

HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

(A Joint Venture Govt. of Haryana and Ministry of Railways)

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Tender No.: HORC/HRIDC/C-2/2022

Date: 26.07 .2022

Reference: Specific Procurement Notice dated 18.06.2022.

CORRIGENDUM NO. 4

Name of Work: C-2: Composite Contract Package in connection with laying of New BG Double Railway Line of HORC project for:

(i) Design and Construction of Civil Works (Earthwork, Bridges, Station Buildings, Retaining Walls and other miscellaneous Works) from Km 55.60 to Km 61.50 and its connectivities to IR network from New Patli to Patli & New Patli to Sultanpur including modifications in Sultanpur station yard,

(ii) Design, Supply, Installation, Testing & Commissioning of OHE (1x25 kV) and General Electrical services from Km 49.70 to Km 61.50 and its connectivities to IR network from New Patli to Patli & New Patli to Sultanpur including modifications in Sultanpur station yard and

(iii) Design, Supply, Installation, Testing & Commissioning of Signalling & Telecommunication from Km 49.70 to Km 61.50 and its connectivities to IR network from Manesar to Patli and New Patli to Patli & New Patli to Sultanpur including modifications in Patli and Sultanpur station yards.

| S. No. | Tender Document Part / Section/ Clause No. | Description of Existing Clause | Modified Description of Existing Clause / New Clause |
|---------------|---|---|---|
| 1. | Part 1, Section IV, Tender Forms, Appendix B to Financial Part: Price Schedule, Schedule 'B' and Schedule 'C' | Schedule 'B' and Schedule 'C' | The existing Schedule 'B'/R1 and Schedule 'C'/R1 of Appendix B to Financial Part: Price Schedules is replaced and annexed as " Attachment-1 " of this Corrigendum No. 4. |
| 2. | Financial Part: Price Schedule in Excel Sheet | Price Schedules for quoting rate against Schedule 'A', Schedule 'B' and Schedule "C" (MS Excel File). | Existing Price Schedules for quoting rate against Schedule 'A', Schedule 'B' and Schedule "C" is replaced with Price Schedules/R1 (MS Excel File) in this Corrigendum No. 4. |

**Attachment 1
to
Corrigendum No. 4**

**Schedule 'B'/R1 and Schedule 'C'/R1
of
Appendix B to Financial Part: Price Schedules**

| Schedule B/R1 | | | | | | | |
|---|----------|--|----------|------|-------------------|--------------------------|-------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| Schedule B1:- NWR-USSOR 2019 BASED ITEMS | | | | | | | |
| 1 | 013130 | Shoring with 'Z' section MS sheet piles side by side in all kinds of soil mechanically or manually as per approved drawing with contractor's own arrangement complete in all respects and removal of sheet piles after completion of the work as directed by engineer in-charge. {Note - Payment will be made as per actual driven length of pile} | 200 | Sqm | 868.29 | 5.78% | 1,83,696.00 |
| 2 | 022010 | 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. 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. | | | | | |
| i | 022011 | All kinds of soils | 2100 | Cum | 195.57 | 5.78% | 4,34,427.00 |
| 3 | 022030 | Providing and laying in position Plain cement concrete of specified Nominal Mix for miscellaneous works like side drains, foundation for OHE masts and other miscellaneous structures excluding the cost of Cement, centering and shuttering - All work up to plinth level : | | | | | |

| Schedule B/R1 | | | | | | | |
|---|-----------------|---|-----------------|-------------|--------------------------|---------------------------------|--------------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| i | 022034 | 1:3:6 (1 Cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) | 2,850 | Cum | 2,971.37 | 5.78% | 89,57,892.00 |
| 4 | 022040 | Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (M-20 Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC raft foundation & Pile cap including finishing, using Admixtures in 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. Note- Cement concrete in drainage and other miscellaneous works shall be paid under this item. | 350 | Cum | 2,840.33 | 5.78% | 10,51,575.00 |
| 5 | 025020 | 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 after cleaning the surface with all labour and materials complete job as directed by the Engineer | 11,000 | Sqm | 155.67 | 5.78% | 18,11,370.00 |
| 6 | 025030 | centering and shuttering including strutting, propping etc. and removal of form for : | | | | | |
| i | 025031 | 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 | 40,228 | Sqm | 671.94 | 5.78% | 2,85,93,257.84 |
| ii | 025032 | All types of bridge super-structures, e.g. slabs, I-girders, T-girders, Box girders etc. upto 5m above ground level | 500 | Sqm | 874.49 | 5.78% | 4,62,520.00 |

| Schedule B/R1 | | | | | | | |
|---|-----------------|---|-----------------|-------------|--------------------------|---------------------------------|--------------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| iii | 025033 | Extra for additional height over item no. 025031 & 025032 wherever required with adequate bracing, propping etc. over initial height of 5 metres for every additional height of 1 metre or part thereof | 1,250 | Sqm | 110.17 | 5.78% | 1,45,675.00 |
| 7 | 025060 | Supply and using Cement at Worksite | | | | | |
| i | 025062 | Ordinary Portland Cement 53 grade | 300 | MT | 7,398.80 | 7.61% | 23,88,555.00 |
| ii | 025063 | Pozzolana Portland Cement | 450 | MT | 6,905.10 | 7.61% | 33,43,761.00 |
| 8 | 025070 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete | | | | | |
| i | 025072 | Thermo-Mechanically Treated bars of grade Fe-500D or more. | 19,77,701 | Kg | 78.01 | 26.81% | 15,42,80,455.01 |

| Schedule B/R1 | | | | | | | |
|---|----------|--|----------|------|-------------------|--------------------------|-------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| 9 | 031020 | 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 contactor'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. | 54 | Cum | 2,840.33 | 5.78% | 1,62,243.00 |
| i | 031021 | Deduct from 0310220 for casting of Slab in place of Girder/Box | 54 | Cum | 42.48 | 5.78% | -2,426.76 |

| Schedule B/R1 | | | | | | | |
|---|----------|--|----------|-------|-------------------|--------------------------|-------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| 10 | 031040 | Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268– latest version in Prestressed (Post tensioned) Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, anchoring of cables, supplying and placing spiral corrugated type galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS:513 of required diameter/ thickness, vent pipe, placing, bending, routing, fixing, stressing & grouting of cable ducts with cement grout, Anchorage sets in required number with provision for future prestressing if any including all lead and lift with contractor's own materials, labour, equipment etc. complete as per drawings & specifications. Rate also includes covering anchorage pads with epoxy mortar of approved quality to avoid corrosion. Cement for grouting to be paid separately. Payment shall be made in terms of weight of HTS cables as per drawing. | 3 | MT | 1,79,099.63 | 26.81% | 6,81,348.72 |
| 11 | 031140 | Providing and fixing in position GI Drainage Spouts of required length with Grating in RCC slab and filling bitumen along kerb as shown in drawing with contractor's pipes, bitumen, tools, equipment, lead, lifts etc. complete as per specifications and as directed by Engineer in-charge | | | | | |
| i | 031142 | 100mm dia. Drainage Spouts | 5 | Metre | 1,202.50 | 5.78% | 6,360.00 |

