



Tender No: PRYJ/EN/DDU-PRYJ/ROB-122/2021/01
For

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) Railway and Approach portion at level crossings No. 122 C IR KM 705/23-25 Railway and Approach Portion including Service Road between Chunar -Dagmagpur Station Prayagraj Division of North Central Railway.

**E-TENDER DOCUMENT
FINANCIAL BID
(PACKET-B)
June – 2021**

**Employer:
DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)
Under
MINISTRY OF RAILWAYS**

ALLAHABAD /EAST OFFICE:-

2nd Floor, OCC BUILDING, SUBEDARGANJ, JHALWA, ALLAHABAD,
UTTAR PRADESH-211011

CORPORATE OFFICE:-

DFCCIL, 5th Floor, Pragati Maidan Metro Station Building Complex,
New Delhi-110001.



GENERAL INFORMATION/DATA SHEET

TENDER NOTICE NO	PRYJ/EN/DDU-PRYJ/ROB-122/2021/01
Name of Work	Construction of Two-Lane Road Over Bridge (ROB) Railway and Approach portion at level crossings No. 122 C IR KM 705/23-25 Railway and Approach Portion including Service Road between Chunar -Dagmagpur Station Prayagraj Division of North Central Railway.
(a) Tender Value	Rs. 44,52,44,378/-
(b) Completion Period	18 months
(c) Date and Time of Issue of tender	From 30.06.2021 at 15.00 Hrs
(d) Last date and Time of submission of tender	03.08.2021 upto 15:00hrs
(e) Date and Time of Opening of Tender (Technical bid -Packet A)	On 03.08.2021 at 15:30hrs
(f) Validity of offer	60 days
(g) Retention Money/ Security Deposit	5 % of Contract Value
(i) Performance Bank Gurantee	Performance Guarantee (PG) have to be submitted within 30(thirty) days from the date of issue of Letter of Acceptance (LOA), amounting to 3% of the contract value in the form as give in clause 16.4 of GCC



SUMMARY OF PRICES

Name of work:- Construction of Two-Lane Road Over Bridge (ROB) Railway and Approach portion at level crossings No. 122 C IR KM 705/23-25 Railway and Approach Portion including Service Road between Chunar -Dagmagpur Station Prayagraj Division of North Central Railway.

Sl. No.	Description of works	Cost as per USSOR 2010 of N.C. Rly including GST	DFCCIL updated %	DFCCIL updated cost (in Rs.)	Rates to be quoted in figures & words (Clearly mention above / below / at par on updated DFCCIL Rate / cost given in column 4/5)
1.	2.	3.	4.	5.	6
1.	Execution of all works as per Schedule "A" (items as per USSOR 2010 of NC Rly for Bridge Chapter No. 19, 20, 21 & 22	6,48,06,171.00	70.836%	11,07,12,041.94 % age (in figures) (In words)
2.	Execution of all works as per Schedule "B" as per USSOR 2010 of NC Rly for Chapter other than bridge Chapters and S.N. 4 & 5 below)	1,32,67,702.34	89.829%	2,51,85,924.29 % age (in figures) (In words)
3.	Execution of all works as per Schedule "C" (NS Items)	8,58,43,707.40	-	8,58,43,707.40 % age (in figures) (In words)
4.	Execution of all works as per Schedule "D" (items as per USSOR 2010 of NC Rly for supply of cement)	4,26,49,360.00	40.580%	5,99,56,611.39 % age (in figures) (In words)
5.	Execution of all works as per Schedule "E" (items as per USSOR 2010 of NC Rly for supply of steel reinforcement including straightening, cutting etc.	12,11,46,057.00	34.999%	16,35,46,091.82 % age (in figures) (In words)
	Grand Total (in Rs.):			44,52,44,378.00	



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.
- (iv) Rate of item payable to contractor shall be as per following example:-

For Schedule A (Updating factor is 1.70836, since 70.836% is above the rates of USSOR 2010 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 is 5 % above (+5%),
Rate payable to contractor = $(X) \times 1.70836 \times 1.05$
- (b) If percentage quoted by the contractor is 5 % below (-5%),
Rate payable to contractor = $(X) \times 1.70836 \times 0.95$
- (c) If percentage quoted by the contractor is at par, Rate payable to contractor = $(X) \times 1.70836 \times 1.0$
- (d) Similarly, updation factor for Schedule B,D and E is 1.89829, 1.4058 and 1.34999.
- (e) In case of NS items i.e. Schedule C, Updation factor shall be 1.



