SPECIAL CONDITIONS (2) AND SPECIFICATIONS OF CONTRACT

Name of work :

SW-1 :BZA Division - Provision of major bridge protective works in ADEN/EE sub division sanction ID - 11.06.32.19.1.55.008

NOTE :

The following special conditions are supplement to the conditions of tenders already submitted by the tenderer, General Conditions of contract and notes appearing under the relevant chapter and sub-chapters of IR USSOR - 2019 of S.C.Railway and should be considered as part of the tender papers. Where the provision of these conditions are at variance with the General conditions of the contract and other documents, mentioned above shall prevail.

SPECIFICATIONS :

The Design and construction of the proposed structure shall be carried out in terms of specifications of latest editions of IRS (Indian Railway Standard) & B.I.S (Bureau of Indian Standards) and IRC (Indian Road Congress). When there is any conflict, the order of following shall be IRS & BIS . The decision of Chief Engineer/Rail Nilayam shall be final and binding in the interpretation of the clauses of the codes of practice and specifications under the special conditions regarding site data and specifications of this tender. No claim whatsoever shall be entertained on this account by the Railway. Any difference of opinion between Engineer's representative and contractor shall be referred to Engineer-in-charge. The appeal against decision of Engineer-in-charge shall lie with Chief Engineer/Rail Nilayam, whose decision shall be final and binding. Such items under this scope shall be deemed to be " Excepted Matters ". Apart from the basic data specifications, etc., all items of works shall be governed by the following codes as revised / corrected / amended up to the time of submission of the price bids/ revised price bids/negotiated price bids for acceptance.

a. Indian Railways Unified Standard specifications for works and materials – 2010 Vol. I and II.
b. Indian Railways Standard Concrete Bridge Code reprint september/2014 including A&C slips read in conjunction with Indian Standard Specifications mentioned therein.
c. Notes in South Central Railway Unified Standard Schedule of Rates, 2010.
d. Indian Railway's Standard Bridge sub-structure code –2013 (Revised) corrected up date.
e. IS-456-2000 code of practice for plain and reinforced cement concrete.
f. I.S.Code of practice for electric welding of mild steel structures.
g. I.R. Permanent Way, works and Bridge manuals.
h. Standard schedule of dimensions.
i. Durability of concrete structures (BS - 14)
j. The works shall be carried out to the relevant I.S codes of practice and other specifications mentioned in plans.
k. The works shall be carried out as per latest Railway Specifications.
l. Indian Road congress code for items not specifically covered by any code or provision mentioned in these documents.
m. The Railway reserves the right to reject or alter any part of the work executed by the contractor, which in the judgment of Railway does not comply with the requirements of the above specifications. The quantity furnished in the schedule is only approximate and may very during execution. Payment will be made for the actual work done as per agreement conditions. The decision of the Railway shall be final and conclusive for all purpose.
n. Any other particulars/specifications required in this connection can be perused/obtained in the office of Divisional engineer,Central,DRM/Works/Office Vijayawada.

SETTING OUT OF WORK:

a. The centerline of the proposed alignment Bridge or any combined structures will be initially setout by the Engineer or his representative and fix the centers of the proposed alignment. The contractor shall thereafter setout the work and every thereto fully. The contractor shall be responsible for the accuracy of the lines, levels and dimensions of work in accordance with the drawings further drawings, directions or instructions supplied at any time to him and every facility shall be given to the Engineer. The contractor shall also alter or amend any error in the dimensions, lines or levels or work set out or constructed by him to the satisfaction of the Engineer.
b. The work shall be set out to the satisfaction of the Engineer, but his approval there for shall not, nor shall his joining with the contractor in setting out the work relieve the contractor from his entire and sole responsibility thereof.
c. 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 should the same take place, and for their efficient reinstatement.
d. The Contractor has to submit before commencement of the work, the list of transportation vehicles utilizing for the work with Registration Nos. and names of drivers. During the course of work if any additional vehicles are provided or withdrawn and any drivers are changed the same should be intimated to Engineer-in-charge.

