

## GENERAL CONDITIONS

1. The tenderer/contractor is required to quote a percentage above/below/at par the rates shown in each of the schedule both in figures and words. In case of any discrepancy between the rates quoted in figures and words. The percentage quoted in words will be taken for valuation and payment.
2. The quantities shown in the schedule are only approximate and are intended for information and guidance of tenderer/contractor. The tenderer/contractor may be asked to execute more/less quantities shown therein and it will be as directed by the Engineer-in-charge.
3. The description given in the schedule for each item of work is not exhaustive, but it gives an approximate idea of the nature of work to be done by the contractor. The rate quoted against each item shall include cost of labour, tools, machinery, all lead and lift, loading and unloading, crossing of tracks if any and any other nature of work connected to the respective item. The contractor should carry out all connected works as per the drawings and as directed by the Engineer-in-charge. No extra payment claim shall be entertained on the plea that the description given in the items of the schedule are vague.
4. The payment will be made as per the actual quantity of work executed.
5. If any other items of the work that are not covered in the schedule are required to be operated at the time of execution, they should also be carried out at the rate accepted for the schedule i.e., at par/below/above as the case may be.
6. Railway administration will not be responsible for the safety of labour engaged by the contractor for this work and the contractor should indemnify the Railway for any compensation to be paid for the loss of human life or injury sustained by his labour.
7. **The steel for this work has to be supplied by the contractor as per Schedule and should produce purchase bills along with test certificates from the reputed laboratory. The contractor should bear the cost of testing. The steel should confirm to latest IS specifications.**
8. The tenderer/contractor before starting the work should submit the design mix for items of controlled concrete and get it approved by the Railways.
9. For all concrete works, the concrete shall be machine mixed. Hand mix will not be permitted. The concrete must be vibrated with mechanical vibrator.
10. While executing the concrete works below sub-soil/underwater the foundation pit must be kept free from seepage of water by bailing out or pumping out.
11. The material proposed to be used for the work shall pass the test/analysis as prescribed in the specifications.
12. The contractor should prepare the standard cubes of concrete as per IRC 18.1985 during concreting operation under the supervision of the Engineer-in-charge and get it tested in the reputed laboratory/Recognized engineering college by the contractor at his own cost in the presence of Engineer-in-charge.
13. For reinforcement the rate is inclusive of cutting and bending of reinforcement, binding with contractor's Galvanized binding wire as illustrated in the drawing.
14. The contractor should make his own arrangements for storage of cement and see that no damage will take place during storage period. The storage of cement confirm to standard height in each column to avoid damage during storage. The contractor should take all precautions efficiently to safeguard the cement between the period of procurement and usage.
15. No substandard work will be permitted. If any item of the work, at any stage, if Railway finds less consumption of cement/steel were affected, such item of work will be rejected,

and the portion of the work will be removed at the cost of the contractor and has to be made good by the contractor without any extra payment. The decision of the Engineer-in-charge will be final regarding quality and quantity of work. No claims will be entertained in this matter.

16. The payment of steel shall be made based on quantity arrived by converting the lengths into weights as per bar bending schedule. While working out the quantity consumed, the overlaps, hooks, bends, etc., will be considered. No wastage will be allowed. The wastage and the cost of binding wire shall be borne by the contractor.
17. The contractor has to make his own arrangements for the safe custody of the steel and shall be used in accordance with the actual requirements as per approved drawing and specification.
18. The Railway reserves the right to inspect the place where the steel stored, and samples of steel may be tested. If found not suitable for the work and not as per specifications will be rejected. The Railway will not entertain any claims.
19. The railway reserves the right to reject or alter any part of the work executed by the contractor, which in the judgment of the railway does not comply with the requirements of the specifications. The decision of the railway will be final and conclusive for all purposes.
20. The concrete item under Schedule (USSR items) the quantity of cement will be considered as per approved design mix and payment will be made under relevant Schedule (Cement).
21. The work is to be carried out on passenger platform/nearby passenger platform. The contractor will ensure that there is no inconvenience caused to the passengers.
22. The work should be completed within **12 (Twelve) months** from the date of issue of the acceptance letter.
23. The USSR code nos. and description given in the schedule based on the USSR-2021. Any discrepancy notified during the execution of the work; the schedule should be treated as an authoritative of the contractor. The relevant rates applicable to the respective sub-chapter will apply.
24. Scope of the work includes providing Height gauges or any repairs to Height gauges as per ESO - 73 and the drawings in the ESO-73.
25. Defect liability clause: The defect liability period (DLP) shall be **48 months for** construction of Buildings, roads, RCC tank, PF walls/ surface, Concrete/ Masonry drains, bridges including FOBs/ROBs or major repairs/painting of important bridges. Liabilities of the contractor and further details have been mentioned in the tender document.

**26. Special condition for contractor: Defects Liability clause:**

Contractor's primary obligation under this Contract is to carry out and complete the works to the high quality standard set out in the contract i.e. only new material of specified quality and high standard of workmanship shall be ensured during execution. The defects liability period is intended to complement this liability by remedying the defective work i.e., deficiency in quality of works including defects due to faulty material or workmanship which may become apparent during the defects liability period reckoned from the date of issue of completion certificate. The normal use based wear and tear or damage due to an act or omission not attributable to the Contractor, shall be excluded from the liability of the Contractor under this clause. The Defect Liability Period (DLP) shall be 48 months for the works consisting of construction of (i) Buildings, Roads, RCC Tanks, Platform Walls/Surface, concrete/masonry drains, Bridges including FOBs/ROBs or major repair/painting of important Bridges unless specifically mentioned otherwise and liability of the Contractor shall be as under:

1. If any defect is found during the defects liability period, the Contractor must, promptly and at its own cost repair, replace or otherwise make good (in consultation with the Engineer) the defect as well as any damage to the facility caused by the defect. The Contractor will bear all incidental costs, including any costs of removal associated with the repair, replacement or making good of the defect or damage.
2. If the Contractor fails to commence the work necessary to remedy the defect or any damage to the facility caused by the defect within a period of 21 days of issue of such notice, the Railway may proceed to do the work, or engage any other agency to do the work and the costs, including incidental costs, incurred by the Railway as a

result will be a debt due and payable to the Railway on demand and may be deducted from Security Deposit or from any payments otherwise due to the Contractor in any other Contract anywhere in Indian Railways.

3. Where the Railway, acting reasonably, considers that substantial repair, replacement or making good is done during last quarters of DLP or during 21 days notice period which falls beyond original DLP, the defects liability period shall extend by a suitable period in such a manner that any repair, replacement or making good the works shall have cover of 3 months of extended DLP
4. The acceptance at any time of Materials or Equipment by or on behalf of the Railway shall not be a bar to future rejection if they are subsequently found to be Defective, inferior in quality, or uniformity to the Material or Equipment specified, or are not as represented to the Railway.
5. The decision of the Engineer for determination of the defects needing repair/replacement or the cost incurred by Railways in defect rectification or estimated cost of repair, if the contractor fails to do the work within specified period shall be final and binding on the Contractor.
6. Only after successful completion of aforesaid liability by the Contractor, SD money shall be released after deductions, if any due to failure on the part of the Contractor. On submission of "Indemnity Bond" in the Format enclosed, SD money may be released after 12 months from the date of issue of Completion Certificate provided no defects have been observed in the work executed during 1<sup>st</sup> year of DLP.
7. The rights of the Railway under this clause are in addition to and do not limit any other rights which the Railway has under this contract or under any law of the land.
8. The 'Defect Liability Clause" shall supplement the liability of the contractor during Maintenance Period" specified elsewhere in the Contract and the conditions under this Clause shall supersede such conditions of the Contract to the extent of contradiction.
9. Any determination by the Engineer under Defect Liability Clause shall be treated as "Excepted Matter" and shall not be arbitrable.

Signature of the Tenderer/contractor

## 1.0 SPECIAL CONDITIONS OF CONTRACT:

1. The rate quoted shall be inclusive of the following:
  - a) The concrete of reinforcement work i.e., gang way slab, waist slab, landing slab and steps shall be of controlled quality and plane concrete for foundations. The mix design should be approved, and tests carried out to meet the required design strength. The quality control of raw materials like aggregate testing as directed by Engg-in-charge. The course and fine aggregate grading shall be approved and regulated to obtain required strength. The concrete shall be done by weigh batching only
  - b) The contractor shall make his own arrangements for steel shuttering/form work.
2. The rates quoted should be deemed to include all taxes, direct or indirect leviable under Central, State or local bodies act and rules, Octroi, toll, Royalty, seianorage cess and Excise/sales Tax etc., and similar imports that may be prevailing from time to time in respect of land structures and all materials supplied in the performance of this contract.
3. Tools and plants such as vibrators and concrete mixer with crew and consumable stores and other accessories like ladders, scaffolding, shuttering, and centering materials etc., required for the work shall be provided by the Tenderer/Contractor at his/their own cost.
4. Payment shall be arranged by Sr. Divisional Finance Manager/ Vijayawada through Sr.DEN's/DEN's/BZA based on the measurements and bills of quantities.
5. The Drawings and other particulars/Specifications required in connection with the work can be perused in the office of Divisional Railway Manager/Works/Vijayawada during the office hours.
6. The contractor must arrange for an adequate number of skilled workers trained in this particular type of work. Competent supervisor for execution of this work shall also be employed and safety connected instructions of the Engineer-in-charge shall be strictly followed.
7. Railways will not arrange power supply. The contractor has to make his own arrangements for supply required for the work.
8. All the fabrication steel work should be inspected and approved by the Engineer-in-charge before execution. The fabrication steel work is welding/riveting/bolting should be confirmed to the relevant specifications mentioned in the approved drawings.
9. The contractor shall be responsible to take all precautions to ensure the safety of the public wherein on public or Railway and shall post such look-out men as may in the opinion of the Engineer-in-charge required to comply with regulation as pertaining to the work.
10. **All the fabricated steel work should be painted with two coats of ready mixed paint Red Lead as primary coat and two coats of aluminum painting as finishing coat of approved quality before erection and after erection of steel work.**
11. Work must be carried out in electrified (i.e OHE) territory. The contractor has to ensure full safety precautions for his labour while execution and necessary power blocks are to be ensured before execution of the work.
12. Railway will not give any compensation for not getting the power blocks for the execution of the work. The contractor has to make his own arrangements for erection of the steel work.
13. The contractor will be given intimation of the date of line block seven days in advance. If, however, due to exigencies of train operation the Railway is not able to grant the line block on the specified date, the Railway is not liable for payment of any compensation to the contractor on this account.
14. The work shall be executed by the Contractor in a workman like manner to the satisfaction of the Engineer-in-charge. The contractor and his labour shall be guided by the instructions of the Engineer-in-charge. In the event of any accident occurring at the work site and it is established during the departmental enquiry by the Railway or by the Statutory enquiry of CRS that the accident occurred wholly or partly due to any act the tantamounting to negligence on the part of the contractor or his labour in not adhering to their instructions of the Engineer-in-charge, the contractor shall render himself liable for damages and also legal prosecution if loss of life or injuries to persons are involved.

