



Date: 16.05.2025

Summary of Acceptance of Contract (AOC)

Name of Work: Construction of Railway track linking with formation works including Bridges, Ext. of FOB, Service Buildings, Road, Drain and General Electrical works etc. in connection with construction of Lalmatia Silo-3 Track and its Connectivity with existing MGR System of NTPC Kahalgaon in Jharkhand state.

E-NIT No : IRCON/R-1400031/NTPC/Kahalgaon Silo-3/Civil Dated 24/12/2024

Tender ref No : IRCON/R-1400031/NTPC/Kahalgaon Silo-3/Civil

Tender ID : 2024_IRCON_221169_1

The financial bids for the above-mentioned work were evaluated at the office of IRCON INTERNATIONAL LIMITED, 378, Prantik Pally, Kasba, Kolkata – 700107.

Based on the financial evaluation, **M/s Triveni Engicons Private Limited** ranked as the lowest bidder (L1) with a quoted amount of ₹ 29,07,98,645.44.

Accordingly, the Letter of Acceptance (LOA) has been issued to M/s Triveni Engicons Private Limited on 21.01.2025, with a completion period of 08 months from the date of issuance of LOA.

MOHD. AFROZ KHAN
Digitally signed
by MOHD.
AFROZ KHAN
Date:
2025.05.16
16:09:42 +05'30'

e-Tender No. IRCON/R-1400031/NTPC/Kahalgaon Silo-3/Civil Dated 24/12/2024



इरकॉन इंटरनेशनल लिमिटेड



नवरत्न कम्पनी
(भारत सरकार का उपक्रम)

IRCON INTERNATIONAL LIMITED

NAVRATNA COMPANY
(A Govt. of India Undertaking)

No. IRCON/R-1400031/NTPC/Kahalgaoon Silo-3 /e-Tender/Civil/ LOA/01/52

Dated: 21/01/2025

(ORIGINAL)

Letter of Acceptance(LOA)

To,
M/s Triveni Engicons Private Limited,
3/6, H.S. Tower, L Road, Bistupur,
Jamshedpur,
Jharkhand - 831001
E-Mail: tepljsr@yahoo.co.in

Name of work: Construction of Railway track linking with formation works including Bridges, Ext. of FOB, Service Buildings, Road, Drain and General Electrical works etc. in connection with construction of Lalmatia Silo-3 Track and its Connectivity with existing MGR System of NTPC Kahalgaoon, in Jharkhand state.

Ref. : 1. NIT No.: IRCON/R-1400031/NTPC/Kahalgaoon Silo-3 /e-Tender/ Civil/Date: 24.12.24
2. Technical Bid open on 09.01.2025.
3. Financial Bid open on 18.01.2025.
4. Your online offer submission Date: 08-01-2025

Dear Sir,

With reference to above this is to inform you that your offer for the above subjected work has been accepted by the Competent Authority on and behalf of NTPC Limited at a total contract value of ₹ 29,07,98,645.44 (INR Twenty Nine Crore Seven Lakhs Ninety Eight Thousands Six Hundred Forty five and Forty Four Paisa only) including GST @ 18% as per BOQ Item enclosed at Annexure-I, on the following terms & conditions as stipulated in the tender Documents and as given below.

- 1) Contractor shall be expected to mobilize on subject work and commence the same within 10 days from the date of issue of Letter of Acceptance (LOA).
- 2) The work shall be completed within 08 months from the date of issue of LOA in terms of Clause No.- 9 of Special Conditions of Contract.
- 3) The above rate/cost is inclusive of all cost of materials, transportation & royalty, octroi, labour cess and other taxes imposed by Central /State Govt. and local bodies including incidental charges.

Rangrahi
21/01/2025

Regional Office (East): 378, Prantik Pally, Kasba, Kolkata-700107

EPBX: (033) 4603 6269, E-mail: ro.kolkata@ircon.org

Registered Office: C-4, District Centre, Saket, New Delhi-110017, INDIA

Tel.: +91-11-26530266, FAX: +91-11-26854000, 26522000, E-mail: info@ircon.org, Web: www.ircon.org

CIN - L45203DL1976GOI008171



- 4) You are requested to submit a total performance guarantee for an amount of ₹ 1,45,40,000 (as per clause 13.1 of special conditions of contract for an amount of 5% of the contract value i.e ₹ 29,07,98,645.44 submitted within 21 (twenty-one) days from the date of issue of Letter of Acceptance (LOA), but before signing of the contract agreement.
- 5) You are requested to submit insurance policies as per per Clause No.- 11.0 of Special Conditions of Contract.
- 6) The contractor shall submit detailed work programme within 7 days of award of work.
- 7) The aforesaid offer is based on your acceptance to all conditions of the above tender without any deviations.
- 8) You are requested to execute the contract agreement within 28 days of issue of this letter as per clause no. 49.5 of Special Conditions of Contract. You are also requested to arrange stamp duty paper of requisite value as per the prevalling laws for signing of the contract agreement.
- 9) All other terms and conditions shall be as per tender documents and corrigendums which is an integral part of this contract and shall be binding on you .
- 10) This letter will constitute a legal and binding contract between IRCON International Limited and M/s Triveni Engicons Private Limited, 3/6, H.S. Tower, L Road, Bistupur, Jamshedpur, Jharkhand – 831001 till such time the contract agreement is signed.
- 11) The Letter of Acceptance (LOA) is being issued to you in marked "ORIGINAL" & "DUPLICATE" with an advice to return the "DUPLICATE" duly signed and stamped as a token of your acceptance.
- 12) You are directed to contact Md Afroz Khan, AGM/Civil, MGR Workshop, NTPC Kahalgaon STPP, P.O. Kahalgaon STP , Distt Bhagalpur for further instructions.

Thanking You,

For & On Behalf of
IRCON INTERNATIONAL LTD

Ranigrahi
21/01/2025
(R. Panigrahi)
CGM/ERO/Kolkata



Encl: Bill of Quantity (BOQ)

Copy to:

1. CGM/Works-II/New Delhi
2. AGM/Civil/PH-NTPC Kahalgaon consultancy project

Bill of quantity		
Name of Work: "Construction of Railway track linking with formation works including Bridges, Ext. of FOB, Service Buildings, Road, Drain and General Electrical works etc. in connection with construction of Lalmatia Silo-3 Track and its Connectivity with existing MGR System of NTPC Kahalgaon in Jharkhand state".		
S. No	Description	Amount in ₹
1	Schedule-A Formation work along with Retaining wall	₹ 5,00,30,101.36
2	Schedule-B P Way works	₹ 5,35,29,680.18
3	Schedule-C Bridges	₹ 3,30,26,039.05
4	Schedule-D Other Civil engineering works (Ext. of FOB, Road, Drain and Buildings Work)	₹ 8,27,92,592.65
5	Schedule-E Electrical work	₹ 2,17,70,244.00
6	Schedule-F Unforeseen Item based on IR USSOR,2019	₹ 70,00,000.00
7	Schedule-G Unforeseen Item based on DSR, 2021	₹ 35,00,000.00
	Total Amount without GST	₹ 25,16,48,657.24
	Accepted Rate @2.07% below	(-) ₹ 52,09,127.20
	Total Amount without GST	₹ 24,64,39,530.04
	Add GST @ 18%	₹ 4,43,59,115.40
	Total Contract Value with GST @ 18%	₹ 29,07,98,645.44

(Rupees Twenty Nine Crore Seven Lakhs Ninety Eight Thousands Six Hundred Forty five and Forty Four Paise only)



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IRCON INTERNATIONAL LIMITED

NTPC Lalmatia Silo-3 PROJECT , KAHALGAON

BILL OF QUANTITIES

Name Of Works : Construction of Railway track linking with formation works including Bridges, Ext. of FOB, Service Buildings, Road, Drain and General Electrical works etc. in connection with construction of Lalmatia Silo-3 Track and its Connectivity with existing MGR System of NTPC Kahalgaon.

BILL OF QUANTITY (BOQ)

Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
Schedule A1 : Formation Work					
1	Geo-tech investigation shall be as per latest RDSO guidelines, their correction slips and latest railway circulars. In addition, for earthwork in cutting/Filling sections, to derive the type of soil, rock etc. geo-technical investigation shall be undertaken along the alignment at an interval of 500 meter or at closer interval, wherever change of soil strata occurs, and the borehole shall be done additional 2.0 m depth below the proposed formation level in cutting section/2.m below the ground level of embankment filling section.The rate inclusive of Geo-technical investigation at 03 nos bridge locations,FOB location(min. 02nos of bore),06nos at proposed Building location,geo-tech investigation shall be undertaken along the alignment at an interval of 500 meter or at closer interval as per required depth of borehole in line to relevant RDSO/IRS/IS specification .The rate are also inclusive of determine the Engineering properties of soil type,classification of soil index properties, shear strength, bearing capacity,consolidation and water table for design of foundation for various structures and slope stability of emabankment (if any) .The contractor has to be carried out the geotechnical investigation through the deployment of specilised agency and after approval of the Engeneer in charge.The individual geotechnical investigation report shall be provided by the contractor for each locations.	Each	1.00	700000	7,00,000.00
2	Site clearance including cutting of small trees & removal of grass, shrubs etc.in complete to facilitated for formation work,bridge work,Building etc.	Sqm	22500.00	20.82	4,68,450.00
3	Felling trees of girth (measured at height of 1m above ground level) including lead and stacking of material within 100m;Girth over 60cm and up to 1.5m.The rate inclusive of the logs shall be deposited to the place as per direction of the Client M/s NTPC Limited .	Each	10.00	944.38	9,443.80
4	Earthwork in cutting (classified) in formation, trolley refuges, side drains, level crossing approaches, platforms, catch water drains, diversion of nallah & finishing to required dimension and slopes to obtain a neat appearance to standard profile inclusive of all labour,machine & materials and removing & leading all cut soils either to make soil dumps beyond 10m from cutting edge or for filling in embankment with leads within 2 km on eitherside of cutting edge, lifts, ascent, descent, loading, unloading, all taxes / royalty, clearance of site and all incidental charges, bailing & pumping out water, if required, levelling,compaction etc. complete asper directions of the Engineer-in-Charge. The work is to be executed as per latest / updated edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow. Cut trees shall be property of NTPC and to be deposited in the NTPC/NTPC nominated godown unless specified otherwise in the Special Conditions of Contract. (Note - (i) All usable earth arising from cut soils shall be led into bank formation and Unusable soils shall be dumped / stacked (ii) All hard rock /and boulders not fit for filling will be stacked by the contractor and will be property of the NTPC.)-In all conditions and classifications of soil except rock	cum	32000.00	153.60	49,15,200.00



