

Construction of Superstructure of Bridges in Bairabi-Sarang Section of N.F.Railway

Schedule		Schedule A-Execution of NS item of works				
Item-1						
SL No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	<p>Supplying of all types of structural steel conforming to Fe 410 B0/Fe 450 B0, E250 B0 of IS 2062-2011, fabrication, transportation for each type of Girder, trial assembly, assembly erection/slewing/end launching of steel girders(Not requiring traffic block) on Sub-structure, surface preparation ,sand blasting, painting and metalizing etc., with approved brand complete in all respect as per approved drawing with contractor's materials and equipment as per drawing/specification, contract condition and as approved engineer in charge. The work also includes supply of HD bolts/HSEFG bolts and nuts with anchorage, washer. Welding shall be done with electrode as per Railway approved drawing. The rate shall be inclusive of labour, tools& plants viz. drilling machine, welding, compressor with gas cutter, oxygen, acetylene etc. complete in all respect with all lead/lift etc. fabrication is to be done as per specification laid in RDSO Booklet Sl. No. B-1-2001. Detailed sub-drawings for fabrication and erection and launching methodology will be prepared by the successful contractor and got approved from Railway. Rate includes fabrication of all the type of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets/welding, HSEFG bolting, T&P bolts, steel drifts, templates, jigs, fixtures, back up supports, accessories, templates staging of CC cribs of sufficient quantity for flooring and camber jacks. Mechanical and Hydraulic jacks(in sufficient number), steel wire ropes and with cribs launching arrangements and any other suitable requirement and marking each member for site identification and transporting various components from fabrication yard (If workshop is not at site) to bridge site in packages, bundles and other means with due care and safe guards as describes in the specification, including loading, unloading sorting member wise, systematic matching etc. and compete in all respect and it also include all inspection and testing of raw materials (excluding ultrasonic testing), erection of bearings in correct position, grouting of bolts and nuts, painting and metalizing of bearing along with minor modification in the bearing pedestal and pier caps 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 site slewing, raising of girders to the bed block level, providing sliding arrangement and slewing the girder in position, lowering of girder on bearing and bed plates, grouting holes in the bed block for fixing of HD bolts/anchor pins of bed plates, all temporary arrangements. Rate includes contractors own cranes of sufficient capacity and boom length, steel textiles as per site condition or floating barge of safe and adequate capacity or other manual/mechanical method of erection and launching of truss members/girders. Sand blasting and metalizing the bridge components with aluminium wire as per IRS B1-2001 including applying one coat of primer of IS-5666 & followed by one coat Zinc chromate primer of IS-104 & two coats of Aluminium paint of IS-2339 (One coat of Aluminium paint is to be applied before erection and another coat ofSupplying of all types of structural steel conforming to Fe 410 B0/Fe 450 B0, E250 B0 of IS 2062-2011, fabrication, transportation for each type of Girder, trial assembly, assembly erection/slewing/end launching of steel girders(Not requiring traffic block) on Sub-structure, surface preparation ,sand blasting, painting and metalizing etc., with approved brand complete in all respect as per approved drawing with contractor's materials and equipment as per drawing/specification, contract condition and as approved engineer in charge. The work also includes supply of HD bolts/HSEFG bolts and nuts with anchorage, washer. Welding shall be done with electrode as per Railway approved drawing. The rate shall be inclusive of labour, tools& plants viz. drilling machine, welding, compressor with gas cutter, oxygen, acetylene etc. complete in all respect with all lead/lift etc. fabrication is to be done as per specification laid in RDSO Booklet Sl. No. B-1-2001. Detailed sub-drawings for fabrication and erection and launching methodology will be prepared by the successful contractor and got approved from Railway. Rate includes fabrication of all the type of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets/welding, HSEFG bolting, T&P bolts, steel drifts,</p>	MT	15200.000	1,66,937.28	2,53,74,46,656.00