15. If any relevant is not given in the schedule and if any item required as per requirement from the field, with proper justification, items can be added with the approval of competent authority as MSOP-2018.

## **2. SPECIFICATIONS:**

2.1 The rolled section (either plates or sections) of steel work for structural foot over bridge shall be of mild steel conforming to IS-2062 Grade 'A' as fully killed and normalized quality. Plates less than 12mm thickness if used need not be normalized. The steel shall be purchased from **approved Brands and Makes list enclosed**. It should not be re-rolled steel. The test certificates for the Chemical, metallurgical and mechanical properties shall be produced at the time of inspection.

2.2 The execution of all works under this contract shall conform to the specifications and codes of practice mentioned below as amended from time to time till the date of opening of the tender.

- i) South central Railway specifications for materials and works 2021.
- ii) Indian Railway's Standard Concrete Bridge Code (latest edition) read in conjunction with Indian Standard Specifications mentioned therein.
- iii) Indian railways Unified Standard Schedule of Rates 2021 (Works & Materials) for South Central Railways.
- iv) South Central Railway Standard Bridge substructure code (Latest Edition).
- v) Indian Railway Bridge rules.
- vi) IS 2062 for steel.
- vii) IS 3757/92 for nuts and bolts.
- viii) IRS Specification B-1/2001 for fabrication of steel work.
- ix) IS 9595 for welding.
- x) IS 1148/64 for rivet steel.
- xi) IS 102 for red lead painting
- xii) IS 2339 for aluminium painting.
- xiii) IS:269 of 1989
- xiv) IS:8112;
- xv) IS:12269
- xvi) Indian Railway Permanent Way Manual.
- xvii) Indian Railway Works Manual.
- xviii) Indian Railway Bridge Manual.
- xix) IS:456 of 2000
- xx) IS:1786 of 1985
- xxi) IS:432 of 1966
- xxii) All other relevant IRS/IS codes.

### **2.2 NOTE:**

- i) All the codes mentioned above should be followed with latest edition/latest correction slip if any.
- ii) All the specifications of IRS codes will govern. In case some specification is not available in IRS code IS code can be referred for that with approval of Railways.

2.3 The railway reserves the right to reject or alter any part of the work executed by the contractor, which in the judgment of the railway does not conform to the specifications. The decision of the railway shall be final and conclusive for all purposes. The contractor cannot put forth any claim on this account.

## **3.0 SETTING OUT OF WORK:**

3.1 The centerline of the proposed work for will be initially set out by the Engineer or his representative. The contractor shall thereafter set out the work and every part there to fully. The contractor shall be responsible for the accuracy of the lines, levels, and dimensions of the work in accordance with the drawings, further directions or instructions detailed drawings supplied at any time to him and every facility shall be

given to the engineer for checking their correctness. The contractor shall alter or amend any error in the dimensions, line or levels or work set out or constructed by him to the satisfaction of the Engineer.

- 3.2 The work shall be set out to the satisfaction of the engineer but his approval therefor shall not, nor shall his joining with the contractor in setting out the work, relieve the contractor from his entire sole responsibility therefore.
- 3.3 The contractor shall also provide, fix and be responsible for the maintenance of all stakes, templates, profiles, level marks, points etc. and must take all necessary precautions to prevent their being removed, altered, or disturbed and will be held responsible for the consequences of such removal, alterations or disturbances and for their efficient reinstatement.

#### **4.0 CONCRETE WORKS:**

- 4.1 The material proposed to be used for the work should pass tests/analysis as Prescribed by the specifications. Any approval given by the railway is consequence of such tests or analysis shall in no way limit the absolute right of the railway to reject the whole or portions of such works which in the judgment of the railway do not comply with the specifications. The decision of the railway in this regard shall be final and conclusive for all purposes.
- 4.2 For all concrete works the contractor should invariably use steel shuttering only and should be approved by the Engineer-in-charge.
- 4.3 Contractor should provide adequate standby machinery, generator, vibrators etc. to ensure uninterrupted work.
- 4.4 The contractor should cast, at his own cost, standard cubes of concrete at suitable intervals as per relevant code during concrete operations under the supervision of the Engineer or his representative. The testing of cubes shall be arranged by the contractor at his own cost, from a Govt. Engineering college/Approved reputed laboratory.
- 4.5 The contractor shall along with the bill of purchase of cement should also obtain test certificate issued by the manufacture and shall submit the copies of the same to the railway for verification and records.
- 4.6 The railway reserves the right to inspect the storage accommodation of the contractor and reject in the event of any clotted/damaged cement is noticed or any other cement which is not suitable for usage in works and not confirm to specifications.
- 4.7 The contractor shall ensure the consumption of cement specified for each item of work correctly. No substandard work on this account will be permitted. If any item of work at any stage, if railway finds that less consumption was affected such item of work will be rejected and cost of removal of such items of work shall be to the contractors account, the decision of Engineer-in-charge shall be final and binding on the contractor. No claims will be entertained on this account.
- 4.8 All concrete for CC and RCC works shall be mixed by approved mechanical on removal of shuttering without any extra cost. The rate quoted shall be inclusive of this also.
- 4.9 Necessary slump test should be frequently carried out during concreting.

#### **5.0 STEEL REINFORCEMENT AND FABRICATED STEEL WORKS: (Contractor's Steel)**

- 5.1 The contractor is required to safeguard the steel and to use the same on the work in accordance with the actual requirement as approved by the Engineer-in-charge as may be indicated in the relevant drawings or specifications.

- 5.2 The Railway reserves the right to inspect the storage yard of the contractor, where the steel materials are stored and collect the samples whenever considered necessary, get them tested by any agency and if the same is found unsuitable and not as per specifications, the same shall be rejected. The contractor cannot claim, in such event, the losses/ damages, expenditure incurred by him, and Railway shall not entertain any claim on this account.
- 5.3 Payment for the steel reinforcement for the RCC items shall be paid under relevant item of the Schedule unless otherwise mentioned in the schedule of item and shall be arrived based on the bar bending schedule recorded before concreting and weight shall be arrived at by converting the lengths multiplied by the theoretical standard section weight.
- 5.4 The contractor shall, along with the bills of purchase of steel, should also obtain the test certificate issued by the manufacturer/authorized agency and shall submit the copy of the same to the Railway for verification and record.**
- 5.5 The binding wire used for tying reinforcement shall be galvanized wire only.
- 5.6 The Railway reserves the right to collect the sample of steel bars used for reinforcement during the progress/beginning of the work and get it tested for its suitability, and to reject in the event of its being not suitable for usage in works and not confirming to the specifications.
- 5.7 Re-rolled steel shall not be used.**
- 5.8 As Per Lr.No 496/W/policy/Vil.IX Dt.26.05.2022. CE/Works "Reimbursement of cost of steel on 75% of invoice value or at the rate of 75% of the quoted rate of steel in the contract, whichever is less, can be done to the contractor on his request after steel is physically brought to the site and verified by engineer in-charge at site. Proper account of the received quantity at site is to be made by engineer in-charge"
- 6.0 ADDITIONAL ITEMS:**
- 5.9 Any items of work which are not provided for in the Schedule of quantities and rates for which no rates exist shall be executed only with the prior permission of the Railway and at rates and on conditions to be mutually agreed upon and incorporated in a supplementary agreement.
- 7.0 WATER SUPPLY:**
- No water supply arrangement is available at the site of work, contractor should make his own arrangements for supply of water required for execution of work and required for labour working at the site.
- 8.0 ELECTRIC CONNECTION:**
- There is no facility available for electric connection. Contractor should make his own arrangements for electric connection required for execution of work.
- 9.0 HIRE OF TOOLS, PLANT AND MACHINERY:**
- 9.1 The contractor shall make his own arrangements for all plant, machinery, equipment, and tools, including spare parts, fuel and consumable stores and all labour required to ensure efficient and methodical execution of the work. The quoted rates shall be deemed to be inclusive of all charges for such items.
- 9.2 All the equipment, vibrators, generator, weigh batching equipment for concrete work, vehicles for transportation etc., should be arranged by the contractor.
- 9.3 Shuttering material used for concreting work should be approved by Railways and should be certified by the Engineer-in-charge.
- 9.4 Rejected materials, portion of work if any should be immediately removed from the site of work
- 10.0 RATES:**
- The rates accepted are deemed to include the charges for the construction of service roads, temporary bridges, pathways, provision of barricades, protection barriers and the rope barriers that may be provided as found necessary for the execution of the works. The rates are also deemed to include lighting of the construction area as required and

directed by the engineer and all other incidental works required for the satisfactory execution of the works.