| Schedule B/R1 | | | | | | | |
|---|----------|--|----------|------|-------------------|--------------------------|-------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| 12 | 041330 | Launching & fixing in specified Bridge location all types of Steel Plate girders / PSC girders / Slabs including loading/unloading and transport to the site of launching with a lead of five kilometres & lifting to any height as per site requirement, provision of approaches for leading, cleaning of bed block and minor repairs to bed block with epoxy if required, as directed by Engineer in charge with all labour, tools and plant, equipment etc., complete | | | | | |
| i | 041331 | PSC girders / slabs | 140 | MT | 6,346.14 | 5.78% | 9,39,813.00 |
| 13 | 041390 | 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. | 5 | MT | 86,019.71 | 34.05% | 5,76,547.10 |
| 14 | 052230 | Providing cast in situ bridge number plaques as per Railway drawing in cement concrete 1:2:4 mix using 20mm hard stone aggregate embedded in 30mm notch in Bridge parapet coping duly engraving the letter and figures and an arrow indicating the direction of flow and finishing the top exposed surface with cement mortar 1:3, painting letters and figures with two coats of black enamel paint on two coats of white background with all labour, tools, cement, paint etc. with all leads and lifts. | 5 | Each | 801.69 | 5.78% | 4,240.15 |

| Schedule B/R1 | | | | | | | |
|---|----------|--|----------|------|-------------------|--------------------------|-------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| 15 | 052240 | Providing cast in-situ plaques for bridge foundations details of size 45cmx45cmx5cm in cement concrete 1:2:4 mix using 20mm hard stone aggregate embedded in 30mm deep notch over abutment & piers, engraving the letters & figures with CM 1:3 and finished smooth including painting letters and figures with 2 coats of black enamel and plaque with white enamel with all labour, tools, cement, paint, curing etc. as a complete job. | 2 | Each | 1,049.88 | 5.78% | 2,221.12 |
| Schedule B2:- DSR-2021 BASED ITEMS | | | | | | | |
| 16 | 3.8 | 1:3 (1 Cement : 3 coarse sand (zone-III)) cement sand levelling mortar. Note:- cost of cement is included in the item. | 134 | Cum | 5,024.15 | 2.49% | 6,89,999.50 |
| 17 | 9.48 | Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. | | | | | |
| i | 9.48.2 | Fixed to openings /wooden frames with rawl plugs screws etc. | 800 | Kg | 197.70 | 2.49% | 1,62,096.00 |
| 18 | 10.16 | Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. | | | | | |
| i | 10.16.2 | Hot finished seamless type tubes | 2,000 | Kg | 168.95 | 2.49% | 3,46,320.00 |
| 19 | 10.25 | Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. | | | | | |
| i | 10.25.2 | In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works | 1,200 | Kg | 142.30 | 2.49% | 1,75,008.00 |

| Schedule B/R1 | | | | | | | |
|---|----------|---|----------|------|-------------------|--------------------------|-------------------------|
| Retaining wall & other civil works | | | | | | | |
| S. No | Item No. | Description of Item | Quantity | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated amount in INR |
| 20 | 10.28 | Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.). | 500 | Kg | 612.25 | 2.49% | 3,13,750.00 |
| 21 | 11.20 | Chequered precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). | | | | | |
| i | 11.20.1 | Light shade pigment using white cement | 100 | Sqm | 1,233.05 | 2.49% | 1,26,375.00 |
| 22 | 16.69 | Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). | 12 | Cum | 8,613.55 | 2.49% | 1,05,936.36 |

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| 23 | 16.75 | Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (Note: - Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately). | 110 | Cum | 8,277.55 | 2.49% | 9,33,202.60 |
| 24 | 16.79 | Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge | 300 | Cum | 2,803.65 | 2.49% | 8,62,038.00 |
| 25 | 16.91 | Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge. | | | | | |
| i | 16.91.2 | 80 mm thick C.C. paver block of M-30 grade with approved color design and pattern. | 300 | SQM | 1,011.20 | 2.49% | 3,10,914.00 |
| 26 | | Items included in Delhi Schedule of Rate-(Horticulture & Landscaping) 2020 | | LS | | | 10,00,000.00 |
| Schedule B3:- NS BASED ITEMS | | | | | | | |

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| 27 | NS-1 | <p>Earthwork in embankment for 32.5t axle load and as per RDSO specification No. RDSO/2020/GE:004 September 2020 “Comprehensive Guidelines and Specification for Railway Formation” with contractor’s own earth from borrow areas including all lead, lift, ascent, descent, royalty, taxes, cess, compensation, crossing of nallahs /stream and other obstructions including mechanical compaction in layers with watering, handling, re-handling, dressing of banks to the final profile with all labour, material, tools, plant, machinery and equipment, taxes, cess etc. as a complete job in accordance with the specification and drawings.</p> <p>Note: 10% of payment shall be withheld till the slopes are dressed to the required profile and compacted mechanically with vibratory rollers as per RDSO guidelines</p> | 1,00,000 | Cum | 309.73 | At Par | 3,09,73,000.00 |
| 28 | NS-2 | <p>Earthwork in filling with contractor’s own earth of approved quality from borrow areas including all lead all lead, lift, ascent, descent, royalty, taxes, cess, compensation, crossing of nallahs /stream and other obstructions including mechanical compaction in layers with watering to 95% of MDD (as per IS 2720 part 8), handling, re-handling, dressing to the final profile with all labour, material, tools, plant, machinery and equipment, taxes, cess etc. as a complete job in accordance with the specification and drawings.</p> | 1,000 | Cum | 271.46 | At Par | 2,71,460.00 |
| 29 | NS-3 | <p>Supplying and laying in position M-35 RCC as per approved design mix with admixtures and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all lifts & leads, having continuous agitated mixer, pumping concrete from transit mixer to site of laying, compacting, finishing & curing, with all labour, material, tools, plants, machinery and equipment, taxes, cess etc., as a complete job ,but excluding supplying & fixing form work (centring & shuttering),in accordance with the specification and drawings.</p> <p>Note (i) Cost of cement is included in the above item. (ii) Cost of Reinforcement steel is not included in the above item</p> | | | | | |

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| | | and will be paid separately under item no.8(i) (USSOR item No. 025072) (iii) Cost of supplying & fixing form work (centring & shuttering) is not included in the above item (except pile cap & open foundation) and will be paid separately under relevant item no. 6(i),(ii),(iii) (USSOR item No. 025030) | | | | | |
| i | NS-3A | In Pile caps, open foundation & RCC Box/Sub way, well steining, well cap | 1,100 | Cum | 7,776.37 | At Par | 85,54,007.00 |
| ii | NS-3B | In Piers, abutments, box | 400 | Cum | 8,098.18 | At Par | 32,39,272.00 |
| iii | NS-3C | Abutment cap & Pier Cap, pedestals, approach slab, Deck slab | 400 | Cum | 8,421.36 | At Par | 33,68,544.00 |
| iv | NS-3D | Retaining walls, wing walls, return walls, drop walls, curtain walls, toe walls etc. of all heights | 12,786 | Cum | 7,888.74 | At Par | 10,08,65,429.64 |

