

Tender No. MTC/EN/KRJ-DER-LXING/EDFC/3ROB

For

Construction of Railway Portion of 3 Nos. ROBs (excluding approaches) in lieu of level crossings for LC No. 138 at IR chainage 1395/13-15, LC No.145 at IR Chainage 1410/25-27 and LC No. 146 at IR Chainage 1412/11-13 and Approach Portion of 1 No. ROB (excluding Railway Portion) in lieu of level crossing for LC no. 140/C at IR chainage 1400/17A – 1400/22 between Wair and Dadri stations on Khurja-Dadri Section of Allahabad Division of North Central Railway for Eastern Dedicated Freight Corridor.

E-TENDER DOCUMENT FINANCIAL BID (PACKET-B) Oct-2019

Employer: DEDICATED FREIGHT CORRIDOR CORPORATIONOFINDIALIMITED (AGOVERNMENT OF INDIAENTERPRISE) Under MINISTRYOF RAILWAYS

Office of Chief General Manager/Meerut /DFCCIL, 3rd Floor, Shree Balaji Complex, Plot No. C-2, Pocket-B, Sector -1, Ved Vyas Puri, Meerut -250002 CORPORATE OFFICE: -DFCCIL, 5th Floor, Pragati Maidan Metro Station Building Complex, New Delhi-110001.

GENERAL INFORMATION/DATA SHEET

TENDER NOTICE NO	MTC/EN/KRJ-DER-LXING/EDFC/3ROB DATE 25.10.2019
Name of the work	Construction of Railway Portion of 3 Nos. ROBs (excluding approaches) in lieu of level crossings for LC No. 138 at IR chainage 1395/13-15, LC No.145 at IR Chainage 1410/25-27 and LC No. 146 at IR Chainage 1412/11-13 and Approach Portion of 1 No. ROB (excluding Railway Portion) in lieu of level crossing for LC no. 140/C at IR chainage 1400/17A – 1400/22 between Wair and Dadri stations on Khurja-Dadri Section of Allahabad Division of North Central Railway for Eastern Dedicated Freight Corridor
(a) Tender Value	₹81,96,74,205/-
(b) Completion Period	18 months
(c) Earnest Money Deposit	₹81,96,800/-
(d) Date of uploading of NIT & Bid documents (online publishing date)	On Date 31.10.2019
(e) Last date and Time of submission of Tender	11.12.2019 upto15:00hrs
(f) Date & Time of Pre-Bid Meeting	14.11.2019 at 15:00 Hrs at CGM office Meerut
(g) Date and Time of Opening of Tender (Technical bid -Packet A)	On 11.12.2019 at 15:30hrs
(h) Validity of offer	120 days
(I) Retention Money / Security Deposit	5 % of Contract Value
(j) Performance Bank Guarantee	Performance Guarantee (PG) have to be submitted within 30(thirty) days from the date of issue of Letter of Acceptance (LOA), amounting to 5% of the contract value in the form as give in clause 16. (4) of GCC

Signature of tenderer (s) with seal (S.K. Sigh) Sr Dy GM/C/RCED, RITES 44 Page 2 of 55 Page 2 of 55 (Prashount Agnihotic) DGM/RCED RITES 44

SUMMARY OF PRICES

SI. No.	Description of works	Total cost of Schedules in Rs.	Rates to be quoted in figures & words (Clearly mention above / below / at par on Total cost of each schedule given in column 3)
1	2	3	4
1.	Execution of all works as per Schedule "1"	58,49,37,374	% age (in figures) (In words)
2.	Execution of all works as per Schedule "2"	23,47,36,831	% age (in figures) (In words)
	Grand Total	81,96,74,205	

Notes:

- (i) The above prices are inclusive of all taxes, duties including GST etc.
- (ii) The tenderer should quote single percentage above/ par/below for each schedule.
- (iii) If the uniform percentage quoted by the Tenderer does not clearly indicate whether the rates are above/at par/below the estimated rates then through sign convention it will be considered to be on plus side and evaluated accordingly.

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SCHEDULE – 1 SUMMARY OF SCHEDULE OF PRICES

CONSTRUCTION OF RAILWAY PORTIONS OF 3 NOS. ROBS IN LIEU OF LC NOS. 138, 145 & 146

SI. No.	Description of works	Cost as per USSOR 2010 of NC Rly (Rs.)	DFCCIL updated %	DFCCIL updated cost (in ₹)
1	2	3	4	5
1.	Execution of all works as per Schedule "A1" (items as per USSOR 2010of NC Rly for Bridge Chapter No. 19, 20, 21 & 22)	4,52,35,499	43.35%	6,48,45,088
2.	Execution of all works as per Schedule "B1" (Items other than Bridge chapters and items of Schedules D1, E1 &F1below)	27,79,581	138.30%	66,23,742
3.	Execution of all works as per Schedule "C1" (NS Items)	2,37,97,373	0.00%	2,37,97,373
4.	Execution of all works as per Schedule "D1" (Supply of structural steel)	33,58,23,975	0.00%	33,58,23,975
5.	Execution of all works as per Schedule "E1" (items as per USSOR 2010 of NC Rly for supply of Cement)	3,46,60,080	24.10%	4,30,13,159
6.	Execution of all works as per Schedule "F1" (items as per USSOR 2010 of NC Rly for supply of Steel Reinforcement including straightening, cutting etc.)	8,66,83,902	27.86%	11,08,34,037
	Total of Schedule - 1			58,49,37,374

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Notes:

Rate of item payable to contractor shall be as per following example: -

For Schedule A1 (Updating factor is 1.4335, since 43.35% is above the rates of USSOR2010 of NC Railway), if the rate of any item of USSOR - 2010 of NC Railway / Schedule A is "X" and

- (a) If percentage quoted by the contractor for Schedule 1 is 5 % above (+5%), Rate payable to contractor = (X) x 1.4335x1.05
- (b) If percentage quoted by the contractor for Schedule 1 is 5 % below (-5%), Rate payable to contractor = (X) x 1.4335 x 0.95
- (c) If percentage quoted by the contractor for Schedule 1 is at par, Rate payable to contractor = (X) x 1.4335 x 1.0
- (d) Similarly Updating factor for Schedule B1, E1 and F1 is 2.383, 1.241 and 1.2786.
- (e) In case of NS items i.e. Schedule C1 and D1, Updation factor shall be 1.