#### **11.0 INSPECTIONS:**

The work shall be carried under supervision of Engineer-in-charge/Engineer's representative. The contractor shall give all necessary help for inspections.

#### **12.0 ENGAGING GRADUATE/DIPLOMA QUALIFIER:**

Contractor should employ Civil Engineering Graduate/Diploma Engineers to supervise his work.

#### **Specifications & special conditions for supply, fabrication and erection of steel structures**

Sl No.	Material	Specification
1.1	Steel	IS 2062
1.2	<b>Welding consumables – Covered electrode for manual metal arc welding of carbon and carbon manganese.</b>	IS 814
1.3	Bolts & Nuts	IS 1363, IS 1364
1.4	Washers	
1.5	Fasteners single coil rectangular section spring washers	IS 3063
1.6	Paint – Ready mix paint brushing zinc chrome priming	IS 104
	ii. Ready mix paint air drying Red oxide Zinc chrome priming	IS 2074
	iii. Aluminum paint	IS 2339
1.7	Other materials – Other materials used in association with structural steel works and not specified above but require as per approved drawings	Confirming to relevant Indian Standards of latest edition.

#### **2.0 Other specifications: The work shall be executed to the following specifications:**

Sl. No	Reference to std. specification	Subject matter
2.1	IS 800 - 1984	Code for practice for general construction in steel.
2.2	IS 123	Ready mixed paint, brushing, finishing, semi gloss for general purposes to Indian standard colours.
2.3	IS 808	Dimensions for hot rolled steel beams, columns, channels, and angle sections.
2.4	IS 1730	Steel plates, sheets, strips and flats for structural and general engineering purposes - dimensions.
2.5	M-28	Classification, testing and approval of metal arc welding electrode for use on Indian Railways.
2.6	IS 5624	Specification for foundation bolts
2.7	IS 816	Code of practice for use of metal arc welding for general construction in mild steel.
2.8	IS 9595	Metal arc welding of carbon and carbon manganese steels - recommendations.
2.9	IS 822	Code of procedure for inspection of welds.
2.10	IS 1367	Technical supply conditions for threaded fasteners.



2.11	IS 7215	Tolerances for fabrication of steel structures
2.12	IS 962	Code of practice for architectural and building drawings.
2.13	IS 8976	Guide of preparation and arrangement of sets of drawings & part list

3.0 Any other IS Code/IRS specification not covered above but relevant for the proposed work shall also be applicable.

4.0 Wherever reference to the standards mentioned in para 1,2 and 3, shall be taken as a reference to the latest version of the standard till the date of opening of tender.

#### **6.0. Responsibility of completeness:**

- 6.1. The contractor shall be entirely responsible for the execution of the contract in all respects in accordance with the terms of this specification and the conditions of contract, notwithstanding any approval which the Engineer in-charge may have given to the detailed drawings prepared by the Contractor for the work involved in the contract or for tests carried out, either by the Contractor or by the Engineer in-charge.
- 6.2 Any fitting, accessory or apparatus which may not have been mentioned in the specifications, but which are usual or necessary in the execution of such work, are to be provided by the Contractor without extra charge. The whole work must be completed in all details, whether mentioned in the Specifications or not.
- 6.3 The fabrication can be done by the contractor at his established workshop, if any or at site by creating the required facilities. In case of site fabrication, the Railway will make available the space to the extent possible, free of cost.
- 6.4 The contractor shall bring the material at fabrication site and shall advise the engineer in-charge, so that he can depute the inspecting official to verify with the markings shown on the marking plan of the part list which shall be supplied by the contractor for defects and shall make entries in the register to be maintained at site.
- 6.5 No damaged material shall be used for the final work. The record of fabrication shall be maintained in the register in the proforma as supplied by Engineer in-charge.

#### **7.0. Manufacture**

- 7.1. The whole work shall be representative of workmanship and finish shall be equal to the best general practice in modern structural shop. The greatest accuracy shall be observed in the design, manufacture, and erection of every part of the work to ensure that all parts will fit accurately together on erection. All similar parts shall be strictly interchangeable.
- 7.2 The contractor shall maintain a master steel tape of approved make for which they have obtained a certificate of accuracy from any National Test House or Government recognized institutions competent to do so.

#### **8.0 Templates**

The templates used throughout the work shall be of steel. The template shall be used for marking cutting material and as well as profile machining, marking of drilling holes wherever required. Engineer in-charge will decide whether templates are fit to be used as part of the finished structure.

#### **9.0 Flattening and straightening**

- 9.1 All steel materials, plates, bars and structures shall have straight edges, flat surfaces and be free from twist. If necessary, they shall be cold straightened or flattened by pressure before being worked or assembled unless they are required to be of curvilinear form. Pressure applied for straightening or flattening shall be such as it would not injure the material and adjacent surfaces or edges shall be in close contact or at uniform distance throughout.
- 9.2 Flattening and straightening under hot conditions shall not be carried out unless authorized or approved by the Engineer in-charge.

#### 10.0. Planning, Shearing & flame cutting.

- 10.1 Cutting of all plates and sections shall be affected by shearing, sawing or flame cutting. All edges shall be clean, reasonably square and true. Wherever possible the edges shall be cut in a shearing machine, which will take the whole length of the plate in one cut. The cut edges shall be ground afterwards.
- 10.2 Planning or machining of the edges or surface shall be carried out when so specified in the contract drawings or where specifically ordered by the Engineer in-charge. Where machining is specified, the plates or all sections shall be cut in the first instance to such a size so as to permit not less than 3 mm of metal being removed from each sheared edge or end, in the case of plates or sections of 12 mm or less in thickness and not less than 6 mm of metal being removed in the case of plates and sections exceeding 12 mm in thickness.
- 10.3 In the case of compression members the face shall be machined so that the faces are at right angle to the axis of the members and the joint when made, will be in close contact throughout. At the discretion of the Engineer in-charge, a tolerance of 0.4 mm may be permitted at isolated places on the butting line.
- 10.4 Flame cutting by mechanically controlled torch/torches shall be accepted, provided the edge as given by the torch is reasonably clean and straight. Plates may be cut to shape and beams & other sections cut to length with a gas cutting torch, preferably oxyacetylene gas should be used.
- 10.5 All flame cut edges shall be ground to obtain reasonably clean square and true edges. Draglines produced by flame cut should be removed.
- 10.6 Unless machining has been specifically provided for, special care is to be taken to ensure that ends of all plates and member are reasonably in close contact and the faces are at right angles to the axis of the members and joints, when made, are also reasonably in close contact.

#### 11.0. Drilling and Sub-punching

- 11.1 All holes shall be drilled but the Contractor may if they so prefer sub-punch them to a diameter 6 mm less than that of finished holes. e.g., a punched hole which is to be drilled out to 25 mm in diameter shall not exceed 19 mm in diameter at the die end. When the rivet holes are to be sub punched, they shall be marked with a center punch and made with a nipple punch or preferably, shall be punched in a machine in which the position of the hole is automatically regulated. The punching shall be so accurate that when the work has been put together before drilling, a gauge 1.5 mm less in diameter than the size of the punched holes can be passed easily through all the holes. Holes for countersunk heads of rivets, bolts or screws shall be drilled to the correct profile so as to keep the heads flush with the surface holes.
- 11.2 Holes for turned bolts, should be 1 mm under drilled in shop and should be reamed at site to suit the diameter of turned bolt.

#### 12.0. Parts in Contact

- 12.1 All steelwork intended to be welded, riveted or bolted together shall be in contact over the whole surface.
- 12.2 Drifts may be used for drawing light members into position but their use on heavy members should be restricted to securing them in their correct positions. In no case, shall drifting be allowed to such an extent that holes are distorted.
- 12.3 Drifting to enlarge unpaired holes is prohibited. The holes that will have to be enlarged to admit rivets/bolts should be reamed provided the Engineer in-charge permits such reaming after satisfying himself about the extent of inaccuracy and the effect of reaming on the soundness of the structure. The Railway retains the right to reject all steelwork if the holes are not properly matched.
- 12.4 Cleaning of permanent contact surfaces: - Surfaces which will have permanent contact shall be removed of paints and mill scale down to bare metal, clean and dried and immediately a coating

of zinc chrome red oxide priming to IS 2074 shall be applied. Care shall be taken to see that all burrs are removed, and no surface defects exist before the parts are assembled.

### **13.0. Erection and Equipment**

- 13.1 The Contractor shall provide at their own cost all tools, machinery, equipment, and erection material necessary for the expeditious execution of the work and shall erect the structural steel and iron work, in every respect as covered by the contract and in accordance with the drawings and specifications.
- 13.2 Before starting the work, the contractor shall advise the Engineer in-charge fully as to the method they proposed to follow and the amount and character of equipment they propose to use, which shall be subjected to the approval of the Engineer in-charge. The approval of the Engineer in-charge shall not be considered as relieving the Contractor of the responsibility for the safety of their method or equipment or from carrying the work in full accordance with the drawings and specifications.
- 13.3 All temporary work shall be properly designed and substantially constructed for the loads, which will be called upon to support. Adequate allowance and provision of a lateral forces and wind loads shall be made according to local conditions and ensure that support shall not settle during erection.
- 13.4 Careful and periodical inspection of plants shall be made by the Contractor to ensure that all tackle, ropes, chains and other important lifting gear and machinery are in good order and fit for service and well up to the capacity for which they are required.
- 13.5 When chains are used for lashing, care must be taken to protect the edges of members to avoid the marking and distortion otherwise caused.
- 13.6 The method used for lifting and slinging flexible members shall be brought to the notice of the Engineer in-charge and shall be subject to his/her approval.

