

Special condition for Work

Name of Work: As per Tender notice.

All the specifications are as per the Specification and the special condition of contract Specifications – 2023, Volume – I and II, CPWD specification for DSR-2023 Vol -I, II and PCE circulars with the latest amendments and work is to be carried out as per all the policy and day to day policy circulars.

Instructions for Execution of CPWD DSR Items

The items of CPWD DSR shall be carried out in accordance with the item description and specifications of the items mentioned in the item description and its corresponding specifications in the CPWD Specifications and test results in proof of the materials used, confining to the specifications mentioned in the CPWD specifications shall be submitted with each progress bill. It must be ensured that the item is executed as per the CPWD specifications.

Scope of Work: - Surendranagar-Dhasa in PRCL Section - Replacement of Porta cabin by providing Duty Bunk in jurisdiction of DEN -East (31 Nos LCs). Revised 25 LCs. (Prefab PUF materials structure)

- The work is involving Building work as per Tender Notice.
- The tenderer shall engage the qualified license holder Civil Engineer for Civil Work.
- The Design Mix shall be got approval of competent authority before commissioning of work at site.
- Mix Design (From NABL approved Lab) should be done at contractor's own cost prior to Mix Design as per instruction of Engineer In charge. Railway will not pay any extra cost for testing.
- RCC structural design for the work will be submitted by the contractor duly approved by the IIT / NIT / any Government Engineering College.
- List of location where 25 Duty Bunk are to be constructed are attached as Annexure-I.
- The location and quantities are tentative and Railway reserve right to alter these at their own discretion without assigning any reason.

SPECIAL SPECIFICATION

TENDER SCHEDULE is of DSR-2023 Items

1. Schedule - A is of CPWD-DSR-2023 portion, The work to be done by Specification of the Schedule - A as per CPWD specification for DSR-2023 Vol -I, II with up-to-date correction slips. (Civil)
2. Schedule - B is of NS item **Prefab PUF materials structure** as per detailed description in NS/1. (Civil)
3. Schedule - C is of NS item NS Items (Electrical)

4. SPECIAL CONDITIONS FOR BUILDING WORK

1. The Design Mix shall be got approval of competent authority before commissioning of work at site. RCC / Structural design and drawing of structures shall be done by contractor as per approved GAD by Railway. The structural design and drawings submitted by the agency shall be proof checked / approved by Government Engineering College / University / NIT / IIT to Railway before starting the work at site for approval from competent authority of Railway. All the expenditure related to structural design, preparation of drawing, approval of Government College / University / NIT / IIT shall be borne by the agency and offered rate will be inclusive of this expenditure. The decision of Sr. DEN / DEN will be final and binding. The same may scrutinized and approved by HQ Office, Church gate, if required. Therefore, before quoting offer rates, proper site survey may be done and rate quoted accordingly.
2. Contractor has to submit completion plan in 75 Micron double mate GARWARE or similar tracing film or in Soft Copy in Original for each drawing indicating all minor, major detail based on actual execution and signed by site supervisor (SE/SSE Works) and ADEN's before submission of final bill. ***In addition to Completion plan the contractor shall also submit the drawings in soft copy, failing this recovery at a rate of 20000/- (Rs. Twenty thousand only) shall be made.***
3. The contractor/s will have to submit the test reports from a Govt. approved Engineering College/ Govt. approved Laboratory or as per instructed by Engineer-in-charge of work.

4. The successful contractor after issue of acceptance latter carried out the bore log details and required geotechnical test report of soil properties for design of structure on his own expense. Nothing shall be paid extra for this report.

Other conditions: -

- The rates are firm & consolidated and inclusive of all taxes, (Including GST), duties, levies including ED, ST on works contract, incidental transport etc.
- The Schedule of Rates & Quantities shall be read together with the GCC in vogue and the terms & conditions incorporated in the tender paper.
- The Quantity shown above is tentative and can increase or decrease according to Railways requirement.
- Payment terms will be made on the above quoted /accepted rate on account as per execution /measurement & 100% after completion of work in all respect.
- Before quoting the rate, firm is advised to see the site condition/ other details.

Special condition and specification of work.

