

TENDER DOCUMENT

FOR

Lining, Repair and Construction of Balance Works of Package-1 (RD 0 to 17.16 km) of Right Main Canal & its Structures under North Koel Reservoir Project, Jharkhand

Estimated Cost (Rs. 50.40 Crores)

TENDER NO: WAP/NK/JHK/BALANCE/RMC-PKG-1/2026

PRICE SCHEDULE



(भारत सरकार का उपक्रम-जल शक्ति मंत्रालय)
(A Government of India Undertaking-Ministry of Jal Shakti)

Preamble to the Price Schedule

1. In case of Percentage Rate Tenders, contractor shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Price Schedule; he will be willing to execute the work. The tender submitted shall be treated as invalid if :-
 - The contractor does not quote percentage above/below/ at per on the total amount of tender or any section/sub head of the tender.
 - The percentage above/below/ at per is not quoted in figures & words both on the total amount of tender or any section/sub head of the tender.
 - The percentage quoted above/below/ at per is different in figures & words on the total amount of tender or any section/sub head of the tender.
2. In case the lowest tendered amount (amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/below on estimated cost of tender including all sub sections/sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.
3. In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited.
4. If the revised tendered amount of two more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Evaluation Committee of the Employer and the lowest contractors those have quoted equal amount of their tenders.
5. In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each bidder.
6. Contractor(s), whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.
7. Only percentage rate quoted tenders shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.
8. In Percentage Rate Tender, the tenderer shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.'

should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15P and in case of words, the word 'Rupees' should precede and the word 'Paisha' should be written at the end.

9. Contractor should satisfy himself with the total amount of the contract (as worked out in the Price Schedule) for the execution of the complete work.
10. Any error, if any in the Price Schedule, Design, Drawings to be brought in the notice of WAPCOS on or before Pre-BID meeting.

Note:

1. The estimated amounts for items are given in the Estimate.
2. The tenderer has to quote their offer in percentage above/below/ at-par the estimated amount.
3. The percentage rate shall be quoted up to 2 decimals.
4. **The Percentage (%) rate quoted for the contract shall be inclusive of all charges, except GST @18% as indicated in the Price Schedule.** GST as applicable shall be paid on submission of proof and Bill shall be accepted only after Bill is uploaded at GST Portal, subject to receipt of the same by Employer on back to back terms.
5. **The rate for carriage of materials shall be on actual lead at site at the time of execution, if the lead is more than provided in the BOQ, nothing will be paid extra. However, if the lead is less than the BOQ, then a proportionate rate will be deducted.**
6. **The final rates on which the works is to be executed are to be approved by the competent authority based on the Financial Bids submitted by the Bidders. In case any item scheduled/non-scheduled whose rates have not been included in the BOQ, then the rate shall be decided by the competent authority for payment.**
7. The payment will be made as per the actual work done and item wise measurement basis.
8. Rate filled at any other place in the document shall not be considered.
9. Where there is a discrepancy between the words and figures, the lesser of the two will only be taken in to consideration.
10. Where there is an arithmetical discrepancy in the page total as well as grand total, the corrected total by the Employer will govern.
11. The rates quoted shall be for carrying out the work in conformity to the IS Standards and Technical Specifications and other Terms and Conditions set out in the Bid Document
12. All pages in the BOQ should be signed without omission. All corrections/over writing should be properly attested by the Bidder.
13. Change in the Quantities - If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item/items, the rates as in the agreement for the relevant items shall be paid.
14. The Method of measurement of completed work for payment shall be in accordance with the requirement as stated in the individual section of Technical Specifications or as per CPWD Specifications.
15. The contractor shall carry out the site establishment works/temporary works at his own cost. Nothing shall be paid over and above the contract amount.
16. **The rates quoted by the bidder shall be deemed to include all costs related to leads and lifts of disposal of earth work required for the proper execution of the work, as described in the BOQ. If the actual lead and lift is more than provided in the BOQ, nothing will be paid extra and No extra payment shall be made whatsoever admissible on these accounts.**
17. **The rates quoted by the bidder shall be deemed to include all costs related to dewatering (including above nominal) and shoring (including above nominal) that is necessary for the execution of works. No extra payment shall be made whatsoever admissible on these accounts.**

ABSTRACT OF COST				
Name of Work: Balance Works of Lining, Repair & Construction of Right Main Canal and its Structures from 0 to 17.16 km under North Koel Reservoir Project, Jharkhand & Bihar Estimated Cost (Rs. 50.40 Cr)				
Sr. No.	Schedule No.	Name of Component	Amount (Rs.) (in Figures)	Amount (in Words)
1.	Schedule 1 A	Preliminary (Fixing Distance Marks and Boundary Pillars)	₹ 70,835.00	Seventy Thousand Eight Hundred Thirty Five Only
2.	Schedule 1 B	Earthwork	₹ 3,41,13,706.00	Three Crore Fourty One Lakh Thirteen Thousand Seven Hundred Six Only
3.	Schedule 1 C	Lining	₹ 29,12,74,158.00	Twenty Nine Crore Twelve Lakh Seventy Four Thousand One Hundred Fifty Eight Only
4.	Schedule 1 D	Catch water Drain	₹ 1,55,65,823.00	One Crore Fifty Five Lakh Sixty Five Thousand Eight Hundred Twenty Three Only
5.	Schedule 1 E	Aqueducts (4 nos.)	₹ 4,64,08,179.00	Four Crore Sixty Four Lakhs Eight Thousand One Hundred Seventy Nine Only
6.	Schedule 1 F	Cross Regulators (2 nos.)	₹ 3,07,31,347.00	Three Crore Seven Lakh Thirty One Thousand Three Hundred Forty Seven Only
7.	Schedule 1 G	Bridges (7 nos.) & Super Passages (2 nos.)	₹ 7,94,96,902.00	Seven Crore Ninety Four Lakh Ninety Six Thousand Nine Hundred Two Only
8.	Schedule 1 H	Demolition of Bridges (7 nos.) & Super Passages (2 nos.)	₹ 8,11,098.00	Eight Lakh Eleven Thousand Ninety Eight Only
9.	Schedule 1 I	Diversion of Bridges	₹ 55,28,813.00	Fifty Five Lakh Twenty Eight Thousand Eight Hundred Thirteen Only
Total			₹ 50,40,00,861.00	

Schedule 1 A-Preliminary (Fixing Distance Marks and Boundary Pillars)

S. No.	Description	Unit	Quantity	Jharkhand SR 2018 Rate (Rs)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance upto 50 mtr and average lift of 1.5 mtr including leveling, removing the roots of shrubs etc. all complete as per specification and direction of E/I.(SR. 7.1.27)	M ³	1.19	115.00	136.51
2	Providing and laying P.C.C. or R.C.C. with nominal mix 1:2:4 in superstructure of various component of canal taxes etc.all complete as per specification and direction of E/I.orembankment structure with approved quality of graded coarse aggregate of required grade(as per design) and approved quality of sand tools and plants,vibrating,curing,royalty and all taxes etc.all complete as per specification and direction of E/I. (7.3.9)	M ³	0.22	4909	1,079.98
3	Providing and laying P.C.C. or R.C.C. M10 with nominal mix 1:3:6 in foundation of various component of canal orembankment structure with approved quality of graded coarse aggregate of required grade(as per design) and approved quality of sand tools and plants,vibrating,curing,royalty and all taxes etc.all complete as per specification and direction of E/I. (SR 7.3.3)	M ³	0.00	4257	0.00
4	Providing MS reinforcement (FE 500) as per approved design drawing removal rust cutting, bending, binding including supplying annealed wire, playing MS rods in position complete job as per specification and direction of E/I (7.3.22)				
	i) 8mm dia bar	MT	0.170	68705	11,679.85
5	Providing shuttering including centering, etc and its removal after use in various components of canal structures or embankment structure as per specification and direction of E/I (7.3.19)	M ²	25.29	388	9,812.52
6	Carriage of materials.				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	M ³	1.40	743.04	1,040.26
	Stone chips+Metal (40 Km lead)	M ³	2.80	894.84	2,501.08
	Cement (105 Km lead)	MT	41.19	1079.77	44,475.73
	Steel (55 km)	MT	0.17	644.17	109.51
	Total				70,835.42

