



Tirumala Tirupati Devasthanams:: Tirupati

ENGINEERING DEPARTMENT

**e-Tendering
STANDARD BID DOCUMENT**

PREPARED FOR TTD

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TIRUMALA TIRUPATI DEVASTHANAMS

ENGINEERING DEPARTMENT

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NOTICE INVITING TENDERS (NIT)

1. NOTICE INVITING TENDERS(NIT)

1.	DEPARTMENT NAME	:	TIRUMALA TIRUPATI DEVASTHANAMS – Engineering
2.	CIRCLE	:	SE-III, TTD, TIRUPATI
3.	NIT NUMBER	:	04/EE-VI/TTD/2025-26
4.	NAME OF WORK	:	Providing false ceiling to Electronics and Physics Laboratories in SV College at New Delhi.
5.	ESTIMATE CONTRACT VALUE	:	Rs. 14,39,851.79
6.	PERIOD OF COMPLETION	:	02 (Two) Months with 12 months defect Liability period.
7.	FORM OF CONTRACT AND CLASS OF CONTRACT	:	Lump Sum and Class-IV (Civil) CONTRACTORS (Eligible to quote of this value of work as per the terms and conditions of Registration certificate).
8.	BIDDING TYPE	:	Open
9.	BID CALL NO.	:	1 st call
10.	TYPE OF QUOTATION	:	PERCENTAGE
11.	TRANSACTION FEE PAYABLE ONLINE TO CPPP, PAYABLE (INR) payable at (Online)	:	-----
12.	PROCESSING FEE	:	-----
13.	PROCESSING FEE PAYABLE TO	:	-----
14.	EMD/BID SECURITY (EMD shall be mandatorily paid in the shape of Demand Draft drawn in favour of Executive Officer, TTD, Tirupati and payable at Tirupati. (Demand Draft shall be scanned).	:	Rs. 14,400/-
15.	EMD/BID SECURITY D.D. Payable to	:	E.O., TTD, Tirupati.
16.	BID DOCUMENT DOWNLOADING START DATE	:	17.04.2025 from 5.00 p.m
17.	BID DOCUMENT DOWNLOADING END DATE	:	02.05.2025 upto 1.00 p.m
18.	LAST DATE AND TIME FOR RECEIPT OF BIDS	:	02.05.2025 up to 3.00 p.m
19.	BID VALIDITY	:	90 Days
20.	PRE QUALIFICATION/TECHNICAL BID OPENING DATE	:	02.05.2025 @ 3.15 PM
21.	COMMERCIAL BID OPENING DATE	:	02.05.2025 @ 4.00p.m
22.	OFFICER INVITING BIDS	:	Chief Engineer, TTD, Tirupati.
23.	BID OPENING AUTHORITY	:	Executive Engineer-VI, TTD, Vijayawada.
24.	ADDRESS	:	O/o Executive Engineer-VI, Punnammathota, Radio station back side, Vijayawada, A.P, INDIA
25.	CONTACT DETAILS	:	0866-2476322

1.1 Procedure for bid submission:

1. Bids shall be submitted online on <https://eprocure.gov.in>
2. The participating bidders in the tender should register themselves Central Public Procurement Portal (CPPP). www.CPPP.gov.in.
3. **Bidders can log-in to Central Public Procurement Portal (CPPP).** in secure mode only by signing with the Digital certificates. Digital Certificates can be obtained from Central Public Procurement Portal (CPPP).
4. The bidders who are desirous of participating in <https://eprocure.gov.in> shall submit their bids as per the standard formats available.

5. The bidders should scan and upload copies of Registration document and online receipts towards EMD & on line receipt for Transaction fee. The bidders shall sign on all the documents, uploaded by him, owning responsibility for their correctness/ authenticity.
6. The TTD will not hold any risk and responsibility due to non-visibility of the scanned and uploaded documents.
 - Submission of original hard copies of the uploaded scan copies of **Demand Draft** towards EMD by participating bidders to the tender inviting authority before opening of the price bids is dispensed forthwith.
 - All the bidders shall invariably upload the scanned copies of **Demand Draft** in Central Public Procurement Portal (CPPP) and this will be the primary requirement to consider the bid as responsive.
 - The Department shall carry out the technical bid evaluation solely based on the uploaded certificates / documents, **Demand Draft** towards EMD in the Central Public Procurement Portal (CPPP) <https://eprocure.gov.in> and open the price bid of the responsive bidders.
 - The department will notify the successful bidder for submission of original hard copies of all uploaded documents, **Demand Draft** towards EMD prior to entering into Agreement.
7. The successful bidder shall invariably furnish the original **Demand Draft** towards EMD, certificates / documents of the uploaded scanned copies to the Tender inviting Authority before entering into agreement either personally or through courier or post and the receipt of the same with in the stipulated date shall be the responsibility of the successful bidder. The Department will not take any responsibility for any delay in receipt / non receipt of original **Demand Draft** towards EMD, certificates / documents from the successful bidder before the stipulated time. On receipt of documents, the Department shall ensure the genuinely of the **Demand Draft** towards EMD and all other certificates/ documents uploaded by the bidder in Central Public Procurement Portal (CPPP) system in support of the qualification criteria before concluding the agreement.
8. After uploading the documents, the attested copies (to be attested by a Gazetted Officer) of the uploaded documents, towards EMD and on-line transaction receipt (except the Price bid / offer) are to be submitted by the successful bidder to the Tender Inviting Authority, so as to reach before entering in to agreement. Failure to furnish any one of the original hard copies of uploaded documents, before entering in to agreement by the successful bidder will be suspended from participating in tenders on e-procurement platform for period of three years. The TTD shall not hold any risk on account of postal delay. Similarly, if any of the certificates, documents, etc., furnished by the tenderer are found to be false / fabricated / bogus, the successful bidder will be suspended from participating in **tenders Central Public Procurement Portal (CPPP)** on <https://eprocure.gov.in> plat form for a period of three years.
9. If the lowest bidder backs out at the time of agreement, penalty of forfeiture of EMD will be imposed and business of the agency will be suspended for one year with all the Departments in A.P in respect of conventional tenders also vide G.O.Ms.No. 259 of T, R&B (R.V) dept., dt. 6.9.2008.
10. The tenderers shall furnish a declaration in online stating that the soft copies uploaded by them are genuine. Any incorrectness/deviation noticed will be viewed seriously and apart from cancelling the work duly forfeiting the EMD, criminal action will be initiated including suspension of business.

1.2 General Terms & Conditions

1. **Transaction fee:** All the participating bidders shall pay a transaction fee (non-refundable) on-line (non-refundable) (Generated Online) in favour Central Public Procurement Portal (CPPP).
2. **E.M.D.Rs. 14,400/-** to be paid in the mode of Demand Draft (drawn not before **15.04.2025**) drawn in favour of E.O., TTD, Tirupati.(accepted only scanned Demand Draft).
3. The successful bidder has to pay the balance EMD @ 1.5 % of ECV/TCV at the time of conclusion of the Agreement in the shape of DD in favour of E.O., TTD, Tirupati.
4. Class of contractor Eligible: TTD Registered Contractors / Government Department of State / Central / Other state Contractors who are eligible to quote for this value of work and have registered in category mentioned as per G.O. Ms. No. 521, dated: 10-12-1984 or Eligible contractors as per GO. Ms No. 132, TR&B (R.I) Department, dated: 11-08-1998, GO. Ms. No: 178 I&CAD, dated: 27-09-1997, GO. Ms. No: 8 (R&B), dated: 08-01-2003, GO. Ms. No: 94 I&CAD, dated: 01-07-2003. The successful tenderer should register in T.T.D. before entering into agreement if he is not already registered with T.T.D. The eligible intending bidders would be required to enroll themselves on the Central Public Procurement Portal (CPPP).and submit their bids online only.
5. Any other condition regarding receipt of tenders in conventional method appearing in the tender documents may please be treated as not applicable.

6. The successful bidder shall pay 0.04% of estimate contract value towards Central Public Procurement Portal (CPPP) corpus fund in the shape of demand draft in favour of Managing Director, Central Public Procurement Portal (CPPP) on <https://eprocure.gov.in> at the time of conclusion of agreement.
7. "The bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on Central Public Procurement Portal (CPPP) on <https://eprocure.gov.in> platform and the bids not authenticated by digital certificate of the bidder will not be accepted on the Central Public Procurement Portal (CPPP) platform." (G.O.Ms.No.6, dated 28/02/2005 of IT & C Dept., Govt. of AP).
8. As per the G.O.Ms 174, I&CAD (PW-Reforms) Department dated 01-09-2008, that the successful bidder found defaulting in submission of hard copies of uploaded certificates / documents, towards EMD within the stipulated time i.e., before concluding the agreement or if any variation is noticed between the uploaded documents and the hard copies submitted by the successful bidder, the successful bidder will be suspended from participating in tenders on e-Procurement platform for a period of three years.
9. Tenders with an excess of above 5% of the estimated contract value shall not be allowed to quote in online and the tender percentage to be quoted should be inclusive of all taxes excepting GST.
10. The single tender received in the 1st call will also be considered in view of importance to complete the works at the earliest. However TTD reserves the right to reject the tender and decision of the tender recommending authority in this regard is final.

2. INSTRUCTIONS TO TENDERERS

A – GENERAL

NOTICE INVITING TENDERS (NIT) : 04/EE-VI/TTD/2025-26

Name of work: Renovation of class rooms (Room.No:13(T1) and Room.No:14(T2)) in SV College at New Delhi.

Scope of work:

- a) Give brief description and location of work : **As per BOQ.**
- b) List out Principal Components of the work : **As per BOQ**
ECV put to tender. : **Rs. 14,39,851.79**

Period of completion : **02 (Two) Months with 12 months defect Liability period.**

- c) SSR adopted **DSR 2023.**
Cement : based on (DSR 2023)
Steel : based on (DSR 2023)
- d) Details of provisions included in the ECV put to Tender.
 - i) **Cess: included @ 1.00%,**
 - ii) **GST: Included @ 18.00%,**
 - iii) **Contractor's Profit & Overhead charges @ 7.115% added**
- e) Reimbursable Provisions: Nil

2.1 The Superintending Engineer-III / Chief Engineer, TTD, Tirupati, invites tenders for the above work vide Adv.No: 04/D3 / CE/TTD/2025-26, dated. 15.04.2025.

Online bids for the above work will be received from the TTD registered Contractors / Firms, / registered contractors / Firms in Government of Andhra Pradesh / Central / Others states contractors. The eligible Contractors / Firms shall submit bids online on Central Public Procurement Portal (CPPP) before the date and time stipulated in Notice Inviting Tender [NIT].

The online bids will be opened by the Superintending Engineer – III, TTD or his nominee at his office, on the dates mentioned in NIT. If the Office happens to be closed on the date, the opening of tenders gets automatically postponed to the next working date, the time being unaltered, unless extended by a notification published or through amendment on TTD's web site i.e., tirumala.org

The successful tenderer is expected to complete the work within the time period specified in the NIT.

2.2 Firms Eligible to Tender:

The Firms who

- i) Possess the valid registration in the class and category mentioned in the NIT and satisfy all the conditions therein.
- ii) are not blacklisted or debarred or suspended by the Government for whatever the reason, prohibiting them not to continue in the contracting business
- iii) have complied with the eligibility criteria specified in the NIT., are the eligible tenderers.

2.3 Firms Ineligible to Tender:

- i) A retired officer of the Govt. of AP or Govt. of India or TTD executing works is disqualified from tendering for a period of two years from the date of retirement without the prior permission of the Government or TTD.
- ii) The Tenderer who has employed any retired officer as mentioned above shall be considered as an ineligible tenderer.
- iii) The contractor himself or any of his employees is found to be Gazetted Officer who retired from Government/TTD Service and had not obtained permission from the Government/TTD for accepting the contractor's employment within a period of 2 years from the date of his retirement.
- iv) The Contractor or any of his employees is found at any time after award of contract, to be such a person who had not obtained the permission of the Government/TTD as aforesaid before submission of the tender or engagement in the Contractor's service.
- v) Contractor shall not be eligible to tender for works in the division / circle where any of his near relatives are employed in the rank of Assistant Engineer or Assistant Executive Engineers and above on the Engineering side and Divisional Accounts Officer and above on the administrative side. The Contractor shall intimate the names of persons who are working with him in any capacity or are subsequently employed. He shall also furnish a list of Gazetted /Non-Gazetted, State Government Employees related to him. Failure to furnish such information tenderer is liable to be removed from the list of approved contractors and his contract is liable for cancellation.

Note: Near relatives include

1. Sons, step sons, daughters, and step daughters.
2. Son-in-law and daughter-in-law.
3. Brother-in-law and sister-in-law.
4. Brothers and Sisters.
5. Father and Mother.
6. Wife / Husband.
7. Father-in-law and Mother-in-law
8. Nephews, nieces, uncles and aunties
9. Cousins and
10. Any person residing with or dependent on the contractor.

2.4 Qualification data of the Tenderers

2.4.1 The tenderer shall furnish the following particulars in the formats enclosed, Supporting by Documentary evidence as specified in the formats

- a) Check slip to accompany the tender (in Annexure-I).
- b) Attested copies of documents relating to the Registration of the firm, Registration as Civil Contractor, Partnership deed, Articles of Association, GST Registration, Furnishing of Latest Income Tax certificate is dispensed with. However the contractors shall furnish their copy of permanent Account Number (PAN) card and copy of latest income tax returns submitted along with proof.

Note: The Partnership firms, which are registered as Contractors shall intimate the change in partnership deed, if any, as per GO Ms No.58, I & CAD, dt.23.4.2002 within one month of such change. Failure to notify the change to the registration authority in time will entail the firms to forfeit their registration and their tender will be rejected. The intimation of change of partners if any and the acceptance by the Registration authority may be enclosed.

2.4.2 Even though the tenderers meet the above qualifying criteria, they are liable to be disqualified and debarred / suspended / blacklisted if they have

- Furnished false / fabricated particulars in the forms, statements and / annexures submitted in proof of the qualification requirements and/or
- Not turned up for entering into agreement, when called upon.
- record of poor progress such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc. and/or

- participated in the previous bidding for the same work and had quoted unreasonably high tender percentage and
 - even while execution of the work, if found that the work was awarded to the Contractor based on false / fake certificates of experience, the Contractor will be blacklisted and work will be taken over invoking clause 61 of PS to APSS.
- 2.4.3 Tenders with an excess of above 5% of the estimated contract value shall summarily be rejected as per G.O.Rt.No.230, T.R&B(R.I) Dept., Dt.13.08.2007
- 2.4.4 For tenders up to 25% less than the estimated contract value of work, no additional security deposit is required. But for tenders less by more than 25% of the estimated Contract Value of work, the difference between the tendered amount and 75% of the estimated contract value, shall be paid by the successful tenderer at the time of concluding agreement as an additional security to fulfill the contract through a Bank Guarantee or **Demand Draft** on a Nationalized Bank / Scheduled bank in the prescribed format valid till completion of the work in all respects
- 2.4.5 a) If the percentage quoted by a tenderer is found to be either abnormally high or with in the permissible ceiling limits prescribed but under collusion or due to unethical practices adopted at the time of tendering process, such tenders shall be rejected.
- b) A tenderer submitting a Tender which the tender accepting authority considers excessive and or indicative of insufficient knowledge of current prices or definite attempt of profiteering will render himself liable to be debarred permanently from tendering or for such period as the tender accepting authority may decide. The tenderer overall percentage should be based on the controlled prices for the materials, if any, fixed by the Government or the reasonable prices permissible for the tenderer to charge a private purchaser under the provisions of clause-6 of the hoarding and profiteering prevention ordinance of 1943 as amended from time to time and on similar principle in regard to labour supervision on the construction.
- 2.5 One Tender per Tenderer:**
- 2.5.1 Each Tenderer shall submit only one Tender for the work. A Tenderer who submits more than one Tender will cause dis-qualification of all the Tenders submitted by the Tenderer.
- 2.6 Cost of Tendering**
- 2.6.1 The Tenderer shall bear all costs associated with the preparation and submission of his Tender and the tender inviting authority will in no case be responsible and liable for those costs.
- 2.7 Site Visit.**
- 2.7.1 The Tenderer, at the Tenderer's own responsibility and risk is advised to visit and examine the Site of Work and its surroundings and obtain all information that may be necessary for preparing the Tender for entering into a contract, for construction of the work. The costs of visiting the site shall be at the Tenderer's own expense.

B. TENDER DOCUMENT

2.8 Contents of Tender document.

- 2.8.1 One set of Tender document, comprises of the following:

Technical bid

- 1) Notice Inviting Tenders (NIT)
- 2) Instruction to Tenderers
- 3) Forms of tender and qualification information
- 4) Tender
- 5) Conditions of Contract.
- 6) Technical Specifications
- 7) Drawings.
- 8) Forms of Securities i.e., EMD, Additional Security etc.,

Price bid

Bill of Quantities and Price bid Schedule-A

2.9 Clarification on Tender Documents

- 2.9.1 A prospective Tenderer requiring any clarification on Tender documents may contact the Tender Inviting Officer at the address indicated in the NIT. The Tender Inviting Officer will also respond to any request for clarification, received through post.

2.10 Amendment to Tender Documents

- 2.10.1 Before the last date for submission of tenders, the tender inviting officer may modify the contents of the Tender Notice, Tender documents by issuing amendment / addendum.
- 2.10.2 Any addendum/amendments issued by the Tender Inviting Officer shall be part of the Tender Document and it shall either be communicated in writing to all the purchasers of the Tender documents or notified in the News Papers/ e-Procurement site in which NIT was published.

- 2.10.3 To give prospective Tenderers reasonable time to take an addendum into account in preparing their bids, the Tender Inviting Officer may extend if necessary, the last date for submission of tenders.

C. PREPARATION OF TENDERS.

2.11 Language of the Tender.

- 2.11.1 All documents relating to the tender shall be in the English Language only.

2.12 Documents comprising of the tender.

- 2.12.1 The bidders who are desirous of participating in e-procurement shall submit their technical bids, price bids etc., through online in the standard proscribed in the tender documents, displayed at e market place. The bidders should upload the scanned copies of all the relevant certificates, documents etc., in the e market place in support of their technical bids. The bidders shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity.
- 2.12.2 As per the G.O.Ms.No. 174, Irrigation & CAD (PW-Reforms) Department, Dated: 01-09-2008, Submission of original Hard Copies of the uploaded scan copies of **Demand Draft** towards EMD by participating bidders to the tender Inviting authority before opening of the price bid is dispensed forthwith. All the bidders shall invariably upload the scanned copies of Demand Draft in e- Procurement system and this will be the primary requirement to consider the bid as responsive. The Department shall carry out the technical bid evaluation solely based on the uploaded certificates/documents, Demand Draft towards EMD in the e-procurement system and open the price bids of the responsive bidders. The Department will notify the successful bidder for submission of original hard copies of all uploaded documents, towards EMD prior to entering into agreement.
- 2.12.3 The successful bidder shall invariably furnish the towards EMD, certificates/documents of the uploaded scanned copies to the Tender Inviting Authority before entering into agreement either personally or through courier or post and the receipt of the same with in the stipulated date shall be the responsibility of the successful bidder. The Department will not take any responsibility for any delay in receipt/non-receipt of original towards EMD, certificates/documents, from the successful bidder before the stipulated time. On receipt of documents, the Department shall ensure the genuinity of the BG towards EMD and all other certificates / documents uploaded by the bidder in e-Procurement system in support of the qualification criteria before concluding the agreement.
- 2.12.4 If any successful bidder fails to submit the original Hard Copies of uploaded certificates/Documents, towards EMD within the stipulated time or if any variation is noticed between the uploaded documents and the hard copies submitted by the bidder, the successful bidder will be suspended from participating in the tenders on e-Procurement platform for a period of 3 years. The e-Procurement system would deactivate the user ID of such defaulting successful bidder based on the trigger/recommendation by the Tender Inviting Authority in the system. Besides this, the Department shall invoke all processes of law including criminal prosecution of such defaulting bidder as an act of extreme deterrence to avoid delays in the tender process for execution of the development schemes taken up by the Government. The information to this extent may be displayed in the e-procurement platform website.
- 2.12.5 The bidder shall mandatorily pay the transaction fee to <https://eprocure.gov.in> through the electronic payment Gateway.
- 2.12.6 The tenderers shall furnish a declaration in online stating that the soft copies uploaded by them are genuine. Any incorrectness/deviation noticed will be viewed seriously and apart from canceling the work duly forfeiting the EMD, criminal action will be initiated including suspension of business.
- 2.12.7 The Bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on e-procurement Platform and the bids not authenticated by Digital certificate of the bidder will not be accepted on the e-procurement platform.
- 2.12.8 The technical bids will be opened on line by the concerned Superintending Engineer at the time and date as specified in the tender documents. All the statements, documents, certificates, **Demand Draft** etc., uploaded by the tenderers will be down loaded for technical evaluation. The clarifications, particulars if any required from the bidders will be obtained or in the conventional method by addressing the bidders. The technical bids will be evaluated against the specified parameters/ criteria, same as in the case of conventional tenders and the technically qualified bidders will be identified. The result of technical bid evaluation will be displayed on the e market place, which can be seen by all the bidders who participated in the tenders.
- #### 2.13 Bid Offer:
- 2.13.1 Bill of Quantities called Schedule "A" and the bid offer accompanies the tender document as Volume - II. It shall be explicitly understood that the Tender Inviting Officer does not accept any responsibility for the correctness or completeness of this schedule 'A' and this schedule 'A' is liable to alterations by omissions, deductions or additions at the discretion of the Superintending Engineer or as set forth in the conditions of the contract. The Schedule "A" shall contain the items of work. The percentage quoted by the contractor shall be applicable only to Schedule "A" items. The tenderers will have to state clearly their willingness to execute the work at certain specific percentage of excess or less or at par of the ECV indicated in the space provided therein in Schedule 'A'. The tenderer should however

quote his lump sum tender based on this schedule of quantities. He should quote his offer as a overall tender percentage.

- 2.13.2 The Schedule –A (or Price-bid) contains not only the quantities but also the rates worked out by the Department and the amount for each item and total value of the estimated contract. The tenderer should workout his own rates keeping in view the work, site conditions and quote his overall tender percentage with which he intends to execute the work.
- 2.13.3 The bid offer shall be for the whole work and not for individual items / part of the work.
- 2.13.4 All duties, taxes, and other levies payable by the contractor as per State / Central Government rules, shall be included in the tender percentage quoted by the tenderer, however keeping in view the maximum reimbursable amounts specified in 4.102.
- 2.13.5 The tendered contract amount as computed based on overall tender percentage is subject to variation during the performance of the Contract in accordance with variation in quantities etc.

2.14 Charges Payable to APTS

The successful bidder will pay further fee @ 0.04% of ECV (Estimated contractvalue) i.e., payable to APTS.

(The ceiling amount of Transaction fee for works costing ECV up to Rs 50.00 Crores is Rs 10,000.00 and for works costing with ECV above Rs 50.00 Crores the ceiling amount of transaction fee is Rs 23,000/-) to create a procurement corpus fund to be administered by APTS. The above fee is payable by the successful bidder through a DD drawn in favour of M/S APTS, Vijayawada at the time of conclusion for the agreement. The said DD shall be sent to MD, APTS by the Superintending Engineer who is entering in to agreement with the successful bidder.

2.15 Validity of Tenders:

- 2.15.1 Tenders shall remain valid for a period of not less than **three months** from the last date for receipt of Tender specified in NIT.
- 2.15.2 During the above mentioned period no plea by the tenderer for any sort of modification of the tender based upon or arising out of any alleged misunderstanding of misconceptions or mistake or for any reason will be entertained.
- 2.15.3 In exceptional circumstances, prior to expiry of the original time limit, the Tender Inviting Officer may request the bidders to extend the period of validity for a specified additional period. Such request to the Tenderers shall be made in writing. A Tenderer may refuse the request without forfeiting his E.M.D. A Tenderer agreeing to the request will not be permitted to modify his Tender, but will be required to extend the validity of his E.M.D. for a period of the extension.