OPEN EXCAVATION:

a. Open excavation is to be done for the Box bridge thurst bed ,face walls, wings and returns etc., including bailing out or pumping out water and with sloping sides with or without timbering or may be excavated with vertical sides properly timbered and shored from ground level upto the bottom of excavation, whatever be the method adopted for excavation. The work should be efficiently carried out in such a way so as to ensure its own stability, and safety of adjoining lands, structures and labour working there on and also in such a way as will prevent them from being in any way detrimentally effected.
b. The excavation must also be kept free from water at all times during the the excavation as well as diversion of water to prevent its ingress into foundations, or otherwise till the work below water is completed in all respects.

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Location: New Delhi

c. Any unforeseen, under lying cables, pipelines etc., if met with during execution should be taken care to either safeguard or divert the same with the approval of departments concerned. All necessary administrative help will be given in this matter. However, escalation over the original agreement rates will not be entertained because of delays in such clearances.

d. The excavated soil should not be left out in heaps causing obstruction after the work is completed in all respects. All excavated soil should be lead out to the places indicated by the Engineer.

e. While quoting the rates for bridge work, the contractor should note that the proposed bridge is to be constructed under the running traffic conditions of Rail and traffic and should have to be done with restricted space of working and should consider these aspects.

CEMENT CONCRETE WORKS WITH CONTRACTOR'S CEMENT:

a. **In case of design mix concretes, the contractor should obtain mix design only from government colleges, Governmnet universities or NABL/NABCB labs at his own cost.** The lime stone, quartz and shale are not acceptable for concrete or masonry works. The contractor will have to use hard granite stone for RCC works and either granite or other hard durable stone aggregate for other concrete and masonry works and quote their rates accordingly.

b. Concrete required for all works shall be machine mixed only. Hand mixing will not be permitted . The concrete must also be properly vibrated with mechanical vibrators. The materials proposed to be used for the work should pass tests/analysis prescribed by the specifications. An approval given by Railway in consequence of such tests or analysis shall in no way limit or interfere with the absolute right of the Railway to reject the whole or portions of such materials supplied, which in the judgement of the Railway do not comply the specifications. The decision of the Railway in this regard shall be final and conclusive for all purposes. Test cubes should be cast and tested as per Indian Railway Standard " Code of practice for plain, reinforced & prestressed concrete for general bridge construction (Concrete Bridge code) reprinted in sep ' 2014/IS : 456 - 2000.

c. While executing all concrete works below subsoil water level, the foundation pit must be kept free of all seepage water by bailing or pumping or any other manner. No extra payment will be made separately for dewatering while laying concrete and the rates quoted for concrete items are deemed to be inclusive of the same.

d. The Contractor shall along with the bills of purchase of cement should also obtain a test certificate issued by the manufacturer and shall submit the copies of the same to the Railways for verification and record.

e. The Contractor shall make his own arrangements for storage of cement and see that no damage will take place during storage period. The storage of cement should conform to standard heights in a column to avoid damage during effective safe guard the cement between the period of procurement and the period of usage.

f. All the concrete mixes specified in the schedule of items for various works shall be designed by conducting tests on raw materials such as aggregate, sand and cement etc., as per codal provisions. These design mixes shall be approved by Engineer-in-charge before commencement of concrete works.

g. The Railways reserves the right to inspect the storage accommodation of the Contractor and to reject in the event of any clodded cement is noticed or any other cement which is not suitable for usage in works and not confirming to specifications. The cement used should be fresh and as specified in the IR unified specifications/Indian Railway Standard " Code of practice for plain, reinforced & prestressed concrete for general bridge construction (Concrete Bridge code) reprinted in sep ' 2014/IS: 456 - 2000.