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|----|------|---|-------|-----|-----------|--------|----------------|
| 30 | NS-4 | <p>Manufacturing, transportation (including loading & unloading) and installation in position(including joining and grouting) M-50 or higher grade precast reinforced cement concrete segmental retaining walls of specified height (height measured from founding level) as per the directions of the Engineer. Precast reinforced retaining walls shall be factory-made and steam cured in a controlled environment with weep holes and in-built inserts for handling/transportation. Dimensional tolerances shall be as per IS: 6408 (part 2) for PC Class 6.</p> <p>Note:-</p> <ol style="list-style-type: none"> 1.This item includes cost of all the materials, labour, machinery, tools & plant etc. complete required for manufacture of precast segments except Steel Reinforcement which shall be paid separately under item no.8(i)(USSOR item No. 025072) of schedule B. 2. Boulder Backing and backfilling of filter media behind wall shall be paid separately Item No.32 (NS-6) & Item No.35 (NS-9) respectively of this schedule. 3. Excavation of soil for foundation shall be paid separately under item no.2 (USSOR item No. 022010) 4. Levelling course of 1:3:6 concrete of 150mm thick should be provided before placing the wall segments. Payment for which shall be made under Item No. 3 (i) (USSOR Item No. 022034). 5. A layer of Cement mortar about 20mm thick should be provided over levelling course. Payment for which shall be made under Item No. 16 (DSR Item no. 3.8). 6. 60% of the rate shall be paid on receipt of the precast retaining wall segments at site and balance 40% will be paid on fixing the same in position in satisfactory condition. | 2,084 | Cum | 28,421.64 | At Par | 5,92,30,697.76 |
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| 31 | NS-5 | <p>Manufacturing, transportation (including loading & unloading) and installation in position(including joining and grouting) M-50 or higher grade precast reinforced cement concrete U-shaped drain with cover as per the directions of the Engineer. Precast reinforced U-shaped drain shall be factory-made and steam cured in a controlled environment with inserts for handling/transportation. Dimensional tolerances shall be as per IS: 6408 (part 2) for PC Class 6.</p> <p>Note:-</p> <ol style="list-style-type: none"> 1.This item includes cost of all the materials, labour , machinery, tools & plant etc. complete required for manufacture of precast segments except Steel Reinforcement which shall be paid separately under item no.8(i)(USSOR item No. 025072) of schedule B. 2. Boulder Backing and backfilling of filter media behind wall shall be paid separately Item No.32 (NS-6) & Item No.35(NS-9) respectively of this schedule. 3. Excavation of soil for foundation shall be paid separately under item no.2(USSOR item No. 022010) 4. Levelling course of 1:3:6 concrete of 150mm thick should be provided before placing the wall segments. Payment for which shall be made under Item No. 3 (i) (USSOR Item No. 022034). 5. A layer of Cement mortar about 20mm thick should be provided over levelling course. Payment for which shall be made under Item No. 16 (DSR Item no. 3.8). 6. 60% of the rate shall be paid on receipt of the precast retaining wall segments at site and balance 40% will be paid on fixing the same in position in satisfactory condition. | 20 | Cum | 28,421.64 | At Par | 5,68,432.80 |
| 32 | NS-6 | <p>Providing Boulder Backing behind wing wall, return wall, retaining wall with hand packed boulders & cobbles not less than 15cm in any direction & not less than 15kg (except smaller boulders required for filling voids) including all lead, lift, labour & other incidental charges as complete work in all respect. Cost of boulder/cobbles is included in this item.</p> | 12,604 | Cum | 1,475.82 | At Par | 1,86,01,235.28 |

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| 33 | NS-7 | Providing and fixing Weep Holes in Abutments, RCC Box, Wing walls and Return walls etc., of new bridges with 110mm dia UPVC pipe (IS :13592) Type A ISI marked with all contractor's men, material, transportation, all taxes as per specifications and as directed by Engineer-in-Charge. | 11,028 | Running meter | 266.91 | At Par | 29,43,483.48 |
| 34 | NS-8 | Providing and fixing of 75mm dia PVC pipe for weep holes in abutments, Wing Wall, Return Wall, Face wall, retaining wall etc. at suitable intervals as directed by the Engineer-in-charge. | 10,550 | Rmt | 231.00 | At Par | 24,37,050.00 |
| 35 | NS-9 | 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. | 43,847 | Cum | 2,441.23 | At Par | 10,70,40,611.81 |
| 36 | NS-10 | Supplying and laying blanketing material produced through mechanical means using crushers and pug mill for 32.5 T axle load as per RDSO specification No. RDSO/2020/GE:004 September 2020 "Comprehensive Guidelines and Specification for Railway Formation" over the top of subgrade including all lead, lift, ascent, descent, royalty, taxes, cess, crossing of nallahs /stream and other obstructions including mechanical compaction in layers not exceeding 300 mm thick with vibratory rollers, watering, handling, re-handling and dressing of formation to the final profile with all labour, material, tools, plants, machinery and equipment, taxes, cess, etc. as a complete job in accordance with the specification and drawings. Note: 10% of payment shall be withheld till the slopes are dressed to the required profile and compacted mechanically with vibratory rollers as per RDSO guidelines. | 500 | Cum | 2,118.60 | At Par | 10,59,300.00 |

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| 37 | NS-11 | <p>Casting, supplying and installation of Pre-cast cement concrete blocks of size 25X25 X20cm. or of required size as directed by the Engineer for protective works at bridges & banks like pitching, toe wall, flooring, drains etc. using M20 design concrete mix with 20mm aggregate size including Contractor's shuttering, leading to bridge site from casting depot, including dressing and levelling of surface, providing gravel backing, laying & jointing blocks with cement mortar 1:3 with Contractor's labour and as directed by Engineer-in-charge (All labour and materials including cement by Contractor).</p> <p>Note:</p> <p>i) Payment for gravel backing will be paid under item no. NS-12 of this Bill.</p> <p>ii) 60% Payment shall be made after casting of pre-cast concrete blocks and bringing at work site. The balance 40% will be made on completion of laying and finishing.iii) Measurement is based on quantity calculation of blocks used only (no of blocks x volume of one block).</p> | 950 | Cum | 7,731.14 | At Par | 73,44,583.00 |
| 38 | NS-12 | <p>Supplying and laying of 150mm thick well graded stones aggregate/gravel as base layer over the slopes of embankment with manual dressing with water compaction including the cost of supply of all material, labour, lead, lift, tools, plants, crossing of tracks etc. complete as per approved drawings and technical specifications.</p> | 500 | Cum | 2,139.90 | At Par | 10,69,950.00 |