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
SCH	EDULE 'A	A1' - (ITEMS AS PER USSOR 2010	OF NC RI	Y FOR E	BRIDGE CHAP	TERS)
1	192010	Earthwork in excavation for foundations and floors of the bridges, retaining walls etc. including setting out, dressing of sides, ramming of bottom, getting out the excavated material, back filling in layers with approved material and consolidation of the layers by ramming and watering etc. including all lift, disposal of surplus soil upto a lead of 300m, all types of shoring and strutting with all labour and material complete as per drawing and technical specification as directed by Engineer				
(a)	192011	All kinds of soils	cum	6170	165.50	10,21,135.00
2	192030	Providing and laying Plain Cement Concrete 1:3:6 with graded stone aggregate of 40mm nominal size, in foundation and floors, retaining walls of bridges including mechanical mixing, vibrating, pumping and bailing out water where ever required with all materials and labour complete but excluding the cost of cement and shuttering as per drawings and technical specifications as directed by Engineer	cum	280	1,782.20	4,99,016.00
3	192040	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix	cum	3070	1,694.28	52,01,439.60

SCHEDULE – 1 DETAILS OF SCHEDULE OF PRICES

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		Cement Concrete M35 grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC raft foundation & Pile cap including finishing, using Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability without impairing strength and durability complete as per specifications and direction of the Engineer. Payment for cement, reinforcement and shuttering shall be paid extra.				
4	192070	Providing, driving and installing Bored cast in-situ Reinforced Cement Concrete piles of specified diameter and length below pile cap in M-35 grade Design Mix Cement Concrete, using 20mm graded crushed stone aggregate and coarse sand of approved quality, to carry a safe working load not less than specified, excluding the cost of casing pipe but including the cost of shoe and length of pile to be embedded in pile cap etc. complete, concreting by machine batching, machine mixing, scaffolding, using Admixture in recommended proportion (as per IS:9103), if approved in design Mix, placing with tremie pipe, chipping off of pile top to remove				

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		laitance concrete above cut off level etc., pumping and bailing out water with all labour material complete including crossing of tracks if required, as per approved drawing, specification and direction of the Engineer. Length of the pile for payment shall be measured upto the bottom of pile cap excluding the mud mat. Payment for cement, casing pipe & reinforcement shall be paid extra.				
(a)	192072	1200mm diameter	meter	3010	7,874.24	2,37,01,462.40
5	192060	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M35 grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the following Reinforced cement concrete structural elements up to height of 10m from foundation top level, including finishing, using Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability without impairing strength and durability complete as per specifications and direction of the Engineer. Payment for cement, reinforcement & shuttering shall be paid extra.				
(a)	192061	Abutment & Pier	cum	2950	1,779.00	52,48,050.00

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
(b)	192063	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	cum	670	1,948.42	13,05,441.40
(C)	192065	Extra for every increase of 1m or part thereof in the height above 10m & 20m	cum / m height	300	28.17	8,451.00
6	195030	Centring and shuttering including strutting, propping etc. and removal of form for:				
(a)	195031	RCC Raft Foundation & Pile cap	sqm	1050	127.80	1,34,190.00
(b)	195032	Abutment, pier, wing walls and return walls	sqm	2540	214.70	5,45,338.00
(c)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	sqm	1110	213.09	2,36,529.90
7	192100	Conducting load testing of a single pile upto following capacity in accordance with IS:2911 (Part- IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. with all labour, material, tool & plants, equipment, machinery, etc. complete as per drawing and specification, as directed by the Engineer				
(a)	192103	Initial load test above 100 ton capacity upto 250 ton capacity pile	each	3	81,014.63	2,43,043.89
(b)	192104	Extra for every increase of 50 T in pile capacity or part thereof over 250 T	each	3	13,676.66	41,029.98

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
(C)	192107	Routine Load Test above 100 ton capacity upto 250 ton capacity pile	each	3	1,25,285.20	3,75,855.60
8	192110	Lateral load testing of single pile in accordance with "IS Code of practice IS:2911 (Part-IV) for determining safe allowable lateral load of pile" with all labour, material, tool & plants, equipment, machinery, etc complete as per drawing and specification as directed by the Engineer				
(a)	192112	Piles with lateral load capacity of above 10 ton & upto 20 ton	each	3	33,149.21	99,447.63
9	201050	Providing and fixing in position of standard preformed sealed and slab type or strip seal elastomeric type expansion joints for Railway bridge or Road Over Bridges as per approved drawings and latest MOST/IRC specifications. The rates are inclusive of supplying, fixing with contractor's own materials, e.g. inserts, bolts, socket tubes, Neoprene sheet/cap etc., equipments, machineries, labour, all taxes, royalty, all lead & lifts, transport, testing, surface preparations, complete				
(a)	201051	For 80mm expansion	meter	132	23,136.28	30,53,988.96
10	201060	Load testing of one or more spans of bridge as selected by the Engineer as per approved load test procedure following relevant IS/IRC/Railway codes with contractor's labour, deflection measuring instruments, loading materials, recoding and analyzing				

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		the load testing results including all lead & lift, etc. complete as required. The rates are all inclusive and will be paid after load test is finished and girder is cleared of the kentledge/loading material etc. The load shall be 1.25 times the stipulated design load, based on design load & not span				
(a)	201061	For Span design load upto 100 MT	Each	3	66,772.64	2,00,317.92
(b)	201062	Extra for every increase of 100 MT or part thereof in the span load capacity upto 800 MT	each 100MT	3	65,548.13	1,96,644.39
11	211070	Supplying and fixing anti-slip M.S. Angles/nosing 65mmx 65mmx 8mm or any other size confirming to IS:2062 fixing 10mm dia, anchor bar 600mm c/c and fixing with main girder with M.S. flat on top of step of stair case , making anti-slip grooves 7 nos. arrangement for keeping and maintaining in position as per approved plan with all labour and material as a complete job	kg	8610	50.93	4,38,507.30
12	222170	Providing and fixing Drainage Spouts of 100 mm UPVC complete as per drawing & Technical Specification	meter	1540	268.10	4,12,874.00
		TOTAL COST OF SCHEDULE 'A1' ITEMS				4,52,35,499.00

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
SCH	EDULE 'E	31' - (ITEMS AS PER USSOR 2010	OF NC F		R THAN BRID	GE CHAPTERS)
13	041010	Providing and laying in position M- 20 Grade concrete for reinforced concrete structural elements, but excluding cost of centring, shuttering, reinforcement and Admixtures in recommended proportion (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer in charge				
(a)	041011	All work upto plinth level, including raft foundation of washable aprons, HS Tank, Pile cap, Footings of FOB, and Platform shelter etc.	cum	180	2,100.13	378,023.40
(b)	41012	All works in buildings above plinth level upto floor two level	cum	115	2,309.58	265,601.70
(C)	041012 + 046010	All works in buildings above Floor 2 level (3.6m) upto floor three level (7.2m)	cum	115	2,605.60	299,644.00
(d)	041012 + 2*0460 11	All works in buildings above Floor 3 level (7.2 m) upto floor four level (10.8m)	cum	115	2,901.62	333,686.30
(e)	41015	In kerbs, steps and the likes etc.	cum	50	2,175.58	108,779.00
14	042010	Cantering and shuttering including strutting, propping etc. and removal of form for:				
(a)	042011	Foundations, footings, bases of columns, raft foundation of	sqm	220	127.80	28,116.00

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		washable aprons, Pile caps, Footings of FOB etc.				
(b)	042013	Suspended floors, roofs, landings, balconies, FOB slabs, walkway slabs and access platform	sqm	350	213.09	74,581.50
(C)	042014	Lintels, beams, plinth beams, bed blocks, girders, bressumers and cantilevers	sqm	710	184.72	1,31,151.20
(d)	042015	Columns, pillars, posts and struts	sqm	1130	270.20	3,05,326.00
15	014110	Providing and removing barricading with the help of portable fencing along the running track where the work is to be done in close vicinity of the track. Fencing shall consist of self-supporting steel angles of size 50 x50x6mm, 1.5m long provided with hooks etc. and embedded in CC 1:2:4 block of size 0.23x0.23x0.23m placed at c/c distance of 2m along the track. 12mm dia rods in three horizontal layers' tack welded with the angle posts including providing retro-reflective tapes in Horizontal & vertical direction. Note: Released material will be the property of the contractor after the completion of work. Cost of cement to be paid separately.	metre	160	105.95	16,952.00
16	237010	Providing and fixing Cat's Eye (Glow studs) heavy integral stem, reflective, aluminium die cast with elegant finish of size 100mmx100mm and 20mm high having a stem of 50mm (or 12mm dia. 90mm long) screwed and	each	490	536.96	2,63,110.40