Schedule 1 B-Earthwork

S. No.	Description	Unit	Quantity	Jharkhand SR 2018 Rate (Rs)	Amount (Rs)
1	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including levelling all complete as per specification and direction of E/I (SR No. 7.1.2)	M ²	280200	2	560400
2	Earth work in excavation of canals and dhars carrying minimum full supply discharge above 28 cumecs (1000 cusecs) in ordinary soil (vide soil A) and making banks with excavated earth in proper profile and laying earth in 225 mm layers and rough dressing with initial lead of 30 m and lift of 1.5m. all complete as per specification and direction of E/I(7.1.6) (Excluding Royalty of Rs 22/-)	M ³	2,91,569.63	99	28865393
3	Earthwork in lip cutting in side slopes and bed of canals in ordinary soil with initial lead of 30m and lift of 1.5m including the cost of formation of subgrade of canal lining profile levelling, controlling of slopes and fine dressing, disposal of excavated earth and nominal dewatering if any all complete as per approved design, specification and direction of E/I (7.1.21)	M ³	40764.46	115	4687913
		Total			3,41,13,706.27

Schedule 1 C-Lining

S. No.	Description	Quantity	Unit	Jharkhand SR 2018 Rate (Rs)	Amount (Rs)
1	Providing and laying CNS layer of approved quality(60% moorum and 40% local sand) on the earth subgrade in a layer of 750 mm & 200 mm outside lining Zone compaction watering etc all complete as per direction of E/I-As per Analysis of rate given in DPR(Bihar)-Page No. L-15	17,362.41	M³	332.6	57,74,737.57
2	Provision for providing Transverse porous concrete sleeper for under drainage arrangement E/I.(Analysis derived from Bihar SoR 5.3.2)	1,202.33	M³	3344	40,20,591.52
3	Providing and Laying non wooven Geo Synthetic Filters (for Transverse Sleeper) as per ISO-9863 5mm thick for wrapping Porous Sleeper in the bed of Canal and side slope as per specification of E/I (Analysis Derived from 5.2.23	40,244.88	Sqm	73	29,37,876.24
4	Providing M 100 with nominal mix 1:3:6 with well graded stone chips (20mm and down) and coarse sand of approved quality and of requisite FM in coping of the canal in panels with construction joints including cost of formwork and its removal curing, royalty and all taxes etc.all complete as per specification and direction of E/I. (SR 7.2.19)	1,230.60	M³	6800	83,68,080.00
5	Providing and laying (in position) design mix concrete M-15 using cement concrete not less than minimum cement as specified in IS 456: 2000 manufactured in fully automatic batching plant and transported to site of work in transit mixer having continous agitated mixer, manufactured as per design of specified grade and laying the same with paver or by other means (wherever laying of concrete with paver is not possbile) for cement concrete lining 100mm thick including cost of admixtures in recommended proportions as per IS-9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and duability including cost of cutting grooves and inserting PVC water stop seals (excluding cost of PVC seals) for joints, supply , carriage , all leads and lifts, loading and unloading of all materials , curing , all taxes etc.all complete as per specification and direction of E/I. (Fresh Lining)	23,903.57	M³	7361	17,59,54,178.77
6	Extra for Lining with Pavers and Design Mix (As per Morth)	2,41,652.86	M²	41.40	1,00,04,428.40
7	Providing longitudinal porous concrete sleepers with 7.7cm*20cm on both sides along the bed 1:4(1-Cement and 4-Aggregate) with Water/Cement ratio=0.27-0.34 of graded coarse aggregate including necessary tools and plants, curing, royalty and all taxes as per specification and direction of E/I.(Analysis derived from Bihar SoR 5.3.2)	296	M³	3344	9,88,988.00
8	Providing and Laying non wooven Geo Synthetic Filters (around Longitudinal Sleeper) as per ISO-9863 5mm thick for wrapping Porous Sleeper in the bed of Canal and side slope as per specification of E/I (Analysis Derived from 5.2.23	9610	Sqm	73	7,01,561.39
9	Providing 50mm dia perforated GI/Steel Pipes with a total length of 120mm E/I (Chapter I -Approved Rates of Materials-S.no-M-175	2855	M	221.316	6,31,936.85
10	Providing LDPE film (50 Microns) @46gm/sqm in the bed of the canal and side slope and under coping as per specifications and direction of E/I including 5% for overlap and wastage. (As per Bihar SoR 5.2.23)	252539	Sqm	22.87	57,75,576.99

11	Supplying, fitting & fixing rubber water Stop of approved quality for construction joint complete job as per drawing, design , specification (IS 15058:2000) and instruction of E/I (As per Jharkhand Sor 2018-7.8.2)				
	For longitudinal Joint	78,934.85	M	113.00	89,19,638.05
	For Transverse Joint	58,564.69	M	113.00	66,17,809.97
12	Providing safety Ladder in lined section of canal with MS rod embeded in cement concrete (1:3:6) in accordance with IS 3812:1966 including royalty , all taxes etc. all complete as per specification and direction of E/I (7.2.17)	29	Nos	7624	2,21,096.00
13	Dismantling of Tiles (As per Bihar Sor 5.8.7)	7219.35	M³	401.1	28,95,681.29
14	Credit for tiles to be available as 60% which can be either sold or be used at a depreciated value of 50%	120323	Each	-27.88	-33,54,591.30
15	Carriage of materials(As per Jharkhand SoR 2018)				
	Moorum (15Km lead)	17,974.48	M³	378.01	67,94,533.18
	Local sand (5K+5P)(Taken the rates of Stone Chips)	37,307.31	M³	404.28	1,50,82,599.29
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	9,618.30	M³	743.04	71,46,781.63
	Stone chips+Metal (35Km + 5(k)lead)	25,092.24	M³	894.84	2,24,53,540.04
	Cement (100 km + 5Km (K) lead)	8649.17	MT	1079.77	93,39,114.29
		Total			29,12,74,158.18

Schedule 1 D- Catch water Drain					
S.No.	Description of Items	Quantity	Unit	Jharkhand SR 2018	Amount (in Rs)
1	Earthwork in excavation of canals and dhars carrying minimum full supply discharge above 28 cumecs in ordinary soil (vide classification of soil item-A) and making the banks with excavated earth in proper profile and clod breaking and laying earth in 225 mm layers with an initial lead of 30 m and lift of 1.5 m, all complete as per approved design, specification and direction of E/I (7.1.6)	5,594.24	M ³	121	6,76,902.83
2	Dismantling of pucca brick or lime work including stacking(Precast Lining of Canals 50mm thick) serviceable materials in countable stacks within 15 meter lead and disposal of unserviceable materials with all leads, as per building specifications and direction of E/I dismantled from existing lining of Right Main Canal to be used in Catch Water Drain(Bihar SoR 2017 5.8.7)	1,10,993.55	M ²	20.06	22,25,975.57
3	Laying of 600 mm*525mm*55mm; 600mm*450mm*55mm;600mm*425mm*55mm size precast P.C.C. slab in side slopes and berm of canal with groove of the slab and lug slab set in C.M.(1:3) and flush pointing (1:2) including royalty, all taxes,etc. but excluding the cost of precast slabs all complete as per specification and direction of E/I.(7.2.18)	1,10,993.55	M ²	110.00	1,22,09,290.06
4	Carriage of Materials				
	1) cement (105 km on surface road)	190.18	MT	1079.77	205349.98
	2) sand (C) (30 km on surface road)(Taken the rates of Stone Chips)	334.17	M ³	743.04	248304.74
		Total			1,55,65,823.17

Schedule 1 E- Aqueducts (4 nos.)