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
5	Earthwork in cutting (classified) in formation, trolley refuges, side drains, level crossing approaches, platforms, catch water drains, diversion of nallah & finishing to required dimension and slopes to obtain a neat appearance to standard profile inclusive of all labour, machine & materials and removing & leading all cut soils either to make soil dumps beyond 10m from cutting edge or for filling in embankment with leads within 2 km on either side of cutting edge, lifts, ascent, descent, loading, unloading, all taxes / royalty, clearance of site and all incidental charges, bailing & pumping out water, if required, etc. complete as per directions of the Engineer-in-Charge. The work is to be executed as per latest / updated edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow. Cut trees shall be property of NTPC and to be deposited in the NTPC/NTPC nominated godown unless specified otherwise in the Special Conditions of Contract. (Note - (i) All usable earth arising from cut soils shall be led into bank formation and Unusable soils shall be dumped / stacked (ii) All hard rock /and boulders not fit for filling will be stacked by the contractor and will be property of the NTPC.)-Soft rock not requiring blasting in all conditions	cum	4000.00	343.96	13,75,840.00
6	Earthwork in cutting (classified) in formation, trolley refuges, side drains, level crossing approaches, platforms, catch water drains, diversion of nallah & finishing to required dimension and slopes to obtain a neat appearance to standard profile inclusive of all labour, machine & materials and removing & leading all cut soils either to make soil dumps beyond 10m from cutting edge or for filling in embankment with leads within 2 km on either side of cutting edge, lifts, ascent, descent, loading, unloading, all taxes / royalty, clearance of site and all incidental charges, bailing & pumping out water, if required, levelling, compaction etc. complete as per directions of the Engineer-in-Charge. The work is to be executed as per latest / updated edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow. Cut trees shall be property of NTPC and to be deposited in the NTPC/NTPC's nominated godown unless specified otherwise in the Special Conditions of Contract. (Note - (i) All usable earth arising from cut soils shall be led into bank formation and Unusable soils shall be dumped / stacked (ii) All hard rock /and boulders not fit for filling will be stacked by the contractor and will be property of the NTPC.)-In rock and very hard rock with hammer / chisel / pavement breaker etc. where blasting is not permitted due to special circumstances and if specifically ordered in writing including drilling and all incidental work in all conditions. The classification of rock and very hard rock shall be done by Engineer in charge after analysing the test report of IRCON/NTPC's approved independent laboratory. The testing charge of rock and very hard rock at independent laboratory is inclusive in the rate.	cum	1000.00	1,193.55	11,93,550.00



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
7	Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds, if provided, platforms etc. with earth, suitable for embankment as per RDSO latest Specifications and guidelines GE: G-14 of Soil Quality Class SQ3, excavated from outside railway boundary entirely arranged by the contractor at his own cost including all leads, lifts, ascents, descents, crossing of nallahs or any other obstructions. The item shall include 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, spreading in layers with motor grader, bringing the moisture content to OMC, mechanical compaction to specified density and dressing of bank to final profile as a complete job. The payment shall be made as per finished profile and the rate shall include all costs including taxes, octroi, royalty etc. except for mechanical compaction which shall be paid extra under relevant item. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special Conditions of Contract	cum	9000.00	347.05	31,23,450.00
8	Providing, Supplying & spreading of Blanketing materials over finished formation as per latest RDSO specifications and procedures by supplying materials of approved quality, spreading in layers not exceeding in 30cm in thickness in loose conditions and leveling by motor grader and compacting by vibro roller of required capacity upto desired degree of compaction, finishing to correct profile with all lead and lift, complete in all respect to the satisfaction of the Engineer-in-Charge. Rate includes all labour, material, tools, plants, machinery, testing equipment, testing charges, taxes, Royalties, Octroi etc. and all other incidental charges including compaction. Note: (i) The work shall be carried out as per RDSO latest Guidelines and specifications for mechanically produced blanketing material for Railway Formation. The cost of mechanical compaction inclusive in this rate and nothing extra will be paid for Mechanical compaction.	cum	11000.00	1,932.59	2,12,58,490.00
9	Extra for Mechanical compaction of soil in embankment/Formation with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes including cost of water, T&P, consumable 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	9000.00	20.24	1,82,160.00
10	Turfing / planting, including all lead & lift and watering as required until properly rooted with. Note - Initially payment of only 40% will be made. Balance 60% will be paid only after 3 months of maintenance period, if the turfing is properly rooted. Turfing with sods, 10cm thick and 20cm square closely laid	Sqm	1700.00	65.56	1,11,452.00
Sub Total of Schedule A1					3,33,38,035.80



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
Schedule A2 : Construction of Retaining Wall					
1	Earth work in excavation by mechanical means (Hydraulic excavator) (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.. All kinds of soil.	Cum.	5449.50	146.35	797534.33
2	Supplying and filling in plinth with coarse sand under floors,including watering, ramming,consolidating and dressing complete.	Cum.	630.00	1751.10	1103193
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering (including the cost cement) @ 320kg/cum)- All work up to plinth level :- 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum.	63.00	6496.06	409251.78
4	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying,curing, carriage for all leads; but excluding the cost of centering, shuttering,finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M35 grade with minimum cement content of 370 kg /cum	Cum.	581.50	8085.92	4701962.48
5	Centering and shuttering including strutting, propping etc. and removal of form for				
5.1	Foundations, footings, bases of columns, etc. for mass concrete	Sqm.	390.98	323.34	126419.4732
5.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	Sqm.	2761.90	694.67	1918609.073
6	Supplying and laying of stone boulders backing weighing not less than 35 kg behind box & RE wall 600 mm thick with hand packed boulders & cobbles with smaller size boulders toward the back including all lead, lift, labour & other incidental charges as complete work in all respect.	Cum.	1380.00	1620.09	2235724.2
7	Coal tarring two coats on new work using 0.16 Litre and 0.12 litre coal tar per sqm in the first coat and second coat respectively.	Sqm.	1380.00	58.33	80495.4
8	Supply, Fabrication and placement of reinforcement for RCC work including cutting, cranking, straightening, bending, binding and placing in position complete as per drawing including cost of binding wire of approved quality with TMT bars.Thermo-Mechanically Treated bars of grade Fe-500D or more	Kg	54777.30	97.10	5318875.83
	Sub Total of Schedule A2				1,66,92,065.56
	Total of Schedule A1 +A2.....				5,00,30,101.36



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
	SCHEDULE (B1) - Supply of P-way items excluding Rail				
1	Supplying ,Leading and spreading of stone Ballast by head /trolley/ tractor/ dumper or any other means from the stacks available at the ballast depot / on cess / formation / toe of the formation to the top of the formation and spreading the same on the formation (Up to lead of 5 km) and dumping the required balance quantity on side to enable to fill between the sleepers and to do dressing to obtain a compact and uniform specified profile as directed by the Engineer-in-charge. The rate includes all lead from ballast stacking point to work site, all taxes, loading, unloading, ascent, descent, lift, labour, tools, crossing of one or more railway lines if required .The rate are inclusive for Rolling of spread stone ballast with contractor's power driven roller of capacity 5 Tonne or above with minimum three passes in a width of about 4.72m to 5.0 m or as directed by Engineer in-charge to obtain a compact and uniform level surface of ballast spreaded	Cum	5000	3,070.00	1,53,50,000.00
2	Supply of 60kg PSC sleepers (BG as per RDSO drw.no. T-2496 confirming to IRS specifications T-39-1985,Corri. No.04 Aug2011 or latest ammendment/corrigendum.The rate inclusive of supply of sleepers upto the their final location of laying in track .No extra payment will be applicable for transportation to the site of work.	Each	2900	3,380.00	98,02,000.00
3	Supply of full set 1 in 12, 60kg points and crossings as per RDSO Drg. No. T-6154 turnout, T-6155 thick-web switch-sub assembly,T-4220 crossing-sub-assembly and CMS crossing T-3940/1 (all drg. with upto date alterations), with fittings & fastenings including GR pads, check rails, 1 m long fish plates with bolts etc for complete layout of 1 in 12 turnout with thick web switches. The rate includes cost of all materials, loading, transportation, unloading, staking at designated stores/ work sites, all taxes, inspection charges etc. complete but rate does not include cost of PSC sleepers and rail for lead rails is included in the cost	Set	3	14,86,755.15	4460265.45
4	Supply of full set 1 in 12, 60kg points and crossings as per RDSO Drg. No. T-4218 curved switch, T-4219 switch sub-assembly, T-4220 crossing-sub-assembly and CMS crossing T-3940/1 (all drg. with upto date alterations) with fittings & fastenings including GR pads, check rails, 1 m long fish plates with bolts etc for complete layout of 1 in 12 turnout curved switches. The rate includes cost of all materials, loading, transportation, unloading, staking at designated stores/work sites, all taxes, inspection charges etc. complete but rate does not include cost of PSC sleepers and rail for lead rails is included in the cost.	Set	0	9,52,194.44	0.00
5	Supplying of derailing switch (1 in 8 1/2) including GR Pads, fitting & fastenings for BG 60kg rail section for use with 60Kg PRC sleepers to Drg. No. RDSO/T-6068 or as per the latest applicable RDSO Drawing with latest alteration as per RDSO specification including transportation to work site. Rate shall include all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead , lift, contractors labour, machineries tools & plants etc. complete but rate does not include cost of PSC sleepers.	Set	4	3,00,814.79	1203259.16