SCHEDULE - A
SCHEDULE OF PRICES & TOTAL PRICES

Schedule A							
SN	USSOR-2010 NCR	Description	unit		Qty	Rate	Amount (in Rs.)
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 in charge					
(a)	192011	E/W in All kinds of soils	1	CUM	4687.91	165.50	7,75,849.11
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.	1	CUM	40.30	1,782.20	71,822.66



3	192040	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 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 in charge. Payment for cement, reinforcement and shuttering shall be paid extra.	1	CUM	2678.00	1,694.28	45,37,281.84
4	192050	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M20 grade (Cast - in Situ) using 20 mm graded crushed stone aggregate and coarse sand of approved quality in Abutment, pier, wing walls and return walls of Mass cement concrete above RCC raft Including finishing complete as per specifications and direction of the Engineer in charge. Payment for cement, reinforcement and shuttering shall be paid extra	1	CUM	102	1694.28	172816.56



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 in charge. Payment for cement, reinforcement & shuttering shall be paid extra.					
(a)	192061	Abutment & Pier	1	cum	3028.67	1,779.00	53,88,003.93
(b)	192063	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	1	cum	577.36	1,948.42	11,24,939.77
(c)	192064	Approach slab at formation level, Dirt wall/ballast wall at formation level	1	cum	300.00	2,033.14	6,09,942.00



6	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 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 in charge. 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	Pile 1200mm diameter	1	Meter	1782.80	7,874.24	1,40,38,195.07



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 up to 250 MT	1	Each	8.00	81,014.63	6,48,117.04
(b)	192104	Extra above 250 MT for each 50 MT	1	Each	32.00	13,676.66	4,37,653.12
(c)	192107	Routine load test up to 250 MT	1	Each	6.00	1,25,285.20	7,51,711.20
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)	192113	Piles with lateral load capacity of above 20 ton	1	Each	8.00	55,199.37	4,41,594.96
9	195030	Centring and shuttering including strutting, propping etc. and removal of form for :					
(a)	195031	RCC Raft Foundation & Pile cap	1	Sqm	1071.36	127.80	1,36,919.81
(b)	195032	Abutment, pier, wing walls and return walls	1	Sqm	3976.70	214.70	8,53,797.49
(c)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	1	Sqm	10500.00	213.09	22,37,445.00
(d)	195034	Approach slab at formation level, Dirt wall / ballast wall at formation level	1	Sqm	6156.00	127.80	7,86,736.80



(e)	195038	In Bottom/ top slab, side walls, toe wall and sumps haunch filling head walls or any other component.	1	Sqm	3760.00	214.70	8,07,272.00
10	201020	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M-40 grade using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Precast Prestressed (Post tensioned) concrete girder/Box (spans upto 30.5m) in contractor's casting yard, including finishing, using 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. Payment for Shuttering, Cement, Admixtures, reinforcement, HTS cables, anchorage cones, stressing of cables and grouting of the ducts will be done extra. Launching of girder/slab in position is not included in this item.	1	Cum	4142.59	1,932.92	80,07,295.06
		Contd. -- Payment for Shuttering, Cement, Admixtures, reinforcement, HTS cables, anchorage cones, stressing of cables and grouting of the ducts will be done extra. Launching of girder/slab in position is not included in this item					
(a)	201021	Deduct for casting of Slab instead of Girder/Box	1	cum	-1704.50	122.92	2,09,517.14 -