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		nailed to fix into the road surface or at the nosing of the central verge. The road studs should have reflectors fitted on one side of the studs (3 nos. 7 element or 1 no. 29 element reflector) complete				
17	236070	Painting road surface marking with adequate number of coats to give uniform finish with ready mixed road marking paint conforming to IS:164, on bituminous surface in white/yellow shade including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete				
(a)	236071	New work (minimum two coats)	Sqm	150	80.91	12,136.50
18	094040	Precast Chequered factory made terrazzo tiles 22mm thick with graded marble chips size upto 6mm in floors jointed with neat cement slurry mixed with pigment to match the shade of tiles including rubbing of cement slurry complete on 20mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand)				
(a)	094042	with ordinary cement with pigment	sqm	150	596.56	89,484.00
19	121060	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade				
(a)	121061	Two or more coats on new work over an under coat of suitable	sqm	210	66.08	13,876.80

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		shade with ordinary paint of approved brand and manufacture				
20	051010	Brick work with non-modular (FPS) bricks of class designation 7.5 in foundation and plinth in:				
(a)	051018	Cement mortar 1:6 (1 cement: 6 coarse sand) -wall	cum	50	2,835.40	1,41,770.00
21	111040	12 mm cement plaster of mix -				
(a)	111042	1:6 (1cement: 6coarse sand)	sqm	120	62.37	7,484.40
22	154010	Providing and fixing 110mm dia PVC soil, waste and vent pipes including jointing and cost of spun yarn and sand etc. complete	meter	970	221.56	2,14,913.20
23	115090	Wall painting on new work with two or more coats of plastic emulsion paint of approved brand and manufacture to give an even shade	sqm	1050	52.74	55,377.00
		TOTAL COST OFSCHEDULE 'B1' ITEMS				27,79,581.00

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
SCH	EDULE '	C1' - NON-SCHEDULED ITEMS				
24	NS-1	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete M-40 grade (Cast in situ) using 20 mm graded crushed stone aggregate and coarse sand of approved quality in RCC deck slab laid to required camber including end cantilever, RCC crash barrier, RCC railing, etc. including pumping of concrete to site of laying, finishing, using admixtures in recommended proportions (as per IS: 9103), if approved in mix design to accelerate or retard setting of concrete, improve workability without impairing strength and durability with all contractor's labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead and lift complete in all respect as a complete job as per specification & as directed by Engineer.	cum	1650	8,770.20	1,44,70,830.00
	Notes:					
	(1)	Payment for cement, reinforcement and shuttering shall be paid extra.				
	(ii)	The concrete is to be poured at the approved safe height and distance from live OHE wires carrying 25KV AC traction to cast monolithically to the required level as per approved drawing over already launched main steel girder with proper joining arrangement through shear connector.				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(iii)	The necessary shuttering arrangement has to be planned using already launched main steel girder. No support from ground will be allowed for this purpose. The rates includes for working under running traffic condition, all leads, lifts, ascents, descents, all other obstructions.				
	(iv)	The contractor shall make adequate arrangement below the girders to avoid falling of anything over the track during working for the slab. The rate also includes design and provision of all temporary arrangement for casting, erection, scaffolding and submission of detailed design and drawing for temporary works and to ensure safety of running traffic at all times.				
25	NS-2	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete M-40 grade (Cast in situ) using 20 mm crushed stone aggregate and coarse sand of approved quality in wearing coat and crash barrier including pumping of concrete to site of laying, finishing, using admixtures in recommended proportions (as per IS: 9103), if approved in mix design to accelerate or retard setting of concrete, improve workability without impairing strength and durability with all contractor's labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead & lift complete in all respect as a complete job as per	cum	350	4,707.75	16,47,712.50

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		specification & as directed by Engineer.				
	Notes: -					
	(i)	Payment for cement, reinforcement and shuttering shall be paid extra as per relevant USSOR item included in the relevant schedule.				
26	NS-3	Integrity testing of Pile using Low Strain/ Sonic Integrity Test/ Sonic Echo Test method in accordance with IS 14893 including surface preparation of pile top by removing soil, mud, dust & chipping lean concrete lumps etc. and use of computerised equipment and high skill trained personal for conducting the test & submission of results, with all contractor's labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead & lift complete in all respect as a complete job as per specification & as directed by Engineer.	per test	96	788.05	75,652.80
27	NS-4	Providing and fixing handrail made up of 5 rows of 50 mm nominal bore m s pipe of medium class passing through steel ISMC 100 fixed @ 1.5m c/c as vertical support including providing, fixing and welding hard drawn steel wire fabric 75 x 25 mm mesh of weight not less than 7.75 kg per sqm welded to ISMC 100 with steel base plate at the bottom, providing and fixing MS flat 25 mm x 6 mm over edges of hard drawn steel wire fabric welded to ISMC and providing and fixing m s holding	sqm	1080	2,816.80	30,42,144.00

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		down bolts for fixing the base plate in required place including two or more coats of synthetic enamel paint of required shade over a priming coat of zinc chromate primer with all contractor's materials, labour, tools and plants, machinery, loading, unloading and stacking material at site as per specification, drawing and as directed by engineer as a complete job.				
28	NS-5	Providing and laying of 70mm thick Precast concrete panels for shuttering purpose with grade of concrete M40 using 20 mm graded crushed stone aggregate and coarse sand of approved quality in including pumping of concrete to site of laying, finishing, using admixtures in recommended proportions (as per IS: 9103), if approved in mix design to accelerate or retard setting of concrete, improve workability without impairing strength and durability with all contractor's labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead and lift complete in all respect as a complete job as per specification & as directed by Engineer.	sqm	7000	493.30	34,53,100.00
	Notes:					
	(i)	Payment for cement and reinforcement shall be paid extras per relevant USSOR item included in the relevant schedule.				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(ii)	The pre cast reinforced cement concrete panels are to be fixed at the approved safe height and distance from live OHE wires carrying 25KV AC traction (on IR Track) on already launched main steel girder. No support from ground will be allowed for this purpose. The rates include for working under running traffic condition, all leads, lifts, ascents, descents, all other obstructions etc.				
	(iii)	The contractor shall make adequate arrangement below the girders to avoid falling of anything / precast panels over the track during fixing of precast reinforced cement concrete panels. The rate also includes design and provision of all temporary arrangement and submission of detailed design and drawing for temporary works and to ensure safety of running traffic at all times.				
29	NS-6	Providing and fixing 65mm die GI Pipe of medium class on the top of RCC crash barrier as a railing with vertical supports of 12 mm thick m s plate cut to shape along with 50 x 10mm thick m s plate all round welded to vertical including 25 mm wide and 3 mm thick collar plate, verticals welded on base plate of size 120 x 120 x 16 mm, 4 nos 10 dia galvanized m s holding down bolts with nuts and washers, 4 nos 10 dia MS rod of 48mm long welded to m s holding down bolts, verticals shall be @ 1.50 m C / C including two or more coats of synthetic enamel paint of required	m	970	1,142.20	11,07,934.00