Cost Estimate					
RD_ 3.18 AQUEDUCT					
S. No.	Description	Quantity	Unit	SR 2018	Amount (INR)
1	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including levelling all complete as per specification and direction of E/I (SR No. 7.1.2)	363	m ²	2.00	726
2	Earthwork in foundation trenches in ordinary soil (vide classification of soil item-A) and disposal of excavated earth so obtained to a distance upto 50m and average lift of 1.5m including levelling, ramming the foundation trenches removing the roots and shrubs, etc. all complete as per specifications and direction of E/I. E/I(7.1.6)	1074	m ³	121.00	1,29,954
3	Extra for earthwork in marshy, slushy and daldal soil all complete as per specification and direction of E/I-7.1.11	107	m ³	22.00	2,354
4	Earthwork in filling and foundation trenches and back filling of structures in layer not exceeding 150 mm thick well watered rammed and fully compacted and finely dressed with suitable earth obtained from excavation on of foundation trenches and placed in suitable profile with a lead of 30m and lift of 1.5m complete job as per specification and direction of E/I-7.1.31	543	m ³	88.00	47,784
5	Providing and laying PCC M-10 in foundation with approved quality of 40 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.3	12	m ³	4,257.00	51,084
6	Providing RCC M-25 in superstructure with approved quality of 20 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.11				
	a. Canal Section	572	m ³	6,570.00	37,58,040
7	Providing shuttering including strutting propping etc. and its removal after use in foundation as per specification and direction of E/I-7.3.19	1002	m ²	388.00	3,88,776
8	Providing centering including strutting and propping etc. and removal after use in deck slab as per specification and direction of E/I-7.3.20	189	m ²	523.00	98,847
9	Providing MS reinforcement (Fe 500) as per approved design drawing removal rust cutting, bending, binding including supplying annealed wire, playing MS rods in position complete job as per specification and direction of E/I-7.3.22a	53.60	MT	66,535.00	35,66,276
10	Supplying fitting and fixing rubber seal (water stop) of approved quality for construction joints complete job as per specification of E/I-7.8.2	74	Rm	113.00	8,362
11	Providing and fixing in position 25mm thick bituminastic board (shalltiex or equivalent) as per I.S. 1838-1938 in expansion or construction joints all complete job as per specification and direction of E/I-7.8.3	145	m ²	976.00	1,41,520
12	Elastomeric Bearing E/I-M-066	216000	cm ³	0.54	1,16,640
13	Demolition of existing wing wall and disposing the debris to the designated dumping site(CPWD 15.2.1)	173	m ³	997.05	1,72,490
14	Scrap Value of Debris(M-199)	173	m3	721.00	-1,24,733
15	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	228.60	M ³	743.04	1,69,859
	Stone chips+Metal (35Km + 5(k)lead)	457.20	M ³	894.84	4,09,121
	Cement (100 km + 5Km (K) lead)	322.96	MT	1079.77	3,48,723
	Steel (55 km)	53.60	MT	644.17	34,528
	Total				93,20,350

Cost Estimate					
RD_ 13.72 AQUEDUCT					
S. No.	Description	Quantity	Unit	SR 2018	Amount (INR)
1	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including levelling all complete as per specification and direction of E/I (SR No. 7.1.2)	605	m ²	2.00	1,210
2	Earthwork in foundation trenches in ordinary soil (vide classification of soil item-A) and disposal of excavated earth so obtained to a distance upto 50m and average lift of 1.5m including levelling, ramming the foundation trenches removing the roots and shrubs, etc. all complete as per specifications and direction of E/I. E/I(7.1.6)	1962	m ³	121.00	2,37,402
3	Extra for earthwork in marshy, slushy and daladal soil all complete as per specification and direction of E/I-7.1.11	196	m ³	22.00	4,312
4	Earthwork in filling and foundation trenches and back filling of structures in layer not exceeding 150 mm thick well watered rammed and fully compacted and finely dressed with suitable earth obtained from excavation on of foundation trenches and placed in suitable profile with a lead of 30m and lift of 1.5m complete job as per specification and direction of E/I-7.1.31	942	m ³	88.00	82,896
5	Providing and laying PCC M-10 in foundation with approved quality of 40 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.3	20	m ³	4,257.00	85,140
6	Providing RCC M-25 in superstructure with approved quality of 20 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.11				
	a. Canal Section	913	m ³	6,570.00	59,98,410
7	Providing shuttering including strutting propping etc. and its removal after use in foundation as per specification and direction of E/I-7.3.19	1652	m ²	388.00	6,40,976
8	Providing centering including strutting and propping etc. and removal after use in deck slab as per specification and direction of E/I-7.3.20	233	m ²	523.00	1,21,859
9	Providing MS reinforcement (Fe 500) as per approved design drawing removal rust cutting, bending, binding including supplying annealed wire, playing MS rods in position complete job as per specification and direction of E/I-7.3.22a	79.70	MT	66,535.00	53,02,840
10	Supplying fitting and fixing rubber seal (water stop) of approved quality for construction joints complete job as per specification of E/I-7.8.2	90	Rm	113.00	10,170
11	Providing and fixing in position 25mm thick bituminastic board (shalltiex or equivalent) as per I.S. 1838-1938 in expansion or construction joints all complete job as per specification and direction of E/I-7.8.3	188	m ²	976.00	1,83,488
12	Elastomeric Bearing E/I-M-066	324000	cm ³	0.54	1,74,960
13	Demolition of existing wing wall and disposing the debris to the designated dumping site(CPWD 15.2.1)	318	m ³	997.05	3,17,062
14	Scrap Value of Debris(M-199)	318	m ³	721.00	-2,29,278
15	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	365.27	M ³	743.04	2,71,410
	Stone chips+Metal (35Km + 5(k)lead)	730.54	M ³	894.84	6,53,716
	Cement (100 km + 5Km (K) lead)	515.68	MT	1079.77	5,56,817
	Steel (55 km)	79.70	MT	644.17	51,341
				Total	1,44,64,730