1.1 RCC/CC WORK QUALITY CONTROL:

- 1.1.1 The contractor/s will be required to exercise effective quality control over production, placement and curing of concrete at site. They will ensure proper specifications as laid down in IS 456 (1978). No extra payment for this quality control shall be admissible.
- 1.1.2 Samples from fresh concrete shall be taken as per IS-1192 (1959) Method of sampling and analysis of concrete and cubes shall be made, cured and tested in accordance with IS:516(1959) - 'Method of Test for strength of concrete'. The contractor/s shall arrange for testing of cubes in compression at his own cost in accordance with IS:516(1959) in presence of the Engineer's representative. No extra payment for carrying out such test will be made to the contractor.
- 1.1.3 The test cubes of 15cm x 15cm x 15cm of size will have to be prepared by the contractor. The number of cubes from any batch of concrete shall be as per IS: 456-1978.
- 1.1.4 The contractor/s will maintain quality control charts at site of work based on the test results, which should be made available to the inspecting officials on demand.
- 1.1.5 Aggregate, sand and water to be used for CC/RCC should confirm to relevant ISI standard. Testing shall be made at contractor's cost to ensure quality.
- 1.1.6 No concreting will be allowed till reinforcement and shuttering work are properly checked and approved in writing by the Engineer's representative.
- 1.1.7 All concreting to be done for CC/RCC work shall be mechanically mixed by use of concrete mixer and properly compacted by use of vibrators.
- 1.1.8 Contractor shall ensure monolithic concreting during one shift of concreting. Any rest/pauses such as for meals etc. should be adjusted accordingly with the consent of the Engineer's representative.
- 1.1.9 During placing of concrete, free fall of concreting shall not be more than 4 ft. (1.25m) and concrete shall be cured to the satisfaction of the site Engineer.
- 1.1.10 Removal or de shuttering of formwork shall be as per IS- 456-1978 and in the presence of Site Engineer and no patch repair or finishing surface shall be done without approval of Engineer in Charge. Any such rectification will be done by the contractor at his own risk and expenses.
- 1.1.11 Any part of the RCC which does not come up to the standards or is damaged during any operation of the work shall be fully made good by the contractor at his own cost.
- 1.1.12 Construction joint may be provided only after approval of Engineer and will be prepared as under.
- 1.1.13 All the lattice which has come on the surface will be removed by wire brushing before hardening of the concrete in such a manner that aggregate are exposed but not disturbed from their position. Surface should be cleaned by water jetting.
- 1.1.14 Contractor shall provide only approved type of form work preferably of steel and the same shall be got approved by the Railway before use in work.

- 1.1.15 Any loose mill scales or loose or scaly rust from the reinforcement must be completely removed before it is placed in position. Sufficient number of concrete/cover blocks of size equal to minimum cover specified in drawing shall be provided before placing the reinforcement in position.
- 1.1.16 For all concrete work, the aggregate will be tested as per standard tests prescribed to IS-2384 Pt. I & II, IS-383 and Unified Standard Specification book to determine their properties and their grading. As far as possible, stock piling of the aggregates shall be done in accordance with the standard practices to enable standard analysis being made of such batch that is brought to the site. The design of the mix will be carefully done from representative samples of the aggregate. The preliminary test results along with analysis of aggregates and mix design calculations should be sent to the Engineer for his approval. The contractor/s will modify/carry out the mix design to the satisfaction of the Engineer if so required and get his final approval. Such approval, however, does not relieve the contractor/s of his/their responsibility and obligations regarding the minimum strength requirement.
- 1.1.17 Centering and shuttering for all major RCC & CC work, the contractors are required to get designed, the shuttering and centering, properly and submit, their design with drawings for approval of the Engineer. No concreting will be done unless such drawings have been approved by the Engineer.
- 1.1.19 All the joints between shuttering plates and concrete surface shall be water tight by application of sponge or any other suitable materials.
- 1.1.20 Form work pattern provided shall be to the satisfaction of Engineer-in-charge. No claim will be entertained on this account.
- 1.1.21 Quantity of reinforcement as required for the work will not be a matter of dispute for RCC work and no extra payment for using higher reinforcement will be admissible over basic RCC rate.
- 1.1.22 Coarse aggregate for RCC - (6mm to 20mm) only crushed broken stone metal of approved quality shall be permitted.
- 1.1.23 Slab concrete shall be placed vibrate and finished in such a way to required slope so as to avoid any possibility of leakage.
- 1.1.24 If required, dewatering/timbering shall be done by the contractor for which no extra payment shall be made. The method of pumping shall be decided by Engineer at site and shall be as per his direction.