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		shade over one coat of zinc chromate primer with all contractor's materials, labour, tools and plants, loading, unloading and stacking at site as per specification/drawing and as directed by engineer as a complete job.				
		TOTAL COST OF SCHEDULE 'C1' ITEMS				2,37,97,373.30

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SCHEDULE 'D1' - Supply of structural steel 30 NS-7 Supplying of all types of structural steel conforming to Fe 410 B of IS:2062, fabrication, assembling, erection / slewing / end launching of steel girders upto 45.7m span on sub-structure including provision of trolley refuges, if required complete as per approved drawing including one coat of Zinc chrome primer to 1S:104 & one coat of Zinc Chrome Red Oxide to IS:2074 and painting as per IRS-B-1 on all members (detailed fabrication and erection drawings & launching methodology will be prepared and got approved by the contractor from Railway). Rate includes fabrication of all the types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&F bolts, drifts, shop welds, templates, jigs, fixtures, back up supports, accessories, transporting various components from fabrication shop to site including loading, unloading, lift and taxes complete, assembly of girders' on- drifts/bolts, field riveting/welding, assembling of temporary support for side slewing, raising of girders to the bed block level, providing sliding arrangements and slewing the girder in position, lowering of girders of the bed block level, providing sliding arrangements and belots for fixing of HD bolts/anchor pins of	SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
steel conforming to Fe 410 B of IS:2062, fabrication, assembling, erection / slewing / end launching of steel girders upto 45.7m span on sub-structure including provision of trolley refuges, if required complete as per approved drawing including one coat of Zinc chrome primer to 1S:104 & one coat of Zinc Chrome Red Oxide to IS:2074 and painting as per IRS-B-1 on all members (detailed fabrication and erection drawings & launching methodology will be prepared and got approved by the contractor from Railway). Rate includes fabrication of all the types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&F bolts, drifts, shop welds, templates, jigs, fixtures, back up supports, accessories, transporting various components from fabrication shop to site including loading, unloading, lift and taxes complete, assembly of girders' on- drifts/bolts, field riveting/welding, assembling of temporary support for side slewing, raising of girders to the bed block level, providing sliding arrangements and slewing the girder in position, lowering of girder on bearings and bed plates, grouting holes in the bed block for	SCH	EDULE 'C	01' - Supply of structural steel				
	30	NS-7	steel conforming to Fe 410 B of IS:2062, fabrication, assembling, erection / slewing / end launching of steel girders upto 45.7m span on sub-structure including provision of trolley refuges, if required complete as per approved drawing including one coat of Zinc chrome primer to 1S:104 & one coat of Zinc Chrome Red Oxide to IS:2074 and painting as per IRS-B-1 on all members (detailed fabrication and erection drawings & launching methodology will be prepared and got approved by the contractor from Railway). Rate includes fabrication of all the types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&F bolts, drifts, shop welds, templates, jigs, fixtures, back up supports, accessories, transporting various components from fabrication shop to site including loading, unloading, lift and taxes complete, assembly of girders' on- drifts/bolts, field riveting/welding, assembling of temporary support for side slewing, raising of girders to the bed block level, providing sliding arrangements and slewing the girder in position, lowering of girder on bearings and bed plates, grouting holes in the bed block for				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		bed plates, all temporary arrangements. Load testing may be done. The bearing sets to be provided with the girders will be paid separately as per relevant item separately				
(a)		Composite plate girder	MT	220	99,371.90	2,18,61,818.00
	Notes: -					
	(i)	Steel (Plates and Rolled sections) should conform to IS: 2062-2011. It shall have Sub quality 'B0' &Grade E250 (Fe 410) 12 mm thick & above plates shall be fully killed and fully normalized / controlled cooled.				
	(ii)	The steel shall be procured only from those firms, which are Established, Reliable, Indigenous & Primary Producers of Steel, having Integrated Steel Plants (ISP), using iron ore as the basic raw material and having in house iron rolling facilities, followed by production of liquid steel & crude steel.				
	(iii) (a)	40 % of rate payment shall be made after steel material required for fabrication (as per drawing) is received at site.				
	(iii) (b)	15 % of rate payment shall be made on acceptance of fabricated components at site.				
	(iii) (c)	20 % of rate payment shall be made after erection & launching				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(iii) (d)	25 % of rate payment shall be made after final approval office and successful completion of all works (ROB wise) included in this item including metallizing and finishing complete.				
	(iv)	No deduction for holes and no addition for rivets/ bolts/welds etc. shall be made				
	(v)	The contractor shall submit the detailed erection drawing and Launching scheme along with necessary design calculations for approval from RITES Ltd before mentioned and launching of girder.				
	(vi)	Temporary supports if any required for the erection /launching shall be erected after the approval of Engineer. Nothing extra shall be payable on this account.				
	(vii)	The contractor shall take all safety precautions that will be necessary in consultation with Engineer asper extant rules / guidelines. Nothing extra shall be payable on this account.				
	(viii)	Notwithstanding above, the contractor shall be fully responsible for any mishap that may occur as a result of negligent working.				
	(ix)	Contractor has to take every precautionary measure for safety of running train during and after launching of girder.				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(x)	The rate includes launching under traffic blocks wherever required. However, the rate does not include the cost of possession of traffic / OHE block.				
	(xi)	The Block required shall be arranged by DFCCIL. The duration of the block shall be as approved by Engineer. If the Block granted is not made available due to unavoidable reasons, nothing extra / no compensation shall be paid.				
	(xii)	However, penalties, if any, levied by Indian Railways caused due to any careless working or otherwise of violation of the Terms and Conditions of the track /OH block, shall be payable by the contractor.				
	(xiii)	The cost of all test as per prevailing code for acceptance shall be borne by contractor.				
31	NS-8	Supply, fabrication and erection of Welded type Bow String girders of required span for IRC loading at site as per RDSO drawings, Indian Railway Unified Standard Specifications (W&M) - 2010 (amended up to date) and Indian Railways standard specification for fabrication and erection of steel girder bridges and locomotive turntables (Fabrication Specifications) Serial No B1-2001 (amended up to date) including all incidental works etc., supplying and fixing in position of shop welding / shop bolting with nuts				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		and washers, field bolts, etc. required for complete fabrication of the girders and transportation of the fabricated materials at site and stacking of the same at places as directed by Engineer including metalizing as per clause No 39.2.1 of B1-2001 over the structural members with all contractor's labour, fuel, consumables, machinery, loading, unloading, tools & plants, material, load and lift complete in all respect, as a complete job as per specification and as directed by Engineer.				
(a)		Grade E250 with sub quality B0	MT	318	1,08,949.20	3,46,45,845.60
(b)		Grade E350 with sub quality B0	MT	2388	1,13,031.70	26,99,19,699.60
	Notes: -					
	(i)	Steel (Plates and Rolled sections) should conform to IS: 2062-2011. It shall have Sub quality 'B0'.12mm thick & above plates shall be fully killed and fully normalized /controlled cooled.				
	(ii)	The steel shall be procured only from those firms, which are Established, Reliable, Indigenous & Primary Producers of Steel, having Integrated Steel Plants (ISP), using iron ore as the basic raw material and having in house iron rolling facilities, followed by production of liquid steel & crude steel.				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(iii) (a)	40 % of rate payment shall be made after steel material required for fabrication (as per drawing) is received at site.				
	(iii) (b)	15 % of rate payment shall be made on acceptance of fabricated components at site.				
	(iii) (c)	20 % of rate payment shall be made after erection & launching				
	(iii) (d)	25 % of rate payment shall be made after final approval office and successful completion of all works (ROB wise) included in this item including metallizing and finishing complete.				
	(iv)	No deduction for holes and no addition for rivets/ bolts/welds etc. shall be made				
	(v)	The contractor shall submit the detailed erection drawing and Launching scheme along with necessary design calculations for approval from RITES Ltd before mentioned and launching of girder.				
	(vi)	Temporary supports if any required for the erection /launching shall be erected after the approval of Engineer. Nothing extra shall be payable on this account.				
	(vii)	The contractor shall take all safety precautions that will be necessary in consultation with Engineer asper extant rules / guidelines. Nothing extra shall be payable on this account.				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(viii)	Notwithstanding above, the contractor shall be fully responsible for any mishap that may occur as a result of negligent working.				
	(ix)	Contractor has to take every precautionary measure for safety of running train during and after launching of girder				
	(x)	The rate includes launching under traffic blocks wherever required. However, the rate does not include the cost of possession of traffic / OHE block.				
	(xi)	The Block required shall be arranged by DFCCIL. The duration of the block shall be as approved by Engineer. If the Block granted is not made available due to unavoidable reasons, nothing extra / no compensation shall be paid.				
	(xii)	However, penalties, if any, levied by Indian Railways caused due to any careless working or otherwise of violation of the Terms and Conditions of the track /OH block, shall be payable by the contractor.				
	(xiii)	The cost of all test as per prevailing code for acceptance shall be borne by contractor.				
32	NS-9	Steel work welded in built-up sections / framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
(a)		In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works	kg	3650	172.84	6,30,853.00
33	NS-10	Providing and fixing hand rail by welding etc. to steel ladders railing, balcony railing and staircase railing including applying a priming coat of approved steel primer				
(a)		G.I. pipes 40mm nominal bore (class B)	kg	4640	233.32	10,82,586.63
34	NS-11	Supplying, fabrication & fixing in position BRC protection screen with MS angle frame, expanded metal (XPM), GI Sheet of 16 gauge, J Bolts etc of approved Railway design with two coats of aluminium paints of approved manufacturer as per drawing no. RDSO/ETI/C/0068 with all contractor's labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead & lift complete in all respect as a complete job as per specification & as directed by Engineer.	kg	14850	123.90	1,839,915.00
35	NS-12	Design, Manufacturing and Supplying of POT / POT-PTFE bearings for the following spans as per RDSO bearing drawing No RDSO/B-10412/8 for 72m Bow String Girder and RDSO/B- 10411/8/R1 for 60m Bow String Girder at site including fitting and fixing in position true to line and level with all contractor's materials, labour, tools and plants,				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		loading unloading and stacking at site as per specification and as directed by engineer as a complete job.				
(a)		For 72.00 m Bow String Girder	Set	5	4,45,072.00	22,25,360.00
	Notes: -					
	(I)	The drawing upto last alteration / revision/amendment shall be followed.				
	(ii)	Cast steel of grade 280 - 520 W or 340 - 570 W of IS 1030 shall be used.				
	(iii)	Each set of bearing shall include 4 nos of bearings (1 POT bearings and 3 POT - PTFE bearings) and all bolts and all other components connected with bearings as shown in respective drawings.				
	(iv)	The supply of POT / POT-PTFE bearing shall include all materials shown in the drawings. The supply also includes supply of all holding down bolts to fix the bearings at the bottom on pedestal and all bolts to fix the bearings to the bottom of girder.				
	(v)	75% payment shall be made after supply of each set at site on submission of indemnity bond and balance 25% shall be made after fixing of bearings.				
(b)		For 60.00 m Bow String Girder	Set	1	3,25,550.00	3,25,550.00
	Notes: -					
	(I)	The drawing upto last alteration / revision/amendment shall be followed.				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(ii)	Cast steel of grade 280 - 520 W or 340 - 570 W of IS 1030 shall be used.				
	(iii)	Each set of bearing shall include 4 nos of bearings (1 POT bearings and 3 POT - PTFE bearings) and all bolts and all other components connected with bearings as shown in respective drawings.				
	(iv)	The supply of POT / POT-PTFE bearing shall include all materials shown in the drawings. The supply also includes supply of all holding down bolts to fix the bearings at the bottom on pedestal and all bolts to fix the bearings to the bottom of girder.				
	(v)	75% payment shall be made after supply of each set at site on submission of indemnity bond and balance 25% shall be made after fixing of bearings.				
36	NS-13	Manufacturing and Supplying of POT / POT-PTFE bearings for the following spans as per RDSO bearing drawing No RDSO/B- 11758/6R for 36m Composite Girder at site including fitting and fixing in position true to line and level with all contractor's materials, labour, tools and plants, loading unloading and stacking at site as per specification and as directed by engineer as a complete job.				
(a)		For 36.00 m composite girder	set	1	7,69,147.10	7,69,147.10
	Notes: -					

