



**GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES
TENDER SCHEDULE**

FOR THE WORK

- 1.** Restoration to scoured bank of river Kusumi right bank near Angisingi Ramchandi mandir for the year 2026-27.
- 2.** Restoration to scoured bank of river Kusumi right bank near Sanagorada crematorium for the year 2026-27.
- 3.** Restoration to scoured bank of river Kusumi left bank near village Sanagorada Gopinathpur Sahi for the year 2026-27.
- 4.** Restoration to scoured bank of river Mandakini left bank near village Baunsagada Ambatota for the year 2026-27.
- 5.** Restoration to scoured bank of river Mandakini right bank near Shiva temple of Champatipur mandir for the year 2026-27.
- 6.** Improvement to right distributary from RD.0.00 Mtr to 11000 Mtr of KIP, Daspalla for the year 2026-27.
- 7.** Improvement to Minor and Sub-Minor under Right distributary of KIP, Daspalla for the year 2026-27.
- 8.** Improvement to Left Distributary from RD.0.00 Mtr to 10000 Mtr of KIP, Daspalla for the year 2026-27.
- 9.** Improvement to Minor and Sub-Minor of Left Distributary of KIP, Daspalla for the year 2026-27.
- 10.** Protection to Left bank service road of River Duanto from Badagorada to Bilagorada for the year 2026-27.
- 11.** Protection to Right bank of river Duanto near Bilagorada with construction of 1200mm dia double row RCC Humepipe Inlet for the year 2026-27.
- 12.** Protection to Duanto Left and Right bank near village Patulisahi for the year 2026-27.
- 13.** Protection to Duanto Left bank near village badagorada for the year 2026-27.
- 14.** Improvement to Itamati Right Distributary in between RD.0.00 Mtr to 9500 Mtr for the year 2026-27.
- 15.** Improvement to Balugaon Distributary in between RD.0.00 Mtr to 11000 Mtr for the year 2026-27.
- 16.** Protection to Kusumi Right embankment near village Tikiripada to Betakholi for the year 2026-27.
- 17.** Protection to Lunijhara Left embankment near village Chandiprasad to gunthuni (From RD.0.00 to 1500 Mtr) for the year 2026-27.
- 18.** Protection to Kusumi Right embankment near PWD Road to banamalipur Bridge (From RD.3000.00 to 5200 Mtr) for the year 2026-27.
- 19.** Protection to Kuanria Right embankment near village Gadiasahi (From RD.1500.00 to 3000 Mtr) for the year 2026-27.
- 20.** Protection to Kuanria Right embankment near village Saradhapur for the year 2026-27.
- 21.** Improvement to Kendupalli Minor, Ostia Sub-Minor, Nandighore Minor, Ambarpur Sub-Minor and Rabera Minor for the year 2026-27.
- 22.** Improvement to Guando Minor, Link Channel, Gaudaput Minor and BBIP Minor for the year 2026-27.
- 23.** Protection to Kusumi Right bank embankment near Adachera to upstream side, Nayagarh from RD.0.00 Mtr to 650 Mtr of Nayagarh District for the year 2026-27.

GOVERNMENT OF ODISHA		
DEPARTMENT OF WATER RESOURCES		
'e' Procurement Notice No 01(NGR) / 2026-27		
1	Name of work	Flood Restoration works and River embankment ,canal works
2	Total No. of work	23(Twenty Three)
3	Estimated cost	Rs. 9.24 Lakhs to 35.46 Lakhs
4	Period of completion	(06) Six calendar months
5	Date & time of availability of Bid Document in the portal	15.00 hours of 13.05.2026 to 17.00 hours 25.05.2026
6	Last date/ Time for receipt of Bids in the Portal	25.05.2026 up to 17.00 hours
7	Date and place of opening of Technical Bid	Dt. 26.05.2026 11.00Hrs of the Superintending Engineer, Nayagarh Irrigation Division, Nayagarh
8	Name and address of the O.I.T (Officer Inviting Tender)	Superintending Engineer, Nayagarh Irrigation Division, Nayagarh.
<p>Further details can be seen from the e-Procurement Portal "https://tendersodisha.gov.in"</p> <p style="text-align: right;">Superintending Engineer, Nayagarh Irrigation Division, Nayagarh.</p>		

GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES
Office of the Superintending Engineer,
Nayagarh Irrigation Division, Nayagarh.
'e'- Procurement Notice No. 01 (NGR) of 2026-27
e-mail- eenidivn@gmail.com

The Superintending Engineer, Nayagarh Irrigation Division, Nayagarh on behalf of Hon'ble Governor of Odisha invites on-line percentage rate tenders through e-procurement for execution of the works noted below. The bid should be submitted by eligible class of contractors as mentioned below registered with State Government & contractors of equivalent grade / class registered with Central Government / MES / Railway to be eventually drawn in P-1 form through On-line in the Govt. web site www.tenderodisha.gov.in. The availability of on-line bidding is from **15.00** hours of **13.05.2026** to **17.00** hours of **25.05. 2026**. The tenderers must submit their EMD and paper cost by on line through a process as mentioned in DTCN. Affidavit (Single work name should be mentioned in each affidavit) and attested copies of PAN, GSTIN, CDMS registered registration certificate & no relation certificate must be submitted through online otherwise the tender will be rejected. The technical bids will be opened on **26.05.2026** at **11.00 hours** in the office of the undersigned. The bidders should have necessary portal enrollment (with own digital signature certificate). The registered bidders outside Odisha state can also participate in this on-line tender process after necessary portal enrollment but shall have to subsequently undergo registration with appropriate authority of the state government within a month of acceptance of bid.

SI No	Name of the work	Approx value of Work Excluding GST (Rs in Lakh)	Class of Contractor	EMD (Rs)	Cost of Tender paper (Rs)	Period of Completion
1	2	3	4	5	6	7
1	Restoration to scoured bank of river Kusumi right bank near Angisingi Ramchandi mandir for the year 2026-27.	33.73	C&B	33800/-	6000/-	Six Calendar Months
2	Restoration to scoured bank of river Kusumi right bank near Sanagorada crematorium for the year 2026-27.	35.40	C & B	35400/-	6000/-	Six Calendar Months
3	Restoration to scoured bank of river Kusumi left bank near village Sanagorada Gopinathpur Sahi for the year 2026-27.	35.42	C & B	35500/-	6000/-	Six Calendar Months
4	Restoration to scoured bank of river Mandakinileft bank near village Baunsagada Ambatota for the year 2026-27.	33.79	C & B	33800/-	6000/-	Six Calendar Months
5	Restoration to scoured bank of river Mandakini right bank near Shiva temple of Champatipur mandir for the year 2026-27.	35.46	C & B	35500/-	6000/-	Six Calendar Months
6	Improvement to right distributary from RD.0.00 Mtr to 11000 Mtr of KIP, Daspalla for the year 2026-27.	13.41	D & C	13500/-	6000/-	Six Calendar Months
7	Improvement to Minor and Sub-Minor under Right distributary of KIP, Daspalla for the year 2026-27.	10.19	D & C	10200/-	6000/-	Six Calendar Months
8	Improvement to Left Distributary from RD.0.00 Mtr to 10000 Mtr of KIP, Daspalla for the year 2026-27.	11.03	D & C	11100/-	6000/-	Six Calendar Months
9	Improvement to Minor and Sub-Minor of Left Distributary of KIP, Daspalla for the year 2026-27.	10.81	D & C	10900/-	6000/-	Six Calendar Months
10	Protection to Left bank service road of River Duanto from Badagorada to Bilagorada for the year 2026-27.	33.64	C & B	33700/-	6000/-	Six Calendar Months
11	Protection to Right bank of river Duanto near Bilagorada with construction of 1200mm dia double row RCC Humepipe Inlet for the year 2026-27.	12.67	D & C	12700/-	6000/-	Six Calendar Months
12	Protection to Duanto Left and Right bank near village Patulisahi for the year 2026-27.	25.22	C & B	25300/-	6000/-	Six Calendar Months
13	Protection to Duanto Left bank near village badagorada for the year 2026-27.	25.32	C & B	25400/-	6000/-	Six Calendar Months
14	Improvement to Itamati Right Distributary in between RD.0.00 Mtr to 9500 Mtr for the year 2026-27.	15.26	D & C	15300/-	6000/-	Six Calendar Months
15	Improvement to Balugaon Distributary in between RD.0.00 Mtr to 11000 Mtr for the year 2026-27.	11.59	D & C	11600/-	6000/-	Six Calendar Months
16	Protection to Kusumi Right embankment near village Tikiripada to Betakholi for the year 2026-27.	29.54	C & B	29600/-	6000/-	Six Calendar Months
17	Protection to Lunijhara Left embankment near village Chandiprasad to gunthuni (From RD.0.00 to 1500 Mtr) for the year 2026-27.	33.80	C & B	33800/-	6000/-	Six Calendar Months
18	Protection to Kusumi Right embankment near PWD Road to banamalipur Bridge (From RD.3000.00 to 5200 Mtr) for the year 2026-27.	28.69	C & B	28700/-	6000/-	Six Calendar Months

SUPERINTENDING ENGINEER
NAYAGARH IRRIGATION DIVISION,
NAYAGARH

19	Protection to Kuanria Right embankment near village Gadiasahi (From RD.1500.00 to 3000Mtr) for the year 2026-27.	33.75	C & B	33800/-	6000/-	Six Calendar Months
20	Protection to Kuanria Right embankment near village Saradhapur for the year 2026-27.	20.99	C & B	21000/-	6000/-	Six Calendar Months
21	Improvement to Kendupalli Minor, Ostia Sub-Minor, Nandighore Minor, Ambarpur Sub-Minor and Rabera Minor for the year 2026-27.	9.24	D & C	9300/-	4000/-	Six Calendar Months
22	Improvement to Guando Minor, Link Channel, Gaudaput Minor and BBIP Minor for the year 2026-27.	10.12	D & C	10200/-	6000/-	Six Calendar Months
23	Protection to Kusumi Right bank embankment near Adachera to upstream side, Nayagarh from RD.0.00Mtr to 650Mtr of Nayagarh District for the year 2026-27.	26.93	C & B	27000/-	6000/-	Six Calendar Months

(Twenty three Nos) only

- Bid document consisting of qualification, information and eligibility criteria of bidders, plans, specification and schedule of quantities of the works available in web-site www.tendersorissa.gov.in and the set of terms and conditions of contract and other necessary documents can be seen in the web-site till last date of submission of Bid.
- The bidder shall transfer the required amount of E.M.D. and Cost of Bid Document as mentioned for the specified work in Col. - 5 & 6 respectively of above Table by online through a process as mentioned in DTCN.
- Every tenderer is expected before quoting his rates to inspect the site of the proposed work. He should also inspect the quarries and approach road to quarries and locality of the work and satisfy himself about the quality and availability of materials including the medical aids, labour and foodstuff etc. In every case the materials must comply with the relevant specifications. The contractors would, however, be responsible for procurement of materials from authorized sources and voluntarily disclose the source of procurement for the purpose of billing. Besides, the bidder would be required to submit the details of quarry for procurement while submitting the bids.
- The tenderer will be deemed to have satisfied himself that the rates quoted by him in the tender will be adequate to complete the work according to the specifications and conditions attached to and that he has taken into account all conditions, difficulties that may be encountered during its progress and to have quoted labour rates and materials, leads, lifts, loading and unloading and freight for materials and all other charges necessary for the completion of the work to the entire satisfaction of the Engineer-in-charge of the work and his authorized subordinates. In the course of awarding a work, the Department may desire the analysis of the rate arrived for against any item(s) of work. The estimated cost is excluding GST. The rate of item basing on which estimate cost has been derived are excluding GST or different components to arrive such rates.
- The bid for the work shall remain open for acceptance for a period of 90 days from the date of opening of bids. If any bidder withdraws his/her bid before the said period or makes any modification in the terms and condition of the bid, the EMD deposit at the time of submission of tender shall stand forfeited.
- Engineering contractor desires of availing EMD & ISD exemption shall submit an affidavit to the effect that he/she has not availed these facilities for more than two works during the current financial year.
- The original Affidavit should be retained by the bidders. The bidders have to furnish the original documents to the S.E, Nayagarh Irrigation Division, Nayagarh as and when required for verification of tender. The successful bidder has to submit the original Affidavit (Single work name should be mentioned in each affidavit) to the Superintending Engineer, Nayagarh Irrigation Division, Nayagarh before drawl of the Agreement. The bidder should upload their Contact details (e-Mail or Mobile No) in a separate sheet for further correspondence.
- Each tenderer must quote a definite percentage upto two decimal points. Tenders containing indefinite terms such as 'as estimated rates or schedule of rates or percentage basis will not be considered.
- All royalties, payable Income taxes & Surcharges as applicable will be borne by the contractor as admissible. It is implied that the quoted rates are inclusive of such elements.
- Labour Welfare Cess @ 1% will be deducted from the work bill of the contractor as per resolution No. 12653 dt. 15.12.2008 of Labour & Employment Department, Government of ODISHA.
1. Additional performance security shall be taken on an incremental basis from the selected bidder for low bid prices in the project works as under:(As per Works Department OM No.173 dt.03.01.2026)
 - where the bid price is below 0% but not below 10% of the project cost put to bid, no additional performance guarantee/security percentage is required.
 - where the bid price is below 10% but not below 20% of the project cost put to bid, the additional performance guarantee/security percentage shall be incremented by 0.1% for every percentage of bid price below 10% of the project cost put to bid starting at 11% with the additional bid performance guarantee being 0.1% and this additional performance guarantee percentage shall be applied on the bid price;
 - where the bid_ price is 20% or more below of the project cost put to bid. the additional performance guarantee percentage shall be incremented by 0.2% for every percentage of bid price below 20% of the project cost put to bid in addition to 1% of the bid price and this additional performance guarantee percentage shall be applied on the bid price;
 - The additional performance guarantee percentage shall be rounded off to the next lower percentage based on whether the decimal point of the percentage of bid price is below 0.5% or next higher percentage based on whether the decimal point of the percentage of bid price is 0.5% or more.
 - The additional performance security shall be treated as part of the performance security.
 - The applicable Additional Performance Security (APS) shall have to be furnished by the successful bidder in shape of Term Deposit Receipt pledged in favour of Superintending Engineer, Nayagarh Irrigation Division, Nayagarh / Bank Guarantee in favour of the Superintending Engineer, Nayagarh Irrigation Division, Nayagarh from any Nationalised / Scheduled Bank in India counter guaranteed by its local branch at Nayagarh within seven days of issue of Letter of Acceptance (LoA) by the Superintending Engineer, Nayagarh Irrigation Division, Nayagarh (by e-mail to the successful bidder).

bidder otherwise the bid of the successful bidder shall be cancelled. Further, proceeding for blacklisting shall be initiated against the bidder. (Vide Office Memorandum No -14459/W dated 20.09.2018 of Works Department, Govt. of Odisha).

VII. The security will be refunded after one year on completion of the work in all respect provided the final bill is passed and will not carry any interest. Any defect noticed during the period of one year after the actual date of completion shall be rectified by the contractor at his own cost. Failure to comply such rectification the cost involved to carry out the defective work shall be met from his dues available with Department. (Ref. works Dept order No. 17823/WE dt. 11.10.2006. The e-procurement portal system shall generate the award of the contract letter and intimate the bidder in his e-mail after acceptance of the tender.

VIII. Justification for abnormally low bids shall be scrutinized by the Departmental Technical Committee and recommended to the competent authority of the Administrative Department for the approval of the Additional Performance Security (APS). An abnormally low bid is one in which the Bid price, in combination with other elements of the Bid, appears so low that it raises material concerns as to the capability of the Bidder to perform the contract at the offered price. Procuring Entity may, in such cases, seek written clarifications from the Bidder. Including detailed price analyses of its Bid price in relation to scope, schedule, resource mobilization, allocation of risks and responsibilities, and any other requirements of the bid document, if after evaluating the price analyses, the procuring entity determines that the Bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity may reject the Bid/Proposal. However, it would not be advisable to fix a normative percentage below the estimated cost, which would automatically be considered as an abnormally low bid.

IX. If more than one bid is quoted (decimal upto two numbers will be taken for all practical purposes), either at the estimated cost put to tender or less than the estimated cost put to tender, the tender accepting authority will finalize the tender through a transparent lottery system, where all the concerned bidders / their authorized representatives, the concerned SE and EE of the concerned Division and DAO will remain present.

X. If the rate quoted by the SC & ST category contractor comes to the rate quoted by the L1 Bidder (decimal upto two numbers will be taken for all practical purposes) after availing 10% price preference as per Para.II of Works Dept. Resolution No.27748/Dtd.11.10.1977. The tender shall be finalized by the tender accepting authority through a transparent lottery system along with other categories of contractor.

12. THE CONTRACTOR HAS TO MENTION PERCENTAGE EXCESS OR LESS OVER THE AMOUNT PUT TO TENDER.

13. The contractor will write percentage excess or less upto two decimal point only if he writes the percentage excess or less upto more than two decimal point, the two decimal point shall only be considered without rounding up.
14. A bidder can submit only one tender paper for a particular work, submission of more than one tender paper by a bidder for a particular tender will liable for rejection of all such tender papers as per Works Department Letter No.4985/W dt.28.03.2007.
15. The single tender received in the first call shall be cancelled without opening of the bid. The acceptance of a single tender received, even after retendering should have prior approval of the next higher authority as per Works Department Memorandum No.16 dt.01.01.2015.
16. If the first lowest bidder does not turn up for agreement after finalization of tender than the shall be debarred from participation in bidding for 3 years and action will be taken to black list the contractor as per Codal provision in Annexure-II of Amendment to Para-3,4,14 Note-I of OPWD code Vol-I.
17. In case of SC/ST bidders who want to avail price preference, may avail price preference as per the Resolution File No.16262/ W Dtd.30.10.2018 of Works Dept, Govt of Odisha. He/She must have to furnish the required affidavit online along with the tender document to avail the price preference otherwise they will not be entitled to avail the facilities.
18. The bidder must be provided his/her active Mobile number and e-Mail ID with the tender documents for any type of future correspondences required if any (This office will not be held responsible for non-intimate to Bidder due to Non-Submission of his/her valid Mobile No/e-Mail ID or any system failure).
19. Any addendum/corrigendum/cancellation of above tender will be published in the web-site www.tenderorissa.gov.in, and in the notice board. The system shall generate a mail to those bidders who have already uploaded their tenders and those bidders if they wish, can modify their tenders.
20. The Authority reserves the right to reject/cancel any or all the tenders without assigning any reasons thereof.
21. Other details and conditions can be seen in the bidding documents, which is available in web-site www.tenderorissa.gov.in.
22. Any addendum/corrigendum/cancellation of above tender will be published in the web-site www.tenderorissa.gov.in, and in the notice board. The system shall generate a mail to those bidders who have already uploaded their tenders and those bidders if they wish, can modify their tenders.
23. The Authority reserves the right to reject/cancel any or all the tenders without assigning any reasons thereof.
24. Other details and conditions can be seen in the bidding documents, which is available in web-site www.tenderorissa.gov.in.
25. The Authority reserves the right to reject or accept any or all the tenders without assigning any reasons thereof.
26. Joint Ventures are not allowed.

Sd/-
Superintending Engineer,
Nayagarh Irrigation Division,
Nayagarh

SUPERINTENDING ENGINEER
NAYAGARH IRRIGATION DIVISION,
NAYAGARH

Procedure for Electronic receipt, accounting and reporting of Cost of Tender Paper and Earnest Money Deposit on submission of bids

1. The State Government have formulated rules and procedures for Electronic receipt, accounting and reporting of the receipt- of Cost of Tender Paper and Earnest Money Deposit on submission of bids through the e-procurement portal of Government of Odisha i.e. "<https://tendersodisha.gov.in>".

2. Electronic receipt of cost of tender paper has been successfully tested through SBI payment gateway. Now it has been decided to introduce electronic receipt of **Cost of Tender Paper and Earnest Money Deposit on submission of bids** through payment gateway of designated banks such as SBI/ICICI Bank/HDFC Bank for all Government Departments, State PSUs, Statutory Corporations, Autonomous Bodies and Local Bodies etc. in phases (ANNEXURE-I). The process outline as well as accounting and reporting structure are indicated below:

a) It will be carried out through a single banking transaction by the bidder for multiple payments like **Cost of Tender Paper and Earnest Money Deposit on submission of bids**.

b) Various payment modes like Internet banking/ NEFT/RTGS of Designated Banks and their Aggregator Banks as well can be accessed by the intending bidders.

c) Reporting and accounting of the e-receipts will be made from a single source.

d) Credit of receipts into the Government accounts and to the designated Bank account of the participating entities indicated in Para 2 above would be faster.