1.2 CURING OF RCC/CC WORK.

- 1.2.1 Contractor will have to make sufficient arrangement of water required for curing purposes. However, all the vertical surfaces and bottom exposed surfaces of concrete mortars will have to be cured by application of curing compound as per the direction of site Engineer-in-charge of work and nothing extra shall be paid for this.
- 1.2.2 The contractor/s will have to submit the test results from a Govt. approved Engineering College/Laboratory regarding efficiency of the curing compound and the curing compound shall be allowed to be used only after obtaining written approval from Engineer-in-charge of work.

1.3 CONCRETE GRADE SPECIFICATIONS ETC.

- 1.3.1 All controlled concrete mix shall be properly designed for available materials from a reputed laboratory approved by the Railway and submitted to Railway before doing the work. No extra payment will be made on this account.
- 1.3.2 Admixtures or pigments containing calcium chloride should not be used. Workability aids and retarding agents may be used provided that suitable precautions are taken and it can be shown by tests that product to be added will produce the required effect without in any way changing the other qualities required in the concrete or damaging the steel.

- 1.3.3 Accelerating admixtures shall not be used in structural member concrete containing reinforcement, pre-stressing tendons or other embedded metal.

1.4 DETAILING

- 1.4.1 Proper detailing of reinforcement is essential as any cracking caused by defective detailing of reinforcement accelerates corrosion. Importance shall be given to ensure proper drainage, water proofing of the surface with protective coating is necessary.
- 1.4.2 The contractor shall make necessary arrangement for clearing and removing rust, etc. from reinforcement before the material are put to actual use.

1.5 BINDING WIRE

All ends of binding wire shall be carefully turned inwards so that they do not project out of concrete to start rusting action. Galvanized wires of 18-gauge annealed wire shall only be used as binding wire.

1.6 FORMWORK AND FALSE WORK:

Form work and false work are very important for all concrete structures in question for these have influence on shape strength and durability of the structures. For this reason, details must be correctly designed and installed. The design of the form work shall take account of the required surface conditions (appearance, compatibility with the required finish). The form work and false work together must provide safe working conditions. Safe access must be provided using additional scaffolding as necessary. The drawing of form work shall be got approved by Railway.

1.7 CONSTRUCTION JOINT

No extra payment will be made for gaps between old and new concrete work.

1.8 REMOVAL OF REJECTED MATERIAL

Any filling material (including stone) which is rejected by the Engineer for any reason before or after placing shall be re-excavated and removed from site at the contractor's expenses.

1.9 WATER

The water shall be clean and free from injurious and deleterious materials. Normally potable water may be considered satisfactory.

2.0 SUPPLY OF CEMENT (53 GRADE)

- 2.1 Cement procured by the Contractor shall be fresh conforming to IS 8112-1989 or latest IS Cement code.
- 2.2 Cement shall be accompanied with a test certificate issued by manufacturer otherwise a sample of cement at the direction of Engineer shall be tested for initial & final setting time, compressive / tensile strength from reputed Govt. lab or Engg. College at contractor's cost. In case of any doubt regarding quality of cement, additional samples may be collected and sent to the reputed Govt. lab or Engg. College etc. for testing at Rly' cost. Only on receipt of satisfactory certificates this cement shall be allowed to be used on works. The procurement of cement shall be planned by the contractor that this does not affect the progress of work.
- 2.3 The contractor shall have to submit the cash memo along with the lot of cement purchased from the various retailers / cement factory to IOW as a proof of purchase of cement from reputed dealer. No cement shall be accepted by the IOW without cash memo.
- 2.4 No payment shall be made for the cement used in the work rejected by the Engineer. Cement shall be procured from authorized dealer / cement factory and the receipt shall be furnished on demand. All empty bags shall be taken away by the contractor after use of cement and cost of empty cement bags shall not form part of quoted rates against these items.