2.16 Earnest Money Deposit

- 2.16.1 The Tenderer shall furnish, Earnest Money Deposit equivalent to 1% of ECV at the time of tender (Para 7.0 of GO Ms.No 36). **The Demand Draft shall be from a Scheduled Commercial Bank valid for a period of 3 months . photo copy of the Demand Draft** is to be scanned and uploaded along with the Bid and as per the G.O.Ms 174, I&CAD (PW-Reforms) Department dated 01-09-2008, that the successful bidder found defaulting in submission of hard copies of uploaded certificates / documents, original DD towards EMD with in the stipulated time i.e., before concluding the agreement or if any variation is noticed between the uploaded documents and the hard copies submitted by the successful bidder, the successful bidder will be suspended from participating in tenders on e-Procurement platform for a period of three years.
- 2.16.2 The balance EMD @ 1½% of ECV / TCV whichever is higher shall be paid at the time of concluding Agreement by the successful Tenderer. This EMD can be in the form of:
- a bank **demand draft** on any Scheduled Commercial Bank
 - a bank guarantee in the form given in Section 8, from a Nationalized Bank/Scheduled Commercial Bank.
- 2.16.3 The 1% E.M.D. paid by the successful Tenderer at the time of submission of hard copies of Tender documents through Bank Guarantee will be discharged if the Tenderer furnishes Bank Guarantee for the full EMD of 2½% at the time of concluding agreement.
- 2.16.4 The earnest money deposited by the successful tenderer will not carry any interest and it will be dealt with as provided in the conditions stipulated in the tender. The E.M.D. given in the form of Bank Guarantee on any Scheduled Commercial Bank shall be valid for the duration of contract period plus **defect liability period of 60months** and in case any valid extension of contract period is granted, the validity of BG shall also be extended for the corresponding period. The Bank Guarantee furnished by the tenderer towards additional security amount shall be valid till the work is completed in all respects.
- 2.16.5 The E.M.D. shall be forfeited.
- In the case of a successful tenderer, if he fails to sign the Agreement for whatever the reason.

In consideration of the Executive Engineer / Superintending Engineer /Chief Engineer of Tenders undertaking to investigate and to take into account each tender and in consideration of the work

thereby involved, all earnest monies deposited by the tenderer will be forfeited to the TTD, Tirupati in the event of such tenderer either modifying or with-drawing his tender at his instance within the said validity period of three months.

2.17 **Signing of Tenders.**

- 2.17.1 If an individual makes the tender, it shall be signed with his full name and his address shall be given. If it is made by a firm, it shall be signed with the co-partnership name by a member of the firm, who shall also sign his own name, and the name and address of each member of the firm shall be given, if the tender is made by a corporation it shall be signed by a duly authorised officer who shall produce with his tender satisfactory evidence of his authorization. Such tendering corporation may be required before the contract is executed, to furnish evidence of its corporate existence. Tenders signed on behalf of G.P.A. holder will be rejected.
- 2.17.2 The Tender shall contain no alterations or additions, except those to comply with instructions issued by the Tender Inviting Officer, or as necessary to correct errors made by the Tenderer, in which case all such corrections shall be initialed by the person signing the Tender.
- 2.17.3 No alteration which is made by the tenderer in the contract form, the conditions of the contract, the drawings, specifications or statements / formats or quantities accompanying the same will be recognized; and, if any such alterations are made the tender will be void.

D. SUBMISSION OF TENDERS.

2.18 Submission of Tenders:

2.18.1 The tenderer shall invariably ensure that the scanned copies of the following documents are uploaded and attached online towards qualification criteria furnished by them:

- a) All the items as listed in Check list
- b) Copy of contractors registration certificate under appropriate class with Government of Andhra Pradesh / TTD / CPWD etc.,
- c) Copy of Permanent Account Number (PAN) Card and copy of latest Income Tax returns submitted along with proof of receipt.
- d) Copy of GST Registration certificate.
- e) EMD If by **Demand Draft** as per NIT and also furnish **scanned copy of Demand Draft**

NOTE: The bidders shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/ authenticity.

- 2.18.2 The bidders who are desirous of participating in e-procurement shall submit their technical bids, price bids etc., through online in the standard proscribed in the tender documents, displayed at e market place. The bidders should upload the scanned copies of all the relevant certificates, documents etc., in the e market place in support of their technical bids. The bidders shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity.
- 2.18.3 Furnishing of hard copies by the tenderers before opening of the Price bids is dispensed with. Bids submitted in offline sealed cover system shall not be considered for evaluation.
- 2.18.4 The technical bid evaluation of the tenderers will be done on the certificates / documents uploaded through online only towards qualification criteria furnished by them.
- 2.18.5 The bidder shall mandatorily pay the transaction fee to Central Public Procurement Portal (CPPP).
- 2.18.6 The successful tenderer shall furnish the original hard copies of all the documents / certificates / statements uploaded by him before concluding agreement.
- 2.18.7 If any tenderer fails to submit the original DD for EMD, hard copies of uploaded documents within the stipulated time, the tenderer will be suspended /disqualified from participating in the tenders on e-procurement platform for a period of 36 months from the date of bid submission. The suspension of tenderer shall be automatically enforced by the e-procurement system.
- 2.18.8 The tenderers shall furnish a declaration in online stating that the soft copies uploaded by them are genuine. Any incorrectness/deviation noticed will be viewed seriously and apart from canceling the work duly forfeiting the EMD, criminal action will be initiated including suspension of business.

2.19 Important Note:

The Bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on e-procurement Platform and the bids not authenticated by Digital certificate of the bidder will not be accepted on the e-procurement platform.

2.20 Last date / time for Submission of the Tenders.

- 2.20.1 Tenders must be submitted not later than the date and time specified in NIT. In the event of the specified date/time for the submission of bids declared as holiday, the bids will be received on the next working day.
- 2.20.2 The Superintending Engineer / Chief Engineer, TTD, may extend the dates for Bid submission / Price bid opening of Tenders by issuing an amendment in which case all rights and obligations of the Superintending Engineer/Chief Engineer will remain same as previously.
- 2.21 Late Tenders:**
- 2.21.1 Any tender received after the last date/time prescribed in NIT will be summarily rejected (in case of off-line tenders)
- 2.22 Modification to the Tender.**
- 2.22.1 NO Tenders can be modified after the last date/time of submission of tenders.

E. TENDER OPENING AND EVALUATION

- 2.23 Tender opening**
- 2.23.1 The technical bid containing qualification requirements as per Annexures I & II and Statement I to VII will be evaluated by the tender opening authority.
- 2.24 Clarification on the Technical Bid.**
- 2.24.1 The tender opening authority may call upon any tenderer for clarification on the statements, documentary proof relating to the technical bid. The request for clarification and response thereto shall be in writing and it shall be only on the qualification information furnished by the tenderer. The clarification called for from the tenderers shall be furnished within the stipulated time, which shall not be more than a week.
- 2.24.2 The tenderer if so desirous, shall agree in writing to furnish the clarification called for within the stipulated time and, for disqualification and rejection of his tender in the event of failure to do so.
- 2.25 Examination of technical Bids and Determination of Responsiveness**
- 2.25.1 The Superintending Engineer will evaluate whether each Tenderer is satisfying the eligibility criteria prescribed in the tender document and declares them as a qualified Tenderer.
- 2.25.2 If the technical bid of a Tenderer is not satisfying any of the eligibility criteria it will be rejected by the Superintending Engineer. However, the tender accepting authority detects any error in the evaluation of Tenders by Superintending Engineer, the tender accepting authority while returning the tenders may direct the Superintending Engineer or Chief Engineer as the case may be, to re-evaluate the tenders.
- 2.25.3 If any condition is made by the tenderer as addition/alteration to the tender documents, the conditions of the contract, the drawings, specifications or statements / formats or quantities the tender will be rejected.
- 2.26 Price Bid Opening:**
- 2.26.1 Only the price bids of qualified tenderers whose technical bids are found satisfying the eligibility criteria shall alone be opened.
- 2.26.2 The price bid of the unqualified tenderers will not be opened and thereafter E.M.D. will be returned to the tenderers.
- 2.26.3 Tenders shall be scrutinized in accordance with the conditions stipulated in the Tender document. In case of any discrepancy of non-adherence Conditions the Tender accepting authority shall communicate the same which will be binding both on the tender Opening authority and the Tenderer. In case of any ambiguity, the decision taken by the Tender Accepting Authority on tenders shall be final.
- 2.27 Evaluation and Comparison of Price Bids**
- 2.27.1 The Superintending Engineer will evaluate and compare the price bids of all the qualified Tenderers.
- 2.27.2 Negotiations at any level are strictly prohibited. However, good gesture rebate, if offered by the lowest tenderer prior to finalization of tenders may be accepted by the tender accepting authority.
- 2.27.3 Selection of Tenderer among the lowest & equally quoted tenderers will be in the following orders:
- a) The tenderer whose bid capacity is higher will be selected.
 - b) In case the bid capacity is also same the tenderer whose annual turnover is more will be preferred.
 - c) Even if the criteria incidentally become the same, the turnover on similar works and thereafter machinery available for the work and then the clean track record will be considered for selection.
- 2.28 Discrepancy in Tender percentage quoted.**
- 2.28.1 In case of any discrepancy between the overall tender percentage quoted in words and figures, the percentage quoted in words shall prevail. In case the tenderer has quoted overall tender percentage only in words and not in figures or vice versa, such tender shall be treated as incomplete and rejected. This is not applicable for e-tenders.
- 2.29 Process to be Confidential.**
- 2.29.1 Information relating to the examination, clarification, evaluation and comparison of Tenders and
- 2.29.2 Recommendations for the award of a contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced by the tender accepting authority. Any effort by a Tenderer to influence the processing of Tenders or award decisions may result in the rejection of his Tender. The entire process

of tender procedure shall be kept confidential and shall not be disclosed to any tenderers until the award to the successful tenderer been announced by competent authority.

- 2.29.3 No Tenderer shall contact the Superintending Engineer or any authority concerned with finalization of tenders on any matter relating to its Tender from the time of the Tender opening to the time the Contract is awarded. If the Tenderer wishes to bring additional information to the notice of the Superintending Engineer, It should be done so in writing.
- 2.29.4 Before recommending / accepting the tender, the tender recommending / accepting authority shall verify the correctness of certificates submitted to meet the eligibility criteria and specifically experience. The authenticated agreements of previous works executed by the lowest tenderer shall be called for.
- 2.29.5 Tenders will be finalized by the Executive Engineers / Superintending Engineers/Chief Engineer/ TTD Board according to the powers vested with them.

F. AWARD OF CONTRACT

2.30 Award Criteria

- 2.30.1 The Superintending Engineer / Chief Engineer will award or recommend to the competent tender accepting authority for award of the contract to the Tenderer who is found technically qualified as per the Tender conditions and whose price bid is lowest.
- 2.30.2 The tender accepting authority reserves the right to accept or reject any Tender or all tenders and to cancel the Tendering process, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the reasons for such action.

2.31 Notification of Award and Signing of Agreement.

- 2.31.1 The Tenderer whose Tender has been accepted will be notified of the award of the work by the Executive Engineer / Superintending Engineer / Chief Engineer, prior to expiration of the Tender validity period by registered letter. This letter (hereinafter and in the Conditions of Contract called "Letter of Acceptance") will indicate the sum that the T.T.Devasthanams will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Amount"). **The LOA can also be sent by Email/Whatsapp.**
- 2.31.2 When a tender is to be accepted the concerned tenderer shall attend the office of the Executive Engineer / Superintending Engineer concerned on the date fixed in the Letter of acceptance. Upon intimation being given by the Executive Engineer / Superintending Engineer / Chief Engineer, of acceptance of his tender, the tenderers shall make payment of the balance E.M.D., and additional security deposit wherever needed by way of Demand Draft/BG obtained from a Nationalized / Scheduled Bank **with a validity period 3 months for DD. In case of BG with a validity of (Contract period Two (02) months) + (Defect liability period of 12 Months) + 28 days drawn in favour of The Executive Officer, TTD, Tirupati,** and sign an agreement in the form prescribed by the department for the due fulfillment of the contract. Failure to attend the Executive Engineer / Superintending Engineer's office on the date fixed, in the written intimation, to enter into the required agreement shall entail forfeiture of the Earnest Money deposited. The written agreement to be entered into between the contractor and the T.T.Devasthanams shall be the foundation of the rights and obligations of both the parties and the contract shall not be deemed to be complete until the agreement is first signed by the contractor and then by the proper officer authorized to enter into contract on behalf of the T.T.Devasthanams.
- 2.31.3 The successful tenderer has to sign an agreement within a period of 15days from the date of receipt of communication of acceptance of his tender. This shall be done along with submission of all the uploaded documents, attested copies of uploaded documents, DD for EMD, BG/DD for balance EMD, and other documents if any. On failure to do so his tender will be cancelled without issuing any further notice and action will be initiated for black listing the tenderer.

2.32 If the lowest bidder backs out at the time of agreement, penalty of forfeiture of EMD will be imposed and business of the agency will be suspended for one year with all the Departments in A.P in respect of conventional tenders also vide G.O.Ms.No. 259 of T, R&B (R.V) dept., dt. 6.9.2008.

2.33 Corrupt or Fraudulent Practices

- 2.33.1 The TTD requires that the bidders / suppliers / contractors under TTD financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the T.T.Devasthanams.
- (a) Define for the purposes of the provision, the terms set forth below as follows:
- (i) "Corrupt practices" means the offering, giving, receiving or soliciting of anything of value to influence the action of a T.T.Devasthanams official in procurement process or in contract execution: and
- (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the T.T.Devasthanams and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish in Tender prices at artificial non-competitive levels and to deprive the T.T.Devasthanams of the benefits of free and open competition.

- (b) Will reject a proposal for award if it determines that the Tenderer recommended for award has engaged corrupt or fraudulent practices in competing for the contract in question.
- (c) Will blacklist / or debar a firm, either indefinitely or for a stated period of time, if at any time determines that the firm has engaged corrupt or fraudulent practices in competing for, or in executing a T.T.Devasthanams Contract.
- (d) Furthermore, Tenderers shall be aware of the provisions stated in the General Conditions of Contract.

3. Annexure –I

QUALIFICATION INFORMATION

3.1 CHECKLIST TO ACOMPANY THE TENDER

S.No	Description	Uploaded	
1	2	3	
1	Copy of valid Registration of Contractors class-IV, under appropriate Class in any Government organization / government of Andhra Pradesh / TTD / CPWD etc., Eligible to quote to the value of ECV of this work.	Yes / No	
2	The contractor shall furnish their copy of permanent account number PAN Card	Yes / No	
3	Registration copy under GST Act 2017 i.e Taxpayer Identification Number in the prescribed proforma	Yes / No	
4	Declaration as per Annexure	Yes/No	
5	EMD, If by Demand Draft as per NIT and also furnish Scanned copy of Demand Draft	Yes/No	

Notes:-

- The statements furnished shall be in the formats appended to the tender document.
- The information shall be filled-in by the tenderer in the checklist and shall be enclosed to the Technical bid for the purposes of verification as well as evaluation of the tenderer's Compliance to the qualification criteria as provided in the Tender document. All the Certificates, documents, statements as per check-list shall be submitted on line by the tenderer.
- The bidder shall sign on all the statements, documents, certificates uploaded by him owning the responsibility for their correctness/authenticity.

DECLARATION ANNEXURE-II

I / WE have gone through carefully all the Tender conditions and solemnly declare that I / we will abide by any penal action such as disqualification or black listing or determination of contract or any other action deemed fit, taken by, the Department against us, if it is found that the statements, documents, certificates produced by us are false / fabricated.

I / WE hereby declare that, I / WE have not been blacklisted / debarred / Suspended / demoted in any department in Andhra Pradesh or in any State due to any reasons.

Contractor

CONDITIONS OF CONTRACT

TENDER

Date:

To

The Principal
S.V.College,
New Delhi

Sir,

I / We do hereby tender and if this tender be accepted, under take to execute the following work viz. “Renovation of General toilets and miscellaneous works in the old Block of S.V. College, New Delhi” as shown in the drawings (whenever applicable) and described in the specifications deposited in the office of the Executive Engineer / Superintending Engineer – III, TTD, Tirupati with such variations by way of alterations or additions to, and omissions from the said works and method of payment as provided for in the “conditions of the contract” for the sum of or such other sum as may be arrived under the clause of the standard preliminary specifications relating to “Payment on lump-sum basis or by final measurement at unit rates”

I/WE have also quoted percentage excess or less on E.C.V., in Schedule ‘A’ Part I, annexed (in words and figures) for which I/We agree to execute the work when the lump sum payment under the terms of the agreement is varied by payment on measurement quantities. I/WE have quoted Percentage excess or less on E.C.V., in Schedule ‘A’.

I/WE agreed to keep the offer in this tender valid a period of Three month(s) mentioned in the tender notice and not to modify the whole or any part of it for any reason within above period. If the tender is withdrawn by me/us for any reasons whatsoever, the earnest money paid by me/us will be forfeited to TTD.

I/WE hereby distinctly and expressly, declare and acknowledge that, before the submission of my/our tender I/We have carefully followed the instructions in the tender notice and have read the A.P.S.S. and the preliminary specifications therein and the A.P.S.S. addenda volume and that I/We have made such examination of the contract documents and the plans, specifications and quantities and of the location where the said work is to be done, and such investigation of the work required to be done, and in regard to the material required to be furnished as to enable me/us to thoroughly understand the intention of same and the requirements, covenants, agreements, stipulations and restrictions contained in the contract, and in the said plans and specifications and distinctly agree that I/We will not hereafter make any claim or demand upon the TTD based upon or arising out of any alleged misunderstanding or misconception /or mistake on my/or our part of the said requirement, covenants, agreements, stipulations, restrictions and conditions.

I/WE enclosed to my/our Tender schedule a **demand draft** No.....dated:..... for Rs....., drawn on Bank:..... Place: as earnest money not to bear interest.

I/WE shall not assign the contractor or sublet any portion of the same. In case if it becomes necessary such subletting with the permission of the Executive Engineer shall be limited to (1) Labour contract, (2) Material contract, (3) Transport contract and (4) Engaging specialists for special item of work enjoined in A.P.S.S.

IF MY/OUR tender is not accepted the sum shall be returned to me/us on application when intimation is sent to me/us of rejection or at the expiration of three months from last date of receipt of this tender, whichever is earlier. If my/our tender is accepted the earnest money shall be retained by the TTD as security for the due fulfillment of this contract. If upon written intimation to me/us by the Superintending / Executive Engineer’s Office, I/We fail to attend the said office on the date herein fixed or if upon intimation being given to me/us by the Superintending /Executive Engineer or acceptance of my/our tender, and if I/We fail to make the additional security deposit or to enter into the required agreement as defined in condition-3 of the tender notice, then I/We agree for the forfeiture of the earnest money. Any notice required to be served on me/us here under shall be sufficiently served on me/us hereunder shall be sufficiently served on me/us if delivered to me/us personally or forwarded to me/us by post to (registered or ordinary) or left at my/our address given herein. Such notice shall if sent by post be deemed to have been served on me/us at the time when in due course of post it would be delivered at the address to which it is sent.

I/WE fully understand that the written agreement to be entered into between me/us and Government shall be the foundation of the rights of the both the parties and the contract shall not be deemed to be complete until the agreement has first been signed by me/us and then by the proper officer authorized to enter into contract on behalf of T.T.D.

I AM/WE ARE professionally qualified an my/our qualifications are given below:

Name	Qualified

--	--

I/WE will employ the following technical staff for supervising the work and will see that one of them is always at site during working hours, personally checking all items of works and pay extra attention to such works as required special attention (eg) Reinforced concrete work, water proofing, centering etc.,.

Name of members of technical staff proposed to be employed	Qualification.

I / WE declare that I/WE agree to recover the salaries of the technical staff actually engaged on the work by the department, from the work bills, if I/We fail to employ technical staff as per the tender condition.

TENDERERS / CONTRACTOR'S CERTIFICATE.

- (1) I/WE hereby declare that I/We have perused in detail and examined closely the Andhra Pradesh Standard Specifications, all clauses of the preliminary specifications with all amendments and have either examined all the standards specifications or will examine all the standard specifications for items for which I/We tender, before I/We submit such tender and agree to be bound and comply with all such specifications for this agreement which I/We execute in the TTD.
- (2) I/WE certify that I/We have inspected the site of the work before quoting my Percentage excess or less on ECV, I /We have satisfied about the quality, availability and transport facilities for stones, sand and other materials.
- (3) I/WE am/are prepared to furnish detailed data in support of all my quoted rates, if and when called upon to do so without any reservations.
- (4) I/WE hereby declare that I/We will pay further EMD and an additional security deposit in terms of conditions 3 of general terms & conditions and 2.6.3 of instructions to tenderers respectively.
- (5) I/WE hereby declare that I am/we are accepting to reject my tender in terms of tender conditions.
- (6) I/WE hereby declare that I/We will not claim any price escalation.
- (7) As per clause 28 of APSS, the defect liability period is 12 months. However, I / We hereby declare that i am/we are accepting for the defect liability period as 12 months.**
- (8)
 - a) I/WE declare that I/WE will procure the required construction materials including earth and use for the work after approval of the Engineer-in-Charge. The responsibility for arranging and obtaining the land for borrowing or exploitation in any other way shall rest with me/us for the materials for construction, I/WE shall ensure smooth and un-interrupted supply of materials.
 - b) I/WE declare that the responsibility for arranging and obtaining the land for disposal of spoil/soil not useful for construction purposes shall rest with me/us.
 - c) I/WE declare that I/WE shall not claim any compensation or any payment for the land so arranged for disposal of soil and the land for borrow area. My/our quoted percentage excess or less ECV., are inclusive of the land so arranged and I/We will hand over the land so arranged for disposal of soil to; the department after completion of work.
 - d) I/WE declare that I/WE will not claim any extra amount towards any material used for the work other than the quoted works for respective schedule 'A' items.
- (9) I/WE declare that I/WE will execute the work as per the mile stone programme, and if I/WE fail to complete the work as per the mile stone programme I abide by the condition to recover liquidated damages as per the tender conditions.
- (10) I / WE declare that I/WE will abide for settlement of disputes as per the tender conditions.

DECLARATION OF THE TENDERER.

- 1) I/WE have not been black listed in any department in Andhra Pradesh or any State or Centre or Statuary Bodies due to any reasons.
- 2) I/WE have not been demoted to the next lower category for not filing the tenders after buying the tender schedules in a whole year and my/our registration has not been cancelled for a similar default in two consecutive years.
- 3) I/WE agree to disqualify me/us for any wrong declaration in respect of the above and to summarily reject my/our tender.

Address of the Tenderer:

Phone No.:

Fax No.:

4. CONDITIONS OF CONTRACT

A. GENERAL

4.1 Interpretation:

- 4.1.1 In interpreting these Conditions of Contract, singular also means plural, male also means female, and vice-versa. Headings have no significance. Works have their normal meaning under the language of the contract unless specifically defined. The Engineers-in-charge will provide instructions clarifying queries about the conditions of Contract.
- 4.1.2 The documents forming the Contract shall be interpreted in the following order of priority:
- 1) Agreement
 - 2) Letter of Acceptance, notice to proceed with the works
 - 3) Contractor's Tender (Technical bid)
 - 4) Conditions of contract
 - 5) Drawings
 - 6) Bill of quantities (Price-bid)
 - 7) Any other document listed as forming part of the Contract.
 - 8) EMD.

4.2 Engineer-in-Charge's Decisions:

- 4.2.1 Except where otherwise specifically stated, the Engineer-in-charge will decide the contractual matters between the Department and the Contractor in the role representing the Department.

4.3 Delegation:

- 4.3.1 The Engineer-in-charge may delegate any of his duties and responsibilities to other officers and may Cancel any delegation by an official order issued.

4.4 Communications:

- 4.4.1 Communications between parties, which are referred to in the conditions, are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act)

4.5 Sub-contracting:

- 4.5.1 No subletting of works will be permitted.

4.6 Other Contractors:

- 4.6.1 The Contractor shall cooperate and share the Site with other contractors, Public authorities, utilities, and the Department. The Contractor shall also provide facilities and services for them as directed by the Engineer-in-charge.

4.7 Personnel:

- 4.7.1 The Contractor shall employ the required Key Personnel named in the Schedule of Key Personnel to carry out the functions stated in the Schedule or other personnel approved by the Engineer-in-charge. The Engineer-in-charge will approve any proposed replacement of Key Personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- 4.7.2 Failure to employ the following minimum required technical personnel by the contractor the following amounts will be recovered from the contractor over and above the provision made in part two of schedule –A from the contractor bills.