3. Only those bidders who successfully remit their **Cost of Tender Paper and Earnest Money Deposit on submission of bids would be eligible** to participate in the tender/bid process. The bidders with pending or failure payment status shall not be able to submit their bid. Tender inviting authority, State Procurement Cell, NIC, the designated Banks shall not be held responsible for such pendency or failure.

4. Banking arrangement:

a) Designated Banks (SBI/ICICI Bank/HDFC Bank) payment gateway are being integrated with e-Procurement portal of Government of Odisha (<https://tendersodisha.gov.in>)

b) The Designated Banks participating in **Electronic receipt, accounting and reporting of Cost of Tender Paper and Earnest Money Deposit on submission of bids** will nominate a Focal Point Branch called e-FPB, who is authorized to collect and collate all e-Receipts. Each such branch will act as the Receiving branch and Focal Point Branch notwithstanding the fact that the bidder might have debited his account in any of the bank's branches while making payment.

5. Procedures of bid submission using electronic payment of tender paper cost and EMD by bidder:

a) **Log on to e-Procurement Portal:** The bidders have to log onto the Odisha e-Procurement portal (<https://tendersodisha.gov.in>) using his/her digital signature certificate and then search and then select the required active tender from the "Search Active Tender" option. Now, submit button can be clicked against the selected tender so that it comes to the "My Tenders" section.

b) **Uploading of Prequalification/Technical/Financial bid:** The bidders have to upload the required Prequalification /Technical/Financial bid, as mentioned in the bidding document and in line with Works Department office memorandum no.7885, dt.23.07.2013.

c) **Electronic payment of tender paper cost and EMD:** Then the bidders have to select and submit the bank name as available in the payment options

i. A bidder shall make electronic payment using his/her internet banking enabled account with designated Banks or their aggregator banks.

ii. A bidder having account in other Banks can make payment using NEFT/RTGS facility of designated Banks.

• Online NEFT/RTGS payment using internet banking of the bank in which the bidder holds his account, by adding the account number as mentioned in the challan as an interbank beneficiary.

d) **Bid submission:** Only after receipt of intimation at the e-Procurement portal regarding successful transaction by bidder the system will activate the 'Freeze Bid Submission' button to conclude the bid submission process.

e) **System generated acknowledgement receipt for successful bid submission:** System will generate an acknowledgement receipt for successful bid submission. The bidder should make a note of 'Bid ID' generated in the acknowledgement receipt for tracking their bid status.

6. Settlement of Cost of Tender Paper;

a) **Cost of Tender Paper:** In respect of Government receipts on account of **Cost of Tender Paper**, the e-Procurement portal shall generate a MIS for the State Procurement Cell (SPC). The MIS will contain an abstract of the cost of tender paper collected with reference to **Bid Identification Number**. The State Procurement Cell shall generate Bank-wise-head-wise challans separately for **Cost of Tender Paper** and instruct the designated Banks to remit the money to the State Government account under different heads. In respect of the cost of tender paper received through the e-procurement portal, the remittance to the Cyber Treasury account will be made to the Head of Account 0075-Misc, General Services-800-Other Receipts -0097-Misc. Receipts-02237-Cost of Tender Paper.

b) For the time being, the State Procurement Cell (SPC) will use over the counter payment facility of the Odisha Treasury portal. Thereafter, remittance through NEFT & RTGS will be facilitated through the Odisha Treasury portal.

c) Similarly, in case of State PSUs, Statutory Corporations, Autonomous Bodies and Local Bodies etc., **Cost of Tender Paper**, the e-Procurement portal shall generate a MIS for the State Procurement Cell (SPC). The MIS will contain an abstract of the cost of tender paper collected with reference to **Bid Identification Number**. The State Procurement Cell shall generate Bank-wise list of challans and instruct the designated Banks to remit the money through the Odisha Treasury portal. The cost of tender papers will be credited to the registered Bank account of the concerned State PSUs, Statutory Corporations, Autonomous Bodies and Local Bodies etc.

d) Bank will refund (in case the Tender Inviting Authority (TIA) issues such instructions) the tender fee, EMD to the bidder, in case the tender is cancelled before opening of Bid as per direction received from TIA through e-procurement system.

e) Back-end Transaction Matrix of Electronic receipt of Cost of Tender Paper and Earnest Money Deposit on submission of bids is enclosed in the Annexure.

7. Settlement of Earnest Money Deposit on submission of bids:

a) The Bank will remit the **Earnest Money Deposit on submission/cancellation of bids** to respective bidders accounts as per direction received from TIA through e-procurement system

8. Forfeiture of EMD :

Forfeiture of **Earnest Money Deposit on submission of bid** of defaulting bidder is occasioned for various reasons.

a) In case the **Earnest Money Deposit on submission of bid** is forfeited, the e-Procurement portal will direct the Bank to transfer the EMD value from the Pooling Account of SPC to the registered account of the tender inviting authority.

b) The Tender inviting authorities of the Government Departments will deposit the forfeited **Earnest Money Deposit on submission of bid**, in the State Government Treasury under the appropriate head (8782-Cash Remittances and Adjustments between the officers rendering accounts to the same Accounts Officer-102- P.W.Remittances-1683-Remittances-91028-Remittances into Treasury) after taking the amount as a revenue receipt in their Cash Book under the head 0075-Misc. General Services-00-101 – Unclaimed Deposits-0097-Misc. Receipts-02080-Misc. Deposits and submit the detail account to DAG (Puri) as a deposit of the Division.

c) By clicking submit button, system will initiate the forfeiture of EMD. System will not allow the evaluator to edit the initiation after clicking the submit button. Forfeiture option can be carried out in phased manner like one bidder at a time.

9. Role of the Banks:

a) Make necessary provision / customizations at their end to enable the provision for online payments / refunds as per this document.

b) Provide necessary real-time message to bidders regarding successful or unsuccessful transactions during online payment processes and redirect them to e-Procurement website with necessary transaction reference details enabling them to submit their bids.

c) The bank shall ensure transfer of funds from the pooling account to the Government Head/current account of PSUs/ULBs within the next bank working day as per the directions generated from e-Procurement portal.

d) Bank should provide timely reports and reference details to NIC enabling them to carry out their role as stated below.

e) Refund of amount to bidders as per the XML file provided by e-Procurement system on the next bank working day from the date of generation of the XML file and also provide a confirmation to NIC on the same.

10. Role of State Procurement Cell:

a) Communicate requirements of Government departments/ State PSUs/ Autonomous Bodies/ ULBs online payment requirements to National Informatics Centre / the authorised Banks for mapping/ customization.

b) In every working day, the State Procurement Cell shall generate MIS from the e-Procurement portal to ascertain the tender paper cost received in the e-Tendering process separately bank-wise for the Government Department and the PSUs/ULBs. The SPC shall generate bank-wise separate online challans from the Odisha Treasury portal and make the remittance through over the counter facility or NEFT/RTGS (as and when this functionality is available in Treasury portal) and issue instruction to the bank for remittance of the receipt to the State Government account.

c) The State Procurement Cell shall be responsible for providing challan details and MIS in respect of the remittance towards tender paper cost to the Tender inviting authorities for their record.

d) State Procurement Cell shall monitor the progress of e-Tendering by different Government departments / State PSUs/ Autonomous Bodies / ULBs through an MIS. State Procurement Cell shall monitor and send monthly progress reports to the Government.

e) The e-Procurement system will generate a consolidated refund & settlement XML file as an end of the day activity.

f) e-procurement system will provide a web service for payment gateway (PG) provider to pull the encrypted refund and settlement details in XML file against a day.

g) Similarly, payment gateway (PG) provider will provide a web service to pull the refund and settlement status against a day

h) e-procurement system will update the status accordingly for reconciliation report.

11. Role of National Informatics Centre :

a) Customize e-Procurement software and web-pages of Government of Odisha (<https://tendersodisha.gov.in>) to enable the provision for electronic payment.

b) The NIC, Odisha will modify / rectify the errors in electronic data relating to the Chart of Account.

c) NIC will provide an interface to organisations to download the electronic receipt data.

d) Enable automatic generation of daily XML files from e-Procurement system and ensure delivery of the same to the authorised Banks for enabling automatic refund/settlement of funds.

e) NIC shall enable the e-Procurement portal to generate MIS as required for the State Procurement Cell in order to make remittance of the tender paper cost to the State Government account using the Odisha Treasury portal.

12. Role of Cyber Treasury :

a) The cost of the tender paper deposited by the SPC using the Odisha Treasury Portal which will be accounted for by the Cyber Treasury and it shall submit the accounts to A.G (O) as per the established process.

b) The Cyber Treasury will provide MIS as required to the SPC for the purpose of accounting and reconciliation of the electronic remittances made to the State Government account.

13. Redressal of Public grievances :

a) The State Procurement Cell, Odisha, National Informatics Centre, Odisha and the e-FPB will have an effective procedure for dealing with, public complaint for e-Receipt related matters. In case, any mistake is detected by any of the stakeholders in reporting of receipt of tender paper cost and EMD, either suo-moto or on being brought to its notice, the State Procurement Cell, Odisha, National Informatics Centre, Odisha unit, Cyber Treasury and the bank will promptly take steps for rectification. The e-Focal Point Branch of the participating Banks, National Informatics Centre, Odisha and the State Procurement Cell, Odisha will notify the contact number and address of the Help Desk for resolution of any dispute regarding e-Receipt.

14. Applicability and modification of existing rules / orders:

The modalities prescribed in this Office Memorandum for downloading of tender paper, submission and rejection of bid, acceptance of Bids as well as refund and forfeiture of earnest deposit will be applicable for electronic submission of bids through e-procurement portal. Existing provisions regulating cost of tender paper, earnest money deposit in OPWD Code and OGFR would stand modified to the extent prescribed.

15. These arrangements would be made effective after signing of MoU between the designated Banks and the State Procurement Cell, firming up of Banking arrangements and technical integration between designated Bank and e-Procurement Portal.

ANNXURE-I

Back-end Transaction Matrix of Electronic receipt and remittance of Cost of Tender Paper and Earnest Money Deposit on submission of bids.

	Cost of Tender Paper on submission of bids	Earnest Money Deposit on submission of bids
Government Departments	<p>I. The payment towards the cost of Tender Paper, in case Government Departments shall be collected in separate Pooling accounts opened in Focal Point Branch called e-FPB of respective designated banks [as stated in Para 2] at Bhubaneswar on T+1 day.</p> <p>II. With reference to the Notice Inviting Tender/ Bid Identification Number, the amount so realized is to be remitted to Government Account under the Head Of Account 0075- Misc. General Services-800-Other Receipts-0097-Misc. Receipts-02237- Cost of Tender Paper through Odisha Treasury Portal after opening of the bid.</p>	<p>I. In case of tenders of Government Departments, amount towards Earnest Money Deposit on submission of bids shall be collected in a pooling account opened for this purpose at Focal Point Branch called e-FPB of respective designated banks at Bhubaneswar and the banks will remit the amount to respective bidder's account within two working days on receipt of instruction from TIA through refund and settlement of e-procurement system.</p> <p>II. In case of forfeiture of Earnest Money Deposit on submission of bids, the e- Procurement portal will direct the Bank to transfer the EMD value from the Pooling Account of SPC to the registered account of the tender inviting authority within two working days of receipt of instruction from TIA.</p>
State PSUs Statutory Corporations, Autonomous Bodies and Local Bodies.	<p>I. In case of State PSUs, Statutory corporations, Autonomous Bodies and Local Bodies etc. the amount towards Cost of Tender Paper, on submission of bids shall be collected in separated pooling accounts opened in Focal Point Branch called e-FPB of respective designated Banks at Bhubaneswar on T+1 days.</p> <p>II. The Paper cost will be transferred to the respective current accounts of concerned State PSUs, Statutory Corporation, Autonomous Bodies and Local Bodies etc. after opening of bid.</p>	<p>I. Amount towards EMD on submission of bids shall be collected in a separate pooling account of Focal Point Branch called e-FPB of respective designated banks at Bhubaneswar and the banks will remit the amount to respective bidder's account on receipt of instruction from TIA through refund and settlement of e-procurement system within two working days from receipt of such instruction.</p> <p>II. In case of forfeiture of Earnest Money deposit on submission of bids, the e- Procurement portal will direct the Bank to transfer the EMD value from the Pooling Account of SPC to the registered account of the tender inviting authority within two working days of receipt of instruction from TIA.</p>

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SECTION -1
DETAILD TENDER CALL NOTICE

**GOVERNMENT OF ODISHA
DEPARTMENT OF
WATER RESOURCES, C/O THE
SUPERINTENDING ENGINEER,
NAYAGARH IRRIGATION DIVISION, NAYAGARH
DETAILED e-PROCUREMENT NOTICE 08(NGR)/2025-26**

1. The Superintending Engineer, Nayagarh Irrigation Division, Nayagarh on behalf of Hon'ble Governor of Odisha invites tender in the prescribed form eventually drawn in P.W.D. form No.P1 from D&C Class Contractors Registered with the Govt, of Odisha or from contractors of equivalent grade/ class registered with other State Govt. / Central Govt. / M.E.S. / Railways or other Govt, undertakings. All the contractors are to be registered in the State portal and must possess compatible digital signature certificate of Class-II and III for on line bidding. The website for online biddings

<http://tendersodisha.gov.in> for the work – **Asper DTCN**

1. The tender documents can be downloaded from the website identified as <http://tendersorissa.gov.in> from **13.05.2026 at 03.00 P.M to 25.05.2026 upto 5.00 P.M.** [The bidder for participation in online bidding will have to remit online as mentioned against each work in col (6)] The Bid will be received through e-procurement portal from **13.05.2026 at 03.00 P.M to 25.05.2026 upto 5.00 P.M.** Each set of bid document contains i.e. an intelligent bill of quantity in MS Excel format. The bid will be opened on **26.05.2026 at 11.00 A.M** in the **Division Estimated Branch of Nayagada Irrigation Division, Nayagada** in presence of the tenderer or their authorized agents. The bidders who participated in the on-line bidding can witness opening of the bid from any system logging on to the portal away from opening place. The bids can only be opened by the pre-designated officials only after the opening time mentioned in the bid. In the event of the specified date of bid opening being declared a holiday the bid will be opened at the appointed time and in the next working day.
3. The bidders shall prepare the documents and upload the scanned typed document in PDF format and BOQ in excel format (or as specified in the portal) in appropriate place.
4. No tenderer will be permitted to furnish their tender in their own manuscript.
5. Bidder shall transfer online the Bid Security @ 1% of the amount put to tender for each work through a process as mentioned in DTCN through e-procurement portal.

The lowest preferred bidder is required to produce documents in original i.e. Registration Certificate (R.C.), GST Registration Certificate, GSTIN, PAN Card, Affidavit regarding authenticity of the tender documents.

6. (a) Providing facilities to the Engineer contractor
 - i) As per works Department No.FR-11/2001/10003/00 Bhubaneswar dtd 24.05.2001, 5% price preference allowed to the Engineer contractor in the tender rates has been withdrawn.
 - ii) The Engineer contractor shall have to execute the work if awarded to him under his direct supervision and he will not be allowed to execute such work through his Power of Attorney Holder.
- (b) Adjustment of earnest money given with other tenders previously and submitted in other tenders shall not be entertained.

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- (c) Engineering Contractor desirous to avail EMD exemption have to submit affidavit with uploading the same in the e-procurement portal declaring therein to the effect that they have not yet availed 03 (three) nos. of EMD exemption during the financial year 2026-27 and to show the original registration certificate to the tender inviting authority as and when required for confirmation. The bid will be liable to be disqualified for non-submission of affidavit in support of EMD exemption in the manner mentioned above.
- (d) The exemption from deposit of Bid Security/EMD at the time of participation in tender & concessional payment of Performance Security @ 25% of the value of Performance Security to Local Micro & Small Enterprises (MSEs) and Start-ups as extended vide Works Department O.M. No. 503/W dt 17.01.2022 will no more exist w.e.f the date of issue of the Works Department Office Memorandum No. 4281/W, Dated 05.03.2025.
7. The plans specifications and scope for the work can be seen in the office of the **Superintending Engineer, Nayagada Irrigation Division, Nayagada** during any working days.
8. The tenderers shall carefully study the tentative drawings and specifications applicable to the contract and all documents which form part of the agreement to be entered into by the accepted tenderer and detailed specifications for Odisha and other relevant specifications and drawings which are available with the tender document or with the **Superintending Engineer, Nayagada Irrigation Division, Nayagada**.
- Complaint at a future date that plans and specifications have not been seen by the tenderers cannot be entertained.
9. The bidder can resubmit his bid through online e-procurement mode out of which the system shall consider only the last bid submitted to the portal.
10. Every tenderer is expected before quoting his rates to inspect the site of the proposed work. He should also inspect the quarries and approach road to quarries and locality of the work and satisfy himself about the quality and availability of materials including the medical aids, labour and foodstuff etc. In every case the materials must comply with the relevant specifications. The contractors would, however, be responsible for procurement of materials from authorized sources and voluntarily disclose the source of procurement for the purpose of billing. Besides, the bidder would be required to submit the details of quarry for procurement while submitting the bids.

The tenderer will be deemed to have satisfied himself that the rates quoted by him in the tender will be adequate to complete the work according to the specifications and conditions attached to and that he has taken into account all conditions, difficulties that may be encountered during its progress and to have quoted labour rates and materials, leads, lifts, loading and unloading and freight for materials and all other charges necessary for the completion of the work to the entire satisfaction of the Engineer-in-charge of the work and his authorized subordinates. In the course of awarding a work, the Department may desire the analysis of the rate arrived for against any item(s) of work. The estimated cost is excluding GST. The rate of item basing on which estimate cost has been derived are excluding GST or different components to arrive such rates.

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11. Each tenderer must quote a definite percentage upto two decimal points. Tenders containing indefinite terms such as 'as estimated rates or schedule of rates or percentage basis will not be considered.
12. If any further necessary information is required the bidder can seek clarification on the bids within 7 days from the start of sale of bid document. The employer response for the queries raised by the bidder will be posted in the portal.
13. All rates should be for finished items of work unless otherwise mentioned in the tender schedule.
14. BOQ in MS Excel format shall be made available to the bidder through e-procurement portal. The bidder shall download that particular excel sheet and fill in the rates in figures at the appropriate locations. The total amounts shall be calculated automatically and shall be visible to the bidder. The bidder is not supposed to change or modify the format of the excel sheet in any form. Bidders are to submit only the original BOQ updated by publisher after entering the relevant fields without any alteration/deletion/modification. Multiple BOQ submission shall lead to cancellation of bid. If the bidder does not fill rates for any items it will be considered that he has quoted the rates combinedly in some other items. In case of item rate tender bidders shall fill in their rates other than zero value in the specified cells. In the percentage rate tender the bidder quoting zero value is valid and will be taken as schedule of rates.
15. The bidder shall submit the documents in the designated locations bid and Financial bid. Submission of bid documents shall be effected by using DSC of appropriate class and thus shall be in encrypted form. The bidder shall only submit single copy of the document. He is required to check the documents uploaded with the requirement asked for in the bid. Only after satisfying that all the documents have been uploaded, he should activate submit button. His bid shall not be considered responsive and action as per relevant clause shall be taken if he does not provide the required document or provides illegible documents. Clarity of the document may be ensured by taking out a sample printing.
16. All royalties, payable Income taxes & Surcharges as applicable will be borne by the contractor as admissible. It is implied that the quoted rates are inclusive of such elements.
17. Labour Welfare Cess @ 1% will be deducted from the work bill of the contractor as per resolution No. 12653 dt. 15.12.2008 of Labour & Employment Department, Government of ODISHA
18. Request for raising and lowering the rates or dealing with any point in connection with the tender will not be considered.
19. Conditional tenders will not be taken in to consideration.
20. The tender containing extraneous conditions not covered by the tender notice are liable for rejection and quotations should be strictly in accordance with the tender call notice. Any change in the wording will not be accepted.
21. It is allowed to modify the bid through the e-procurement portal. The bidder shall have to log in the system and resubmit the documents as asked for by the system including the price bid. In doing so,

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- the bids already submitted by the bidder will be removed automatically from the system and latest bid only will be admitted. But the bidder should avoid modification of the bid at the last moment to avoid system failure or malfunction of the internet or traffic jam. If the bidder fails to submit his modified bids within the designated time of receipt, the bids already in the system shall be taken for evaluation.
22. Withdrawal of bid is also allowed in the e-procurement portal. The bidder has to click on the “withdraw” button and record the necessary justification for the same in the space provided. In addition to this he has to write a letter addressed to officer inviting the bid and upload the scanned document from portal in respective bid. The system shall not allow any withdrawal after expire of the closure of the bid.
23. The e-procurement portal system shall reject submission of any bid through portal after closure of the receipt time. For all purpose the portal time displayed in the system shall be the time to be followed by the bidder.
24. All tenders received will remain valid for 90 days from the last date of receiving of tenders and validity of tenders can also be extended if required without any monetary compensation.
25. **No Relation Certificate**
- The contractor shall have to furnish certificate along with the tender to the effect that he is not related to any officer in the rank of an Assistant Engineer and above in the State P.W.D. or Under Secretary and above in the Water Resources Department., If the fact subsequently proved to be false the contract will be rescinded. The earnest money and the total security will be forfeited and shall be liable to make good the loss or damage resulting from such cancellation.
26. While determining the validity of tenders the following points shall be taken in to consideration by the authority empowered to accept tenders and his decision in the matter shall be final.
- (a) Any special condition which does not find place in the tender notice and which are not acceptable.
 - (b) Indefinite conditions which will make it difficult for access to the financial implications.
 - (c) Tenders being incomplete in some important respects.
 - (d) Incomplete schedule of time for completion of the work.
 - (e) Failure to furnish the Bid Security.
 - (f) Tendered rates being unduly low and unworkable.
 - (g) Rates in different items of a tender being irrational.
27. The Department reserves the right of authority to reject any or all tenders received without assigning any reason whatsoever.
28. The earnest money will be retained in the case of successful tenderer and will be dealt with as per the terms and condition of O.P.W.D. code. **The earnest money of the unsuccessful tenderer except the three lowest tenderer should be refunded on application.** The EMD given by the other two parties except one whose tender is accepted should also be refunded within 15 days of acceptance of tender and drawl of agreement. After Award of Contract the EMD already transferred @1% shall be refunded to

the successful bidder.