11	201070	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 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.	MT	56.00	140567.44	78,71,776.64
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12	201040	Design, manufacturing, supplying and fixing in position elastomeric bearing pads under prestressed concrete girder, for Pre-cast as well as cast-in-situ girders as per approved drawing. The rate shall include cost of load test of one no. bearing from Railway approved firms and all fixing materials, equipments, machineries, labour, taxes, loading, unloading, leading, lifting etc. complete. Rates include getting the drawing approved from Railway and cost of inspection during manufacturing from railway approved organization. (Note : 1. The rate is for finished item complete and paid only after fixing in position below the girder. 2. The volume shall be given in the drawing and no deduction shall be made for inserted steel plates etc.)- complete assembly including plates and pins as per RDSO/B-11775 Drg.	1	CU. CM	8064000.00	1.24	99,99,360.00
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13	211140	Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or un reinforced 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					
	211141	POT-PTFE Bearing		MT Bearing Capacity	3000.00	171.27	5,13,810.00
14	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	1	Meter	186.00	23,136.28	43,03,348.08
15		Item of USSOR -2010 of NCR Chapter No. 19, 20 21 & 22, which is not including in above items.					5,00,000.00
		TOTAL					6,48,06,171.00



SCHEDULE OF PRICES & TOTAL PRICES

SCH-B							
SN	USSOR-2010 NCR	Description	unit		Qty	Rate	Amount (in Rs.)
1	231040	Providing and laying water bound macadam with specified stone aggregate, stone screening and binding material including 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	1	cum	1080.00	1,003.48	10,83,758.40
(b)	231043	Base course with 53mm to 22.4mm size including stone screening 11.2mm size	1	cum	540.00	1,633.81	8,82,257.40
2	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)	233011	On W.B.M @ 0.4kg/sqm	1	Sqm	5400.00	19.99	1,07,946.00
(b)	233012	On bituminous @0.25kg/sqm	1	Sqm	5400.00	13.81	74,574.00
3	237010	Providing and fixing Cat's Eye (Glow studs) heavy integral stem, reflective, aluminium die cast with elegant finish of size 100x100mm 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 (3Nos. 7 element or 1No. 29 element reflector) complete.		Each	800.00	536.96	4,29,568.00



4	238010	Providing and laying Dense Bituminous macadam on prepared surface with specified graded crushed stone aggregate for profile corrective base / binding course, mixing of stone aggregate, filler and bitumen in hot mix plant, transporting the mixed material and laying with paver finisher fitted with electronic sensing device to the required level and grade and rolling by road roller as per specifications, to achieve the desired density, but excluding the cost of primer / tack coat					
(a)	238014	50mm average compacted thickness with bitumen of 60/70 grade @ 3.5% by weight of total mix	1	Sqm	7200.00	294.17	21,18,024.00
5	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	1	Cum	590.00	8,351.61	49,27,449.90
6	238040	Manufacturing supplying and fixing retro reflective sign boards made up of 2mm thick aluminium sheet, face to be fully covered with high intensity encapsulated type heat activated retro reflective sheeting conforming to type-IV of ASTM-D 4956-01 in blue					



		and silver white or other colour combination including subject matter, message (bi- lingual), symbols and borders etc. as per IRC ; 67:2001, pasted on substrate by an adhesive backing which shall be activated by applying heat and pressure conforming to class-2 of ASTM-D-4956-01 and fixing the same with suitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S. angle iron of size 25mmx25mmx3mm alongwith theft resistant measures, mounted and fixed with 2 nos. M.S. angles of size 35mmx35mmx5mm to a vertical post made up of M.S. Tee section ISMT 50mmx50mmx6mm welded with base plate of size 100mmx100mmx5mm at the bottom end and including making holes in pipes, angles flats, providing & fixing M.S. message plate of required size steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc chromate yellow primer (vertical MS- Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in- charge. (Note : Concreting for fixing may be done as per site requirement and paid for separately)					
(a)	238041	Cautionary/warning sign boards of equilateral triangular shape having each side of 900mm with support length of 3650mm	1	Each	20.00	3,255.59	65,111.80