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
	(I)	The drawing upto last alteration / revision/amendment shall be followed.				
	(ii)	Cast steel of grade 280 - 520 W or 340 - 570 W of IS 1030 shall be used.				
	(iii)	Each set of bearing shall include 12 nos of bearings (2 POT bearings, 8 POT - PTFE bearings, 1 Metallic Pin Bearing and 1 Metallic Guide Bearing) and all bolts and all other components connected with bearings as shown in respective drawings.				
	(iv)	The supply of POT / POT-PTFE bearing shall include all materials shown in the drawings. The supply also includes supply of all holding down bolts to fix the bearings at the bottom on pedestal and all bolts to fix the bearings to the bottom of girder.				
	(v)	75% payment shall be made after supply of each set at site on submission of indemnity bond and balance 25% shall be made after fixing of bearings.				
37	NS-14	Structural steel work; welded in built up sections, using 3.15mm thick MS sheet, flat of size 65X8 mm, etc including cutting, bending, straightening, hoisting, fixing in position, including applying a priming coat of approved steel primer, complete - and fixing of plate with main girders as per approved drawing of deck slab shuttering.	kg	26560	95.00	25,23,200.00

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		TOTAL COST OF SCHEDULE 'D1' ITEMS				33,58,23,975.00

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
SCH	EDULE 'E	E1' - SUPPLY OF CEMENT				
38	033060	Supply and using cement at worksite:				
(a)	033061	OPC 43 Grade	MT	5796	5,980.00	3,46,60,080.00
		TOTAL COSTOF SCHEDULE 'E1' ITEMS				3,46,60,080.00