29. The EMD will be forfeited in any of the following cases.
- If the bidder withdraws the bid after bid opening during the period of bid validity.
 - If the bidder does not accept the correction of the bid price.
 - In the case of a successful bidder if the bidder fails within the specified time limit to
 - Sign the agreement or
 - Furnish the required performance security.
 - If any of the statements, documents, certificate uploaded by the bidder through e- procurement portal, is found to be false / fabricated / bogus; the bidder will be black listed and his EMD / Bid Security forfeited.
30. Security for the due fulfillment of a contract should invariably be taken. The security may be taken in shape of N.S.C / Post office Savings Bank Account/Post Office Time Deposit Account/ Kissan Vikas Patra/Bank Guarantee in favour of the Divisional Officer from any Nationalized/ Scheduled Bank in India counter guaranteed by its local branch at Bhubaneswar towards Initial security deposit/any other security deposit from the contractor or supplier.
31. Period of availability of tender On-line/ Date and time of bidding on-line/ Last date of seeking clarification/ Date of opening of tender etc. Details as follows –

Procurement Officer	e-procurement Notice No.	Availability of tender in the website: www.tendersodisha.gov.in for online bidding.		Last date & time For seeking Tender clarification	Date & time of opening of tender
		From	To		
1	2	3	4	5	6
Superintending Engineer, Nayagada Irrigation Division, Nayagada	01 / 2026-27	13.05.2026 03.00 PM	25.05.2026 5.00 PM	25.05.2026 5.00 PM	26.05.2026 11.00. AM

32. 1. **Additional performance security** shall be taken on an incremental basis from the selected bidder for low bid prices in the project works as under: **(As per Works Department OM No.173 dt.03.01.2026)**
- where the bid price is below 0% but not below 10% of the project cost put to bid**, no additional performance guarantee/security percentage is required.
 - where the bid price is below 10% but not below 20% of the project cost put to bid**, the additional performance guarantee/security percentage shall be incremented by 0.1% for every percentage of bid price below 10% of the project cost put to bid starting at 11% with the additional bid performance guarantee being 0.1% and this additional performance guarantee percentage shall be applied on the bid price;
 - where the bid price is 20% or more below of the project cost put to bid**, the additional performance guarantee percentage shall be incremented by 0.2% for every percentage of bid price below 20% of the project cost put to bid in addition to 1% of the bid price and this additional performance guarantee percentage shall be applied on the bid price;
 - The additional performance guarantee percentage shall be rounded off to the next lower percentage

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based on whether the decimal point of the percentage of bid price is below 0.5% or next higher percentage based on whether the decimal point of the percentage of bid price is 0.5% or more.

V. The additional performance security shall be treated as part of the performance security.

VI. The applicable Additional Performance Security (APS) shall have to be furnished by the successful bidder in shape of Term Deposit Receipt pledged in favour of Superintending Engineer, Nayagarh Irrigation Division, Nayagarh / Bank Guarantee in favour of the Superintending Engineer, Nayagarh Irrigation Division, Nayagarh from any Nationalised / Scheduled Bank in India counter guaranteed by its local branch at Nayagarh within seven days of issue of Letter of Acceptance (LoA) by the Superintending Engineer, Nayagarh Irrigation Division, Nayagarh. (by e-mail) to the successful bidder otherwise the bid of the successful bidder shall be cancelled. Further, proceeding for blacklisting shall be initiated against the bidder. (Vide Office Memorandum No -14459/W dated 20.09.2018 of Works Department, Govt. of Odisha).

VII. The security will be refunded after one year on completion of the work in all respect provided the final bill is passed and will not carry any interest. Any defect noticed during the period of one year after the actual date of completion shall be rectified by the contractor at his own cost. Failure to comply such rectification the cost involved to carry out the defective work shall be met from his dues available with Department. (Ref. works Dept order No. 17823/WE dt. 11.10.2006. The e-procurement portal system shall generate the award of the contract letter and intimate the bidder in his e-mail after acceptance of the tender.

VIII. Justification for abnormally low bids shall be scrutinized by the Departmental Technical Committee and recommended to the competent authority of the Administrative Department for the approval of the Additional Performance Security (APS). An abnormally low bid is one in which the Bid price, in combination with other elements of the Bid, appears so low that it raises material concerns as to the capability of the Bidder to perform the contract at the offered price. Procuring Entity may, in such cases, seek written clarifications from the Bidder. Including detailed price analyses of its Bid price in relation to scope, schedule, resource mobilization, allocation of risks and responsibilities, and any other requirements of the bid document, if after evaluating the price analyses, the procuring entity determines that the Bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity may reject the Bid/Proposal. However, it would not be advisable to fix a normative percentage below the estimated cost, which would automatically be considered as an abnormally low bid.

IX. If more than one bid is quoted (decimal upto two numbers will be taken for all practical purposes), either at the estimated cost put to tender or less than the estimated cost put to tender, the tender accepting authority will finalize the tender through a transparent lottery system, where all the concerned bidders / their authorized representatives, the concerned SE and EE of the concerned Division and DAO will remain present.

X. If the rate quoted by the SC & ST category contractor comes to the rate quoted by the L1 Bidder (decimal upto two numbers will be taken for all practical purposes) after availing 10% price preference as per Para.II of Works Dept. Resolution No.27748/Dtd.11.10.1977. The tender shall be finalized by the tender accepting authority through a transparent lottery system along with other categories of contractor.

33. Before acceptance of tender, the successful bidder will be required to submit a work programme and milestone basing on the financial achievement so as to complete the work within the stipulated time and in case of failure on the part of the agency to achieve the milestone liquidated damage will be imposed.
34. The contractor shall sign as a token of final acceptance of the plans, sections and agreements for the work prior to take up the work for execution.

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35. The date of commencement of work shall be as notified in work order.
36. On signing the agreement the site will be handed over to the contractor for execution and completion of works in all respect.
37. On no account, the contract work should be sublet to any body without the prior approval of the Tender accepting authority of the Department. In such an event the contract may be rescinded.
38. The authority reserves the right to make such increase or decrease in quantity of items of works mentioned in the scheduled attached to the tender notice as may be considered necessary for the satisfactory completion of the contract work. All such increase or decrease shall in no way invalidate/vitiate the contract rates. The contractor shall not be entitled for any compensation on this account, except grant of extension of time where considered necessary.
39. That for the purpose of jurisdiction in the event of any dispute if any, the contract would be deemed to have been entered into within the State of Odisha and it is agreed that neither party to the contract will be competent to bring a suit in regard to the matter by this contract at any place outside the State of Odisha.
40. The contractor shall be liable to fully indemnify the Department of any compensation under workmen compensation Act VII of 1993 on account of the workmen employed by the contractor and full amount of compensation paid will be recovered from the contractor. In the event of any claim sub-judice before any court of law, the claim amount shall be kept withheld till final disposal.
41. Contractor is required to abide by the fair wages clauses as introduced by Govt. of Odisha and will not pay less than the Fair wages fixed by Govt. to the labourers engaged by him for the work.
42. In case of any complaint by the labourer about the non-payment of his wages as per latest minimum wages Act., the Superintending Engineer will have the right to investigate and if the contractor is found to be at fault, Superintending Engineer may recover such amount due in any form from the contractor and pay such amount to the labourer directly under intimation to the local labour office of the Govt. The decision of the Superintending Engineer is final and binding on the contractor.
43. The contractor should keep himself in touch with the Engineer-in-charge for smooth execution of the work and arrange adequate labour depending on the workload and working space available. No claim for detention for labour on any account will be entertained.
44. No compensation will be paid by the Department for any damage done by rain, flood, cyclone & earthquake tide or by any other natural calamities during the execution of the work.
45. It should be understood clearly that no claim whatsoever will be entertained in regard to extra items of work or extra quantity of any item besides estimated amount, unless written order is obtained from the Engineer-in-charge and rates settled before the extra items of work or extra quantity of any item of work is taken up.
46. The tenderer shall have to abide by the C.P.W.D. safety code rules introduced by the Govt. of India, Ministry of Works, Housing and Supply in their standing order No.44150 dated 25.1.1957.
47. The tenderer shall bear various incidentals, sundries and contingencies necessitated by the work in full within the following or similar category.

- (a) Rent, royalties and other charges of materials & all other taxes including ferry tolls,

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conveyance charges and other cost on account of land and buildings including temporary building and temporary electric connection to work site as well as construction of coffer dam, haul road and its maintenance till completion of work required by the tenderer for collection of materials, storage housing of staff other purpose of the work. No tenderer will however be liable to pay for temporary occupation of land owned by Govt. at the site of the work. GST on works contract as applicable at the time of payment of R/A bill shall be paid extra over the gross amount of R/A bill.

- (b) Labour camps or hutments including conservancy and sanitation arrangements upto the satisfaction of the local health authorities should be arranged by the contractor.
 - (c) Suitable water supply including pipe water supply wherever available for the staff and labour as well as for the work.
 - (d) Fees and duties levied by the municipal canal or water supply authorities.
 - (e) Suitable equipment and wearing apparatus for the labour engaged in risky operations and medical aid to the labourer engaged for the work.
 - (f) Suitable fencing, barriers, signals including paraffin and electric signals where necessary at work and approaches in order to protect public and employees from accident.
 - (g) Compensation including cost of any suit for injury to persons or property due to neglect of any major precautions also become payable due to operation of the workmen compensation Act.
 - (h) The contractor has to arrange adequate lighting arrangement for the work wherever necessary at his own cost.
48. In case of delay in acquisition of land handing over possession of work site no compensation will be admissible but extension of time will be allowed if applied in prescribed format within due time to keep the contract in force.
49. If a contractor removes any Govt. material or stores supplied to him from the site of the work in contravention of the provision of this clause with a view to dispose of the same dishonestly, he shall be in addition to any other liability civil or criminal arising out of this contract be liable to pay penalty equivalent to (5) five times of the price of the materials cost. The penalty so imposed shall be recoverable at any time from the sum that may be due then or at any time thereafter become due to the contractor or from his security deposit or from his other available dues with the Department.
50. Over and above these conditions including the Technical specifications the terms, conditions, rules and regulations and specifications laid down in **I.S.S.** (Indian Standard Specifications) code are also binding on the part of the contractor.
51. Deduction of income tax at source on income tax will be made from each running account bill for the work at the rate as per Income Tax Act and as amended from time to time. **(Present rate 1% individual pan & company / farm 2%)**
52. (a) The rates quoted by the contractor shall be deemed to be exclusive of GST on all the materials that he will have to purchase for performance of this contract.
- (b) The rates quoted by the contractor in the tender for works shall exclusive of GST that may be levied on turnover on works contract according to the Laws and Regulations as applicable

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from time to time.

- (c) Deduction of GST at source will be made from each running account bill for the work at the rate of 2% prescribed by Odisha Goods & Service Tax Act-2017 or amended from time to time.
 - (d) 1 % (One percent) of the gross amount of the bill will be deducted from the contractor bill towards labour cess as per Odisha building and other construction workers (RE & CS) rules 2002 and Amendment during 2008 and as amended by Govt. from time to time.
53. The amount on royalties of different materials as utilized by the contractor in the work will be recovered from his bill, basing on the rate fixed by the Govt. or as amended from time to time during the period of execution.
54. Schedule of quantity accompanies the tender notice: It shall be definitely understood that the Government do not accept any responsibility for the correctness and completeness of this schedule and this schedule is liable for alternations or omissions, deductions or additions as set forth in the condition of contract and such omissions, deductions, additions or alternations shall in no way invalidate/ vitiate the contract and no extra monetary compensation will be entertained.
55. The transportation of quarry materials such as stone, metal, chips, sand, cement, moorum etc. to used & testing charges of construction materials are to be borne by the contractor.
56. All preliminary works such as vats, mixing platforms etc are to be done by the contractor at his own cost. No payment will be made for benchmarks, level pillars, profiles, benching and leveling the ground where required. The rates to be quoted should be for finished items of works inclusive of such incidental items of works.
57. After the work is finished all surplus materials and debris's should be removed from 100 Mtr. clear away from the site of the work. Preliminary work such as vats, mixing platforms etc. should be dismantled and all materials removed from the site and premises shall be made neat and clean and this is inclusive of the rates quoted by him.
58. The contractor is to supply necessary labour and materials for the purpose of alignment lying recording of levels whenever required at his own cost.
59. The contractor should arrange necessary tools and plants such as Pumps, Excavator, Trucks, compressors, Tippers, batching plants, Concrete Mixer, steel shutter plates etc. required for the efficient execution work at his own cost. The running charges of such plant and cost of consumables and conveyance are to be borne by the contractor. Any deviation from this may lead recession of contract.
60. In the event of delay in supply of design reasonable extension of time shall be granted on the application of the contractor. But no claim for monetary compensation will be entertained under any circumstances.
61. Under no circumstances, interest is chargeable for the dues or any additional dues, if any payable for the work.
62. Government of Odisha has mandated online registration of all categories of contractors in CDMS

- portal (www.cdmsodisha.gov.in) vide O.M. No. 12934 dt.23.08.2018 of Works Department. As per the codal provision vide clause No. **12.4** of Appendix IX (A) of O.P.W.D. code Vol.(II) all classes of contractors are requested to register themselves in CDMS Portal. **Tender Inviting Authority will not accept any tender if contractors shall not registered under CDMS portal & their tenders will be rejected.**
63. All correspondences & information if any required will be sent to the bidders in their provided e-Mail address in his DSC bid submission confirmation.
64. **An affidavit shall be furnished by the contractor** at the time of submission of tender paper about the authentication of tender documents. The scanned copy of the affidavit is to be uploaded through the e-procurement portal along with the technical bid. The affidavit in original is to be produced before the officer inviting tender after opening of the tender positively.
65. Prediction of flood/monsoon Damage:
The contractor shall make his own **Irrigation Water Supply of Water in Canal** arrangement at his cost to shift the machineries, equipment's, materials, labourer and departmental machineries if hired by the contractor to a safe place prior to flood before **Irrigation Water Supply in Canal**. The work shall have to be resumed after the flood come to normal. No extension of time for the completion of the work may be considered by the Department if the discontinuance of the work is beyond the reasonable attempts of the contractor to such eventualities.
66. The debris, sand and other materials, accumulated in the work area during flood shall be removed by the contractor as required for continuing the work at his own cost during irrigation water supply. By any chance, if any excavated portion that could not be filled up with concrete by the contractor, gets filled up during the monsoon period with earth such removal will not be paid again. The contractor will have to re-excavate the same at his own cost.
67. It shall be distinctly understood that it is entirely the responsibility of the contractor to make such arrangements may be required from time to time to protect the men, machinery, materials and the work under progress and work for which the measurements were recorded and payment made, against any damages either during working season or during the flood. The department accepts no liability, what so ever for any damage or loss of men, materials, machinery and type of hindrance caused to the progress of work.
68. The contractor should provide at his own cost adequate protection measures to the completed works at the end of working season or work in progress against such eventuality till completion and handing over the entire work to the Department.
69. Dewatering from the foundation of structures when and where necessary during execution will have to be done by the contractor.
The term dewatering shall mean the execution or operation of the items due to standing water as well as due to percolation water.
70. Incase of discrepancy revealed between **P₁ form** and Detailed Tender Call Notice, condition in P₁ form shall prevail over the Detailed Tender Call Notice.
71. No claim for idle labour etc. on any account will be entertained by the Department.

72. The clause of printed form of **P₁ contract** with latest addition/ deletion/ corrections/ substitution etc. will also be binding.
73. **GENERAL INSTRUCTION TO CONTRACTORS as per DoWR letter No. 20415 dt. 14.09.2015**
- (a) Any agency or contractor executing a work should be aware about the local festivals like Makar Sankranti, Raja Sankranti, Chaiti Parab, Danda Nata or any such festivals which may effect the work schedule. Therefore, the contractor should engage more work forces during working period available at his disposal to complete the work as per schedule.
 - (b) In the peak summer season, working hour is curtailed by the Labour Department to avoid exposure to personnel to the scorching sun and heat. It is the duty of the agency to increase the number of work force and to employ the existing work force during morning and afternoon hours as per Government orders.
 - (c) Rainfall is a normal occurrence during monsoon in Odisha. So, unless there is unusually heavy rainfall resulting in a declared calamity, the contractor is not eligible for any extension of time. The contractor should plan the deployment of workforce and machinery , so as to complete the work as per schedule considering ordinary vagaries of nature. The same applies for borrow area ponding also. The contractor should foresee possible ponding of borrow area in monsoon and like wise lift more quantity of soil/ other materials during dry period, so as to complete the work as per schedule.
 - (d) The contractor should take up the work with due diligence in the acquired land without waiting for acquisition of entire land. This should be completed in proportionally less period depending on the quantum of available work front.
 - (e) The Agency should plan his work programme and mobilize men and machineries considering the canal closure programme of a particular system or area. Khariff / Rabi closure can't be imposed arbitrarily on the farmers as per the convenience of the agency. Closure of canal for the interest of work will be solely at the discretion of the Engineer-in- charge and can't be claimed as a matter of right.
 - (f) There will be always be standing crop before harvesting season as per crop schedule and this fact has to be clearly understood by the agency. Extension of time on this ground may not be considered by the Division officer.
 - (g) Only the day(s) of elections to the Local Bodies / Assembly / Parliament will be treated as non working day(s)
74. **THE CONTRACTOR HAS TO MENTION PERCENTAGE EXCESS OR LESS OVER THE AMOUNT PUT TO TENDER.**
75. The contractor will write percentage excess or less upto two decimal point only if he writes the percentage excess or less upto more than two decimal point, the two decimal point shall only be considered without rounding up.
76. A bidder can submit only one tender paper for a particular work, submission of more than one tender paper by a bidder for a particular tender will liable for rejection of all such tender papers as per Works Department Letter No.4985/W dt.28.03.2007.
77. The single tender received in the first call shall be cancelled without opening of the bid. The acceptance of a single tender received, even after retendering should have prior approval of the next higher authority as per Works Department Memorandum No.16 dt.01.01.2015.
78. **Joint Ventures** are not allowed in this tender.

SECTION - 2
INFORMATION AND
INSTRUCTION TO BIDDERS

SECTION-2

1. Preparation of Tender Documents

The intending tenderer shall log in to the e-procurement portal identified as <http://tendersorissa.gov.in> and download the bid document. As per the requirement of the bid document the bidder will fill up the required information and fill up the item wise rate in figures on the intelligent MS Excel sheet. The bidder is to scan his registration certificate, VAT clearance certificate, PAN Card, Affidavit, labour license, No relation certificate and certificate issued by competent authorities required for full filling the minimum qualification criteria specified in the bid document for the work. The bidder is also required to scan the RC books and other papers relating to the machineries and other documents as specified in the bid document.