7	238050	Providing and applying 2.5mm thick road marking strips (retro-reflective) of specified shade/colour using hot thermoplastic material by fully/semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and in accordance with applicable specifications	1	Sqm	475.00	609.41	2,89,469.75
8	108160	Providing and fixing on wall face unplasticised - Rigid PVC single socketed rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion.					
(a)	108162	110mm dia.		metre	1,200.00	196.24	2,35,488.00
9	108180	Providing and fixing on wall face unplasticised - PVC moulded bend and shoe for unplasticised- Rigid PVC rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion					
(a)	108182	Bend 87.5o, 110mm dia bend		Each	90.00	170.18	15,316.20
(b)	108184	Shoe (Plain), 110mm dia shoe		Each	90.00	160.89	14,480.10



10	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.	1	Meter	400.00	105.95	42,380.00
11	81410	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					
(a)	81412	In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works	1	Kg	15000.00	72.53	10,87,950.00
12	081420	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					
	081423	G.I. pipes 40mm nominal bore (class B)	1	Kg	10210.00	97.91	9,99,661.10



13	013120	Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds if provided, platforms etc. with earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per RDSO's latest guidelines and specifications and special condition of contract including all leads, royalty, lifts, ascents, descents, crossing of nallahs or any other obstructions. The rates shall include all dressing of bank to final profile, demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/re-handling. taxes, octroi and royalty etc. as a complete job. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special conditions of contract	1	CUM	1771.91	208.30	3,69,088.85
14	013130	Extra for mechanical compaction of earth/blanketing material filled in embankment with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes incl. cost of water, T&P consumable material and all labour as a complete job. The work is to be executed as per Latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow		CUM	1771.91	14.21	25,178.84
15		Item of USSOR -2010 of NCR except chapters 19, 20, 21, 22 & Cement & Steel which is not including in above items.					5,00,000.00
Total							1,32,67,702.34



SCHEDULE - C
SCHEDULE OF PRICES & TOTAL PRICES

Sch-C (Non- Schedule Items)							
SN	NS Item	Description	unit		Qty	Rate	Amount (in Rs.)
1	NS-1	Supplying & fabrication of steel BOW STRING girder spans as per the approved drawings for construction of superstructure of the road over bridge with contractor's own steel confirming to IS: 2062 with all welds, rivets, nuts, bolts with contractor's own material, fabrication, machinery, Templates, fixtures, equipment tools and plants transportation, skilled/unskilled labour, excise duty Octrol, sales tax and other taxes all leads lifts, descent, loading unloading crossing one or more railway track if required etc complete and as per technical specification. The rate is inclusive of transportation of fabricated girder parts to site by contractor's own means at his own cost. The rate shall also be inclusive of cold straightening of deformed and bent girder parts before their assembly. The structural steel to be used should be manufactured by SAIL/RINL/TISCO only, work has to be done as per drawings and specification approved by railway, metalizing shall be done as per RDSO specification.	1	MT	410	1,18,840.37	4,87,24,551.70
		Note: (i) The Fabrication of girders must be got done from RDSO approved firms for steel bridge Girder only.					
		(ii) For Payment purpose, nominal weight of the girder as per drawing will only be considered. No deduction will be made for holes and also no extra payments will be made for riveting, bolting and welding.					
		(iii) Inspection of Girder shall be done by RDSO/DFCCIL.					