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SI. No.	Item no. of NCR USSO R - 2010 EDULE 'F	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
39	045010	Supplying reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete -				
(a)	045016	Thermo-Mechanically Treated bars	kg	1594920	54.35	8,66,83,902.00
		NOTES - (I) The contractor shall quote the rate for Thermo- Mechanically Treated bars of Grade Fe 500D.				
		TOTAL COST OF SCHEDULE 'F1' ITEMS				8,66,83,902.00

Explanatory Notes for BOQ:

- (i) Contractor shall quote rates of shuttering and curing for all heights.
- (ii) The rates of reinforcement item mentioned in the above schedule includes placing of reinforcement under running traffic conditions.
- (iii) All NCR USSOR items contain item nos., if any discrepancy is found in nomenclature, schedule nomenclature will prevail.
- (iv) Tenderer must quote their rates for supply and erection of fabricated girders with their own material including loading, transportation and unloading at site. DFCCIL shall not provide any assistance for procurement of raw material for manufacturing the girders tendered for.
- (v) The rates shall also be inclusive of all taxes legally leviable and / or any other taxes, license fee and royalty charges etc. if any.
- (vi) The above quantity is approximate: -The DFCCIL reserve the right to increase / decrease the same.
- (vii) The contractor has to submit launching scheme and detailed drawing of each component of the Railway safety and nothing extra shall be paid for this activity.

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SCHEDULE – 2 SUMMARY OF SCHEDULE OF PRICES CONSTRUCTION OF APPROACHES OF 1 NOS. ROB IN LIEU OF LC NO. 140

SI. No.	Description of works	Cost as per USSOR 2010 of NC Rly (in Rs.)	DFCCIL updated %	DFCCIL updated cost (in Rs.)	
1	2	3	4	5	
1.	Execution of all works as per Schedule "A2" (items as per USSOR 2010of NC Rly for Bridge Chapter No. 19, 20, 21 & 22)	3,10,69,538	43.00%	4,44,29,439	
2.	Execution of all works as per Schedule "B2" (items as per USSOR 2010 of NC Rly for chapters other than bridge Chapters and items of Schedules D2, E2 & F2 below)	1,54,06,725	137.70%	3,66,21,785	
3.	Execution of all works as per Schedule "C2" (NS Items)	6,03,32,222	0.00%	6,03,32,222	
4.	Execution of all works as per Schedule "D2" (Supply of Structural Steel)	33,33,350	0.00%	33,33,350	
5.	Execution of all works as per Schedule "E2" (items as per USSOR 2010 of NC Rly for supply of Cement)	1,72,22,400	23.80%	2,13,21,331	
6.	Execution of all works as per Schedule "F2" (items as per USSOR 2010 of NC Rly for supply of Steel Reinforcement including straightening, cutting etc.)	5,38,39,110	27.60%	6,86,98,704	
	Grand Total			23,47,36,831	

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Notes:

Rate of item payable to contractor shall be as per following example: -

For Schedule A2 (Updating factor is 1.43, since 43% is above the rates of USSOR2010 of NC Railway), if the rate of any item of USSOR - 2010 of NC Railway / Schedule A is "X" and

- If percentage quoted by the contractor for Schedule 2 is 5 % above (+5%), Rate (a) payable to contractor = $(X) \times 1.43 \times 1.05$
- If percentage quoted by the contractor for Schedule 2 is 5 % below (-5%), Rate (b) payable to contractor = $(X) \times 1.43 \times 0.95$
- If percentage quoted by the contractor for Schedule 2 is at par, Rate payable to (C) contractor = $(X) \times 1.43 \times 1.0$
- Similarly Updation factor for Schedule B2, E2 and F2 is 2.377, 1.238 and 1.276. (d)
- (e) In case of NS items i.e. Schedule C2 and D2, Updation factor shall be 1.

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SCHEDULE – 2

DETAILS OF SCHEDULE OF PRICES

SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)				
SCH	SCHEDULE 'A2' - (ITEMS AS PER USSOR 2010 OF NC RLY FOR BRIDGE CHAPTERS)									
1	192010	Earthwork in excavation for foundations and floors of the bridges, retaining walls etc. including setting out, dressing of sides, ramming of bottom, getting out the excavated material, back filling in layers with approved material and consolidation of the layers by ramming and watering etc. including all lift, disposal of surplus soil upto a lead of 300m, all types of shoring and strutting with all labour and material complete as per drawing and technical specification as directed by Engineer								
(a)	192011	All kinds of soils	cum	5420	165.50	8,97,010.00				
2	192030	Providing and laying Plain Cement Concrete 1:3:6 with graded stone aggregate of 40mm nominal size, in foundation and floors, retaining walls of bridges including mechanical mixing, vibrating, pumping and bailing out water where ever required with all materials and labour complete but excluding the cost of cement and shuttering as per drawings and technical specifications as directed by Engineer.	cum	300	1782.20	5,34,660.00				
3	192040	Providing and laying in position machine mixed, machine vibrated	cum	2220	1,694.28	37,61,301.60				

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		and machine batched Design Mix Cement Concrete M35 grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC raft foundation & Pile cap including finishing, using Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability without impairing strength and durability complete as per specifications and direction of the Engineer. Payment for cement, reinforcement and shuttering shall be paid extra.				
4	192060	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M35 grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the following Reinforced cement concrete structural elements up to height of 10m from foundation top level, including finishing, using Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability without impairing strength and durability complete as per specifications and direction of the Engineer. Payment for				

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		cement, reinforcement & shuttering shall be paid extra.				
(a)	192061	Abutment & Pier	cum	580	1779.00	10,31,820.00
(b)	192063	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	cum	750	1948.42	14,61,315.00
(C)	192064	Dirt wall/ ballast wall/Approach Slab at formation level	cum / m height	50	2033.14	1,01,657.00
5	195030	Centring and shuttering including strutting, propping etc. and removal of form for :				
(a)	195031	RCC Raft Foundation & Pile cap	sqm	920	127.80	1,17,576.00
(b)	195032	Abutment, pier, wing walls and return walls	sqm	390	214.70	83,733.00
(C)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	sqm	1440	213.09	3,06,849.60
(d)	195034	Approach slab at formation level, Dirt wall / ballast wall at formation level	sqm	5200	127.80	6,64,560.00
6	201010	Providing and laying in position Design Mix Cement Concrete M- 40 grade machine mixed, machine vibrated and machine batched using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Cast in- situ Prestressed (Post tensioned) concrete girder / Box girders for spans upto 18.3m (centre to centre) Including finishing, using				

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate, retard setting of concrete, improve workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Payment for Shuttering, Cement, Admixtures, reinforcement, HTS cables, sheathing, anchorage cones, stressing of cables and grouting of the ducts will be done extra.				
(a)	201011	With Soffit level upto 9m above Bed level	cum	2770	2117.31	58,64,948.70
(b)	201014	Extra for increase in span by every 1m or part thereof for span above 18.3m & upto 30.5m	metre /cum or part there of	2770	636.11	17,62,027.47
7	201050	Providing and fixing in position of standard preformed sealed and slab type or strip seal elastomeric type expansion joints for Railway bridge or Road Over Bridges as per approved drawings and latest MOST/IRC specifications. The rates are inclusive of supplying, fixing with contractor's own materials, e.g. inserts, bolts, socket tubes, Neoprene sheet/cap etc., equipments, machineries, labour, all taxes, royalty, all lead &lifts, transport, testing, surface preparations, complete				