2. Method of submission of Tender Documents

The tenderers shall upload the scanned copy/copies of the documents and information as per requirement of the bid documents through the e-procurement portal. All documents and scanned copies are to be uploaded in the designated location of the bid. The filled up intelligent bill of quantities in Excel format will be uploaded in the designated location of the bid. The bidder is required to upload the required documents in appropriate location of bid failing which the bid will be rejected. All the uploaded documents should be clear and legible. Before activating the submit button the clarity of the document may be ensured by taking out a sample copy. In the e-procurement tendering system the bidder is required only to submit the required information as per bid document instead of submitting the entire bid document. The "online" bidders shall digitally sign on all statements, documents, clarifications uploaded by him owning responsibility for their corrections / authenticity. If any of the information furnished by the bidder is found to be false/fabricated/bogus, the bidder will be blacklisted and his EMD/Bid Security forfeited.

The information required as per bid documents may be provided in the specified format annexed to the bid document..

If the intending tenderer is an individual, the documents shall be digitally signed by the individual while uploading the tender through e-procurement portal.

If the intending tenderer is a proprietary firm it shall be digitally signed by the proprietor while uploading the tender through e-procurement portal.

If the intending tenderer is a firm in partnership it shall be digitally signed by a partner holding the power of attorney for the firm in partnership in which case a certified copy of power of attorney shall accompany in the technical bid documents.

If the intending tenderer is a limited company or Corporation, it shall be digitally signed by a duly authorized person holding the power of attorney in which case certified copy of power of attorney shall accompany.

All witness and sureties shall be of person of status and probity and their full names, occupation and address shall be stated below in the appropriate place.

The agency will install display board mentioning information about the work at worksite after drawal of the agreement at his own cost.

3. Opening of Tender Documents.

The bids will be opened on **Asper DTCN ,Nayagarh Irrigation Division, Nayagarh** in the presence of tenderers or their authorized representative, who wish to be present.

4. Final Decision making authority

The competent authority reserves the right to accept or reject or disqualify any of the tender without assigning any reasons and its decision shall be final.

5 Where it will be found necessary by the Department, the Officer-in-Charge of the work shall issue an order book to the contractor to be kept at the site of the work with pages serially numbered. Orders regarding the work whenever necessary are to be entered in his book by the PWD Officer-in-Charge with their dated signatures and duly noted by the contractor or his authorized agents with their dated signature. Orders entered in his book and noted by the contractor's agent shall be considered to have been duly given to the contractor for following the instructions of the Department. The order book shall be the property of the PWD and shall not be removed from the site of work without written permission of the Engineer-in-charge and to be submitted to the Engineer-in-Charge every month.

6. INSTRUCTION TO BIDDERS FOR LATESTE-PROCUREMENT

1. This office memorandum consists of the procedural requirement of e-procurement and shall be made part of the Detailed Tender Call Notice or Instruction to Bidder for all "Works" tenders hosted in the portal.
2. The e-procurement portal of Government of Odisha is <https://tendersodisha.gov.in>.
3. Use of valid Digital Signature Certificate of appropriate class (Class II or class III) issued from registered certifying authorities (CA) as stipulated by Controller of Certifying Authorities (CCA), Government of India such as n-Code, Sify, TCS, MTNL, e-Mudhra is mandatory for all users.
4. The DSC issued to the Department users is valid for the period of two years only. All the Department users are responsible to revalidate their DSC prior to expiry.
5. For all purpose, the server time displayed in the e-Procurement portals shall be the time to be followed by all the users.

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6. Government after careful consideration have decided to hoist all tenders costing 10 lakhs or above in the e-procurement portal. This will be applicable across all Engineering Departments such as Works Department, Department of Water Resources, Rural Development and Housing & Urban Development Department. Government of Odisha also welcome hoisting of tenders by any other departments, authority, corporations, local bodies etc. of the State with prior approval from Works Department. Works Department is the Nodal Department for the implementation of e-Procurement in the State.
7. Three-procurements shall be operated compliant to relevant provisions of OGFR/.OPWD code/Accounts code/Government statutes including any amendments brought from time to time to the requirement of the best national practice.
8. Registration in the e-procurement portal is without levy of any charges but Government reserves the right to levy any charges for such value added services in future.
9. Contractor not registered with government of Odisha can participate in the e-procurement after necessary enrolment in the portal but have to subsequently register themselves with the appropriate registering authority of the State Government before award of the work as per prevalent registration norms of the State.
10. For the role management "Department" is the Administrative Department, Organization or wing is the Chief Engineer or highest tender accepting authority or equivalent officer, Division is the Executive Engineer or equivalent officer and subdivision is the Assistant Engineer or equivalent officer.
11. The e-procurement software assigns roles for operation of the module for specific function. The terminologies used in the portal and their respective functions in the software are as follows.

Application Administrator (NIC & State Procurement Cell)

- i. Master Management
- ii. Nodal Officer Creation
- iii. Report Generation
- iv. Transfer of Officer's login ID
- v. Blocking & unblocking of officer's and bidder's login ID.

Nodal Officer (At organization level not below the Superintending Engineer or equivalent rank)

- i. Creation of users
- ii. Role Assignment
- iii. Report Generation
- iv. Transfer of Officer's login ID
- v. Blocking & unblocking of officer's login ID.

Procurement Officer - Publisher (Officer having tender inviting power at any level)

- i. Publishing of Tender
- ii. Publishing of Corrigendum / addendum / cancellation of Tender
- iii. Bid Clarification
- iv. Uploading of Pre-Bid minutes
- v. Report generation

Procurement Officer - Administrator (Generally sub-ordinate officer to Officer Inviting Tender)

- i. Creation of Tender
- ii. Creation of Corrigendum / addendum / cancellation of Tender
- iii. Report generation

Procurement Officer Opener (Generally sub-ordinate officer to Officer Inviting Tender) i. - Opening of Bid

Procurement Officer Evaluator (Generally sub-ordinate officer to Officer Inviting Tender) i. Evaluating Bid

Procurement Officer-Auditor (Procurement Officer Publisher and/or Accounts Officer/Finance Officer)

- i. To take up auditing

12. NOTICE INVITING BID (NIB) OR INVITATION FOR BID (IFB)

The Notice Inviting Bids (NIB) and Bid documents etc. shall be in the standard format as applicable to conventional Bids and will be finalized if approved by the officers competent as in the case of conventional Bids.

The officers competent to publish NIB in case of conventional Bids will host the NIB in portal. Simultaneously, a notification should also be published in the newspapers, as per existing rules preferably, in the following format, to effect economy:-

Government of Odisha "e" procurement Notice

Bid Identification No

1. Name of the work:
2. Estimated cost: Rs
3. Period of completion
4. Date & Time of availability of bid document in the portal
5. Last Date / Time of receipt of bids in the portal
6. Name and address of the O.IT
7. Further details can be seen from the e-procurement portal "<https://tendersodisha.gov.in>"

The tender documents published by the Tender Inviting Officer (Procurement Officer Publisher) in the website <https://tendersodisha.gov.in> will appear in the "Latest Active Tender." The Bidders / Guest Users can download the Bid documents only after the due date and time of sale. The publication of the tender will be for specific period of time till the last date of submission of bids as mentioned in the 'Notice Inviting Bid' after which the same will be removed from the list of "Latest Active tenders"

13. ISSUE OF ADDENDA/CORRIGENDA/CANCELLATION NOTICE

The Procurement Officer Publisher (Officer Inviting Tender) shall publish any addendum/corrigendum/cancellation of tender in the website <https://tendersodisha.gov.in>, notice board and through paper publication and such notice shall form part of the bidding documents.

The system generates a mail to those bidders who have already uploaded their tenders and those bidders if they wish can modify their tenders. The bidders are required to watch the website till last date and time of bid submission for any addendum/corrigendum/cancellation thereof. Tender

Sl. No	Cover Type	Document Description	Type
1	Free / Prequal / Technical	Tender Cost, EMD, GSTIN, PAN, Contractor RC, Affidavits, undertakings and any other document as per SBD / DTCN	pdf
2	Finance	BOQ Special condition if any specifically mentioned by Officer Inviting Tender	.xls .pdf

Inviting Authority is not responsible for communication failure of system generated mail.

14. CREATION AND PUBLISHING OF BID:

All the volumes / documents shall be uploaded in the portal by the tender creating officer (Procurement Officer Administrator) and published by the Officer Inviting Tender (Procurement Officer Publisher) using their DSCs in appropriate format so that the document is not tampered with

The tender document comprise the notice inviting tender, bid document / SBD, drawings in .pdf format and the schedule of quantities / BOQ in .xls format to be uploaded by the Officer Inviting Tender.

Procurement Officer Administrator creates tender by filling up the following forms:

i. BASIC DETAILS

ii. COVER CONTENT : The Procurement Officer Administrator should briefly describe the name and type of documents to be uploaded by the bidder in the following format:

(a) For Single Cover / Packet.

Sl. No	Cover Type	Document Description	Type
1	Free / Prequal / Technical / Finance	Tender Cost, EMD, GSTIN, PAN, Contractor RC, Affidavits, undertakings and any other document as per SBD / DTCN	.pdf
		BOQ	.xls

(b) For Two Cover / Packet.

iii. TENDER DOCUMENT : The Procurement Officer Administrator should upload the NIT in .pdf format.

iv. WORK ITEM DETAILS:

v. FEE DETAILS: The Procurement Officer Administrator should mention the cost of tender paper and EMD amount as laid down in DTCN/SBD.

vi. CRITICAL DATES: The Procurement Officer Administrator should mention the critical dates of tender such as publishing date, document download start date and end date, seek clarification start date & end date (optional), bid submission start date & closing date, bid opening date as per DTCN/SBD.

vii. BID OPENER SELECTION : The Procurement Officer creator can select two / three / four bid openers for a particular bid. If required the bid openers can also be selected within an organization from other procurement units (Circles / Divisions).

viii. WORK ITEM DOCUMENTS: The Procurement Officer Administrator should upload the digitally signed tender document (SBD / DTCN) or any other addition document/drawings in .pdf format and Bill of Quantities in .xls format.

ix. PUBLISHING OF TENDER : The Procurement Officer Publisher shall publish the tender using his/her DSC after details scrutiny of the fields created and documents uploaded by the Procurement Officer Administrator. The Procurement Officer Publisher can publish tenders for multiple procurement units using multiple DSCs procured for each post separately. After being relieved from the additional charges he has to surrender the additional DSCs to the Nodal Officer of the concerned organization.

15. PARTICIPATION IN BID:

PORTAL REGISTRATION: The contractor/Bidder intending to participate in the bid is required to register in the portal using his/her active personal/official e-mail ID and his/her login ID and attach his/her valid Digital signature certificate (DSC) to his/her unique Login ID. He/She has to submit the relevant information as asked for about the firm/contractor. The portal registration of the bidder/firm is to be authenticated by the State Procurement Cell after verification of original valid certificate / documents such as (i) PAN and (ii) Registration Certificate (RC) / VAT Clearance Certificate (for procurement of goods) of the concerned bidder. The time period of validity in the portal is at par with validity of RC/VAT Clearance. Any change of information by the bidder is to be authenticated by the State Procurement Cell. After successful authentication bidder can participate in the online bidding process.

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Bidders participating through joint Venture shall declare the authorized signatory through memorandum of understanding duly registered and enroll in the portal in the name and style of the Joint Venture Company. It is mandatory that the DSC issued in the name of the authorized signatory is used in the portal.

Any third party / company / person under a service contract for operation of e-procurement system in the State or his / their subsidiaries or their parent companies shall be ineligible to participate in the procurement process that are undertaken through the e-procurement system irrespective of who operates the system.

LOGGING TO THE PORTAL : The Contractor / Bidder is required to type his/her Login ID and password. The system will again ask to select the DSC and confirm it with the password of DSC as a second stage authentication. For each login, a user's DSC will be validated against its date of validity and also against the Certificate Revocation List (CRL) of respective CA stored in system database. The system checks the unique Login ID, Password and DSC combination and authenticates the login process for use of portal.

DOWNLOADING OF BID : The bidder can download the tender of his choice and save it in his system and undertake the necessary preparatory work off-line and upload the completed tender at his convenience before the closing date and time of submission.

CLARIFICATION ON BID : The bidder may ask question related to tender online in the e-procurement portal using his/her DSC, provided the questions are raised within the period of seeking clarification as mentioned in tender call notice/Bid. The Officer Inviting the Bid/Procurement Officer-Publisher will clarify queries related to the tender.

PREPARATION OF BID

The bids may consist of general arrangements drawings or typical or any other drawings relevant to the work for which bid has been invited. Bidder may download these drawings and take out print for detail study and preparation of his bid. Any other drawings and documents pertaining to the works available with the Officer Inviting the bid will be open for inspection by the bidders.

The bidder shall go through the bid carefully and list the documents those are asked for submission. He shall prepare all documents including cost of bid document, bid security, declaration form, price bid etc. and store in the system.

PAYMENT OF EMD/BID SECURITY AND COST OF BID DOCUMENTS :

The bidder shall furnish, as part of his Bid, a Bid security for the amount mentioned under NIT/Contract Data. The bidder shall scan all the written/printed pages of the bid security and upload the same in portable document format (PDF) to the system in designated place of the technical BID. Furnishing scanned copy of such documents is mandatory otherwise his/her bid shall be declared as non-responsive and liable for rejection..

The EMD or Bid Security payable along with the bid is 1% of the estimated contract value (ECV) or as mentioned in the bid documents. The validity period of the EMD or Bid Security shall be as mentioned in the bid document. Any bid not accompanied by an acceptable Bid Security and not secured as indicated in the bid documents shall be rejected as non-responsive. The bid security shall be retained till such time the successful bidder furnished Initial Security Deposit (ISD) or Performance Security acceptable to the Officer Inviting the Bid. Failure of the successful Bidder to comply with the requirements shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security. The Bid security in the form of FD shall be from a Nationalized Bank valid for a period of 45 days beyond the validity of the bid. Bid security in other form is acceptable if the bid document provides for it.

The Fixed Deposit / or any other form as mentioned in detailed tender call notice in respect of Earnest Money Deposit / Bid Security and the Bank Draft in respect of cost of Bid are to be scanned and up loaded in portable document format (PDF) along with the bid.

The tender accepting authority will verify the originals of all the scanned documents of the successful lowest bidder only within 5 days of opening of the tender. In the eventuality of failure on the part of the lowest successful bidder to produce the original documents, he will be debarred in future from participating in tender for 3 years and will be black listed by the competent authority. In such a situation, successful L-2 bidder will be required to produce his original documents for consideration of his tender at the negotiated rate equal to L1 bidder.

Contractor exempted from payment of EMD will be able to participate in the tender directly by uploading documentary evidences towards his eligibility for such exemption.

Government of Odisha has been actively considering integrating e-payment gateway into the portal for payment of cost of bid and Bid Security / Earnest Money Deposit. The process of using e-payment gateway shall be issued separately after it is established.

16. SUBMISSION OF BID:

The bidder shall carefully go through the tender and prepare the required documents. The bid shall have a technical Bid & a Financial Bid. The bid generally consists of cost of Bid documents, EMD / Bid Security, PAN, GSTIN, Registration Certificate, Affidavits, Profit Loss Statement, Joint Venture Agreement, List of similar nature of works, work in hand, list of machineries and any other information required by OIT with the Bill of Quantities (BOQ) in an intelligent excel format and any other price related information / undertaking including rebates.

Bidders are to submit only the original BOQ (in.xls format) uploaded by Procurement Officer Publisher (Officer Inviting Tender) after entering the relevant fields without any alteration / deletion / modification. Multiple BOQ submission by bidder shall lead to cancellation of bid. In case of item rate tender, bidders shall fill in their rates other than zero value in the specified cells without keeping it blank. In the percentage rate tender the bidder quoting zero percentage is valid and will be taken at par with the estimated rate of the work put to tender.

The bidder shall upload the scanned copy/copies of document in support of eligibility criteria and qualification information in prescribed format in Portable Document Format (PDF) to the portal in the designated location of Technical Bid.

The bidder shall write his name in the space provided in the specified location in the Protected Bill of Quantities (BOQ) published by the Officer Inviting tender. The bidder shall type rates in figure only in the rate column of respective item (s) without any blank cell in the rate column in case of item rate tender and type percentage excess or less up to two decimal place only in case of percentage rate tender.

The bidder shall log on to the portal with his/her DSC and move to the desired tender for uploading the documents in appropriate place one by one simultaneously checking the documents.

Bids can not be submitted after due date and time. The bids once submitted can not be viewed, retrieved or corrected. The bidder should ensure correctness of the bid prior to uploading and take print out of the system generated summary of submission to confirm successful uploading of bid. The bids cannot be opened even by the OIT or the Procurement Officer Publisher / opener before the due date and time of opening.

Each process in the e-procurement is time stamped and the system can detect the time of log in of each user including the Bidder.

The Bidder should ensure clarity / legibility of the document uploaded by him to the portal.

The system shall require all the mandatory forms and fields filled up by the contractor during the process of submission of the bid / tender.

The bidder should check the system generated confirmation statement on the status of the submission.

The Bidder should upload sufficiently ahead of the bid closure time to avoid traffic rush and failure in the network.

The Tender Inviting Officer is not responsible for any failure, malfunction or breakdown of the electronics system used during the e-procurement process.

The Bidder is required to upload documents related to his eligibility criteria and qualification information and Bill of Quantity duly filled in. It is not necessary for the part of the Bidder to upload the drawings and the other Bid documents (after signing) while uploading his bid. It is assumed that the bidder has referred all the drawings and documents uploaded by the Officer Inviting the Bid.

The bidder will not be able to submit his bid after expiry of the date and time of submission of bid (server time). The date and time of bid submission shall remain unaltered even if the specified date of the submission of bids declared as a holiday for the Officer Inviting the Bid.

SIGNING OF BID: The online bidder shall digitally sign on all statements, documents, certificates uploaded by him, owning responsibility for their correctness / authenticity as per IT ACT 2000. If any of the information furnished by the bidder is found to be false/fabricated/bogus, his EMD/Bid Security shall stand forfeited and his registration in the portal shall be blocked and the bidder is liable to be blacklisted.

17. SECURITY OF BIDSUBMISSION:

All bid uploaded by the Bidder to the portal will be encrypted.

The encrypted Bid can only be decrypted/opened by the authorized opener on or after the due date and time.

18. RESUBMISSION AND WITHDRAWAL OF BIDS:

Resubmission of bid by the bidders for any number of times before the final date and time of submission is allowed.

Resubmission of bid shall require uploading of all documents including price bid afresh.

If the bidder fails to submit his modified bids within the pre-defined time of receipt, the system shall consider only the last bid submitted.

The bidder should avoid submission of bid at the last moment to avoid system failure or malfunction of internet or traffic jam or power failure etc.

The Bidder can withdraw his bid before the closure date and time of receipt of the bid by uploading scanned copy of a letter addressing to the Procurement Officer Publisher (Officer Inviting Tender citing reasons for withdrawal). The system shall not allow any withdrawal after expiry of the closure time of the bid.

19. OPENING OF THE BID:

Bid opening date and time is specified during tender creation or can be extended through corrigendum. Bids can not be opened before the specified date and time.

All bid openers have to log-on to the portal to decrypt the bid submitted by the bidders.

The bidders & guest users can view the summary of opening of bids from any system. Contractors are not required to be present during the bid opening at the opening location if they so desire.

In the event of the specified date of bid opening being declared a holiday for the Officer inviting the Bid, the bids will be opened at the appointed time on the next working day.

Combined bid security for more than one work is not acceptable.

19.8 The electronically submitted bids may be permitted to be opened by the predefined Bid opening officer from their new location if they are transferred after the issue of Notice Inviting Bid and before bid opening. Further, action on Bid documents shall be taken by the new incumbent of the post.

19.7 In case of non-responsive tenders the officer inviting tender should complete the e-Procurement process by uploading the official letter for cancelled / re-tender.

20. EVALUATION OF BIDS:

All the opened bids shall be downloaded and printed for taking up evaluation. The officer authorized to open the tender shall sign and number on each page of the documents downloaded and furnish a certificate that 'the documents as available in the portal containing _____ nos of pages'.

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The bidder may be asked in writing/online (in their registered e-mails) to clarify on the uploaded documents provided in the Technical Bid, if necessary, with respect to any doubts or illegible documents. The Officer Inviting Tender may ask for any other document of historical nature during Technical Evaluation of the tender. Provided in all such cases furnishing of any document in no way alters the bidder's price bid. Non submission of legible documents may render the bid non-responsive. The authority inviting bid may reserve the right to accept any additional document.

The bidders will respond in not more than 7 days of issue of the clarification letter, failing which the bid of the bidder will be evaluated on its own merit.

The Technical evaluation of all the bids shall be carried out as per information furnished by bidders.

The Procurement Officer-evaluators; will evaluate bid and finalize list of responsive bidders.

The financial bids of the technically responsive bidders shall be opened on the due date of opening. The Procurement Officer - Openers shall log on to the system in sequence and open the financial bids.

The Financial Bid will be opened on the notified date and time in the presence of bidders or their authorized representative who wish to be present.