Handwritten signature/initials

BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
6	Supply of full set of 60 Kg 1 in 8 1/2 point & crossing to RDSO assembly drg no. T-4865 & sub assembly to RDSO drg no. T-4966 and T-4967 (all drawings with upto alterations) with all fittings & fastenings, curve switches, CMS crossing, Check rails, 1 m lang fish plates, fish bolts & nuts, GRSPs. The rates includes the cost of all materials loading transportation, unloading staking at designated store/worksites all taxes inspection charges etc. complete, but rate does not include cost of PSC turnout Sleepers.	Set	7	8,84,203.90	6189427.30
7	Supply of full set of assembly of 60 Kg Improved SEJ for LWR to RDSO Drg. No. T-6922 or as per the latest applicable RDSO Drawing with latest alteration required as per RDSO specification and conforming to the specification IRS T-10 with all fittings & fastenings complete as listed in RDSO drawing. Rate shall include transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries tools & plants etc. complete but rate does not include cost of PSC sleepers and rails.	Set	0	1,95,132.62	0.00
8	Supply of Fish bolts with nuts to RDSO Drg. No. T-1899 and conforming to specification No. IRS T-23-1967 & Corrigendum No. 5 of October 1987, with single coil spring washer to RDSO Drg No. T-10773, The rate shall inclusive of transportation to work site, all taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries, tools & plants etc complete.	Each	500	79.06	39530.00
9	Supply of Fish plates of one meter long for 60Kg rail as per standard drawing RDSO Drg. No. T-5916 /T-5851 or any latest version drawing issued by RDSO & Conforming to IRS specification No. T-1-1966 and corrigendum of November, 2009. The rate shall inclusive of transportation to work site, all type of taxes, inspection charges, Freights, insurance, packing, loading, unloading with all lead, lift, contractors labour, machineries tools & plants etc. complete.	Pair	50	4,554.76	227738.00
10	Supply of Fish plates to DrgNo: T-1898 for 60 Kg Rail, 610 mm long and conforming to IRS specification No: T-1-1966 & corrigendum No: 8 of July 2008 with latest alteration & amendment. The rate shall inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries tools & plants etc complete. (One set includes two fish plates)	Pair	50	2,477.39	123869.50
11	Supply of Screw Clamps for fish plates as per RDSO Drg No. T-5856. The rate shall inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries tools & plants etc. complete.	Each	10	1,504.74	15047.40
12	Supply and fixing of joggled fish plates for 60kg AT Weld as per RDSO Drawing No. T-5849(Alt-1). with 04 Bolts, nuts and washers, Drilling holes of 32mm dia with Rail drilling machine in 60kg railsection including all consumables, Chamfering of drilled holes as per RDSO Specifications for all types of Rails, The rate shall inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries, tools & plants etc. complete.	Set	10	4,902.17	49021.70



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
13	Supply of Elastic Rail Clips to RDSO Drg. No. T-3701 and conforming to specifications (IRS T-31-1992) & corrigendum No. 2 of Apr 1999. The rate shall be inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries, tools & plants etc. complete.	Each	11600	79.25	919300.00
14	Supply of GFN liners to RDSO Drg. No. T-3706 & conforming to IRS specifications No. T-44-1995, corrigendum No.03 of 2010. The rate shall be inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries tools & plants etc complete.	Each	11600	15.70	182120.00
15	Supply of Grooved Rubber Sole Plate to RDSO Drg No. T-3711 and conforming to IRS specification T-47-2006 & Corrigendum No -1 of June 2007 or latest corrigendum. The rate shall inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries tools & plants etc complete.	Each	5800	38.51	223358.00
16	Fabrication and supply of G3(L) type glued insulated rail joints of UIC 60kg to RDSO Drg No. T-2572 conforming to the specifications as detailed in the manual for Glued Insulated rail joints (revised 1998) as per amendment & corrigendum No.5 of July 2012. The rate shall be inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries, tools & plants etc complete including cost of the rail 60Kg UIC 90UTS Prime quality.	Each	30	48,959.04	1468771.20
17	Supply of Metal Liners at site to RDSO Drg. No. T-3740 conforming to IRS specifications, provisional 1995 amended 2001. The rate shall be inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance etc. and packing, loading / unloading with all lead, lift, contractors labour, machineries, tools & plants etc complete.	Each	0	26.66	0.00
18	Supply of 60 kg. Metal Liners at site conforming to RDSO Drg. No. T-8616 & T-8617 (Each one piece) with latest alterations. Specifications: IRS Specifications for metal Liners for use with elastic Rail clips (provisional-2013) with corrigendum 1 of Oct-2016 with latest alterations. The rate shall be inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance etc. and packing, loading / unloading with all lead, lift, contractors labour, machineries, tools & plants etc complete.	set	0	93.69	0.00
19	Supply of End Cut Metal Liners to RDSO Drawing No.3740 duly cut by 20mm as per RDSO Drawing No T-4511 conforming to IRS specifications, provisional 1995 amended 2001. The rate shall be inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractors labour, machineries tools & plants etc complete.	Each	0	22.81	0.00
20	Supply of Elastic Rail clips 'J-type' to RDSO Drg. No. T-8258 and conforming to specifications (IRS T-31-1992) & corrigendum No 2 of Apr 1999. The rate shall be inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractors labour, machineries tools & plants etc. complete.	Each	200	86.78	17356.00



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
21	Supply of End cut GFN liners for 60 Kg conforming to RDSO Drg. No. T-3706 with latest alteration & conforming to IRS specifications No. T-44-1995 corrigendum No.03 of 2010 or latest alternation. The rate shall inclusive of transportation to work site, all type of taxes, inspection charges, freights, insurance, packing, loading, unloading with all lead, lift, contractor's labour, machineries tools & plants etc. complete. (end cut to be done for glued joint as per RDSO Drawing No-T-4511 with latest alternation complete)	Each	200	25.80	5160.00
Total of Schedule (B1)					4,02,76,223.71
Note to Schedule (A) : Supply shall be taken only from RDSO approved Vendore unless approved / specified otherwise.					
Schedule (B2) :Supply Of Special type of Sleepers					
1	Supply of BG PSC turnout sleepers 60 Kg,1 in 12 Fan shaped layouts including approach and exit sleepers and with long concrete sleepers (for fixing of hand operated lever box/point machine) as pere RDSO Drg. No. T 4218/T-6154 and conforming to IRS specification T-45-1996 corrigendum no. 5 of dec-2002. The rate shall inclusive of maufacturing loading to contractors own vehicles,transportatation to work site, unloading & proper stacking as per requirements including all type of taxes ,inspection charges, freights insurance etc. and packing loading /unloading with all lead lift contractors labour machineries tools and plants etc. complete.	Set	3.00	5,44,115.19	16,32,345.57
2	Supply of BG PSC turnout sleepers 60 Kg,1 in 8.5 Fan shaped layouts including approach and exit sleepers and with long concrete sleepers (for fixing of hand operated lever box/point machine) as pere RDSO Drg. No. T 4865 and conforming to IRS specification The rate shall inclusive of maufacturing loading to contractors own vehicles,transportatation to work site, unloading & proper stacking as per requirements including all type of taxes ,inspection charges, freights insurance etc. and packing loading /unloading with all lead lift contractors labour machineries tools and plants etc. complete.	Set	7.00	4,42,525.54	30,97,678.78
3	Manufacturing and supply Mono Block Concrete sleepers (PSC Type) for broad gauge for Derailing Switch as per RDSO's drawing No. T6068. Alt.III to suit 60 kg UIC and IRS Specifications no T-45-96 (second Revision May 1996)each set consist of 31 nos sleepr as per annexure III) duly amended in accordance with the recommendations made by Track statndard committee a amended time to time latest alteration up to date including all taxes after inspection, loading transportation and unloading ,proper stacking at desired loaction at project site in corridor etc complte as per decision and direction of Engineer incharge.	set	0.00	1,46,102.91	-
4	Manufacturing ,supply and transportation and stacking of 60Kg BG PSC sleepers for bridge approaches as per RDSO Drg. No. T-8673 to 8680 60Kg UIC Rail & IRC Specifications no.T-39-85. One set consists of 4 Nos. of PSC sleepers of RDSO's Drg No.:T-8673 and one PSC sleepers each of RDSO Drg. no. T-8674 to 8680 (Each approach have total 11 Nos. sleepers ,duly loaded in to wagons/road vehicles and transportations to sites and unloading & stacking properly.The rate shall inclusive transportation to work site, all type of taxes ,inspection charges, freights insurance etc. and packing loading /unloading with all lead lift contractors labour machineries tools and plants etc. complete.	Set	0.00	38,838.26	-