Sl.No	Contract value of works to be executed.	Technical staff to be employed	For non-employment of the technical staff, rates of recovery per month
<u>1</u>	Above Rs.15.00 Lakhs.	One Graduate Engineer (Civil) and One Diploma Holder (Civil)	Rs.66,900/-

- 4.7.3 The technical personnel should be on full time and available at site whenever required by Engineer in Charge to take instructions. Their degree/diploma certificate copies along with the copies of Ids shall be furnished at the time of agreement. They will be checked in original compulsorily by field staff (EE, Dy.E.E. and AE/AEE) during the execution of work.
- 4.7.4 The names of the technical personnel to be employed by the contractor should be furnished in the statement enclosed separately.
- 4.7.5 In case the contractor is already having more than one work on hand and has undertaken more than one work at the same time, he should employ separate technical personnel on each work.
- 4.7.6 If the contractor fails to employ technical personnel then the work will be suspended or department will engage technical personnel and recover the cost thereof from the contractor.

- 4.7.7 If the Engineer-in-charge asks the Contractor to remove a person who is a member of Contractor's staff or his work force stating the reasons then the Contractor shall ensure that the person leaves the site forthwith and has no further connection with the work in the contract.

4.8 Contractor's Risks:

- 4.8.1 All risks of loss of or damage to physical property and of personnel injury and death, which arise during and in consequence of the performance of the Contract are the responsibility of the Contractor.

4.9 Insurance:

- 4.9.1 Insurance is totally at the risk and responsibility of the Contractor from the Start Date to the end of the **Defects Liability Period i.e., 12 months after completion of the work for all the events.**

4.10 Site Inspections:

- 4.10.1 The contractor should inspect the site and also proposed quarries of choice for materials, source of water and quote his percentage including quarrying, conveyance and all other charges etc.
- 4.10.2 The responsibility for arranging the land for borrow area rests with the Contractor and no separate payment will be made for procurement or otherwise. The contractor's quoted percentage will be inclusive of land cost.

4.11 Contractor to Construct the Works:

- 4.11.1 The Contractor shall construct and Commission the Work in accordance with the specifications and Drawings.

4.12 Diversion of streams / Vagus / Drains.

- 4.12.1 The contractor shall at all times carry out construction of cross drainage works in a manner creating least interference to the natural flow of water while consistent with the satisfactory execution of work. A temporary diversion shall be formed by the contractor at his cost where necessary. No extra payment shall be made for this work.
- 4.12.2 No separate payment for bailing out sub-soils, water drainage or locked up rain water for diversion, shoring, foundations, bailing of pumping water either from excavation of soils from foundations or such other incidental will be paid. The percentage to be quoted by the contractor is for the finished item of work in situ and including all the incidental charges. The borrow pits are also to be de-watered by the contractor himself at his expense, if that should be found necessary. Instructed add in specification.
- 4.12.3 The work of diversion arrangements should be carefully planned and prepared by the contractor and forwarded to the Executive Engineer technically substantiating the proposals and approval of the Executive Engineer obtained for execution.
- 4.12.4 The contractor has to arrange for bailing out water, protection to the work in progress and the portion of works already completed and safety measures for men and materials and all necessary arrangements to complete the work.
- 4.12.5 All the arrangements so required should be carried out and maintained at the cost of the contractor and no separate or additional payments is admissible..
- 4.12.6 Cofferdams: Necessary cofferdams and ring bunds have to be constructed at the cost of contractor and same are to be removed after the completion of the work. The contractor has to quote his percentage keeping the above in view.

4.13 Power Supply.

- 4.13.1 The contractor shall make his own arrangements for obtaining power from the Electricity dept., at his own cost. The contractor will pay the bills of Electricity Department for the cost of power consumed by him.
- 4.13.2 The contractor shall satisfy all the conditions and rules required as per Indian Electricity Act 1910 and under Rule-45(I) of the Indian Electricity Rules, 1956 as amended from time to time and other pertinent rules.
- 4.13.3 The power shall be used for bonafide Departmental work only.

4.14 Temporary Diversions (Works on Highways)

- 4.14.1 The contractor shall at all times carryout work on the highway in a manner creating least interference to the flow of traffic while consistent with the satisfactory execution of the same. For all works involving improvements to the existing highway/other roads, the contractor shall in accordance with the directions of the Engineer-in-charge provide and maintain during the execution of the work a passage for traffic, either along a part of the existing carriage way under improvement or along a temporary diversion constructed close to the highway. The contractor shall take all necessary measures for the safety of traffic during construction and provide erect and maintain such barricades, including signs, markings, flags lights and information and protection of traffic approaching or passing through the section of the highway under improvement.
- 4.14.2 If in the opinion of the Engineer-in-Charge, it is not possible to pass the traffic on part width of the carriage-way for any reason, a temporary diversion close to the highway shall be constructed as directed. It shall be paved with the materials such as hard morrum, gravel and stone, metal to the

specified thickness as directed by the Engineer-in-Charge. In all cases, the alignment, gradients and surface type of the diversion including its junctions, shall be approved by the Engineer-in-charge before the highway is closed to traffic.

4.14.3 The contractor shall take all necessary measures for the safety of traffic during construction and provide erect and maintain such barricades, including signs, markings, flags lights and information and protection of traffic approaching or passing through the section of the highway under improvement. Before taking up any construction, an agreed phased programme for the diversion of traffic on the highway shall be drawn up in consultation with the Engineer-in-charge.

4.14.4 The barricades erected on either side of the carriage way portion of the carriage way closed to traffic, shall be of strong design to resist violation and painted with alternative black and white stripe. Red lanterns or warnings lights of similar type shall be mounted on the barricades at night and kept lit throughout from sunset to sunrise.

4.15 Ramps:

4.15.1 Ramps required during execution may be formed wherever necessary and same are to be removed after completion of the work. No separate payment will be made for this purpose.

4.16 Monsoon Damages:

4.16.1 Damages due to rain or flood either in cutting or in banks in any manner shall have to be made good by the contractor till the work is handed over to the Department. The responsibility of de-silting and making good the damages due to rain or flood rests with the contractor. No extra payment is payable for such operations and the contractor shall therefore, have to take all necessary precautions to protect the work done during the construction period.

4.17 The works to be Completed by the Intended Completion Date:

4.17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the programme submitted by the Contractor, as updated with the approval of the Engineer-in-Charge, and complete the work by the Intended Completion Date.

4.18 Safety:

4.18.1 The Contractor shall be responsible for the safety of all activities on the Site.

4.19 Discoveries:

4.19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the T.T.Devasthanams. The Contractor is to notify the Engineer-in-charge of such discoveries and carry out the Engineer-in-Charge's instructions for dealing with them.

4.20 Possession of the Site.

4.20.1 The Department shall give possession of the site to the Contractor. If possession of a part site is given, the Department will ensure that the part site so handed over is amenable to carryout the work at site by the Contractor.

4.21 Access to the Site:

4.21.1 The Contractor shall provide the Engineer-in-Charge and any person authorised by the Engineer-in-Charge, access to the site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

4.22 Instructions:

4.22.1 The Contractor shall carry out all instructions of the Engineer-in-charge and comply with all the applicable local laws where the Site is located.

4.23 Settlement of disputes:

4.23.1 If any dispute of difference of any kind whatsoever arises between the department and the Contractor in connection with, or arising out of the Contract, whether during the progress of the works or after their completion and whether before or after the termination, abandonment or breach of the Contract, it shall in the first place, be referred to and settled by the Engineer-in-charge who shall, within a period of thirty days after being requested by the Contractor to do so, give written notice of his decision to the Contractor. Upon receipt of the written notice of the decision of the Engineer-in-Charge the Contractor shall promptly proceed without delay to comply with such notice of decision.

4.23.2 If the Engineer-in-Charge fails to give notice of his decision in writing within a period of thirty days after being requested or if the Contractor is dissatisfied with the notice of the decision of the Engineer-in-Charge, the Contractor may within thirty days after receiving the notice of decision appeal to the Department who shall offer an opportunity to the contractor to be heard and to offer evidence in support of his appeal, the Department shall give notice of his decision within a period of thirty days after the Contractor has given the said evidence in support of his appeal, subject to arbitration, as hereinafter provided. Such decision of the Department in respect of every matter so referred shall be final and binding upon the Contractor and shall forthwith be given effect to by the Contractor, who shall proceed with the execution of the works with all due diligence whether he requires arbitration as hereinafter provided, or not. If the Department has given written notice of his decision to the

Contractor and no claim to arbitration, has been communicated to him by the Contractor within a period of thirty days from receipt of such notice the said decision shall remain final and binding upon the Contractor. If the Department fail to give notice of his decision, as aforesaid within a period of thirty days after being requested as aforesaid, or if the Contractor be dissatisfied with any such decision, then and in any such case the contractor within thirty days after the expiration of the first named period of thirty days as the case may be, require that the matter or matters in dispute be referred to arbitration as detailed below:-

SETTLEMENT OF CLAIMS:

Settlement of claims for Rs.50,000/- and below by Arbitration.

All disputes or difference arising of or relating to the Contract shall be referred to the adjudication as follows:

- a) Claims up to a value of Rupees 10,000/-.
- Superintending Engineer, [of another circle in the same department of TTD.
- b) Claims above Rs.10,000/- and up to Rupees 50,000/-.
- Another Chief Engineer, [from the Government Department of A.P.]

The arbitration shall be conducted in accordance with the provisions of Indian Arbitration and Conciliation Act 1996 or any statutory modification thereof.

The arbitrator shall state his reasons in passing the award.

Claims above Rs.50,000/-.

All claims of above Rs.50,000/- are to be settled by a Civil Court of competent jurisdiction by way of Civil suit and not by arbitration.

A reference for adjudication under this clauses shall be made by the contractor within six months from the date of intimating the contractor of the preparation of final bill or his having accepted payment whichever is earlier.

4.23.3 JURISDICTION:

For the purpose of this agreement all the transactions shall be deemed to have taken place within the state of ANDHRA PRADESH and the courts in ANDHRA PRADESH shall have jurisdiction over the matters arising under or out of this agreement.

B. TIME FOR COMPLETION

4.24 Program:

4.24.1 The total period of completion is **02 (Two) MONTHS** from the date of entering with agreement to proceed including rainy season. Keeping in view, the schedule handing over of site given in condition 4.24.4 of (ii) work should be programmed such as to achieve the mile-stones as in "Rate of progress statement" enclosed, in clause 4.24.4

4.24.2 The attention of the tenderer is directed to the contract requirement at the time of beginning of the work, the rate of progress and the dates for the whole work and its several parts as per milestones. The following rate of progress and proportionate value of work done from time to time as will be indicated by the Executive Engineer's Certificate for the value of work done and completion of milestones will be required. Date of commencement of their programme will be the date for concluding agreement.

4.24.3 After signing the agreement, the contractor shall forthwith begin the work, shall regularly and continuously proceed with them.

4.24.4 Rate of progress:

- i) Work programme of achieving the milestones.

Sl.No.	Period after date of signing in the agreement.	% of work to be completed (Based on contract lump-sum amount)
1	Up to end of 1 st month	50%
2	Up to end of 2 nd Month	100%

- ii) Site Schedule of programme after signing in the agreement by the contractor.

4.24.5 The contractor shall commence the works on site within the period specified under condition 4.24.1 to 4.24.4 above after the receipt by him of a written order to this effect from the Executive Engineer / Superintending Engineer and shall proceed with the same with due expedition and without delay,

except as may be expressly sanctioned or ordered by the Executive Engineer / Superintending Engineer, or be wholly beyond the contractor's control.

- 4.24.6 Save in so far as the contractor may prescribe, the extent of portions of the site of which the contractor is to be given possession from time to time and the order in which such portions shall be made available to him and, Subject to any requirement in the contract as to the order in which the works shall be executed, the Executive Engineer / Superintending Engineer will, with the Executive Engineer's written order to commence the works, give to the contractor possession of so much of the site as may be required to enable the contractor to commence proceed with the execution of the works in accordance with the programme if any, and otherwise in accordance with such reasonable proposals of the contractor as he shall by written notice to the Executive Engineer / Superintending Engineer, make and will from time to time as the works proceed, give to the contractor possession of such further portions of the site as may be required to enable the contractor to proceed with the execution of the works with due dispatch in accordance with the said programme or proposals as the case maybe ; if the contractor suffers delay or incurs cost from failure on the part of the Executive Engineer / Superintending Engineer to give possession in accordance with the terms of this clause, the Competent authority shall grant an extension of time for the completion of works.
- 4.24.7 The contractor shall bear all costs and charges for special or temporary way leases required by him in connection with access to the site. The contractor shall also provide at his own cost any additional accommodation outside the site required by him for the purposes of the work.
- 4.24.8 Subject to any requirement in the contract as to completion of any section of the works before completion of the whole of the works shall be completed in accordance with provisions of clauses in the Schedule within the time stated in the contract calculated from the last day of the period named in the statement to the tender as that within which the works are to be commenced or such extended time as may be allowed.

4.24.9 Delays and extension of time:

No claim for compensation on account of delays or hindrances to the work from any cause whatever shall lie, except as hereafter defined. Reasonable extension of time will be allowed by the Executive Engineer or by the officers competent to sanction the extension, for unavoidable delays, such as may result from causes, which in the opinion of the Executive Engineer, are undoubtedly beyond the control of the contractor. The Executive Engineer shall assess the period of delay or hindrance caused by any written instructions issued by him, at twenty five per cent in excess of the actual working period so lost.

In the event of the Executive Engineer failing to issue necessary instructions and thereby causing delay and hindrance to the contractor, the latter shall have the right to claim an assessment of such delay by the Superintending Engineer of the Circle whose decision will be final and binding. The contractor shall lodge in writing with the Executive Engineer a statement of claim for any delay or hindrance referred to above, within fourteen days from its commencement, otherwise no extension of time will be allowed.

Whenever authorized alterations or additions made during the progress of the work are of such a nature in the opinion of the Executive Engineer as to justify an extension of time in consequence thereof, such extension will be granted in writing by the Executive Engineer or other competent authority when ordering such alterations or additions.

4.25 Construction Programme:

- 4.25.1 The Contractor shall furnish within 10 days of the order of the work a programme showing the sequence in which he proposed to carry out the work, monthly progress expected to be achieved, also indicating date of procurement of materials plant and machinery. The schedule should be such that it is practicable to achieve completion of the whole work within the time limit fixed and in keeping with the Mile stone programme specified and shall obtain the approval of the Engineer-in-charge. Further rate of the progress as in the program shall be kept up to date. In case it is subsequently found necessary to alter this program, the contractor shall submit sufficiently in advance the revised program incorporating necessary modifications and get the same approved by the Engineer-in-charge. No revised program shall be operative without approval of Engineer-in-charge.
- 4.25.2 The Superintending Engineer shall have all times the right, without any way violating this contract, or forming grounds for any claim, to alter the order of progress of the works or any part thereof and the contractor shall after receiving such directions proceed in the order directed. The contractor shall also report the progress to the Superintending Engineer within 7 days of the Executive Engineer's direction to alter the order of progress of works.
- 4.25.3 The Contractor shall give written notice to the Engineer-in-Charge whenever planning or progress of the works is likely to be delayed or disrupted unless any further drawings or order including a direction, instruction or approval is issued by the Engineer-in-Charge within a reasonable time. The notice shall include details of the drawing or order required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late.

4.26 Speed of Work:

- 4.26.1 The Contractor shall at all times maintain the progress of work to conform to the latest operative progress schedule approved by the Engineer-in-Charge. The contractor should furnish progress report indicating the programme and progress once in a month. The Engineer-in-Charge may at any time in

writing direct the contractor to slow down any part or whole of the work for any reason (which shall not be questioned) whatsoever, and the contractor shall comply with such orders of the Engineer-in-Charge. The compliance of such orders shall not entitle the contractor to any claim of compensation. Such orders of the Engineer-in-Charge for slowing down the work will however be duly taken into account while granting extension of time if asked by the contractor for which no extra payment will be entertained.

4.26.2 Delays in Commencement or progress or neglect of work and forfeiture of earnest money, Security deposit and withheld amounts:

If, at any time, the Engineer-in-Charge shall be of the opinion that the Contractor is delaying Commencement of the work or violating any of the provisions of the Contractor is neglecting or delaying the progress of the work as defined by the tabular statement. "Rate of progress" in the Articles of Agreement", he shall so advise the Contractors in writing and at the same time demand compliance in accordance with conditions of Tender notice. If the Contractor neglects to comply with such demand within seven days after receipt of such notice, it shall then or at any time thereafter, be lawful for the Engineer-in-Charge to take suitable action in accordance with Clause.60 of APSS.

4.27 Suspension of works by the Contractor:

4.27.1 If the Contractor shall suspend the works, or sublet the work without sanction of the Engineer-in-Charge, or in the opinion of the Engineer-in-Charge shall neglect or fail to proceed with due diligence in the performance of his part of the Contract as laid down in the Schedule rate of progress, or if he shall continue to default or repeat such default in the respects mentioned in clause-27 of the APSS Engineer-in-Charge shall take action in accordance with Clause 61 of APSS.

4.27.2 If the Contractor stops work for 28 days and the Stoppage has not been authorised by the Engineer-in-Charge the Contract will be terminated under Clause 61 of APSS.

4.27.3 If the Contractor has delayed the completion of works the Contract will be terminated under Clause-61 of APSS.

4.28 Extension of the Intended Completion Date:

4.28.1 The Engineer-in-Charge shall extend or recommend for extension, in accordance with the Government orders in force, the Intended Completion Date if a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date.

4.28.2 The Engineer-in-Charge shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

4.29 Delays Ordered by the Engineer-in-Charge:

4.29.1 The Engineer-in-Charge may instruct the Contractor to delay the start or progress of any activity within the Work.

4.30 Early Warning:

4.30.1 The contractor is to warn the Engineer-in-Charge at the earliest opportunity of specific likely future events or circumstances that may adversely affect the Execution of Works.

4.30.2 The Contractor shall cooperate with the Engineer-in-Charge in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer-in-Charge.

4.31 Management Meetings:

4.31.1 The Engineer-in-Charge may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the programme for remaining work and to deal with matters raised in accordance with the early warning procedure.

C. QUALITY CONTROL

4.32 Identifying Defects:

4.32.1 The Engineer-in-Charge shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer-in-Charge may instruct the Contractor to verify the Defect and to uncover and test any work that the Engineer considers may be a Defect.

4.33 Tests:

4.33.1 If the Engineer-in-Charge instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the Contractor shall pay for the test and any samples.

4.34 Correction of Defects:

4.34.1 The Engineer-in-Charge shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins on Completion. The defects liability period shall be extended for as long as defects remain to be corrected by the Contractor.

- 4.34.2 Every time notice of a Defect is given, the Contractor shall correct the notified defect within the length of time specified by the Engineer-in-Charge's notice.

4.35 Uncorrected Defects:

- 4.35.1 If the contractor has not corrected the defect within the time specified in the Engineer-in-Charge's notice, the Engineer-in-Charge will assess the cost of having the defect corrected and the contractor will pay this amount.
- 4.35.2 The Engineer-in-Charge shall introduce O.K. cards and prescribed the formats there of. O.K. cards shall relate to all major components of the work. The contractor / his authorised representative shall be required to initiate and fill in and present the O.K. card to the construction staff who would check the respective items and send to the quality control staff for final check and clearance / O.K. Any defects pointed out by the construction supervision staff or by the Quality Control staff shall promptly be attended to by the contractors and the fact of doing so be duly recorded on the back of O.K. card.
- 4.35.3 The Engineer-in-Charge may also introduce checklists, which shall be kept in Bound registers by the construction supervision staff. The contractor may be required to fill up these lists in the first instance and shall be subsequently checked by the Construction / Quality Control engineers.

4.36 Quality Control:

- 4.36.1 In addition to the normal inspection by the regular staff in-charge of the Construction of work, the work will also be inspected by the Executive Engineer (Q.C) and Quality control staff and any other authorized external Agency if any sub-standard work or excess payments are noticed with reference to measurement books etc., during inspection, action will be taken based on their observations and these will be effected by the Engineer-in-Charge of the execution of the work.
For all works costing more than Rs.2.00 Crore the Contractor shall submit quality plan and also show proof of owning quality lab or tie-up with an established quality lab.
The Quality control test reports and inspection reports shall invariably be accompanied along with final bill for all capital works.

4.36.2 Recoveries:

- 4.36.3 Recoveries to be effected from the contractors for deficient execution of work as per Circular Memo No: 582/Vig-I/1/2005-1, Dated: 23-03-2006 communicated by the Engineer-in-Chief (R&B) Admn& Roads, vide Memo No: 3027/ QC/ AEE5/ DEE2/ MC/ 2006, Dated: 28-10-2006.
- 4.36.4 The following guidelines shall be followed in regards to maintenance of quality, quantity and penalties to be imposed for deficient execution of work on the contractors:

I. FORMATION

- a. Density: The density of the materials shall conform to MORTH table 300-1. The earth work shall be compacted to the required density i.e., 95% for OMC. The determination of density shall be as per IS 2720 (Part 28).

Acceptance Criteria: The density test location shall be chosen only through random techniques as closer as required to yield the minimum number of test results for evaluating a day's work. At least one measurement of density for every 1000 square meters of compacted area shall be taken. The number of tests in onset of measurements shall be 6 (if Nondestructive tests are conducted it shall be double). If considerable variations are observed between individual density results minimum number of tests in one set shall be increased to 10. Control shall not be based on any one test but on the mean value of set 5-10 density determination. The mean density shall not be less than the specified density plus $[1.65 - (1.65 / (\text{no. of samples})^{0.5})]$ times the standard deviation.

- b. RECOVERY FROM CONTRACTOR: If any deviation is beyond the above limit, the work shall be rejected.

II. GSB / WMM / WBM

- a. Thickness: The averages thickness shall be based on 5 points in a C/s for two lane and 3 points for single lane and proportionately increased for additional lanes. (At least two cross sections in 1 Km length or less). The average thickness shall not be less than specified thickness.

- b. Over size of Metal : Whenever graded metal is used.

- i) No oversize will be allowed over and above the range specified as per in the first sieve (top sieve).
- ii) Over size in sieves other than top sieve – the difference in the rates of the metal of the specified size and next higher size in the specified grade should be recovered for that quantity of oversize metal.
- iii) However if the over size in any sieve other than top sieve is found to be above 30%, metal collected should be rejected.

- c. Weight: The physical requirements shall conform to MORTH table 400-6/400-10. The density of the compacted layer shall be at least 98% of the maximum dry density as determined for the material as per IS 2720 (Part 8). The weight of material (for WBM) shall not be less than the quantity specified in the data as per density of metal to be recorded prior to usage. However 10% tolerance may be permitted due to crushing of edges and corners, deviations in the measurement pit (0.5 x 0.50 m).

RECOVERIES:

1. Shortfall in thickness / quantity / weight

- a) If shortfall is up to 10% in any one of the above parameters i.e., a+b+c = 10% specified oversize, thickness / weight – in a KM Recovery @ twice the agreement rates to be effected for the deficiency.
- b) If shortfall is between 10% and 20% in any one of the above parameters i.e., a+b+c = 10% to 20% specified oversize, thickness / weight – in KM Recovery to be effected @ thrice the agreement rates for the deficiency.
- c) If shortfall is more than 20% in any one of the above parameters i.e., of specified oversize, thickness / quantity / weight – the work is to be rejected and redone.
- d) In case both deficiency i.e., thickness & weight of metal is noticed, the recovery shall be for the maximum of the two deficiencies.

III. SDBC /MSS/ BM / DBM Bituminous items:

a) Thickness : The average thickness shall be the arithmetic mean of the difference of levels before and after construction at all grid points in that area i.e., at every 10 m c.c. longitudinally and 0.75 m and 2.75m on two lanes, 1.25 m on single lane transversely. The recovery for less thickness shall be as under.

b) Binder quantity: The binder content shall have to be tested at the plant or mix at the time of laying. Research carried out in the country revealed that with manage of time there would be loss of bitumen in layer which may occur from day one. Further the testing procedure / sampling itself varies from laboratory to laboratory, person to person and the results are subject to efficiency of the personnel as well as equipment.

The MORTH specification gives a tolerance of + 0.30% which in fact is for the plant mix and cannot be straight away applied for tests conducted on the surface after lapse of time. The bitumen extraction tests shall have to be conducted as early as possible and in no case beyond 6 months.

Considering all these aspects the variations in Binder content and recoveries to be effected are:

- 1) 0-10% recovery to be effected @ twice the agreement.
- 2) 10-15% recovers to be effected @ thrice the agreement.
- 3) More than 15% the layer shall be rejected and re-laid.

RECOVERIES:

1. Shortfall in thickness / quantity / weight.

- a) If shortfall is up to 10% in the specified thickness / quantity / weight – Recovery @ twice the agreement rates to be effected for the deficiency in quantity.
- b) If shortfall is between 10% and 20% in the specified thickness / quantity / weight – Recovery to be effected @ thrice the agreement rates for the deficiency in quantity.
- c) If shortfall is more than 20% of specified thickness / quantity / weight – the work is to be rejected and redone.