At the time of opening of "Financial Bid", bidders whose technical bids were found responsive will be opened.

The responsive bidders name, bid price, item wise rates, total amount of each item in case of item rate tender and percentage above or less in case of percentage rate tenders will be announced.

Procurement Officer-Openers shall sign on each page of the downloaded BOQ and the Comparative Statement and furnish a certificate to that respect.

Bidder can witness the principal activities and view the documents/summary reports for that particular work by logging on to the portal with his DSC from anywhere.

System provides an option to Procurement Officer/Publisher for reconsidering the rejected bid with the approval of concern Chief Engineer / Head of Department.

21. NEGOTIATION OF BIDS:

For examination, evaluation and comparison of bids, the officer inviting the bid may, at his discretion, ask the lowest bidder for clarification of his rates including reduction of rate on negotiation and breakdown of unit rates.

22. NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT

The employer / Engineer-in-Charge shall notify acceptance of the work prior to expiry of the validity period by cable, telex or facsimile or e-mail confirmed by registered letter. This letter of acceptance will state the sum that the Engineer-in-Charge will pay the contractor in consideration of execution and completion of the Works by the contractor as prescribed by the contract and the amount of Performance Security and Additional Performance Security required to be furnished. The issue of the letter of Acceptance shall be treated as closure of the bid process and commencement of the contract.

The contractor after furnishing the required acceptable Performance Security & Additional Performance Security, "Letter to proceed" or "Work Order" shall be issued by the Engineer-in-Charge with copy thereof to the Procurement Officer - Publisher. The Procurement Officer - Publisher shall upload the summary and declare the process as complete.

If the L-1 bidder does not turn up for agreement after finalization of the tender, then he shall be debarred from participation in bidding for three years and action will be taken to blacklist the contractor. Besides the consortium / JV / firm where such an agency / firm already happens to be or is going to be partner / member / proprietor, he / they shall neither be allowed for participation in bidding for three years nor his / their application will be considered for registration and action will be initiated to blacklist him / them. In that case, the L-2 bidder, if fulfils other required criteria, would be called for drawing agreement for execution of work subject to condition that the L-2 bidder negotiates at par with the rate quoted by the L-1 bidder, otherwise the tender will be cancelled.

23. BLOCKING OF PORTAL REGISTRATION

If the Registration Certificate of the Contractor is cancelled/suspended by the registering authority/blacklisted by the competent authority his portal registration shall be blocked automatically on receipt of information to that effect.

The portal registration blocked in the ground mentioned in the above Para-23.1 shall be unblocked automatically in receipt of revocation order of cancellation / suspension / blacklisting from the concerned authority.

The Officer Inviting Tenders shall make due inquiry and issue show cause notice to the concerned contractor who in turn shall furnish his reply, if any, within a fortnight from the date of issue of show cause notice. Thereafter the Officer Inviting Tender is required to issue an intimation to the defaulting bidder about his unsatisfactory reply and recommend to the Chief Manager (Tech.) for blocking of portal registration within 10 days of intimation to the defaulting bidder regarding his unsatisfactory reply with intimation to the Registering Authority and concerned Chief Engineer / heads of Office if any of the following provision are violated.

Fails to furnish original Technical / Financial (Tender Paper cost, EMD / Bid Security) instruments before the designated officer within the stipulated date and time.

Backs out from the bid on any day after the last date of receipt of tender till expiry of the bid validity period.

Fails to execute the agreement within the stipulated date.

If any of the information furnished by the bidder is found to be false/fabricated/bogus. Accordingly the Officer Inviting Tender shall recommend to the Chief Manager (Tech.; State Procurement Cell , Odisha for blocking of portal registration of bidder and simultaneously action shall also be initiated by OFFICER INVITING TENDER for blacklisting as per Appendix - XXXIV of OPWD code, Volume -II.

24. GUIDELINES FOR UNBLOCKING OF PORTAL REGISTRATION:

UNBLOCKING OF PORTAL REGISTRATION

Unblocking of portal registration of a contractor shall be done by a committee consisting of the following members.

EIC(Civil)-cum-CPO	-	Chairman
Engineer-in-Chief(WR)	-	Member
Concerned Chief Engineer	-	Member
Sr. Manager (Finance), SPC Member		
Officer Inviting Tender	-	Member
Chief Manager(Technical), SPC	-	Convener

The Chief Manager(Tech.), State Procurement Cell will be the convener and he will maintain all records for this purpose. The Committee shall meet not less than once in a month if required and shall consider the recommendation of the officer inviting tender for unblocking of portal registration. The quorum of the meeting will be four.

The minimum period of blocking of Portal Registration shall in no case be less than 90 days. After blocking of Portal Registration, the contractor whose Portal Registration has been blocked may file application to the concerned officer inviting tender showing sufficient ground for unblocking of his portal registration along with a Treasury Challan showing deposit of Rs. 10,000/- (Rupees Ten Thousand only (non-refundable) under the head of accounts '0059-Public Works' as* processing fees. The officer inviting tender shall forward the application filed by the contractor to the Chief Manager (Tech.), State Procurement Cell.

On receipt of recommendation from the concerned Chief engineer along with the copy of challan as mentioned above, the Chief Manager(Tech.) being the member convener of the Committee shall place the case before the Committee for examination and taking a decision in this regard. After examination the Committee may recommend for unblocking of the portal registration of said contractor if the Committee is satisfied that the fault committed by the contractor is neither unintentional nor done for the first time.

After scrutiny by the State procurement Cell if it is found that the portal registration of a contractor has been blocked for the 2nd time, the Chief Manager (Tech.), SPC may not consider his case to be placed before the Committee and may advise the concerned officer inviting tender to issue show cause notice to the contractor asking him to explain as to why his portal registration shall not remain blocked. On receipt of show cause reply from the contractor the officer inviting tender shall examine the same and if considered proper he may report to the Chief Manager(Tech.), SPC along with his views furnishing the copy of the show cause reply for placement of the same before the Committee for taking a decision in respect of blocking / unblocking. If the Committee found that the contractor is in habit of committing such fault again and again intentionally, the committee may advise the concerned officer inviting tender to initiate proceeding for blacklisting as per the existing rule.

1. These amendments shall take effect from the date of issue of the order.
2. This amendment is an addition to the existing provision and will be placed below Appendix-IX to OPWD code, Vol-II
3. Accordingly Office Memorandum No. 1027 dt. 24.01.2009 stands modified.
4. This has been concurred in by the Finance Department vide their U.O.R No 3-WF-I4.01.2013.

25. The selected tenderer after entering into the agreement with the SE, Nayagarh Irrigation Division, Nayagarh have to procure Bitumen & Bitumen Emulsion from the main producers such as IOCL & HPCL or OSIC for utilization of the same in the work. And it is mandatory to produce the proforma invoice issued by the said companies/corporation along with the bill failing which the settlement of their bills will not be entertained vide No.FIN-ES2-MISC-0023-2013-24148(4) Dt.19.07.13 of Finance Deptt.

SECTION - 3
GENERAL RULES & DIRECTIONS

**ODISHA PUBLIC WORKS DEPARTMENT
(FORM P1)
PERCENTAGE RATE TENDER AND CONTRACT FOR WORKS
GENERAL RULES & DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS**

1. ' The work proposed for execution by contract will be notified in a form of invitation to tender pasted on a board hung up in the office of the Superintending Engineer, Nayagarh Irrigation Division, Nayagarh.
This notice will state the work to be carried out, the items and approximate quantities thereof as well as the date for submitting and opening tenders also the amount of earnest money to be deposited and the amount of the security deposit by the successful tenderer and the percentage if any to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the submission of tender signed for the purpose of identification by the Sub-divisional Officer/Executive Engineer shall also be open for inspection by the contractor at the office of the Sub-Divisional Officer/Executive Engineer during office hours.
2. In the event of the tender being submitted by a firm it must be signed separately by each member thereof, or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so.
3. Receipts for payment made on accounts of works, when executed by a firm must also be signed by these several partners, except where the contractors are described in their tender as a firm in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having authority to give effectual receipts for the firm.
4. The memorandum of work tendered for and the memorandum of materials to be supplied by the Public Works Departments and their issue rates shall be filled in and completed in the office of the Sub-Divisional Officer/Executive Engineer before the tender form is issued if a form is issued to an intending tender without having been so filled in and completed, he shall request the office to have this done before he completes and delivers his tender.
5. The amount of earnest money to be deposited will be 1% of estimated cost.
6. Any person who submits a tender shall fill up the usual printed form stating at what percentage rate he is willing to undertake the work. Incomplete tender and tender percentage rate he is willing to undertake the work specified in the said form of invitation to tender or which contain any other conditions of any sort, or omit to note the time within which the work can be finished or which are not accompanied by the required earnest money will be liable to rejection. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit a separate tender for each work. Tender shall bear the name of the work to which they refer written outside the envelope.
7. The Engineer or his duly authorized assistant will open the tenders in the presence of any intending contractors whom he may be present at the time and will enter the amounts of these several tenders in a comparative statement in a suitable form. In the event of tender being rejected the document for the earnest money forwarded therewith shall thereupon be returned to the tenderer.
8. The Engineer-in-charge shall have the right of rejecting all or any of the tenders.
9. In the event of a tender being selected for acceptance the Engineer-in-charge who opened the tenders will, if he is competent to accept the tender, inform the tenderer of the selected tender who shall thereupon sign copies of the specification and other documents with the tender. The tenderer to the selected tenders shall also deposit the required amount of the security money within the prescribed time. If the tenderer fails to deposit the required amount of the security money within the prescribed time the Engineer-in-charge may reject the tender.
If the Engineer-in-charge is not competent to accept the tender himself, he will inform the tenderer of the tender which he decides to be recommended for acceptance, such tender shall thereupon sign forth with copies of the specification and other documents mentioned in rules 1 and 4 and shall deposit the required amount of the security money within the prescribed time. The tender with the specification and other documents signed by the tenderer will then be forwarded for acceptance to the Engineer who is competent to accept the same. If the said Engineer rejects the tender the security money deposited shall be refunded to the tenderer.
10. When a tender is selected for acceptance, the tenderer shall deposit the required amount of the security money in the prescribed format duly pledged in favour of Executive Engineer, Nayagarh Irrigation Division, Nayagarh. No tender shall be finally accepted until the required amount of the security money has been deposited.
11. The amount of security money to be deposited by the tenderer whose tender is selected for acceptance shall be 2 (two) percent of the contract value of the work and towards this amount the earnest money already deposited by him shall be taken into account.

Any balance of the security money outstanding after completion of the contract with the tenderer may be made up along with deduction of 3%/5% of the amount of each payment to be made to him under clause of the condition of contract for work done under the contract.

Taxes as per provisions of Government shall be deducted from the bills of tenderer.

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12. When tender has been selected for acceptance and required amount of the security money has been deposited the Engineer shall scrutinize a pages of the form of percentage, Rate Tendered and Contract for works to see that the form has been properly filled up and signed by the contractor and the signature witnessed. He shall then, if he is competent to accept the tender, sign the acceptance of the tender or if he is not so competent to, shall send the form for signature of the acceptance to the officer competent to accept it.
13. All tenderers are required to submit a list of works, which are in hand at the time of submitting their tenders. The list of works are required to be submitted in the proforma by the Executive Engineer under whom he has executed the work in order to judge their past performance (vide Works Department Circular No. 15443 dt.01.08.2005.)
14. The earnest money deposited is liable to be forfeited to Govt, if the tenderer backs out from the offer before acceptance of the tender by the competent authority.
15. **T.D.S (Tax Deducted at Source) towards GST & CESS etc. will be deducted at the rate prescribed in the Odisha Goods and Service Tax Act, 2017 (O.C.S.I. Act 7 of 2017), Building & other construction works welfare Cess Act 1996 & as amended from time to time.**

TENDER FOR WORKS

I / We hereby tender for the execution for the Government of Odisha for the work specified in the under written memorandum at the rates specified therein in a period of **Asper DTCN** from the date of written order to commence and in accordance in all respects with the specifications designs and other documents referred to in rule. Hereof and subject to the annexed conditions of contract and with such materials as are provided for by and in all other respects in accordance with such conditions so far as applicable.

MEMORANDUM

- | | | | |
|---|--|---|---|
| a) If several sub-works are included they should be detailed in a separate sheet. | (a) Name of Work | : | Asper DTCN |
| | (b) Estimated Cost | : | Rs. _____ /- |
| | (c) Agreement Amount | : | Rs. _____ /- |
| | (d) E.M.D. to be deposited | : | Rs. _____ /- |
| e) This deposit will be 2 percent of the estimated cost of the works. | (e) E.M.D. deposited | : | Rs. _____ /- |
| | (f) Initial security deposits to be deposited before the commencement of the work. | : | Rs. _____ /- |
| | (g) Additional performance security deposit : | : | Rs. _____ /- |
| | (h) Security deposits to be deducted from : | : | <u>3</u> % for D & C Class 5% for B Class |
| f) This percentage from bills will be credited to the contractor's security | (i) Time required for the work from date of written order to commence | : | Asper DTCN |
| | (h) Date of written order to commence | : | |
| | (i) Actual date of commencement of work | : | |
| | (j) Schedule date of completion | : | |
| | (k) Total number of item of works tender for | : | _____ Item |

Nature of contractor before submission of tender

Should this tender be accepted I/We hereby agree to abide by and fulfill the terms and provision of the said condition of contract annexed hereto so far as applicable, or in default thereof to forfeit and pay to the Government of Odisha or his successors in office, the sum of money mentioned in the said conditions.

Dated the Day of 2024

Signature of witness to one tender's signature

Witness:

Address:

CONTRACTOR

Signature of Officer by whom accepted

The above tender is hereby accepted by me on behalf of the Government of Odisha.

Dated the Day of 2024

**Superintending Engineer,
Nayagarh Irrigation Division,
Nayagarh.**

SECTION - 4
CONDITIONS OF CONTRACT

CONDITION OF CONTRACT

Clause 1- All compensation or other sum of money payable by the contractor to Government under the terms of his contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due or may become due to the contractor by Government on any account whatsoever and in the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or Government securities endorsed as aforesaid any sum or sums which may have been deducted from or raised by sale of the security deposit or any part thereof.

Compensation for delay

Clause 2(a) The time allowed for carrying out the work as entered in Compensation for delay the tenders shall be strictly observed by the contractor and shall be reckoned from the date on which the written order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be carried on with all due diligence (time being deemed to be of the essence of the contract on the part of the contractor) and the contractor shall pay as compensation an amount equal to V_i % on the amount of the estimated cost if the whole work as shown by the tender for every day that the work remains uncommenced, or unfinished after the proper dates (The work should not be considered finished until such date as the Executive Engineer shall certify as the date on which the work is finished after necessary rectification of defects as pointed out by the Executive Engineer, or his authorised agents are fully complied with by the contractor to the Executive Engineer's satisfaction). And further to ensure good progress during execution of the work the contractor shall be bound, in all cases in which the time allowed for any work exceeds one month, to complete one fourth of the whole work before one fourth of the whole time allowed under contract has elapsed one half of the work, before one half of such time has elapsed and three-fourth of the work before three-fourth of such time has elapsed. In the events of the contractor failing to comply with the condition, he shall be liable to pay as compensation an amount equal to one third percent on the said estimated cost of the whole work for every day that the due quantity of work remains incomplete, provided always that the entire amount of compensation to be paid under the provision of this clause shall not exceed 10% on estimated cost of the work as shown in the tender.

The work should not be considered finished until such date as the S.E. shall certify as the date on which the work is finished after necessary rectification of defects as pointed out by S.E. or his authorized agents are fully complied with by the contractor to the E.E's satisfaction.

(b) If there are possibilities of exceeding this compensation amount as mentioned in clause (a) 10% of the estimated cost or in any case in which under any clause or clauses of this contract the contractor shall have tendered himself liable to pay compensation amounting to the whole of his security deposit in the hands of Govt. (whether paid in one sum or deducted by installments) the Executive Engineer on behalf of the Governor of Odisha, shall have power to adopt any of the following courses as he may deem best suited to the interest of Government.

Action when whole security deposit is forfeited

(i) To rescind the contract. (of which rescission notice in writing to the contractor under the hand of the Executive Engineer shall be conclusive evidence) 20% of the value of left over work will be realized from the contractor as penalty.

In the event of any of the above courses being adopted by the Executive Engineer the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials, or entered into any engagements or made any advances on account of or with a view to, the execution of the work or the performance of the contract. And in case the contract shall be rescinded under the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under this contract, unless and until the Executive Engineer shall have certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

(ii) Security deposit of contractor for each work will be refunded only twelve month after the date of completion of work provided the final bill has been paid and defects if any rectified.

Clause-3 In any case in which any of the powers, conferred upon the Executive Engineer by clause 3 thereof, shall become exercisable and the same shall not be exercised the non exercise thereof shall not constitute a waiver of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any clause or clauses thereof he is

Contractor remain liable to pay compensation if action not taken under clause-5

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declared liable to pay compensation amounting to the whole of his security deposit, and the liability of the contractor for past and future compensations shall remain unaffected in the event of the Executive Engineer putting in force the powers vested in him under the preceding clause he may if he so desire, take possession of all or any tools, plants, materials & stores, in or upon the works or the site thereof belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in the account at the contract, rates, or in case of these not being applicable ; at current

market rates to be certified by the Executing Engineer whose certificate thereof shall be final; otherwise the Executive Engineer may give notice in writing to the contractor or his clerk of the works, foreman or other authorized agent required him to remove such tools, plants, materials or stores from the premises (within a time to be specified in such notice) and in the event of the contractor failing to comply with any requisition to the Executive Engineer may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and at his risk in all respects and the certificate of the Executive Engineer as to the expense of removal and the amount of proceeds and expense of any such sale shall be final and conclusive against the contractor.

Power to take possession of or require removal of or sell contractor plants

Clause-4

If the contractor shall desire on extension of time for completion of the work, on the ground of his having been unavoidable hindrances in its execution or any other ground he shall apply in writing to the Executive Engineer within 30 days of the date of the hindrance on account of which he desires such extension as aforesaid and the Executive Engineer shall, if in his

Extension of time

opinion (which shall be final) reasonable be Extension of time shown therefore, authorize such extension of time if any, as may in his opinion, be necessary or proper. The Executive Engineer shall at the same time inform the contractor whether he claims compensation for delay.

Clause-5

On completion of the work, the contractor shall be furnished with a certificate by the Executive Engineer (here-in-after called the Engineer-in-charge) of such completion, but no such certificate be given, nor shall the work be considered to be complete until the contractor shall have removed from the area of premises (to be distinctly marked by the Executive Engineer in the site plan) on which the work shall be executed, all scaffoldings surplus materials and rubbish and cleaned off the dirt from all woodwork doors, windows, walls, floors or other parts of any building in upon or about which the work is to be executed, or of which he may have had possession for the purpose of the execution thereof nor until the work shall have been measured by the officer of the PWD in accordance with the rules of the department whose measurements shall be binding and conclusive against the contractor the contractor shall fail to comply with the requirements of this clause as removal of scaffolding surplus materials and rubbish and cleaning of dirt on or before the date fixed for the completion of the work the Engineer-in-charge may at the expenses of the contractor, remove such scaffolding surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forthwith pay the amount of all expenses incurred and shall have no claim in respect of any such scaffolding, or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

Final Certificate

Sub Clause-5

"If in the opinion of the Engineer-in-charge which shall be final and binding on the contractor occupation or utilization of a portion of the work completed in no way interferes with the progress for rest of the work, the same may be occupied or utilized by or on behalf of the Govt, under the written order of the Engineer-in-charge to get the defects of any rectified by the contractor at his (Contractor) own cost within six months from the date of completion of the whole work provided that the contractor will not be allowed any other concession either in the shape of extensions of stipulated period or any other monetary compensation on account of such occupation or use.

Clause -6

A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer-in-charge for all works executed in the previous month, and the Engineer-in-charge or his subordinate shall take the requisite measurement for the purpose of having the same verified and the claim as far as admissible adjusted if possible before the expiry of ten

Payment on intermediate certificate be regarded as advance & bill to be submitted monthly

days from the presentation of the bill. If the contractor does not submit the bill within the time fixed as aforesaid, the Engineer-in-charge or his subordinate shall measure up the said work in the presence of the contractor whose countersignature to the measurement list will be sufficient warrant and the Engineer-in-charge or his subordinate shall prepare a bill from such list which shall be binding on the contractor in all respects. Provided that, if any balance of the 7% security is outstanding from each such payment shall be deducted so much, not exceeding 5% as may be necessary to make up the balance of the security. All such intermediate payments shall be regarded as payment by way of advance against the final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskillful work to be removed and taken away and requiring or re-erected, or be considered as an admission of the due performance of the contract, or any part thereof in any respect, or the actual of any claim nor shall it conclude,

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determine or effect in any way the powers of the Engineer-in-charge under these conditions or any of them as the final settlement or adjustment of the accounts or otherwise, or in any other way vary or effect the contract.