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| 39 | NS- 13 | Supply & installation of precoated galvanized iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in charge) 0.50mm +/- 5% total coated thickness (TCT) thick Zinc coating 120gsm as per IS:277 in 240mpa steel grade, 5-7microns 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 while transportation and should be supplied in single length up to 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling / self tapping screws of size (5.5 x 55mm) with EPDM seal or with polymer coated J or L hooks, bolts and nuts 8mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead complete up to 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. | 500 | Sqm | 756.52 | At par | 3,78,260.00 |
| Total Estimated Amount of Schedule 'B' | | | | | | | 55,69,94,486.41 |

| Schedule C/R1 | | | | | | |
|---|--|--|-------------|------------------------------|---|----------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| C1-Civil Works | | | | | | |
| 1 | DSR-21 | Providing and laying Non Pressure NP-3 class (Medium duty) R.C.C. pipes including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete. | | | | |
| i | 19.35.1 | 450mm dia. RCC pipes | Metre | 2385.5 | 2.49% | 2444.90 |
| ii | 19.35.2 | 600 mm dia RCC pipes. | Metre | 3051.55 | 2.49% | 3127.53 |
| 2 | DSR-21 | Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete : | | | | |
| i | 19.6.1 | 100 mm dia. R.C.C. pipe | Metre | 447.25 | 2.49% | 458.39 |
| ii | 19.6.2 | 150 mm dia. R.C.C. pipe | Metre | 493.1 | 2.49% | 505.38 |
| iii | 19.6.3 | 250 mm dia. R.C.C. pipe | Metre | 811 | 2.49% | 831.19 |
| 3 | DSR-2021 16.90 | Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement | Sqm | 1719 | 2.49% | 1761.80 |

| Schedule C/R1 | | | | | | |
|---|--|--|-------------|------------------------------|---|----------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | | mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge. | | | | |
| 4 | DSR-21 | Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1: 4 (1cement: 4 coarse sand). Cost of cement is included in this item. | | | | |
| i | 11.26.1 | 25 mm thick | Sqm | 1706.6 | 2.49% | 1749.09 |
| 5 | USSOR- 2019(NWR) | Load testing of one or more spans of bridge as selected by the Engineer as per approved load test procedure following relevant IS/IRC/Railway codes with contractor's labour, deflection measuring instruments, loading materials, recoding and analyzing the load testing results including all lead & lift, etc. complete as required. The rates are all inclusive and will be paid after load test is finished and girder is cleared of the kentledges/loading material etc. The load shall be 1.25 times the stipulated design load. | | | | |
| i | 031111 | For Span design load upto 100 MT | Each | 85662.09 | 5.78% | 90613.36 |
| ii | 031112 | Extra for every increase 1 MT or part thereof in the span design load capacity upto 800 MT | MT | 845.81 | 5.78% | 894.70 |

| Schedule C/R1 | | | | | | |
|---|--|---|-------------|------------------------------|---|----------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 6 | NS-1 | <p>Boring 1200 mm diameter piles using Hydraulic Rig in all kinds of strata including boulder studded soil, underground structure like channel, sewer manholes, old foundation or any other obstruction, irrespective of sub-soil water level in all conditions whether dry or under water, shoe and temporary casing pipe, if required, with contractor plant, machinery & equipment for pile boring, use of bentonite slurry including all operations, cleaning of bore holes, supplying and laying in-situ with tremie pipe M-35 RCC in piles as per approved design mix with admixtures and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all lifts & leads,</p> <p>having continuous agitated mixer, pumping concrete from transit mixer to site of laying including supplying & fixing form work (centering & shuttering), compacting, finishing, curing, chipping off pile top to remove laitance concrete above cut off level, removal and disposal of surplus excavated earth/debris/muck outside ROW including all lead, lift, ascends, descends, loading, unloading handling, re-handling, crossing of stream, nallahs, railway track, level crossing etc. with all labour, material, tools, plants, machinery and equipment, taxes, cess etc. as a complete job in accordance with the Specification and the Drawings.</p> <p>Note – i. Cost of cement is included in the above item.</p> | Rmt | 10,232.00 | At par | 10,232.00 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous works | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | | ii. Cost of Reinforcement steel is not included in the above item and will be paid separately under relevant item of schedule-B. iii. Cost of temporary casing pipe is included in the above item. However, cost of permanent casing pipe is not included in this item and shall be paid separately under item, if required and approved by the Engineer. | | | | |
| C-2 S&T Works | | | | | | |
| 7. | NS-2 | Supply of colour light signal unit 2 Aspect complete without lamp holder, lamp, lenses and signal transformer as per IRS -S- 26/64 Ver. 1 and RDSO Drg no.SA-23003 A/ M(Adv.) or latest. | Each | 16895 | At par | 16895 |
| 8. | NS-3 | Supply of colour light signal unit 3 Aspect complete without lamp holder, lamp, lenses and signal transformer as per IRS -S- 26/64 Ver. 1 and RDSO Drg no.SA-23002 A/ M(Adv.) or latest. | Each | 21432 | At par | 21432 |
| 9. | NS-4 | Supply of colour light signal unit 4 Aspect complete without lamp holder, lamp, lenses and signal transformer as per IRS -S- 26/64 Ver. 1 and RDSO Drg no.SA-23001 A/ M(Adv.) or latest. | Each | 21842 | At par | 21842 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 10. | NS-5 | Supply of shunt signal position light complete with unit post and surface base mounting socket 90mm dia, without holders & bulbs as per drg. No. SA 23840, adv.specs.no.IRS-S-23/88 or latest independent post type. | Each | 9173 | At par | 9173 |
| 11. | NS-6 | Supply of shunt signal position light with unit offset bracket 3.5inch dia. without holders & bulbs as per drg.no. SA - 23840 adv.specs.no.IRS-S-23/88 or latest Dependent post type. | Each | 9019 | At par | 9019 |
| 12. | NS-7 | Supply of Calling ON signal unit position light type complete with mounting socket 90 mm dia. & lock. All items shall be as per latest RDSO drawing and specifications. | Each | 4724 | At par | 4724 |
| 13. | NS-8 | Supply of LED type Shunt signal aspect (in place of one bulb) complete with current regulator and health monitor alarm as per spec no. RDSO/SPN/153/2002 or latest. | Each | 7565 | At par | 7565 |
| 14. | NS-9 | Supply of route indicator junction type complete with hoods & offset bracket 5½ " without signal transformer as per RDSO Specn.No.IRS-S-66/84 Amd. 1 or latest as per latest drawing. | | | | |
| | NS-9 (i) | 1-way route indicator junction type Drg. No. SA-23401 (Adv.) or latest | Each | 24441 | At par | 24441 |
| | NS-9 (ii) | 2/3/4/5-way route indicator junction type Drg. No. SA-23402-6 (Adv.) or latest | Each | 31812 | At par | 31812 |