templates, jigs, fixtures, back up supports, accessories, templates staging of CC cribs of sufficient quantity for flooring and camber jacks. Mechanical and Hydraulic jacks(in sufficient number), steel wire ropes and with cribs launching arrangements and any other suitable requirement and marking each member for site identification and transporting various components from fabrication yard (If workshop is not at site) to bridge site in packages, bundles and other means with due care and safe guards as describes in the specification, including loading, unloading sorting member wise, systematic matching etc. and compete in all respect and it also include all inspection and testing of raw materials (excluding ultrasonic testing), erection of bearings in correct position, grouting of bolts and nuts, painting and metalizing of Steel Structures along with minor modification in the bearing pedestal and pier caps accessories, transporting various components from fabrication shop to site, including loading, uploading lift and taxes complete, assembly of girders on drifts/bolts, field riveting/welding, assembling of temporary support for site slewing, raising of girders to the bed block level, providing sliding arrangement and slewing the girder in position, lowering of girder on bearing and bed plates, grouting holes in the bed block for fixing of HD bolts/anchor pins of bed plates, all temporary arrangements. Rate includes contractors own cranes of sufficient capacity and boom length, steel textiles as per site condition or floating barge of safe and adequate capacity or other manual/mechanical method of erection and launching of truss members/girders. Sand blasting and metalizing the bridge components with aluminium wire as per IRS B1-2001 including applying one coat of primer of IS-5666 & followed by one coat Zinc chromate primer of IS-104 & two coats of Aluminium paint of IS-2339 (One coat of Aluminium paint is to be applied before erection and another coat of Aluminium paint to be applied after erection). During sand blasting the surface should be thoroughly cleaned & roughened by compressed air with suitable abrasive material & grade of blasting shall confirm to IS-9954.

Payment Schedule:

	Stage	% Payment	Cumm % Payment
(i)	Procurement of Material (Against indemnity bond)	25%	25%
(ii)	Fabrication Materials	15%	40%
(iii)	Transportation of fabricated members to site	15%	55%
(iv)	Launching & erection at site	25%	80%
(v)	Completion of all leftover Riveting/ Bolting/ Welding	10%	90%
(vi)	Completion of metalizing & final coat of painting and commissioning	10%	100%

2,53,74,46,656.00

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Schedule		Schedule B-Execution of USSOR item of works							
Item-2									
SL No.	USSOR Item	Description of Item	Unit	Qty	Rate	Amount			
1	81050	Erecting roof trusses, tank stagings, steel tanks etc. including rivetting for work upto 10m height above GL	Quintal	2500	232.23	5,80,568.06			
2	81060	Extra to item no 081050 for every subsequent 5m height, or part thereof, over 10m height above GL	Quintal	5000	58.05	2,90,272.45			
		Applying Priming Coat			-				
3	121013	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanized iron/steel works	Sqm	1775	20.33	36,081.15			
		Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade			-				
4	121111	Two or more coats on new work	Sqm	1775	36.01	63,923.17			
5	192030	Providing and laying Plain Cement Concrete 1:3:6 with graded stone aggregate of 40 mm 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	250	1,924.37	4,81,092.07			
6	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	cum	150	2,676.12	4,01,418.17			
		Centring and shuttering including strutting, propping etc. and removal of form for :			-				
7	195032	Abutment, pier, wing walls and return walls	Sqm	100	242.09	24,209.45			
8	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall, etc	Sqm	250	229.67	57,417.52			
9	211040	Fabricating, supplying and fixing of 6 to 8 mm thick steel chequered plate conforming to IS: 3502 for pathway, trolley refuges, floor for the bridge including fixing the same over steel channel sleepers by drilling holes in channel sleepers and trolley refuges incl. nuts & bolts, tools and plants, labour as a complete job	MT	415	84,293.85	3,49,81,947.82			
10	211060	Providing and fixing 65/50 mm nominal dia B class G.I. pipe railing used in rows for footpath or anti-crash barrier railing incl. cost of M.S. angle and channels in vertical posts, riveting, welding / rivetting, priming painting two coats, at all heights labour and material as a complete job	Kg	60650	57.97	35,15,947.52			
11	211070	Supplying and fixing anti-slip M.S. Angles/nosing 65mmx 65x 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	10000	53.68	5,36,814.10			
12	222080	Patching of damaged concrete surface with Pre packed polymer concrete with average thickness of 25mm. Curing compounds, initiator and promoter, available in the formulations, to be applied as per instructions of manufacturer and as approved by the Engineer	Sqm	100	462.22	46,222.16			
13	222140	Providing, cutting, fabricating, treating, fixing structural steel as per IS: 2062 in access ladders (top of girder/slab to pier cap), inserts, platforms, railing, trolley refuges, drain pipes etc. by drilling holes and grouting with C.C as per specifications including painting with two coats of approved paint over two coats of primer. (Cement for grouting shall be paid separately)	MT	122.5	69,862.70	85,58,181.33			