Clause-7 The final bill shall be prepared by the offices of the P.W.D. in accordance with the rules of department in the presence of the contractor within one month of the date fixed for completion of the work.

Clause -8 If the specification of estimate of the work provides for the use of any special description of materials to be supplied from the Engineer-in-charge's store, or it is required that the contractor shall use certain stores to be provided by the Engineer-in-Charge under the conditions of this contract [such materials and stores and the prices to be charged thereof as herein after mentioned being so far as practicable for the convenience of the contractor, but not so as in any way to control the meaning or effect of this contract as specified in the schedule or memorandum hereto annexed] the contractor shall be supplied with such materials and store noted in the annexed schedule as are required from time to time to be used by him for the purposes of the contract only, and the value of the full quantity of materials and stores so supplied at the rates specified in the said schedule may be set off or deducted from any sum then due, or there after to become due to the contractor under the contract or otherwise or against or from the security deposit, or the proceed of sale thereof if the same is held in Government securities, the same or a sufficient portion thereof being in this case sold for the purpose. All materials supplied to the contractor shall remain the absolute Property of Government and shall not any account be removed from the site of the work, and shall at all time be open to inspect by the Engineer-in-charge. Any such materials unused and in perfectly good condition at the time of completion or determination of the contract shall be returned to the Engineer-in-charge's store, at the prevailing market rate or at the issue rate which ever is less if by a notice in writing under his hand he shall so require, but the contractor shall not be entitled to return any such materials unless with such consent and shall have no claim for compensation no account of any such materials so supplied to him as aforesaid being unused by him, or for any wastage in or damage to any such materials.

Store supplied by Government

Clause - 8(a) "If a contractor removes any materials or stock so supplied to him from the site of the work in contravention of the provision of this clause with a view to dispose of the same dishonestly, he shall in addition to any other liability, civil or criminal, arising out of this contract be liable to pay a penalty equivalent to five times the price of the said materials or stock according to the stipulated rate. The penalty so imposed shall be recoverable from any sum, that may be then or at any time there after may become due to the contractor; or from his security deposit, or the proceeds of sale thereof.

Clause - 8 (b) Owing to difficulty in obtaining certain materials in the open market the Government have undertaken to supply materials specified in the schedule here to annexed. There may be delay in obtaining materials by the Department and the contractor is therefore required to keep himself in touch with day position regarding the supply of materials from the Engineer-in-charge and to so adjust the progress of the work that their labour may not remain idle nor may there be any other claim due to or arising from delay in obtaining the materials. It should be clearly understood that no monetary claim whatsoever shall be entertained by the Government on account of delay in supplying materials. However extension of time for the completion of work can be granted on timely application by the contractor vide clause 5.

Clause -9 The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regards materials and otherwise in every respect in strict accordance with the specification. The contractor shall also confirm exactly fully and faithfully to the design, drawings & instructions in writing relating to the work signed by the Engineer-in-charge and lodged in his office and to which the contractor shall be entitled to have access at such office for the purpose of inspection during office hours and the contractor shall, if he so require be entitled to his own expense to make or cause to make copies of the specifications and of all such designs, drawings and instructions as aforesaid.

Works to be executed in accordance with specification drawing & orders etc.

Sub clause - 9 The work should be done strictly in accordance with the relevant specifications of the I.S.I. Codes. If the work is not covered by the specification of I.S.I, it should be done in accordance with the provision in the Odisha Detailed Standard Specifications (O.D.S.S). In case, the work is not covered by O.D.S.S. the work should be executed as per the instruction of the Engineer-in-charge.

Clause-10 The Engineer-in-charge shall have power to make any alterations in or addition to the original specifications, drawing, designs and instruction that may appear to him to be necessary advisable during the progress of the work and the contractor shall be bound to carry out the work in accordance with any instruction which may be given to him in writing signed by the Engineer-in-charge and such alterations shall not invalidate the contract and additional work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respect on which he agreed to do the main work, and at the

Alteration in specification and designs

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same time rates as are specified in the tender for the main work., The time for the completion of the work shall be extended in the proportion that the additional work includes bear to the original contract work and the certificate of the Engineer-in-charge shall be conclusive as to such proportions. And if the additional work includes any class of work for which on rate is specified in this contract then such class of work shall be carried out at the on rates specified on this contract than such class of work shall be carried out at the rates entered in the sanctioned schedule by rates of the locality during the period when the work being carried on and if such the district then the contractor shall within seven days of the date of his receipt of the order to carry out the work inform the Engineer-in-charge of the rate which is it his intention to charge for such class of work, and if the Engineer-in-charge does not agree to this rate he shall by notice in writing beat liberty to cancel his order to carry out such class or work and arrange to carry it out in such manner as he may consider advisable.

Do not invalidate contract

Extension of time in consequence of alterations

No deviations from the specification stipulated in the contract or additional items of work shall ordinarily be carried out by contractor nor shall any altered. Additional or substituted work to be carried out by him unless the rates on the substituted altered of additional items have been approved and fixed in writing by the Engineer-in-charge.

Rates of works not in estimate of schedule or rate of the district.

The contractor shall be bound to submit his claim for any additional work done during any month on or before the 5th days of the following month accompanied by copy of the order in writing of the Engineer-in-charge for the additional work and that the contractor shall not be entitled to any payment in respect of such additional work if he fails to submit his claim within the aforesaid period.

Provided always that if the contractor shall commence work incur any expenditure in regard thereof before the rates shall have been determined as lastly herein before mentioned, then and in such case he shall only be paid in respect of the work carried out or expenditure incurred by him prior to the determination of the rates as aforesaid according to such rates as shall be fixed by the Engineer-in-charge. In the event of dispute the decision of the Superintending Engineer of the circle will be final.

Clause-11

If at any time after the commencement of the work the Government of Odisha shall for any reason whatsoever not require the whole thereof as specified in the tender to be carried out the Engineer-in-charge shall give notice in writing of the fact to contractor who shall have no claim to any payment or compensation whatsoever on account of any profit or advantage, which he might have derived from the execution of the work in full but which he did not derive in consequence of the full amount of the work not having been carried out, neither shall he have any claim for compensation by reason of any alterations having been made in the original specification, drawing, designs and instruction which shall involve any curtailment of the work as originally contemplated.

No compensation for alteration in or restriction of work to be carried out.

Clause -12

If it shall appear to the Engineer-in-charge or his subordinate in charge of the work that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for execution of the work are unsound or of a quality inferior to that contracted for or other wise not in accordance with the contract. The contractor shall on demand in writing from the Engineer-in-charge specifying the work materials or articles complained of not withstanding that the same may have been inadvertently passed, certified and paid forth with rectify or remove and reconstruct the work so specified in whole or part, as the case may require or as the case may be remove the materials or articles so specified and provided other proper and suitable materials or articles at his own proper charge and cost and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand aforesaid then the contractor shall be liable to pay compensation at the rate of one percent on the amount of the estimate for every day not exceeding the day his failure to do shall continue and in the case of any such failure the Engineer-in-charge may rectify or remove and re-execute the work or remove and replace with other the materials or articles complained of at the risk and the expense in all respects of the contractor.

Action and compensations payable in case of bad work.

- Clause -13** All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspections and supervision of the Engineer-in-charge and his subordinates and the contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of intention of Engineer-in-charge his subordinates to visit the works shall have been given to the contractor either himself be presented to receive orders and instructions, or have a responsible agent duly accredited in writing present for that purpose, Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor or himself.
- Works to be open to inspection**
- Clause-14** The contractor shall give not less than five day's notice in writing to the Engineer-in-charge or his subordinate in-charge of the work before covering up or other wise placing beyond the reach of measurement of any work in order that the same may be measured and correct dimension thereof be taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up or placed beyond the reach of measurement any work without the consent in writing of the Engineer-in-charge or his subordinate in charge of work and if any work shall be cover up or placed beyond the reach of measurement without such notice having been given or consent obtained, the same shall be uncovered at the contractor's expense, or in default thereof no payments or allowances shall be made for such work or the materials with which the same was executed.
- Contractor or responsible agents to be present**
- Notice to be given before work is covered up**
- Clause -15** If the contractor or his work people or servants shall break, deface, injure or destroy any part of a building, in which they may be working or any building, road, enclosure or grassland, or cultivated ground continuous to the premises on the premises on which work or any part of it being executed, or if any damage shall happen to the work while in progress from any cause whatever or any imperfection become apparent in it within six Months from the date of final certificate of its completion shall have been given by the Engineer-in-charge, as aforesaid the contractor shall make the same good at his own expense, or in default the Engineer-in-charge may cause the same to be made good by other workmen, and deduct the expense (if which the certificate of the Engineer-in-charge shall be final) from any sum that may be then or at any time thereafter may be due to the contractor, or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof and the contractor shall be liable to pay any part of the expenses not so recovered by the Engineer-in-charge.
- Contractor liable for damage done and for imperfections for 6 months after certificate**
- Clause-16** The contractor shall supply at his own cost all materials (except such special materials if any as may in accordance with the contract be supplied from the Engineer-in-charge's stores) plant, tools, appliances, implements, ladders, cordage, tackle scaffolding and temporary works requisite or proper for the proper execution of the work whether original altered or substituted and whether included in the specification or other documents forming Part of the contract or referred to in these conditions or not or which may be necessary for the purpose of satisfying or complying with the requirement of the Engineer-in-charge as to any matter as to which under this conditions he is entitled to be satisfied which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out work and counting, weighing and assisting in the measurement of examination at any time and from time to time the work or materials, failing him so doing the same may be provided by the Engineer-in-charge at the expenses of the contractor and the expenses may be deducted from any money due to the contractor under the contract or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof. The contractor shall also provide all necessary fencing and lights required to protect the public from accident and shall be bound to bear the expenses of defence to every suit, action or other proceeding at law that may be brought by any persons for injury sustained owing to the above precautions, and to pay any damages and cost which may be awarded in any such suit action or proceeding to any such person or which may with the consent of the contractor be paid to compromise any claim by any such person.
- Contractor to supply plants, ladders, scaffolding etc.**
- Clause - 17** No female labour shall be employed within the limits of a cantonment. The contractor shall not employ for the purpose of this contract any labour below the age of legal employment as per Government norm, and shall pay to each labour; for the work done by such labour, wages not less than the wage paid for similar work in the neighborhood.

Explanation : Fair wages means wages whether for time or piece work prescribed by State P.W.D. provided that where high rates have been prescribed under the minimum wages Act 1948 wages at such higher rates would constitute "Fair wages" [W/D No.22059 dated 16.8.77.

The Executive Engineer shall have the right to enquire into and decide any complaints alleging that the wages paid by the contractor to any labourer for the work done by such labourer is less than the wages paid for similar work in the neighborhood.

The officer in charge of the work shall have the right to decide whether labourer employed by the contractor is below the age of legal employment as per Government norm and to refuse to allow any labourer whom he decides to be below that age.

Clause-17(a) The contractor shall, if so required by the Engineer-in-charge employ one more Engineering Graduate or Diploma holder as apprentices at his own cost if the cost of work as shown in the tender exceeds Rs.2,50,000/- The apprentices will be selected by the Chief Engineer. The period of employment will commence within one month after the date of work order and would last till the date when 90% of work is completed. The stipend to be paid to the apprentices should not be less than Rs.200/- per day in case of graduate Engineers and not less than Rs.150/- per day in case of Diploma holders. The number of apprentices to be employed should be fixed by the Chief Engineer in a manner so that total expenditure does not exceed 1% of the tender cost of the work.

Clause-17 (b) Special class Contractor shall employ under him one Graduate Engineer and Two Diploma Holders belonging to the State of Odisha. Likewise 'A' class contractor shall employ under him one Graduate Engineer or Two Diploma holders under the contractor shall be full time & continuous and they should not be superannuated, retired, dismissed or removed personnel from any State Govt, or Central Govt, service/public Sector undertakings, private companies and firms or be ineligible for appointment to Government service. The contractor shall pay them monthly emoluments which shall not be less than the emoluments of the personnel of equivalent qualification employed under the State Government of Odisha. The Chief Engineer, Roads Odisha may however, assist the contractor with names of such unemployed Graduate Engineer and Diploma holders if such help is sought for by the contractor. The names of such Engineering personnel appointed by the contractor should be intimated to the tender receiving authority along with the tender. Each bill of the Special Class or 'A' class contractor shall be accompanied by an employment Roll of the Engineering personnel together with a certificate of the Graduate Engineer or Diploma holder is employed by the contractor to the effect that the work executed as per the bill has been supervised by him.

Employment of Graduate Engineers & Diploma Holders

Clause - 18 The contract shall not be assigned or sublet without the written approval of the Engineer-in-charge and if the contractor shall assign or sublet his contract or attempt so to do, or become insolvent or commence any insolvency proceedings or make any composition with

Work not to be sublet.

his creditor or attempt so to do, or if any bribe, gratuity, gift loan, perquisite reward or advantage pecuniary otherwise shall either directly or indirectly be given,

promised or offered by the contractor or any of his servants to agents to any public officer or person in the employ of Government in any way relating to his office of employment or if any such officer or person shall become in any way directly or indirectly in the contract, the Executive Engineer may thereupon by notice in writing rescind the contract and the security deposit of the contractor shall there upon stand forfeited and be absolutely at disposal of Government and the same consequences shall ensure as if the contract had been rescinded under clause 3 hereof and in addition the contractor,

Contractor may be rescinded and security deposit forfeited subletting bribing or if contractor become insolvent

shall not be entitled to recover or be paid for any work therefore actually performed under the contract.

Clause - 19 All sums payable by way of compensation under any of | Sum payable by way of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

Sum payable by way of compensation to be considered as reasonable compensation without reference to actual loss

Clause-20 In the case of a tender by partners any changes in the constitution of the firm shall be forthwith notified by the contractor to the Engineer-in-charge for his information. In case of failure to notify the change in the constitution within fifteen days the Engineer-in-charge may be noticed in writing rescind the contract and the security deposit of the contractor shall there upon stand forfeited and be absolutely at the disposal of Government and the same consequences shall ensure as if the contract had been rescinded under clause 3 hereof and in addition the contractor shall not be entitled to recover or be paid for any works therefore actually performed under the contract.

Changes in constitution of firm

Clause - 21 All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects by Superintending Engineer of the circle for the time being who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

Clause-22 DELETED

Clause - 23 When the estimate on which a tender is made includes lump sums in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-charge capable of measurement, the Engineer-in-charge may by his discretion pay the lump sum amounts entered in the estimate, and the certificate in writing of the Engineer-in-charge shall be final and conclusive against the contractor with regard to any sums payable to him under the provisions of this clause.

Lump sums in estimates

Clause - 24 In the case of any class of work for which there is no such specification as is mentioned in rule, such work shall be carried out in accordance with the circle specification and in the event of there being no circle specification, then in such case the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-charge.

Action where no specification

Clause - 25 The expression 'work' or 'works' where used in these conditions, shall unless there be something either in the subject or context repugnant to such construction be construed & taken to mean the works by or by virtue of contract to be executed whether temporary or permanent, and whether original altered, substituted, or additional.

Definition of works

Clause - 26 Government shall be entitled to recover in full from the contractor any amount that the Government may be liable to pay under workmen compensation Act. VIII of 1923, to any workmen employed in course of execution of any part of the work covered by this contract.

Clause - 27 That for the purpose of jurisdiction in the event of dispute if any, the contract should be deemed to have been entered into within the State of Odisha and it is agreed that neither party to the contractor agreement will be competent to bring a suit in regard to the matters covered by this contract at any place outside the State of Odisha.

Clause - 28 The Department will have the right to inspect the scaffolding and centering made for the work and can reject partly or fully such structure if found defective in their opinion.

Clause-29 sanitary arrangements will be made by the contractor at his own cost for his labour camp.

Clause - 30 The contractor shall bear all taxes including sales tax, income tax, royalty, fair weather charges and tollage, where necessary.

Clause - 31 Contract price shall be adjusted for increase or decrease in rates and price of labour, cement, steel, bitumen, pipes, POL and other material component in accordance with the following principles and procedure as per formula given below.

31 (a) (i) REIMBURSEMENT / RECOVERY DUE TO VARIATION IN PRICES OF MATERIALS OTHER THAN (STEEL, CEMENT, BITUMEN, PIPES AND POL)

If during the progress of the work the price of any materials (Excluding the cost of steel, cement, bitumen and POL) incorporated in the work (not being material supplied from the Engineer-in-Charges store) in accordance with clause thereof increases or decreases as a result of increase or decrease in the average wholesale price index (all commodities), and the contractor there upon necessarily and properly pays in respect of that materials incorporated in the work such increased or decreased price, then he shall be entitled to reimbursement or liable to refund quarterly as the case may be, such an amount, as shall be equivalent to the plus or minus difference of 85% in between the Average wholesale price index (all commodities) which is operating for the quarter under consideration and that operated for the quarter in which the bid was received (last date of receipt) as per the formula indicated below provided that the work has been carried out within the stipulated time or extension thereof as are not attributable to him. If penalty is levied for delayed completion of the work, the contractor shall not be eligible to get price escalation on the above materials on the value of works executed during the extended period.

This clause will be applicable to the contracts where original stipulated period of completion is more than 18 months.

In this situation where the period of completion is initially stipulated in the agreement as less than 18 (eighteen) months but subsequently the completion period has been validly extended on the ground that the delay in completion is not attributable to the contractor and in the result the total period including the extended period stands more than 18 (eighteen) months or more, price escalation for other materials is admissible only for the remaining period excluding 18 (eighteen) months there from.

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Formula to calculate the increase or decrease in the price of materials:

Price adjustment for increase or decrease in cost of materials other than cement, steel, bitumen, pipe and POL procured by the contractor shall be paid in accordance with the following formula

$$V_m = 0.85 \times P_m / 100 \times R \times (M_1 - M_0) / M_0$$

V_m = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates of materials other than cement, steel, bitumen, pipes and POL.

R = Value of work done during the quarter under consideration excluding the work executed under extra items, if any, at prevailing schedule of rate / derived rates.

M_0 = The all India wholesale price index (all commodities) prevailed during the quarter of receipt of bids (as published by the Economic Advisor to Govt, of India, Ministry of Industry and Commerce, New Delhi).

M_1 = The all India wholesale price index (all commodities) for the quarter under consideration published by Economic Advisor to Govt, of India, Ministry of Industry and Commerce, New Delhi. In respect of the justified period extended for completion of the work, the index prevailing at the time of stipulated date of completion or the prevailing index of the period under consideration, whichever is less shall be considered.

P_m = Percentage of material component (other than cement, steel, bitumen, pipes and POL) of the work as indicated in clause - 31 (d) below.

31 (a)(ii): REIMBURSEMENT/RECOVERY OF DIFFERENTIAL COST DUE TO VARIATION IN PRICES OF PRINCIPAL MATERIALS (STEEL CEMENT, BITUMEN AND PIPES NOT ISSUED BY DEPARTMENT) AFTER SUBMISSION OF TENDER;

If after submission of the tender, the prices of Steel, Cement, Bitumen and Pipes (not being supplied by the Department) increases/decreases beyond the price(s) prevailing at the time of the last date for submission of tenders including extension for the work, the contractor shall be eligible to get differential cost due to such hike on the value of work executed during the stipulated period and during the extended period when the reason of delay in completion of the work is not attributable to the Contractor. If penalty is levied for delayed completion of the work. The contractor shall not be eligible to get price variation on the above materials on the value of works executed during the extended period.

Reimbursement in case of differential cost due to increase in prices of cement, steel, bitumen and pipes are to be made by the Executive Engineer with prior approval of tender accepting authority subject to following conditions.

1 Contractors have to submit the vouchers showing procurement of different materials from authorized dealers for the said work.

2 Differential cost will be allowed only for the works which are progressed as per the approved work programme / revised work programme duly approved by the Engineer in charge.

Recovery in case of decrease in prices of cement, steel, bitumen and pipes shall be made by concerned Executive Engineer from the Contractor immediately.

The increase/decrease in prices of cement, steel, bitumen and pipes for reimbursement/recovery shall be determined as follow.

a) Adjustment towards differential cost of cement.

$V_c = (C_1 - C_0) / C_0 \times$ Actual quantity of cement utilized in the work during the quarter under consideration x base price of cement as prevailing on the last stipulated date of receipt of tender including extension, if any.

V_c = Differential cost of cement i.e amount of increase or decrease in rupees to be paid or recovered.