| Schedule C/R1 | | | | | | |
|---|---|--|-------------|--------------------------|---------------------------------|------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR-2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 15. | NS-10 | Supply of CLS Signal post 4.6 M and ladder 4.5 M long with base (S-2011/M), and platform as per RDSO spec.No.IRS-S-6/81 or latest. | Each | 19930 | At par | 19930 |
| 16. | NS-11 | Supply of CLS Signal post 3.6 M and ladder 3.5 M with base (S-2011/M) and platform as per RDSO spec.No.IRS-S-6/81 or latest. | Each | 18133 | At par | 18133 |
| 17. | NS-12 | PVC Insulated Armoured, Unscreened, Underground Railway Signalling Cable Copper Conductor as per specification no. IRS-S-63/2014 {Rev. 4.0} or latest with amendment Size 24 Core x 1.5 Sq. mm. | Km | 354316 | At par | 354316 |
| 18. | NS-13 | PVC Insulated Armoured, Unscreened, Underground Railway Signalling Cable Copper Conductor as per specification no. IRS-S-63/2014 {Rev. 4.0} or latest amendment as on the date of opening Size 12 Core x 1.5 Sq.mm. | Km | 183331 | At par | 183331 |
| 19. | NS-14 | PVC insulated Armoured, Unscreened, Underground Railway Signalling Cable Copper Conductor as per Specification No.IRS:S-63/2014 (Rev.4.0) or latest amendment as on the date of Opening of tender, size 6 core x 1.5 Sq.mm | Km | 108000 | At par | 108000 |
| 20. | NS-15 | "Supply of Power wire as per IRS specification No. S-76/89 (Amndt.2) or latest with latest amendments (1 x 6 sq.mm, Red & Black colour)." | Km | 55326 | At par | 55326 |
| 21. | NS-16 | "Supply of Power wire as per IRS specification No. S-76/89 (Amndt.2) or latest with latest amendments (1 x 16 sq.mm, Red & Black colour)." | Km | 155721 | At par | 155721 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 22. | NS-17 | "Supply of Power wire as per IRS specification No. S-76/89 (Amdt.2) or latest with latest amendments (1 x 25 sq. mm, Red & Black colour)." | Km | 243474 | At par | 243474 |
| 23. | NS-18 | Fabrication, supply and fixing of cable marker of 1:3:6 concrete as per drg. No.NR/S&T/CON/1. 5/97A. The marker shall be fixed at various places of cable route as per instructions of Engineer's Representative at site. | Each | 277 | At par | 277 |
| 24. | NS-19 | Supply of Hand Cuff Lock with key of approved type of signal units. | Each | 450 | At par | 450 |
| 25. | NS-20 | Supply of apparatus case Single with 'E' type lock and key ward no.42 and handle as per RDSO drg. No. RDSO/S-11500. | Each | 22775 | At par | 22775 |
| 26. | NS-21 | Supply of apparatus case steel half with E type lock and key ward no. 42 and handle as per RDSO Drg.no. RDSO/S-11507. | Each | 17625 | At par | 17625 |
| 27. | NS-22 | Preparation & fixing of bakelite hylum sheet 910x800x6mm and teak wooden shelf 900x450x25mm duly fixed by angle iron piece of different size inside all the app. Cases. Hylum board shall be fixed on an angle iron frame of 25mmx25mmx3mm. Angle iron frame will be fixed in location boxes secured by nuts & bolts. Fixing of fuses, ARA terminal shelf type 'Q' series relays and other type relays on square bars fixing and jamming of cables with 2 inch thick salwood plank provided at the bottom. This will include opening, pasting and jamming armour of each cable in the hole drilled separately for each cable through the salwood | | | | |

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|---|--|--|-------------|------------------------------|---|----------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | | plank & all cable entry points on location boxes, location huts, JB's relay room/battery room to be closed with suitable masonry works covered with sand and plastering. Description for terminal drawing of circuits, inside app. Case. Painting from outside as well inside with red oxide and aluminum paint is covered separately. Size of lettering will be 100mm or as per instructions of Engineer' Representative. All materials including hard wood shelf, hylum board, salwood plank, angle iron square bar, wire and wiring material as per the IRS specn., non-deteriorating type HRC fuses, bases, nuts and bolts, Relays, ARA Terminals and other items shall be supplied by the contractor. | | | | |
| | NS-22(i) | Preparation of App. Case single involving wiring of relays. | Each | 6477 | At par | 6477 |
| | NS-22(ii) | Preparation of App. Case single not involving wiring of relays. | Each | 5327 | At par | 5327 |
| | NS-22(iii) | (iii)Preparation of App. Case to be used as battery box. (Not requiring shelf. Hylum of size 910x150 x 6mm only required) | Each | 3185 | At par | 3185 |

| Schedule C/R1 | | | | | | |
|---|--|--|-------------|------------------------------|---|----------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 28. | NS-23 | Supply and burying of earth electrodes pipe of 3 metre length and 50 mm dia. pointed on lower end by tapering for a length of 150mm as per drg. No. NR / S&T/ Proj /16.1 /2015 and connecting with lightening arrester or signalling gears as per std. practices. The item includes digging of pit in earth 3 Mtrs. deep and fixing earth electrode pipe in it. Earth pipe shall be buried in the ground to the length of 2.7 Mtr after welding 6 SWG wire at the lower end and fixing through nut and bolt at the top. This includes casting of cement concrete enclosures as per drg. No. NR / S&T/ Proj /16.2 /2015 . The enclosure is to be plastered on all sides with cement & sand mixture of 1:4 ratio. The soil treatment shall be done as per standard practices. The item includes provision of earth lead wires 6 SWG and soldering of lead wires. The other end of the earth wire to be connected to block instruments/ cable sheath/ power equipment / apparatus case/ relay racks or any other equipment as per the instructions of Engineer's Representative & as per IRSEM. | Each | 3486 | At par | 3486 |

| Schedule C/R1 | | | | | | |
|---|---|--|-------------|--------------------------|---------------------------------|------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR-2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 29. | NS-24 | Supply & installation of Double walled corrugated HDPE Pipe of outer dia 120 mm (other than black in colour) (in 6m straight length with one coupler for every 6m length) conforming to BSEN-50086-2-4 for latest IS specification 14930 Pt II wherever required as per approved cable route plan. This includes brick work and other arrangements required to secure the pipe as per specifications, drawings and stipulations of tender documents & as per approved cable route plan including road crossing/platform/track crossing & for bridges and culverts etc. | Metre | 387 | At par | 387 |
| 30. | NS-25 | Supply of Half Split Double wall corrugated pipe of HDPE in 2 or 3 Mtr. Length produced out of full round DWC pipes with IS 14930 part- II mark on it. The pipe should have necessary fixing and coupling arrangements. Size : 200 mm outer dia. and 175 mm inner dia. | Metre | 264 | At par | 264 |
| 31. | NS-26 | Supply of Disconnect type terminal as per spec. no. RDSO/189/2004 or latest as below: | | | | |