- 2.5** Cement which is not used within period as specified in IS code/manufacture, shall be removed by contractor from site and shall not be paid for. In no case any expired date cement shall be permitted to be used in the work.
- 2.6** Cement consumption register shall be meticulously maintained giving quantity of work done / consumption of cement of each day.
- 2.7** Cement bags left out after completion of work shall be taken by the contractor and the Railway shall not make payment against these bags.
- 2.8** The cement shall be kept by the contractor under his custody at site of work and Railway will not be responsible for any damage, pilferage theft etc.
- 2.9** The cement shall be transported by the contractor's own vehicle, labour including loading, unloading and all lead, lift and taxes etc. complete. No extra shall be paid for the same.
- 2.10** The tenderer should note that the Railway is at liberty to use Railways cement at any time for the work.
- 2.11** Cement shall be procured/purchased from cement factories/ authorized dealers/retailers from only reputed brands such as Ultratech, Sidhee, Sanghi, Binani, JK (All Brands), Birla, HI-Bond, Ambuja, Hathi, Wonder, Kamal, Nuvoco, ACC, Lafarge, Bangar and coromandel cement.

3.0 SUPPLYING, STRAIGHTENING, CUTTING, BENDING, HOOKING, BINDING AND PLACING IN POSITION HYSD/TMT STEEL IN REINFORCEMENT

- 3.1** The steel supplied by the contractor shall conform to the latest version of:
 - (i) IS 432 (Part-I) 1982 or latest version - Specification for mild steel and medium tensile steel bars and hard drawn steel wire for concrete reinforcement.
 - (ii) IS 1786-1985 or latest version- Specification for high strength deformed steel bars and wires for concrete reinforcement
- 3.2** Necessary test certificates for steel shall be obtained and submitted to the Railway Engineer. Steel without test Certificate from Engg. College/ govt. approved Lab. shall not be used in the work.
- 3.3** Quantity for this item shall be calculated as per nominal weight of steel section for the length actually used in the work no payment will be made for the wastage and the contractor will be allowed to take away the scrap and excess steel away from the site.
- 3.4** The Reinforcement Steel (TMT Bars) shall be procured only from those firms, which are Established, Reliable, Indigenous & Primary Producers of steel, having Integrated Steel Plants (ISP), using iron ore as the basic raw materials and having in-house iron rolling facilities, followed by the production of steel through the process of DRI-EAF/EIF,BF-BOF and Corex-BOF or any other technology[Confirming to Schedule of Technical requirements(STR) for supplying of TMT Reinforcement bars to IR issued by RDSO (Doc No. WK-G-8.1-1 ver.1-3)]. (Vide CAO (c) letter No. WNC 623/5(Steel) Vol. I dated 17.07.2024.
- 3.5** The contractor shall furnish BIS manufacturer's test certificate along with test results for each category for every lot brought to the site of work. The manufacturer's test results shall be from the manufacturer's lab only. The test results from other lab shall not be accepted and the consignment will be rejected. Testing of steel shall be carried out as per relevant IS (Vide CAO (c) letter No. WNC 623/5(Steel) Vol. I dated 17.07.2024.
- 3.6** Some of the Major Integrated Plants as per latest information of Ministry of steel are listed below: (Vide CAO (c) letter No. WNC 623/5(Steel) Vol. I dated 17.07.2024.
 - (i) Steel Authority of India Limited
 - (ii) Rastriya Ispat Nigam Limited
 - (iii) Tata Steel Limited
 - (iv) Essar Steel Limited