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
(a)	201051	For 80mm expansion	meter	160	23136	37,01,804.80
8	201060	Load testing of one or more spans of bridge as selected by the Engineer as per approved load test procedure following relevant IS/IRC/Railway codes with contractor's labour, deflection measuring instruments, loading materials, recoding and analyzing the load testing results including all lead & lift, etc. complete as required. The rates are all inclusive and will be paid after load test is finished and girder is cleared of the kentledge/loading material etc. The load shall be 1.25 times the stipulated design load, based on design load & not span				
(a)	201061	For Span design load upto 100 MT	Each	1	66773	66,772.64
(b)	201062	Extra for every increase of 100 MT or part thereof in the span load capacity upto 800 MT	Each 100M T	1	66773	66,772.64
9	211070	Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268–1995 in Prestressed Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, anchoring of cables, supplying and placing spiral corrugated type	MT	60	1,40,715.44	84,42,926.40

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS:513 of required diameter/ thickness, vent pipe, placing, bending, routing, fixing, stressing & grouting of cable ducts with cement grout, Anchorage sets in required number with provision for future prestressing, if any including all lead and lift with contractor's own materials, labour, equipments etc. complete as per drawings & specifications. Rate also includes covering anchorage pads with epoxy mortar of approved quality to avoid corrosion. Cement for grouting to be paid separately.				
(a)	201071	Deduct for not using CRCA sheathing & other related items for pretension members from item 201070	МТ	60	- 34,920.24	- 2,095,214.40
(b)	201072	Extra for using HDPE sheathing instead of CRCA sheathing	MT	60	148.67	8,920.20
10	222180	Providing and laying of filter media consisting of granular materials of GW, GP, SW groups as per IS:1498-1970 in required profile behind boulder filling of abutments, wing walls / return walls etc. above bed level with all labour and material complete job as per drawing and technical specification of RDSO Guidelines	cum	1950	1,505.65	29,36,017.50
		TOTAL COST OF SCHEDULE 'A2' ITEMS				3,10,69,538.00

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SI. No. SCH	Item no. of NCR USSO R - 2010 EDULE '	Description of items B2' - (ITEMS AS PER USSOR	Unit 2010 C	Qty.	Rate as per NCR USSOR- 2010 (Rs) Y OTHER	Amount (Rs)
СНА	PTERS)		[1		
11	234010	2.5 cm thick bitumastic sheet with hot bitumen of approved quality using stone chippings (60% 12.5 mm nominal size and 40% 10 mm nominal size) @ 1.65 cum per 100 sqm and coarse sand at 1.65 cum per 100 sqm of road surface and with bitumen @ 56 kg/cum of stone chippings and @ 128 kg/cum, of sand over a tack coat with hot straight run bitumen including consolidation with road roller of 8 to 10 tonne etc. complete, (tack coat to be paid separately) :				
(a)	234011	With paving bitumen 80/100 heated and then mixed with solvent at the rate of 70 gram per kg of asphalt	sqm	170	214.38	36,444.60
12	233010	Providing and applying tack coat using bitumen emulsion (Rapid setting) complying with IS:8887- 1995, spraying the bitumen emulsion with mechanically operated spray unit, cleaning and preparing the existing road surface as per specification				
(a)	233012	On bituminous surface @ 0.25kg/sqm	sqm	50	13.81	690.50
13	231040	Providing and laying water bound macadam with specified stone aggregate, stone screening and binding material including				

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc. complete				
(a)	231041	Sub-base with stone aggregate 90mm to 45mm including stone screening 13.2mm size	cum	3420	1003.48	3,431,901.60
14	231010	Providing and applying tack coat using bitumen emulsion (Rapid setting) complying with IS:8887- 1995, spraying the bitumen emulsion with mechanically operated spray unit, cleaning and preparing the existing road surface as per specification				
(a)	233012	On bituminous surface @ 0.25kg/sqm	sqm	8140	13.81	112413.4
15	238020	Providing and laying Dense Bituminous concrete on prepared surface with specified graded stone aggregate for wearing course, mixing of bitumen, filler & stone aggregate in hot mix plant, transporting the mixed material and laying with mechanical paver finisher fitted with electronic sensing device to the required level and grade and rolling with road rollers, as per specification to achieve the desired density and compaction, but excluding cost of primer / tack coat				
(a)	238021	40mm/50mm compacted thickness with bitumen of grade 60/70 @ 6.5% and lime @ 3% by weight of total mix	cum	1310	8351.61	10,940,609.10

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
16	14110	Providing and removing barricading with the help of portable fencing along the running track where the work is to be done in close vicinity of the track. Fencing shall consist of self- supporting steel angles of size 50 x50x6mm, 1.5m long provided with hooks etc. and embedded in CC 1:2:4 block of size 0.23x0.23x0.23m placed at c/c distance of 2m along the track. 12mm dia rods in three horizontal layer tack welded with the angle posts including providing retro- reflective tapes in Horizontal & vertical direction. Note: Released material will be the property of the contractor after the completion of work. Cost of cement to be paid separately.	metre	900	105.95	95,355.00
17	236070	Painting road surface marking with adequate number of coats to give uniform finish with ready mixed road marking paint conforming to IS:164, on bituminous surface in white/yellow shade including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete				
(a)	236071	New work (minimum two coats)	sqm	2590	80.90	209,531.00
18	222170	Providing and fixing of Drainage Spouts of 100mm UPVC complete as per drawing and Technical specification	metre	360	268.10	96,516.00
19	237010	Providing and fixing Cat's Eye (Glow studs) heavy integral stem,	each	900	536.96	483,264.00

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
		reflective, aluminium die cast with elegant finish of size 100mmx100mm and 20mm high having a stem of 50mm (or 12mm dia. 90mm long) screwed and nailed to fix into the road surface or at the nosing of the central verge. The road studs should have reflectors fitted on one side of the studs (3 nos. 7 element or 1 no. 29 element reflector) complete				
		TOTAL COST OF SCHEDULE 'B2' ITEMS				1,54,06,725.00