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|---|--|---|-------------|------------------------------|---|----------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | NS-26(i) | (i)Supply of Screw less mounted 2.5 Sq.mm - 4 wire front entry two input, two output disconnect cage clamp terminals block for test and measurement (wago or Phonix or Elmex) as per site requirement. As per RDSO/SPN/189/2004. The procurement should be done from RDSO recommended sources. The color will be decided by Engineer in charge (Preferably in Blue, Red and Grey color in the ratio of 1:2:3) /9. | Each | 71 | At par | 71 |
| | NS-26 (ii) | (ii)End and intermediate plate, 2mm/0.091 in thick as per site requirement. | Each | 16 | At par | 16 |
| | NS-26(iii) | (iii)Supply of end stopper for above item 10mm/.0394 in wide as per site requirement. | Each | 13 | At par | 13 |
| | NS-26(iv) | (iv)Supply of carrier Rails for above 35mm*7.5mm, 1mm/0.039 in thickness un-slotted type as per site requirement. | Each | 123 | At par | 123 |
| 32. | NS-27 | Supply of Track feed variable resistance (with phenolic moulded base) 30 ohms to suit RDSO Drg no. SA-20166 / Adv (latest) | Each | 363 | At par | 363 |
| 33. | NS-28 | Supply of choke type 'B' to suit RDSO spec no IRS-S65/83(Amndt.3) or latest. | Each | 3873 | At par | 3873 |

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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 34. | NS-29 | Supply of Fiber type Track lead Jn. Box as per IRS(s) Drg. No.SA-20101/M made of FRP material (FRP material conforming to RDSO SPN 151/97 or latest) complete with 450 mm long 25 mm dia. pipe. | Each | 1304 | At par | 1304 |
| 35. | NS-30 | Supply of Lead acid secondary cell 2V/80 AH with tubular positive & pasted negative plates assembled in hard rubber case container as per spec no IRS-S88/2004 Ver. 1 or latest. | Each | 2923 | At par | 2923 |
| 36. | NS-31 | Design, Manufacturing & supply of electrically operated lifting barrier 110V AC/DC as per requirement (as per RDSO spec RDSO/SPN/208/2012 ver.2.0 or latest) complete set along with pedestal driving and driven mechanism, booms length as per site requirement up to 9.76 mtr (approx.10Mtr), balancing weight, boom support and motorised boom locking arrangement, circuit controllers, operating panel, road warning bell, hand generator (applicable only for DC operated Gate) & crank handle for emergency operation with all accessories complete in all respect (A set consists of two boom and other accessories as per RDSO's latest Specifications). | Each | 513717 | At par | 513717 |
| 37. | NS-32 | Spare Booms for Electric Lifting Barrier as per RDSO Drg No RDSO/S-11600 or latest & RDSO specification no RDSO/SPN/208/2012 ver. 2.0 or latest. (Inspection: RDSO) | Set | 37091 | At par | 37091 |

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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 38. | NS-33 | Supply, installation & commissioning of maintenance free earth suitable kit as per RDSO specification RDSO/SPN/197/2008 and Drg No. SDO/RDSO/E&B/002 dated 19.9.2008 or latest with latest amendments. Earthing kit consist of earthing electrode of 17mm dia and 3 meter long-01 no. 2 MEEB (300mmX25mmX6MM) -01 no 3. SEEB (150mmX25mmX6mm) -01 no. 4 Earth enhancing compound -30 Kg (minimum). This includes provision of earth connection from MEEB to S&T equipment i.e. cable sheath, apparatus case, IPS, data logger, MSDAC, SSDAC etc. with PVC earth wire of size 16/25Sq.mm through copper lugs of suitable size. Note: At certain locations it may not be possible to achieve earth resistance of less than 1.0 ohm with one earth electrode/pit due to soil resistivity. In such case provision of loop earth consisting of more than one earth pit shall be done. For interconnection of two earth pits copper tape of size 25X2 sq. mm shall be provided by contractor. The number of pits required shall be decided based upon the resistance achieved for the earth pit already installed. The procedure mentioned above for one earth pit shall be repeated for other earth pits. The other earth so installed for the purpose of loop earthing arrangement shall be counted as separate earth. | Each | 24760 | At par | 24760 |

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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 39. | NS-34 | Supply of QTA2 relays AC immunised plug-in type DC 9 Ohm neutral track relay miniature tractive armature with 2F/1B contacts as per BRS: 939A or latest amendments if any, BRS :966-F2, IRS-S-34 & IRS-S-23 (as applicable) | Each | 5331 | At par | 5331 |
| 40. | NS-35 | Relay, AC immune, plugin type, style QNA1, DC neutral line relay, 24 V DC 8F/8B contacts, front & back contacts metal to carbon with plug board retaining clip & connectors confirming to BRS:931A, IRS:S@45<47NN44@IRS:S@45"47@68&IRS:S-23/88 as applicable. The interlocking code for this unit shall be ABDGH or latest. | Each | 3299 | At par | 3299 |
| 41. | NS-36 | Supply of track feed batt. charger 110VAC/2-4-6 VDC / 10 Amps as per RDSO spec. no. IRS S-89/2013 Ver. 1 with Amdt. 1. | Each | 4202 | At par | 4202 |
| 42. | NS-37 | Fixing of CLS surface base, bolting on the foundation. Erection of CLS post with signal unit on the top or on an offset bracket and fitting ladder and guard to the post at the top. Concreting ladder base and embedded into the ground with supporting bracket in the middle, blanking of the ladder for a distance of 1 feet between the height 6' 9" and 7' 9" from the rail level by MS angle and MS sheet 6mm thick wherever required. This includes provision of wooden (sal) cross arm 1 M x 1M for CLS unit prior to the commissioning, fixing of lense, lamp holder/lamp current regulator and hoods of CLS | | | | |

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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | | unit, terminating cables, wiring the CLS unit & foxing the signal. Elevation & distance of foundation from track shall be in accordance with schedule of dimension for Indian railways published by Govt. of India and approved drawings. All items for the above works except signal unit, LED signal, Signal post, base and ladder shall be supplied by the contractor including but not limited to the following: (i) "U" bolt for offset brackets. (ii) Wooden cross arm 1 mtr. x 1 mtr. (iii) MS angle and MS sheet for blanking of ladder. (iv) Wire mesh guard, lock for unit if required, nuts and bolts etc. for the following : (v) Supply and fixing of Signal Number Plate (Retroreflective Type) with complete fittings as per standard railway practice. | | | | |
| | NS-37 (i) | Installation, erection, wiring of 2 aspect color light signal. | Each | 3074 | At par | 3074 |
| | NS-37 (ii) | Installation, erection, wiring of 3/4 aspect color light signal. | Each | 4500 | At par | 4500 |