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
5	Manufacturing ,supply and transportation and stacking of PSC Bridge Guard sleepers as per RDSO Drg. No. T-8672 to suit 60Kg UIC Rail & IRC Specifications no.T-39-1985 (Third Revision May-1996) as amended latest alteration up to date duly loaded in to contractor's own vehicles.The rate shall inclusive transportation to work site, all type of taxes ,inspection charges, freights insurance etc. and packing loading /unloading with all lead lift contractors labour machineries tools and plants etc. complete.	Each	0.00	3,166.45	
6	Supply of 60Kg PSC Sleepers for SEJ to the RDSO drawing No.. T-4149 and conforming to IRS specifications T-39-1985,Revision 4 Aug 2011.The rate shall inclusive transportation to work site, all type of taxes ,inspection charges, freights insurance etc. and packing loading /unloading with all lead lift contractors labour machineries tools and plants etc. complete.	Set	0.00	20,693.12	
Notes					
i	The suppliers shall submit "Inspection certificate" in original ,for the materials duly certified by the authorized inspecting agency i.e. RITES or other agency decided by Engineer Incharge for the items SI No.1,2,3,4,5,6				
ii	Final acceptance of materials shall be carried out by the Engineer incharge /consultant/client at site.if any material found defective at site shall have to be replaced by the contractor at his own cost and no extra payment whatsoever shall be paid in such events.				
iii	The materials may be inspected by engineer incharge /consultant/client at manufacturing site if required at contractors cost.				
iv	The rates shall be inclusive of all taxes insurance,inspection charges ,transportation ,loading unloading and stacking at site. No extra payment what so ever shall be paid on any account over above the acceptable rates.				
v	consignee for above materials shall be : NTPC Limited Kahalgaon Project				
vi	All materials shall conform to the latest revisions of respective drawing numbers and specifications.				
vii	The quantities given above are indicative , the actual quantities may vary at the time of execution.The actual qauntites required for execution shall be driven by contractor, submitted to IRCON and materils should be supplied after verification of IRCON authority.				
viii	All materials mentioned above is required to be supplied at nominated storage depot to be established by contractor at his own cost along site facilities.				
Total of Schedule (B2)					47,30,024.35



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
SCHEDULE(B3): P. Way Linking and Connected work					
1	Laying of new Broad Gauge P. Way track with 52kg/ 60kg rail on 52kg/60kg PSC sleepers on formation / ballasted deck bridges/ curve/ yards in straight line or curve, with IRCON's Rails and PSC sleepers (including special PSC sleepers meant for ballasted deck bridges and level crossings, curves etc) with their complete fittings such as grooved rubber pads, metal liners / GFN liner, ER Clips, J- Clips, Bolts, Screws etc at specified sleeper density of 1660 per km suitable for FP/SWR/LWR tracks with initial through packing and lifting of track in stages as directed by Engineer in-charge to bring the ballast cushion of about 250 mm , correct longitudinal profile and cross levels within tolerances as specified for making track fit for introduction of tamping machine, running of ballast trains. The rate includes all free lead, lift, loading, unloading, ascent, decent, removal of kinks in rails by hydraulic Jim crow, cost of contractor's labour, tools & plants, equipment, all taxes and all other incidental charges etc complete. Note-1 The rate includes all lead and cost of transportation of Rails, Sleepers and Misc. P way Fittings to work site. Note-2 The rate does not include cost of spreading of ballast and greasing of ERC and liners.	Tr.KM	1.885	3,73,611.36	7,04,257.41
2	Distressing of LWR/CWR track with 60kg/52 kg rails at appropriate rail temperature as described in LWR manual and as per direction of engineer including adjustment of gap of SEJ, squaring & correct spacing of sleepers disturbed during the work, including greasing of ERCs and inserts as per specification in Para 1411(5) of IRPWM..The rate is inclusive of all labour (Skilled/ semiskilled/unskilled) tools and plants complete and all applicable taxes. Payment for cutting of rails shall be paid separately under relevant items.	Track KM	1.00	23,920.45	23,920.45
3	Transportation of Rails 52Kg/60Kg (single Rail panel) of all sections from point of issue (IRCON's Stack/Store) to their final location of laying in track (Up to lead of 2 km), as directed by Engineer-in-charge. the rates includes all lead ,lifts,loading unloading,labour,taxes ,multiple handling, tools & plants ,ascend/decsned etc. complete. Note: 1) Rails will be provided free of cost by IRCON 2) Rails. which are stacked near/adjacent to formation,Transportation shall be paid under this item. 3) No transportation shall be paid for Rails stacked on the formation, which is inclusive under item -1 above and nothing extra shall be payable.	MT	240	142.37	34,168.80
4	Providing through packing by manual packing of newly laid tracks on straight or curve with any sleeper density to a good geometry to confirm to specified alignment & level and other track parameters including squaring of sleepers, slewing of tracks to correct alignment, gauging, tightening of fittings, lifting of tracks if required to obtain the required cross level, tamping below the sleepers & boxing to approved ballast profile with all tools & labours as complete job.				
a	1st through packing as per IRPWM	Track metre	1885	27.39	51,630.15
b	2nd through packing as per IRPWM	Track metre	1885	27.39	51,630.15
c	3rd through packing as per IRPWM	Track metre	1885	21.09	39,754.65



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
5	Through packing of newly laid 52/60 Kg points and crossings involving opening of ballast, squaring of sleepers, re-alignment and tightening of rail and sleeper fastenings, aligning, levelling, lifting to provide standard ballast cushion packing and dressing ballast to the standards profile(with or without traffic block) as per IRPWM. The rate includes cost of contractor's labour, tools & plants, equipment's, all taxes and all other incidental charges etc complete.				
a	1st to 3rd consolidation through packing as per IRPWM				
i	1 in 12 points & crossings PSC layout (Thick web/curved switches)	Per Set/ packing	3	8,228.08	24,684.24
ii	1 In 8 1/2 point & crossing 52kg /60 Kg PSC layout	Per Set/ packing	7	7,043.73	49,306.11
iii	Derailing switches 60 Kg PSC layout	Per Set/ packing	4	4,959.28	19,837.12
6	Laying of 52Kg/60Kg points and crossings(Thick web/ curved switch) including intermediate portion of track with PSC layout to the Railway's specification including cutting of rails to required sizes, drilling of holes in rails, aligning, proper gauging, levelling, fixing slide chairs, bearing plates, check bolts, heel blocks etc., fixing the following and leading stretcher bars, switch anchors etc., and with initial packing with available packing materials at site and as directed by the Engineer in charge with all lead, lift, all taxes, tool, plants, equipment's, incidental charges etc complete. Note: Rate includes all leads and cost of shifting/transportation of turnout assembly/Rails to work site for complete job.				
a	1 in 12 points & crossings 52kg /60 Kg PSC layout	Set	3	62,906.26	1,88,718.78
b	1 In 8 1/2 point & crossing 52kg /60 Kg PSC layout	Set	7	61,127.51	4,27,892.57
c	Derailing switches 60/52 Kg PSC layout	Set	4	14,059.61	56,238.44
7	Assembling/laying/insertion of 60Kg. switch expansion joints (SEJ) improved SEJ conforming to RDSO drawing No. T-6922 at nominated locations consisting of stock rails and tongue rails setting to mean position on PSC special sleepers with special bearing plates including cutting and connecting to the main line track by means of closer rails of required length including packing, maintaining correct gauge, alignment, cross levels, longitudinal levels etc. complete as directed by Engineer-in-charge of the work. The rate includes all free lead, lift, loading, unloading, ascent, decent, cost of contractor's labour, tools & plants, equipment's, all taxes and all other incidental charges etc complete. Note: The rate includes all lead and cost of shifting/transportation of SEJ assembly to work site	Set	0	10,960.18	0.00
8	Anti-corrosive painting of 60 kg/52 kg Rail as per IRPWM Manual for corrosive prone areas. Painting to be done prior to installation on sleepers including touching of paints in areas damaged during fixing. As per specification in Para 250(2) (b) of IRPWM.	Track metre	1885	61.10	1,15,173.50