### **14.0 Bearings and Anchorages**

The contractor shall drill the holes where necessary and set the anchor bolts. The bolts shall be set accurately and fixed with cement grout or any other grouting material as approved by the Engineer in-charge completely filling the holes.

### **15.0 Welding**

- 15.1 Specifications/ Indian Railway Standard Welded Code of practice for metal Arc welding in structural steel issued by RDSO.
- 15.2 All welds should be done by arc welding process either fully automatic or semi-automatic.
- 15.3 Except for special types of edge preparation, such as single and double 'U' single and double 'J' fusion edges of all the plates which are to be joined by welding may be prepared by using mechanically controlled automatic flame cutting equipment and then ground to a smooth finish. Special edge preparation should be made by machining or gouging.
- 15.4 Welding procedures – The welding procedure shall be such as to avoid distortion and minimize residual shrinkage stresses. Properly designed jigs should be used for assembly. The welding techniques and sequence, quality, size of electrodes, voltage and current required shall be as prescribed by the manufacturers of the material and welding equipment. The contractor should submit full details of welding procedure in proforma specified by Engineer in-charge.
- 15.5 Welding Plant – The welding plant shall be capable of maintaining the voltage and current specified by the manufacturer of the electrodes used. The contractor shall supply instruments for verifying voltage and current as and when required by the Engineer in-charge.

### **16.0 Painting:**

- 16.1 Surface preparation – Remove oil/ grease/ rust particle from the metal surface by using petroleum Hydrocarbon solvent to IS 1745 or by brushing with wire brush.

- 16.2 Painting Primer coat – One coat of ready mixed paint zinc chrome priming of 25-micron DFT followed by one coat of ready mixed paint red oxide zinc chrome priming of 35 micron DFT.
- 16.3 Finishing coat – Two coats of aluminum paint over the primer coats for DFT 2x45 micron. One coat shall be applied before the fabricated steel work is erected and the second coat & final coat shall be applied duly touching up the primer and finishing coat if damaged in the erection process.
- 16.4 Surfaces not accessible for cleaning/painting after fabrication shall be applied one heavy coat of zinc chrome red oxide before being assembled for welding/bolting. Bolts, nuts, washers' etc. are to be thoroughly cleaned and dipped in boiled linseed oil to IS 77.
- 16.5 All machined surfaces are to be well coated with a mixture of white lead to IS 349 and Mutton tallow to IS 887.
- 16.6 The contractor must fix a neat casting bearing plate having the name of the contractor, place and year of the manufacture, drawing no., contract no., and shall be bolted conspicuously on the column on the column at one place in each shed separately or at locations specified by Engineer in-charge.

#### **17.0 Weight of steelwork for payment**

- 17.1 Any steel work the weight of which differs by more than 2.5% from the calculated weight determined from the nominal weight of the sections shall be liable to rejection.
- 17.2 Payment shall be made on the weight to be calculated in accordance with the nominal weight of the sections as specified on the contract drawings. An addition in weight for welds and rivet heads is made as follows:  
**3%** in case of riveted (riveted and bolted) work; and **nil** in case of purely welded work. This may or may not approve as per the instructions of Sr. DEN/ Br. Lines/BZA.
- 17.3 Should the actual weight fall short of the calculated weight by more than 2.5%, the material, if accepted, will be paid for the actual weight only. Should the actual weight exceed the actual calculated weight, payment will be made for calculated weight only.
- 17.4 The weight of all plates and sections shall be calculated from the overall lengths as per final position with square dimensions and theoretical unit weights. No deductions being made for holes, notches and skew cuts. Each gusset shall be paid on the dimension of the smallest enclosing rectangle.
- 17.5 In the event of a dispute arising as to the weight of a portion of steelwork, a weighment shall be made in the presence of the Engineer in-charge.

#### **18.0 Inspection and progress report**

- 18.1 The work of fabrication will always be open for inspection by the Railway. Before dispatch of fabricated steel from the shop/site they will be inspected by the Railway official who will thereafter issue inspection certificate. Any defects noticed during inspection in the execution of the works shall be rectified or replaced by the contractor at his own cost. The decision of the Railway as to the existence of the defect, the way the defective work was to be rectified shall be final and conclusive.
- 18.2 The progress of fabrication of steelwork as well as erection and execution of all works on the site will be subject to periodical review by the Railway Administration. The contractor will offer all facilities to the Railway's representative to make a periodical detailed assessment of the progress of the works. Such information and progress reports as may be called for by the Railway and at such intervals and specifications shall also be made available.
- 18.3 The contractor should prepare and submit at their cost Drawing Office Dispatch list in sufficient copies for all the steel fabrication work under relevant item of the Schedule giving the full particulars of all members of steel work as per the approved drawings.

**19.0. CUSTODY OF MATERIALS:** After handing over the steel to railways in railways premises, it is also the responsibility of the agency to keep suitable watchmen for the safe custody of the material. No payment shall be claimed for the loss/theft of material if any is occurred.

**20.0 TIME OF COMPLETION:**

- 20.1 Time is the essence of the contract. All work included in the contract should be completed within the period of **12 (TWELVE) months** inclusive of the intervening monsoon period from the date of issue of acceptance letter. "The contractor would be expected to adhere to the progress of work as per the accepted milestone chart. In case they fail to achieve the first 2 mile-stones, the contract would be liable for termination under clause 62 of the GCC".
- 20.2 Extension of time of completion will be governed by clause 17 of General Conditions of Contract. However, while granting the extension of time under clause 17(B) of GCC, a token penalty as deemed fit based on the circumstances of the case can be imposed on the contractor without prejudice to other rights of Railway Administration as provided under GCC.

**21.0 INDIAN RAILWAYS ARBITRATION RULES:**

- 21.1 The provision of Clause 63 and 64 of the General Conditions of Contract will be applicable only for settlement of claims / disputes, for values less than or equal to 20% of the original value (excluding the cost of materials supplied free by Railway) of the contract or 20% of the actual value of the work done (excluding the value of the work rejected) under the contract, whichever is less. When Claims / disputes are of value more than 20% of the value of the original contract or 20% of the value of the actual work done under the contract whichever is less, the contractor will not be entitled to seek such disputes / claims for reference to arbitration and the provisions of Clause 63 and 64 of the General Conditions of Contract will not be applicable for referring the disputes to be settled through arbitration.
- 21.2 The contractor shall furnish his monthly statement of claims as per Clause 43 (1) of General Conditions of Contract. But the contractor should seek reference to arbitration to settle the disputes only once, subject to the condition as mentioned in Para 21.1 above.
- 21.3 These special conditions shall prevail over the existing Clause 63 & 64 of General Conditions of Contract.

**22.0 ASSISTANCE DURING ACCIDENTS/DISASTER/CALAMITIES:**

- 22.1 Vehicles and equipment of contractors can be drafted by Railway administration in case of accidents/natural calamities involving human lives.
- 22.2 For payment purposes, the item may be operated as a Non-schedule (NS items) as per the existing norms and powers delegated to the Railways.
- 22.3 A data base should be kept ready in respect of the equipment available with the working contractors which can be used in train accidents/natural calamities involving human lives in each Division and Construction office. This database may also be kept to Railway's secured website which can be accessed by the concerned officials of the Railways. However, only authorized officials should be able to edit the same the contractor. The contractor shall furnish a list of vehicles and equipment available with him to the Engineer-in-charge.

**23.0 PROVISION OF LABORATORY FOR TESTING OF MATERIALS AT SITE.**

Contractor should provide a testing lab at site with following facilities.

- a) Machine for testing concrete cubes.
- b) Set of sieves for coarse aggregate and fine aggregate.
- c) Slump cone for checking of consistency of cement mix.
- d) Equipment for checking moisture content, maximum dry density etc., (core cutters with cap, hammer, stove, Electronic weigh balance, kerosene, pan etc., and other tools/plant/materials required for doing soil compaction test)

NOTE: - No payment will be made to the contractor on this account and site required for the laboratory will be provided by the Railway free of license. After completion of the work, contractor can take back all machinery and establishments etc., Contractor is deemed to have taken this into consideration while quoting his rates.

Special condition on Concrete Mix Design issued vide Hqrs Lr.W.416/Unified/SS/SSR/Vol. IV Dt.21/23.03.2022.

