 5 uses for 1 use		Rs.	
	Labour for Timbering			
4Nos	Carpenter II class		Rs.	
38Nos	Mazdoor cat. II		Rs.	
25Nos	Pile driver		Rs.	
D	Total amount of Labour For fixing and removing sheet piles		Rs.	
	Total amount for shoring and shuttering for 30M A+B+C+D		Rs.	
	For 1 m Rs.		per RM	

BARRICADING CHARGES FOR ONE SIDE OF TRENCH WITH GI SHEET 0.9 M HEIGHT

Barricading work (Where, there is less traffic areas and broader roads etc.) for laying of pipe line using casurina poles at 1.50m center to center (8cm to 10cm dia and 1.80m height) vertical with horizontal poles in three rows including painting the vertical poles in the road facing sides with ready mix paint, tying the vertical and horizontal poles with coir rope including fixing charges and fixing 75mm dia reflectors including earth work excavation for fixing vertical posts and finally removing and stacking the materials safely for further use etc., complete and as directed by TWAD Board officers.

Data worked out for 150 m length

S.NO	DESCRIPTION	Qty	Rate	Per	Amount
	Materials				
1 (a)	Casurina poles 8 to 10 cm dia 1.8 m long fixed at 1.5m centers (SoR) Vertical (150m/1.50m + 1) X 1.80m = 181.80m	181.8		m	
(b)	Casurina poles 8 to 10 cm dia 150 m x 2 Nos long fixed at from GL 0.3 m and 0.9 m centers (SoR) - Horizontal	300		m	
2	Red reflectors 75 mm dia each at 3 m spacing	50		Nos	
	Total				
3	Adopting 5 uses, cost per use				
4	Plain GI Sheet 0.8mm thick (22 Gauge) (SOR) (150 x 0.9) m	135		sqm	
5	Supply and delivery of warning board/sign board of size 0.75 m x 1.2 m on both sides with Plain GI sheet 0.8 mm thick fixed on 25 x 25 x 3 mm MS angles on four sides and at the centre of the GI Sheet, Painting the warning words and symbol fixing on both ends of the streets	2		Each	
	Total				
6	Adopting 8 uses, cost per use				
7	Cost of coir (SoR)	15		Kg	
8	Labour for Earth work excavation & refilling for fixing of 100 nos of Vertical post to a depth of about 0.3 m, fixing the vertical post firmly, tying two rows of horizontal post and fixing the GI sheet in position with reflectors.				
a	Mazdoor cat I	2.00		each	
b	Mazdoor cat II	5.00		each	
9	Removing the above post and sheets safely and stacking the above materials for reuse after completion of laying, Jointing, testing and refilling the trenches				
a	Mazdoor cat I	1.00		each	
b	Mazdoor cat II	3.00		each	
10	Total Labour				
11	Total cost for material (3+6+7)				
12	Total cost for 150 m (10) + (11)				
	Cost per m				

BARRICADING CHARGES FOR ONE SIDE OF TRENCH WITH CASURINA POLES VERTICALLY AND HORIZONTALLY

Barricading work (Where the lines are in narrow width of municipality area, busy streets like Market, Bus-stand and in the Highways etc.) for laying of pipe line using casurina poles at 1.50m center to center (8cm to 10cm dia. and 1.80m height) vertical with horizontal poles in two rows, painting the vertical poles in the road facing sides with ready mix paint, tying the vertical and horizontal poles with coir rope including supplying, delivery and fixing of GI sheet (0.90m x 0.8mm thick) in the horizontal poles and fixing 75mm dia. reflectors including earth work excavation for fixing vertical posts and finally removing and stacking the materials safely for further use etc., complete and as directed by TWAD Board officers.					
Data worked out for 150 m length					
S. NO	DESCRIPTION	Qty	Rate	Per	Amount
I	Materials				
a	Casurina poles 8 to 10 cm dia 1.8 m long fixed at 1.5m centers Vertical $(150m / 1.50m + 1) \times 1.80m = 181.80m$	181.8		m	
b	Casurina poles 8 to 10 cm dia 150 m x 2 Nos long fixed at 1.5m centers - Horizontal	300		m	
c	Red reflectors 75 mm dia each at 1.5 m spacing	100		Nos	
e	Supply and delivery of warning board/sign board of size 0.75 m x 1.2m on both sides with Plain GI sheet 0.8 mm thick fixed on 25 x 25 x 3 mm MS angles on four sides and at the centre of the GI Sheet, Painting the warning words and symbol fixing on both ends of the streets	2		Each	
d	Painting the vertical casurina poles with multi colour ready mix paint for the road facing side side $(3.14 \times 0.08 \times 1.8 \times (150/1.5) \text{ Nos.})/2 = 22.62 \text{ sqm}$	22.62		sqm	
	Total				
	Adopting 5 uses, cost per use				
f	Cost of coir	15		Kg	
	Total for Material				
II	Labour				
2	Labour for Earth work excavation & refilling for fixing of 100 nos of Vertical post to a depth of about 0.3 m, fixing the vertical post firmly, tying two rows of horizontal post in position with reflectors.				
a	Mazdoor cat I	2		each	
b	Mazdoor cat II	3		each	
3	Removing the above post, safely and stacking the above materials for reuse after completion of laying, Jointing, testing and refilling the trenches				
a	Mazdoor cat I	1		each	
b	Mazdoor cat II	2		each	
	Total for labour				
	Total cost for 150 m (Material + Labour)				
	Cost per m				
			Rs.		

**DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES (HSC PIPES,
D SYSTEM & P MAIN PIPES)**

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Excavating of driving pit and receiving pit of size 3.00m (length) x 3.50m (breadth), upto 5m depth in all soil strata including shoring and strutting using 6mm tk MS Plate of size 3.50m x 3.50m usable for 20 operations and providing 16mm thickness MS plate of size 3.00m x 3.50m with 100mm x100mm x 12mm angles of 4m length for holding the MS plates for Thrust arrangements to receive the impacts during pushing operation of encasing pipe. Lowering the following size of MS encasing pipe by using Contractor's crane and machineries and jointing MS pipes by welding, across the National Highways/State Highways/ Railways/Canal crossing etc and driving the horizontal bore by pushing / jacking method (trenchless technology method) using contractor's machineries such as cranes, jacks, jacking materials, generator, welding machineries, compressor, jack hammer and other equipments etc. without interfering and causing any hindrance to the movement of traffic or any other vehicles, without any disturbances to the railway/road/canal formation etc. including bailing / pumping of water where ever necessary without affecting any installation like water supply pipeline/telephone cable, electric cables etc. passing nearby area and scooping the earth inside the pipes and pit and depositing the surplus earth in a convenient place and leveling the site after completion of entire work as directed by TWAD Engineers. The rate includes the cost of driving pit, thrust bed/wall and receiving pit to the depth of om to 2m excluding the cost of MS pipes.				
	<u>COST OF MS PLATES AND CHANNELS FOR THRUST ARRANGEMENT</u>				
	Size of MS Plate				
1	For sides for shoring - 2Nos (3.50mx3.50mx6mm) - 47.1 kg/m ²	576.98			
2	For Rear sides for thrust - 1No (3.00mx3.50mx16mm) - 125.60 kg/m ²	1318.8			
	Total Weight of MS Plate	1895.78		Kg	
3	Ms Equal angle of size 100mm x 100mmx12mm - (4m x4Nos) =16m x 17.70Kg/m	283.2		Kg	
4	Bolts and nuts for fixing	32		No	
5	Fabrication charges	2178.98		Kg	
	Upto 300mm dia MS Pipe				
	Cost for 20 operation				
	cost for one operation				
				Say	
	350mm to 900mm dia MS Pipe				
	Cost for15 operation				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	cost for one operation				
				Say	
	1000mm to 2200mm dia MS Pipe				
	Cost for 10 operation				
	cost for one operation				
				Say	
a	For 200mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor category - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x 3.5m x 3.5m)				
	Mazdoor category - I	15		No	
	Mazdoor category - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Charges for Drilling horizontal bores by using rig	15		m	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.8m = 6 days)	6		day	
	Diesel charges for genset (9liters/hour)	386		litre	
	Labour charges for welding				
	Welder - I class	3		No	
	Welder - II class	3		No	
	Welding rod	5		pocket	
	Removing the excavated earth conveying and depositing on bank for 6 days				
	Mazdoor category - I	6		No	
	Mazdoor category - II	12		No	
	labour charges for pushing MS pipe				
	Mazdoor category - I	12		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Watchman	6		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
b	For 250mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Charges for Drilling horizontal bores by using rig	15		m	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.70m = 6 days)	6		day	
	Diesel charges for genset (9liters/hour)	400		litre	
	Labour charges for welding				
	Welder - I class	3		No	
	Welder - II class	3		No	
	Welding rod	6		pocket	
	Removing the excavated earth conveying and depositing on bank for 6 days				
	Mazdoor catogery - I	6		No	
	Mazdoor catogery - II	12		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	12		No	
	Watchman	6		No	
	Amount for 15m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Rate per m length				
	Say				
					per 1m
c	For 300mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangenents and shoring	1		No	
	Charges for Drilling horizontal bores by using rig	15		m	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.60m =6 days)	6		day	
	Diesel charges for genset (9liters/hour)	416		litre	
	Labour charges for welding				
	Welder - I class	3		No	
	Welder - II class	3		No	
	Welding rod	7		pocket	
	Removing the excavated earth coveying and depositing on bank for 6 days				
	Mazdoor catogery - I	6		No	
	Mazdoor catogery - II	12		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	12		No	
	Watchman	6		No	
	Amount for 15m length				
	Rate per m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Say				
					per 1m
-					
d	For 350mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	48		hour	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	12		No	
	Charges for providing oxygen and fan arrangement	6		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.50m =6 days)	6		day	
	Diesel charges for genset (9liters/hour)	540		litre	
	Labour charges for welding				
	Welder - I class	3		No	
	Welder - II class	3		No	
	Welding rod	8		pocket	
	Removing the excavated earth conveying and depositing on bank for 6 days				
	Mazdoor catogery - I	4.73		No	
	Mazdoor catogery - II	12		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	12		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Watchman	6		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
e	For 400mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	50		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	14		No	
	Charges for providing oxygen and fan arrangement	7		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.40m =7 days)	7		day	
	Diesel charges for genset (9liters/hour)	450		litre	
	Labour charges for welding				
	Welder - I class	3.5		No	
	Welder - II class	3.5		No	
	Welding rod	9		pocket	
	Removing the excavated earth conveying and depositing on bank for 7 days				