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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | NS-37 (iii) | 2/3/4 aspect colour light signal including 1/2/3/4/5way Jn. type/Stencil/Theatre type route indicator which also includes fixing of route indicator on the top of the signal post or on offset bracket including fixing of offset bracket, wiring the whole unit, focusing of signal & route indicators. All items for installation and erection including unit junction type route indicator and offset bracket to be supplied by the Employer. Wiring & other fixing material, 'U' bolts will be supplied by the contractor. | Each | 4431 | At par | 4431 |
| 43. | NS-38 | Installation, erection and wiring of independent position light shunt signal/F Marker. This includes fixing of shunt signal, surface base & signal post, LED & wiring of shunt unit. All material such as wire etc. will be supplied by the contractor. | Each | 1220 | At par | 1220 |
| 44. | NS-39 | Installation, erection and wiring of calling-on / shunt signal on the same post below main signal on offset bracket. Which also includes fixing of stencil and hoods, wiring and focusing of the signal. Offset brackets, calling on signal/shunt signal complete will be supplied by the Employer. (Supply of Offset brackets, calling on signal/shunt signal complete is covered separately, elsewhere in the schedule). U-bolts for offset bracket & wire and wiring material will be supplied by the contractor. | Each | 1005 | At par | 1005 |
| 45. | NS-40 | Cleaning, Scrapping, Painting and lettering of all newly installed and existing gears such as signals, point equipment, MSDAC equipment with T.C. no on rail, app. Cases, JB, TL | Station | 24989 | At par | 24989 |

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|---|--|---|-------------|------------------------------|---|----------------------------------|
| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | | JBs, point rodding cranks, compensators etc. including gate equipment if existing in station section as per the provision of IRSEM. All painting material to be supplied by the contractor. All paints (ISI marked) shall be approved by the Engineer prior to painting and certificate to this effect submitted to the Engineer. This item also includes writing and painting requirement of all indoor and outdoor gears along with making of all circuit nos. near terminal and terminal boards/track in app. cases, junction boxes, relay room, SMs room, writing of relay nomenclature fuse nos. and equipment nomenclature as the approved plans and as per provision of IRSEM at Way side station. | | | | |
| 46. | NS-41 | Installation of DC track circuits to suit RE area as per std. practice. This will include following :- a) Drilling of holes 7.2 mm dia or size as required. Provision of continuous GI wire bonding on switch portion & crossing of points with two bond wires at each joints. 8 SWG GI soft bond wire, channel bond pins & all other material required will be supplied by the contractor. b) Jumpering from rail to rail or to track lead junction box including polarity jumpers /cables in case of point track circuit as per drg. No.NR/S&T/CON/3.1/97 and as per jumpering plan. This includes drilling holes, fixing of jumpers to the rails , terminating the jumpers in the TLJBs and fixing the jumper as per site requirement and instructions of the Engineer's Representative. One TLJB to be provided extra for each | | | | |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | | <p>polarity jumper/cable. All materials including fiber TLJBs, GI pipe are to be supplied by the contractor.</p> <p>c) Fixing of insulated block joints complete with provision of skimmed fish plates (wherever required). Fish plates shall be supplied by the Employer but skimming is to be got done by contractor. Supply of insulation material is not included.</p> <p>d) Fixing of TLJBs as per drg. No. (NR/ S&T/ CON/ 3. 2/ 97) along with providing concrete foundation and plastering on both ends i.e. T.F. and TR end and termination of tail cables at both ends. All material for fixing including angle iron, cement, sand etc. shall be supplied by the contractor. This also include supply of TLJBs with provision of M-6 terminals. TLJBs to be written with track circuit number. e) Wiring in the app. Case of TF battery chargers, TF resistances 30 Ohm, track relays, chokes (at both feed end and relay end) & batteries etc. as per the standard practice using NDT fuses with fuse bases and terminals. This include supply of all material by contractor except TF battery charger, batteries, fuse with bases, Choke and relays which shall be supplied by the Employer (TF battery charger, batteries, fuse with bases, Choke and relays are covered in other items of this schedule). The wiring shall be done with 3/0.029" copper conductor PVC wire of approved quality. f) Commissioning of track circuits as per provisions of paras of IRS spec. No. S-36/81. This includes adjustment of track feed resistance and testing with train shunt resistance.</p> | | | | |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | NS-41(i) | (i)Installation & wiring of Berthing and straight track circuit. | Each | 1059 | At par | 1059 |
| | NS-41(ii) | (ii)Installation & wiring of Point track circuit having single point (excluding traps. Trap points & one main point to be counted as single point track circuit). | Each | 17916 | At par | 17916 |
| 47. | NS-42 | Excavating and refilling of trench in Rocky soil to the level of ground with rammed earth so as not to form a drain 0.3 Mtrs. Wide & 0.5 Mtr. Deep on both side of the station alongside the track. This includes 50mm thick concreting work throughout in 1:3: 6 ratio. All concreting material to be supplied by the contractor. It shall conform to the safe distance as per signalling and cable route plan. It also includes clearance of routes of trees & bushes. | Metre | 128 | At par | 128 |
| 48. | NS-43 | Excavating and refilling of trench in Normal Soil to the level of ground with rammed earth as per drg. No. (NR/S&T/CON/1.1/97-A) so as not to form a drain 0.3 m wide & 1 m deep on both side of the station alongside the track. It shall conform to the safe distance as per signalling and cable plan. It also includes clearance of routes of trees & bushes. Lesser depth of the trench is to be paid proportionately. | Metre | 79 | At par | 79 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 49. | NS-44 | Excavating and refilling of trench 0.3 Mtr. wide & 1 Mtr. deep from bottom of rail flange across the track or 0.5Mtr. from ground level whichever is more (NR/S&T/CON/1.2/97). Earth should be rammed so as not form a drain. This includes removal and refilling of ballast & restoration of surface under normal traffic conditions. Lesser depth of the trench is to be paid proportionately. | Metre | 102 | At par | 102 |
| 50. | NS-45 | Excavating and refilling of trench 0.3 Mtr. wide and 0.8 Mtr. deep on pitched/Stone/bricks paved surface, road crossing/platform etc. and restoring the surface to its original conditions. Lesser depth of the trench is to be paid proportionately. | Metre | 124 | At par | 124 |
| 51. | NS-46 | "Laying of HDPE duct/DWC Pipe in the trenches, including in HDD/Manual Boring portion and supply pulling of Nylon rope through it at different places as per directions of Engineer's Representative." | Km | 7632 | At par | 7632 |
| 52. | NS-47 | Laying of signalling /Telecom/power cables of different sizes as per drg. No.(NR/S&T/CON/1.1/97-A) and as per cable route plan approved by Engineer and meggering of cable before and after its laying of all type of outdoor cables. Meggering to be done for each drum separately Meggering sheets to be supplied and filled up by contractor and submitted to Engineer. | Metre | 9 | At par | 9 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous works | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 53. | NS-48 | Casting, concreting, and curing of foundation and erection of Single app. cases as per Drg.No.NR/S&T/CON/2.7/97. All material such as cement, sand, aggregate and anchor bolt shall be supplied by contractor. App. Case Single will be supplied by Railway. Contractor is required to execute all type of repair works of foundation if required during inserting the cable for termination. | Each | 6282 | At par | 6282 |
| 54. | NS-49 | Casting, concreting and curing of foundation and erection of half app. cases as per Drg.No.NR/S&T/CON/2.8/97. All material such as cement, sand, aggregate and anchor bolt shall be supplied by contractor. App. Case half will be supplied by Railway. Contractor is required to execute all type of repair works of foundation if required during inserting the cable for termination. | Each | 5511 | At par | 5511 |
| 55. | NS-50 | Casting, concreting and curing of foundation for main signal as per Drg. no. NR/ S&T/ CON/2.1/97 all material such as anchor bolts cement & aggregate to be supplied by contractor. | Each | 11635 | At par | 11635 |
| 56. | NS-51 | Casting, concreting and curing of foundations for shunt signal as per drg. No. NR/ S&T/ CON/2.1/97-A. All material such as cement, sand, aggregate & foundation bolts will be supplied by contractor. | Each | 3900 | At par | 3900 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 57. | NS-52 | Testing & meggering of all types of outdoor cables before & after its laying and termination on both ends and providing identification ferrule on each core under supervision of the Engineer's representative. This also includes preparation of test report for core to core & core to earth on prescribed proforma for each core of the cable separately after termination of cable. This also includes dressing & lacing of cable on both ends. Proforma for testing & material for lacing to be supplied by the contractor. | Each | 14 | At par | 14 |
| 58. | NS-53 | Dismantling and releasing of location boxes/Apparatus cases/In boxes including releasing of terminal boards, relays, terminals, fittings installed therein. complete with fittings. All dismantled material to be transported and stacked in the store of the Employer. | Each | 742 | At par | 742 |
| 59. | NS-54 | Dismantling and releasing of colour light signal/semaphore signal post which includes dismantling of signal fittings complete. All dismantled material to be transported and stacked in the store of the Employer. | Each | 1294 | At par | 1294 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous works | | | | | | |
| S. No | Item Reference DSR-21/ USSOR-2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 60. | NS-55 | Boring & trenchless cabling along with supply and insertion of HDPE self-lubricated pipes of 90 mm nominal dia (DN) with material classification as PE-80 and Nominal Pressure PN-6 as per IS:4984 (with latest Amendments) in the bore for the laying of Signaling/Telecom./Power cables under the track/road. Depth of horizontal boring should be minimum 1500 mm from bottom of rail flange/Road level. (Cable laying is covered separately). | Metre | 1886 | At par | 1886 |
| 61. | NS-56 | Supply of Armoured Optical Fiber Cable (OFC) (24 Fiber) Mono Mode as per Spec. No. IRS-TC – 55/2000 | Km | 93480 | At par | 93480 |
| 62. | NS-57 | 6 Quad 0.9 mm Jelly filled underground, Screened, Armoured Cable for Special Purpose in electrified area as per spec. No IRS TC: 30/2005 [Ver. 1] with amendment no 5 or latest amendment as on the date of opening of tender | Km | 242727 | At par | 242727 |
| 63. | NS-58 | Supply and installation of optical fibre cable joint enclosure as per TEC spec no. GR/OJC-02/01/March 99 | Each | 16007 | At par | 16007 |
| 64. | NS-59 | Supply and laying of 2nd class bricks in the trench and laying as per drg. No. (NR/S&T/CON/1.1/97-A) as per instructions of the site Engineer. | Each | 8 | At par | 8 |
| 65. | NS-60 | Permanent Lubricated High Density Polyethylene Duct | | | | |
| | NS-60(i) | (i)Supply of Permanently Lubricated High Density Polyethylene (PLB-HDPE duct) duct of outer dia 40 mm & inner dia 33mm, for use as underground cable conduits for | Km | 60119 | At par | 60119 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| | | armoured optical fibre cable.as per RDSO specn No. RDSO/SPN/TC/45/2013 Revision 2.0. | | | | |
| | NS-60(ii) | (ii)Supply of End plug for 40 mm HDPE duct. | Each | 30 | At par | 30 |
| | NS-60(iii) | (iii)Supply of Cable sealing plug for HDPE duct | Each | 38 | At par | 38 |
| | NS-60(iv) | (iv)Supply of Plastic coupler -split fit/push fit type for HDPE duct | Each | 79 | At par | 79 |
| 66. | NS-61 | Supply of thermo shrink jointing kit as per IRS : TC 77-2006 (Rev-1)with Amndt-1 or latest & provision of straight joints with the help of thermo shrink jointing kit as per specifications, drawings and stipulations of tender documents and as per approved cable route plan at various locations for 06/04 Quad cable. | Each | 7107 | At par | 7107 |
| 67. | NS-62 | Supply and Installation of VF tapping & termination transformers 2T/1120:470 Ohm as per IRS-TC-22/76 with amendment 1 or with latest amendment. | Each | 1701 | At par | 1701 |
| 68. | NS-63 | Supply of Emergency socket box | Each | 5791 | At par | 5791 |
| 69. | NS-64 | Supply of 6 pin Emergency socket. | Each | 340 | At par | 340 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous woks | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 70. | NS-65 | Fabrication and erection of Emergency Rail post complete with Emergency socket box made of FRP material as per Spec. No. RDSO/SPN/TC/44/2002 Ver.2 (With latest amendment) and its wiring alongside the HORC Track at locations to be indicated by the Engineer's representative (Rail post shall be supplied by the Employer and issued to the contractor for execution. Emergency Socket & Emergency socket box will be procured through separate schedule of this contract and issued to the contractor for execution). All other items shall be supplied/arranged by the contractor. | Each | 1817 | At par | 1817 |
| 71. | NS-66 | Supply and fixing of G.I. pipe 80 mm dia, 3mm thick, as per specn No. IS-1239, Medium grade, perforated at a distance of 20 CM or less of required length at culverts/ bridges/along the cuttings, suitably concreted at both ends as per drg. No. (NR/S&T/CON/1. 4/97). G.I. clamps of M.S. flats bolts & nuts to be supplied by the contractor. | Metre | 925 | At par | 925 |