Cost Estimate					
RD_ 14.39 AQUEDUCT					
S. No.	Description	Quantity	Unit	SR 2018	Amount (INR)
1	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including levelling all complete as per specification and direction of E/I (SR No. 7.1.2)	524	m ²	2.00	1,048
2	Earthwork in foundation trenches in ordinary soil (vide classification of soil item-A) and disposal of excavated earth so obtained to a distance upto 50m and average lift of 1.5m including levelling, ramming the foundation trenches removing the roots and shrubs, etc. all complete as per specifications and direction of E/I. E/I(7.1.6)	1849	m ³	121.00	2,23,729
3	Extra for earthwork in marshy, slushy and daldal soil all complete as per specification and direction of E/I-7.1.11	185	m ³	22.00	4,070
4	Earthwork in filling and foundation trenches and back filling of structures in layer not exceeding 150 mm thick well watered rammed and fully compacted and finely dressed with suitable earth obtained from excavation on of foundation trenches and placed in suitable profile with a lead of 30m and lift of 1.5m complete job as per specification and direction of E/I-7.1.31	962	m ³	88.00	84,656
5	Providing and laying PCC M-10 in foundation with approved quality of 40 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.3	23	m ³	4,257.00	97,911
6	Providing RCC M-25 in superstructure with approved quality of 20 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.11				
	a. Canal Section	822	m ³	6,570.00	54,00,540
7	Providing shuttering including strutting propping etc. and its removal after use in foundation as per specification and direction of E/I-7.3.19	1402	m ²	388.00	5,43,976
8	Providing centering including strutting and propping etc. and removal after use in deck slab as per specification and direction of E/I-7.3.20	234	m ²	523.00	1,22,382
9	Providing MS reinforcement (Fe 500) as per approved design drawing removal rust cutting, bending, binding including supplying annealed wire, playing MS rods in position complete job as per specification and direction of E/I-7.3.22a	84.10	MT	66,535.00	55,95,594
10	Supplying fitting and fixing rubber seal (water stop) of approved quality for construction joints complete job as per specification of E/I-7.8.2	90	Rm	113.00	10,170
11	Providing and fixing in position 25mm thick bituminastic board (shalltex or equivalent) as per I.S. 1838-1938 in expansion or construction joints all complete job as per specification and direction of E/I-7.8.3	189	m ²	976.00	1,84,464
12	Elastomeric Bearing E/I-M-066	324000	cm ³	0.54	1,74,960
13	Demolition of existing wing wall and disposing the debris to the designated dumping site(CPWD 15.2.1)	239	m ³	997.05	2,38,295
14	Scrap Value of Debris(M-199)	239	m ³	721.00	-1,72,319
15	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	331.16	M ³	743.04	2,46,065
	Stone chips+Metal (35Km + 5(k)lead)	662.32	M ³	894.84	5,92,670
	Cement (100 km + 5Km (K) lead)	465.38	MT	1079.77	5,02,504
	Steel (55 km)	84.10	MT	644.17	54,175
				Total	1,39,04,890

Cost Estimate					
RD_ 16.62 AQUEDUCT					
S. No.	Description	Quantity	Unit	SR 2018	Amount (INR)
1	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including levelling all complete as per specification and direction of E/I (SR No. 7.1.2)	364	m ²	2.00	728
2	Earthwork in foundation trenches in ordinary soil (vide classification of soil item-A) and disposal of excavated earth so obtained to a distance upto 50m and average lift of 1.5m including levelling, ramming the foundation trenches removing the roots and shrubs, etc. all complete as per specifications and direction of E/I. E/I(7.1.6)	1076	m ³	121.00	1,30,196
3	Extra for earthwork in marshy, slushy and daldal soil all complete as per specification and direction of E/I-7.1.11	108	m ³	22.00	2,376
4	Earthwork in filling and foundation trenches and back filling of structures in layer not exceeding 150 mm thick well watered rammed and fully compacted and finely dressed with suitable earth obtained from excavation on of foundation trenches and placed in suitable profile with a lead of 30m and lift of 1.5m complete job as per specification and direction of E/I-7.1.31	488	m ³	88.00	42,944
5	Providing and laying PCC M-10 in foundation with approved quality of 40 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.3	10	m ³	4,257.00	42,570
6	Providing RCC M-25 in superstructure with approved quality of 20 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.11				
	a. Canal Section	579	m ³	6,570.00	38,04,030
7	Providing shuttering including strutting propping etc. and its removal after use in foundation as per specification and direction of E/I-7.3.19	1037	m ²	388.00	4,02,356
8	Providing centering including strutting and propping etc. and removal after use in deck slab as per specification and direction of E/I-7.3.20	219	m ²	523.00	1,14,537
9	Providing MS reinforcement (Fe 500) as per approved design drawing removal rust cutting, bending, binding including supplying annealed wire, playing MS rods in position complete job as per specification and direction of E/I-7.3.22a	43.80	MT	66,535.00	29,14,233
10	Supplying fitting and fixing rubber seal (water stop) of approved quality for construction joints complete job as per specification of E/I-7.8.2	73	Rm	113.00	8,249
11	Providing and fixing in position 25mm thick bituminastic board (shalltex or equivalent) as per I.S. 1838-1938 in expansion or construction joints all complete job as per specification and direction of E/I-7.8.3	120	m ²	976.00	1,17,120
12	Elastomeric Bearing E/I-M-066	216000	cm ³	0.54	1,16,640
13	Demolition of existing wing wall and disposing the debris to the designated dumping site(CPWD 15.2.1)	210	m ³	997.05	2,09,381
14	Scrap Value of Debris(M-199)	210	m ³	721.00	-1,51,410
15	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	230.41	M ³	743.04	1,71,204
	Stone chips+Metal (35Km + 5(k)lead)	460.82	M ³	894.84	4,12,360
	Cement (100 km + 5Km (K) lead)	326.44	MT	1079.77	3,52,481
	Steel (55 km)	43.80	MT	644.17	28,215
				Total	87,18,209

**Schedule 1 F- Cross
Regulators (2 nos.)**

Cost Estimate					
RD 8.99 Cross regulator					
S. No.	Description	Quantity	Unit	SR 2018	Amount (INR)
1	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including levelling all complete as per specification and direction of E/I (SR No. 7.1.2)	370	m ²	2.00	740
2	Earthwork in foundation trenches in ordinary soil (vide classification of soil item-A) and disposal of excavated earth so obtained to a distance upto 50m and average lift of 1.5m including levelling, ramming the foundation trenches removing the roots and shrubs, etc. all complete as per specifications and direction of E/I. E/I(7.1.6)	2588	m ³	121.00	3,13,148
3	Extra for earthwork in marshy, slushy and daldal soil all complete as per specification and direction of E/I-7.1.11	260	m ³	22.00	5,720
4	Earthwork in filling and foundation trenches and back filling of structures in layer not exceeding 150 mm thick well watered rammed and fully compacted and finely dressed with suitable earth obtained from excavation on of foundation trenches and placed in suitable profile with a lead of 30m and lift of 1.5m complete job as per specification and direction of E/I-7.1.31	426	m ³	88.00	37,488
5	Providing and laying PCC M-10 in foundation with approved quality of 40 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.3	22	m ³	4,257.00	93,654
6	Providing RCC M-25 in superstructure with approved quality of 20 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.11				
	a. Pier	269	m ³	6,570.00	17,67,330
	b. Parapet wall	10	m ³	6,570.00	65,700
	c. Deck slab	36	m ³	6,570.00	2,36,520
	d. Canal lining	309	m ³	6,570.00	20,30,130
	e. Bottom raft	303	m ³	6,570.00	19,90,710
7	Providing shuttering including strutting propping etc. and its removal after use in foundation as per specification and direction of E/I-7.3.19	1157	m ²	388.00	4,48,916
8	Providing centering including strutting and propping etc. and removal after use in deck slab as per specification and direction of E/I-7.3.20	90	m ²	523.00	47,070
9	Providing MS reinforcement (Fe 500) as per approved design drawing removal rust cutting, bending, binding including supplying annealed wire, playing MS rods in position complete job as per specification and direction of E/I-7.3.22a	51.6	MT	66,535.00	34,33,206
10	Providing and fixing in position 25mm thick bituminastic board (shalltiex or equivalent) as per I.S. 1838-1938 in expansion or construction joints all complete job as per specification and direction of E/I-7.8.3	19	m ²	976.00	18,544
11	H-M Works (Gates-9 Tonne each)	3	Nos	10,60,402.24	31,81,207
12	Chain pully block for Hoisting arrange for the gates(20T Capacity)	3	Nos	1,00,000.00	3,00,000
13	Structural steel (Chequered Plate, Steps, etc.) (M-179)	1.97	MT	52,042.19	1,02,444
14	Demolition of existing wing wall and disposing the debris to the designated dumping site(CPWD 15.2.1)	463	m ³	997.05	4,61,634
15	Scrap Value of Debris(M-199)	463	m ³	721.00	-3,33,823
16	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	371.65	m ³	743.04	2,76,151
17	Stone chips+Metal (35Km + 5(k)lead)	743.30	m ³	894.84	6,65,135
18	Cement (100 km + 5Km (K) lead)	523.96	MT	1079.77	5,65,757
19	Steel (55 km)	51.60	MT	644.17	33,239
20	Providing paper bearing of reinforced bitumen laminated craft 140 G.S.M paper conforming to IS 1398.	3562.50	m ²	50.00	1,78,125
				Total	1,59,18,745
21	Salvage value for the existing gates and its embeded parts	3	Nos	72,611	2,17,834
				Total	1,57,00,911