As per circular Memo.Committee of CEs meeting/AEE2/DEE/MC/2008 dt.21.4.2008 of the Engineer-in-Chief(R&B) Admin, & NH, A.P., Hyderabad.The recovery of the extent of undersize usage percentage in execution of WMM/WBM. The following recoveries to be made from the contractors work bills as detailed below:

Deficiency (In percentage) under size aggregate	Recovery
0-5	One time recovery
5-10	Two times recovery
10-15	Three times recovery
Greater than 15	Rejection of work

IV. CONCRETE ITEMS: The testing and tolerance shall be as per MORTH section 903.5. No deviations are acceptable in thickness of PCC / all members except concrete pavements. In case of strength requirement in which established based on concrete cores / cubes no deviation is permitted from specified strength. However if the lesser strength concrete is allowed duly satisfying design criteria the rate of lower grade concrete or equipment to the actual strength only shall be paid.

PAYMENT ADJUSTMENT FOR DEFICIENCY IN THICKNESS.

Deficiency in the average thickness of day's work	Percent contract unit price payable
Up to 5 mm	100
6 – 10 mm	87
11 – 15 mm	81
16 – 20 mm	75

21 – 25 mm	60
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GENERAL:

1. The edges of the carriageway shall be correct within a tolerance of +/- 10mm.
2. The negative tolerance of top layer shall not be permitted in conjunction with positive tolerance of bottom layer.
3. The QC shall inspect the work at every stage of execution particularly before laying bituminous layers & during execution of BT layer on their own. QC is meant for quality assurance, any check after completion does not serve the quality assurance.

The contractor shall test all the materials as per agreement specifications and results shall be recorded duly signed by the contractor or his representative and the section officer. The name of work and quarry location shall be clearly noted in the test reports.

D. Cost Control**4.37 Bill of Quantities:**

- 4.37.1 The Bill Quantities shall contain items for the construction work to be done by the Contractor.
- 4.37.2 The Contractor is paid for the quantity of the work done at the estimate rate in the Bill of Quantities for each item plus or minus Tender percentage.

4.38 Changes in the Quantities:

- 4.38.1 The contractor is bound to execute all supplemental works that are found essential, incidental and inevitable during execution of main work.
- 4.38.2 The payment of rates for such supplemental items of work will be regulated as under;
- 4.38.3 Supplemental items directly deducible from similar items in the original agreement.
- 4.38.4 The rates shall be derived by adding to or subtracting from the agreement rate of such similar item the cost of the difference in the quantity of materials, labour between the new items and similar items in the agreement worked out with reference to the Standard Schedule of Rates adopted in the sanctioned estimate with which the tenders are accepted plus or minus over all tender percentage.
 - (a) Similar items but the rates of which cannot be directly deduced from the original agreement.
 - (b) Purely new items which do not correspond to any item in the agreement.
 - (c) The rates of all such items shall be Estimated Rates plus or minus overall Tender premium.

4.39 Extra Items:

- 4.39.1 Extra items of work shall not vitiate the contract. The contractor shall be bound to execute extra items of work as directed by the Engineer-in-Charge. The rates for extra items shall be worked out by the Executive Engineer as per the conditions of the Contract and the same are binding on the Contractor.
- 4.39.2 The contractor shall before the 15th day of each month, submit in writing to the Executive Engineer a statement of extra items if any that they have executed during the preceding month failing which the contractor shall not be entitled to claim any.
- 4.39.3 Entrustment of additional items:
 - 4.39.3.1 Where ever additional items not contingent on the main work and outside the scope of original agreement are to be entrusted to the original contractor dispensing with bids and if the value of such items exceeds the limits up to which the officer is empowered to entrust works initially to contractor without calling for tenders, approval of next higher authority shall be obtained. Entrustment of such items on nomination shall be at rates not exceeding the estimated rates or minus overall tender premium.
 - 4.39.3.2 Entrustment of the additional items contingent on the main work will be authorized by the officers up to the monetary limits up to which they themselves are competent to accept items in the original agreement so long as the total amounts up to which they are competent to accept in an original agreement rates for such items shall be worked out in accordance with the procedure (I) For all items of work in excess of the quantities shown in the Bill of Quantities of the Tenders, the rate payable for such items shall be estimate rates for the items (+) or (-) over all tender percentage accepted by the competent authority.
 - 4.39.3.3 Entrustment of either the additional or supplemental items shall be subject to the provisions of the agreement entered into by a Competent Authority after the tender is accepted. The Chief Engineer being the authority next higher to the Superintending Engineer, who entered into the agreement approves the rate for the items / variation in quantity in the current agreement. The items shall not be ordered by an officer on his own responsibility if the revised estimate or deviation statement providing for the same requires the sanction of higher authority.

Note: It may be noted that the term Estimate Rate used above means the rate in the sanctioned estimate with which the tenders are accepted, or if no such rates is available in the estimate, the rate derived will be with reference to the Standard Schedule of Rates adopted in the sanctioned estimate with which tenders are accepted.

4.40 Cash flow forecasts:

4.40.1 When the program is updated, the contractor is to provide the Engineer-in-charge with an updated cash flow forecast.

4.41 Payment Certificates:

4.41.1 The Contractor shall submit to the Engineer-in-charge monthly statements of the estimated value of the work completed less the cumulative amount certified previously. The EE concerned shall arrange payment within week to the contractor from the receipt of claim from contractor

4.41.2 The value of work executed shall be determined by the Engineer-in-charge.

4.41.3 **The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.**

4.41.4 The Engineer-in-charge may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

4.42 Payments:

4.42.1 Payment for the work done by the contractor will be made for the finished work based on the measurements recorded in measurement books by any officer of the department not lower in rank than a Assistant Engineer and check measured by any officer not lower in rank than a Deputy Executive Engineer. The measurement shall be recorded at various stages of the work done and also after work is completed. The contractor shall be present at the time of recording of each set of measurement and their check measurement and accept them then and there so as to avoid disputes at a later stage. If the contractor is not available at the work spot at the time of recording measurements or check measurements the particulars of measurements shall be signed by the authorised agent of contractor based on which the contractor shall accept the set of measurements without any further dispute. If for any reason the contractor's authorised agent is also not available at site when the department decides to suspend the work recording of measurements in the absence of the contractor or his authorised representative the department shall not entertain any claim from the contractor for any loss incurred by him on this account. The Contractor shall however note that the Department cannot indefinitely wait for recording the measurement due to the absence of the Contractor and his authorised agent and check measure them even in the absence of the contractor.

4.42.2 The contractor can claim part bills monthly once or unpaid amount accumulates to 20% of agreement value, which ever earlier. Accordingly, preparation & payment of part bill will be made by one week from the date of receipt of claim from the contractor. In the case of final bill, payment will be made within three weeks from the date of receipt of claim from the contractor, subjected to fulfilling the agreement conditions.

Deposits will be refunded within two weeks from the date of receipt of request from the contractor, subject to fulfilling the agreement conditions.

The actual volume of stone and aggregates shall be computed after deducing the following percentages from the volume computed by stack measurements.

S. No	Standard size of aggregate and stone	Percentage reduction in volume computed by stack measurements to arrive at the volume to be paid for
1.	Stone	40
2.	40 mm and 25 mm	10
3.	20 mm, 12 mm, 10 mm & 6 mm	5
4.	Fine aggregate	Nil
5.	Gravel	20

[Note: The above Table may be modified depending on the type of work.]

4.42.3 Payments and Certificates:

4.42.4 Payments shall be adjusted for recovery of advance payments, liquidated damages in terms of tender conditions and security deposit for the due fulfillment of the contract. Payment will be made to the Contractor under the certificate to be issued at reasonably frequent intervals by the Engineer-in-Charge, and intermediate payment will be the sum equal to 92½% of the value of work done as so certified and **On completion of the entire works the contractor will receive the final payment of all the money due or payable to him under or by virtue of the contract except retention money of a sum equal to 7½ percent of the total value of the work done. The EMD of 2.5% and withheld amount of 7.5% from the final bill will be retained under deposits. Out of these retained deposits, 25% security deposit will be released after expiry of 12 months from the date of completion of work and on satisfactory attending of the defects during the said period, next 25% of the security deposit will be released after expiry of 36 months from the date of completion of work and on satisfactory attending of the defects during the said period and**

remaining 50% of the security deposit will be released after expiry of 60 months from the date of completion of work and on satisfactory performance during defect liability period.

4.42.5 Defects liability period shall be taken as Twelve (12) months from the date of completion of the work for building as a whole, wherein all the defects shall be rectified by the contractor at his own cost.

4.42.6 Defects of serious nature causing inconvenience such as leakage, reverse floor slopes affecting the drainage (ponding of water), warping and opening of joints in doors and window shutters etc., shall be undertaken by the contractor immediately on receipt of the complaint but not exceeding one week time, failing which the defects will be got removed at his risk and cost plus 25% as supervision and establishment charges.

4.42.7 All other defects notified to the contractor during the DLP shall be rectified to the entire satisfaction of Engineer-in-Charge or item replaced as soon as possible but not later than one month in any case. Failure to do so in a reasonable period the Engineer-in-Charge shall get it done at his cost plus 25% as supervision and establishment charges after final notice of 10 days. The decision of Engineer-in-Charge regarding a defect being of serious nature or otherwise shall be final and binding.

4.42.8 The major scope of the defect liability will be as under. However, the DLP is not limited to these items and all the works executed shall be maintained during DLP of 60 months.

S.No	Description	Defect Liability
(i)	Concrete work	(a) Rectification of structural /superficial/non-structural cracks. (b) Rectification of dampness/leakages/seepage in roof slab/junctions & sunken portion, depressed portion, through RCC slab, vertical ties, bands, walls, base slab, junction of RCC walls with base slab and construction joints of RCC water tanks. (c) Rectification of cracks in girders, beam, slab, column, lintels, vertical ties, plinth bands, lintel band setc. (d) Painting the same matching with the original paint.
(ii)	Brick work / AAC work	(a) Rectification of cracks in confined masonry panel wall/partition wall in full length or in part portion. (b) Cracks / settlement of main wall, partition wall or dwarf walls. (c) Rectification of efflorescence, dampness and painting matching with original paint.
(iii)	Woodwork & Joinery	(a) Replacement of warped / bent / weather affected joinery, termite & borer affected joinery of wooden door / window shutters and frames. (b) Cracks in panels, bars / rails / styles of wooden door / window shutters, glasses etc. Including painting matching with original paint.

(iv)	Builders Hardware	(a) Repairs / Replacement of loosened / premature failure of fittings including lever mechanics in door locks, hydraulic door closers, handles, tower bolts, cupboard locks etc. (b) Tightening / Replacement of sag in mosquito proofing SS net.
(v)	Steel & iron work	(a) Rectification / Replacement of defective part of girders, gate, shutter, etc. (b) Redoing of defective portion in fabrication / welding including painting thereon. (c) Structural steel work and SS railing. (d) Windows, grills, gates etc. – Defects to be rectified.
(vi)	Roof treatment	(a) Rectification of leakage / seepage in roof slab, expansion/ seismic joints, floor junctions, inadequate/ faulty slope, drain outlets, including covering at junction till guarantee period.

(vii)	Finishing work	(a) Rectification of structural / superficial cracks. (b) Rectification of protruding / peeling off plaster. (c) Rectification of efflorescence, dampness appeared. (d) Undulation / unevenness in plaster. (e) Paint & polishing.
(viii)	Flooring work	(f) Rectification of sunken / deflected / depressed portion of plinth protection, flooring in rooms, toilets, entrance foyer, staircase and other locations. (g) Rectification / Replacement of settled floors. (h) Settlement of foundation & floors and resultant undulation of door finishes. (i) Rectification / Replacement of floor tiles which are sunken / uneven / undulating at joints / different in colour, texture, etc.
(ix)	Electrical items, accessories	(j) Repair of defective fittings such as lights, fans and wiring etc., (k) Replacement of damaged/ defective/ burnt out parts/ fittings. (l) Repair to damaged flooring
(x)	Water supply & sanitary items	(m) Repair of defective fittings, lines etc., (n) Replacement of damaged fittings, lines etc.,
(xi)	Furniture / Installations	(o) The furniture / installation: If it is reparable shall be repaired, if it is irreparable shall be replaced with new one.

Note: The above list is illustrative for civil work and not exhaustive. The rectification will include all Civil, Electrical and all other works including internal and external services without any exclusion.

- 4.42.8.1 In case of over payments or wrong payment if any made to the contractor due to wrong interpretation of the provisions of the contract, APSS or Contract conditions etc., such unauthorized payment will be deducted in the subsequent bills or final bill for the work or from the bills under any other contracts with the T.T.Devasthanams / Government or at any time thereafter from the deposits available with the Government / T.T. Devasthanams.
- 4.42.8.2 Any recovery or recoveries advised by the Government Department either state or central, due to non-fulfillment of any contract entered into with them by the contractor shall be recovered from any bill or deposits of the contractor.
- 4.42.8.3 No claim shall be entertained, if the same is not represented in writing to the Engineer-in-Charge within 15 days of its occurrence.
- 4.42.8.4 The contractor is not eligible for any compensation for inevitable delay in handing over the site or for any other reason. In such case, suitable extensions of time will be granted after considering the merits of the case.

4.42.9 Intermediate Payments:

- 4.42.9.1 For intermediate Stage of work, only part rates as fixed by the Engineer-in-Charge will be paid.
- 4.42.9.2 Part rates shall be worked out for the work done portion based on the actual operations involved keeping in view the value of the balance work to be done, to avoid unintended benefit to the Contractor in initial Stage.
- 4.42.9.3 Full rate shall be paid when the work is completed to the full profile as noted in the drawings/ specifications.
- 4.42.9.4 For earthwork in cutting, 10% of the quantity will be with-held for intermediate payments and the same will be released after completing the work to the profiles as per drawings and disposal of the spoil material at the specified places and handing over the balance useful stone.
- 4.42.9.5 For earthwork, embankment formation work, 10% of the quantity will be withheld for intermediate payments and the same will be released after completing the bund to the profiles as per drawings including trimming of side slopes and all other works contingent to the bund profile.
- 4.42.9.6 For the structure works either with masonry or concrete where the height of structure is more than three meters, the quantities executed in the lower level will be withheld at the rate of one percent for every three meters height, if the balance height of the structure work is more than three meters in being over the executed level and the same will be released only after the entire work is completed as certified by the Engineer-in-Charge.
- 4.42.9.7 For C.M. & C.D. works and for lining works, spread over more than 2 Km. In length 5 percent of the concrete and Masonry quantities will be withheld and the same will be released after

completion of all C.M. & C.D. works and lining for the entire length certified by the Engineer-in-Charge.

- 4.42.9.8 Where payment is intended for aggregates by Bill of Quantities item based on stack measurements, 10% of the quantity measured will be withheld. No payment or advance will be made for unfixed materials when the rates are for finished work in site.

4.43 Interest on Money due to the Contractor:

- 4.43.1 No omission by the Executive Engineer or the sub-divisional officer to pay the amount due upon certificates shall vitiate or make void the contract, nor shall the contractor be entitled to interest upon any guarantee fund or payments in arrears, nor upon any balance which may, on the final settlement of his accounts, found to be due to him.

4.44 Certificate of Completion of works:

- 4.44.1 When the whole of the work has been completed and has satisfactorily passed any final test that may be prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer-in-Charge accompanied by an undertaking to carry out any rectification work during the period of maintenance, such notice and undertaking shall be in writing and shall be deemed to be request by the Contractor for the Engineer-in-Charge to issue a Certificate of completion in respect of the Works. The Engineer-in-Charge shall, within twenty one days of the date of delivery of such notice either issue to the Contractor, a certificate of completion stating the date on which, in his opinion, the works were completed in accordance with the Contract or give instructions in writing to the Contractor specifying all the Works which, in the Engineer-in-Charge" opinion, required to be done by the Contractor before the issue of such Certificate. The Engineer-in-Charge shall also notify the Contractor of any defects in the Works affecting completion that may appear after such instructions and before completion of the Works specified there in. The Contractor shall be entitled to receive such Certificate of the Completion within twenty one days of completion to the satisfaction of the Engineer-in-Charge of the Works so specified and making good of any defects so notified.

- 4.44.2 Similarly, the Contractor may request and the Engineer-in-Charge shall issue a Certificate of Completion in respect of:

- a) Any section of the Permanent works in respect of which a separate time for completion is provided in the Contract, and
- b) Any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer-in-Charge and occupied or used by the Department.

- 4.44.3 If any part of the Permanent Works shall have been completed and shall have satisfactorily passed any final test that may be prescribed by the Contract, the Engineer-in-Charge may issue such certificate, and the Contractor shall be deemed to have undertaken to complete any outstanding work in that part of the Works during the period of Maintenance.

4.45 Taxes included in the bid:

- 4.45.1 The percentage quoted by the contractor shall be deemed to be inclusive of the taxes on all materials that the contractor will have to purchase excluding the GST for performance of this contract.**

- 4.45.2 Any central or state sales and other taxes on completed item of works of this contract (other than clause 4.101) as may be levied and paid by the contractor are to be borne by the contractor only.

4.46 Price adjustment

- 4.46.1 Price adjustment shall apply for cement and steel as per the G.O. MS.No.94 R&B (RI) Dept. Govt. A.P. dt:16-4-2008 and G.O.MS 1 Finance (Work & Projects F7) department dt: 25-02-2012

- 4.46.2 The price adjustment shall apply only for the work carried out within the agreement period and shall not apply to work carried out beyond the agreed period of completion.

- 4.46.3 The price adjustment shall be for works for which valid extension given for natural calamities duly limiting to the actual period / days lost and for portion of work where work is delayed due to land acquisition / shifting of utilities. (This shall also be limited to actual length affected.)

- 4.46.4 The variation clause will be when the variation in rates is more or less than 5% of the rate provided in the technical sanctioned estimate based on which bids are invited or all India wholesale price Index of the respective item

- 4.46.5 Price adjustment shall be calculated separately for the components of the payment for the work done as per the above G.O. MS.No.94 R&B (RI) Dept. Govt. A.P. dt:16-4-2008 and G.O.MS 1 Finance (Work & Projects F7) department dt: 25-02-2012.

4.47 Retention:

- 4.47.1 The department shall retain from each payment due to the contractor @ the rate of 7.5% of bill amount until completion of the whole of the Works.

- 4.47.2 On completion of the entire works the contractor will receive the final payment of all the money due or payable to him under or by virtue of the contract except retention money of a sum equal to 7½ percent of the total value of the work done. The EMD of 2.5% and withheld amount of**

7.50% from the final bill will be retained under deposits. Out of these retained deposits, 25% security deposit will be released after expiry of 12 months from the date of completion of work and on satisfactory attending of the defects during the said period, next 25% of the security deposit will be released after expiry of 36 months from the date of completion of work and on satisfactory attending of the defects during the said period and remaining 50% of the security deposit will be released after expiry of 60 months from the date of completion of work and on satisfactory performance during defect liability period.

4.48 Liquidated Damages:

4.48.1 If for any reason, which does not entitle the contractor to an extension of item, the rate of progress of works, or any section is at any time, in the opinion of the Superintending Engineer too slow to ensure completion by the prescribed time or extended time for completion Superintending Engineer shall so notify the contractor in writing and the contractor shall there upon take such steps as are necessary and the Superintending Engineer may approve to expedite progress so as to complete the works or such section by the prescribed time or extended time. The contractor shall not be entitled to any additional payment for taking such steps. If as a result of any notice given by the Superintending Engineer under this clause the contractor shall seek the Superintending Engineers permission to do any work at night or on Sundays, if locally recognized as days or rest, or their locally recognized equivalent, such permission shall not be unreasonably refused.

4.48.2 If the contractor fails to complete whole of the works or any part thereof or section of the works within the stipulated periods of individual mile stones (including any bonafide extensions allowed by the competent authority without levying liquidated damages), the Superintending Engineer may without prejudice to any other method of recovery will deduct one tenth of one percent of contract value per calendar day or part of the day for the period of delays subject to a maximum of 10% of the contract value not as a penalty from any monies in his hands due or which may become due to the contractor. The payment or deductions of such damages shall not relieve the contractor from his obligation to complete the works, or from any other of his obligations and liabilities under the contract.

4.48.3 The liquidated damages for the whole of the work are

For milestone 1	Rs.	Per day
For milestone 2	Rs.	Per day
For milestone 3	Rs.	Per day

4.48.4 The maximum amount of liquidated damages for the whole of the works is ten percent of final contract price.

4.48.5 The mile stones will be filled at the time of Agreement after obtaining a Program of the work.

4.49 Mobilization Advance:

4.49.1 No advance whatsoever either for mobilization of machinery and materials of the execution of work will be given under any circumstances. The tender received with such conditions will be summarily rejected.

4.50 Securities:

4.50.1 The Earnest Money Deposit and Additional Security (for discount tender percentage beyond 25%) shall be provided to the Department not later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank acceptable to the Department. The Earnest Money shall be valid until a date 28 days from the date of expiry of Defects Liability Period of 60 months and the additional security shall be valid until a date 28 days from the date of issue of the certificate of completion.

4.51 Cost of Repairs:

4.51.1 Loss or damage to the Works or materials to the Works between the Start Date and the end of the Defects Correction Periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. FINISHING THE CONTRACT

4.52 Completion:

4.52.1 The Contractor shall request the Engineer-in-Charge to issue a Certificate of completion of the Works and the Engineer-in-Charge will do so upon deciding that the work is completed.

4.53 Taking Over:

4.53.1 The Department shall takes over the Site and the Works within seven days of the Engineer-in-Charge issuing a certificate of Completion.

4.54 Final Account:

4.54.1 The Contractor shall supply to the Engineer-in-Charge a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period of 60 months. The Engineer-in-Charge shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer-in-Charge shall issue within 56 days a schedule that states the

scope of the corrections or additions that are necessary. If the final Account is still unsatisfactory after it has been resubmitted, the Engineer-in-Charge shall decide on the amount payable to the Contractor and issue a payment certificate within 56 days of receiving the Contractor's revised account.

4.55 Termination:

4.55.1 The Department may terminate the Contract if the contractor causes a fundamental breach of the Contract.

4.55.2 Fundamental breaches of Contract include, but shall not be limited to the following.

- a) The Contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Engineer-in-Charge.
- b) The Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation.
- c) The Engineer-in-Charge gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer-in-Charge; and
- d) The Contractor does not maintain a security which is required and
- e) The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined.
- f) If the contractor, in the judgment of the Department has engaged in corrupt or fraudulent practices in competing for or in the executing the contract.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the TTD and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the TTD of the benefits of free and open competition.

4.55.3 Notwithstanding the above the Department may terminate the contract for convenience.

4.55.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secured. Leave the Site as soon as reasonably possible.

4.56 Property:

4.56.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Department if the Contract is terminated because of Contractor's default.

4.57 Release from Performance:

4.57.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Department or the Contractor, then the Engineer-in-Charge shall certify that the contract has been frustrated. The Contractor shall make the site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all works carried out before receiving it and for any work carried out afterwards to which commitment was made.

F. SPECIAL CONDITIONS

4.58 Water Supply:

4.58.1 It is the responsibility of the Contractor to make his own arrangements for water supply for the work and labour, at his own cost. The Department will not take any responsibility to arrange for water at work site. However In case the department supply is available at nearby point, the contractor will be permitted to draw water from this point subject to availability and the contractor has to make necessary arrangements for drawl of water by providing pipe line and installing a pump set form the source at his cost and the contractor has to pay the charges at 0.25% of the grass value of the works, which will be deducted from the running bills on pro-rata basis.

4.58.2 The water used for the construction shall be complied with, as per the relevant standards. The rates quoted by the contractor are deemed to be inclusive of all the above costs and operations and no compensation on this account will be allowed at later date.

4.59 Electric Power for Domestic Supply:

- a) The contractor shall make his own arrangements for obtaining power from the Electricity dept., at his own cost. The contractor will pay the bills of Electricity Department for the cost of power consumed by him.
- b) The contractor shall satisfy all the conditions and rules required as per Indian Electricity ACT 1910 and under Rule-45(l) of the Indian Electricity Rules, 1956 as amended from time to time and other pertinent rules.
- c) The power shall be used for bonafide Departmental work only.