| Schedule C/R1 | | | | | | |
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| Item rate for miscellaneous works | | | | | | |
| S. No | Item Reference DSR-21/ USSOR- 2019(NWR)/ NS | Description of Item | Unit | Basic Rate in INR | Add % Above for Estimate | Estimated Rate in INR |
| 72. | NS-67 | Excavation of cable trench (Kacha) of 300mm wide and 1200mm deep for all type of soil, back filling after laying of telecom cable/ OFC in GI/HDPE pipe ramming of soil in trenches and consolidation of soil. This also includes cleaning of roots of trees and bushes & temporary construction on the selected routes. Where digging of trench of 1200mm depth or 300mm width or both is not possible as per site condition and the same can be reduced if accepted by the site engineer, the payment shall be decreased proportionately according to the volume. It shall confirm to the safe distance as per signalling/ telecom (NR/S&T/Con/1.1/97A) and cable plan. | Metre | 86 | At par | 86 |
| 73. | NS-68 | "Blowing/Drawing of OFC/ Telecom cable in the HDPE duct/GI/DWC pipe by mechanical system. " | Km | 11868 | At par | 11868 |
| 74. | NS-69 | Laying of 6 quad cable / derivation cable /PIJF cable in the trenches and in the protective works already provided at different places as per direction of engineer in charge or site engineer. | Km | 6454 | At par | 6454 |

Total Estimated cost of Schedule 'C'- INR 2.00 Crore (INR 20 million).