31 (b): REIMBURSEMENT/REFUND DUE TO STATUTORY RISE IN COST WAGES BY GOVERNMENT :

If after submission of the tender, the wages of labour increases or decreases as a result of the coming into force of any fresh law or statutory rule or order beyond the wages prevailing at the time of the last date of submission of tenders including extensions, the contractor shall be eligible to get escalation due to such hike on the value of work executed during the stipulated period and during the validly extended period when the delay in completion is not attributable to the Contractor. If penalty is levied for delayed completion of the work, the contractor shall not be eligible to get escalation on labour on the value of works executed during the extended period.

The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such wages of labour give notice thereof to the Engineer-in-charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in a position to supply. Engineer-in-charge may call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of wages and actual payment thereof. For this purpose, the labour component of the work executed during period under consideration shall be the percentage (as specified in table below) of the value of work done during that period and the increase/decrease in labour shall be considered on the cost of minimum daily wages of any unskilled labourer, fixed by the Government of Odisha under Minimum wages act. **The compensation for escalation for labour shall be worked out as per the formula given below:**

$$V_1 = 0.85 \times P_1 / 100 \times R \times (L_1 - L_0) / L_0$$

V_1 = increase or decrease in the cost of work during the quarter under consideration due to changes in rates of minimum wages.

R = value of work done during the quarter under consideration excluding the work executed under extra items if any at prevailing schedule of rate/derived rates.

L_0 = the minimum wages for labour as notified by State Government, as prevailing on the last stipulated date of receipt of tender including extension, if any.

L_1 = the minimum wages for labour as notified by State Government & as prevailed on the last date of the quarter previous to the one under consideration. In respect of the justified period extended, the minimum wage prevailing on the last date of quarter previous to the quarter pertaining to stipulated date of completion or the minimum wage prevailing on the last date of the quarter previous to the one under consideration, whichever is less shall be considered).

P_1 = Percentage of labour component of the work, as indicated in the clause 31(d).

C_i = All India wholesale price index for cement for the quarter under consideration published by Economic Advisor, Govt, of India. Ministry of Industry and Commerce, New Delhi. All India Wholesale price index (as published by Economic Adviser, Govt, of India Ministry of Industry and Commerce, New Delhi) for cement as prevailing on the last stipulated date of receipt of tender.

b) Adjustment towards differential cost of steel.

V_s = $(S_i - S_0) \times$ Actual quantity of steel utilized in the work during the quarter under consideration.

V_s = Differential cost of Steel i.e. amount of increase or decrease in rupees to be paid or recovered. Cost of the Steel prevailed during the period under consideration as fixed by Steel Authority of India.

S_0 = Base price of Steel prevailing as on the last date of submission of tender including extension, if any.

(C) Adjustment towards differential cost of Bitumen.

V_b = $(B_i - B_0) \times$ Actual quantity of Bitumen utilized in the work during the quarter under consideration. Different cost of Bitumen i.e. amount of increase or decrease in rupees to be paid or recovered. Average cost of Bitumen prevailed during the period under consideration as fixed by IOCL/BPCL/HPCL.

B_i = Base price of bitumen as prevailing on the last stipulated date of receipt of tender including extension, if any.

c) Adjustment towards differential cost of Pipes.

d)

V_p = $0.85 \times P_p / 100 \times R (P_1 P_0) / P_0$

V_p = Differential cost of pipe i.e. amount of increase or decrease in rupees to be paid or recovered during the quarter under consideration.

V_p = Percentage of pipe component of the work as indicated in the clause 31(d).

P_p = Value of work done during the quarter under consideration excluding the value of work executed under extra items, if any, at prevailing schedule of rates or derived rate.

P_i = All India Wholesale price index for the period under consideration as published by Economic Advisor, Govt, of India .Ministry of Industry and Commerce, New Delhi, for the type of pipe under consideration.

P_0 = All India Wholesale price index (as published by Economic Advisor, Govt, of India, Ministry of Industry and Commerce, New Delhi) as on the last stipulated date of receipt of tender including extension, if any, for the type of pipe under consideration.

31(c): REIMBURSEMENT/REFUND DUE TO VARIATION IN PRICES OF P.O.L.

Similarly, if during the progress of work the prices of Diesel, Petrol, Oil and Lubricants increases or decreases as a result of the price fixed thereof by the Government of India and the Contractor thereupon necessarily and properly pay such increased or decreased price towards Diesel, Petrol, Oil and Lubricants used in the execution of the work, then he shall be entitled to reimbursement or liable to refund, quarterly, as the case may be such an amount as shall be equivalent to the plus or minus difference of 85% in between the price of P.O.L. which is operating for the quarter under consideration and that operated for the quarter of last date of receipt of bids as per the formula indicated below provided that the work has been carried out within the stipulated time or extension thereof as are not attributable to him. If penalty is levied for delayed completion of the work, the contractor shall not be eligible to get price escalation on P.O.L. on the value of works executed during the extended period.

Formula to calculate the increase or decrease in the price of P.O.L.

V_1 = $0.85 \times P_i / 100 \times R \times (F_1 - F_0) / F_0$

V_1 = Increase or decrease in the cost of work during the quarter under consideration due to changes in rates for P.O.L.

P_1 = Percentage of P.O.L component of the work, as indicated in clause -31 (d) below.

R = $0.85 \times P_1 / 100 \times R \times (F_1 - F_0) / F_0$

F_1 = All India Wholesale price index for Fuel, Oil & Lubricant (High Speed Diesel) for the quarter under consideration as published by Economic Adviser, Govt, of India, Ministry of Industry and Commerce, New Delhi, in respect of the justified period extended, the rate prevailing at the time of stipulated date of completion or the prevailing rates of the period under consideration whichever is less, shall be considered.

$F_0 =$ All India Wholesale price index for Fuel, Oil & Lubricant (High Speed Diesel) as prevailing on the last stipulated date of receipt of tender including extension if any.

31(d) The following percentages will govern the price adjustment for the entire contract different types of works as applicable given in the following table:

Percentage Table					
Sl. NO	Category of Works	% Component (costwise)			
1		Labour POL		Steel + Cement + Bitumen + Other Materials*	
		(P ₁)	(P ₂)		
2.	R & B works (% of component)	Road works	5	5	90
		Bridge Works	25	5	70
		Building Works	25	-	75
		Structural Work	20	5	75
3.	Irrigation works (% of component)	Earth, Canal & Embankment work	25	10	65
		Structural work	25	5	70
3.	P.H. Work	Pipeline work	5	-	<u>Pipe - 70%</u> * Other material -25%
		Sewer Line	10	-	<u>Pipe - 70%</u> * Other material -20%

Note: - Further break up may be worked out considering the consumption of Cement, Steel, Bitumen and pipe in the concerned works for the period under consideration.

31(e) APPLICATION OF ESCALATION CLAUSE:

(i) The contractor shall for the purpose of availing reimbursement / refund of differential cost of steel, bitumen, cement, pipe, POL and wages, keep such books of account and other documents as are necessary to show that the amount of increase claimed or reduction available and shall allow inspection of the same by a duly authorized representative of Government and further, shall at the request of the Engineer-in-Charge, furnish documents to be verified in such a manner as the Engineer-in-Charge may require any document and information kept. The contractor shall within a reasonable time of 15 days of his becoming aware of any alteration in the price of such material, wages of labour and/or price of P.O.L give notice thereof to the Engineer-in-Charge stating that the same is given pursuant to this condition along with information relating thereto which he may be in a position to supply. (ii) The compensation for escalations shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the three calendar months of the said quarter. The first such payments shall be made at the end of three months after the month (excluding the month in which tender was accepted) and thereafter at three months interval. At the time of completion of the work, the last period for payment might become less than 3 months, depending on the actual date of completion.

Clause-32 After the work is finished all surplus material and debris are to be removed by the contractor and preliminary works such as vats, mixing platforms etc. are to be dismantled and all materials removed from site. The ground up to 100'-0" wide from the building should be cleared and addressed.

FAIR WAGE CLAUSE

Clause - 33(a) The contractor shall pay not less than fair wage to labourers engaged by him on the work.

Explanation: "Fair wages" means wages, whether for time or price work prescribed by the State Public works Department provided that where higher rates have been prescribed under the Minimum Wages Act, 1948 wages at such higher rates would constitute "Fair wages" (W.D. No.22059 dt.16.8.77)

- (b) The contractor shall, not with standing the provisions of any contract to contrary cause to be paid a fair wage to labourers indirectly engaged on the work including any labour engaged by his subcontractors in connection with the said work, as if the labours had been immediately employed by him.
- (c) In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this agreement, the contractor shall comply with or cause to be complied with all regulation made by Government in regard to payment of wages, wage period deductions from wages, recovery of wages

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not paid and deductions unauthorisedly made, maintenance of wages register, wage cards, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of a like nature.

- (d) The Executive Engineer or Sub-Divisional Officer concerned shall have the right to deduct, from the money due to contractor, any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non fulfillment of the conditions of the contract for the benefit of workers non payment of wages or of deductions made from his or their wages, which are not justified by their terms of the contract" or non-observance of the regulations, money so deducted should be transferred to the workers concerned.
- (e) Vis-a-vis the Government of Odisha, the contractor shall be primarily liable for all payments to be made under and for the observance of the regulations aforesaid without prejudice to his right to claim indemnity from his subcontractor.
- (f) The regulations aforesaid shall be deemed to be part of this contract and any breach there of shall be breach of this contract.
- (g) Under the provision of the Minimum Wages Act, 1948 & minimum wages (Central Rules, 1950) the contractor is bound to allow or cause, to allow to the labourers directly or indirectly employed in the works one day rest for six days continuous work and pay wages at the same rate as for duty, in the event of default. The Executive Engineer or Sub-Divisional Officer concerned shall have the right to deduct the sum not paid on account of wages for weekly holiday to labourers and pay the same to the persons entitled there to from any money due to the contractor.
- (h) The contractor shall at his own expense provide or arrange for the provision of foot wear for any labour, doing cement mixing work and black topping of roads (The contractor has undertaken to execute under this contract) to the satisfaction of the Engineer-in-charge and on his failure to do so Government shall be entitled to provide the same and recover the cost from the contractor.
- (i) The contractor shall submit by the 4, 10th of every month, to the Engineer-in-charge a true statement showing in respect of the Second half of the preceding month and the first half to the current month respectively (1) the number of labour employed by him on the work (2) their working hours (3) the wages paid to them (4) the accident that occurred during the said fortnight showing the circumstances under which they happened and the content of damage and injure caused by them and (5) the number of female workers who have been allowed maternity benefit according to the clause [K] and the amount paid to the Government as a sum not exceeding Rs.70.00 for each default of materialy incorrect statement. The amount levied as fine decision of the Executive Engineer shall be final in deducting from any bill due to contractor.
- (j) In respect of all labour directly employed in the works for the performance of the contractor's part of this agreement, the contractor shall comply with a cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangement for workers employed by the Odisha Public Works Department and its contractor. This will apply to work places having 50 or more workers.
- (k) Maternity benefit rules for female worker employed by contractor, Leave and pay during leave shall be regulated as follows.

1-Leave: (i) **In case of Delivery:** Maternity leave not exceeding 8 weeks, 4 weeks up to including the day of delivery or 4 in weeks following that day.

(ii) **In case of Miscarriage :** Up to 3 weeks from the date of miscarriage.

2. Pay (i) **In case of Delivery :** Leave pay during maternity leave will be at the rate of women's average daily earnings calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of which she gives notice that she expects to be confined or at the rate of Rs.70.00 a day which ever is greater.

(ii) **In case of Miscarriage :** Leave pay at the rate of average daily earnings calculated on the total wages earned on the days when full time work was done during a period 3 months immediately preceding the date of such miscarriage,

Conditions of grant of Maternity Leave: No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period not less than 6 months immediately preceding the date on which she proceeds on leave.

**MODEL RULES FOR HEALTH & SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY
ODISHA P.W.D. OR ITS CONTRACTORS**

1. **Application:** These rules shall apply to all construction work in charge of Odisha Public Works Department which is expected to continue for a year or more.
2. **Definitions:**
 - (i) "Work Place" means a place at which an average of fifty or more workers are employed in connection with construction work
 - (ii) Large work place means a place at which an average of 500 or more workers are employed in connection with construction work.
3. **First Aid:**
 - (a) At every work place there shall be maintained in a readily accessible place first aid appliances including an adequate supply of sterilized dressing and sterilized cotton wool. The appliances shall be kept in good order and in large work places they shall be readily available during working hours.
 - (b) At large work places where hospital facilities are not available within easy distance of the workers, first aid posts shall be established and run by a trained compounder.
 - (c) Where large work places are remote from regular hospitals an indoor ward shall be provided with one bed for every 250 employees.
 - (d) Where large work places are situated in cities towns or in their suburbs and no beds are considered necessary owing to the proximity of city, town hospitals, an ambulance shall be provided to facilitate removal of urgent cases to these hospitals. At the work place some conveyance facilities such as a car shall be kept readily available to take injured persons or person to the nearest hospitals.
4. **Drinking Water:**
 - (a) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of water fit for drinking.
 - (b) Where drinking water is obtained from an intermittent public water supply each work place shall be provided with storage where such drinking water shall be stored.
 - (c) Every water supply of storage shall be at a distance of not less than 50 feet from any latrine, drain or other sources of pollution where water to be drawn from an existing well which is within such proximity of latrine drain or any other sources of pollution the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with tray door which shall be dust and waterproof.
 - (d) A reliable pump shall be fitted to each covered well the tray door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.
 - (e) The temperature of drinking water supplied to workers shall not exceed 90°F.
5. **Washing and Bathing Place:**
 - (i) Adequate washing and bathing places shall be provided separately for men and women.
 - (ii) Such places shall be kept in clean and drained condition
6. **Scale of Accommodation in Latrines and Urinals:-** There shall be provided within the premises of every work place latrines and urinals in an accessible place; and the accommodation, separately for each of them shall not be less than the following.
 - (a) Where the number of persons employed does not exceed 50. No. of seats 1
 - (b) Where the number of persons employed exceeds 50 but does not exceed 100 No. of Seats 3
 - (c) For every additional 100 No. of seats 3 per 100
(in particular cases the Executive Engineers shall have the power to vary the scale where necessary)
7. **Latrine and Urinals for Women:** If women are employees, separate latrines and urinals separate from that for men and marked in the vernacular in conspicuous letter "for women only" shall be provided on the scale laid in rule.

Those for men shall be similarly marked "for men only" A poster showing the figure of a men and women and shall also be exhibited at the entrance of Latrines for each sex. There shall be adequate supply of water close to the urinals and latrines.

8. **Latrines and Urinals** :Except in work places provided with water flushed latrines connected with a water borne sewerage system, all latrines shall be provided with receptable on dry-earthen system which shall be cleaned at least four times daily and at least twice during working hours and kept in a strictly sanitary condition. The receptables shall be tarred inside and out side at least once a year.
9. **Construction of Latrines**: The inside wall shall be constructed of masonry or stone materials and shall be cement washed inside and outside at least once a year. The dates of cement washing shall be noted in register maintained for this purpose, and kept available for inspection.
10. **Disposal of excreta** :Unless otherwise arranged for by the local sanitary authorities arrangements for proper disposal of excreta by incineration at the work places shall be made by means of a suitable incinerator approved by as, Director Of Public Health of Municipal Medical Officer or Health at the case may be, whose jurisdiction the workplace is situated. Alternatively excreta may be disposed off by putting a layer of night soil at the bottom of pucca tank prepared for the purpose and covering it with 6' layer of waste or refuse and then covering it up with a layer of earth for a fortnight (when it will turn in to manure).
11. **Provision of shelters during rest** :At every work place, there shall be provided free of cost two suitable sheds one for females and the other for rest for the use of labourers. The height of the shelter shall be less than 11 feet from the floor level the lowest part of the roof.
12. **Creche** :At every work place at which more than 50 women workers are employed, there shall be provided only one hut for the use of children under the age of 6 year, belonging to such women and shall be used for infant's games and play and their bedroom. The hut shall not be constructed on a lower standard than the following.
 - i) Thatched huts
 - ii) Mud floors and walls.
 - iii) Planks spaced over the mud floor and covered with matting.

The hut shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision for sweepers to keep the place clean. There shall be two dhai in attendance. Sanitary utensil shall be provided to the satisfaction of the Health Officer of the area concerned. The use of the hut shall be restricted to Children, their attendants and mothers of the children.

 - b) Where the number of women workers is more than 50 the contractor shall provide one hut and Dhai to look after the Children of women workers.
 - c) The size of creche shall vary according to the number of women workers.
 - d) The creche shall be properly maintained and necessary equipments like toy setc. Shall be provided.
13. **Canteen**: A cooked food Canteen: - on a moderate scale shall be provided for the benefit of workers whenever it is considered expedient.

CONTRACTOR'S LABOUR REGULATIONS

1. **Short title** : - These regulations may be called "The Odisha Public Works Department / Electricity Department Contractor's Regulations".
2. **Definition**: In these Regulations, unless otherwise expressed or indicated the following words and expressions shall have the meaning hereby assigned to them respectively, that is say, "Labour" mean workers employed by a contractor for"

directly or indirectly through a sub-contractor or other person, by an agent on his behalf.

 - (a) Fair wages means wages whether for time or piece work prescribed by the **Nayagarh Irrigation Division, Nayagarh** provided that where high rates have been prescribed under the minimum wages Act 1948 wages at such higher rates would constitute fair wages (W.D. No.22059 dt, 16.8.77)
 - (c) "Contractor" shall include every person whether a sub-contractor or headman or agent employing labour on the work taken on contract.
 - (d) "Wages" shall have the same meaning as defined in the payment of wages Act. And include time and piece rate wages if any.

3. Display of notices regarding ways, etc.:-

The contractor shall:-

- (a) Before he commences his work on contract display, and correctly maintain and continue to display and correctly maintain, in a clean and legible condition in a conspicuous place on the work, notice in English and in the local Indian languages spoken by the majority of the workers giving the rate of wage prescribed by State Public Works Department/ Nayagarh Irrigation Division, Nayagarh for the district in which the work is done.
- (b) Send a copy of such notices to Engineer-in-charge of the work.

4. Payment of Wages:-

- (a) Wages due to every worker shall be paid to him direct.
- (b) All wage shall have to be paid in cash in current coin or currency or in both.

5. Fixation of wages periods :-

- (a) The contractor shall fix the wage period in respect of which the wages be payable.
- (b) No wage period shall exceed one month.
- (c) Wage of every workman employed on the contract shall be paid before the expiry of ten days, after the last day, of the wage period in respect of which the wages are payable.
- (d) When the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the days succeeding the one on which his employment is terminated.
- (e) All payment of wages shall be made on a working days

6. Wage book and wage card etc.

- 1) The contractor shall maintain a wage book of each worker in such forms as may be convenient, but the same shall include the following particulars:-
 - a) Rate of daily or monthly wages.
 - b) Nature of work on which employed.
 - c) Total number of days worked during each wage period.
 - d) Total amount payable for the work during each wage period.
 - e) All deductions made from the wages with an indication in each of the ground for which the deduction is made.
 - f) Wage actually paid for each wage period.
- 2) The contractor shall also maintain a wage card for each worker employed on the work.
- 3) The Executive Engineer may grant an exemption from the maintenance of wage bond, wage card to a contractor who, in his opinion may not directly or indirectly employ more than 100 persons on the work

7. Fines and deduction, which may be made from wages.

- 1) The wages of a worker shall be paid to him without any deductions of any kind except the following.
 - a) Fines.
 - b) Deduction for absence from duty, i.e. from the place or places where by terms of his employment he is required to work. The amount of deductions shall be in proportion to the period for which he was absent.
 - c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody or for loss on money for which he is required to account where such damage or loss is directly attributable to his neglect or default.
 - d) Any other deduction which the Odisha Government may from time to time allow.
- 2) No fines shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing a cause against such fines or deduction.
- 3) The total amount of fines which may be imposed in any one wage period on a works shall not exceed a amount equal to Five paise in a rupee of the wages payable to him in respect of that wage period.
- 4) No fine imposed on any worker shall be recovered from him by installments after the expiry of 60 days from the date on which it was imposed.

8. Register of fines, etc.

- 1) The contractor shall maintain a register of fines and of all deduction for damage or loss. Such register shall mention the reason for which fine was imposed or deduction for damage or loss was made.
- 2) The contractor shall maintain a list in English and in the local Indian language clearly defining acts and omissions for which penalty or fine can be imposed. It shall display such list and maintain it in a clean and legible condition in conspicuous place on the work.

9. Preservation of register:

The wage register, the wage cards and the register of fines, deduction required to be maintained under these regulations shall be preserved for 12 months after date of the last entry made in them.