		(iv) Metalizing should be used and payment is made separately vide item No. NS-1. The rate is inclusive of inspection & testing charges of RDSO/Railway if any. Mode of payment:- 50% of Steel payment shall be made after steel material required for fabrication (As per drawing) is received at RDSO approved workshop/contractor workshop/fabrication site. Ownership of such material shall be deemed to rest with the DFCCIL for which the contractor should submit bank guarantee of an amount = 110% of the amount to be paid to contractor covering full completion period of the contract. 45% of rate payment shall be made on acceptance of fabricated component at site and successful test assembly of girder at bridge site. Balance 5% will be made after final approval of Railway and successfully commissioning of work.					
2	NS-2	Assembling, welding, Erecting, Riveting, Launching. Bolting by HSFG bolt wherever required (as per approved drawings) with contractor rivet material, HSFG bolt, service bolt, erection and launching of steel girder span to Railway's/DFCCIL approved drawing approved drawings with other ancillary steel structures fixed to the girder where necessary in proper level and alignment and as per technical specifications. The rate shall be inclusive of supply, erection and dismantling of staging and scaffolding and other temporary arrangements required for the purpose of assembly, erection and launching of girders The rate shall also be inclusive of cold straightening of deformed and bent girder parts before/after their assembly. Work has to be done as per drawings and specification approved by Railway. Temporary supports if any required for the launching purpose shall be erected after approval of DFCCIL/Railway. Nothing extra shall be payable on this account.	1	MT	410	25,418.44	1,04,21,560.40



		Note: For Payment purpose, nominal weight of the girder as per drawing will only be considered. No deduction will be made for holes and also no extra payments will be made for riveting, bolting and welding. The contractor has to submit launching scheme and detailed drawing of each component of the launching scheme duly designed by the reputed consultant and proof checked by the reputed institutes like IITs/NITs only and the same has to be got approved by the railways/ commissioner of railway safety and nothing extra shall be paid on this account. Mode of payment:70% of rate shall be made on completion of welding, riveting, launching and complete erection with drifts and service bolts in position with lowering and placing of girder in position. 25% of rate shall be made on testing and replacing of loose rivets, placing of girder on bearing, painting etc. complete in all respect. Balance 5% shall be made after final approval of DFCCIL and successful completion of work.					
3	NS-3	Metalizing of steel work of girders with sprayed aluminum after surface preparation by Sand/grit blasting, followed by one coat of etch primer (IS:5666) & one coat of Zinc Chrome primer (IS: 104) and two coats of aluminum paint (IS: 2339) with all labour, T&P and material as a completed job duly conforming to all relevant specifications and process given under Clause 39 of IRS-B1-2001. Note: Nominal Thickness of Aluminum coating shall be 150 microns. DFT of Zinc chrome primer shall be 25-30 microns and DFT of each coat of Aluminum paint shall be 12-14 microns. Second coat of aluminum paint (IS: 2339) will be done after fixing of HFSG bolts/riveting and launching. Stage payment schedule: (i) 80% after first coat of aluminum paint (IS: 2339); (ii) 20% after second coat of aluminum paint (IS: 2339)	1	Sqm	3,000	859.48	25,78,440.00
4	NS-4	Reinforced Earth Structures					



	Providing and laying M-35 grade (using 43/53 grade ordinary Portland Cement) precast concrete fascia wall (Area of each fascia 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 fascia for drainage pipes, joint filler, as per approved drawings, logo panels, geo-textile filter fabric for warpping pipes etc. including filter media (500mm thick) behind the fascia 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 fascia 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.					
	The coping beam is not permitted and the top panels shall be casted in the inclined profile as per approved shop drawings. The cost of backfill between reinforced soil wall panels (except filter media) is not included in this item and shall be paid for separately , any ground improvement works for bearing capacity enhancement of ground (if required) shall also be included in the quoted rates. reinforcement used in precast fascia panels is also included in the rates of this item	1	Sqm	540.00	6,086.83	32,86,888.20
	NOTES					-
(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 componenets like reinforcing element, Precast panel, etc. dismantling of footpath, planters, etc. as per the directions of Engineer-in-Charge 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 any of the item/ incidental work required to complete the item as per direction of Engineer-in-					-