The Contractor shall be guarantor of quality of concrete used in construction. It shall be obligatory on the Contractor to carry out the mix design and obtain approval of the Engineer before use in permanent work. Without any way limiting the generality of the foregoing, the procedure shall include the following:

- a) The Engineer shall advise the Contractor the ruling design parameters for each grade of concrete. Contractor shall carry out the mix design (through Govt. Engineering Colleges/NITs/IITs only) following all appropriate codes (IS 10262, IS 456, IS 383, IS 9103, IRS Concrete Bridge Code and all other Codes referred therein) specifications/guidelines in selection of suitable constituent material and its proportioning for preparing design mix for prescribed strength and durability and obtain approval of the Engineer. The mix proportion shall be prepared keeping in View the required strength, long term durability in the intended exposure condition and with sufficient workability to place in intended position of the structure uniformly in well compacted condition without any segregation or bleeding.
- b) The mix proportion so designed shall be checked by means of trial batches. Workability of the 1st Trial Mix shall be measured, and the mix shall be carefully observed for freedom from segregation and bleeding and its finishing properties.
- c) If the workability of the 1" trial mix is as stipulated two more trial Mixes shall be made with the water content same as initial trial mix and varying the free water cement ratio by 10 percent of the preselected value. From all three trial mixes at least three test cubes shall be made cured and tested at 28 days in accordance with IS 516.
- d) If the measured workability of 1" Trial Mix is different from the stipulated value the water and/or admixture content shall be adjusted suitably with this adjustment, the mix proportion shall be recalculated keeping the free water cement ratio at the pre-selected value and procedures in para no. "b" and "c" above may be followed.
- e) If the test results of the samples at three variable water cement ratios are valid (for each sample, the individual strength of all specimens are within a 15% of average of three specimens) and more than target strength, graph between three water-cement ratio and their corresponding strength shall be plotted and mix proportion for field trial should be worked out.
- f) Above details of test and mix proportion duly authenticated by approved Institution/lab should be submitted in a prescribed Proforma (**Annexure-A**) for approval of Engineer for field trial.
- g) On receipt, the Engineer shall expeditiously scrutinize the proposed design mix for field trial. Apart from all other aspects, it should be specifically observed that the quantity of cement content should be minimum possible for meeting the due requirement and is within the limit prescribed vide letter no.W.416/Unified SS/SSR/Vol. IV dt.09.02.2022 for all types of works. If it is more, and there is possibility to bring it within limit by redesigning the proportion, the same should be returned to the Contractor with remarks to submit the mix design with reduced cement content. If the cement content is marginally on higher side and the Engineer is convinced that in the specific circumstances there is no possibility for further reduction even after use of plasticizer/super plasticizer, he will forward the mix design for approval of the Competent Authority.

Grade of concrete	Cement content in Kg. per Cum	Average cement content in Kg per Cum
M15	250 to 300	275
M20	300 to 330	315
M25	310 to 360	335
M30	340 to 390	365
M35	360 to 420	390
M40	380 to 450	415
M45 to M55	400 to 450	425

- h) After review of the design mix received with recommendation of the Engineer the Competent Authority shall either approve the Design Mix for field trial or return the same to Engineer to get fresh design mix for approval.
- i) On approval of mix design in field trial, again cube samples should be made with the concrete produced by method of actual concrete production.
- j) Test cubes (specimens) will be tested for compressive strength at 28 days. The results are considered valid only if the average compressive strength of the sample (3 specimens make one sample) is not less than the Target mean strength and variation among individual specimens is within +/- 15% of average strength. The concrete mix design shall be allowed by Engineer for use in actual execution if the test results of samples are valid.
- k) Above approval by the Engineer shall not relieve the Contractor of any of his responsibilities under the Contract.
- l) For Bridge works, concrete design mix shall be designed as per para no 5.5.1.2 and 5.5.2 of IRS Concrete Bridge Code: 1997 Minimum cementitious material and exposure condition shall be as per table 4(c) of IRS Concrete Bridge Code: 1997.
- m) Concrete cube test reports shall be submitted from only Government Engineering colleges only.

**Annexure-A**

- 1. Name of the work: \_\_\_\_\_.
- 2. Agency: \_\_\_\_\_.
- 3. Agt. No./Acceptance letter details: \_\_\_\_\_.
- 4. Type of work – Bridge\*\*/Other than Bridge\*\*:  
\_\_\_\_\_.

A	Basic Data	
A-1	To be specified by Engineer	
1	Concrete grade* (Min*/Max* Cement content Kg/Cum	
2	Workability (Slump)*	
3	Cement Grade*	
4	Exposure condition*	
5	Nominal size of Coarse Aggregate (CA)*	
A-2	Other Details	
1	Source of CA	
2	Results of sieve analysis of CA	
3	Specific Gravity of Coarse Aggregate	
4	Grading Zone of fine Aggregate	
5	Source of FA	
6	Results of sieve analysis of FA	
7	Plasticizer/Super Plasticizer (Brand name; Qty used etc.,)	
8	Water absorption of Fine Aggregate	
9	Water absorption of Coarse Aggregate	
B	Mix proportion	
1	Cement	Kg.
2	Water	Kg.
3	FA	Kg.
4	CA	Kg.
5	Plasticizer/Super Plasticizer	Kg.
C	Cubes Casting details	
1	Date of casting of cubes	
2	Officials present at the time mixing & casting of cubes	
3	Workability of trial mix was as per design	
D	Cubes testing details	
1	Date if testing of cubes	
2	Testing done at	
3	Officials present at the time of testing	
4	Is test results and Strength vs Water Cement Ration enclosed?	
5	Does the test result comply with design requirements	

(\*\* Strike whichever is not applicable).

\* To be specified by Engineer depending upon the specific requirement.

\*\* strike whichever is not applicable.

Signature of the Designer: \_\_\_\_\_

Name of Designer: \_\_\_\_\_

\_\_\_\_\_  
Name of the Lab/Institute:

\_\_\_\_\_  
Stamp: \_\_\_\_\_



Signature of the Contractor: \_\_\_\_\_.

Remarks of the Engineer: \_\_\_\_\_.

**24.0 SERVICE ROADS:**

24.1 The contractor will be permitted make use of existing service roads if any free of cost. New service roads required by the contractor in connection with the work either near the work site or elsewhere within or outside Railway limits for carriage of materials or for any other purpose whatsoever will have to be constructed and maintained by the contractor at his cost. For the purpose construction of service roads on Railway land, permission will be given to the contractor at Railway's discretion free of any charges.

**25.0 SUPPLY OF MATERIALS BY RAILWAY:**

25.1 The contractor has to make his own arrangements for making temporary staging arrangements. In case the Railway materials are available and can be spared, the Railways may supply staging materials viz., steel cribs of size 2' x 2' x 6', rails and RSJs etc., on hire charges subject to availability as per rules in force, on request. The Railway materials shall be supplied at the Stores depot located at Vijayawada or any depot within S.C.Railway and the tenderers/contractors shall transport these materials at their cost to the site of work and they shall be returned back to the same depot after completion of work. The discretion of Railway with regard to sparing of Railway materials on hire charges is final and the contractor shall have no further claim on this account. The contractor has to make his own arrangements for any other materials required other than those supplied by Railway on hire charges.

25.2 The hire charges are as follows:

Description of material		Hire charges per day
i)	Steel cribs of size 2'x2'x6'	-- Rs. 5.55 per day per each crib
ii)	Secondhand rails, RSJs etc.	-- Rs.16.00 per day per MT
iii)	Dip lorries 15 MT capacity	-- Rs. 40.00 per day per each
iv)	Wooden sleepers	-- Rs.0.57 Ps. per day per each

25.3 The hire charges will be levied for the period from the day of issue of Railway material to the handing over date of material at the Depot (both days inclusive).

25.4 Materials issued by the Railway shall be used solely and economically for the purpose of the work covered by this contract. Loss or damage of such materials in any manner shall be totally avoided. If any loss or damage is caused to the Railway materials, Recovery will be made as per extant rules in force.

25.5 It shall be the responsibility of the contractor to keep in safe custody and Railway materials plant or equipment issued for the work. The contractor shall at his own expenses provided suitable temporary shed/sheds for this purpose on the Railway land made available by the Railway free of rent and shall remove the shed/sheds when no longer required in terms of Clause 30 of General Conditions of Contract.

25.6 If due to any reason the Railway is not able to make available the Railway land, the Railway Engineer-in-charge of the work may permit the contractor to erect at his own cost shed/sheds or secure private accommodation outside the Railway premises. In such a case the contractor may be permitted to take the Railway materials required for the work outside the Railway premises and to store them in the shed to erect on private accommodation so secured. It shall be the responsibility of the contractor to keep the Railway materials in safe custody and

the same should be kept entirely separate from the contractor's materials and Railway shall have liberty to inspect the same from time to time.

**26.0 TRANSPORTATION OF RAILS AND STRUCTURAL STEEL**

- 26.1 The tenderer shall make his own arrangements for the required trucks/tractors/trailers/for the expeditious transport of Rails and other materials at his cost. The cost of fuel, lubricants, consumables, and other materials are at his cost.
- 26.2 While transportation if the tenderers vehicles or men are involved in any accident it could be the responsibility of the tenderer and the Railway will not be responsible for any compensation thereof.
- 26.3 The tenderer shall permit carriage of Railway's representative in their Vehicles while transporting Railway materials from Loading point to unloading point at free of charge.
- 26.4 The tenderers are required to inspect the site and availability of the roads for transportation of materials. If the vehicles could not be taken to the loading point the tendered shall arrange the leading of material from the stacks to the locations of the vehicles. The adopted rate is inclusive of all such charges.
- 26.5 While transporting the materials the tenderer shall take care of materials without causing any loss/damage. The cost shall be recovered from the tenderer's bills for any loss/damage/shortage of materials at the rate fixed by the railway.
- 26.6 The weights of the Class-II and Class-III materials, transported shall be arrived on theoretical weights less by 5% and 10% respectively.

**27.0 SUPPLY OF MATERIALS BY RAILWAY OTHER THAN THAT SPECIFIED**

- 27.1 If, at any time, any material which the contractor would normally have to arrange for himself is supplied by the Railway either at the contractor's request or suo moto in order to prevent possible delays in the execution of work due to the contractor's inability to make adequate arrangements for supply there for or otherwise, such materials will be made available to the contractor at the Railway Stores Depot at Vijayawada / any other depot in Vijayawada division. All handling there from to site of work will be done by the contractor at his cost. Recovery of the cost of such materials supplied will be made from the contractor's bills as per extant departmental rules of the Railway.
- 27.2 If the material is however not available in Railway stock or the Railway decides not to supply the same whatever be the reason, the Railway shall not be bound to arrange for the supply nor will this fact be accepted as an excuse for delay in the execution of the work.