h. The Contractor shall ensure consumption of cement specified under each item of work correctly. No sub standard work on this account will be permitted. It in any item of work at any stage, if Railways find that less consumption were effected and item of work will be rejected and the cost of such removal of item of work and re-doing the same shall be to the Contractor's account. The decision of the Engineer-in-chief shall be final and binding on the Contractor. No claims will be entertained on this account. The entries in the cement register regarding the stock procured, consumed in work and stored in the depot should be upto date and should be produced for inspection of department officials at any time.

i. All the concrete works shall be done only in the presence of the SSE/SE/JE/Work. The programme/planning of the concrete works shall be submitted to Sr. DEN/ADEN well in advance so as to direct SSE/SE/JE/Works for witnessing the same.

j. The contractor should use plain steel shuttering without any undulations. The shuttering should be got approved prior to their use by the Engineer-in-charge or his representative. No wood shuttering will be permitted.

k. The Contractor should keep vibrators of 25mm needle for jacketing work and 40mm needle for concrete work. Standby needles and vibrators should be kept in stock. During the course of concrete work if vibrator is not working the work should

l. All Cement concrete works must be executed in accordance with Indian Railway Standard " Code of practice for plain, reinforced & prestressed concrete for general bridge construction (Concrete Bridge code) reprinted in sep ' 2014. All parameters like water cement ratio, minimum and maximum cement content, strength, curing, quality of water, coarse and fine aggregate, use of admixures, steel reinforcement etc., must be in accordance with Indian Railway Standard " Code of practice for plain, reinforced & prestressed concrete for general bridge construction (Concrete Bridge code) reprinted in sep ' 2014 and also relavent IS codes.

m. For all concrete works under this contract the contractor should be use portable batching plant at site for concreting.

Maximum water cement ratio:

Environment	Plain cement concrete(PCC)	Reinforced cement concrete (RCC)
Moderate	0.50	0.45
Severe	0.45	0.40
Extreme	0.40	0.35

Minimum grade of concrete

Environment	Plain cement concrete(PCC)	Reinforced cement concrete (RCC)

Moderate	M - 15	M - 20
Severe	M - 20	M - 25
Extreme	M - 25	M - 30

Minimum cementations material content

Environment	Plain cement concrete(PCC)	Reinforced cement concrete (RCC)
Moderate	240	300
Severe	250	350
Extreme	300	400

Maximum cementitious material content should be limited to 500 kg/Cum.

For concrete under water, 10 % extra cement should be added over and above the normal cement content of the concrete mix specified above.

SHUTTERING ARRANGMENTS :

a. The shuttering should confirm to para 4.2 of IR Unified Standard Specifications (works & Materials). The shuttering should be with steel. The shutters plate to be level and angular to be straight. The shutters supporting arrangement should be with tie rods. The joints should be sealed with rubber beading to make leak proof. If any irregular piece is required to use in shuttering the same should be firmly fixed and flushed to the adjacent shutter, shuttering oil to be used for shutters. Black/waste oil is not permitted to use Vibrating brush to be used for cleaning the shutters. All the form work shall be got inspected and passed by the Engineer before concreting is commenced. The contractor shall be responsible for the accuracy of the form work and its structural stability, as long as it is required for the work.

Water :

a. Water to be used should confirm to para 26.1.1 of IR Unified Standard Specifications (works & Materials).

b. Water shall be got tested by the contractor at his own cost to ensure its suitability. Approval of Engineer in charge shall be obtained on the report before commencing the work. Approved test report should be kept at site office. The contractor should keep all relevant records required like cement test report, steel test report, cube test report etc., in the site office.

c. The contractor should make his own arrangements for water required for the work. The rates will be deemed to be inclusive of all such charges.

d. If the railways piped water supply is available and if water can be made available, the request for the same may be considered by the Railway. A charge of 1% (One percent) will be made by the Railway for supply of piped water from the existing pipe line and calculating the amount of all items appearing in the bills payable to the contractor and such charges will be deducted from sums due or payable by the Railway to the contractor from time to time.