4.60 Land:**4.60.1 Land for Contractor's use:**

The contractor will be permitted to use T.T.Devasthanams land for execution of work. The contractor shall have to make his own arrangements for acquiring and clearing the site, leveling, providing drainage and other facilities for labour staff colonies, site office, work-shop or stores and for related activities. The Contractor shall apply to the Department within a reasonable time after the award of the contract and at least 30 days in advance of its use, the details of land required by him for the work at site and the land required for his camp and should any private land which has not been acquired, be required by the contractor for his use. The same may be acquired by the contractor at his own cost by private negotiations and no claim shall be admissible to him on this account.

The Engineer-in-Charge reserves the right to refuse permission for use of any government land for which no claim or compensation shall be admissible to the contractor. The contractor shall, however, not be required to pay cost or any rent for the T.T.Devasthanams land given to him.

4.60.2 Surrender of Occupied Land:

- a) The T.T.Devasthanams land as here in before mentioned shall be surrendered to the Engineer-in-Charge within seven days, after issue of completion certificate. Also no land shall be held by the contractor longer than the Engineer-in-Charge shall deem necessary and the contractor shall on the receipt of due notice from the Engineer-in-Charge, vacate and surrender the land which the Engineer-in-Charge may certify as no longer required by the Contractor for the purpose of the work.
- b) The contractor shall make good to the satisfaction of the Engineer-in-Charge any damage to areas, which he has to return or to other property or land handed over to him for purpose of this work. Temporary structures may be erected by the contractor for storage sheds, offices, residences etc., for non-commercial use, with the permission of the Executive Engineer on the land handed over to him at his own cost. At the completion of the work these structures shall be dismantled site cleared and handed over to the Executive Engineer. The land required for providing amenities will be given free of cost from TTD/ Government lands if available otherwise the contractor shall have to make his own arrangements.

4.60.3 Contractor not to dispose of Spoil etc.: -

The contractor shall not dispose off or remove except for the purpose of fulfillment of this contract, sand, stone, clay ballast, earth, trees and shrubs or other materials obtained in the excavation made or lying on the site of the work, and all such materials and produce shall remain property of the T.T.Devasthanams / Government. The Department may upon request from the contractor, or if so stipulated in the conditions of the contract allow the contractor to use any of the above materials for the works either free of cost or after payment as may be specifically mentioned or considered necessary during the execution of the work

4.61 Roads:

In addition to existing public roads and roads Constructed by T.T.Devasthanams / Government, if any, in work area all additional approach roads inside work area and camp required by the Contractor shall be constructed and maintained by him at his own cost. The layout design, construction and maintenance etc. of the roads shall be subject to the approval of the Engineer-in-Charge. The contractor shall permit the use of these roads by the T.T.Devasthanams / Government free of charge.

It is possible that work at, or in the vicinity of the work site will be performed by the T.T.Devasthanams / Government or by other contractors engaged in work for the Government during the contract period. The contractor shall without charge permit the government and such other contractor and other workmen to use the access facilities including roads and other facilities, constructed and acquired by the contractor for use in the performance of the works.

The contractor's heavy construction traffic or tracked equipment shall not traverse any public roads or bridges unless the contractor has made arrangement with the authority concerned. In case contractor's heavy construction traffic or tracked equipment is not allowed to traverse any public roads or bridges and the contractor is required to make some alternative arrangements, no claim on this account shall be entertained.

The contractor is cautioned to take necessary precautions in transportation of construction materials to avoid accidents.

4.62 Payment for Camp Construction:

No payment will be made to the contractor for construction, operation and maintenance of camp and other camp facilities and the entire cost of such work shall be deemed to have been included in the tendered rate for the various items of work in the schedule of quantities and bids.

4.63 Explosive And Fuel Storage Tanks:

No explosive shall be stored within ½ (half) KM of the limit of the camp sites. The storage of gasoline and other fuel oils or of Butane, Propane and other liquefied petroleum gases, shall conform to the regulations of Government of India. The tanks, above ground and having capacity in excess of 2000 liters, shall not be located within the camp area, nor within 200m, of any building.

4.64 Labour:

- 1) The contractor shall, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.
- 2) Labour importation and amenities to labour and contractor's staff shall be to the contractor's account. His quoted percentage shall include the expenditure towards importation of labour amenities to labour and staff;
- 3) The contractor shall, if required by the Engineer-in-Charge, deliver to the Engineer-in-Charge a written in detail, is such form and at such intervals as the Engineer-in-Charge may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the contractor on the Site and such information respecting Contractor's Equipment as the Engineer-in-Charge may require.
- 4) **Transportation of Labour:**
The contractor shall make his own arrangement for the daily transportation of the labour and staff from labour camps colonies to the work spot and no labour or staff of the contractor shall stay at the work spot. No extra payment will be made to the contractor for the above transportation of the labour and his quoted percentage to the work shall include the transportation charges of labour from colonies to work spot and back.
- 5) The contractor will at all times duly observe the provisions of employment of children Act XXVI of 1938 and any enactment or modification of the same and will not employ or permit any person to do any work for the purpose under the provisions of this agreement in contravention of said Act. The contractor here by agrees to indemnify the department from and against all claims, penalties which may be suffered by the department or any person employed by the department by any default on the part of the contractor in the observance and performance of the provisions of the employment of children Act. XXVI of 1938 or any enactment or modification of the same.
- 6) As per Govt. memo No.721/Gr.(1)/81-35, dt:17.11.87. The contractor shall obtain the insurance at his own cost to cover the risk on the works to labour engaged by him during period of execution against fire and other usual risks and produce the same to the Executive Engineer concerned before commencement of work.

4.65 Safety Measures:

The contractor shall take necessary precautions for safety of the workers and preserving their health while working in such jobs, which require special protection and precautions. The following are some of the measures listed but they are not exhaustive and contractor shall add to and augment these precautions on his own initiative where necessary and shall comply with directions issued by the Executive Engineer or on his behalf from time to time and at all times:

1. Providing protective foot wear to workers situations like mixing and placing of mortar or concrete sand in quarries and places where the work is done under much wet conditions.
2. Providing protective head gear to workers at places like underground excavations to protect them against rock falls.
3. Providing masks to workers at granulates or at other locations where too much fine dust is floating about and sprinkling water at frequent intervals by water hoses on all stone crushing area and storage bins abate to dust.
4. Getting the workers in such jobs periodically examined for chest trouble due to too much breathing in to fine dust.
5. Taking such normal precautions like fencing and lightening in excavation of trenches, not allowing rolls and metal parts of useless timber spread around, making danger areas for blasting providing whistles etc.
6. Supply work men with proper belts, ropes etc., when working in precarious slopes etc.
7. Avoiding named electrical wire etc., as they would electrocute the works.
8. Taking necessary steps towards training the workers concerned on the machinery before they are allowed to handle them independently and taking all necessary precautions in around the areas where machines hoists and similar units are working.

4.66 Fair Wage Clause:

1. The contractor shall pay not less than fair wages to laborers engaged by him on the work.
2. "Fair" wages means wages whether for time or piecework notified by the Government from time to time in the area in which the work is situated.
3. The contractor shall not with-standing the revisions of any contract to the contrary cause to be paid to the labour, in directly engaged on the work including any labour engaged by the sub-contractor in connection with the said work, as if the labourers had been directly employed by him.

4. In respect of labour directly or indirectly employed in the works for the purpose of the contractors part of the agreement the contractor shall comply with the rules and regulations on the maintenance of suitable records prescribed for this purpose from time to time by the Government. He shall maintain his accounts and vouchers on the payment of wages to the labourers to the satisfaction of the Executive Engineer.
5. The Executive Engineer shall have the right to call for such record as required to satisfy himself on the payment of fair wages to the labourers and shall have the right to deduct from the contract amount a suitable amount for making good the loss suffered by the worker or workers by reason of the "fair wages" clause to the workers.
6. The contractor shall be primarily liable for all payments to be made and for the observance of the regulations framed by the Govt. from time to time without prejudice to his right to claim indemnity from his sub-contractors.
7. As per contract labour (Regulation and abolition) Act. 1970 the contractor has to produce the license obtained from the licensing officers of the labour department along with the tender or at the time of agreement.
8. Any violation of the conditions above shall be deemed to be a breach of his contract.
9. Equal wages are to be paid for both men and women if the nature of work is same and similar.
10. The contractor shall arrange for the recruitment of skilled and unskilled labour local and imported to the extent necessary to complete the work within the agreed period as directed by the Executive Engineer in writing.

4.67 Indemnity Bond:

Name of work:- "Providing false ceiling to Electronics and Physics Laboratories in SV College at New Delhi." I Sri _____ S/o Sri _____ aged _____ Resident of _____, do hereby bind myself to pay all the claims may come (a) under Workmen's Compensation Act. 1933 with any statutory modification thereof and rules there under or otherwise for or in respect of any damage or compensation payable in connection with any accident or injury sustained (b) under Minimum wages Act 1948 (c) under payment of wages Act.1936 (d) under the Contractor labour (Regulation and Abolition) Act. 1970 by workmen engaged for the performance of the business relating to the above contract ie., Failing such payment of claims of workmen engaged in the above work, I abide in accepting for the recovery of such claims, effected from any of my assets with the departments.

CONTRACTOR

4.68 Compliance With Labour Regulations:

During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notifications that may be issued under any labour law in future either by the State or the Central Government or the local authority and also applicable labour regulations, health and sanitary arrangements for workmen, insurance and other benefits. Salient features of some of the major labour laws that are applicable to construction industry are given below. The contractor shall keep the Department indemnified in case any action is taken against Department by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Department is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provision stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the contractor, the Engineer-in-charge /Department shall have the right to deduct any money due to the contractor including his amount of performance security. The Department/Engineer-in-Charge shall also have right to recover from the contractor any sum required or estimated to be required for making good the loss or damage suffered by the Department.

The employees of the Contractor and the Sub-contractor in no case shall be treated as the Department of the Department at any point of time.

4.69 Salient features of some major labour laws applicable to establishment engaged in buildings and other construction work:

- (a) Workmen compensation Act 1923: The Act provides for compensation in case if injury by accident arising out of and during the course of employment.
- (b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if any employee has completed 5 years service or more, or on death, the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments, employing 10 or more employees.

- (c) Employees P.F. and Miscellaneous provision Act 1952: The Act provides for monthly contributions by the Department plus workers @ 10% or 8.33%. The benefits payable under the Act are:
- (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.F. accumulation on retirement/death etc.,
- (d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinements or miscarriage etc.
- (e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided by the Principal Department by Law. The Principal Department is required to take certificate of Registration and the contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Department if they employ 20 or more contract labour.
- (f) Minimum wages Act 1948: The Department is supposed to pay not less than the Minimum wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment construction of Buildings, Roads, Runways are scheduled employments.
- (g) Payment of wages Act 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- (h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male or Female workers and for not making discrimination against Female employee in the matters of transfers, training and promotions etc.
- (i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payment of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs. 3500/- per month or less. The bonus to be paid to employees getting Rs.2500/- per months or above and upto Rs.3500/- per month shall be worked out by taking wages as Rs.2500/- per monthly only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- (j) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- (k) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the State and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Department on matters provided in the Act and get the same certified by the designated Authority.
- (l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and Departments. The Trade Unions registered under the act have been given certain immunities from civil and criminal liabilities.
- (m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes; Employment Child Labour is prohibited in Building and Construction Industry.
- (n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of service) Act 1979: The Act applicable to an establishment, which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another State). The inter State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.
- (o) The Building and Other Construction workers (regulation of Employment and conditions of service) Act 1996 and the Cess Act of 1996: All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay Cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Department of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-aid facilities, Ambulance, Housing accommodations for

workers near the work place etc. The Department to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

- (p) **Factories Act 1948:** The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 person or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

4.70 Liabilities of the Contractor:

4.70.1 Accident Relief and workmen compensation:

The contractor should make all necessary arrangements for the safety of workmen on the occurrence of the accident, which results in the injury or death of any of the workmen employed by the contractor, the contractor shall within 24 hours of the happenings of the accident and such accidents should intimate in writing to the concerned Asst. Engineer / Asst. Executive Engineer of the Department the act of such accident. The contractor shall indemnify Government against all loss or damage sustained by the Government resulting directly or indirectly from his failure to give intimation in the manner aforesaid including the penalties or fines if any payable by Govt. as a consequence of Govt. failure to give notice under workmen's compensation Act or otherwise conform to the provisions of the said Act. In regard to such accident.

4.70.2 In the event of an accident in respect of which compensation may become payable under the workmen's compensation Act VIII 23 whether by the contractor, by the Government it shall be lawful for the Executive Engineer to retain such sum of money which may in the opinion of the Executive Engineer be sufficient to meet such liability. The opinion of the Executive Engineer shall be final in regard to all matters arising under this clause.

4.70.3 The contractor shall at all times indemnify the Govt. of A.P. against all claims which may be made under the workmen's compensation act or any statutory modification thereafter or rules thereunder or otherwise consequent of any damage or compensation payable in consequent of any accident or injuries sustained or death of any workmen engaged in the performance of the business relating to the contractor.

4.71 Contractor's Staff, Representatives and Labour:

- (a) The contractor shall, at all times, maintain on the works, staff of qualified Engineers, and Supervisors of sufficient experience of similar other jobs to assure that the quality of work turned out shall be as intended in the specifications. The contractor shall also maintain at the works, a Work Manager or sufficient status, experience and office and duly authorize him to deal with all aspects of the day-today work. All communications to any commitments by the Work Manager shall be considered as binding on the Contractor.
- (b) The Contractor shall at all times submit details of skilled and unskilled labour and equipment employed to the Engineer-in-Charge in prescribed proforma as he may require to assess and ensure the proper progress of work.
- (c) For the work costing more than 10.00 Lakhs, if the contractor does not employ the technical person agreed to on the work a fine of Rs. 25, 000/- will be imposed. If he does not employ for 30 days, thereafter it becomes a fundamental breach of contract.
- (d) For the work costing less than 10.00 Lakhs the Executive Engineer has to impose on suitable fine of Rs.5,000/- for non-employment of technical person. If he does not employ for 30 days, thereafter it becomes a fundamental breach of contract.

4.72 Accommodation and food:

The contractor should arrange accommodation he needs, at his own cost. The contractor shall make his own arrangements for supply of food grains, fuel and other provision to his staff and labourers including controlled commodities.

4.73 Relationship:

Contractor shall have to furnish information along with tender, about the relationship he is having with any officer of the Department, [the Principal, S.V.College, New Delhi](#) of the rank Assistant Engineer and above engaged in the work and any officer of the rank of Assistant Secretary and above of the Department of [the Principal, S.V.College, New Delhi](#).

4.74 Protection of adjoining premises:

The contractor shall protect adjoining sites against structural, decorative and other damages that could be caused by the execution of these works and make good at his cost any such damages.

4.75 Work during night or on Sundays and holidays:

The works can be allowed to be carried out during night, Sundays or authorized holidays in order to enable him to meet the schedule targets and the work shall require almost round the clock working keeping in view:

- (i) The provisions of relevant labour laws being adhered to:

- (ii) Adequate lighting, supervision and safety measures are established to the satisfaction of the Engineer-in-Charge and
- (iii) The construction programme given by the Contractor and agreed upon by the Engineer-in-Charge envisages such night working or working during Sundays or authorized holidays.

4.76 Layout of materials stacks:

The contractor shall deposit materials for the purpose of the work on such parts only of the ground as may be approved by the Engineer-in-Charge before starting work. A detailed survey, clearly indicating position and areas where materials shall be stacked and sheds built is to be conducted by the contractor at his own cost and only after obtaining necessary approval of the plan for use of sites by the Engineer-in-Charge, the Contractor can use the sites accordingly.

4.77 Use of blasting materials:

Procurement of blasting materials and its storage is the responsibility of the contractor. The contractor shall engage licensed blaster for blasting operation. The contractor is to act in accordance with Indian Explosive Act and other rules prevailing, during the execution of work. It is the responsibility of the contractor to see, that works by other agencies in the vicinity are not hampered, in such cases if any claim is made by other agencies that should be borne by the contractor. Carriage of blasting materials, from the magazine to the work site, is the responsibility of the contractor.

4.78 Plant and Equipment:

- 4.78.1 The contractor shall have sufficient plant, equipment and labour and shall work such hours and shifts as may be necessary to maintain the progress on the work as per the approval progress schedule. The working and shifts hours shall comply with the Govt. Regulations in force.
- 4.78.2 It is to expressly and clearly understood that contractor shall make his own arrangements to equip himself with all machinery and special tools and plant for the speedy and proper execution of the work and the department does not undertake responsibility towards their supply.
- 4.78.3 The department shall supply such of the machinery that may be available on hire basis but their supply cannot be demanded as matter of right and no delay in progress can be attributed to such non-supply of the plant by the department and the department cannot be made liable for any damage to the contractor. The Contractor shall be responsible for safe custody of the departmental machinery supplied to him (which will be delivered to contractor at the machinery yard at site of work) and he has to make good all damages and losses if any other than fire, wear and tear to bring it to the conditions that existed at the time of issue to the contractor before handing over the same to the department. The hire charges for the machinery handed over to the contractor will be recovered at the rate prevalent at the time of supply. The contractor will have to execute supplemental agreement with Executive Engineer at the time of supply of the machinery.
- 4.78.4 The acceptance of departmental machinery on hire is optional to the contractor.

4.79 Steel forms:

Steel forms should be used for all items involving and use of centering and shuttering shall be single plane without any dents and undulations.

4.80 Inconvenience to public:

The contractor shall not deposit materials at any site, which will cause inconvenience to public. The Engineer-in-Charge may direct the contractor to remove such materials or may undertake the job at the cost of the contractor.

4.81 Conflict of interest:

Any bribe, commission, gift or advantage given, promised or offered by on behalf of contractor or his partner, agent or servant or any one on his behalf to any officer, servant, representatives, agents of Engineer-in-Charge, or any persons on their behalf, in relation to the obtaining or to execution of this, or any other contract with Engineer-in-Charge shall in addition to any criminal liability, which it may occur, subject to the cancellation of this or all other contracts and also to payment of any loss or damage resulting from any such cancellation. Engineer-in-Charge shall then be entitled to deduct the amount, so payable from any money, otherwise due to the contractor under this or any other contract.

4.82 Contract documents and materials to be treated as confidential:

All documents, correspondences, decisions and orders, concerning the contract shall be considered as confidential and/or restricted in nature by the contractor and he shall not divulge or allow access to them by any unauthorized person.

4.83 General obligations of Contractor:

- 4.83.1 The contractor shall, subject to the provision of the contract and with due care and diligence, execute and maintain the works in accordance with specifications and drawings.
- 4.83.2 The contractor shall promptly inform the Department and the Engineer-in-Charge of any error, omission, fault and torer defect in the design of or specifications for the works which are discovered when reviewing the contract documents or in the process of execution of the works.

4.83.3 If Contractor believes that a decision taken by the Engineer-in-Charge was either outside the authority given to the Engineer-in-Charge by the Contract or that the decision was wrongly taken, the decision shall be referred to the technical expert within 14 days of the notification of the Engineer-in-Charge's decisions.

4.83.4 Pending finalization of disputes, the contractor shall proceed with execution of work with all due diligence.

4.84 Security measures:

a) Security requirements for the work shall be in accordance with the Government's general requirements including provisions of this clause and the Contractor shall conform to such requirements and shall be held responsible for the actions of all his staff, employees and the staff and employees of his sub-contractors.

b) All contractors' employees, representatives and sub-contractor's employees shall wear identifications badges provided by the contractor. Badges shall identify the contractor, showing and employee's number and shall be worn at all times while at the site. Individual labour will not be required to wear identification badges.

c) All vehicles used by the contractor shall be clearly marked with contractor's name.

d) The contractor shall be responsible for the security of the works for the duration of the contract and shall provide and maintain continuously adequate security personnel to fulfill these obligations. The requirements of security measures shall include, but not limited to maintenance of order on the site, provision of all lighting, fencing, guard flagmen and all other measures necessary for the protection of the works within the colonies, camps and elsewhere on the site, all materials delivered to the site, all persons employed in connection with the works continuously throughout working and non-working period including nights, Sundays and holidays for duration of the contract.

e) Other contractors working on the site concurrently with the contractor will provide security for their own plant and materials. However, their security provisions shall in no way relieve the contractor of his responsibilities in this respect

f) Separate payment will not be made for provision of security services.

4.85 Firefighting measures:

a) The contractor shall provide and maintain adequate firefighting equipment and take adequate fire precaution measures for the safety of all personnel and temporary and permanent works and shall take action to prevent damage to destruction by fire of trees shrubs and grasses.

b) Separate payment will not be made for the provision of fire prevention measures.

4.86 Sanitation:

The contractor shall implement the sanitary and watch and ward rules and regulations for all forces employed under this contract and if the Contractor fails to enforce these rules, the Engineer-in-Charge may enforce them at the expenses of the Contractor.

4.87 Training of personnel:

The contractor, shall, if and as directed by the Engineer-in-Charge provide free of any charge adequate facilities, for vocational training of Government Officers, students, Engineers, supervisors, foremen, skilled workmen etc. not exceeding six in number at any one time on the contractor's work. Their salaries, allowances etc. will be borne by the Government and the training schemes will be drawn up by the Engineer-in-Charge in consultation with the contractor.

4.88 Ecological balance:

a) The contractor shall maintain ecological balance by preventing de-forestation, water pollution and defacing of natural landscape. The contractor shall so conduct his construction operation as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. In respect of the ecological balance, Contractor shall observe the following instructions.

i) Where unnecessary destruction, scarring, damage or defacing may occur, as result of the operation, the same shall be repaired replanted or otherwise corrected at the contractor's expense. The contractor shall adopt precautions when using explosives, which will prevent scattering of rocks or other debris outside the work area. All work area including borrow areas shall be smoothed and graded in a manner to conform to the natural appearances of the landscape as directed by the Engineer-in-Charge.

ii) All trees and shrubbery which are not specifically required to be cleared or removed for construction purposes shall be preserved and shall be protected from any damage that may be caused by the contractor's construction operation and equipment. The removal of trees and shrubs will be permitted only after prior approval by the Engineer-in-Charge. Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting, excavating, dumping, chemical damage or other operation and the contractor shall adequately protect such trees by use of protective barriers or other methods approval by the Engineer-in-Charge. Trees shall not be used for anchorages. The contractor shall be

responsible for injuries to trees and shrubs caused by his operations. The term "injury" shall include, without limitation bruising, scarring, tearing and breaking of roots, trunks or branches. All injured trees and shrubs be restored as nearly as practicable without delay to their original condition at the contractor's expense.

- iii) The contractor's construction activities shall be performed by methods that will present entrance or accidental spillage of solid matter contaminants, debris and other objectionable pollutants and wastage into river. Such pollutant and waste include earth and earth products, garbage, cement concrete, sewage effluent, industrial wastes, radio-active substances, mercury, oil and other petroleum products, aggregate processing, mineral salts and thermal pollution. Pollutants and wastes shall be disposed off in a manner and at sites approved by the Engineer-in-Charge.
 - iv) In conduct of construction activities and operation of equipments the contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent and otherwise minimise the air pollution. The excessive omission of dust in to the atmosphere will not be permitted during the manufacture, handling and storage of concrete aggregates and the contractor shall use such methods and equipment as a necessary for collection and disposal or prevention of dust during this operation. The contractor's methods of storing and handling cement shall also include means of eliminating atmospheric discharges of dust, equipment and vehicles that give objectionable omission of exhaust gases shall not be operated. Burning of materials resulting from clearing of trees, bushes, combustible construction materials and rubbish may be permitted only when atmospheric conditions for burning are considered favorable.
- b) Separate payment will not be made for complying with the provisions of this clause and all cost shall be deemed to have been included in the unit rates and prices included in the contract if any provision is not complied with within a reasonable time even after issue of a notice in this respect, the necessary operations would be carried out by the Engineer-in-Charge at the cost of the Contractor, Orders of the Engineer-in-Charge in this respect would be final and binding on the contractor.

4.89 Preservation of existing vegetation:

- a) The contractor will preserve and protect all existing vegetation such as trees, on or adjacent to the site which do not unreasonably interfere with the construction as may be determined by the Engineer-in-Charge. The contractor will be held responsible for all unauthorized cutting or damage of trees, including damage due to careless operation of equipment, stockpiling of materials or tracking of grass areas by equipment. Care shall be taken by the Contractor in felling trees authorized for removal to avoid any unnecessary damages to vegetation and tress that are to remain in place and to structures under construction or in existence and to workmen.
- b) All the produce from such cutting of trees by the contractor shall remain the property of Government and shall be properly stacked at site, approved by the Engineer-in-Charge. No payment whatsoever shall be made for such cutting and its stacking by the Contractor. If any produce from such cutting is not handed over to the Government by the contractor, he shall be charged for the same at the rates to be decided by the Engineer-in-Charge. The recovery of this amount shall be made in full from the intermediate bill that follows.
- c) The contractor shall also make arrangements of fuel deposits for supply of required fuel for the laborer to be employed for cooking purpose at his own cost in order to prevent destruction of vegetation growth in the surrounding area of the work site.