**28.0 CONTROLLED AND IMPORTED COMMODITIES:**

- 28.1 The Railway will not supply from its own quota to the contractor, controlled or imported commodities. The Railway will, however, render assistance to the contractor by recommending to the appropriate authorities on the contractor's application for issue of import license or release of controlled commodities if the Engineer is satisfied that the materials are actually required by the contractor for carrying out the work and the materials proposed to be imported are not available indigenously. When any materials for execution of contract are procured with the assistance of the Government either by issue from Government stocks or purchase under arrangements made or permit, or license issued by the Government. The contractor shall hold the said materials as trustee and use such material economically and solely for the purpose of the contract against which they are issued, and shall not dispose them off without the permission of the Government and shall return if required by the Government all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever, on his being paid such price as the Government may fix with due regard to the condition of the material. The freight charges for the return of the materials according to the directions of the railway shall

be borne by the contractor, in the event of the contract being cancelled for any default on his part. The decision of the Government shall be final and conclusive. In the event of any breach of the aforesaid conditions, the contractor, shall in addition to throwing himself open to action for contravention of terms of the license or the permits and/or for criminal breach of trust, be liable to account to Government for all monies, advantages, or profits resulting or which in the usual course would have resulted by reason of such breach.

**29.0 STEPS TO BE TAKEN IN ORDER TO AVOID DAMAGES TO RAILWAY INSTALLATIONS / RAILWAY TRAFFIC:**

- 29.1 The contractor shall see that no damage is caused to Railway's signaling and transmission wires, stations, installations, communication lines, electric devices, trains of any kind, fencing, as well as any rolling stock and in general to all Railway installations and equipment. In case any damage is caused to these due to the fault of the contractor or on the part of any one on his behalf, all repairs there under required will be carried out by the Railway at the entire cost of the contractor and the amount of expenses thus incurred will be recovered from the payment due to him. However if any shifting of overhead alignment or underground cable / pipes etc. is required the cost of the same will be borne by Railway. The contractor shall plan and execute the work in such a way as to ensure that no disruption or damage / distortion is caused to Railway track / Railway communication / power lines resulting in disruption / danger to traffic and the cost of damage caused to the Railway's property or death / injury caused to Railway's personal / public will be recovered from the contractor against this work or any other work / works being executed by the firm under Railway any Government Department.

**30.0 RECOVERY OF CESS AS PER THE BUILDING AND OTHER CONSTRUCTION WORKERS ( RECS) ACT, 1996 & WELFARE CESS ACT 1996**

:-

- 30.1 The tenderer for carrying out any construction work in Andhra Pradesh must get themselves registered from the Registering Officer under Section -7 of the Building and other Construction Workers Act, 1996 and rules made thereto by the Andhra Pradesh. (Labour department). For enactment of this Act, the tenderer shall be required to pay cess @ 1% of cost of construction work to be deducted from each bill. Cost of material shall be outside the purview of cess, when supplied under a separate schedule item".

**31.0 PROVISION OF LABORATORY FOR TESTING OF MATERIALS AT SITE:**

- 31.1 Contractor should provide a testing lab at site / nearest stations / nominated / specified location including carrying out the required tests at his own cost as instructed by the Engineer-in-charge in Railway premises with following facilities

S.No.	Description of equipment	Unit
1.	IS set of sieves with base & top lid 65mm, 40mm,20mm, 16mm, 10mm, 4.75mm, 2mm, 600 mic, 425 mic, 212 mic, 75 mic. Equipment for checking moisture content , maximum dry density etc., (core cutters with cap, hammer, stove, Electronic weigh balance, kerosene stove/ oven, pan etc., and other tools/plant/materials required for doing soil compaction test), Plastic limits apparatus, Liquid limit apparatus, Moisture meter with accessories, Standard modified proctors test apparatus, etc.	2 Sets
2.	Hand/motor operated sieve shaker for above sieves	2 Nos.
3.	Balance	
	a) Pan balance - 10 Kg capacity (with 1.0 gm least count)	2 Nos.
	b) Electronic/digital balance – 10 kg capacity (with 1 gm Least	2 Nos.

	Count)	
4.	Sieve brush - Wire brush	As required
5.	Concrete Cube testing Machine -200Tonne capacity - Electrical-cum-hand operated with single pressure gauge	1 No.
6.	Slump cone test apparatus with tamping rod	2 Nos.
7.	Cube moulds 150x150x150mm	24 Nos.
8.	Vikat's needle test apparatus with dashpot	1 No.
9.	Flakiness Index Test apparatus	1 No.
10.	Elongation Test Apparatus	1 No.
11.	Aggregate impact value test apparatus	1 No.
12.	Auto Level with accessories	2 Nos.
13.	Thermometer for concrete	2 Nos.
14.	Digital camera off 10.0megapixel or above of reputed brand like Sony, Canon, etc with still/video shooting and SD card	1 No.
15.	Desk top PC, with LCD monitor minimum 20 " wide or Note book with WIN- 7 OS, MS office & MS Project	1 No.
16.	All in one A3 size ink jet printer & mobile /portable colour Printer	1 No. each
17.	Screw gauge	1 No.
18.	Vernier caliper	1 No.
19.	Total Station	1 No.

NOTE: 1. No payment will be made to the contractor on this account. Land/ open space required for the laboratory will be provided by the Railway free of cost. After completion of the work, contractor can take back all machinery and establishments etc., Contractor is deemed to have taken this into consideration while quoting his rates.

1. The above list is only tentative and the actual requirement will be given by the Engineer in charge before commencement of work. The above equipment can be taken back by the contractor after completion of work as is where basis is.

2 Penalty will be imposed for works for the works executed without laboratory.

Category	Value of work	Penalty per month in Rs/-
a	Works costing up to 2 crores	NIL
b	Works costing above 2 crores and up to 5 crores	25000/-
c	Works costing above 5 crores	50000/-

Date:

Name and Signature of Authorized Signatory

NOTE: 1. No payment will be made to the contractor on this account. Land/ open space required for the laboratory will be provided by the Railway free of cost. After completion of the work, contractor can take back all machinery and establishments etc., Contractor is deemed to have taken this into consideration while quoting his rates.

2. The above list is only tentative and the actual requirement will be given by the Engineer in charge before commencement of work. The above equipment can be taken back by the contractor after completion of work as is where basis is.

### **32.0 ASSIGNMENT OR SUBLETTING OF CONTRACT.**

- 32.1 Clause 7 of Standard General Conditions of contract ( part II) clearly specify that the contractor shall not assign or sublet the contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission in writing of the Railway. Any breach of this condition shall entitle the Railway to rescind the contract under clause 62 of GCC and also render the contract liable for payment to the Railway in respect of any loss or damage arising or ensuring from such cancellation.
- 32.2 “Subletting of work or part of the work in any manner is not permitted without specific permission in writing of Railway. Any breach of this condition shall make the contract liable for terminating the contract and forfeiting Security Deposit and encashing the performance guarantee”.

### **33.0 SITE FACILITIES:**

- 33.1 The quoted rates would be deemed to include charges for any and all site facilities that are considered necessary for execution of the work unless otherwise indicated in the contract. In this connection, specific attention is drawn to stipulations in clause 19(i) of IRS GCC and intending tenderers are advised to acquaint themselves well with site conditions. Land that can conveniently be spared will be made available by the Railway free of charge for the use of contractor for his field offices, stores, depots (casting yards etc.), works shops, bore wells and temporary accommodation of his staff. The extent of land that can be made available may be ascertained by inspections at site. No assurance can be given regarding the vulnerability of such land to flooding during floods. The Railway under takes no responsibility or liability in this regard and the contractor should take sufficient protective measures against such eventualities at his cost.
- 33.2 On completion of the works, the Contractor should remove all the temporary structures etc., at his own cost and land should be handed over as vacant possession to the Railway within one month.
- 33.3 If sufficient land cannot be made available by the Railway to the contractor’s requirements, the contractor will have to make his own arrangements at his own cost.

### **34.0 SEIGNIORAGE CHARGES:**

- 34.1 Seigniorage charges/fee for consumption of earth, moorum, sand and other minerals in works execution as fixed by the state government from where the minerals are drawn and payable to them as revised from time to time during currency of contract will be recovered by the Railway from the contractors, in “on account” and “final bills” and remitted to the State government, unless exemption obtained to the contrary or proof of payment of seigniorage charges submitted as indicated below:

“Transit passes / Re-designated Mineral Dispatch Permits / Royalty Clearance Certificates” issued by State Govt. officials in token of having paid seigniorage fee. Such passes/permits/certificates should also indicate the relevant name of work / Contract Agreement Number. In such cases, the genuineness of such documentary evidence produced along with proof of payment of seigniorage charges shall be got verified by the Railway from concerned Mining and Geology department and excess amount recovered, if any, refunded to the contractor.

Note: The word “**Consumption**” of various minerals indicated in above clause, inter alia means “**supply**” as well.

- 34.2 The rates quoted by the tenderer shall be inclusive of seigniorage charges on all items of work to be executed under the contract, applicable as on the last date of submission of tender.
- 34.3 For any subsequent increase or decrease in the rates of seigniorage charges, reimbursement / recovery will be affected to / from the contractor as per the following provisions.
- a) For increase in the rates of seigniorage charges after the last date of submission of tender:- the increased amount will be recovered by the Railway from the contractors, in “on account” and

“final bills” and remitted to the State Govt., on receipt of state Govt.’s order to that effect. However, the Railway shall reimburse the additional liability to the contractor, provided that the work executed falls in the original completion period of the work or in the extended period granted on administrative grounds i.e under clause 17-A (i), (ii) or (iii) of IRS GCC.