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
SCH	EDULE 'O	2' - NON-SCHEDULED ITEMS				
20	NS-1	Providing and laying M-35 grade (using 43/53 grade ordinary Portland Cement) precast concrete facia wall (Area of each facia panel shall not be less than 1.5 sqm. Height shall not be less than 900mm, min 180mm thick) including design and getting the approval ` liner finishes as per the design requirements. PVC drainage pipes, 200mm precast cover facia for drainage pipes, joint filler, as per approved drawings, logo panels, geo-textile filter fabric for wrapping pipes etc. including filter media (500mm thick) behind the facia wall, drain sleeve in lower panels as per drawings and design, supplying and laying in position the specified and approved Geo- Grid soil reinforcement including cutting in required length, placing in position and connecting with the precast facia panels as per the design and drawings and direction of the Engineer-in- Charge all complete with all materials, labour, lead and lift, plants, machinery, taxes royalty etc. complete. Item to include all incidental work required to complete the job as per drawing and specifications.	sqm	3250	6352.94	2,06,47,068.17
	Notes:	The second of work in the above item				
	(A)	The scope of work in the above item includes:				
	(a)	All initial layout and alignment of reinforced soil wall after site clearance and excavation in all type of soils, existing road pavement including BM, AC, WMM, WBM etc. for the construction of Reinforced Soil wall structure including all components like reinforcing element, Precast panel, etc. dismantling of footpath, planters, etc. as per the directions of Engineer-in-Charge				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		and preparing designs and shop drawings giving levels etc. The work shall be started only after approval of the design and shop drawings by Engineer- in-Charge.				
	(b)	Approval of the facia patterns on panels including name of clients etc. from the Engineer-in-Charge. Nothing extra shall be payable for mock ups and trials of the facia panels. The approved mock up facia shall be protected from any damage during execution of the work, this will form part of landscaping works.				
	(c)	Filter media min. 500mm thick with stone crushed aggregates as per approved drawings from the bed level to the top level of the embankment of reinforced earth structure and behind the facia panels for proper drainage as per approved drawings and particular specifications.				
	(d)	Providing and placing 200 mm dia HDPE perforated Pipe (perforation at top half only) wrapped in non-woven geotextile and filled with filter media, as per drawings for the drainage of seepage water from the fill between RS walls.				
	(e)	All transportation, erection in position alignment and all incidental works as per approved shop drawings to the satisfaction of Engineer-in-Charge.				
	(B)	Measurement:				
		The reinforced Soil wall area shall be measured from top of concrete levelling pad at base to top of RCC facia wall panel for payment. No separate payment shall be made for any type of reinforcement, filter media, non-woven geotextile wrappers filter, perforated pipe, Geo - Grid, levelling pad/ course for				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
		any of the item/ incidental work required to complete the item as per direction of Engineer-in-Charge.				
21	NS-2	Providing, placing and compacting approved backfill material in layers as per approved methodology for reinforced fill portion and random fill portion in the approaches between the Reinforced Soil (RS) Wall panels as per approved drawings and particular specifications. Item to include 500 mm thick sub-grade construction as per specifications with CBR under soaked conditions not less than 6%. All incidental work required to complete the job shall be included in the quoted rates. The item shall be measured and paid for the finished volume of backfill and subgrade placed in position excluding the volume of filter media at behind the RS walls.	cum	13310	2174.25	2,89,39,267.50
	Notes:					
	(A)	With Sand				
		Notes:				
	(a)	The specification and construction details to be adopted shall be as per section 3100 of Mort Specification.				
	(b)	For compaction of Earthwork, attention is invited to clause 3105.5 of MORTH Specification.				
		The earth fill material shall be clean, free draining, granular with high friction and low cohesion, non-corrosive, coarse grained with not 10 per cent of particles passing 75 micron sieve, free of any deleterious matter, chlorides, salts, acids, alkalies, mineral oil, fungus and microbes and shall be of specified PH value.				

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)
22	NS-3	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layers with paver in subbase / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	cum	3420	2,572.03	8,796,346.40
23	NS-4	Erection of Prestressed Girder on bearings with crane at site on sub- structure with labour, equipment, T&P and all temporary arrangements, scaffolding etc. complete with contractor's design and scheme for longitudinal launching/side slewing (not requiring traffic block) approved by Engineer in charge.	cum	1070	1,822.00	1,949,540.00
		TOTAL COST OF SCHEDULE 'C2' ITEMS				6,03,32,222

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SI.	ltem	Description of items	Unit	Qty.	Rate	Amount (Rs)
No.	no.	Description of items	Onit	Quy.	(Rs)	Amount (N3)
		2' -SUPPLY OF STRUCTURAL S	TEEL		(10)	
24	NS-5	Design, Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or unreinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel / fabricated structural steel, metal and elastomer elements complete as per IS:2062, IS:1030, AISI:304, AISI:316, IS:6911, BS:3784, IS:3400, IS:226, BS- 5400, Bridge Code and as per drawing and approved Technical Specifications. The design of the bearings shall be submitted by the manufacturers / contractor and got approved from Railway before fixing. Test report of the bearings should be got approved before the materials are lifted from the manufacturer premises. Payment is based on 250 MT capacity of Bearing.				
	(a)	Bearing for 24m span PSC Girder	set	20	1,66,667.50	33,33,350.00
	Note: -					
	(i)	The drawing upto last alteration / revision/amendment shall be followed.				
	(ii)	Cast steel of grade 280 - 520 W or 340 - 570 W of IS 1030 shall be used.				

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(iii)	Each set of bearing shall include 10 nos. of bearings (2 POT bearings and 8 POT Staaring's)		
	bearings and 8 POT – Steering's) and all bolts and all other		
	components connected with bearings as shown in respective drawings.		
(iv)	The supply of POT / POT-Tearing shall include all materials shown in the drawings. The supply also includes supply of all holding down bolts to fix the bearings at the bottom on pedestal and all bolts to fix the bearings to the		
(v)	bottom of girder. 75% payment shall be made after supply of each set at site on submission of indemnity bond and balance 25% shall be made after fixing of bearings.		
	TOTAL COST OF SCHEDULE 'D2' ITEMS		33,33,350.00

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SI. No.	ltem no.	Description of items	Unit	Qty.	Rate (Rs)	Amount (Rs)		
SCH	SCHEDULE 'E2' –SUPPLY OF CEMENT							
25	33060	Supplying and using Cement at worksite:						
(a)	33061	Ordinary Portland Cement Grade - 43	tonne	2880	5980.00	1,72,22,400.00		
		TOTAL COST OF SCHEDULE 'E2' ITEMS				1,72,22,400.00		

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SI. No.	Item no. of NCR USSO R - 2010	Description of items	Unit	Qty.	Rate as per NCR USSOR- 2010 (Rs)	Amount (Rs)
SCH	EDULE 'F	2' - SUPLLY OF REINFORCEMEN	т			
26	45010	Supplying reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete:				
(a)	45016	Thermo-Mechanically Treated Bars	kg	990600	54.35	5,38,39,110.00
	Notes: -					
	(I)	The contractor shall quote the rate for Thermo-Mechanically related bars of Grade Fe 500/550D.				
		TOTAL COSTOF SCHEDULE 'F2' ITEMS				5,38,39,110

Explanatory Notes for BOQ:

- (i) Contractor shall quote rates of shuttering and curing for all heights.
- (ii) The rates of reinforcement item mentioned in the above schedule includes placing of reinforcement under running traffic conditions.
- (iii) All NCR USSOR items contain item nos., if any discrepancy is found in nomenclature, schedule nomenclature will prevail.
- (iv) Tenderer must quote their rates for supply and erection of fabricated girders with their own material including loading, transportation and unloading at site. DFCCIL shall not provide any assistance for procurement of raw material for manufacturing the girders tendered for.
- (v) The rates shall also be inclusive of all taxes legally leviable and / or any other taxes, license fee and royalty charges etc. if any.
- (vi) The above quantity is approximate: -The DFCCIL reserve the right to increase / decrease the same.
- (vii) The contractor has to submit launching scheme and detailed drawing of each component of the Railway safety and nothing extra shall be paid for this activity.

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