4.90 Possession prior to completion:

The Engineer-in-charge shall have the right to take possession of or use any completed part of work or works or any part thereof under construction either temporarily or permanently. Such possession or use shall not be deemed as an acceptance of any work either completed or not completed in accordance with the contract with in the interest of Clause 28 of APSS except where expressly otherwise specified by the Engineer-in-charge.

4.91 Payment upon termination:

If the contract is terminated because of a fundamental breach of contract by the contractor, the Engineer-in-Charge shall issue a certificate for the value of the work done less advance payment received upon the date of the issue of the certificate and less the percentage to apply to the work not completed as indicated in the contract data. Additional liquidated damages shall not apply. If the total amount due to the Department exceeds any payment due to the contractor the difference shall be a debt payable to the Department. In case of default for payment within 28 days from the date of issue of notice to the above effect, the contractor shall be liable to pay interest at 12% per annum for the period of delay.

4.92 Access to the contractor's books:

Whenever it is considered necessary by the Engineer-in-Charge to ascertain the actual cost of execution of any particular extra item of work or supply of the plant or material on which advance is to be made or of extra items or claims, he shall direct the contractor to produce the relevant documents such as payrolls, records of personnel, invoices of materials and any or all data relevant to the item or necessary to determine its cost etc. and the contractor shall when so required furnish all information

pertaining to the aforesaid items in the mode and manner that may be specified by the Engineer-in-Charge.

4.93 Drawing to be kept at site:

One copy of the drawings furnished to the contractor shall be kept by the contractor on the site and the same shall at all reasonable time be available for inspection and use by the Engineer-in-Charge and the Engineer-in-Charge's representative and by any other persons authorized by the Engineer-in-Charge in writing.

4.94 BIS, ISI books and APSS to be kept at site:

A complete set of Indian Standard specification referred to in "Technical Specifications" and A.P.S.S. shall be kept at site for reference.

4.95 Site Order Book:

An order book shall be kept at the site of the work. As far as possible, all orders regarding the work are to be entered in this book. All entries shall be signed and dated by the Department Officer in direct charge of the work and by the contractor or by his representative. In important cases, the Executive Engineer or the Superintending Engineer will countersign the entries, which have been made. The order book shall not be removed from the work, except with the written permission of the Executive Engineer.

4.96 Variations by way of modification, omissions or additions:

For all modifications, omissions from or additions to the drawings and specifications, the Executive Engineer will issue revised plans, or written instructions, or both and no modification, omission or addition shall be made unless so authorized and directed by the Executive Engineer in writing.

The Executive Engineer shall have the privilege of ordering modifications, omission or additions at any time before the completion of the work and such orders shall not operate to annul those portions of the specifications with which said changes do not conflict.

Engineer-in-Charge's Decision:

It shall be accepted as in separable part of the contract that in matters regarding materials, workmanship, removal of improper work, interpretation of the contract drawings and contract specification, mode of the procedure and the carrying out of the work, the decision of the Engineer-in-Charge, which shall be given in writing, shall be binding on the contractor.

4.97 Care and diversion of river/stream:

The contractor shall submit details regarding the diversion and care of river or stream during construction of the work along with a separate print-out of the time table showing earliest and latest start and finish dates of various activities. He should submit a detailed layout plan with drawings for the diversion and care of river during construction of work. The above arrangements shall be at contractor's cost.

4.98 Income tax:

a) During the currency of the contract deduction of income tax at 2.00% + Surcharge as in force shall be made from the gross value of each bill of the contract, the contract value of which is in excess of Rs.20, 000/- for deduction of tax at rates lower than 2.00% procedure stipulated under section 194-C(4) of Income Tax Act, 1961 shall be followed.

b) Income Tax clearance certificate should be furnished before the payment of final bill. Otherwise final payment will be withheld.

c) The contractor's staff, personnel and labour will be liable to pay personnel income taxes in respect of their salaries and wages as are chargeable under the laws and regulations for the time being in force, and the contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

4.99 Seigniorage charges:

As the quoted rates of the contractors are inclusive of Seigniorage charges, the department shall recover the Seigniorage charges from the bills of the contractors for the quantities worked out on the basis of work done and measured as per the theoretical requirements of materials at the rates noted below. Any escalation in these charges beyond the provision of Agreement will be borne by the Dept debiting such escalated amount to the works estimate (G.O.Ms. No: 100 Ind. & Com. (MI) Dept., dated 31.10.2015.)

The contractor should procure metal from quarries permitted by the Mines and Geology Department.

The contractor will no longer be required to produce clearance certificate from Mines Department and Seigniorage charges will be deducted by the concerned works department from the bills of the contractor for the materials used on the work only.

4.100. **BOCW CESS/Labourcess:** The BOCW cess will be recovered as per the extant rules and no reimbursement will be made.

4.100 GST:

4.100.1 The contractor shall comply to the provisions of GST and related charging mechanism procedures of GST Act.

- 4.100.2 The rates included in BOQ (Schedule-A) are Exclusive of GST as per DSR /CPWD SOR. Any further claims regarding GST in any case will not be entertained/ payable by TTD.
- 4.100.3 The percentage quoted by the contractor is inclusive of Good and Service Tax (GST) other taxes on all materials that the contractor will have to purchase for performance of this contract.
- 4.100.4 The contractor must have registration number with the GST authorities and shall provide copy of registration to TTD and the applicable GST shall be paid by the contractor to the department concerned.
- 4.100.5 The contractor will submit regular invoice/bill fulfilling all conditions of GST amended from time to time clearly indicating GST registration number, GST classification, rate and amount of GST and shall produce proof of deposit of GST to the TTD.
- 4.100.6 The bidders are required to ascertain themselves regarding the applicability of GST and the prevailing rates thereof, while tendering and more so while making the payment of GST to the Department. In this regard, TTD will not undertake any responsibility whatsoever in this regard. It is the responsibility of the tenderer to pay the applicable GST in time and TTD will not be responsible in the regard. Any delay in payment to GST by the tenderer for whatsoever reasons, the responsibility lies on the tenderer and any penalties, interest levied in this regard shall be borne by the tenderer only and such penalties, interests will not be paid by TTD. Even, if the tenderer pays any extra amount towards GST than the applicable GST, TTD will not be responsible for the same.
- 4.100.7 The contractor shall pay the applicable GST.
- 4.100.8 All rules as per GST ACT 2017 and its amendments and all the Government orders (GOs) issued from time to time by the Govt. of India (GOI)
- 4.100.9 Revenue Department, Govt. of Andhra Pradesh, has issued a notification on tax deduction at source of section 51 of GST Act and the guidelines for deduction and deposits of TDS w.e.f 01-10-2018 vide GO MS No.482 Revenue (Commercial Taxes-II) Dept. dt:24-09-2018. As per the present guidelines GST at 2% (CGST at 1% and SGST at 1%) for intrastate or 2% at IGST for interstate transactions will be deducted on the net amount payable and necessary TDS certificate will be issued.
- 4.100.10 GST registration Certificate of the state in which the work is to be taken up, if already obtained by the bidder. If the bidder has not obtained GST registration in the state in which the work is to be taken up, or as required by the GST authorities, then in such a case the bidder shall scan and upload "Form-G".
- 4.100.11 The GST liability is as per the rates of tax applicable (if the contract is not exempted from GST concerned), as per of the relevant notification GOs/ Circulars/ Clarifications/ amendments etc., being issued from time to time by the respective state Govt./ GOI. The contractors are requested to ascertain themselves regarding the applicability of GST and the prevailing rates thereof, while tendering and more so while making the payment of GST to the department. In this regard, TTD will not undertake any responsibility whatsoever.
- 4.100.12 The deposits (EMD /FSD) of the work will be released only when the contractor produces the documentary evidence that GST in respect of final bill received is remitted to the Government and reflected in GST portal.
- 4.100.13 The bidders are advised to quote their most competitive rates duly considering the input tax credit due to payment of GST on materials, machinery, services etc., for due fulfillment of the contract

4.101 Supply of construction materials:

- i) The contractor has to make his own arrangements for procurements, supply and use of construction materials.
 - ii) All materials so procured should confirm to the relevant specifications indicated in the bidding documents.
 - iii) The contractor shall follow all regulations of the Department/Government of India in respect of import licenses etc., of the procurement of the materials is through imports and he shall be responsible for the payment of applicable duties and taxes, port clearances, inland transportation etc.
 - v) The contractor shall make his own arrangements for adequate storage of the materials.
- 4.102 The tenderer should work out his percentage without reference being made to the Public Works Department current schedule of rates or to the estimate rates.
- 4.103 The TTD reserves the right to engage the services of the consultants during the course of the work, for Engineering or Architectural services and the contractor is bound to carryout such instructions as may be given by consultants from time to time.
- 4.104 Preliminary specifications of APSS shall apply to all agreements entered by the contractor with an inseparable condition of the contract. The tenderer is expected to examine closely the relevant specifications of the APSS and the special specifications of ISS before submitting the unit tender rates.
- 4.105 All the items of work including materials and workmanship should be executed as per relevant A.P.D.S.S. and I.S.I. code. If there are any variation between the above two specifications, the decision of the Executive Engineer is final and binding on the contract.
- 4.106 Scaffolding and gangways will have to be arranged by the contractor at his own whenever they are considered desirable or necessary by the Engineer-in-Charge of the work to facilitate the work.

- 4.107 **PATENT RIGHT:** In the event of any claim or demand being made or action being brought against the TTD for infringement of letter of patent, registration for infringement of design or trade mark in respect of any machines, plant, work materials or things or method of using or working of such machine, plant work materials or things belonging to the contractor shall indemnify the owner against all costs and expenses arising from or incurred by reason of any such claim provided that the owner shall notify the contractor immediately any claim is made and that the contractor shall be at liberty, if he so desires with the assistance of the owner if required but at the contractor's expenses, to conduct all negotiations for the settlement of same or any litigation that may arise there from and provided that no such machine, plant, works materials or things shall be used by the owner for any purpose or any manner other than that for which they have been supplied by the contractor and specified under his contract.
- 4.108 **ASSISTANCE IN PROCUREMENT OF PROPERTIES, PERMITS, LICENCES OR OTHER FACILITIES ETC:** The Engineer in charge of work on request by the contractor will if in his opinion the request is reasonable and is in the interest of the work and its progress assists the contractor in procurement of necessary licenses for obtaining necessary plant machinery or materials not available locally.
- 4.109 The TTD will also assist the contractor in securing priorities for deliveries transport etc., where such are needed. The TTD will not however be responsible for the non-availability of any of the above facilities or delay in this behalf and for claims either in cost or time on account of such failures or delays and the contractor is not entitled for any claim against the owner.
- 4.110 In case of contradiction between the clauses included in this specification and the clauses of PS to APSS, the former will prevail over the latter and is binding on the tenderer.

G. SPECIAL CONDITIONS – ROAD WORKS
Special Conditions of Contract – Road Works.

- 4.111 Immediately on taking over the site, Engineer and contractor shall carry out joint survey for longitudinal section and cross-section of entire work area and plot it suitably at appropriate scale. The width of road at every cross-section shall be recorded. This survey shall be incidental to the works and nothing extra shall be paid to contractor on this account.
- 4.112 The base line shall be marked with concrete pillars within ROW, but sufficiently away from the pavement edge so as to avoid the damage, while execution of works. The details like bearing, perpendicular distance from nearby identified objects etc. shall be noted, so that if required reference bench marks can be re-established.
- 4.113 The contractor shall provide necessary co-operation and assistance in obtaining the samples for tests and carrying out the field tests as required by the Engineer-In-Charge from time to time. This shall include provision of laboratory equipment, transport, consumables, personnel including labour attendants, assistants in packing and dispatching and any other assistance considered necessary in connection with the tests.
- 4.114 For the work of embankment, subgrade and pavement, construction of subsequent layer of same or other material over the finished layer shall be done after obtaining permission from the Engineer-In-Charge. Similar permission from the Engineer-In-Charge shall be obtained in respect of all other items of work prior to proceeding with the next stage of construction.
- 4.115 The contractor shall carry out modifications in the procedure of work, if found necessary, as directed by the Engineer-In-Charge. Works falling short of quality shall be rectified by the Contractor at his own cost, and defective work shall also be removed from the site of works by the Contractor at his own cost.
- 4.116 All works performed shall conform to the lines, grades, cross sections and dimensions as per the drawings or as directed by the Engineer-In-Charge, subject to the permitted tolerances as per MORTH specifications.
- 4.117 Bituminous material shall not be applied during a dust storm or when the weather is foggy, rainy or windy or when the temperature in the shade is less than 10°C.
- 4.118 The surface on which the tack coat is to be applied shall be clean and free from dust, dirt, and any extraneous material. Immediately before the application of the tack coat, the surface shall be swept clean with a mechanical broom, and high pressure air jet, or by other means as directed by the Engineer-in-charge.
- 4.119 Laying shall be suspended:- i) In presence of standing water on the surfaces; ii) When rain is imminent, and during rains, fog or dust storm; iii) When the base/binder course is damp; iv) When the air temperature on the surface on which it is to be laid is less than 10°C; v) When the wind speed at any temperature exceeds the 40 Km per hour at 2 m height;
- 4.120 The comprehensive temperature data for temperature of bitumen, temperature of aggregate while production of hot mix, temperature of hot mix and temperature of mixture while laying shall be recorded by the contractor and Engineer-In-Charge jointly at regular interval so as to establish the

consistency of temperature control during the various operation. The mixture not satisfying the requirement as specified shall be rejected.

- 4.121 The travel rate of the paver, and its method of operations, shall be adjusted to ensure an even and uniform flow of bituminous material across the screen, free from dragging, tearing and segregation of the material. In areas with restricted space (Such as confined space, foot ways of irregular shape and varying thickness, approaches to expansion joints, etc.) where a paver cannot be used, the material shall be spread, raked and leveled with suitable hand tools by trained staff and compacted to the satisfaction of the Engineer.
- 4.122 Road marking shall be of ordinary road marking pain hot applied thermoplastic compound, reflectorized paint or cold applied reflective paint as specified in the item and the material shall meet the requirements as specified in theses Specification.
- 4.123 The thermoplastic material shall be homogeneously composed of aggregate, pigment, resins and glass reflectorizing beads. The colour of the compound shall be white or yellow (IS colour No. 356) as specified in the drawings or as directed by Engineer-in-Charge.
- 4.124 Marking shall be done by machine. For locations where painting cannot be done by machine, approved manual methods shall be used with prior approval of the Engineer. The contractor shall maintain control over traffic while painting operations are in progress so as to cause minimum inconvenience to traffic compatible with protecting the workmen.
- 4.125 The thermoplastic material shall be applied hot either by screeding or extrusion process. After transfer to the laying apparatus, the material shall be laid at a temperature within the range specified by the manufacturer for the particular method of laying being used. The pain shall be applied using a screed or extrusion machine.
- 4.126 The pavement temperature shall not be less than 10°C during application. All surfaces to be marked shall be thoroughly cleaned of all dust, dirt, grease, oil and all other foreign matter before application of the paint.

5. TECHNICAL SPECIFICATIONS

5.1 CEMENT:

General

The Contractor has to make his own arrangements for the procurement of Cement of required for works subject to the following conditions:-

- a) The Contractors shall procure bulk cement required for the works only from reputed cement factories (a) Priya Cement, (b) India Cements, (c) Andhra Cements, (d) Penna Cements, (e) Zuari Cements, (f) C.C.I. Cements, (g) Ramco Cements, (h) L&T Cements, (I) Birla Cements (Main producers) (k) Bharathi Cements acceptable to the Engineer in-charge. The contractor shall be required to furnish to the Engineer in-charge bills of payment and test certificates issued by the manufacturers to authenticate procurement of quality cement from the approved cement factory. The contractor shall transport it in pressurized cement hailers. The hailers shall have to collect duplicate gate pass from the factory from the quality of cement received for each trip of cement hailers. One copy of gate pass shall be handed over to the Engineer-in-charge. The contractor shall make their own arrangement for adequate storage of cement.
- b) The contractor shall procure O.P. Cement of 43 grade in standard packing of 50 kg per bag from the authorized manufacturers/ authorised dealers. The contractor shall make necessary arrangement, at his own cost, to the satisfaction of the Executive Engineer, for actual weighment of random sample from the available stock and shall confirm with the specification laid down by the Bureau of Indian standards or other standard institutions as the case may be. Cement shall be got tested for all the tests as directed by the Executive Engineer, at least once in a month, in advance, before the use of cement bags brought and kept at site go-down. Cement bags required for testing shall be supplied by the contractor at free of cost.
- c) The contractor should store the cement of 60 days requirement at least one month in advance to ensure the quality of cement so brought to site and shall not remove the same without the written permission of the Executive Engineer. The contractor shall forthwith remove from the works area any cement that the Engineer in-charge may disallow for use on account of failure to meet with required quality and standard.
- d) The contractor will have to construct sheds for storing cement having capacity, not less than the cement required for 90 days use, at appropriate locations at the work site. The Engineer in-charge or the representatives shall have free access to such stores at all times.
- e) The contractors, shall, further at all times satisfy the Engineer in-charge, on demand, by production of records and books or by submission of returns and other proofs as directed, that the cement is being used as tests and approved by Executive Engineer for the purpose and the contractor shall at all times, Keep his records upto date to enable the Engineer in-charge to apply such checks as he may desire.

- f) Cement which has been unduly long in storage with the contractor or alternatively has deteriorated due to inadequate storage and thus become unfit for use on the work shall be rejected by the department and no claims will be entertained. The contractor shall forthwith remove from the work area any cement the Executive Engineer may disallow for use on work and replace it by cement complying with the relevant Indian standards.

5.2 STORAGE OF CEMENT:

- 1) Is often necessary to store Portland cement, some times for a period of months. This is particularly true when transportation inclusions must be used to their capacity and deliveries.
- 2) Portland cement readily absorbs moisture not only in the form of free water but also moisture from the atmosphere or from damp materials in contact with it and become hydrated and loses strength. It is necessary therefore that it should be protected from absorption of moisture before is used, if it is to fulfil its functions. An absorption of one or two percent of water has no appreciable effect but further amounts of absorption, results in hardening of the cement and reduces the strength. If the absorption exceeds 5%, the cement is for all ordinary purposes, ruined, finally ground cement stored in stacks tend to deteriorate more than coarse cement. In this respect normal hardening Portland cement and high alumina cements are least effected than rapid hardening Portland cement.
- 3) American, Spanish and German experiments have shown that on average the strength of cement strength in bags is reduced as follows:-

After 3 months	by 15 to 20 percent.
After 6 months	by 20 to 30 percent
After 12 months	by 30 to 50 percent
After 2 years	by 40 to 50 percent
After 4 ½ Years	by 50 to 60 percent
- 4) These figures prove that special attention should be paid to the storage of cement even when its strength is equal to or suspense's the specified normal strength.
- 5) With an extensive range of climate conditions it is difficult to lay down universal rules for the storage of cement but the general principle should always be kept in mind that it must be protected as far as possible from any form of moisture, prior to mixing it for making concrete mortar.
- 6) During the dry weather, is main part of the country, where the relative humidity of the atmosphere even in nights is low (that is to say when there is very little moisture in the air) little or no protection may be necessary and the cement in its stock may require no more than a tarpaulin through for the stack. Country particularly near the coast where the atmosphere is always damp at any time of day or night and then grater precautions are necessary. In place such as the west coast and the Nilaguries and period when heavy rain falls are encountered such grater care has to be taken of the cement and proper strength provided it from the damp.
- 7) Whenever there is any possibility of the cement exposed to moisture either in the atmosphere or actual rate. It should be stored in a well-constructed dry godown or shed. The Cement more should be whether right construction preferable with terraced roofing with a sound wooden or ground to ensure that it is damp building with plant roofing the prohibited because of their tendency to leak. Corrugated sheets roofing has tendency to the condense moisture and should be protected by field to prevent wind and rain driving through cement should not be placed directly on cement plaster flooring and other types of flooring commonly meant with which are not damp proof. A wooden platform or false floor a sheet of waterproof paper should be provided.
- 8) If none of these is possible than floor should be covered with straw, hay, cinder or ash or such other material Densely and uniformly packed to a thickness of at least one inch and over a laid worth tarpaulins or old cement bags. Windows and ventilator if any should be slightly shut to prevent tree circulation of air and inside the stores. Drainage should be provided if necessary to prevent accumulation of water in the vicinity of the store.
- 9) Cement should be stored in piles arranged parallel to the walls. If in-advisable to pile bags against the walls and an allowance of at least 0.3M all round should be made between the exterior walls piles at least 0.6M wide should be left for each access and delivery. The outside stacks deterior a similar pile. Successive consignments covered with some water proof cover as a both measure of protection and prevent the free circulation of air as each lot of proper fresh air will bring in more moisture. Once the cement has been properly stored should not be disturbed until it is to be used. There is no advantage in moving and stacking the bags to reduce where house set as this practice only exposes fresh cement to the air resulting in loss due to the shifting of cement through the cloth mesh and in damage to the stacks.
- 10) Cement required for use immediately after delivery to the site may be stored in the open on a raised damp proof floor so long as it is fully protected by tarpaulin or either weather resisting covers. Storage under these conditions should be limited to 48 hours. The tarpaulin should be

raised well above the top most Tie of bags and must be sloped for rapid drainage in case of showers.

- 11) The storage place required for a given quantity of cement can be calculated from the following data. If spread losses over the floor of a store to a depth of 1st floor a ton of cement required about 2.40 Sqm. If stored in paper bags on their side the area required is 5.00 Sqm to 6.00 Sqm per ton. If laid on more than one tier. If the bags are stacked in any other manner feet portion the minimum area provided should be increased to allow space for passengers etc., to avoid house set in any case not more than 15 bags. If stacked higher than this the pressure on the bottom bags is liable to burst at or form clad in damp water, apart from handling difficulties because of their weight.
- 12) Consignments should be used in the same sequences as they are delivered. To ensure this, the date of arrival of each consignment should be clearly indicated. This is best one by trying a place of country twins or cord to the end bags in the bottom most tier of the day pile, tacking the two places of card up the sides and along the top pile on tying the main the centre. The date of receipt in the store being clearly written on a bin card high from the card. Dead storage where the cement remains in place for a long time which other consignments of cement come in and out should be avoided.
- 13) While issuing cement from a store the cement bags should be removed in vertical column of the pile and not horizontal so as to avoid dead storage space.
- 14) As a rule cement should not be stored longer than three months and if time is exceeded the material should be re-tested being needed. Especially in the rainy season prolonged storage should be avoided. If stock is likely to be held over more than three months anticipatory measures should be taken to use it on the works.
- 15) Cement that has become supply due to storage in damp positions due to exposure to the weather is generally useless for making concrete and should be remove from the site. Air set lumps that can be broken down to floor with the places. If such lumps are in numerous. It is easier to screen them out and discord them if the protection of air cement is considerable. The fine material after screening should be tested to determine whether it has become detective.
- 16) The Cement in bags is stored in high piles for long periods. There is often a slight tendency in the lower layers to harden, caused by the pressure above this is known as warehouse set. Cement in this condition, on every wet not for service and can be reconditioned by letting each drop on a solid surface for using the cement contained.

5.3 Steel Reinforcement

General

a).The section covers specifications for providing steel reinforcement to the works and the contractor has to make his own arrangements for the procurement of tested mild steel and H.Y.S.D / TMT Bars required for the work only from the reputed manufactures i.e., SAIL, VSP, TATA, JSW Steel Ltd(JSW Neosteel) as approved by the Engineer. Necessary I.S.I. test certificates are to be produced to Engineer before use on work. Steel bars shall be stored in such a way as to avoid distortion and to prevent deterioration by corrosion. He shall make his own arrangements for transportation and storage.

b). High yield strength deformed bars shall conform to I.S:1786-1985.
The diameter and weight of plain and HYSD / TMT Steel bars shall be as follows.