As such, claims regarding reimbursement due to the increase in seigniorage charges shall not be payable for works executed in the extended period granted on contractors account under clause 17(B) of IRS GCC.

- b) For any decrease in seigniorage charges or waiver, recovery of seigniorage charges will be made at the rates as prevailing on the last date of submission of tender but remittances to State government will be made only at the revised reduced rates. The difference in amount will be retained by Railway and contractors will not have any claim on this amount.
- c) In the event of contractor submitting proof of payment of seigniorage charges also, adjustment of liability by way of reimbursement / recovery of the difference amount arrived based on the increased / reduced rates at which actual payments done by the contractor and the rates of seigniorage as prevailing on the last date of submission of tender shall be effected on the lines of provisions under a) & b) above.

- 34.4 No additional amount will be paid or claim entertained on this account by the Railway. Contractor shall not have any claim whatsoever as a result of the increase in the rates of all other taxes, duties, octroi or any form of levies etc., even if incurred on the supply / use of minerals indicated above.

**Note:** A register shall be maintained by Dy. CE/ Divisional Engineer concerned in which the entries should be made regarding the documentary evidence i.e., Serial No. of “Transit passes/ Redesignated Mineral Dispatch Permits/ Royalty Clearance Certificates” issued by concerned authority showing proof of payment of seigniorage charges, for each bill. Relevant entries shall also be made on receipt of verified document from Mines & Geology department of State Government against the particular bill and “Transit passes/ Redesignated Mineral Dispatch Permits/ Royalty Clearance Certificates”. The verified “Transit passes/ Redesignated Mineral Dispatch Permits/ Royalty Clearance Certificates” shall be scored out with cross mark with an endorsement “Accounted against CC/Final bill No. \_\_\_dt. \_\_\_ for Agt.No. \_\_\_”. These passes shall be kept on record for subsequent verification till closure of the contract. The register should be page numbered and one page allotted to one contract. The reference where the verified, “Transit passes / Redesignated Mineral Dispatch Permits / Royalty Clearance Certificates” is filed shall also be made on the register.

**35.0 DEPLOYMENT OF QUALIFIED ENGINEERS AT WORK SITE BY THE CONTRACTOR:**

- 35.1 In terms of provisions of new clause 26 A-1 to IRS GCC, the contractor shall also employ following qualified Engineers during the execution of the allotted work.
- i) One qualified graduate Engineer when cost of work to be executed is Rs.200 lakh and above, and
  - ii) One qualified diploma holder Engineer when cost of work to be executed is more than Rs.25 lakh, but less than Rs.200 lakh.
- 35.2 In case the contractor fails to employ the qualified Engineer as per above Para, the contractor, in terms of provision of clause 26. A -2 to IRS GCC, shall be liable to pay an amount of Rs. 40,000/- (Rupees forty thousand only) and Rs. 25,000/- (Rupees Twenty five thousand only) for each month or part thereof for the default period for the provision as contained in Para (i) & (ii) above respectively.
- 35.3 The decision of the Engineer-in-charge as to the period for which the required technical staff was not employed by the contractor and as to the reasonableness of the amount to be deducted on this account shall be final and binding on the contractor.

**36.0 EPF Act, 1952:**

- 36.1 The contractor shall comply with the provisions of EPF & MP Act, 1952 and obtain Code Number from the concerned authorities whenever workmen employed by him are 20 or more. He shall also indemnify Railways from and against any claim, penalties, recoveries under the above Act and Rules. Contractors to get the Code Number under the EPF, so as to enable, the PF Commissioner to extend the social security benefits to the workmen engaged by the Railway contractors. The first month's bill will be released only after Code Number is taken from the PF office and a copy of coverage intimation produced. Subsequently, for each month bills will be released only on submission of challans & Form No.12A, Monthly return copy in proof of remittance of PF dues for previous month.
- 36.2 Provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952:  
The contractor shall comply with the provisions of Para 30 & 36-B of the Employees Provident fund Scheme, 1952; Para 3 & 4 of Employees' Pension Scheme, 1995 and Para 7 & 8 of Employees Deposit Linked Insurance Scheme, 1976; as modified from time to time through enactment of "Employees Provident Fund & Miscellaneous Provisions Act, 1952", wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules.

**37.0 LOSS / DAMAGES TO RAILWAY PROPERTY:**

- 37.1 The contractor will be held responsible for any loss or damage that may occur to the pre-stressed concrete sleepers while leading and unloading when they are in custody of contractor and the cost of such damage or loss will be recovered from him as per the rules in force.
- 37.2 Entire cost of sleeper will be recovered from contractors on account bills if the sleeper is damaged to such an extent that it becomes unfit for use in track. If any small damage (like breaking of corners, edges etc.) occurs appropriate penalty will be levied on contractor for damages as deemed by railway. Contractor cannot have any objection on penalty levied by Railway and the decision of the Railway is final and binding on contractor.

**38.0 GENERAL RESPONSIBILITY OF CONTRACTOR:**

- 38.1 Contractor shall be responsible for all structural and decorative damage to property or injury caused by work or his workmen to persons, animals or things and shall indemnify the Railway in respect thereof and shall be held entire responsibility for all works carried out by him until it is finally taken over by the Railways and he will be liable to be called upon to make good any damage or loss which may occur to the bridge work by inclement weather, floods etc., or due to any other cause during entire period until the work is taken over.

**39.0 FILMING OF THE CONSTRUCTION:**

- 39.1 The contractor shall be required to prepare a video film on VHS format and CD format for the construction of the entire work sequentially and edit the same with sound track etc.. These films shall pictorially represent the entire construction of the work starting from the beginning to the end for education and training. Two copies in both the format of the video shall be handed over to the Railway with necessary detailed instructions, literature etc., and necessary acknowledgement may be obtained from the concerned authority. The rates adopted are inclusive of such documentation.

**40.0 REGARDING OBSTRUCTIONS:**

- 40.1 Any obstructions such as service lines, water pipe lines, cables, sewerages, etc., met with during the progress of the work shall immediately be reported to the Engineer-in-charge and the department shall make necessary arrangements for removal of such obstructions.
- 40.2 If the existing mains are affected during excavation of foundations, Temporary/ Permanent arrangements for maintaining continuous flow though the sewer/ water mains will have to be made by the Contractor, duly realigning the sewer/water mains, underground cables, etc., at extra cost separately by negotiating rate or shall be got done through separate agencies.

- 40.3 The works shall be carried out without any interference to the normal working of the Railway track and structures.
- 40.4 The Contractor shall be responsible for any loss/damage to Railway and public property or third party's property. If it occurs during the course of execution, the Railway reserves its right to have the damages made good by the Contractor.
- 40.5 The contractor must ensure the safety of labourers engaged by him during the course of execution of work and/or while crossing the track and the Railway will not be responsible for any injury sustained by the labourer or for any fatal accident and the Contractor should bear all the loss and expenditure involved.

#### **41.0 HOUSE KEEPING, COVERING & SITE CLEARANCE:**

- 41.1 In addition to and without prejudice to what is provided in the clause No.40(2) of IRS GCC, the Contractor shall ensure proper housekeeping and covering of all works, goods, material, equipment etc., at work sites without any inconvenience or difficulty or danger to the Railway uses/ staff and train services. He shall clear the work sites duly removing all the debris, surplus/ released/ scrap materials, equipment and machinery etc. completely and properly as directed by and to the satisfaction of the Engineer-in-charge and handover the site in clear condition duly handing over all the Railway materials completely after each stage or on entire commissioning of the work as required by the Railway.

Note : For failure to do the above within fifteen (15) days of receipt of notice thereof from the Engineer-in-charge, without prejudice to the other remedies available to the Railway under the contract, **payment of the on-account bill shall be restricted to ninety percent (90%) of the bill amount and the balance payment shall not be payable till such time the site is covered/ cleared/ returned/ handed over to the Railway and a certificate to that effect is issued by the Engineer-in-charge.** The decision of the Engineer-in-charge is final in this regard and the Contractor is not eligible for any compensation and shall make no claims whatsoever.

#### **42.0 MAINTAINING RECORD OF CONSTRUCTION WORK:**

- 42.1 The contractor shall maintain accurate, plans and charts showing the dates and progress of all main operations and the Engineer shall have access to this information at all reasonable times. Records of tests made shall be handed over to the Engineer's representative after carrying out the tests.

The following registers will be maintained at site by the contractor:

1) **Site Order Register:**

The contractor shall promptly sign orders given therein by the Engineer or his representative or his superior officers and comply with them. The compliance shall be reported by the contractor to the Engineer in good time so that it can be checked.

2) **Cement register:**

This register will be maintained to record daily receipt and issue of cement, thus indicating the balance quantity. The quantum of work done for the cement issued on particular date will also be mentioned.

3) **Steel register:**

This register will be maintained to record the receipts of steel items and details of reinforcement and members wherever steel is used.

4) **Labour register:**

This register will be maintained to show daily strength of labour in different categories employed by the contractor.



5) **Plant and machinery register:**

This register will be maintained to record daily particulars of machinery with the contractor and will be signed jointly by the Engineer's representative and the contractor.

6) **Log book of events:**

All events are chronologically logged in this register date and shift wise.

7) **Compaction registers for Earth work:**

This register will be maintained to record the compaction of Earth work at various stages of work, in layers, location wise.

8) **Soil samples test register:**

This register will be maintained to record the details of the soil samples for Earthwork in bank, cutting and excavations in foundations at various stages of work.

9) **Concrete cube casting & testing, slump etc.**

This register will be maintained to record the details of the concrete done and the cubes casted.