Cost Estimate					
RD 13.3 Cross regulator					
S. No.	Description	Quantity	Unit	SR 2018	Amount (INR)
1	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including levelling all complete as per specification and direction of E/I (SR No. 7.1.2)	200	m ²	2.00	400
2	Earthwork in foundation trenches in ordinary soil (vide classification of soil item-A) and disposal of excavated earth so obtained to a distance upto 50m and average lift of 1.5m including levelling, ramming the foundation trenches removing the roots and shrubs, etc. all complete as per specifications and direction of E/I. E/I/(7.1.6)	1841	m ³	121.00	2,22,761
4	Extra for earthwork in marshy, slushy and daldal soil all complete as per specification and direction of E/I-7.1.11	185	m ³	22.00	4,070
5	Earthwork in filling and foundation trenches and back filling of structures in layer not exceeding 150 mm thick well watered rammed and fully compacted and finely dressed with suitable earth obtained from excavation on of foundation trenches and placed in suitable profile with a lead of 30m and lift of 1.5m complete job as per specification and direction of E/I-7.1.31	389	m ³	88.00	34,232
6	Providing and laying PCC M-10 in foundation with approved quality of 40 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.3	22	m ³	4,257.00	93,654
7	Providing RCC M-25 in superstructure with approved quality of 20 mm graded coarse aggregate or required grade (as per design) and approved quality of sand of requisite FM (2.5 to 3.0) washed and screened including necessary tools and plants, vibrating curing royalty and all taxes etc. excluding cost of form works as well reinforcement its cutting binding and placing complete job as per specification and direction of E/I-7.3.11				
	a. Pier	238	m ³	6,570.00	15,63,660
	b. Parapet wall	10	m ³	6,570.00	65,700
	c. Deck slab	36	m ³	6,570.00	2,36,520
	d. Canal lining	313	m ³	6,570.00	20,56,410
	e. Bottom raft	303	m ⁴	6,570.00	19,90,710
8	Providing shuttering including strutting propping etc. and its removal after use in foundation as per specification and direction of E/I-7.3.19	1001	m ²	388.00	3,88,388
9	Providing centering including strutting and propping etc. and removal after use in deck slab as per specification and direction of E/I-7.3.20	90	m ²	523.00	47,070
10	Providing MS reinforcement (Fe 500) as per approved design drawing removal rust cutting, bending, binding including supplying annealed wire, playing MS rods in position complete job as per specification and direction of E/I-7.3.22a	47.4	MT	66,535.00	31,53,759
11	Providing and fixing in position 25mm thick bituminastic board (shalltiex or equivalent) as per I.S. 1838-1938 in expansion or construction joints all complete job as per specification and direction of E/I-7.8.3	19	m ²	976.00	18,544
12	H-M Works (Gates-9 Tonne each)	3	Nos	10,62,743.09	31,88,229
13	Chain pully block for Hoisting arrange for the gates(20T Capacity)	3	Nos	1,00,000.00	3,00,000
14	Structural steel-(Checquered Plate, Steps, etc.) (M-179)	2.30	MT	52,042.19	1,19,697
15	Demolition of existing wing wall and disposing the debris to the designated dumping site(CPWD 15.2.1)	370	m ³	997.05	3,68,909
16	Scrap Value of Debris(M-199)	370	m ³	721.00	-2,66,770
17	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	361.12	m ³	743.04	2,68,327
18	Stone chips+Metal (35Km + 5(k)lead)	722.24	m ³	894.84	6,46,289
19	Cement (100 km + 5Km (K) lead)	508.84	MT	1079.77	5,49,431
20	Steel (55 km)	47.40	MT	644.17	30,534
21	Providing paper bearing of reinforced bitumen laminated craft 140 G.S.M paper conforming to IS 1398.	3563.00	m ²	50.00	1,78,150
				Total	1,52,58,674
22	Salvage value for the existing gates and its embeded parts	3	Nos	76,079	2,28,238
Total					1,50,30,436

NORTH KOEL					
ESTIMATE FOR SINGLE LANE BRIDGE WITH TWO BEAMS (Km: 2.560)					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	1401.45	Cum	121.00	169574.85
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	58.32	Cum	4909.00	286311.73
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	360.05	Cum	6743.95	2428140.08
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	27.03	Cum	6674.50	180444.94
5	Providing & laying P.C.C. or R.C.C. M-250 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M. (2.5 to 3.0) washed and screened including necessary tools & plants, vibrating, curing royalty etc. excluding cost of form work as well as reinforcement, its cutting bending, binding & placing complete as per specification & direction of E/I. (7.3.6)	297.53	Cum	6605.00	1965186.51
6	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	68.65	MT	66535.00	4567908.90
7	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	676.11	Sqm	388.00	262332.60
8	Providing centering including strutting, propping etc & removing after use in deck slab as per specifications & directions of E/I. (7.3.20)	583.85	Sqm	523.00	305353.66

9	Bearing (Elastomeric Bearing assembly consisting of 7 internal layers of slastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation,)(M-066)+ Fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRTH specifications (Excluding Cost of Bearing) complete including all accessories as per drawing and Technical Specifications (U.K.PWD S.O.R. Sl. No. 13-14, Pg. No. 58)	129024	Cucm	0.57	73543.68
10	Providing Drainage Spouts complete as per drawings & technical specifications & as per clause 2705 of specifications. (G.O.M.P. I.S.S.R. V-3, R&B, Ch-15, S.L.No. 15.9, Pg. 105)	8	No.	881.00	7048.00
11	Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised wieldable structural steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm (U.K.PWD S.O.R. Sl. No. 14-17, Pg. No. 64)	12.978	R.M.	1577.6	20474.09
12	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prpfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	590.73	Cum	107.00	63207.58
13	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	291.49	Cum	682.06	198815.78
	Coarse Aggregates (40 Km lead)	583.57	Cum	894.84	522204.32
	Cement (100 km + 5Km (K) lead)	348.15	MT	1079.77	375919.15
	Steel (55 Km)	68.6542	MT	644.21	44227.60
TOTAL (In Rs.)					11470693.45

NORTH KOEL					
ESTIMATE FOR DOUBLE LANE BRIDGE (Km: 3.597)					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a diustance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	1713.84	Cum	121.00	207374.88
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	74.21	Cum	4909.00	364297.68
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requiste Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	475.79	Cum	6743.95	3208692.70
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requiste Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	32.77	Cum	6674.50	218732.51
5	Providing & laying P.C.C. or R.C.C. M-250 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M. (2.5 to 3.0) washed and screened including necessary tools & plants, vibrating, curing royalty etc. excluding cost of form work as well as reinforcement, its cutting bending, binding & placing complete as per specification & direction of E/I. (7.3.6)	329.36	Cum	6605.00	2175453.63
6	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	79.70	MT	66535.00	5302894.83
7	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	735.99	Sqm	388.00	285565.78
8	Providing centering including strutting, propping etc & removing after use in deck slab as per specifications & directions of E/I. (7.3.20)	747.96	Sqm	523.00	391185.58