<u>Sl.No</u>	<u>Diameter of Rod.</u>	<u>Sectional weight in Kilogram per running meter both for M.S. and HYSD Steel.</u>
1.	6 Millie meters	0.22
2.	8 Millie meters	0.39
3.	10 Millie meters	0.62
4.	12 Millie meters	0.89
5.	14 Millie meters	01.21
6.	16 Millie meters	1.58
7.	18 Millie meters	2.00
8.	20 Millie meters	2.47
9.	22 Millie meters	2.98
10.	25 Millie meters	3.85
11.	28 Millie meters	4.83
12.	32 Millie meters	6.31
13.	33 Millie meters	6.71
14.	36 Millie meters	7.99
15.	40 Millie meters	9.86
16.	42 Millie meters	10.88

Note:- If any rods other than those specified above are used, the weights shall be as per standard steel tables.

This work shall consist of furnishing and placing reinforcement of the shape and dimensions shown on the drawings and as specified in the specifications, including cutting, bending, cleaning, welding, placing, binding and fixing in position. list of related IS codes.

IS: 456-1978/2000	Code of practice for plain and reinforced concrete
IS:1786-1985	Specification for High strength deformed steel bars and wires for concrete reinforcement.
IS: 432-1982	specifications for mild steel and medium tensile steel bars
(PART-I)	For concrete reinforcement and hard drawn steel wire.
IS:280-1978	Mild steel wire for general engineering purposes
IS:2502-1963	Code of practice for bending and fixing of bars for concrete reinforcement
IS:9417-1989	Recommendations for welding cold worked bars for reinforced concrete construction.
IS:2751-1979	Welding of mild steel plain and deformed bars for reinforced construction.
IS:814-1991	Covered electrodes for manual metal arc welding of carbon and carbon manganese steel
IS:1278-1972	Filer rods and wires and gas welding.

In addition to the above Indian Standard codes, the specifications of APSS and manuals for quality control and inspection shall also be complied with.

Materials

I.

- a. Steel shall be clean and free from loose rust of loose mill scale at the time of fixing in position and subsequent concreting.
- b. The contractor shall procure high yield strength deformed bars / TMT, conforming to IS: 1786-1985 and other applicable codes of Practice mild steel bars conforming to IS: 432-1982 shall be used as per the directions of the Engineer in writing.

II. Cutting, Bending and binding of reinforcement:

- a. Reinforcing steel shall conform accurately to the dimensions given in the bar bending schedules shown on relevant drawings.
- b. Bars shall be bent cold to the specified shape and dimensions by a bar bender by hand or power to attain proper radii of bends as shown in drawings or as directed by the engineer.
- c. Bars shall not be bent or straightened in a manner that will injure the materials.
- d. Bars bent during the transport or handling shall be straightened before being used on work, they shall not be heated to facilitate bending.
- e. "U" type hooks shall invariably be provided at the end of each bar, if specified in drawing or ordered by the Engineer. The radius of the bend shall not be less than twice the diameter of round bar and the length of the straight part of the bar beyond the end of the curve shall be at least four times the diameter of the round bar. In the case of bars which are not round and in the case of deformed bars, the diameter shall be taken as the diameter of a circle having as equivalent effective area.
- f. The hook shall be taken as the encased to prevent any splitting of the concrete.

Placing of reinforcement

- a. Before the reinforcement is placed, the surface of the bars and the surface any metal bar supports shall be cleaned of the rust, loose mill scale, dirt, grease and other objectionable foreign substances. All reinforcing bars shall be accurately placed in exact position shown on the drawing, and shall be securely held in position during placing of concrete by annealed binding wire, and by using stays, blocks or metal chairs, spacers, metal hangers, Supporting wires or other approved devices at sufficiently close intervals.
- b. Wire for binding reinforcement shall be soft and annealed mild steel of 18 SWG and shall conform to IS: 280-1978. Binding wire shall have tensile strength of not less than 5600 Kg/Cm² and a yield point of less than 3850 Kg/Cm².
- c. Bars shall not be allowed to sag between supports. They shall not be displaced during concreting or any other operation over the work.

- d. The contractor shall also ensure that there is no disturbance caused to the reinforcing bars already placed in concrete.
- e. All devices used for positioning shall be of non-corrodible material. Metal supports shall not extend to the surface of the concrete, except where shown on the drawings. Pieces of broken stone or brick or wooden blocks shall not be used. Where portions of such supports will be exposed on concrete surfaces designated to receive F2 or F3 finish, the exposed portion of support shall be galvanized or coated with other corrosion resistant material without which the concreting will not be permitted. Such supports shall not be exposed on surfaces designated to receive F4 finish unless otherwise shown on the drawings.
- f. Placing on layers of freshly laid concrete as work progresses for adjusting bar spacing shall not be allowed.
- g. Layers of bars shall be separated by spacer bars, pre-cast blocks or other approved devices.
- h. Reinforcement after being placed in position shall be maintained in a clean condition until completely embedded in concrete. Special care shall be taken to prevent any displacement of reinforcement in concrete already placed.
- i. To protect reinforcement from corrosion, concrete cover shall be provided as indicated on the drawings. All bars protruding from concrete and to which other bars are to be spliced and which are likely to be exposed for an indefinite period shall be protected by a thick coat of neat cement grout.
- j. Bars crossing each other, where required, shall be secured by binding wire (annealed) of size not less than 1mm dia and conforming to IS:280-1978 in such a manner that they do not slip over each other at the time of fixing and concreting.
- k. As far as possible, bars of full length shall be used. In case this is not possible, overlapping of bars shall be done as directed by engineer. When practicable, overlapping bars shall not touch each other, but be kept apart by 25 mm or $1 \frac{1}{4}$ times the maximum size of the coarse aggregate whichever is greater, by concrete between them. Where not feasible, overlapping bars shall be bound with annealed steel wire, not less than 1 mm thickness twisted tight. The overlaps shall be staggered for different bars and located at points, along the span where neither shear nor bending moment is maximum.
- l. The minimum allowable clearance between parallel round bars shall not be less than $1 \frac{1}{2}$ times the diameter of the large bars and for square bars shall not be less than twice the side dimensions of the larger bars of $1 \frac{1}{2}$ times the maximum size of aggregate whichever is greater.
- m. Dissimilar diameter rods should not be joined together.

Splicing

- a. Where it is necessary to splice reinforcement the splices shall be made by lapping, by welding or by mechanical means.

When permitted or specified on the drawings, joints of reinforcement bars shall be butt welded so as to transmit their full strength. Welding of bars shall be done as directed by the Engineer and conforming to requirements of clause 11.4 of IS: 456-1978

If it is proposed to use welded splices in reinforcing bars, the equipment, the material and all welding and testing procedures shall be subject to the approval of the Engineer. The Contractor shall also carryout test welds as required by the Engineer. No extra rate will be paid for welding reinforcement, test-welds, as bid rate in bill of quantities in inclusive of this item.

For welded splices for reinforcing bars conforming to IS: 1786-1985, welding shall be done in accordance with IS: 9417-1979. For reinforcing bars conforming to IS 432 (Part-I)-1982, welding shall be done in accordance with IS: 2751-1979. Electrodes for manual metal arc welding shall conform to IS: 814(Part-I) -1974 and IS 814 (Part-II)-1974. Mild steel filler rods for Oxy-acetylene welding shall conform to IS: 1278-1972, provided they are capable of giving a minimum butt weld tensile strength of 41 Kg/mm².

Only electric Arc welding using a process, which excludes air from the molten metal and conforms to any or all other special provisions for the work shall be accepted. Suitable means shall be provided for holding the bars securely in position during welding. It must be ensured that no voids are left in welding and when welding is done in two or three steps, previous surfaces shall be cleaned well. Ends of bars shall be cleaned off all Iron scale, rust, grease, paint and other foreign matter before welding.

- b. Reinforcing bars of 28 mm in diameter and larger may be connected by butt welding provided that lapped splices will be permitted if found to be more practical than butt welding and if lapping does not encroach on cover limitation or hinder concrete or reinforcement placing.
- c. Reinforcing bars of 25 mm in diameter and less may be either lapped or butt-welded, whichever is the most practicable.

Butt –welding of reinforcing bars shall be performed either by the gas pressure welding process or by the electric arc methods under cover from weather.

Welded pieces of reinforcement shall be tested at the rate of 0.5% of total number of joints welded. Specimen shall be taken from the actual site of work. Strength of the weld provided shall be at least 25% higher than the strength of bars.

- d. Welded joints or splices shall preferably be located at points where steel will not be subject to more than 75% of the maximum permissible stresses and welds so staggered that at any section not more

than 20% of rods are welded. Approval of such additional splices will generally be restricted to splices not closer than 8 metres in horizontal bars or 4 metres in vertical bars measured between mild points of laps.

Coupling of bars

- a. Wherever indicated on the drawings or desired by the Engineer to use mechanical couplings of reinforcing bars, bars shall be joined by couplings which shall have a cross section sufficient to transmit the full strength of bars. The ends of bars that are joined by couplings shall be upset for sufficient length, so that effective cross-section at the base of treads is not less than the normal cross-section of the bars. The threads shall be standard Whitworth threads. Steel for couplings shall conform to IS: 226. The contractor shall submit samples of the proposed coupling to the Engineer for approval not less than 60 days prior to their proposed use.

Care of placed reinforcement and concrete.

Where reinforcement bars are bent aside at construction joints and afterwards bent back into their original position, care shall be taken to ensure that at no time the radius of the bend is less than 6x diameter for plain mild steel bars. Care shall also be taken, when bending such that the concrete around the bars is not damaged.

Tolerances

As specified in clause 11.3 of IS: 456-1978 unless otherwise specified by the Engineer reinforcement shall be placed within the following tolerances.

- | | | |
|-----|--------------------------------------|----------|
| i. | For effective depth 200 mm or less | =+ 10 mm |
| ii. | For effective depth more than 200 mm | =+15 mm |

The cover shall in no case be reduced by more than one third of specified cover of 5 mm whichever is less.

Dowels

- a. The dowels shall be of the same HYSD bars of grade Fe 500/ 500D conforming to IS: 1786-1985 as used for reinforcement.
- b. Details for dowels shall be as shown on the drawings or as directed by the Engineer.
- c. Dowels shall be placed in the concrete where shown on the drawings or where directed and will be inspected for compliance with requirements as to size, shape, length, position and amount after they have been placed, but before being covered by concrete.
- d. Before the dowels are embedded in concrete, the surfaces of dowels shall be cleaned of all dirt, grease or other foreign substances which in the opinion of the Engineer are objectionable.
- e. The dowels shall be accurately placed and secured in position so that they will not be displaced during the placing of the concrete.

Measurement and payment

a. Measurement:

Measurement for payment, for furnishing and placing reinforcing bars will be made only on the calculated weight of the bars placed in concrete, in accordance with the drawings or as directed by the engineer.

The calculated weight for reinforcing bars shall be determined as follows:

- i. Reinforcement shall be measured in length separately for different diameters as actually used in the work. Lengths shall include hooks at ends, dowels.
- ii. From the length measured, weight of reinforcing bars shall be calculated on the basis of weights specified in the table in this section.
- iii. Wastage and annealed steel wire for binding shall not be measured and the cost of these items shall be deemed to have been included in the rates for reinforcement.
- iv. The unit for payment shall be one metric ton weight of steel.
- v. No extra payment shall be made for the overlaps, spacer bars, couplings, chairs provided as the data is inclusive of wastage and overlaps, spacer bars, couplings, chairs. However the overlaps, spacer bars, couplings, chairs etc., shall be provided as per requirement, as per BIS Guide lines and Structural drawings.

Payment rate

The bid rate in the bill of quantities for reinforcement shall include cost of steel , binding wire or welding materials at site of work , in cutting , bending ,cleaning , placing , binding or welding and fixing in position as shown on the drawings and as directed by the Engineer. The unit rate shall also include cost of all wastage, binding wire or welding material and cost of all incidental operations necessary to complete the work as per specification.

5.4 SPECIAL CONDITION (FOR STAINLESS STEEL WORKS)

“Metal Arc welding / Tungsten Arc welding (MIG/TIG Process) is required to be used for SS 316 grade. E 310 (IS Specification) Electrodes are required to be used. For obtaining Lacquer finishing the process to be followed is cleaning, grinding, buffing, pickling, passivation of welding surface wherever required using good quality chemicals approved by department for glossy finish, following standard procedures using required tools and methods as covered under Salem Steel users guide and relevant BIS procedures as applicable.

Welds made with Type 316 electrodes may occasionally display poor corrosion resistance in the “as-welded” condition. In such cases, corrosion resistance of the weld metal may be restored by the following heat treatments:

- 1) For types 316 base metal, full anneal at 1950-2050°F

Where post weld heat treatment is not possible, other filler metals may be specially selected to meet the requirements of the application for corrosion resistance.

Dos and Don'ts in welding and finishing of Stainless Steel joints:

- ❖ Oxy-Acetylene / Oxy-Hydrogen process is not practicable while cutting and sizing.
- ❖ After cutting and sizing of joints discoloration of cut edges are to be removed by grinding or passivation.
- ❖ Metal Arc welding / Tungsten Arc welding is required to be used. E310 (IS Specification) Electrodes are required to be used for SS 316 grade.
- ❖ Post welding cleaning: All discoloration, weld spatter, flux / scale are to be removed.
- ❖ Use stainless steel wire brush exclusively for cleaning.
- ❖ Follow the polishing lines when using abrasive cleaners.
- ❖ Do not use an ordinary steel scrapper or knife to remove dirt. This causes rust. Use plastic or stainless steel tools.
- ❖ Only dedicated grinding wheels and discs are to be used.
- ❖ For chemical cleaning, pickling formulations based on nitric acid and hydrofluoric acid are to be used.
- ❖ Do not use Hydrochloric acid.
- ❖ For passivation, use nitric acid.
- ❖ Thorough washing is to be done with water immediately after pickling / passivation.

5.5 SPECIAL CONDITIONS FOR WHITE WASHING, COLOUR WASHING AND PAINTING WORKS.

1. **The contractor has to collect all the total quantity of materials required for the work.**
2. **All the materials collected should be invariably checked by the Quality Control Engineers and Executive Engineers after recording the measurements by the field Engineers in the M.Books, before commencement of the actual work.**
3. **The field Engineers should obtain a certificate of verification from the Quality Control staff.**
4. **The field Engineers should mark with paint as “TTD” on the bags or tins/ Buckets / Containers in which the contractors collect materials for the work.**
5. **After completion of the work, all stains fallen on floors, glass doors, windows and lights should be cleaned before making payment to the contractor. A certificate to that effect shall be appended in M-Book.**
6. **The necessary Quality Control checks should be conducted by the Executive Engineer and field staff to ensure quality of work before making payment to the contractor.**
7. **The contractor has to supply all the quantity as per the agreement. If the required quantity is more than that proposed in the agreement, the contractor has to bear that expenditure. If the required quantity is less than proposed in the estimate, the quantity of paints will not be returned to the contractor and the same will be accounted to TTD by returning the same to**

the DPW Stores, TTD duly specifying the rate. If the area of the painting varies with respect to the area provided in the estimate, the variation in quantities will also be accordingly computed and accounted.

List of approved firms:

ANNEXURE-III			
List of approved firms			
S.No.	Description	Name of the Firm/Trade Name	
NOTE:	1. The Brands shown are for guidance only.		
	2. Preference shall be given to ISI mark wherever applicable.		
	3. All Building materials confirming to ISI standards, shall be used in all Civil, water supply & sanitary fittings and Electrical works.		
	4. Not only limiting to the Brand/Manufacturer/Supplier for materials/products mentioned below. Material/product confirming to the specification and standards of ISI from any brand/manufacturer, shall also be allowed in all civil, water supply & sanitary fittings and Electrical works too.		
I	A) Glazed Ceramic tiles (Walls): IS:13755-1993	----	1) Jhonson 2) Asian 3) Regency 4) Makson 5) Gold coin 6) Deco Gold 7) Somany 8) Nitco 9) Orient Bell 10) Oasis.
	B) Ceramic tiles—Floors: IS:13755-1993		1) Naveen 2) Regency 3) Jhonson 4) Asian 5) SOMANY 6) CITY TILES 7) SWASTIK 8) Orient Bell
	C) Anti skid tiles -Floor		1) Naveen 2) Regency 3) Jhonson 4) Asian 5) Orient Bell
	D) Vitrified Tiles:		1) Marbito 2) Regency 3) Asian Granito (Rustic- Restile) 4) Murudeswar (Naveen) 5) Decolite (Granolite) 6) Johnson Ltd., (Marbonite) 7) Bell Granito (Marbogranite) 8) SOMANY 9) CITY TILES 10) Marbolite Granite (Swastik) 11) Nitco 12) Oreint Bell 13) Oasis 14) Aparna Tiles (Vitero Brand).
II	Water Proof Cement Paints.		
	Name of the Manufacturer		Brand name
	1. Berger Paints	----	DuroCem Extra
	2. Shalimar	----	MahaCem Coat
	3. Agsar paints	----	Agsarcem
	4. Coromandal paints		CP cem
	5. Snow Cem paints Pvt. Ltd.,	----	Snow Cem
	6. Snow White Industrial Corporation		Super cem
	7. Apollo Paints	----	AroCem Double plus
	8. C.A.G. Industries		Delta Cem
	9. Limenaph Chemicals Pvt Ltd		Single shot
III A	Synthetic Enamel Paints: Garde-I		
	1. Berger	----	Luxol Hi gloss enamel
	2. Asian paints	----	Apcolite premium Gloss enamel whites
	3. Kansai Nerolac	----	Nerolac Synthetic Enamel
	4. Shalimar	---	Superlac HI-Gloss
	5. Addisons	----	Addisons DuraFlex synthetic enamel
	6. Coromandal paints		Corolux
	7. Nippon	----	Bodelac synthetic enamel
III B	Synthetic Enamel Paints: Garde-II		
	1. Berger	----	Butterfly G.P Synthetic enamel
	2. Asian paints	----	Tractor enamel
	3. Kansai Nerolac	----	Goody Synthetic Enamel
IV	LIME POWDER :		Surya Cem Janata Cem
	Limenaph Chemicals Pvt, Ltd		J-Cote

V	Acrylic Distemper		
	1. Berger	----	Bison Acrylic Distemper
	2. Asian paints	----	Tractor Acrylic Distemper
	3. Kansai Nerolac	----	Beauty Acrylic Distemper
	4.Nippon		Neva Distemper
	5.Apollo		Pride emulsion finish plastic paint
	6. Shalimar	---	No.1 Premium Acrylic Distemper
	7.Coromandal paints		Corolite Acrylic Distemper
	8.Agsar		Agsar super Acrylic Distemper
	9. Altek	----	Delight Acrylic Distemper
VI	MATT FINISH		
	1. Kansai Nerolac	----	SurakshaPlus matt finish
	2. Berger	----	Walmasta matt finish
	3. Appolo	----	Arotex matt finish
	4. Nippon	----	Shogun-matt finish
	2. Asian	----	ACE
VII	ACRYLIC EMULSION EXTERIOR GRADE (Anti Fungus)		
	1. Kansai Nerolac	----	Nerolac Excel
	2. Asian paints	----	Apex
	3. Berger	----	Weather coat smooth
	4. Appolo	----	Aropex premium + AVX-2
	5. Nippon	----	Sumo extra
VIII	Supply of synthetic polymer luxury plastic emulsion paint of superior grade having VOC (Volatile organic compound) content less than 50 grams/lit (interior)(Royal emulsion)	----	
	1.Nippon	----	Satin gloPrime
	2. Berger	----	Silk Glamour
	3.Asian paints	----	Royale Shyne
	4. Nerolac	----	Impressions Eco Clean
	5.Appolo	---	Eco Enviro Luxury emulsion
IX	Supply of synthetic polymer plastic emulsion paint having VOC (Volatile organic compound) content less than 50 grams/lit (Premium interior)		(Data is prepared based on these rates)
	1.Nippon	----	Matex Gold plus
	2. Berger	----	Rangoli Total care
	3.Asian paints	----	Apolite premium emulsion
	4. Nerolac	----	Beauty Gold
	5.Appolo	---	ezykleen
X	Wall putty	---	Birla wall care putty
XI	WATER SUPPLY ITEMS such as G.M.Wheel Valves, Gate Valves, Ball Valves, Plug Cocks, Stop Cocks, Bib Cocks, Pillar Cocks, Push Cocks, Shower Roses, etc.,	----	1. Leader 2.Zoloto 3. Ark 4. Parryware
	WATER PROOFING COMPOUND	----	
	1. Impermo	----	
	2. Acco Proof	----	
	3. Surfa Seal	----	
	4. Algiproof		
	5. Cico		
XII	HARDWARE FITTINGS (Aluminium Anodized)		
	1.Yesses Anodizing Ind. Pvt. Ltd.	----	Jyoti

XIII	SANITARY WARE:		
	1.Hindware	----	
	2. Parryware	----	
XIV	Plain and Pre laminated particle boards of ISI make	----	NOVAPAN , ECO, BISON
XV	Water storage Tank		Infra,Sintex
XVI	Flush Shutter Door		Corbett, Kutty, Global
XVII	PVC / HDPE Pipes		Kisan,UPI polymers, Prince, Sudhakar, Kailashaganga (For water supply only) (M/s Kakatiya Industries)
XVIII	CPVC / UPVC / SWR / PVC pipes		Supreme,Ayay, Aerocon, Finolex
XIX	U-PVC (potable water supplies only)		Sujala pipes (Nandi make), Finolex
XX	PVC Door shutter		Qute
XXI	Galvalume sheets		Kailash
XXII	UPVC Windows/Ventilators		Fenesta

- NOTE: 1) THE MAKE, MODEL, COLOUR OF THE MATERIAL TO BE USED SHALL BE AS DECIDED AND DIRECTED BY THE ENGINEER-IN-CHARGE**
- 2) IN ADDITION TO THE ABOVE APPROVED FIRMS, THE APPROVED FIRMS FROM TIME TO TIME BY THE DEPARTMENT ARE ALSO ELIGIBLE FOR PROCUREMENT DURING EXECUTION.**

6 DRAWINGS:

6.1 Drawings:

- 6.1.1 The plans enclosed with the tender are liable to be altered during execution of work as per necessity of site conditions. The premium quoted by the contractor for various items shall hold good for execution of work even with altered plans.
- 6.1.2 One set of drawings, on the basis of which actual execution of the work is to proceed shall be furnished free of cost to the contractor by the Superintending Engineer / Executive Engineer progressively according to the work program submitted by the contractor and accepted by the Superintending Engineer / Executive Engineer. Drawings for any particular activity shall be issued to the contractor at least 30 days in advance of the scheduled date of the start of the activity. However, no extra claims by the contractor toward any delay in issue of drawing or issue of any revision / change to the drawings issued earlier shall be admissible. The Superintending Engineer shall intimate the contractor 7 days in advance regarding any delay to issue of drawings, for any particular stage of work. If work gets affected due to delay to issue of drawings, for any particular stage of work the contractor shall be granted extension of time in terms of condition of the contract.
- 6.1.3 Signed drawings above shall not be deemed to be an order for work unless they are entered in the agreement or schedule of drawings under proper alterations of the contractor and Executive Engineer or unless they have been sent to the contractor by the Executive Engineer with a covering letter confirming that the drawing is in and authority for work in contract.

6.2 DISCREPANCIES:

- 6.2.1 In case of discrepancies between documents the following order of procedure shall apply:-

Between the written description of written dimensions in the drawings and the corresponding one in the specifications, the latter shall apply.

Figured dimensions shall supersede scaled dimensions. The drawings on a larger scale shall take precedence over those on a smaller scale.

Drawings issued as construction drawings from time to time shall supersede tender drawings and also the correspondence drawings previously issued.

Note: The contractor should not execute any component of work without obtaining the working drawings. Any work done without drawings shall be at the contractor's responsibility only. Acceptance for such work will be at the discretion of the Executive Engineer.

6.3 SECURITY CLAUSE:

The drawings and specifications made available to the tenderer shall exclusively be used on the work and they are retained from passing on each plan to any unauthorized hand either in parts or in full under the provisions of Section-3 and 5 of the official secrets Act 1923. Any violation in this regard will entail suitable action under appropriate clause or official secret Act 1923.