SAFE WORKING METHODS:

a. The contractor shall, at all times, adopt such safe methods of works as will ensure safety of structures, equipment and labour. If at any time the Railway finds the safety arrangements inadequate or unsafe, the contractor shall take immediate corrective action as directed by the Railway's representative at site. Any dereliction in the matter shall no way absolve the contractor of his sole responsibility to adopt safe working methods. Engineer-in-charge may impose any other condition necessary for a particular work or site. No child labour will be allowed to work in any of the work under this contract.

b. The contractor shall not start any work without the presence of railway supervisor at site.

c. Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the Railway's schedule of dimensions. For this purpose the area where road vehicles and/or machinery are required to ply, shall be demarcated and acknowledged by the contractor. Special care shall be taken for turning/reversal of road vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions.

d. The look out and whistle caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flagmen/detonators shall be provided where necessary for protection of trains.

e. The supervisor/workmen should be counseled about safety measures. A competency certificate to the contractor's supervisors as per proforma annexed shall be issued by ADEN, which will be valid only for the work for which it has been issued.

POWER SUPPLY:

a. Any electric supply required at site for whatsoever purpose shall be arranged by the contractors. The contractor/s shall make

HIRE OF TOOLS, PLANT & MACHINERY:

a. 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 work. The quoted rate shall be deemed to be inclusive of all charges for such items.

NIGHT WORK

a. Contractor's attention is drawn to clause 23 of the general conditions of contract which stipulates that no work shall be carried out between sunset and sunrise without prior permission by the Engineer. But, If the Engineer is satisfied that the work is not likely to be completed in time except by resorting to night work, he may order the contractor/s to carryout the works even at night without conferring any right on the contractor for claiming any extra payment for the same. All arrangements in this connection shall be made by the contractor at his own cost.

SUPPLY OF MATERIALS BY RAILWAY:

a. 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.

b. The hire charges are as follows:
Description of material : Hire charges
i)Steel cribs of size 2'x2'x6' : Rs. 5.55 per day per each crib
ii) Second hand 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

c. 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).

d. 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.

e. 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.

f. If due to any reason the Railway is not in a position to make available the Railway land, the Railway Engineer-in-charge of

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

a. 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 over head alignment or under ground 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 contractor/firm under Railway any Government Department.

Liablity of Contractor(s) - Any damage sustained by Railways during accidents etc., caused due to contractor(s) failures, fault or negligence:

a. Railway will post an Engineer-in-charge who may be SSE/SE/JE or Supervisor of any grade at site for Technical Supervision of the work. This Engineer-in-charge will be responsible for safety of the traffic. 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 occuring at the work site and it is established during the departmental enquiry by the Railway or by statutory enquiry of CRS, that the accident occured wholly or partly due to any act tantamounting to negligence on the part of the contractor or his labour in not adhering to the instructions of the engineer-in-charge, the contractor shall render himself liablefor damages and also legal prosecution if loss of life is involved.

EMERGENCY WORKS

a. In the event of any accident or failure occurring in or around the work or arising out of or in connection with the construction or maintenance of the works which in the opinion of the engineer requires immediate attention, the railway may bring its own workmen or other agency to execute or partly execute the necessary work or carryout repairs if the engineer considers that the contractors is/are not in a position to do so in time and charge the cost thereof as to be determined by the Engineer-in-charge to the contractor.

MAINTENANCE:

a. All works except earthwork in formation shall be maintained by the contractor for a period of 6 (SIX) months from the certified date of completion of the whole work as covered by the contract. The wood work shall be maintained by the contractor for a period of 12 months from the certified date of completion. During the maintenance period the contractor shall be responsible and liable for maintenance as envisaged in clause No: 47 of GCC.

ASSISTANCE DURING ACCIDENTS/DISASTER/CALAMITIES:

a. Vehicles and equipment of contractors can be drafted by Railway administration in case of accidents/natural calamities involving human lives.

b. 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.

c. A data base should be kept ready in respect of the equipments available with the working contractors which can be used in train accidents/natural calamities involving human lies in each Division and Construction office. This data base 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. contractor shall furnish a list of vehicles and equipment available with him to the Engineer-in-charge.