9	Bearing (Elastomeric Bearing assembly consisting of 7 internal layers of slastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation,)(M-066)+ Fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRTH specifications (Excluding Cost of Bearing) complete including all accessories as per drawing and Technical Specifications (U.K.PWD S.O.R. Sl. No. 13-14, Pg. No. 58)	172032	Cucm	0.57	98058.24
10	Providing Drainage Spouts complete as per drawings & techincal specifications & as per clause 2705 of specifications. (G.O.M.P. I.S.S.R. V-3, R&B, Ch-15, S.L.No. 15.9, Pg. 105)	10	No.	881.00	8810.00
11	Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised wieldable structural steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm (U.K.PWD S.O.R. Sl. No. 14-17, Pg. No. 64)	19.832	R.M.	1577.6	31286.96
12	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	742.49	Cum	107.00	79446.11
13	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	357.96	Cum	682.06	244147.93
	Coarse Aggregates (40 Km lead)	716.66	Cum	894.84	641295.71
	Cement (100 km + 5Km (K) lead)	430.57	MT	1079.77	464913.88
	Steel (55 Km)	79.70	MT	644.21	51343.91
TOTAL (In Rs.)					13773500.33

NORTH KOEL					
ESTIMATE FOR SINGLE LANE BRIDGE WITH THREE BEAMS (Km: 5.95)					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	860.73	Cum	121.00	104147.73
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	39.37	Cum	4909.00	193247.69
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	246.77	Cum	6743.95	1664202.99
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	19.75	Cum	6674.50	131817.35
5	Providing & laying P.C.C. or R.C.C. M-250 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M. (2.5 to 3.0) washed and screened including necessary tools & plants, vibrating, curing royalty etc. excluding cost of form work as well as reinforcement, its cutting bending, binding & placing complete as per specification & direction of E/I. (7.3.6)	147.98	Cum	6605.00	977381.31
6	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	42.32	MT	66535.00	2815763.88
7	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	432.76	Sqm	388.00	167908.94
8	Providing centering including strutting, propping etc & removing after use in deck slab as per specifications & directions of E/I. (7.3.20)	396.59	Sqm	523.00	207416.35

9	Bearing (Elastomeric Bearing assembly consisting of 7 internal layers of slastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation,)(M-066)+ Fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRTH specifications (Excluding Cost of Bearing) complete including all accessories as per drawing and Technical Specifications (U.K.PWD S.O.R. Sl. No. 13-14, Pg. No. 58)	129024	Cucm	0.57	73543.68
10	Providing Drainage Spouts complete as per drawings & techincal specifications & as per clause 2705 of specifications. (G.O.M.P. I.S.S.R. V-3, R&B, Ch-15, S.L.No. 15.9, Pg. 105)	8	No.	881.00	7048.00
11	Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised wieldable structural steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm (U.K.PWD S.O.R. Sl. No. 14-17, Pg. No. 64)	10.5	R.M.	1577.6	16564.80
12	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finaly dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prpfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	356.93	Cum	107.00	38190.98
13	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	178.19	Cum	682.06	121533.39
	Coarse Aggregates (40 Km lead)	356.77	Cum	894.84	319249.66
	Cement (100 km + 5Km (K) lead)	215.21	MT	1079.77	232377.00
	Steel (55 Km)	42.3200	MT	644.21	27262.91
TOTAL (In Rs.)					7097656.67

NORTH KOEL					
ESTIMATE FOR SINGLE LANE BRIDGE WITH THREE BEAMS (Km: 7.108)					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	820.31	Cum	121.00	99257.63
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	39.37	Cum	4909.00	193247.69
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	246.78	Cum	6743.95	1664283.72
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	19.75	Cum	6674.50	131817.35
5	Providing & laying P.C.C. or R.C.C. M-250 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M. (2.5 to 3.0) washed and screened including necessary tools & plants, vibrating, curing royalty etc. excluding cost of form work as well as reinforcement, its cutting bending, binding & placing complete as per specification & direction of E/I. (7.3.6)	150.02	Cum	6605.00	990905.05
6	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	42.32	MT	66535.00	2815763.88
7	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	432.76	Sqm	388.00	167908.94
8	Providing centering including strutting, propping etc & removing after use in deck slab as per specifications & directions of E/I. (7.3.20)	257.43	Sqm	523.00	134635.04

9	Bearing (Elastomeric Bearing assembly consisting of 7 internal layers of slastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation,)(M-066)+ Fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRTH specifications (Excluding Cost of Bearing) complete including all accessories as per drawing and Technical Specifications (U.K.PWD S.O.R. Sl. No. 13-14, Pg. No. 58)	129024	Cucm	0.57	73543.68
10	Providing Drainage Spouts complete as per drawings & techinal specifications & as per clause 2705 of specifications. (G.O.M.P. I.S.S.R. V-3, R&B, Ch-15, S.L.No. 15.9, Pg. 105)	8	No.	881.00	7048.00
11	Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised wieldable structural steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm (U.K.PWD S.O.R. Sl. No. 14-17, Pg. No. 64)	10.5	R.M.	1577.6	16564.80
12	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prpfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	347.62	Cum	107.00	37194.91
13	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	178.99	Cum	682.06	122081.22
	Coarse Aggregates (40 Km lead)	358.37	Cum	894.84	320687.12
	Cement (100 km + 5Km (K) lead)	216.09	MT	1079.77	233323.39
	Steel (55 Km)	42.3200	MT	644.21	27262.91
TOTAL (In Rs.)					7035525.34

NORTH KOEL					
ESTIMATE FOR SINGLE LANE BRIDGE WITH THREE BEAMS (Km: 8.400)					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a diustance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	817.19	Cum	121.00	98879.87
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	39.37	Cum	4909.00	193247.69
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requiste Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	246.78	Cum	6743.95	1664283.72
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requiste Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	19.75	Cum	6674.50	131817.35
5	Providing & laying P.C.C. or R.C.C. M-250 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M. (2.5 to 3.0) washed and screened including necessary tools & plants, vibrating, curing royalty etc. excluding cost of form work as well as reinforcement, its cutting bending, binding & placing complete as per specification & direction of E/I. (7.3.6)	150.02	Cum	6605.00	990905.05
6	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	42.32	MT	66535.00	2815763.88
7	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankement structure as per specifications & directions of E/I. (7.3.19)	432.76	Sqm	388.00	167908.94
8	Providing centering including strutting, propping etc & removing after use in deck slab as per specifications & directions of E/I. (7.3.20)	396.59	Sqm	523.00	207416.35

9	Bearing (Elastomeric Bearing assembly consisting of 7 internal layers of slastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation,)(M-066)+ Fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRTH specifications (Excluding Cost of Bearing) complete including all accessories as per drawing and Technical Specifications (U.K.PWD S.O.R. Sl. No. 13-14, Pg. No. 58)	129024	Cucm	0.57	73543.68
10	Providing Drainage Spouts complete as per drawings & techinal specifications & as per clause 2705 of specifications. (G.O.M.P. I.S.S.R. V-3, R&B, Ch-15, S.L.No. 15.9, Pg. 105)	8	No.	881.00	7048.00
11	Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised wieldable structural steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm (U.K.PWD S.O.R. Sl. No. 14-17, Pg. No. 64)	10.5	R.M.	1577.6	16564.80
12	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prpfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	347.87	Cum	107.00	37222.09
13	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	178.99	Cum	682.06	122081.22
	Coarse Aggregates (40 Km lead)	358.37	Cum	894.84	320687.12
	Cement (100 km + 5Km (K) lead)	216.09	MT	1079.77	233323.39
	Steel (55 Km)	42.3200	MT	644.21	27262.91
TOTAL (In Rs.)					7107956.07