	Mazdoor catogery - I	6.5		No	
	Mazdoor catogery - II	14		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	14		No	
	Watchman	6		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
f	For 450mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	53		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	14		No	
	Charges for providing oxygen and fan arrangement	7		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.30m =7days)	7		day	
	Diesel charges for genset (9liters/hour)	470		litre	
	Labour charges for welding				
	Welder - I class	3.5		No	
	Welder - II class	3.5		No	
	Welding rod	10		pocket	
	Removing the excavated earth conveying and depositing on bank for 6 days				
	Mazdoor catogery - I	6.3		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Mazdoor catogery - II	14		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	14		No	
	Watchman	7		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
-					
g	For 500mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	55		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	14		No	
	Charges for providing oxygen and fan arrangement	7		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.20m =7days)	7		day	
	Diesel charges for genset (9liters/hour)	491		litre	
	Labour charges for welding				
	Welder - I class	3.5		No	
	Welder - II class	3.5		No	
	Welding rod	11		pocket	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Removing the excavated earth conveying and depositing on bank for 7days				
	Mazdoor catogery - I	6		No	
	Mazdoor catogery - II	14		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	14		No	
	Watchman	7		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
-					
h	For 600mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	58		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	14		No	
	Charges for providing oxygen and fan arrangement	7		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.10m =7days)	7		day	
	Diesel charges for genset (9liters/hour)	515		litre	
	Labour charges for welding				
	Welder - I class	3.5		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Welder - II class	3.5		No	
	Welding rod	17		pocket	
	Removing the excavated earth conveying and depositing on bank for 7 days				
	Mazdoor category - I	6.5		No	
	Mazdoor category - II	14		No	
	labour charges for pushing MS pipe				
	Mazdoor category - I	14		No	
	Watchman	7		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
-					
i	For 700mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor category - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x 3.5m x 3.5m)				
	Mazdoor category - I	15		No	
	Mazdoor category - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	60		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	16		No	
	Charges for providing oxygen and fan arrangement	8		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 2.00m = 8 days)	8		day	
	Diesel charges for genset (9liters/hour)	540		litre	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for welding				
	Welder - I class	4		No	
	Welder - II class	4		No	
	Welding rod	19		pocket	
	Removing the excavated earth conveying and depositing on bank for 8 days				
	Mazdoor catogery - I	7.5		No	
	Mazdoor catogery - II	16		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	16		No	
	Watchman	8		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
-					
j	For 800mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	64		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	16		No	
	Charges for providing oxygen and fan arrangement	8		day	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.90m =8days)	8		day	
	Diesel charges for genset (9liters/hour)	569		litre	
	Labour charges for welding				
	Welder - I class	4		No	
	Welder - II class	4		No	
	Welding rod	22		pocket	
	Removing the excavated earth conveying and depositing on bank for 8 days				
	Mazdoor catogery - I	7.5		No	
	Mazdoor catogery - II	16		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	16		No	
	Watchman	8		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
k	For 900mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	67		day	
	Labour charges for trenchless excavation				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Hammer Mazdoor (with alternate)	16		No	
	Charges for providing oxygen and fan arrangement	8		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.80m =8days)	8		day	
	Diesel charges for genset (9liters/hour)	600		litre	
	Labour charges for welding				
	Welder - I class	4		No	
	Welder - II class	4		No	
	Welding rod	25		pocket	
	Removing the excavated earth conveying and depositing on bank for 8 days				
	Mazdoor catogery - I	7.5		No	
	Mazdoor catogery - II	16		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	16		No	
	Watchman	8		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
I	For 1000mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	71		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	18		No	
	Charges for providing oxygen and fan arrangement	9		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.70m =9days)	9		day	
	Diesel charges for genset (9liters/hour)	636		litre	
	Labour charges for welding				
	Welder - I class	4.5		No	
	Welder - II class	4.5		No	
	Welding rod	28		pocket	
	Removing the excavated earth conveying and depositing on bank for 9 days				
	Mazdoor catogery - I	9		No	
	Mazdoor catogery - II	18		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	18		No	
	Watchman	9		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
j	For 1050mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangenents and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	75		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	18		No	
	Charges for providing oxygen and fan arrangement	9		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.60m =9days)	9		day	
	Diesel charges for genset (9liters/hour)	675		litre	
	Labour charges for welding				
	Welder - I class	4.5		No	
	Welder - II class	4.5		No	
	Welding rod	29		pocket	