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
9	Cutting, transportation & fixing LWR reference posts, gate posts, curve posts etc made of IRCON's 90R/52Kg U/S rails as per direction of Engineer-in-charge. The rate includes cutting of rail to the required length, transportation, fixing with necessary excavation, concreting with 1:3:6 concrete with contractor's stone aggregate of 20 mm nominal size, sand of approved quality, Painting the rail surface and painting/writing of letters of Kilometre No. Curve reference as required etc. The rate also includes cost of materials including cement, steel labour, tools and plants etc. The size of pit is 30x30x60 cm.	Each	10	403.11	4,031.10
10	Fabrication & Fixing of guard rails on Major Bridges and High banks including transportation of small fittings from IRCON's stores cleaning of holes for fixing rails screws. The rate includes all tools & plants, labour and all incidental charges and all taxes. The rail will supplied by IRCON free of cost. Note: the rate also includes all leads, cost of transportation of rails if				
(a)	On straight & flared portion as per the standard drawing for guard rails on Major Bridges.	Metre	50	314.93	15,746.50
11	Fabrication, erection and fixing standard Railways concrete buffer stop for siding and safety devices as per relevent drawings with upto date corrections and revisions with all materials (Except Rails), cutting and bending of rails, drilling holes, embedding rails in concrete and fixing with contractor's bolts and nuts complete as directed by Engineer in charge. The rate is inclusive of earthwork in excavation in foundation, concrete with contractor's stone aggregate, sand and cement as directed by the Engineer in charge. Note: 1- Rails will be provided by NTPC free of Cost, if required. 2-Rate includes all leads, lifts, ascent, descent, cost of transportaion of Rails/ sleepers etc. all relevent material.	Each	1	45,077.56	45,077.56
12	Casting, transportation and fixing of RCC Kilometre posts / Gradient posts as per approved drawing of size 1100mm x450mm x 75mm thick in proportion 1:1.5:3 with contractors well graded coarse aggregate of size 20 mm. and below, coarse river sand of approved quality, fixing the same with cement concrete 1:3:6 (well graded coarse aggregate of size 20 mm. and below) with necessary excavation, painting the post with superior quality synthetic enamel paint two coats of approved colour over base coat of white cement and lettering the Km (Figures) with approved paint and colour on both sides. Rate is inclusive of all contractor materials, lead, lift, transportation, cantering, shuttering, curing, royalty, taxes, tools and plants, labour, masons etc., complete. (Dimensions of foundation pit 830mm x 650mm x 750 mm deep.	Each	10	1,772.20	17,722.00
13	Painting of letters/figures on concrete surfaces/steel boards for station number, super elevation and versine at each station of curve with Contractors paint of approved quality as and where directed by the Engineer- in-charge or his representative.	Each station	5	70.67	353.35
14	Painting of particulars of turnout and derailing switches including turn in curves on the inside web of outer rail with stencils of specified height in black enamel paint on surface of specified length painted with 2 coats of yellow enamel paint over a primer coat painted after cleaning the surface free from dust.	Turn out	14	1,028.41	14,397.74



Signature

BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
15	Slewing of track with 60Kg/52 kg/90R rails with PSC/CST- 9/Steel sleeper or any other type of sleepers track to a maximum of up to 2 m and packing the slewed track to pass the trains immediately after slewing as per Para 224 of IRPW Manual with contractor's tools and plant, labour, lead, lift etc., complete as directed by Engineer-in-charge of the work(with or without traffic block)	Track metre	350	149.00	52,150.00
16	Greasing of all four Pandrol clips, liners and eye of MCI insert on the PSC sleeper with contractor's approved quality graphite grease as per IS408 Gr"0" including removing and refixing of Pandrol clips with appropriate tools,plants, equipment, labour leads. Lifts etc complete.	Per Sleeper	2900	5.27	15,283.00
17	Greasing of gauge faces of rails with contractor's approved quality graphite grease as per IS408 Gr"0" with all contractor's labour, tools & plants, all leads and all other incidental charges etc. complete.	per Track metre	1885	3.29	6,201.65
18	Supply & fixing boards for LWR, curve board, point board, Bridge name board or any other similar board made of 16 gauge MS sheet with ISA 40x40x5 mm frame and ISA 75x75x6mm posts as per drawings duly painted and lettered with luminous paint.	Each	5	2,418.15	12,090.75
19	Manufacturing & supplying Engineering indicator board, partially Retro Reflective having stove enamelled background and 12 mm dia holes drilled for fixing with bolts & nuts of 10 mm dia made out of 16 SWG Mild Steel Cold rolled sheet painted with non-peel able whether proof one coat of Zinc Chromate stoving Primer on both sides and sheeting reflective sheet of Engg Grade with back frame made out of M.S. Angle 25 x 25 x 5mm on front side and gray stove enamelled on back side to IS shade No. 630 French Grey proper arrangements should be made to fix with the Railway's post. Engineering Grade Retro Reflective Enclosed Lens Type Sheeting shall be provided of required colours, confirming to respective drawings complete with contractor's labour,materials, taxes, tools & plant lead / lift, incidental charges etc.				
(a)	Whistle indicator board of size 600 x 600mm marked W/L or W with 4 Nos. G.I. Bolts and nut of size 10 mm dia and 20 mm long as per the approved drawing.	Each	4	2,959.62	11,838.48
(b)	Termination indicator board of size 1000 mm dia circular with 4 Nos. G.I. bolts and nuts of size 10 mm dia and 20 mm long (marked T/P or T/G or T) as per the approved drawing.	Each	2	11,478.74	22,957.48
(c)	Speed indicator board of size 1000 mm equilateral triangle with 4 Nos. G.I. bolt and nut of size 10 mm dia and 20 mm long as per the approved drawing	Each	2	9,056.54	18,113.08
(d)	Caution indicator board of size 1400 x 400 mm 4 Nos. G.I. bolt and nut of size 10 mm dia and 20 mm long as per the approved drawing	Each	4	9,746.54	38,986.16
20	Insertion and fixing of 60kg/52 Kg glued joints at the required locations in running track. The rates includes labour charges for handling the glued joints in depot for testing the glued joints, loading and unloading of glued joints,transportation to work site, all lead and lifts, removal and re- insertion of all types of fittings from the track/into track for insertion of glued joints, cutting of rails if required. Rate includes all taxes, lead, lift,labour, tool, plants, equipment,incidental charges etc complete job.	Each	30	293.13	8,793.90



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
21	Cutting of 52kg/60kg New/SH Rails by abrasive disc cutter including all tools, machinery disc, fuel, handling of rails, taxes, cess, tax etc, complete in all respect.	Nos.	100	568.81	56,881.00
22	Providing, Laying and supplying of Ballastless Track for the SILO of NTPC complete work. The rate inclusive of design and drawing of Ballast Less Track shall be submitted by the contractor and also proof checked through reputed institutions as per derction of Engineer in charge	TM	50	64,620.00	32,31,000.00
23	Casting, supply and fixing RCC Fouling Boards (Trapezium section 100mm top, 225mm bottom 250 mm height over a Rectangular section 225mm x 150mm) 1500 mm. long in proportion 1:1.5:3 with contractor's well graded coarse aggregate of size 20 mm and below , coarse river sand of approved quality, fixing the same in ballast cushion by removing the ballast up to required depth and dressing all-round, painting the Fouling mark with superior quality synthetic enamel paint two coats of approved colour over a base coat of white cement and lettering alphabets "F" and "M" of specified size. Rate is inclusive of all contractors' materials, labour, masons, lead, lift transportation, centering, shuttering, curing, royalty, taxes, tools and plants etc., complete. Contractor to arrange water with any lead at his cost. Alphabets should be made neatly with plastering in CM 1:3 ,10 MM thick with contractors materials ,labour as directed by Engineer-in-Charge (Requirement of reinforcement 8mm dia TOR Steel 2.77 Kgs ,6mm dia -1.94 Kg per each Fouling board including Cost of cement & Steel)	Each	14	3,005.00	42,070.00
24	Dismantling of existing BG turnouts and trap switches with all types of rails on other than PSC sleeper layout, removing fish plates & fastenings, leveling of ballast to correct profile & stacking all the released materials, sleepers, fastenings, rails, switches & crossings including segregating & stacking at specified locations in a neat & countable manner, as directed by Engineer in charge	Each	5	24,078.00	1,20,390.00
25	Dismantling of all types of existing BG Track duly removing of rails & fastenings, sleepers & fastenings, removing and stacking ballast upto formation level for bridge related works duringTraffic Block, and relaying of same track by pulling additional ballast from stack/adjoining track/same track and linking it the approach track including packing,boxing & dressing etc.,as directed so to open track at 20KMPH speed.	TM	650	3,000.00	19,50,000.00
Total of Schedule (B3)					74,71,296.12



dlbom

BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
	Schedule (B4) :Welding Works (AT & FBW)				
1	Alumino Thermite Welding of 60Kg/52 Kg rail joints or combination of joints of 60Kg/52Kg rail by Pre-heat (SKV) welding Technique using compressed air petrol /LPG for preheating , three piece moulds and automatic tapping thimble by single shot crucible technique with all labour, materials including supply of portions, tools and plants, aligning of rails , placing and fixing of mould , preheating , welding , mechanized trimming using hydraulic weld trimmer, grinding with profile grinder (including riser), testing, marking, painting with one coat of high build epoxy paint (two pack conforming to RDSO specification No. M&C/PCL-111/88) on the welded area up to 10cm on either side. the work is to be completed in all respect as per IRS: T-19-2012 with latest updates and in accordance with " RDSO Manual for fusion welding of Rails by Alumino Thermic Process with up to date correction slips. The work to be done under supervision of trained welding supervisor and carried out by trained and certified welder having valid competency certificate from RDSO/TPP. Ultrasonic testing of welded joints shall be paid separately under relevant items.	Each	200	5,197.09	10,39,418.00
2	USFD testing of 60Kg/52 Kg Rail welds (Flash butt/SKV) as per the RDSO Manuals and submitting the report on Performa directed by the Engineer Incharge.	Each	200	63.59	12,718.00
	Total of Schedule (B4)				10,52,136.00
	Total of Schedule (B1+B2+B3+B4)				5,35,29,680.18



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
Schedule C					
Schedule C :Bridges					
1	Earthwork in excavation by mechanical means (Hydraulic Excavator)/Manual Means 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. Note: This item will be used for excavation work in connection with other miscellaneous works also. like side drains, foundation for OHE masts and other miscellaneous structures in connection with Gauge Conversion, Doubling, New lines All Kind of Soil	Cum	17607.00	194.92	3431956.44
2	Supplying and filling sand under RCC BOX including watering, ramming, consolidating and dressing complete as per drawing and direction of Engineer-in charge. Sand shall be as per CPWD specification for sand plinth in filling.	Cum	700.00	2180.16	1526112.00
3	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (M-25) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties 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.	Cum	255.00	2760.35	703889.25
4	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (M-20) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC ... using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties 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.	Cum	33.00	2760.35	91091.55
5	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (M-35) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties 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.	Cum	984.00	3036.39	2987807.76