- (v) JSW Steel Limited.
- (vi) Jindal Steel & Power Limited
- (vii) Ispat Industries Ltd
- (viii) Bhushan Power & Steel Ltd.
- (ix) Bhushan Steel Ltd.
- (x) Shri Bajrang power & Ispat Ltd.
- (xi) Shyam Steel Industries Limited, Kolkata.
- (xii) M/s SRMB SRIJAN Ltd. Kolkata.
- (xiii) M/s Shree Nakoda Ispat Ltd., Raipur, Chhattisgarh.
- (xiv) M/s Agrawal Foundries Pvt. Ltd. Secunderabad, Telangana
- (xv) IISCO
- (xvi) JINDAL Panther
- (xvii) ADHUNIK TMT
- (xviii) Goel TMT
- (xix) ELECTRO STEEL
- (xx) SUPER SHAKTI
- (xxi) AF STAR
- (xxii) NEO STEEL
- (xxiii) GK TMT
- (xxiv) RASHMI
- (xxv) RELIABLE
- (xxvi) MSP TMT
- (xxvii) BALAJI SHAKTI
- (xxviii) NANDAN TMT
- (xxix) ET TMT
- (xxx) SEL
- (xxxi) V-XEGA
- (xxxii) Electrotherm (India) Limited.
- (xxxiii) Real Ispat & Power Limited

3.7 This list is indicative and TMT Reinforcement bars can be procured from any other manufacturers whosoever confirms with the criteria as mentioned para No 3.1 above.

3.8 Contractor may supply and utilize in works, steel of manufactures listed above. However, the price variation (if applicable) shall be governed by Railway board's latest Guidelines, irrespective of supply of steel from any manufacturer of TMT Reinforcement bars.

3.9 The original invoices of materials should be obtained to ensure traceability & usage for each and every material component (including steel, cement) for correlation at later stage. Details such as agency, name of project, site location shall be noted on the invoices. The invoices should be signed by Railway officials ADEN, SSE to confirm their acceptance. Proper attention/care should be taken, if any fake invoices are submitted by any agencies. The original invoices of cement/steel/other materials etc. with details such as agency, name of project, site location etc. by executives must be ensured before passing bills. Consolidated record of the invoices in the work shall be meticulously maintained. (Ref: HQ letter no. WNC 623/0 dated 28.09.2022)

- 3.10 The contractor shall be responsible for getting the measurement of steel entered into steel register and signed by the Assistant Engineer in charge before concreting is done to avoid dispute regarding quantity of steel used.
- 3.11 The item is inclusive of the cost of binding wire and no separate payment admissible for the same.
- 3.12 The contractor shall not use any bar lesser than 3.5m in length unless and otherwise permitted by the Engineer in charge.
- 3.13 The steel shall be kept by the contractor under his custody at site of work and Railway will not be responsible for any theft/ loss or damages.
- 3.14 The tender/s shall note that Railway will be at liberty to use Railway steel for this work at any stage. In that case when steel and binding wire are supplied by the Railway free, the labour charge for straightening, cutting, hooking, bending, bindings and placing the steel in position shall be paid.
- 3.15 The length for lapping of reinforcement hooking, bending etc. shall conform to provision in IS 456 latest editions.
- 3.16 The quantity so payable under this item shall further be restricted to the quantity as per approved plan / drawing and the decision of the Railway Engineer in this regard shall be final and binding upon the contractor.

4.0 GENERAL CONDITIONS AND SPECIFICATIONS FOR REINFORCEMENT STEEL (TMT BARS) AND STRUCTURAL STEEL.

- 4.1 All Reinforcement Steel (TMT Bars) and structural Steel shall be procured as per -IS:1786 and IS:2062 respectively. Independent tests shall be conducted, wherever required, to ensure that the materials procured conform to the specifications.
- 4.2 However, only certain isolated sections of structural steel, not being rolled by ISPs, can be procured from the authorized re-rollers of ISPs or authorized licensee of BIS having traceability system and who use billets produced by ISPs.
- 4.3 The steel procured shall be reasonably free from cracks, surface flaws, laminations, rough and imperfect edges and all other harmful defects. Steel sections, shall be free from excessive rust, scaling and pitting and shall be well protected. The decision of the Engineer regarding rejecting any steel section on account of any of the above defects shall be final and binding.
- 4.4 Structural steel work shall conform to the requirement as specified in Indian Railway Unified Standard Specifications (Works and Materials) Vol. I & II.
- 4.5 Necessary purchase bill along with test certificate for steel shall be obtained and submitted to the Engineer in Charge. Steel without the test certificate from approved laboratory/Engineering college shall not be used in the work. Certified copy of the same shall be submitted to Divisional Office along with running bills/final bills. Steel shall be tested for Tensile strength and bend test as per IS: 1599 as specified in Indian Railway Unified Standard Specifications (Works and Materials) Vol. I & II.
- 4.6 Quantity for this item shall be calculated as per nominal weight of steel section for the length actually used in the work. No payment will be made for the wastage and the contractor will be allowed to take away the scrap and excess steel away from site.
- 4.7 The contractor shall be responsible for getting the measurement of steel entered in to steel register and signed by the Engineer in charge of the work before concreting is done to avoid dispute regarding quantity of steel used in the work.
- 4.8 The rates quoted for this item is deemed to be inclusive of the cost of binding wire and no separate payment shall be admissible for the same.
- 4.9 The steel shall be kept by the contractor under his custody at the site of work and Railway will not be responsible for any theft thereof.
- 4.10 The quantity so payable under relevant item shall be restricted to the quantity as per approved plan/drawing and decision of the Engineer in Charge in this regard shall be final and binding upon the contractor.