		Charge.					
5	NS-5	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.	1	Cum	4,860.00	2,177.24	1,05,81,386.40
	A)	With Sand					-
	Notes:	1.The specification and construction details to be adopted shall be as per section 3100 of MoRTH Specification.					-
		2.For compaction of Earthwork, attention is invited to clause 3105.5 of MORTH Specification.					-
		3.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.					-
6	NS-6	Painting Two Coats on New Concrete surfaces (crash barrier and curb stone) after filling the surface with synthetic enamel paint in all shades on new concrete surfaces.	1	Sqm	7,104.00	79.30	5,63,347.20



7	NS-7	Supply of Admixture for use in production of cement concrete as per design mix and in required proportion.	1	Litre	12,469.00	63.05	7,86,170.45
8	NS-8	Providing and laying in position machine batched, machine mixed and machine vibrated design Mix Cement concrete M-40 grade (cast in situ / Precast including hoisting and fixing in place as per drawings and specifications) 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, Friction slab, 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 labor, tools & plants material (excluding cost of cement reinforcement and shuttering) Fuel consumables machinery, loading unloading, lead and lift complete in all respect as a complete jobs as per specification & as directed by engineer.	1	Cum	317.40	8,342.83	26,48,014.24
	Notes:						



		<p>(i) Payment for cement, reinforcement and shuttering shall be paid extra as per relevant USSOR item included in the relevant schedule.</p> <p>(ii) The concrete is to be poured at the approved safe height and distance from live OHE wires carrying 25KV AC traction (on IR Track) to cast monolithically to the required level as per approved drawing over already launched main steel girder with proper joining arrangement through shear connector.</p> <p>(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 etc.</p> <p>(iv) The contractor shall make adequate arrangement below the girders to avoid falling of anything over the track during concreting of 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</p>					
9	NS-9	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	2,063	117.84	2,43,103.92	



10	NS-10	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.		nos	180	749.66	1,34,938.80
11	NS-11	Drainage Spouts complete as per drawing and Technical specification, including all materials , fixing at site etc		per unit	90	1,353.60	1,21,824.00
12	NS-12	Supplying and fixing 25mm dia. And 200mm long Stud shear connector with all contractor's labour, tools and plants, material, fuel, consumables, machinery, loading, unloading, lead & lift complete in all respect as a complete job as per specifications & as directed by Engineer, Stud shear connectors and ceramic ferrules shall confirm to TYPE SD1/UF as per BS EN ISO 13918-2008 and its Mechanical properties shall be as per ISO 6892/BS EN ISO 13918-D7 as per BS EN ISO 13918-2008. Welding shall be done by " Drawn Arc Stud welding with ceramic Ferrule" technique.		Each	6000.00	248.14	14,88,840.00
13	NS-13	Erection of Prestressed Girder on bearing with crane at site on sub structure with labour, equipment,T&P and all temporary arrangements, scaffolding etc. Complete with contractors design and scheme for longitudinal launching/side slewing (not requiring traffic block) approved by Engineer in charge.	1	Cum	1,795.79	2,374.80	42,64,642.09
		Total					8,58,43,707.40



SCHEDULE OF PRICES & TOTAL PRICES

SCH-D						
USSOR- 2010 NCR	Description	unit		Qty	Rate	Amount
033060	Supplying and using Cement at worksite:					
033061	Ordinary Portland Cement Grade -43	1	MT	7,132	5,980.00	4,26,49,360.00
	Sub-Total					₹ 4,26,49,360.00



SCHEDULE OF PRICES & TOTAL PRICES

SCH-E							
SN	USSOR-2010 NCR	Description	unit		Qty	Rate	Amount
1	045010	Supplying reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete:					
(a)	045016	Thermo-Mechanically Treated Bars 500D	1	KG	2228998.3	54.35	12,11,46,057.61
		Note: The contractor shall quote the rate for TMT Bars of Grade 500D					
		Sub-Total					12,11,46,057.61

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.