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
6	Supply, binding and placing of Thermo-Mechanically Treated bars of grade Fe-500D or more.reinforcement for RCC work including cutting, cranking, straightening, bending, binding and placing in position complete as per drawing including cost of binding wire of approved quality with TMT bars.	Kg.	149585.00	97.10	14524703.50
7	Supply and using Cement at Worksite : Ordinary Portland Cement 53 grade The rate includes all lead, lift, ascent, descent, crossing of Railway line etc. complete with contractor's labour,materials, tools and plant.	MT	545.00	7067.00	3851515.00
8	Centering and shuttering including strutting, propping etc.and removal of form for :				
8.1	All types of bridge sub-structures, e.g. pier, abutment, wing wall, retaining wall, RCC box type foundations, Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc. upto 5m above ground level	Sqm	2908.00	673.01	1957113.08
9	Supplying and laying of stone boulders backing weighing not less than 35 kg behind box & RE wall 600 mm thick with hand packed boulders & cobbles with smaller size boulders toward the back including all lead, lift, labour & other incidental charges as complete work in all respect.	Cum	588.00	1627.64	957052.32
10	Providing and laying flooring with rubble stone , laid over 15cm thick CC 1:2:4....(300 mm thick stone flooring)	Cum	167.00	4073.38	680254.46
11	Providing and laying of filter media consisting of granular materials of GW, GP, SW groups as per IS:1498 (latest) 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	680.00	2831.36	1925324.80
12	Providing and applying two coats of coal tar or bitumen conforming to IS:3117- latest version on the top and sides of RCC box/slabs @ 1.70 kg/sqm including all materials ,labour,stagging etc in complete.	Sqm	981.00	182.69	179218.89
13	Preparation and submission of GADs(General Arrangement Drawing), Construction drawing ,detailed design and drawing of all the bridges/culverts,FOB,Buildings and the same shall be got proof checked from any IIT(Indian Institute of Technology).The contractor has to be carried out the detailed design and drawing.construction drawing etc through the deployment of specilised agency and after approval of the Engeener in charge.The indiviual design report shall be provided by the contractor for each items(Bridge/ culvert,FOB,Buildings etc) .The rates are inclusive for all above works in this items and no extra payment will be paid to the contractor.	Each	1.00	210000.00	210000.00
					3,30,26,039.05



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
Schedule D (Other Civil Engineering works)					
SCHEDULE D1 : Ext. of FOB					
1	Earthwork in excavation by mechanical means (Hydraulic Excavator)/Manual Means 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. Note: This item will be used for excavation work in connection with other miscellaneous works also. like side drains, foundation for OHE masts and other miscellaneous structures in connection with Gauge Conversion, Doubling, New lines All kind of soils.	Cum.	360.00	183.32	65,995.20
2	Providing and laying in position Plain cement concrete / Reinforced Cement Concrete of specified Nominal Mix for miscellaneous works like side drains, foundation for OHE masts and other miscellaneous structures. Payment for cement, reinforcement and shuttering shall be paid extra. All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)	Cum.	35.00	2571.07	89,987.45
3	Providing and laying in position Plain cement concrete / Reinforced Cement Concrete of specified Nominal Mix for miscellaneous works like side drains, foundation for OHE masts and other miscellaneous structures. Payment for cement, reinforcement and shuttering shall be paid extra. All work up to plinth level : 1:1½:3 (1 Cement: 1½ coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size)	Cum.	40.00	2494.04	99,761.60
4	Centering and shuttering including strutting, propping etc. and removal of form for :All types of bridge sub-structures, e.g. pier, abutment, wing wall, retaining wall, RCC box type foundations, Abutment cap, Pier Cap, Inspection Platform, Drain & Pedestal over Pier cap, Fender wall, Diaphragm wall etc. upto 5m above ground level	Sqm.	1,450	632.94	9,17,763.00
5	Supply and using Cement at Worksite. Ordinary Portland Cement 53 grade. The rate includes all lead, lift, ascent, descent, crossing of Railway line etc. complete with contractor's labour, materials, tools and plant.	MT.	150.00	7067.00	10,60,050.00
6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position ,binding and including cost of binding wire of approved quality all complete. Thermo-Mechanically Treated bars of grade Fe-500D or more -	Kg.	46,000	97.10	44,66,600.00
7	Supplying, spreading and filling coarse sand (no cohesive materials to be used) of approved quality including watering and ramming in foundation, plinth, behind the abutment, wing wall, retaining wall in layers not exceeding 150mm thick including its compaction as per direction of Engineer-in-charge.The rate includes all lead, lift, ascent, descent, crossing of Railway line etc. complete with contractor's labour, materials, tools and plant.	Cum.	330.00	1539.30	5,07,969.00



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BILL OF QUANTITY (BOQ)

Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
8	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified 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 approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability, complete as per drawings, specifications and direction of the Engineer. Payment for Shuttering, Cement, 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. Deduct @ Rs 50.06/- from above item if casting of Slab in place of Girder / Box.	Cum	190.00	2554.74	4,85,400.60
9	Making suitable designed staging for cast in-situ PSC girders/slabs up to 10.5m height from bed level up to soffit of girder/slab with all contractors materials, machinery, tools and plants, transportation complete in all respects required for casting and removal of the same after completing the work and restoring the site to original. Note: The payment for staging shall be made on the cubical quantity of concrete of main Girders/slabs.	Cum	25.00	2060.19	51,504.75
10	Supplying fabricating and erecting welded and/or bolted and/or riveted steel work in built up sections, trusses and framed work, staging, racks etc. for Steel Structures other than bridge girders, using RSJ, tees, angles and channels/flats, plates, gussets, round or square bars, cleats, bolts etc., with contractors own steel including cutting, bending, straightening, drilling, riveting, hoisting, fixing, erecting, welding, bolting etc., with Providing stiffeners wherever required as per approved drawing including applying a priming coat of a approved steel primer with all contractor's materials, labour, tools & plants, lead & lift including crossing of tracks if required etc., complete as per specification and as directed by Engineer-in-charge. Note: The payment shall be made on the theoretical weight of main components and gusset plates only.	MT.	150.00	80187.99	1,20,28,198.50
11	Supplying and fixing M.S. Angles 65mmx 65mmx 8mm or any other size conforming to IS:2062 in the nosing of steps of stair cases of Foot Over Bridges including provision of 10mm dia, anchor bar 600mm c/c and fixing with main girder with M.S. flat, making anti-slip arrangements over the top of nosing as per approved scheme given by Engineer in charge with all material, labour, T&P as a complete job.	Kg.	6,400	77.26	4,94,464.00



BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
12	Painting of cleaned plate/composite bridge girders etc. including all scaffolding along with provision of Jhoola / hanging scaffolding ladders etc. where required. With two coats Aluminium paints in dual containers conforming to IS:2339 with DFT of 12 - 14 Microns for each coat.	Sqm	2,000	104.69	2,09,380.00
13	Metalizing of steel work of girders with sprayed aluminium 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 aluminium paint (IS:2339) with all labour, T&P and material as a complete job duly conforming to all relevant specifications and process given under Clause 39 of IRS-B1-2001 Note: Nominal Thickness of Aluminium coating shall be 150 microns. DFT of Zinc chrome primer shall be 25-30 microns and DFT of each coat of Aluminium paint shall be 12-14 microns.	Sqm	380.00	859.51	3,26,613.80
14	Providing and fixing of Drainage Spouts of 110mm UPVC Type A ISI marked (Working pressure 4 kg/sqcm) using suitable clamps and adhesive etc., complete.	Meter	310.00	352.63	1,09,315.30
15	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	Sqm	210.00	609.04	1,27,898.40
16	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete : a) Ridges plain (500-600 mm)	Metre	75.00	438.94	32,920.50
	b) Gutter (600 mm over all girth)	Metre	101.00	1083.19	1,09,402.19
17	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement Mortar 1:6 (1 cement : 6 coarse sand)	Cum	25.00	5880.75	1,47,018.75
18	Plaster 15 mm thk (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throating, nosing and drip course, scaffolding/staging where necessary With 1:4 cement mortar	Sqm	160.00	339.50	54,320.00



dhom

BILL OF QUANTITY (BOQ)					
Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
19	Neat Cement Punning	Sqm.	142.00	65.92	9,360.64
20	Demolishing cement concrete manually / by mechanical means including disposal of material within 50 metres lead as per direction of Engineer-in-charge. 1:2:4 or richer mix with maximum 20mm coarse aggregate. Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	Cum.	60.00	2007.11	1,20,426.60
21	Demolishing R.C.C. work manually / by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	Cum.	80.00	2928.11	2,34,248.80
22	Demolishing brick work manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge. In cement mortar	Cum.	100.00	1698.70	1,69,870.00
Total of Schedule D1-FOB –					2,19,18,469.08
Schedule D2 : Reinforcement Concrete Road					
1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge	Cum.	706.05	146.35	1,03,330.42
2	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete. Sand shall be as per CPWD specification for sand plinth in filling.	Cum.	1046.00	1751.10	18,31,650.60
3	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming/compaction and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete	Cum.	1046.00	577.58	6,04,148.68
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering (including the cost cement @ 320kg/cum)- 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum.	156.90	6496.06	10,19,231.81
5	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement (including cost of minimum cement content @ 370 Kg/Cum. All work up to plinth level : 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) 20 mm nominal size derived from natural sources)	Cum.	235.35	8948.58	21,06,048.30
6	Centering and shuttering including strutting, propping etc. and removal of form for				
	Foundations, footings, bases of columns, etc. for mass concrete	Sqm.	164.67	323.34	53,244.40
7	Providing and filling in position bitumen mix filler of proportion 80 kg. of hot bitumen, 1 kg. of cement and 0.25 cubic metre of coarse sand for expansion joints.				
7.1	For Road after 30 mtr. Intervals	Cum.	7.77	23262.14	1,80,666.57