	Removing the excavated earth coveying and depositing on bank for 9 days				
	Mazdoor catogery - I	8.7		No	
	Mazdoor catogery - II	18		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	18		No	
	Watchman	9		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
k	For 1100mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangenents and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	80		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	20		No	
	Charges for providing oxygen and fan arrangement	10		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.50m =10days)	10		day	
	Diesel charges for genset (9liters/hour)	720		litre	
	Labour charges for welding				
	Welder - I class	5		No	
	Welder - II class	5		No	
	Welding rod	30		pocket	
	Removing the excavated earth coveying and depositing on bank for 10days				
	Mazdoor catogery - I	10.5		No	
	Mazdoor catogery - II	20		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	20		No	
	Watchman	10		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
L	For 1200mm dia MS encasing pipe for various thickness				
	For a length of 15m				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	86		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	22		No	
	Charges for providing oxygen and fan arrangement	11		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.40m =11days)	11		day	
	Diesel charges for genset (9liters/hour)	772		litre	
	Labour charges for welding				
	Welder - I class	5.5		No	
	Welder - II class	5.5		No	
	Welding rod	33		pocket	
	Removing the excavated earth conveying and depositing on bank for 11 days				
	Mazdoor catogery - I	11.5		No	
	Mazdoor catogery - II	22		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	22		No	
	Watchman	11		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
m	For 1400mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	93		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	24		No	
	Charges for providing oxygen and fan arrangement	12		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.30m =12days)	12		day	
	Diesel charges for genset (9liters/hour)	831		litre	
	Labour charges for welding				
	Welder - I class	6		No	
	Welder - II class	6		No	
	Welding rod	39		pocket	
	Removing the excavated earth conveying and depositing on bank for 12 days				
	Mazdoor catogery - I	12.7		No	
	Mazdoor catogery - II	24		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	24		No	
	Watchman	12		No	
	Amount for 15m length				
	Rate per m length				
	Say				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
					per 1m
n	For 1600mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	100		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	26		No	
	Charges for providing oxygen and fan arrangement	13		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.20m =13days)	13		day	
	Diesel charges for genset (9liters/hour)	900		litre	
	Labour charges for welding				
	Welder - I class	6.5		No	
	Welder - II class	6.5		No	
	Welding rod	44		pocket	
	Removing the excavated earth conveying and depositing on bank for 13 days				
	Mazdoor catogery - I	14		No	
	Mazdoor catogery - II	26		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	26		No	
	Watchman	13		No	
	Amount for 15m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Rate per m length				
	Say				
					per 1m
o	For 1800mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	110		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	28		No	
	Charges for providing oxygen and fan arrangement	14		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.10m =14days)	14		day	
	Diesel charges for genset (9liters/hour)	982		litre	
	Labour charges for welding				
	Welder - I class	7		No	
	Welder - II class	7		No	
	Welding rod	50		pocket	
	Removing the excavated earth conveying and depositing on bank for 14 days				
	Mazdoor catogery - I	15.5		No	
	Mazdoor catogery - II	28		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	28		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Watchman	14		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
p	For 2000mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	120		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	30		No	
	Charges for providing oxygen and fan arrangement	15		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 1.00m =15days)	15		day	
	Diesel charges for genset (9liters/hour)	1080		litre	
	Labour charges for welding				
	Welder - I class	7.5		No	
	Welder - II class	7.5		No	
	Welding rod	55		pocket	
	Removing the excavated earth conveying and depositing on bank for 15 days				
	Mazdoor catogery - I	16.5		No	
	Mazdoor catogery - II	30		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	30		No	
	Watchman	15		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m
q	For 2200mm dia MS encasing pipe for various thickness				
	For a length of 15m				
	Clearing and leveling both sides				
	Mazdoor catogery - I	2		No	
	Earth work excavation in all soil strata for driving pit and receiving pit (2Nos x 3.0m x3.5m x3.5m)				
	Mazdoor catogery - I	15		No	
	Mazdoor catogery - II	15		No	
	MS fabrication work for Thrust arrangements and shoring	1		No	
	Hire Charges for Power Driller (with jack arrangement) for trenchless excavation	134		day	
	Labour charges for trenchless excavation				
	Hammer Mazdoor (with alternate)	34		No	
	Charges for providing oxygen and fan arrangement	17		day	
	Hire charges for welding machine with genset and pushing the encasing pipe by jack and push method (15m / 0.9m =17days)	17		day	
	Diesel charges for genset (9liters/hour)	1200		litre	
	Labour charges for welding				
	Welder - I class	8.5		No	
	Welder - II class	8.5		No	
	Welding rod	61		pocket	
	Removing the excavated earth conveying and depositing on bank for 17 days				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Mazdoor catogery - I	19		No	
	Mazdoor catogery - II	34		No	
	labour charges for pushing MS pipe				
	Mazdoor catogery - I	34		No	
	Watchman	17		No	
	Amount for 15m length				
	Rate per m length				
	Say				
					per 1m

**DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES
(HSC PIPES, D SYSTEM & P MAIN PIPES)**

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
Replacement earthwork excavations for pipe laying works including cost of additional earthwork excavation in all soil strata, including BT/CC road cutting, removal of slushy soil and replacing the pipeline with sound pipe, including supply and delivery of GI pipes, coupler, Union, jointing materials and required specials, cutting, threading, conveying , laying, jointing and cost of refilling for the additional earthwork etc complete and as directed by the TWAD board officers of Underground Utilities (GI Pipe) damaged during					
a	15mm Dia GI Pipe				
	Total for 6 locations				
	Supply and delivery of 15mm Dia GI pipes (1.50m x 6 Nos =9m)	9		m	
	Supply and delivery of 15mm Dia GI Coupling	6		No	
	Supply and delivery of 15mm Dia GI Union	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
b.	20mm Dia GI Pipe				
	Total for 6 locations				
	Supply and delivery of 20mm Dia GI pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 20mm Dia GI Coupling	6		No	
	Supply and delivery of 20mm Dia GI Union	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
C.	25mm Dia GI Pipe				
	Total for 6 locations				
	Supply and delivery of 25mm Dia GI pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 25mm Dia GI Coupling	6		No	
	Supply and delivery of 25mm Dia GI Union	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
d.	32mm Dia GI Pipe				
	Total for 6 locations				
	Supply and delivery of 32mm Dia GI pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 32mm Dia GI Coupling	6		No	
	Supply and delivery of 32mm Dia GI Union	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
e.	40mm Dia GI Pipe				
	Total for 6 locations				
	Supply and delivery of 40mm Dia GI pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 40mm Dia GI Coupling	6		No	
	Supply and delivery of 40mm Dia GI Union	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
f.	50mm Dia GI Pipe				
	Total for 6 locations				
	Supply and delivery of 50mm Dia GI pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 50mm Dia GI Coupling	6		No	
	Supply and delivery of 50mm Dia GI Union	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
g.	65mm Dia GI Pipe				
	Total for 4 locations				
	Supply and delivery of 65mm Dia GI pipes (1.50m x 4 Nos = 6m)	6		m	

SI. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Supply and delivery of 65mm Dia GI Coupling	4		No	
	Supply and delivery of 65mm Dia GI Union	4		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 6m length (4 Nos)				
	Rate for 1m length				
h.	80mm Dia GI Pipe				
	Total for 4 locations				
	Supply and delivery of 80mm Dia GI pipes (1.50m x 4 Nos = 6m)	6		m	
	Supply and delivery of 80mm Dia GI Coupling	4		No	
	Supply and delivery of 80mm Dia GI Union	4		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 6m length (4 Nos)				
	Rate for 1m length				
i.	100mm Dia GI Pipe				
	Total for 4 locations				
	Supply and delivery of 100mm Dia GI pipes (1.50m x 4 Nos = 6m)	6		m	
	Supply and delivery of 100mm Dia GI Coupling	4		No	
	Supply and delivery of 100mm Dia GI Union	4		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 6m length (4 Nos)				
	Rate for 1m length				
j.	125mm Dia GI Pipe				
	Total for 4 locations				
	Supply and delivery of 125mm Dia GI pipes (1.50m x 4 Nos = 6m)	6		m	
	Supply and delivery of 125mm Dia GI Coupling	4		No	
	Supply and delivery of 125mm Dia GI Union	4		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing GI pipes				
	Plumber - II class	1		No	
	Rate for 6m length (4 Nos)				
	Rate for 1m length				

**DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES
(HSC PIPES, D SYSTEM & P MAIN PIPES)**

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
Replacement of Underground Utilities (PVC Pipe) damaged during earthwork excavation for pipe laying works including cost of additional earthwork excavation in all soil strata, including BT/CC road cutting, removal of slushy soil and replacing the pipeline with sound pipe, including supply and delivery of PVC pipes, couplers, jointing materials and required specials, cutting, conveying , laying, jointing and cost of refilling for the additional earthwork etc complete and as directed by the TWAD board officers.					
a	15mm Dia PVC Pipe (10 KSC)				
	Total for 8 locations				
	Supply and delivery of 15mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 15mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8Nos)				
	Rate for 1m length				
b.	20mm Dia PVC Pipe (10 KSC)				
	Total for 8 locations				
	Supply and delivery of 20mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 20mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
c.	25mm Dia PVC Pipe (10 KSC)				
	Total for 8locations				
	Supply and delivery of 25mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 25mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
d.	32mm Dia PVC Pipe (10 KSC)				
	Total for 8 locations				
	Supply and delivery of 32mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 32mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
e.	40mm Dia PVC Pipe (10 KSC)				
	Total for 8 locations				
	Supply and delivery of 40mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 40mm Dia PVC Coupler	16		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				

**DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES
(HSC PIPES, D SYSTEM & P MAIN PIPES)**

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
Replacement of Underground Utilities (PVC Pipe) damaged during earthwork excavation for pipe laying works including cost of additional earthwork excavation in all soil strata, including BT/CC road cutting, removal of slushy soil and replacing the pipeline with sound pipe, including supply and delivery of PVC pipes, couplers, jointing materials and required specials, cutting, conveying , laying, jointing and cost of refilling for the additional earthwork etc complete and as directed by the TWAD board officers.					
a.	50mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 50mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 50mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
b.	63mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 63mm Dia PVC pipes (1.50m x 8Nos = 12m)	12		m	
	Supply and delivery of 63mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
c.	75mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 75mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 75mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
d.	90mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 90mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 90mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
e.	110mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 110mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 110mm Dia PVC Coupler	12		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
f.	140mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 140mm Dia PVC pipes (1.50m x 6Nos = 9m)	9		m	
	Supply and delivery of 140mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
g.	160mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 160mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 160mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
h.	180mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 180mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 180mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged PVC pipes	12		No	
	cutting charges for New PVC pipes	5		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
i.	200mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 200mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 200mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	cutting charges for damaged PVC pipes	12		No	
	cutting charges for New PVC pipes	5		No	
	Labour charges for Lowering, laying and jointing PVC rigid pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Rate for 9m length (6Nos)				
	Rate for 1m length				

DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
Replacement of Underground Utilities (PVC Pipe) damaged during earthwork excavation for pipe laying works including cost of additional earthwork excavation in all soil strata, including BT/CC road cutting, removal of slushy soil and replacing the pipeline with sound pipe, including supply and delivery of PVC pipes, couplers, jointing materials and required specials, cutting, conveying , laying, jointing and cost of refilling for the additional earthwork etc complete and as directed by the TWAD board officers.					
a.	50mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 50mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 50mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
b.	63mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 63mm Dia PVC pipes (1.50m x 8Nos = 12m)	12		m	
	Supply and delivery of 63mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
c.	75mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 75mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 75mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
d.	90mm Dia PVC Pipe (10KSC)				
	Total for 8 locations				
	Supply and delivery of 90mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 90mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
e.	110mm Dia PVC Pipe (10KSC)				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Total for 6 locations				
	Supply and delivery of 110mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 110mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
f.	140mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 140mm Dia PVC pipes (1.50m x 6Nos = 9m)	9		m	
	Supply and delivery of 140mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
g.	160mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 160mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 160mm Dia PVC Coupler	12		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
h.	180mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 180mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 180mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged PVC pipes	12		No	
	cutting charges for New PVC pipes	5		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
i.	200mm Dia PVC Pipe (10KSC)				
	Total for 6 locations				
	Supply and delivery of 200mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 200mm Dia PVC Coupler	12		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged PVC pipes	12		No	
	cutting charges for New PVC pipes	5		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Rate for 9m length (6Nos)				
	Rate for 1m length				

**DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES
(HSC PIPES, D SYSTEM & P MAIN PIPES)**

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
Replacement of Underground Utilities (PVC Pipe) damaged during earthwork excavation for pipe laying works including cost of additional earthwork excavation in all soil strata, including BT/CC road cutting, removal of slushy soil and replacing the pipeline with sound pipe, including supply and delivery of PVC pipes, couplers, jointing materials and required specials, cutting, conveying , laying, jointing and cost of refilling for the additional earthwork etc complete and as directed by the TWAD board officers.					
a.	63mm Dia PVC Pipe (4KSC)				
	Total for 8 locations				
	Supply and delivery of 63mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 63mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8Nos)				
	Rate for 1m length				
b.	75mm Dia PVC Pipe (4KSC)				
	Total for 8 locations				
	Supply and delivery of 75mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 75mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
c.	90mm Dia PVC Pipe (4KSC)				
	Total for 8 locations				
	Supply and delivery of 90mm Dia PVC pipes (1.50m x 8 Nos = 12m)	12		m	
	Supply and delivery of 90mm Dia PVC Coupler	16		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
d.	110mm Dia PVC Pipe (4KSC)				
	Total for 6 locations				
	Supply and delivery of 110mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 110mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
e.	140mm Dia PVC Pipe (4KSC)				
	Total for6 locations				
	Supply and delivery of 140mm Dia PVC pipes (1.50m x 6 Nos = 9m)	9		m	
	Supply and delivery of 140mm Dia PVC Coupler	12		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
f.	160mm Dia PVC Pipe (4KSC)				
	Total for 6 locations				
	Supply and delivery of 160mm Dia PVC pipes (1.50m x6 Nos = 9m)	9		m	
	Supply and delivery of 160mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Plumber - II class	1		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
g.	180mm Dia PVC Pipe (4KSC)				
	Total for 6 locations				
	Supply and delivery of 180mm Dia PVC pipes (1.50m x 6Nos = 9m)	9		m	
	Supply and delivery of 180mm Dia PVC Coupler	12		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
-	cutting charges for damaged PVC pipes	12		No	
-	cutting charges for New PVC pipes	5		No	
-	Labour charges for Lowering,laying and jointing PVC rigid pipes				
-	Fitter(Pipe laying) - II class	1		No	
-	Plumber - II class	1		No	
-	Rate for 9m length (6 Nos)				
-	Rate for 1m length				
h.	200mm Dia PVC Pipe (4KSC)				
	Total for 6 locations				
-	Supply and delivery of 200mm Dia PVC pipes (1.50m x6 Nos = 9m)	9		m	
-	Supply and delivery of 200mm Dia PVC Coupler	12		No	
-	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
-	Mazdoor catogery - I	2		No	
-	Mazdoor catogery - II	2		No	
-	cutting charges for damaged PVC pipes	12		No	
-	cutting charges for New PVC pipes	5		No	
-	Labour charges for Lowering,laying and jointing PVC rigid pipes				
-	Fitter(Pipe laying) - II class	1		No	
-	Plumber - II class	1		No	
-	Rate for 9m length (6 Nos)				
-	Rate for 1m length				

**DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES
(HSC PIPES, D SYSTEM & P MAIN PIPES)**

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
Replacement of Underground Utilities (HDPE Pipes) damaged during Earthwork excavations for pipe laying works including cost of additional earthwork excavation in all soils, including BT cutting, CC roads , removal of slushy soil and replacing the pipeline with sound pipe, including supply and delivery of HDPE pipes, couplers, jointing materials and required specials, cutting, threading, conveying , laying, jointing and cost of refilling for the additional earthwork etc complete and as directed by the TWAD board officers.					
a.	50mm Dia HDPE Pipe PE 100 -PN 6				
	Total for 8 locations				
	Supply and delivery of 50mm Dia HDPE pipes (PN6) (1.50m x 8 Nos = 12m)	12		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	16		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
b.	63mm Dia HDPE Pipe PE 100 -PN 6				
	Total for 8 locations				
	Supply and delivery of 63mm Dia HDPE pipes (PN6) (1.50m x 8 Nos =12m)	12		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	16		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
c.	75mm Dia HDPE Pipe PE 100 -PN 6				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Total for 8 locations				
	Supply and delivery of 75mm Dia HDPE pipes (PN6) (1.50m x 8 Nos = 12m)	12		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	16		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
d.	90mm Dia HDPE Pipe - PE 100 -PN 6				
	Total for 8 locations				
	Supply and delivery of 90mm Dia HDPE pipes (PN6) (1.50m x 8 Nos = 12m)	12		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	16		No	
	Rate for 12m length (8 Nos)				
	Rate for 1m length				
e.	110mm Dia HDPE Pipe- PE 100 -PN 6				
	Total for 6 locations				
	Supply and delivery of 110mm Dia HDPE pipes (PN6) (1.50m x 6 Nos = 9m)	9		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	12		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
f.	125mm Dia HDPE Pipe - PE 100 -PN 6				
	Total for 6 locations				
	Supply and delivery of 125mm Dia HDPE pipes (PN6) (1.50m x 6 Nos = 9m)	9		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	12		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
g.	140mm Dia HDPE Pipe - PE 100 -PN 6				
	Total for 6 locations (1.50m x 6 Nos)				
	Supply and delivery of 140mm Dia HDPE pipes (PN6) (1.50m x 6 Nos = 9m)	9		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	12		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
h.	160mm Dia HDPE Pipe - PE 100 -PN 6				
	Total for 6 locations				
	Supply and delivery of 160mm Dia HDPE pipes (PN6) (1.50m x 6 Nos = 9m)	9		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Plumber - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	12		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				
i.	200mm Dia HDPE Pipe - PE 100 -PN 6				
	Total for 6 locations				
	Supply and delivery of 200mm Dia HDPE pipes (PN6) (1.50m x 6 Nos = 9m)	9		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged HDPE pipes	12		No	
	cutting charges for New HDPE pipes	6		No	
	Labour charges for Lowering and laying of HDPE pipes				
	Fitter(Pipe laying) - II class	1		No	
	Labour charges for butt fusion/electro fusion welding joints of HDPE pipes	12		No	
	Rate for 9m length (6 Nos)				
	Rate for 1m length				