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Schedule		Schedule C-Execution of NS item of works				
Item- 3						
Sl No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Carrying out Ultrasonic testing of all structural steel in the contractor's fabrication workshop with contractor's testing equipment,manpower and all other arrangement complete item as per relevant codes and direction/approval of the Engineer	MT	15200	2,308.60	3,50,90,720.00
						3,50,90,720.00

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Schedule		Schedule D-Execution of NS item of works				
Item- 4						
Sl No.	Item No	Description of Item	Unit	Qty	Rate	Amount
1	1	Fixing of galvanized H-Beam sleepers as per RDSO's drawing No-B/1636/4,5,6 & RH-1122 with latest alteration on approved drawing supplied by Railway/BBJ and specifications thereto complete with all fittings and fixtures and fastenings including the cost of labour, lead & lift, tools & plants and equipments complete in all respects as per approved drawings and technical specifications & as per direction of engineer. The rate also includes the cost of supply of approved quality of epoxy/adhesive and fixing of elastomeric pads with different components of steel sleepers in accordance with approved drawings. Galvanised H-Beam Sleepers with all accessories, fasteners, padplates etc. are to be supplied by BBJ. Contractor is to carry the same from BBJ's stockyard at site to Bridge location.	Numbers	6758	1,671.10	1,12,93,293.80
2	2	Linking of new BG track including laying with 60 kg/52 Kg Rails (LWR) on H-Beam sleepers as per RDSO's drawings or any other railways drawings for linking including laying, fitting and fixing of 90R/52 kg (SH) guard rails on girder bridge as per standard Drawings & as per IRPWM, De - stressing of LWR, fixing of tie angles with all fittings, fixing materials, gauging and aligning including loading, unloading of materials with all leads, lift, ascent and descent, crossing of tracks, obstruction etc. with contractor's own materials, labour, tools and plants, machineries etc. required for the execution of the work as per direction & satisfaction of the Engineer-in-Charge or his authorized representative. Rails will be issued from depot/godown.	RM	6092	1,003.17	61,11,311.64
3	3	Laying 52Kg/60Kg Switch Expansion Joint (SEJ) on special H-Beam sleepers as per RDSO's Drawing No T-4160-Alt-4 at the required locations with contractor's labours and tools inclusive of all lead and lift complete. The item mainly includes laying SEJ special H-beam sleepers to correct spacing over Girder, laying of stock and tongue rails (two pairs), providing the fittings and fastening, fixing two angle spacers, lifting the SEJ track to desired longitudinal profile, fixing of reference rail post, correcting gauge, cross levels, alignment and longitudinal level marking sleepers spacing, respacing, squaring and packing the sleepers, oiling & greasing the tongue rails and stock rails, etc or any other item required as per the directives of Engineer-in-charge or his authorized representatives. SEJ materials will be issued for depot/godown and payment for carriage to site will be inclusive.	Set	9.37	28,787.59	2,69,739.69
4	4	Cutting of new/released/SH 60kg/52kg single rail/short welded panel/LWR/CWR in site/or cess with contractor's hacksaw, abrasive type rail cutting machine, labours, tools and plants inclusive of all lead and lifts complete as per direction of the engineer in charge.	Each Cut	234.31	97.26	22,787.99
5	5	Drilling of holes in 60kg/52kg rails both on cess and in situ of required diameter as per direction of the Engineer in charge and chamfering for fixing fish plates with contractor's rail drilling machine, labours, tools and plants inclusive of all lead and lift complete. (I) 32mm diameter for fish bolts	Each Hole	140.58	74.01	10,403.78
6	6	Drilling of holes in 60kg/52kg rails both on cess and in situ of required diameter as per direction of the Engineer in charge and chamfering for fixing fish plates with contractor's rail drilling machine, labours, tools and plants inclusive of all lead and lift complete. (ii) 27mm dia for fish bolts	Each Hole	328.03	67.15	22,027.77

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Schedule		Schedule E-USSOR item of works				
Item- 5						
Sl No.	Item No	Description of Item	Unit	Qty	Rate	Amount
	1	Any other item of work not included in Sch A-D, but reqd. to be executed for successful	Rupees	1	26,56,250.00	26,56,250.00
					Total	26,56,250.00
					TOTAL AMOUNT	2,64,56,38,911.00