NS/1 Prefab PUF materials structure

(1) SUPPLY INSULATED PANNEL (CABIN SIZE-04 MTR X 03 MTR X 3.8 MTR with 2 MTR) (length Front Weather Shade/Protective Shade)

Roof Pannal (40/75 mm).

Roof Pannal shall consist of 40/75 mm thick Polyurethane Foam (PUF) with a density of 40 ± 2 kg/m³, sandwiched between 0.5 mm thick PPGI sheets on both sides, with RAL 9002 colour finish on inner and outer side

Wall Panels (60 mm):

Wall panels shall consist of 60 mm thick Micro-Ribbed Continuous Line Panels insulated with Polyurethane Foam (PUF) having density 40 ± 2 kg/m³, sandwiched between 0.5 mm thick TCT PPGI sheets on both sides with RAL 9002 colour finish

Shelter Door

Supply and installation of 60 mm thick single leaf shelter door, size 2100 mm x 900 mm, made of PUF insulated panel construction, complete with all necessary door accessories such as hinges, handle, lock, door closer, rubber gasket and other fittings.

Flashing

Flashing shall be fabricated from 0.5 mm thick PPGI sheet and shall be provided for base U-channel, inner corners, and outer corners, complete with necessary fixing accessories

M.S. Structure,

Providing, fabrication, and installation of Mild Steel (M.S.) structure, finished with two coats of primer and two coats of paint, complete as required

(2) WORK INSTALLATION CHARGES: only PUF structure (excluding civil and electrical).

(3) SUPPLY AND INSTALLATION: G I Prefabricated Toilet EWC toilet with 300 L bio septic tank Size 4 X 4 X 7 Feet. Including all Taxes, GST, etc. completed.

System Improvements:

- I. Authority: - PCE- CCG's letter No.W/562/1 Misc (W6) dated 03.07.2019
- In case of any ambiguity between the plans and site conditions etc., decision of the Engineer-in-charge shall be final and binding on the contractor.
- II. (Authority: -PCE-CCG's letter No. WR-HQENGG(WWTC)/2/2021/E-426740 dated 08.02.2024.)
- IN CASE S&T OR ELECTRICAL CABLE FOUND AT WORKING SITE THAT SHOULD BE TEMPORARY SHIFTED BY AGENCY WITH THEIR OWN COST AS DIRECTED BY SITE INCHARGE. IF CABLE CANNOT BE SHIFTED THEN EXCAVATION AT THAT LOCATION NEED TO BE DONE MANUALLY TO AVOID DAMAGE TO CABLES, AS PER DIRECTION OF SITE ENGINEER INCHARGE. NO EXTRA PAYMENT WILL BE DONE FOR SHIFTING OF S&T AND ELECTRICAL CABLE AT WORKING SITE.
- III. Approval of Concrete Design Mix as per PCE Circular No.81.
- IV. All latest PCE Circular and GCC Up to date related to work Should be followed.
- V. Modified System improvement regarding material invoices submitted by agencies- The original invoice of material should be obtained to ensure traceability & usage for each and every material component (including, steel, cement, etc.)".
- VI. Original invoices of cement/steel/other material etc with details such as agency, name of project, site location, GST details etc should be complied by Railway Engineer-in-charge & ADEN before passing the bill.

*****END OF SPECIAL CONDITIONS*****