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
8.0	Supply, binding and placing of Thermo-Mechanically Treated bars of grade Fe-500D or more.reinforcement for RCC work including cutting, cranking, straightening, bending, binding and placing in position complete as per drawing including cost of binding wire of approved quality.	Kg	27712.46	97.10	26,90,880.11
	Total of Schedule D2 ...				85,89,200.89
Schedule D3 : R.C. Concrete drain:-					
1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.	Cum.	720.00	146.35	1,05,372.00
2	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	Cum.	180.00	1751.10	3,15,198.00
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering (including the cost cement @ 320kg/cum)- 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum.	40.00	6496.06	2,59,842.40
4	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement (including cost of minimum cement content @ 370 Kg/Cum. All work up to plinth level :	Cum.	315.00	8948.58	28,18,802.70
	1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) 20 mm nominal size derived from natural sources) Road				
5	Centering and shuttering including strutting, propping etc. and removal of form for				
5.1	Foundations, footings, bases of columns, etc. for mass concrete	Sqm.	386.87	323.34	1,25,089.74
5.2	Walls (any thickness)	Sqm.	1202.51	694.67	8,35,349.36
8	Supply, binding and placing of Thermo-Mechanically Treated bars of grade Fe-500D or more.reinforcement for RCC work including cutting, cranking, straightening, bending, binding and placing in position complete as per drawing including cost of binding wire of approved quality.	Kg	27200.25	97.10	26,41,144.28
	Total of Schedule D3..				71,00,798.47
Schedule D4: Building works					
1	Construction of Building for staff accommodation near Level Crossings,Railway Station or any other nominated location as per layout drawings and standard plans .Plinth Area Rate -Crew Rest Room / CISF Rest Room Building, E.I Building Gate Lodge with Relay & IPS Building including Stair Head, Ghoomty (Ground Floor)				
i	RCC FRAMED STRUCTURE (Upto Six Story) Floor height 3.60 meter ,upto plinth height 0.6m above the ground level and foundation depth 1.20m below the ground level	Sqm.	769.00	25412.00	1,95,41,828.00
ii	RCC Raft Foundation (On ground floor only)	Sqm.	769.00	10035.00	77,16,915.00
iii	Every 0.30 metre or part thereof, heigher plinth height over normal plinth height of 0.60 meter (on ground floor area only)	Sqm.			
a	Plinth height more than 0.6m to 0.9m	Sqm.	769.00	421.00	3,23,749.00
b	Plinth height more than 0.9m to 1.2 m	Sqm.	769.00	421.00	3,23,749.00
c	Plinth height more than 1.2 to 1.5m	Sqm.	769.00	421.00	3,23,749.00
d	Plinth height more than 1.5m to 1.8m	Sqm.	769.00	421.00	3,23,749.00
e	Plinth height more than 1.8m to 2.1m	Sqm.	769.00	421.00	3,23,749.00



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
iv	Every 0.30 metre or part thereof, deeper foundations over normal depth of 1.20 meter (on ground floor area only).				
a	Foundation depth more than 1.2m to 1.5m	Sqm.	769.00	230.00	1,76,870.00
b	Foundation depth more than 1.5m to 1.8m	Sqm.	769.00	230.00	1,76,870.00
c	Foundation depth more than 1.8m to 2.1m	Sqm.	769.00	230.00	1,76,870.00
d	Foundation depth more than 2.1m to 2.4m	Sqm.	769.00	230.00	1,76,870.00
SERVICES					
v	Internal water supply and sanitary installations	Sqm.	769	4% of Rs.25412/-= Rs 1016.48	7,81,673.12
vi	Civil external service connections	Sqm.	769	1% of Rs.25412/-= Rs 254.12	1,95,418.28
2	Construction of Building for staff accommodation near Level Crossings, Railway Station or any other nominated location as per layout drawings and standard plans Plinth Area Rate -Crew Rest Room / CISF Rest Room Buildings (First Floor & Stair Head) and E.I. Building (First Floor & Stair Head)				
i	RCC FRAMED STRUCTURE (Upto Six Story) Floor height 3.60 meter ,upto plinth height 0.6m above the ground level and foundation depth 1.20m below the ground level	Sqm.	548.00	25412.00	1,39,25,776.00
SERVICES					
ii	Internal water supply and sanitary installations	Sqm.	548.00	4% of Rs.25412/-=Rs 1016.48	5,57,031.04
iii	Civil external service connections	Sqm.	548.00	1% of Rs.25412/-=Rs 254.12	1,39,257.76
Total of Schedule D4....					4,51,84,124.20
Total of Schedule D1+D2+D3+D4					8,27,92,592.65

Stage of Payments

S.No	Description	% of Payment
A	Upto Plinth	10%
B	Upto Ground Floor Slab	15%
C	Upto Mummy room slab with First Floor Slab	20%
D	Completion of Services	10%
E	Plastering inside and outside	15%
F	After Completion of finishing work (in all respect)	20%
G	After Commissioning and Handing Over	10%
		100%

Schedule E : Electrical Works

Schedule E1 : ILLUMINATION OF LALMATIA YARD BY HIGH MAST

1	Supply, erection, testing and commissioning of 30 mt High Mast tower along with feeder pillar box consisting with astronomical timer, aviation obstruction light, earthing (2no) with earthing connector by 25x5 mm GI earth strip as per specification enclosed.				
a)	Supply	Each	10	414652.00	41,46,520.00
b)	Erection, testing & commissioning	Each	10	41825.00	4,18,250.00
2	Supply & construction of RCC foundation with M-20 grade concrete by considering soil bearing capacity as 10 Ton per sq mt.	Each	10	224675.00	22,46,750.00



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
3	Supply, erection, testing and commissioning of integral type 350 watt LED high mast flood light luminaires with driver and other accessories enclosed.				
a)	Supply	Each	160	37605.00	60,16,800.00
b)	Erection, testing & commissioning	Each	160	3793.00	6,06,880.00
4	Earthing with G.I. earth pipe (ISI marked) 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with CI cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Each	20	3926.00	78,520.00
5	Supplying and laying 6 SWG G.I. wire at 0.50M below ground level for conductor earth electrode, including connection/termination with GI thimble etc.as required.	Metre	350	23.00	8,050.00
6	Drawing, Designing, Supply, Erection, Testing & Commissioning of outdoor type and ingress protection of IP-66 rated main LT Panel for inplant Yard Illumination including 2 no 160 A 4Pole microprocessor based adjustable thermal & magnetic setting rated MCCB-2 no as incommmer (Icu=35 kA, Ics= 100% Icu, 1 set 250A rated TPN tin plated Cu busbar(current density >1.6A/sqmm), 1 no digital Ammeter, 1no digital Voltmeter, with phase selection option, 1 set phase indication LED lamp(R-Y-B), 40 A 4P 'C' curve 40kA rated MCB- 12 no as outgoing.				
a)	Supply	Set	1	348350.00	3,48,350.00
b)	Erection, testing & commissioning	Set	1	17235.00	17,235.00
7	Supply of 1.1 kV grade, XLPE insulated, armoured, FRLS, PVC outer sheath aluminium cable of following sizes conforming to IS:7098-(Pt-I)- 1998 or latest and ISI marked.				
a)	3.5 C X 120 sqmm	Metre	500	1775.00	8,87,500.00
b)	3.5 C X 70 sqmm	Metre	1800	861.00	15,49,800.00
c)	3.5 C X 35 sqmm	Metre	1500	670.00	10,05,000.00
d)	4 C X 16 sqmm	Metre	1500	462.00	6,93,000.00
8	Laying of one number XLPE insulated, armoured, FRLS, PVC outer sheath power cable of 1.1 KV grade of following size direct in ground of min 750mm depth including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
i)	Upto 70 sq mm	Metre	5050	100.00	5,05,000.00
ii)	Above 95 sq.mm and upto 185 sqmm	Metre	300	118.00	35,400.00
9	Laying of one number XLPE insulated, armoured, FRLS, PVC outer sheath power cable of 1.1 KV grade of following size in the existing HDPE pipe as required.				
i)	Upto 70 sq mm	Metre	5050	14.00	70,700.00
ii)	Above 95 sq.mm and upto 185 sqmm	Metre	300	32.00	9,600.00
10	Providing, laying following dia HDPE pipe(IS:4984-2016 or latest) in ground as required (ISI marked)				
a)	40 mm dia	Metre	800	94.00	75,200.00
11	Laying of following size XLPE insulated, armoured, FRLS, PVC outer sheath cable in the existing masonry duct as required				
i)	Upto 35 sq mm	Metre	250	14.00	3,500.00
12	Laying and fixing of one number XLPE insulated, armoured, FRLS, PVC outer sheath power cable of 1.1 KV grade of following size on wall surface as required.				
i)	Upto 35 sq. mm (clamped with 1mm thick saddle)	Metre	250	26.00	6,500.00
13	Supplying and making indoor end termination with double ended brass compression gland and aluminium lugs for following size of XLPE insulated, armoured, FRLS, PVC outer sheath, aluminium conductor cable of 1.1 KV grade as required. (ISI marked)				
i)	3.5 x 120 sqmm	Each	8	518.00	4,144.00
ii)	3.5 X 35 sq. mm	Each	20	292.00	5,840.00
iii)	4 X 16 sq. mm	Each	40	264.00	10,560.00