**43.0 NOTICES TO PUBLIC BODIES:**

43.1 The contractor(s) shall give all notices that may be required by law to the Municipality, Police and other authorities, Forest Department and obtain all required licenses for temporary obstructions, enclosures and pay all fees, taxes and charges, which may be leviable on account of his operations in executing the contract. He should make good any damage to adjoining premises whether public or private and supply and maintain any lights etc., required at night.

**44.0 PRECAUTIONS AT WORK SITE:**

44.1 All precautions to ensure safety of workmen must be taken while unloading and leading the materials during execution of work. Traffic rules should be strictly followed and the contractor should indemnify the Railway against any claim due to accidents and unforeseen incidents.

44.2 The contractor must ensure the safety of labourers engaged by him while crossing the track during the course of execution of work and the Railway will not be responsible for any injury sustained by the labourer or for any fatal accident. The contractor should bear all the loss and expenditure involved. Wherever necessary he should also provide necessary look out men.

**45.0 PROJECT MANAGEMENT AND SITE FACILITIES BY THE CONTRACTOR:**

45.1 Contractor shall maintain following office/ site facilities at the suitable location for ensuring smooth and efficient communication and work execution. Cost of these facilities is deemed to be included in the quoted rates and nothing extra shall be paid for this item. Agency shall provide site office for Railway officials and staff, as well as for officials supervising the works Contractor shall maintain round the clock electricity in site offices. Contractor shall maintain minimum one computer of approved configuration (one desktop/ laptops) with at least one color laser printer-cum-fax machines capable of printing A-3 size for Railway offices. The contractor shall also maintain one competent and qualified operator who should be aware of hardware and software both. The contractor shall maintain and always keep the above machines in good working conditions and take away the same at the time of completion of the works.

**47.0 COMMUNICATION DURING EXECUTION OF WORK:**

47.1 In all notices, communications, reference and complaints made by the Railways or the Engineer or the Engineers representatives or the contractor's interest concerning the works shall preferably be in writing.

- 47.2 However communication in the form of email and/or fax from Railways or from contractor may also be treated as written communication.
- 47.3 The contractor shall provide his valid website address (if available), email id, fax number at the time of submission of tender. This cannot be changed without prior approval of the Engineer-in-charge after submission of tender and during execution of work.

**48.0 MEDICAL FACILITIES AT SITE:**

- 48.1 The Contractor shall provide medical facilities at the site as may be prescribed by the Engineer on the advice of the Railway Medical Authority in relation to the strength of the Contractor's resident staff and workmen. First aid box along with the prescribed medicines and trained personnel should be available at site.

**49.0 ARRANGEMENT OF TRAFFIC BLOCK &PENALTY CLAUSE:**

- 49.1 Contractor will be given information regarding the line block three days in advance. Contractor should arrange all required good working machinery to the site at least one day in advance of the block. Spare operator, technician/mechanic with spare parts should be available at site for each set to take care of machinery to utilize block as per planned schedule. Planned block may be cancelled even at the last minute due to train operational difficulties. Due to exigencies of traffic, if the programmed blocks are not granted, no compensation will be paid to the contractor due to idling of man power and machinery. Launching of Gangway portion, between platforms has to be done by the contractor at his own cost. No extra rate will be given to the contractor at this account. Rate for the item no. 1 of schedule "D" includes all such charges. Suitable crane capacity has to be arranged by the contractor at his own cost for the foot Over bridge.

This tender consists 05 (FIVE) schedules viz., schedule A, B, C and D,E of the above work consists items of work covered by the USSR-2021 and DSR 2021. The tenderer is required to quote a percentage rate separately for each schedule in figures and words. Fraction in percentage is not allowed. In case of discrepancy between the percentages quoted in figures and words. The percentage quoted in words will be taken for evaluation and payment.

1. Payment for the entire work carried out for constructing the referred to will be made on percentage basis as accepted for schedules
2. Cement, Rails, MS rods or tor rods required for the items covered under USSR, 2021 items will be supplied as found necessary by the Railway free of cost at Railway stores at the convenience of Railway and contractor will have to make his own arrangements for transporting the same to the site of work at his own cost.
3. The quantities shown under USSR-2021 items are only approximate and the items given therein are only for the guidance of the contractor. The contractor should refer to the plans and work out the correct quantities if required.
4. The quantities of items in the schedule for the work to be executed are only approximate and are only for guidance of contractor. The quantities have been assessed as far as possible correctly but the same are likely to vary to the extent of 25% i.e., increase during the execution of work, according to the actual need of the Railway. The works shall be binding on the contractors, and he will not be entitled to any compensation for such variation and he/they will be paid for such extra quantity of work done by him/them only at the contract rate. The decision of the Engineer regarding the necessity and the extent of such variation shall be final and be binding on the contractor and the contractor cannot question or take any claim on this account at any stage.
5. In the event of any reduction in the quantity to be executed for any reason whatsoever arises the contractor shall not be entitled to any compensation but shall be paid only for the actual amount of the work done.
6. The contractor is bound to be notifying the Engineer at least Seven days before the necessity for the execution of any item in excess of 25% of the quantity provided in the agreement. The rates for items in excess of 25% shall be decided by mutual discussions in a meeting between the Railway and the contractor well in advance of the execution of the quantities. If in the

- opinion of the Railway such quantities involved, be executed by the same contractor. In case the contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at the Railway shall be entitled to execute the extra works by her means and the contractor shall have no claim for loss or damage that may result for such procedure.
7. All items of work which are not provided for a schedule quantities and rates for which no rates exist must be executed only with the prior permission of the Railway and at rates and on conditions to be mutually agreed upon and incorporated in a supplementary agreement.
  8. Tools, plants and other accessories like ladder, scaffolding, shuttering, concrete mixing materials etc., required for the work will be provided by the contractor.
  9. Though specific sections of rails have been mentioned in the Drawing nearest available section on rails will be issued if the specified section is not available. All cutting, binding, drilling holes etc., laying and placing in position of all rails shall be done by the contractor at his own cost.
  10. The contractor shall provide all the shuttering required for all RCC works and dismantle them when done with this own cost.
  11. The tenderer shall submit nine samples of bricks before commencement of work and the bricks used for the work shall be as per samples obtained and accepted.
  12. The contractor shall use 16 SG annealed soft wire for binding reinforcement for all RCC works at his own cost. Concrete for all reinforcement concrete work should be machine mixed and the contractor may be required to use machine mix concrete for other works also at the discretion of the Engineer. The Railway may supply a concrete mixer if asked for by the contractor. Hire charges shall be fixed by the Railway before the actual supply.
  13. In all cases of reinforcement, the full utility of steel supplied by the Railway should be made short lengths of rods should also be utilized to the extent possible by over lapping joints. The material issued by the Railway free of cost excluding the permissible wastage should not in any case exceed 1% (one percent of the total quantity required for the work as per the approved drawings. Recovery shall be made from the contractor at twice the purchase rate, 5% freight on the cost of materials consumed more than wasted or if not satisfactorily accounted, for the purchase rate would be the rate prevailing at the time of last issue of materials concerned.
  14. No allowance towards wastage of cement on account of dropping of cement bags during conveyance and handling will be allowed. The cost of excess issue of cement, if any to the contractor over and above the actual requirements for the work will be recovered from the contractors at twice (purchase price freight.)
  15. **USE OF MATERIALS SECURED WITH GOVERNMENT ASSISTANCE:**  
Where any raw materials for the execution of the contract are procured with the assistance of Government either by issue from Government stock or purchased under arrangements made on permit(s) on license(s) issued by the Government the contractor shall hold the said materials as trustee for the Government and use such materials economically and solely for the purpose of the contract against which they are issued and not to dispose off them without the permission of the Government and return if required by the purchase all surplus or un-serviceable materials that may be left with him after the completion of contract, for its termination for any reasons whatever on his being paid such the price as Government may fix with due regard to the conditions of materials. The freight charges for the return of the materials according to the direction of the purchaser shall be borne by the contractor in the event of the contract being cancelled for any default on his part. The decision of Government shall be final and conclusive.  
In the event of a breach of the above said conditions the contract shall in addition to throwing himself open to action for contraventions of terms of the license(s) on or their permit(s) and or for criminal breach of trust be liable to account to Government for all money advantages or profits resulting on which the usual course should have resulted to him by reasons of such breach.
  16. Materials supplied by the Railway at its own cost left over on completion of the work will be the property of the Railway and should be returned to the depot or other go down as directed by the Engineer-in-charge. In case, it is noticed that on completion or termination of the work

the consumption of the materials has been found to be in excess of the quantities laid down or the contractor is unable to account fully the materials issued either due to negligence on the safe custody or for other reasons, the cost of such quantity of the materials shall be recovered at twice the purchase rates and freight. The purchase rate and 5% freight the rate would be the prevailing time of last issue of the materials concerned.

17. Cleaning and leveling the site before and after the execution of the work are to be done by the contractor for which no additional payment will be made.
18. If any other items of work not included in the USSR-2021 schedule are required to be carried out, they shall also be carried out at the rates as the same percentage as accepted for this work.
19. The location of proposed work shown in the site plan is tentative. The contractor may be asked to construct the above mentioned works at any alternative site as directed by the Engineer-in-charge of the above Section. The tender schedule provides for the work of provision of height gauges at the required location as per requirement. Depending upon the site in charge may change the design of foundation and adopt any type of foundation to suit the soil conditions. The contractor is bound to execute the foundation according to revised design at the accepted rate under this agreement. Payment will be made by operating suitable USSR-2021 of rates, items and the rates only enhanced on the diminished by the same percentage as accepted for the work.
20. The contractor is bound to execute the foundation according to revised design at the accepted rate under this agreement. Payment will be made by operating suitable USSR-2021 of rates, items and the rates only enhanced on the diminished by the same percentage as accepted for the work.