NORTH KOEL					
ESTIMATE FOR SINGLE LANE BRIDGE WITH TWO BEAMS (Km: 10.394)					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	1117.45	Cum	121.00	135210.85
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	54.70	Cum	4909.00	268502.66
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	300.87	Cum	6743.95	2029037.36
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	19.75	Cum	6674.50	131817.35
5	Providing & laying P.C.C. or R.C.C. M-250 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M. (2.5 to 3.0) washed and screened including necessary tools & plants, vibrating, curing royalty etc. excluding cost of form work as well as reinforcement, its cutting bending, binding & placing complete as per specification & direction of E/I. (7.3.6)	247.93	Cum	6605.00	1637545.20
6	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	48.44	MT	66535.00	3222846.50
7	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	550.36	Sqm	388.00	213539.45
8	Providing centering including strutting, propping etc & removing after use in deck slab as per specifications & directions of E/I. (7.3.20)	307.93	Sqm	523.00	161045.56

9	Bearing (Elastomeric Bearing assembly consisting of 7 internal layers of slastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation,)(M-066)+ Fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRTH specifications (Excluding Cost of Bearing) complete including all accessories as per drawing and Technical Specifications (U.K.PWD S.O.R. Sl. No. 13-14, Pg. No. 58)	86016	Cucm	0.57	49029.12
10	Providing Drainage Spouts complete as per drawings & techinal specifications & as per clause 2705 of specifications. (G.O.M.P. I.S.S.R. V-3, R&B, Ch-15, S.L.No. 15.9, Pg. 105)	8	No.	881.00	7048.00
11	Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised wieldable structural steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm (U.K.PWD S.O.R. Sl. No. 14-17, Pg. No. 64)	10.5	R.M.	1577.6	16564.80
12	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prpfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	470.26	Cum	107.00	50317.61
13	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	244.70	Cum	682.06	166901.70
	Coarse Aggregates (40 Km lead)	489.95	Cum	894.84	438430.95
	Cement (100 km + 5Km (K) lead)	291.30	MT	1079.77	314539.05
	Steel (55 Km)	48.4384	MT	644.21	31204.38
TOTAL (In Rs.)					8873580.54

NORTH KOEL					
ESTIMATE FOR SINGLE LANE BRIDGE WITH THREE BEAMS (Km: 12.058)					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	768.59	Cum	121.00	92999.27
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	39.37	Cum	4909.00	193247.69
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	246.78	Cum	6743.95	1664283.72
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	19.75	Cum	6674.50	131817.35
5	Providing & laying P.C.C. or R.C.C. M-250 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M. (2.5 to 3.0) washed and screened including necessary tools & plants, vibrating, curing royalty etc. excluding cost of form work as well as reinforcement, its cutting bending, binding & placing complete as per specification & direction of E/I. (7.3.6)	150.02	Cum	6605.00	990905.05
6	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	42.32	MT	66535.00	2815763.88
7	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	432.76	Sqm	388.00	167908.94
8	Providing centering including strutting, propping etc & removing after use in deck slab as per specifications & directions of E/I. (7.3.20)	396.59	Sqm	523.00	207416.35

9	Bearing (Elastomeric Bearing assembly consisting of 7 internal layers of slastomer bonded to 6 nos. internal reinforcing steel laminates by the process of vulcanisation,)(M-066)+ Fitting and fixing in position true to line and level elastomeric bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRTH specifications (Excluding Cost of Bearing) complete including all accessories as per drawing and Technical Specifications (U.K.PWD S.O.R. Sl. No. 13-14, Pg. No. 58)	129024	Cucm	0.57	73543.68
10	Providing Drainage Spouts complete as per drawings & techincal specifications & as per clause 2705 of specifications. (G.O.M.P. I.S.S.R. V-3, R&B, Ch-15, S.L.No. 15.9, Pg. 105)	8	No.	881.00	7048.00
11	Providing and laying a burried expansion joint, expansion gap being 20 mm, covered with 12 mm thick, 200 mm wide galvanised weldable structural steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia. 100 mm long galvanised nails spaced 300 mm (U.K.PWD S.O.R. Sl. No. 14-17, Pg. No. 64)	10.5	R.M.	1577.6	16564.80
12	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/l. (7.1.31)	341.24	Cum	107.00	36512.47
13	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	178.99	Cum	682.06	122081.22
	Coarse Aggregates (40 Km lead)	358.37	Cum	894.84	320687.12
	Cement (100 km + 5Km (K) lead)	216.09	MT	1079.77	233323.39
	Steel (55 Km)	42.3200	MT	644.21	27262.91
TOTAL (In Rs.)					7101365.84

NORTH KOEL					
ESTIMATE FOR SUPER-PASSAGE ON R.M.C. at Km 10.50 Km					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	795.23	Cum	121.00	96222.83
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	114.22	Cum	4909.00	560712.85
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	203.48	Cum	6743.95	1372263.33
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requisite Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	381.05	Cum	6605.00	2516818.77
5	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	38.95	MT	66535.00	2591334.20
6	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	1159.04	Sqm	388.00	449708.65
7	Labour charge for pitching above water on Apron slope of bank with stone boulder in crates of specified size (materials within 150 m & all lifts) including boxing & tying the crates with 12 to 14 gauge G.I. wire including cost of G.I. wire all complete job as per specification and direction of E/I. (7.7.21) + Stone Boulder (M-003)	90.88	Cum	1260.60	114565.85
8	Providing filter of stone chips 20mm& down well graded as per designed for lined canal, drains including hand packing etc. as per specification & direction of E/I. (7.2.2)	2.59	Cum	1338.00	3468.10
9	Supplying fitting & fixing rubber seal (water stop) of approved quality for construction joints complete job as per specification & direction of E/I. (7.8.2)	13.20	M	113.00	1491.60
10	Supplying, fitting and fixing in position true to line and level sliding plate bearing with stainless steel plate sliding on stainless steel plate with mild steel matrix complete including all accessories as per drawing and technical specifications. (Pune PWD S.O.R. Sl.No. 15/25 MoRTH Pg. No. 303)	36.80	MT Capacity	241.00	8868.80
11	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable profile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	332.94	Cum	107.00	35624.15

12	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	275.94	Cum	682.06	188205.83
	Coarse Aggregates (40 Km lead)	555.61	Cum	894.84	497183.98
	Cement (100 km + 5Km (K) lead)	326.66	MT	1079.77	352718.52
	Steel (55 Km)	38.9469	MT	644.21	25089.93
	Boulders (30 Km)	95.43	Cum	710.592	67809.02
TOTAL (In Rs.)					8882086.40