SERVICE ROADS:

a. 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 what so ever 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.

PROVISION OF LABORATORY FOR TESTING OF MATERIALS AT SITE:

a. 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.

b. The laboratory shall be equipped with necessary equipment to carry out the various tests such as sieve analysis, cube testing, slump test, workability etc., on aggregate, cement, water and concrete required for ensuring the required quality and standard conforming to codal provisions and specifications. Contractor will be required to get the tests done on cement and steel as per provision in the relevant IS Codes at approved laboratories. Nothing extra shall be paid on this account. 75% concrete cubes shall be tested at site by contractor's compressive strength machine. Remaining 25% concrete cubes shall be tested from soil mechanics lab/Rail Nilayam/SCR or any Govt. engg college or any Govt Polytechnic college or any other reputed Govt approved laboratories with the approval of Engineer-In -Charge.

a) Machine for testing concrete cubes (Min 200 Tonne capacity).
d)Set of sieves for coarse aggregate and fine aggregates.
e) Slump cone along with accessories
f) Cube Moulds – 150 x 150 x150mm – 12 Nos.
g) Stressing jacks for carrying out stressing of PSC slabs.
h) Any other equipment as found necessary for quality control.
i) Screw gauge to measure thickness.
j) Weigh Machine.
k)Permeability testing apparatus.

c. **Note :**

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

d. If the contractor fails to establish a laboratory at site or the established laboratory does not possess adequate equipment to conduct quality control tests, the agency shall get those relevant tests done at any Government engineering college/Government polytechnic college/any other reputed Govt/semi - Govt/private laboratories, as directed by the Engineer-In-Charge at contractors cost.

SPECIAL CONDITIONS FOR CONSTRUCTION OF RCC box bridges

a. When it is required to operate Hitachi/JCB/Proclain or any other heavy machinery/ Plant in the Rly. Land, the contractor is required to take prior written permission from the concerned Engg. Official.

b. All the required RCC boxes should be cast at bridge site on thurst besd as directed by Engineer-In-Charge a No separate payment will be made for transportation/shifting of RCC boxes/slabs to required Bridge/bridge location.

viii. The gauge faces of the rails to be greased before allowing the first train

ix. The above paras are for the clear idea of relevant items which are connected with safety ,which are to be streamlined/brought in a sequence in operation for avoiding time loss, duly stipulating the availability of time allowance so that the contractor will get overall picture of the work involved and thus to quote rates accordingly.

Seignorage and other charges :

a. Seignorage charges payable to the government as fixed by the government of A.P and as revised from time to time during the currency of the contract will be recovered by the railway from the contractor's on account and final bills and remitted to government of A.P. Claims regarding revision of seignorage charges and consequently enhancement of the accepted rate will not be entertained. This is in accordance with S.C.Railways engineering standing order no.10 dated 21-01-2000. Contractor should note this.

Ballast :

a. The ballast should be in conformity to specification of track ballast issued by RDSO/LUCKNOW under no.IRS-GE-1 (Jun'2004) communicated under letter No.RS/F/7/4 of 25-06-2004 & PCE/SC's letter No.W.470/1/Vol.IV of 24-08-2004 with latest amendments and with latest correction slips and all clauses mentioned in part ' f ' (Para No.261 to 271) of IRPWM must be followed without fail.

b. Test report of impact value, abrasion values and water absorption of the ballast proposed for supply obtained from reputed laboratory/institute should be submitted by the tenderer at the time of tendering. The tenderer is required to submit test report of ballast as per provision of 'Specification of Track Ballast, IRS-GE-1, June, 2004 failing which the Offer shall be summarily rejected. (Authority: Railway Board letter No. 2007/CE-II/MB/1 Dt. 22/24.4.2008 communicated vide PCE/SC letter No. W. 470/1 Dt. 20-5-2008).