**DATA FOR REPLACEMENT OF UNDER GROUND UTILITIES
(HSC PIPES, D SYSTEM & P MAIN PIPES)**

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
I.	Replacement of Underground Utilities (AC Pipe) damaged during earthwork excavation for pipe laying works including cost of additional earthwork excavation in all soil strata, including BT/CC road cutting, removal of slushy soil and replacing the pipeline with next available higher size PVC pipe, including supply and delivery of PVC pipes, couplers, jointing materials and required specials, cutting, conveying , laying, jointing and cost of refilling for the additional earthtrench etc complete and as directed by the TWAD board officers.				
a.	80mm Dia AC Pipe				
	Total for 3 locations				
	Supply and delivery of 140 mm Dia PVC pipes (6KSC) (3m x 3 Nos = 9m)	9		m	
	Supply and delivery of 140 mm Dia PVC Coupler	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor category - I	1		No	
	Mazdoor category - II	1		No	
	cutting charges for New AC pipes	6		No	
	cutting charges for New PVC pipes	3		No	
	Labour charges for Lowering, laying and jointing PVC rigid pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Cost of cement	0.0149		tonne	
	Cost of Yarn	1.73		Kg	
	Rate for 9m length (3 Nos)				
	Rate for 1m length				
b.	100mm Dia AC Pipe				
	Total for 3 locations				
	Supply and delivery of 140 mm Dia PVC pipes (6KSC) (3m x 3 Nos = 9m)	9		m	
	Supply and delivery of 140 mm Dia PVC Coupler	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor category - I	2		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Mazdoor catogery - II	3		No	
	cutting charges for damaged AC pipes	6		No	
	cutting charges for New PVC pipes	5		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Cost of cement	0.013		tonne	
	Cost of Yarn	4.42		Kg	
	Rate for 9m length (3 Nos)				
	Rate for 1m length				
c.	125mm Dia AC Pipe				
	Total for 3 locations				
	Supply and delivery of 180mm Dia PVC pipes (6KSC) (3m x 3 Nos = 9m)	9		m	
	Supply and delivery of 180mm Dia PVC Coupler	6		No	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	1.5		No	
	Mazdoor catogery - II	6		No	
	cutting charges for damaged AC pipes	6		No	
	cutting charges for New PVC pipes	4		No	
	Labour charges for Lowering,laying and jointing PVC rigid pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Cost of cement	0.007		tonne	
	Cost of Yarn	1.59		Kg	
	Rate for 9m length (3 Nos)				
	Rate for 1m length				

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
II.	Replacement of Under ground utilities (AC Pipe) Damaged during Earthwork excavations for pipe laying works including cost of additional earthwork excavation in all soil strata, including BT/CC road cutting , removal of slushy soil and replacing the pipeline with next available higher sound DI pipe to suit jointing, including supply and delivery of DI K7 pipes, jointing materials and required specials, cutting, conveying , laying, jointing and cost for refilling the additional earth trench etc complete and as directed by the TWAD board officers.				
a.	150mm Dia AC Pipe				
	Total for 2 locations				
	Supply and delivery of mm 200 Dia DI Pipe(3m x 2 Nos = 6m)	6		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged AC pipes	4		No	
	Labour charges for Lowering, laying and jointing DI pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Labour charges for Cement Joint including cost of cement and yarn	6		No	
	Rate for 6m length (2 Nos)				
	Rate for 1m length				
b.	200mm Dia AC Pipe				
	Total for 2 locations				
	Supply and delivery of 250mm Dia DI S/S Pipe(3m x 2 Nos = 6m)	6		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged AC pipes	4		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Lowering,laying and jointing DI pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Labour charges for Cement Joint including cost of cement and yarn	6		No	
	Rate for 6m length (2 Nos)				
	Rate for 1m length				
c.	250mm Dia AC Pipe				
	Total for 2 locations				
	Supply and delivery of 300 mm Dia DI S/S Pipe (3m x 2 Nos = 6m)	6		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged AC pipes	4		No	
	Labour charges for Lowering,laying and jointing DI pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Labour charges for Cement Joint including cost of cement and yarn	6		No	
	Rate for 6m length (2 Nos)				
	Rate for 1m length				
d.	300 mm Dia AC Pipe				
	Total for 2 locations				
	Supply and delivery of 350 mm Dia DI S/S Pipe (3m x 2 Nos = 6m)	6		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged AC pipes	4		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Lowering,laying and jointing DI pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Labour charges for Cement Joint including cost of cement and yarn	6		No	
	Rate for 6m length (2 Nos)				
	Rate for 1m length				
e.	350mm Dia AC Pipe				
	Total for 2 locations				
	Supply and delivery of 400 mm Dia DI S/S Pipe (3m x 2 Nos =6m)	6		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged AC pipes	4		No	
	Labour charges for Lowering,laying and jointing DI pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Labour charges for Cement Joint including cost of cement and yarn	6		No	
	Rate for 6m length (2 Nos)				
	Rate for 1m length				
f.	400mm Dia AC Pipe				
	Total for 2 locations				
	Supply and delivery of 450mm Dia DI S/S Pipe (3m x 2 Nos = 6m)	6		m	
	Labour charges for Additional Earth work Excavation in all kinds of soils for replacement of damaged pipes				
	Mazdoor catogery - I	2		No	
	Mazdoor catogery - II	2		No	
	cutting charges for damaged AC pipes	4		No	

Sl. No.	Description of item of Work	Quantity	Rate	Unit	Amount
	Labour charges for Lowering,laying and jointing DI pipes				
	Fitter(Pipe laying) - II class	1		No	
	Plumber - II class	1		No	
	Labour charges for Cement Joint including cost of cement and yarn	6		No	
	Rate for 6m length (2 Nos)				
	Rate for 1m length				