NORTH KOEL					
ESTIMATE FOR SUPER-PASSAGE ON R.M.C. at Km 10.970 Km					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per Jharkhand SoR 2018)	Amount (Rs)
1	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a diustance upto 50 mtr and average lift of 1.5 mtr including levelling , ramming the foundation trenches, removing the roots and shrubs etc. all complete as per specification and direction of E/I. (7.1.27)	1007.40	Cum	121.00	121895.76
2	Providing & laying P.C.C. or R.C.C. M-150 with nominal mix in foundation of various components of canal or embankment structures with approved quality of 20 mm graded coarse aggregate, complete job as per specification & direction of E/I. (7.3.4)	84.83	Cum	4909.00	416428.31
3	Providing & laying P.C.C. or R.C.C. M-350 with nominal mix in foundation/ superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requiste Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	83.22	Cum	6743.95	561226.12
4	Providing & laying P.C.C. or R.C.C. M-300 with nominal mix in foundation/superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade & approved quality sand of requiste Fm washed & screened including necessary tools & plant, vibrating, curing & all taxes excluding the cost of form work as well as reinforcements its cutting, bending etc complete job as per the specification & direction of E/I. From D.S.R.	386.59	Cum	6605.00	2553440.16
5	Providing TMT bar reinforcement (tor steel) as per approved design, drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S. rods in position, all complete job as per specification & direction of E/I. (7.3.22 a)	48.85	MT	66535.00	3249971.90
6	Providing Shuttering, including strutting propping etc & its removal after use in various components of canal structure or embankment structure as per specifications & directions of E/I. (7.3.19)	710.98	Sqm	388.00	275858.30
7	Labour charge for pitching above water on Apron slope of bank with stone boulder in crates of specfied size (materials within 150 m & all lifts) including boxing & tying the crates with 12 to 14 gauge G.I. wire including cost of G.I. wire all complete job as per specification and direction of E/I. (7.7.21) + Stone Boulder (M-003)	37.26	Cum	1260.60	46969.96
8	Providing filterof stone chips 20mm& down well graded as per designed for lined canal, drains including hand packing etc. as per specification & direction of E/I. (7.2.2)	1.30	Cum	1338.00	1734.05
9	Supplying fitting & fixing rubber seal (water stop) of approved quality for construction joints complete job as per specification & direction of E/I. (7.8.2)	4.00	M	113.00	452.00
10	Supplying, fitting and fixing in position true to line and level sliding plate bearing with stainless steel plate sliding on stainless steel plate with mild steel matrix complete including all accessories as per drawing and technical specifications. (Pune PWD S.O.R. SI.No. 15/25 MoRTH Pg. No. 303)	7.36	MT Capacity	241.00	1773.76

11	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable prpfile within a lead of 30 mtr and lift of 1.5 m complete job as per specifications and direction of E/I. (7.1.31)	430.39	Cum	107.00	46051.94
12	Carriage of materials(As per Jharkhand SoR 2018)				
	Coarse Sand (30Km lead)(Taken the rates of Stone Chips)	218.85	Cum	682.06	149271.22
	Coarse Aggregates (40 Km lead)	439.85	Cum	894.84	393598.83
	Cement (100 km + 5Km (K) lead)	256.16	MT	1079.77	276597.99
	Steel (55 Km)	48.8460	MT	644.21	31467.02
	Boulders (30 Km)	39.12	Cum	710.592	27800.49
TOTAL (In Rs.)					8154537.81

Schedule 1 H- Demolition of bridges and Super Passages

NORTH KOEL					
ESTIMATE FOR DISMANTLING SLR Bridge /Cart Bridge/Foot Bridge at RD 2.560KM,5.950KM, 7.108KM,8.400KM,10.394KM,12.058KM					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per CPWD SoR 2016)	Amount (Rs)
1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 meters lead as per direction of Engineer in Charge. Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix) (15.2.1)	57.08	Cum	997.05	56915.06
2	Demolishing stone rubber masonry manually/ by mechanical means including stacking of servicable material & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge. In cement mortar. (15.9.1)	111.04	Cum	1005.7	111676.01
3	Demolishing R.C.C work manually/ by mechanical means including stacking of steel bars & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge (15.3)	30.14	Cum	1454.55	43833.75
4	Scrap Value for Brick Bat(Jharkhand SOR 2018 M-199)	57.08	cum	721	-41157.17
5	Scrap Value for Stone Masonry(Jharkhand SOR 2018 M-003)	141.18	cum	537	-75812.95
6	Scrap Value for Steel(Jharkhand SOR 2018 M 079)	2365.65	kg	14	-31936.21
TOTAL (In Rs.)					63,518
TOTAL					3,81,108

NORTH KOEL					
ESTIMATE FOR DISMANTLING DOUBLE LANE BRIDGE at RD 3.597KM					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per CPWD SoR 2016)	Amount (Rs)
1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 meters lead as per direction of Engineer in Charge. Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix) (15.2.1)	152.93	Cum	997.05	152475.44
2	Demolishing stone rubber masonry manually/ by mechanical means including stacking of servicable material & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge. In cement mortar. (15.9.1)	266.88	Cum	1005.7	268403.26
3	Demolishing R.C.C work maunally/ by mechanical means including stacking of steel bars & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge (15.3)	90.95	Cum	1454.55	132287.73
4	Scrap Value for Brick Bat(Jharkhand SOR 2018 M-199)	152.93	cum	721	-110260.06
5	Scrap Value for Stone Masonry(Jharkhand SOR 2018 M-003)	357.83	cum	537	-192154.48
6	Scrap Value for Steel(Jharkhand SOR 2018 M-079)	7139.38	kg	14	-96381.64
TOTAL (In Rs.)					154370.25
TOTAL FOR 1 BRIDGES (In Rs.)					154370.25

NORTH KOEL					
ESTIMATE FOR DISMANTLING SUPER PASSAGE at RD 10.970KM					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per CPWD SoR 2016)	Amount (Rs)
1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 meters lead as per direction of Engineer in Charge. Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix) (15.2.1)	34.62	Cum	997.05	34517.63
2	Demolishing stone rubber masonry manually/ by mechanical means including stacking of servicable material & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge. In cement mortar. (15.9.1)	106.79	Cum	1005.7	107394.77
3	Demolishing R.C.C work manually/ by mechanical means including stacking of steel bars & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge (15.3)	13.12	Cum	1454.55	19084.85
4	Scrap Value for Brick Bat(Jharkhand SOR 2018 M-199)	34.62	cum	721	-24960.85
5	Scrap Value for Stone Masonry(Jharkhand SOR 2018 M-003)	119.91	cum	537	-64389.99
6	Scrap Value for Steel(Jharkhand SOR 2018 M-079)	1029.98	kg	14	-13904.76
TOTAL (In Rs.)					57,741.65

NORTH KOEL					
ESTIMATE FOR DISMANTLING SUPER PASSAGE DOUBLE TROUGH at RD 10.50KM					
ABSTRACT OF COST					
S. No.	Item of Works	Qty.	Unit	Rate (As per CPWD SoR 2016)	Amount (Rs)
1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 meters lead as per direction of Engineer in Charge. Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix) (15.2.1)	160.69	Cum	997.05	160216.64
2	Demolishing stone rubber masonry manually/ by mechanical means including stacking of servicable material & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge. In cement mortar. (15.9.1)	403.17	Cum	1005.7	405471.36
3	Demolishing R.C.C work manually/ by mechanical means including stacking of steel bars & disposal of unservicable material within 50 meters lead as per direction of Engineer in Charge (15.3)	108.63	Cum	1454.55	158010.72
4	Scrap Value for Brick Bat(Jharkhand SOR 2018 M-199)	160.69	cum	721	-115857.98
5	Scrap Value for Stone Masonry(Jharkhand SOR 2018 M-003)	511.81	cum	537	-274839.45
6	Scrap Value for Steel(Jharkhand SOR 2018 M-079)	8527.61	kg	14	-115122.79
TOTAL (In Rs.)					217878.50
TOTAL FOR 1 SUPER PASSAGES (In Rs.)					217878.50

Schedule 1 I- Diversion of 7 no. Bridges

COST FOR DIVERSION

S.No.	RD	Cost (in Rs.)
1.	2.560KM, 3.597KM, 5.950KM, 7.108KM,8.400KM,10.394KM, 12.058KM	7,89,830.5*7=55,28,813.5
TOTAL		55,28,813