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BILL OF QUANTITY (BOQ)

Sl. No.	Description of items	Unit	Qty	Rate	Amount in Rs.
14.1	Supply of 100 KVA, 11/0.433 KV, 50 Hz, oil immersed, naturally cooled ONAN, vector group Dyn - 11, Copper wound distribution type outdoor transformer complete with all accessories including one spare barrel of 200 litres of transformers oil	No	2	350000	7,00,000.00
14.2	Erection, testing & commissioning	No	2	35000	70,000.00
15	Supply of 3 Core, 185 sqmm, 11KV(E), XLPE insulated, PVC inner & outer sheath, armoured, aluminium cable	Mtr	500	859	4,29,500.00
16	Laying of one no 3 Core, 185 sqmm, 11-KV (E) XLPE insulated armoured cable direct in ground including excavation, sand cushioning, protective brick covering and refilling the trench etc as required	Mtr	500	324	1,62,000.00
17	Supply and making straight through cable jointing with heat shrinkable jointing kit complete with all accessories including ferrule and other jointing materials, for 3C of 120 to 240 Sq. mm of 3 core, XLPE aluminium/ copper conductor cable of 33 kV grade as required.				
a	Supply	Each	4	16268.00	65,072.00
b	Erection	Each	4	1178.00	4,712.00
18	Termination	Nos	8	1052.00	8,416.00
	TOTAL of Schedule --E1				2,01,88,799.00
	Note: The stage payment of item no. 1a, 3a, 6a, 7a, 7b, 7c, 7d, 14(i), 15 and 17a of Schedule E1 as below (i) supply of materials at site 70% payment will be released after submission of Indemnity Bond (ii) After erection 20% of payment will be released (iii) After final commissioning balance 10% payment will be released				
	Schedule E2 : Electrification of Inplant Panel Cabin				
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm, FR PVC insulated copper conductor single core cable etc, as required for service building, office, panel cabin etc.	Point	95	739.00	70,205.00
2	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FR PVC insulated copper single core cable in surface/ recessed medium class PVC conduit as required				
a)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Metre	250	166.00	41,500.00
3	Supplying and fixing metal box of 180mm X 100mm X 60mm deep (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including providing and fixing 6 pin 5/6 & 15/16 amps socket outlet and 15/16 amps piano type switch, connection, painting etc. as required.	Each	22	284.00	6,248.00
4	Installation, testing and commissioning of pre-wired, LED fitting of all types, with all accessories and tube etc. directly on ceiling/ wall, including connection with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	75	94.00	7,050.00
5	Supplying & fixing of batten holer & batten type fixing, indoor single integrated LED lamp of 9W.	Each	7	320.00	2,240.00
6	Supplying of box type, indoor single integrated sleek extruded polycarbonate LED tube light fittings with 1 X 18 W lamp, integrated driver, holders, acrylic made protective cover and other accessories.	Set	60	1322.00	79,320.00
7	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30cm) with 1.5 sqmm FR PVC insulated copper conductor, single core cable etc.	Each	8	98.00	784.00
8	Supply of 1400mm sweep ceiling fan suitable for operation on 230V, 50 Hz AC supply, complete with down rod, rubber shackle, blades, condensor, canopies etc. complete as required but without regulator.	Set	8	1752.00	14,016.00
9	Supplying and fixing stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required. (Two module)	Each	8	292.00	2,336.00



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
10	Supply of single phase, 300mm sweep, 1400rpm exhaust fan suitable for operation on 230V, 50 Hz AC supply, complete with blades, condensor, frame etc. as required.	Set	4	2677.00	10,708.00
11	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc.	Each	4	209.00	836.00
12	Extra for fixing the louvers / shutters complete with frame for exhaust fan.	Each	4	92.00	368.00
13	Power supply arrangement along with timer circuit connetion for duct type AC	LS	1	15000.00	15,000.00
14	Supply, fixing, testing and commissioning of integral type LED Street light Fittings of IP 66 rating (bracket light) complete with 1 X 25 watt LED lamp, driver etc.	Set	8	5008.00	40,064.00
15	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Each	4	4038.00	16,152.00
16	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/termination with GI thimble etc.as required.	Metre	50	29.00	1,450.00
17	Supplying and fixing 4 way (4 + 12), Double door TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required.(But without MCB/ RCCB/ Isolator)	Each	2	7567.00	15,134.00
18	Supplying and fixing 5 amps to 32 amps rating, 240 volts, "C" curve, miniature circuit breaker suitable for inductive load of Single poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	Set	24	174.00	4,176.00
19	Supplying and fixing 63A rating, four pole, (three phase and neutral), 415 volts, MCB, having 10kA short circuit current rating with 'C' curve in the existing MCB DB complete with connections, testing and commissioning etc. as required.	Each	2	1701.00	3,402.00
20	Supply of 1.1 kV grade, XLPE insulated, armoured, PVC outer sheath aluminium cable of following sizes,				
a)	4 C X 16 sqmm	Metre	300	362.00	1,08,600.00
21	Laying of one number XLPE power cable of 1.1 KV grade of following size direct in ground of minm 750mm depth including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
i)	Upto 35 sq mm	Metre	250	90.00	22,500.00
22	Laying of one number XLPE power cable of 1.1 KV grade of following size in the existing pipe as required.				
i)	Upto 35 sq mm	Metre	250	17.00	4,250.00
23	Providing, laying following dia pipe in ground as required				
a)	40 mm dia	Metre	250	88.00	22,000.00
24	Laying of following size cable in the existing masonry duct as required				
i)	Upto 35 sq mm	Metre	25	12.00	300.00
25	Laying and fixing of one number XLPE power cable of 1.1 KV grade of following size on wall surface as required.				
i)	Upto 35 sq. mm (clamped with 1mm thick saddle)	Metre	25	24.00	600.00
26	Supplying and making indoor end termination with brass compression gland and aluminium lugs for following size of XLPE aluminium conductor cable of 1.1 KV grade as required.				
i)	4 X 16 sq. mm	Each	2	253.00	506.00



BILL OF QUANTITY (BOQ)					
Sl. No	Description of items	Unit	Qty	Rate	Amount in Rs.
27	Provision of Changeover Panel 63A (3 position)- RDSO specification	Set	1	83050.00	83,050.00
	Sub Total Amount of Schedule E2				5,72,795.00
	Schedule E4 : ILLUMINATION OF RUB AT SIDING PREMISES				
1	Supply, installation, testing & commissioning of 1 X 30 W LED street light fittings conforming to IP 65 suitable for street light with all accessories.	Set	6	6,330.00	37,980.00
2	Supply, installation, testing & commissioning of Three phase Street Light panel with timer.	Set	1	45,150.00	45,150.00
3	Supply, installation, testing & commissioning of All weather junction Box	Set	6	3,120.00	18,720.00
4	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required				
	2 X 1.5 Sq. mm + 1 X 1.5 Sq. mm earth wire	Mtr	150	212.00	31,800.00
	Total Amount of Schedule E4				1,33,650.00
	Schedule E5 : Unforeseen Items)				
1	(Any Other Unforeseen Items) : Any other unforeseen item which may require to be operated for work under Schedule but not covered in the above items, shall be operated CPWD's Delhi Schedule Rate 2022 Electrical & Mechanical works (Note: Items covered under CPWD DSR 2022 E & M are inclusive of 12% GST. Therefore, items executed under this schedule will be paid by deducting @12% to get the base rate. The GST @18% will be paid separately).	LS	1	875000	8,75,000.00
	Total Amount Schedule E4				8,75,000.00
	Grand Total Amount -E1+E2+E3+E4+E5				2,17,70,244.00

Schedule-F:Unforeseen works (Indian Railway'S USSOR-2019 items)

1	Any other Items not covered In BOQ, Shall be operated as par IR USSOR (Works & Materials) - 2019, Payment on this Item will be made on execution of different items of works duly certified by the Engineer-In-charge and approved by the competent authority. The items of the Schedule will be operated if the items not available in Schedule A to E. (Note: Items covered under IR-USSOR-2019 are inclusive of 12% GST. Therefore, items executed under this schedule will be paid by deducting @12% to get the base rate. The GST @18% will be paid separately).	L.S.	1.00	70,00,000.00	70,00,000.00
	Total Cost of Schedule- F				70,00,000.00

Schedule-G:Unforeseen works (DSR-2021 items)

1	Any other Items not covered In from Schedule A ,Schedule B,Schedule C, Schedule D , Schedule-E, and Schedule F- Shall be operated per Delhi Schedule of Rates - 2021,Payment on this Item will be made on execution of different Items of work duly certified by the Engineer-in-charge and approved by the competent authority. (Note: Items covered under DSR-2021 are inclusive of 12% GST. Therefore, items executed under this schedule will be paid by deducting @12% to get the base rate. The GST @18% will be paid separately).	L.S.	1.00	35,00,000.00	35,00,000.00
	Total Cost of Schedule- G				35,00,000.00