BILL OF QUANTITIES**7. Bill of Quantities**

- 7.1 The Bill of Quantities shall be read in conjunction with the instructions to Tenderers, General and Special conditions of Contract Technical Specifications and Drawings.
- 7.2 The quantities given in the Bill of Quantities are estimated and provisional and are given to provide common basis for tendering. The quantities here given are those upon which the lump sum tender cost of the work is based but they are subject to alterations, omissions, deductions or additions as provided for in the conditions of this contract and do not necessarily show the actual quantities of work to be done. The basis of payment will be actual quantities of work ordered and carried out as measured by the Contractor and verified by the Engineer and valued at the estimate rate plus or minus tender percentage quoted in the Bill of Quantities where applicable, and otherwise at such rates and prices as the Engineer-in-Charge may fix within the terms of Contract.
- 7.3 The estimate rates in the Bill of Quantities shall, except in so far as it is otherwise provided under the Contract include cost of all constructional material, labour, machinery, transportation, erection, maintenance, profit, taxes and duties together with all general risks, liabilities and obligations set out or implied in the Contract.
- 7.4 The plans enclosed with the tender are liable to be altered during execution of work as per necessity of site conditions. The Tender percentage quoted by the tenderer shall hold good for execution of work even with altered plans.
- 7.5 The whole cost of complying with the provisions of the Contract shall be included in the estimated rates for items provided in the Bill of Quantities and where no items are provided in the Bill of Quantities, their cost shall be deemed to be distributed among the estimate rates entered for the related items of work.
- 7.6 General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering estimate rate against each item in the Bill of Quantities.
- 7.7 The method of measurements of completed work for payment shall be in accordance with the relevant B.I.S. Codes & A. P. S. Specifications.
- 7.8 All items of work are to be executed as per the drawings / specifications supplied with the contract documents.
- 7.9 If there is any contradiction between the drawings and the text of the specifications, the later shall prevail.
- 7.10 The Tenderer should inspect and select the quarries of his choice before he quotes the tender percentage in the Schedule of Bill of Quantities and satisfy himself about the availability of required quantum of materials.
- 7.11 Diversion drains should be excavated before completion of the embankments and the useful soils should be used in the nearby embankments.
- 7.12 The actual mix proportion by weight to be adopted during execution will be got designed in the laboratories to suit the grade of concrete and mortar to be used. It will be the responsibility of the contractor to manufacture concrete and mortar of required strength.
- 7.13 The quantum of measurement for all items of earthwork involving conveyance manually or by machinery shall be as assessed by level measurement. The measurements for the embankment will be for the consolidated banks only.

- 7.14 Wherever bailing out of water is involved either for excavation or for foundations or for constructions, the percentage quoted shall take into account the dewatering charges necessary. No separate payment will be made for dewatering.
- 7.15 Wherever embankment work is involved, useful soils approved by the Engineer-in-Charge from the cutting reaches and diversion drains shall be taken and used for forming nearby embankments. Soils used for constructions will be at free of cost.
- 7.16 The quoted tender percentage shall also include the work of any kind necessary for the due and satisfactory construction, completion and maintenance of the works according to the drawings and these specifications and further drawings and orders that may be issued by the Engineer-in-Charge from time to time. The quoted tender percentage shall include compliance by the Contractor with all the general conditions of contract, whether specifically mentioned or not in the various clauses of these specifications, all materials, machinery, plant, equipment, tools, fuel, water, strutting, timbering, transport, offices, stores, workshop staff, labour and the provision of proper and sufficient protective works, diversions, temporary fencing and lighting. It shall also include safety of workers, first aid equipments suitable accommodation for the staff and workmen, with adequate sanitary arrangements, the effecting and maintenance of all insurances, the payment of all wages, salaries, fees, royalties / Taxes, duties or other charges arising out of the execution of works and the regular clearance of rubbish, reinstatement and clearing-up of the site as may be required on completion of works safety of the public and protection of the works and adjoining land. The work of Building in quality control / assurance shall be deemed to be covered in the quoted percentage.
- 7.17 The Contractor shall ensure that, the quoted tender percentage shall cover all stages of work such as setting out, selection of materials, selection of construction methods, selection of equipment and plant, deployment of personnel and supervisory staff, quality control testing etc. The work quality assurance shall be deemed to be covered in the tender percentage.
- 7.18 a) The special attention of the tenderer is drawn to the conditions in the tender notices wherein reference has been made to the Andhra Pradesh Standard Specifications [APSS] and the Standard preliminary specifications containing therein. These preliminary specifications shall apply to the agreement to be entered into between the contractor and the Government of Andhra Pradesh and shall form an in-separable condition of the contract along with the estimate. All these documents taken together shall be deemed to form one contract and shall be complimentary to another.
- 7.19 b) The tenderer shall examine, closely the A.P.S.S. / MORTH and also the standard preliminary specifications contained therein and sign the Superintending Engineer's office copy of the APSS / MORTH and its addenda volume in token of such study before submitting his overall tender percentage which shall be for finished work in-situ. He shall also carefully study the drawings and additional specifications and all the documents, which form part of the agreement to be entered into by the successful tenderer. The APSS / MORTH and other documents connected with contract such as estimate plans, specifications, can be seen on all working days in the office of the Superintending Engineer –III, T.T.D, Tirupati.
- 7.20 The tenderers attention is directed to requirements for materials under the clause 'materials and workmanship' in the preliminary specifications of APSS. Materials conforming to the Bureau of Indian Standards specifications, APSS etc., shall be used on the work and the tenderers shall quote his overall tender percentage accordingly.
- 7.21 The tenderer has to do his own testing of materials and satisfy himself that they conform to the specifications of respective I.S.I. Codes before tendering.
- 7.22 The contractor shall himself procure the required construction materials of approved quality including the earth for formation of embankment and water from quarries / sources of his choice. All such quarries / sources of materials required for the work shall be got approved by the Engineer-in-Charge in writing well before their use of the work.
- 7.23 The contractor shall himself procure the steel, cement, Bitumen, Blasting materials, sand, metal, soils, etc., and such other materials required for the work well in advance. The contractor has to

bear the cost of materials for conveyance. The department will not take any responsibility for fluctuations in market in cost of the materials, transportation and for loss of materials etc.

- 7.24 Inspection of site and quarries by the tenderer: Every tenderer is expected before quoting his overall tender percentage, to inspect the site of proposed work. He should also inspect the quarries and satisfy himself about the quality, and availability of materials. The best class of materials to be obtained from quarries, or other sources shall be used on the work. In every case the materials must comply with the relevant standard specifications. Samples of materials as called for in the standard specifications or in this tender notice, or as required by the Executive Engineer, in any case, shall be submitted for the Executive Engineer's approval before the supply to site of work is begun.
- 7.25 The tenderer's particular attention is drawn to the sections and clauses in the A.P. standard specification dealing with
- a) Test, inspection and rejection of defective materials and work.
 - b) Carriage
 - c) Construction plant
 - d) Water and lighting
 - e) Cleaning up during the progress and for delivery.
 - f) Accidents
 - g) Delays
 - h) Particulars of payments.
- 7.26 The contractor should closely peruse all the specification clauses, which govern the overall tender percentage he is tendering.
- 7.27 The defect liability period of contract is 12 (Twelve) months and the quoted rate shall include the cost associated in rectification of defects during this period, which include materials, labour etc., complete.**
- 7.28 The estimate rates for items shown in the Schedule "A" include all construction materials. No escalation in rates will be paid unless specified in the tender document. The tenderer has to quote an overall tender percentage considering all the aspects of the tender to complete the finished item of work as per the APSS / MORTH / B.I.S. specifications, the special specifications appended, Drawings etc.
- 7.29 If there is any contradiction between APSS / MORTH and B.I.S. specifications, listed and detailed technical specifications, the latter shall prevail.
- 7.30 In case of a job for which specifications are not available with the Schedule or in APSS / MORTH or B.I.S. code and are required to be prescribed, such work shall be carried out in accordance with the written instructions of the Engineer-in-charge.
- 7.31 The contractor should use the excavated useful soils and stone for construction purpose. Soils used for construction either for homogeneous section in hearting or in casing zone based on the suitability will be at free of cost and the cost of stone used for construction purpose will be recovered from the contractor's bill.
- a. The contractor should quote his tender percentage keeping in view of the above aspects.
- 7.32 Additions and alternations by the Tenderer in the Schedule of quantities will disqualify the tender.
- 7.33 In the case of discrepancies between the written description of the item in the Schedule "A" and the detailed description in the specification of the same item, the latter shall be adopted.
- 7.34 The Unit rates noted below are those governing payment of extras or deductions for omissions according to the conditions or the contract as set-forth in the preliminary specifications of the A.P. standard specifications and other conditions of specification of this contract.
- 7.35 It is to be expressly understood that the measured work is to be taken according to the actual quantities when in place and finished according to the drawings or as may be ordered from time to time by the Executive Engineer and the cost calculated by measurement or weight at their respective rates without any additional charge for any necessary or contingent works connected works connected herewith. The Percentage Excess or less on ECV quoted are for works in situ and complete in every respect.
- 7.36 For all items of work in excess of the quantities indicated the rates payable for such excess quantities will be tendered rates i.e., estimate rates plus or minus tender percentage.
- 7.37 For all items of work, intermediate payment will be made provisionally as per relevant clause. Full-accepted agreement rates will be paid only after all the items of works are completed.

7.38 The contractor is bound to execute all supplemental works that are found essential incidental and inevitable during execution of main work.

7.39 The payment of rates for supplement items of work will be regulated as under.

1. Supplemental items directly deductible from similar items in the original agreement.

The rates shall be derived by adding to or subtracting from the agreement rate of such similar item the cost of the difference in the quantity of materials labour between the new items and similar items in the agreement worked out with reference to the schedule of rates adopted in the sanctioned estimate with which the tenders are compared.

2a) similar items but the rates of which cannot be directly deducted from the original agreement.

2b) purely new items which do not correspond to any item in the agreement.

2. The rate of all such items shall be estimated rates plus or minus overall tender percentage.

7.40 Entrustment of Additional Items.

a) Where ever additional items not contingent on the main work and outside the scope of original agreement are to be entrusted to the original contractor dispensing with tenders and if the value of such items exceeds the limits upto which the officer is empowered to entrust works initially to contractor without calling for tenders approval of next higher authority shall be obtained. Entrustment of all such items on nomination shall be rates not exceeding the estimate rates.

b) Entrustment of supplement items contingent on the main work will be authorized by the officers upto the monetary limits upto which they themselves are competent to accept items in the original agreement so long as the total amounts upto which they are competent to accept in an original agreement rates for such items shall be worked in accordance with the procedure prescribed in GO Ms.No.1493 PWD, dated: 25.10.1971 and as amended in Govt. Memo number 544 cod 72-22 Dt: 6.7.1973.

c) Entrustment of either the additional supplemental items shall be further subject to the provisions under para 176(b) of APWD Code Viz., the items shall not be ordered by an officer on his own responsibility if the revised estimate or deviation statement providing for the same requires the sanction of higher authority.

Note: It may be noted that the term estimate rate used above means the rate in the sanctioned estimate with which the tender's compared or if no such rate is available in the estimate the rate derived will be with reference to the schedule of rates adopted in the sanctioned estimate with which tenders are compared.

Providing false ceiling to Electronics and Physics Laboratories in SV College at New Delhi.								
S. No:	Probable Quantity				APDSS S.No:	Rate in Rs.	Unit in words	Amount
1	2	3	4	5	6	7.00	8	9
1	438.00	Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm centre to centre, and cross "T" of size 24x28 mm made out of 0.33 mm (Minimum) sheet, 1200 mm long spaced between main'T' at 600 mm centre to centre to form a grid of 1200x600 mm and secondary cross 'T' of length 600 mm and size 24 x28 mm made of 0.33 mm thick (Minimum) sheet to be inter locked at middle of the 1200x 600 mm panel to from grid of size 600x600 mm, resting on periphery walls /partitions on a Perimeter wall angle pre-coated steel of size(24x24X3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm centre to centre with 25 mm long dry wall screws @ 230 mm interval and laying 15 mm thick densified edges calicum silicate ceiling tiles of approved texture in the grid, including, cutting/ making opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required. Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200 mm centre to centre along main 'T', bottom exposed with 24 mm of all Tsections shall be pre-painted with polyster baked paint, for all heights, as per specifications, drawings and as directed by Engineer-in-Charge.	Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet,	Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet,	NA	1707.33	Sqm	747810.54
		ELECTRICAL						0.00
2	185.00	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC	NA	353.39	Rmt	65377.15
3	160.00	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required. - 2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Wiring for circuit/ submain wiring along with earth wire	Wiring for circuit/ submain wiring along with earth wire	NA	267.28	Rmt	42764.80
4	10.00	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc. as required. - 75 mm X 75 mm X 60 mm deep	Supplying and fixing metal box of following sizes (nominal size)	Supplying and fixing metal box of following sizes (nominal size)	NA	145.68	Each	1456.80

5	10.00	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required. - 1 or 2 Module (75mmX75mm)	Supplying and fixing following size/ modules	Supplying and fixing following size/ modules	NA	243.60	Each	2436.00
6	10.00	Supplying and fixing following piano type switch/ socket on the existing switch box/ cover including connections etc. as required.- 15/16 A switch	Supplying and fixing following piano type switch/ socket	Supplying and fixing following piano type switch/ socket	NA	99.13	Each	991.30
7	5.00	Supplying and fixing 5A to 32 As rating, 240/415 volts, 10kA, "C" urve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connectiions, testing and commissioning etc., as required. - Single Pole	Supplying and fixing 5A to 32 As rating, 240/415 volts, 10kA,	Supplying and fixing 5A to 32 As rating, 240/415 volts, 10kA,	NA	208.99	Each	1044.95
8	3.00	Supplying and fixing following rating, double pole, 240V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required - 40 A	Supplying and fixing following rating, double	Supplying and fixing following rating, double	NA	355.04	Each	1065.12
9	38.00	Dismantling of the existing Ceiling fan / Exhaust fans/ wall mounting fans completely with accessories with out causing any damage to the fixtures etc., (Note: the dismantled above materials are to be returned to concerned section officer by the contractor at his cost)	Dismantling of the existing Ceiling fan / Exhaust fans/ wall mounting fans	Dismantling of the existing Ceiling fan / Exhaust fans/ wall mounting fans	NA	21.42	Each	813.96
10	50.00	Dismantling of existing fixture's such as 2' /4' tube light fitting / PL fitting with out causing any damage to the fittings etc., (Note: The dismantled above material are to be returned to concerned section officer by the contractor at his cost)	Dismantling of existing fixture's such as 2' /4' tube light fitting	Dismantling of existing fixture's such as 2' /4' tube light fitting	NA	11.78	Each	589.00
11	4.00	Providing of Independent Chemical Earthing after excavating an earth pit of size1.5 m X 0.9 m X 2.05 m(Top 1.50 m X 0.90 m X 0.9m & bottom 1.20 m X 0.90 m X 1.15 m) with the following specification: (a) The Earth Electrodes, 40mm dia, wall thickness 3.25 mm, terminal Size 25x8 mm, terminal hole dia 12 mm, 2 meter long, galvanized, including 1 bag (25Kg to a bag) of Earth Life Compound, as per IS 3043, Base Metal: IS marked branded mild steel pipes. Makes: Potential / Shake Hands / Mars / Tirumala / Arshlok earthing. b) The Earth Electrode shall be inserted into the ground for 1.75 Mtrs. Below the inspection chamber bottom 300mm all around this Earth Electrode shall be covered with 25 Kgs. Of Earth Life Compound	Providing of Independent Chemical Earthing after excavating an earth pit of size1.5 m X 0.9 m X 2.05 m(Top 1.50 m X 0.90 m X 0.9m & bottom 1.20 m X 0.90 m X 1.15 m)	Providing of Independent Chemical Earthing after excavating an earth pit of size1.5 m X 0.9 m X 2.05 m(Top 1.50 m X 0.90 m X 0.9m & bottom 1.20 m X 0.90 m X 1.15 m)	NA	5863.03	Each	23452.12
		(c) The excavated gap shall be back filled with excavated earth, and shall be properly consolidated with water. (d) The top 0.25 m of Earth pipe shall be exposed into inspection chamber of Hume pipe . The all around inspection chamber shall be provided with 18" dia hume pipe. Earth connections shall be given to the Earth Elecrods with bolts, nuts & washers. (e) A 65 mm dia PVC conduit is to be embeded through hume pipe at one side, to lay the Earth from the Earth bus to the Electrode through the PVC conduit and after laying the Earth, the pit entry PVC conduit is to be sealed with Bitumen compound.	(c) The excavated gap shall be back filled with excavated earth, and shall be properly consolidated with water.	(c) The excavated gap shall be back filled with excavated earth, and shall be properly consolidated with water.	NA			0.00

		(f) Necessary Meggar testing is to be done in the presence of the concerned Engineers, and the reading should be as per IE standards.						
12	62.00	Supply, transportation and fixing of 36W Recessed / Surface mounting 2' x 2' (600x600 mm) LED luminaire made of CRCA sheet housing with powder coated with acrylic diffuser, constant current driver as per IS: 15885 (Part 2/ Sec 13) : 2012 , with operating voltage range of 150 to 265 Volts AC, P.F > 0.9, Surge protection: 2KV, THD<10%, with high power LEDs, having System Efficacy of >=100 lumens / watt, CCT: 3000K - 5700K, minimum CRI>70, .etc., complete with earth connection and not less than two years warranty. a) LUMINAIRE MAKE : Phillips / GE-Venture / Crompton / Wipro / Bajaj / Havells / Halonix/Jaquar/HPL/GM / GreenLites / Gold Medal/Eveready / FortuneArrt// Rhino/Panasonic b) LED MAKE : PHILIPS LUMILEDS / CREE / NICHIA / OSRAM / SAMSUNG/Everlight.	Supply, transportation and fixing of 36W Recessed / Surface mounting 2' x 2' (600x600 mm) LED luminaire made of CRCA sheet housing with powder coated with acrylic diffuser,	Supply, transportation and fixing of 36W Recessed / Surface mounting 2' x 2' (600x600 mm) LED luminaire made of CRCA sheet housing with powder coated with acrylic diffuser,	NA	2983.15	Each	184955.30
13	5.00	Supply of 1.8 / 2.0 Ton capacity DC inverter HOT & COLD type split AC Unit suitable for operation on 230V, 50Hz, 1 Phase AC supply, with 3 mtrs of copper piping, insulation kit and 4 mtrs of 4 core copper flexible chord with cordless remote control etc., with the following specifications. Technical Specifications: Capacity: 1.8 / 2.0 Ton Split type inverter - DC inverter Hot & Cold series Star rating - 3 / 4 Star Condensor type - Copper	Supply of 1.8 / 2.0 Ton capacity DC inverter HOT & COLD type split AC Unit suitable for operation on 230V, 50Hz,	Supply of 1.8 / 2.0 Ton capacity DC inverter HOT & COLD type split AC Unit suitable for operation on 230V, 50Hz,	NA	55152.00	Each	275760.00
		Cooling capacity (BTU/hR) - 24000 Power consumption (Cool) - 1820/608 watts (350-2100) Heating capacity (BTU/hr) - 20500 (4450-20500) Power consumption (heating) - 1830 watts (330-1900) Annual power consumption (kwh) - 1057.21 Noise level (Indoor) - 32 to 48 db. Refrigerant - R32 Compressor - Swing / Rotary ISEER - 4.39 Warranty: DLP period - 5 years Make: DAIKIN / Hitachi / TTD approved Brands. Model: FTHT60UV16U	Cooling capacity (BTU/hR) - 24000 Power consumption (Cool) - 1820/608 watts (350-2100)	Cooling capacity (BTU/hR) - 24000 Power consumption (Cool) - 1820/608 watts (350-2100)	NA			0.00
14	5.00	Supply of 5 KVA 1-phase, automatic Electronic Voltage Stabilizer. Makes: V-Guard / Real Guard / Uni Stab / ITL.	Supply of 5 KVA 1-phase, automatic Electronic Voltage Stabilizer.	Supply of 5 KVA 1-phase, automatic Electronic Voltage Stabilizer.	NA	3842.22	Each	19211.10
15	5.00	Installation of Split Air Conditioners	Installation of Split Air Conditioners	Installation of Split Air Conditioners	NA	2356.53	Each	11782.65
16	5.00	Supply, Fabrication of 1set MS bracket suitable for fixing out door unit of split AC	Supply, Fabrication of	Supply, Fabrication of	NA	1555.30	Each	7776.50

		unit.	1set MS bracket	1set MS bracket				
17	25.00	Supply of 4 core 4.0 Sqmm PVC insulated and sheathed FRLS copper round cable for voltage up to 1100 V as per IS 694/1990 with the DLP period five years. Makes: Finolex / RR kabel / Havells /KEI/Polycab/ Gloster/ Goldmedal/GM/ Finecab/ Fortune Arrt/Anchor /Million.	Supply of 4 core 4.0 Sqmm PVC insulated and sheathed FRLS copper	Supply of 4 core 4.0 Sqmm PVC insulated and sheathed FRLS copper	NA	276.35	Rmt	6908.75
18	25.00	Providing 2 runs of Copper tubes for suction and liquid between indoor and outdoor unit for split/Casseete Air- Conditioner including foaming etc., complete. Make: Copper:Totaline /Nippon /Mandev/Nitrile Insulation: Kflex/ Totaline /Armaflex. a) 5/8 & 1/4	Providing 2 runs of Copper tubes for suction and liquid between indoor and outdoor unit	Providing 2 runs of Copper tubes for suction and liquid between indoor and outdoor unit	NA	1327.15	Rmt	33178.75
19	60.00	Supply and Fixing of ISI Mark 25mm outer dia medium grade (1.80mm thickness) with IS:9537 part -3 P.V.C. pipe with all accessories fixing on chromium plated metallic base saddles for surface wiring on Brick / stone walls, RCC roofings, Trusses, channels including all labour charges etc., complete. (If PVC Pipes are fixed on Trusses / Channels with MS Clamps, the rate for MS Clamps will be paid Separately) Makes: Sudhakar / Finolex / Polycab / Kumar / AKG / Indian-tubes / GM / Anchor / Nandi / Polyline / Gold Medal	Supply and Fixing of ISI Mark 25mm outer dia medium grade (1.80mm thickness) with IS:9537 part -3 P.V.C. pipe	Supply and Fixing of ISI Mark 25mm outer dia medium grade (1.80mm thickness) with IS:9537 part -3 P.V.C. pipe	NA	80.60	Rmt	4836.00
20	50.00	Supply and Fixing of ISI Mark 50mm outer dia medium grade (2.85mm thickness) with IS:9537 part -3 P.V.C. pipe with all accessories fixing on chromium plated metallic base saddles for surface wiring on Brick / stone walls, RCC roofings, Trusses, channels including all labour charges etc., complete. (If PVC Pipes are fixed on Trusses / Channels with MS Clamps, the rate for MS Clamps will be paid Separately) Makes: Sudhakar / Finolex / Polycab / Kumar / AKG / Indian-tubes / GM / Anchor / Nandi / Polyline / Gold Medal	Supply and Fixing of ISI Mark 50mm outer dia medium grade (2.85mm thickness) with IS:9537 part -3 P.V.C. pipe	Supply and Fixing of ISI Mark 50mm outer dia medium grade (2.85mm thickness) with IS:9537 part -3 P.V.C. pipe	NA	152.82	Rmt	7641.00
								1439851.79
		(Rupees Fourteen Lakhs Thirty Nine Thousand Eight Hundred Fifty one and Paise Seventy Nine only)						

NIT. No: 04/EE-VI/TTD/2025-2026.

PRICE BID

Name of work: - “Providing false ceiling to Electronics and Physics Laboratories in SV College at New Delhi..”

Estimated contract value: Rs. 14,39,851.79

In Words:(Rupees Six Lakhs Fifty One Thousand Three Hundred Fifty One and Paise Forty Four only).

I, Sri / Smt./Ms. do hereby express my willingness to execute the aforesaid work as per the conditions, standards, specifications, rules, regulations, etc., stipulated in the tender documents.

a) at an overall tender percentage of (+) (in figures) PLUS (in words) EXCESS OVER the estimated value.

OR

b) at an overall tender percentage of (-) (in figures) MINUS (in words) **LESS THAN** the estimated value.

OR

c) at estimate value.

Note: - 1. The percentage quoted shall be upto a maximum of two decimals.

SIGNATURE, NAME OF THE TENDERER / AUTHORISED SIGNATORY

BILL OF QUANTITIES

Name of work: "Providing false ceiling to Electronics and Physics Laboratories in SV College at New Delhi.."

NOTE:

- 1) The rates mentioned in Bill of Quantities (Part-I) are including all taxes if any, overhead charges and contractors profit but including GST. Any changes if occurs during the period of agreement as per Government orders, the procedure followed in CPWD will be considered.
- 2) As the overhead charges includes engaging technical persons by the contractor, no reimbursement for the personnel will be made separately.
- 3) If the contractor fails to employ technical persons, the work will be suspended or department will engage technical persons and recover the cost thereof from the contractor.