10 Powers of Labour Welfare Officers to make investigation or enquiry

The Labour Welfare Officers or any other persons authorized by the Government of Odisha on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the fair wage clauses and the provision of these regulations. He shall investigate into any complaint regarding default made by the contractor, sub contractor in regard to such provisions.

11. Report of Labour Welfare Officers:

The Labour Welfare Officers or others authorized as aforesaid shall submit a report of the results of his investigation of enquiry to the Executive Engineer concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned.

12. Appeal against the decision of Labour Welfare Officers.

Any persons aggrieved by the decision and recommendation of the Labour Welfare Officer or other persons authorized may appeal against such decision to the Labour Commissioner within 30 days from the date of decision forwarding simultaneously a copy of this appeal to the Executive Engineer concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

13. Inspection of registers:

The contractor shall allow inspection of wage book, card to any of his worker or his agent at a convenient time and place after due notice is received, or to the Labour Commissioner or any other person authorized by the Government of Odisha on his behalf.

14. Submission of return:

The contractor shall submit periodical returns as may be specified from time to time.

15. Amendment

The Government of Odisha may from time to time add to or amend these regulations and on any question as to the application, interpretation or effect of the regulations the decision of the Labour Commissioner or any other persons authorized by the Government of Odisha in that behalf shall be final.

Clause 34 Deleted

Clause- 35 Departmental supply of materials

Before issue of Departmental materials to the contractor, he shall furnish Bank Guarantee of any of the Nationalised Bank equal to the cost of materials. The Bank Guarantee shall be valid for the entire period of agreement. The same may be refunded to the contractor only after the materials supplied to him are fully utilized in the works and cost thereof recovered from his bill (s) in full or if the materials are partly utilized in the unutilized materials are returned by him to the Department in full and in good condition and receipt thereof duly acknowledged by the concerned Department Officer. (Works Department OM No. Codes-M-19/92-13653 dt.5.6.93)

Clause - 36 The terms and conditions of the agreements have been read/ explained to me and certify that I/We clearly understand them.

1. ADDENDUM TO CONDITION OF CONTRACT:

The bidder/Tender whose bid has been accepted will be notified of the award by the Engineer-in-Charge prior to expiration of the validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the conditions of contract called the "Letter of Acceptance") will state the sum that the Engineer-in-Charge 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 Price").

The notification of award will constitute the formation of the contract, subject only to the furnishing of a performance security (ISD) and additional performance security in accordance with the provisions of the agreement.

The agreement will incorporate all agreements between the officer inviting the bid/Engineer-in-Charge and the successful bidder. Within 15 days following the notification of award along with the letter of acceptance, the successful bidder will sign the agreement and deliver it to the Engineer-in-Charge. Following documents shall form part of the agreement.

- a) The notice inviting bid, all the documents including additional conditions specifications and drawing, if any, forming the bid as issued at the time of invitation of bid and acceptance thereof together with any correspondence leading thereto & required amount of performance security including additional performance security.
- b) Standard P.W.D. Form F2.

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2. TIME CONTROL

Progress of work and Re-scheduling programme

The Executive Engineer / Engineer-in-Charge shall issue the letter of acceptance to the successful contractor. The issue of the letter of acceptance shall be treated as closure of the bid process and commencement of the contract.

Within 15 days of issue of the letter of acceptance, the contractor shall submit to the Engineer-in-Charge for approval and programme commensurate, to clause no 3 showing the general methods, arrangements, and timing for all the activities in the works along with monthly cash flow forecast.

To ensure good progress during the execution of the work the contractors shall be bound in all cases in which the time allowed for any work exceeds one month to complete, 1/4th of the whole of the work before 1/4th of the whole time allowed under the contract has elapsed, 1/4 of the whole of the work before 1/2 of the whole time allowed under the contract has elapsed, 2/3 of the whole of the work before 3/4 of the whole time allowed under the contract has elapsed.

If at any time it should appear to the Engineer-in-Charge that the actual progress of the works does not conform to the programme to which consent has been given, the contractor shall produce, at the request of such programme necessary to ensure completion of the works within the time for completion. If the contractor does not submit an updated programme within this period, the Engineer-in-Charge may withhold the amount of 1% of the contract value from the next payment certificate and continue to withhold this amount until the next payment after the date on which the over due programme has been submitted.

An update of the programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.

The Engineer-in-Charge's approval of the programme shall not alter the contractor's obligations. The contractor may revise the programme and submit it to the Engineer-in-Charge again at any time. A revised programme is to show the effect of variations and compensation events.

Extension of the completion date.

The time allowed for execution of the work as specified in the contract data shall be the essence of the contract. The execution of the work shall commence from the 15th Day or such time period as mentioned in letter of award after the date on which the Engineer-in-Charge issues written order to commence the work or from the date of handing over of the site whichever is later. If the contractor commits default in commencing the execution of the work as aforesaid, Government shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money and performance guarantee / security deposit absolutely.

As soon as possible after the contract is concluded the contractor shall submit a Time & Progress Chart for each milestone and get it approved by the Department. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works, it shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the contract documents and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per milestone given in Clause - 2.1.3 above.

In case of delay occurred due to any of the reasons mentioned below, the contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

For

- i. Abnormally bad weather, or
- ii. Serious loss or damage by fire, or
- iii. Civil commotion, local commotion of workmen, strike or lockout, box officers any of the head employed on the work, or
- iv. Delay on the part of other contractors or tradesmen engaged by Engineer-in-Chief, in executing work not forming part of the contract.
- v. In case of variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the contractor to incur additional cost, or.
- vi. Any other cause, which in the absolute discretion of the authority mentioned, in contract data is beyond the contractor's control.

Request for re-schedule and extension of time, to be eligible for consideration shall be made by the contractor in writing fourteen days of the happening of the event causing delay. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

In any such case a fair and reasonable extension of time for completion of work may be given. Such extensions shall be communicated to the Contractor by the Engineer-in-Charge in writing. Within 3 months of the date of receipt of such request, Non-application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in-Charge and this shall be binding on the contractor.

Compensation for delay.

If the contractor fails to maintain the required progress in terms of clause 2 or to complete the work and clear the site on or before the contract or extended date of completion he shall without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Superintending Engineer (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that

specified in Clause 2 or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified. Compensation @ 1.5% per month or for delay of work, delay to be computed on per day basis. The existing relevant provision in the original documents shall stand modified accordingly. Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or to the Tendered Value of the item or group of items of work for which a separate period of completion is originally given. The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case the contractor does not achieve a particular milestone mentioned in Cl 2 (a) of F2 contract. The amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of extension of time. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the Contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s) amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest whatsoever, shall be payable on such withheld amount.

Management Meetings

Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

- 2.4.2. The Engineer shall record the business of management meetings and to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for a decision to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

SECTION – 5

TECHNICAL SPECIFICATION

1.0. GENERAL SPECIFICATION

The enclosed drawing in the bid document gives broad dimensions and outline of the works to be executed through this contract. These drawings may however be revised/modified from time to time and supplementary additional drawing may also be issued as per necessity. During the course of execution there may be changes in dimension, specifications and shape of components. These changes in the drawing can be done without in any way deviating the terms of the contract and the contractor is to execute the work as per revised drawings and specifications at the same rate as agreed upon for the work awarded under the original contract. The contractor shall do no work without proper drawings. He shall check all drawings and specifications carefully and advise the Engineer-in-charge if any error or omission is discovered whereupon the Executive Engineer will prepare revised additional drawings and specifications and may be required to suit the stage of the work.

Where the drawings are not consistent with the text of the specifications, the text shall govern.

The rates shall be for finished items of works as per description in the schedule of quantities and according to drawings, specification and conditions of the contract. The rates quoted shall be for execution of finished items of work & the specifications of which confirm to the details furnished in the Agreement and provisions in Bureau of Indian Standards and shall include all general and incidental charges which will not be paid separately. Such general and incidental charges are listed in succeeding Para for the convenience of the tenderers but are not exhaustive. Omission of any such items here in but required for delivering finished items of work, shall not be plea, that such items are not covered by the rates quoted.

Formation and maintenance of haul roads including river and drainage crossings within the work site. The existing approaches and haul roads, if any, under the control of the Department may be made use of but improvement, if required, shall be done by the contractor at his own cost.

Labour and material required for the construction of reference points, bench marks, pillars, diversions, signboards, road signals etc. for setting out works shall be at contractor's cost.

Scaffolding and gangways as and when required for the work will be done by the contractor at his own cost. No additional payment in this regard, will be entertained.

The rate includes all leads, lifts & delifts.

Form work complete includes cost of materials, labour, maintenance, erection dismantling and removal.

Construction of coffer dam, dewatering of any water that may accumulate in the areas required for carrying out the items under schedule of quantities includes the initial dewatering of the pond formed after the formation of coffer dam or any type of cross bund and all seepage that may accumulate in the area before or during construction.

Protection of the components of work during the rainy season & khariff irrigation supply shall be the responsibility of the contractor. The responsibility for the safety of the structure rests, entirely on the contractor and any damages that may occur, has to be made good by the contractor at his own cost.

The sequence of construction adopted by the contractor shall have to be approved by the Engineer-in-Charge.

The contractor has to make his own design for coffer dam or any type of cross bund required during course of execution.

All materials for the coffer dam of cross bund shall be arranged by the contractor at his cost. The contractor shall maintain the coffer dam/cross bund till completion of the work.

QUALITY CONTROL:

Before collecting materials required for execution of the respective items of works as laid down in the schedule of quantities and in the detailed specifications described hereafter in the subsequent sections, the contractor shall ensure that samples of materials proposed to be used are first approved by the Engineer-in-Charge. When directed the samples of materials proposed to be used should be furnished to the Departmental laboratory i.e. Quality Control Division, Bhubaneswar.

All such testing charges shall be borne by the contractor. The contractor will provide necessary assistance if required for collection of samples.

The contractor is liable to pay for any test which is not included in the agreement but required in the opinion of the Engineer-in-Charge during execution of the work for which no additional payment will be made to the contractor.

On the basis of satisfactory test results confirming to technical specification, collection of materials shall be started in the field. The testing of materials shall be checked in the field Laboratory by the Junior Engineer/Assistant Engineer of the Department as well as staff of A.R.O./Executive Engineer of Quality Control Division, Bhubaneswar. If the field test result is found unsatisfactory, the materials shall be rejected and action taken to remove them from work site by the contractor at his own cost. In no case the defective materials shall be used in the work.

On receipt of notice from the Engineer-in-charge and on observation of Executive Engineer of Quality Control Division, Bhubaneswar, the contractor will rectify the defect in stipulated period at his own cost. If the defects are not rectified in the stipulated period, the Engineer-in-charge shall assess the cost, get the defect rectified and recover the same from the dues of the contractor.

A quarry chart indicating possible source of materials may be seen in the office of the Executive Engineer, Nayagarh Irrigation Division, Nayagarh. The contractor must however satisfy himself that material as per required specifications and quantity are available in those quarries. No extra payment will be made due to non-availability of materials as per required specification and quantity in the quarries shown in the departmental quarry chart. The quarry chart is only an indication of source of material and the department does not accept the responsibility if the materials are not available in full quantity and quality.

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No claim for carriages of water whatsoever will be entertained. Decision regarding usefulness of excavated materials rests fully on the Engineer-in-Charge. However, he may take advice of Quality Control Organisation or higher authorities if required.

SETTING OUT OF WORK

Temporary benchmark shall be fixed at every 0.5 Km interval connecting permanent benchmarks available near major structure site. The Contractor shall establish additional reference Bench Marks as may be needed at his own cost for facilitation of the setting out and taking levels for measurement of work, with the approval of the Engineer-in-charge. The Bench Mark shall be marked on a concrete pillar 30cm.(L)x30cm.(b)x75cm.(d) which shall be embedded 55 cm into firm ground and projecting 20cm. above the ground. The Bench Mark pillar shall be constructed in plain cement concrete of M-10. The pillar shall be well protected from being disturbed. The RL of bench mark shall be conspicuously carved and painted on the pillar.

Before starting any work and during execution (if required), the contractor shall erect reference Bench Marks, reference lines and check profiles at convenient locations as per the direction of the Engineer-in-Charge. The center line of the canal/embankment and the reference line for all alignments for demarcation purpose shall be laid by dug-belling on the ground.

Centre line of the canal/embankment shall be marked at 30M. intervals. Profiles of canal/ embankment in filling and in moderate cutting shall be marked at 50M. intervals in straight reaches and at 25M. Intervals in curves.

To ensure correctness of execution, the edges of cutting, the outer toe lines of canal/embankment in filling should be marked by fixing pillars or pegs at suitable intervals or by dug-belling.

The check profiles shall be located 15 meter apart or longer as directed by the Engineer-in Charge to serve as a guide for execution on all slopes and steps to the elevations. All important levels and all reference points with respect to bench marks and reference lines shall be fixed and co-related by the contractor as per directions of the Engineer-in-Charge.

The zones of full cutting section, full filling section, partial cutting and filling sections shall be separated by conspicuous demarcation in the field. The curves in canal/embankment alignment shall be marked on the ground by fixing pegs at very closer intervals and joining the peg-point by dug-belling to a suitable depth. The location of different structures indicated in construction drawings shall also be clearly marked on the ground along with the alignment of the canal/embankment. The control structure locations of off-taking canals shall also be clearly demarcated, so that unnecessary excavation or filling at these locations can be avoided. The spoil dumping zones shall clearly be demarcated in the field; these zones should be at least 2m. beyond the location of catch water drains.

To ensure accuracy in execution of cutting, the canal embankment, spoil banks and the structures, their layout shall be given in an appropriate manner with pegs, suitably placed.

CLEARING AND GRUBBING

The portion of the right-of-way where required for construction the work under these specifications shall be cleared of all tree, bushes, rubbish and other objectionable matter. Trees designated by the Engineer-in-charge shall not be cut and shall be protected from injury. Such cleared material shall be disposed off as described in sub-paragraph "C". The clearing operation shall be in accordance with clauses 4.1, 4.1.1., 4.2 and 4.3. of I.S 4701-1982 Indian Code of Practice for earth work in canals.

The areas described or shown on the relevant site plans shall be cleared of all obstructions, loose stones and of all kinds of rubbish. All brushwood shall be cleared and the roots grubbed up. No trees shall be cut down and removed without the instructions of the Engineer-in-Charge.

The products of the clearing shall be stacked in such place and manner as may be ordered by the Engineer-in-charge and the ground shall be left in a perfectly clean condition. All products of the clearing shall be the property of Government and shall be disposed off as per the direction of Engineer-in-charge. All holes or hollows, whether originally existing or produced by digging up roots shall be carefully filled up with earthen and levelled off, as directed.

The disposal of cleared and grubbed material shall be in accordance with clause 4.1.1 of I.S. 4701-1982 code of practice for earthwork on canals. All waste materials to be burnt shall be piled neatly in suitable condition shall be burnt completely to ashes. Piling of waste materials for burning shall be done at such a location and in such a manner as would not cause any fire risk. Necessary precaution shall be taken to prevent spreading of fires to areas beyond the limits of cleared areas.

For the clearance of light jungles, heavy jungle with or without uprooting etc., payment will be made as provided for in the tender documents. Separate payment will not be made for clearing of site and grubbing including disposal of the cleared and grubbed material required under the above para unless and otherwise specified in the contract document. The contractor shall include the cost thereof in the price bid in the bill of quantities of the contract for the relevant finished item of work for which clearing and grubbing as mentioned in the above Para are required. No payment towards removal of small stones and boulders of size less than 0.014 cubic meters will be made, and the rate quoted for excavation will be considered including this item. However, benching will be paid as separate item, per 1(one) running meter of bench at the rate provided for in the tender documents.

USE OF WATER

The Contractor shall procure and apply water all the items of works at his own cost as the same has been included in the price bid in the bill of quantities of the items of work for which the water is used.

DAMAGES BY MONSOON OR FLOOD /CYCLONE

Damages due to rain or flood or have to be made good by the Contractor till the work is handed over to the department. The responsibility for making well to the damages rests with the Contractor. No extra cost 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.

EXECUTIVE ENGINEER

1.7. COMMENCEMENT OF WORK

Before commencement of work, initial levels to indicate existing ground levels shall be taken at . 15m./30m Intervals longitudinally along the canal/embankment alignment. The level points transversely along the cross sections shall be maximum at 5m. Intervals in flat ground and 1.5-2M. in undulating terrain. The cross sections shall be extended beyond the limits of work to a suitable distance and minimum 5M. beyond the toe lines of slopes on both the sides. The intervals stipulated shall be made closer depending on the topography or stipulation made by the Engineer-in-Charge. All initial levels shall be recorded in ink in the level books issued by the Engineer-in-Charge and shall be signed by the Junior Engineer/Assistant Engineer when he records the levels. The Assistant Engineers and Executive Engineers shall exercise checks strictly in accordance with the codal provisions. Actual construction work shall not be allowed to start unless the above formalities are fulfilled. If the work is awarded to any agency, the levels shall be recorded in the presence of the contractor or his authorized agent. The contractor or his authorized agent shall sign each page of the level book/ field book in token of acceptance. These cross sections shall form the basis of all future measurements and payments. Each dimension shall be measured to the nearest 0.01m. Area shall be computed to nearest 0.01 sqm. volume shall be computed to nearest 0.01 cubic m.

1.8 All lead in manual means will mean lead up to 225 m. All lift will mean lift up to 7.5M.

2.0 EARTHWORK

RECONSTRUCTION / REHABILITATION OF EMBANKMENT

The contractor shall execute the work to the lines, grade and section as per drawing and in accordance with the specification and relevant clause/clauses of relevant Bureau of Indian Standard codes unless otherwise specified. Construction of all approaches and haul roads and their maintenances shall be the responsibility of the contractor. The contractor shall ensure good workmanship and quality and shall ensure besides other aspects fulfillment of the following specific requirements to the satisfaction of the Engineer-in-Charge.

To work is to be executed as per design, drawing and specifications and direction of the Engineer-in-charge.

BORROW AREA

Earth shall be used from borrow areas located at a distance of not less than 10h or 30m., whichever is greater, from the toe of the embankment where 'h' is the height of embankment.

Borrow area shall be stripped of top soil and cleared of stumps, roots, bushes, rubbish and other objectionable materials.

Soil of approved quality, to the satisfaction of the Engineer-in-Charge shall be used which shall be free from muck, rubbish, silt and cobbles of size larger than 75mm.

Watering of borrow area shall be done wherever necessary after taking moisture content test. Borrowing of earth is the responsibility of the contractor at his own cost and risk.

PLACEMENT (EARTHWORK)

Contractor shall reconstruct/rehabilitate the embankment to the section and grade level as per drawing supplied to him to full satisfaction of the Engineer-in-Charge.

- ii) All trees, bushes, roots and other vegetation from the base of the embankment shall be removed.
- iii) The base of the portion of the embankment to be rehabilitated shall be stripped to a depth of 20 cm and roots and other vegetation shall be removed. All holes/hollows produced by digging shall be carefully filled up with earth and well rammed.
- iv) The longitudinal slope of the existing damaged embankment shall be cut to the slope not steeper than 1:4 and the surface so prepared shall be scarified and made loose for a depth of 15 cm before laying of soil. Watering of scarified surfaces shall be done. The damaged side slopes of the bank shall be benched in convenient steps of depth not more than 30cm for proper bonding of the freshly laid soil with the old embankment.
- v) The earth fill shall be laid in layers of 15 cm. (canals) to 25 cm (other embankments) in depth in such a way that cobbles, gravels not exceeding 7.5 cm. are well distributed throughout the materials and not nested in any position within or under the embankment. Clods shall be broken to 7.5cm.
- vi) Under no circumstances the embankment shall be widened by material dumped from the top of the existing embankment.
- vii) Adequate quantity of watering is to be done at the junction of the freshly laid soil with the old embankment for proper bonding.
- viii) If initial moisture content in the soil is less than the optimum moisture content, then water shall be sprinkled over the freshly laid layer before compaction.
- ix) Extra earth used for compaction of slopes should be used in the upper layer of embankments. Compaction shall be done with vibratory roller and plate compactor.

Choice of equipment shall be governed by the site conditions, nature of job/space etc. and it shall be got approved from the Engineer-in-Charge.

EMBANKMENT

The thickness of compacted layers shall be restricted to 15cm and shall be compacted so as to achieve dry density of at least 95% under optimum moisture content.

Where road is proposed to be constructed over the embankment the top 0.5m of the embankment shall be considered as the sub grade for the road and shall be compacted to 97% of proctor density. Soil samples shall be taken from each compacted layer to ascertain the degree of compaction. Also moisture content is to be measured from each layer by taking samples. A tolerance of moisture content to the extent of +1% of O.M.C. shall be permitted.

EARTH WORK FOR WIDENING EXISTING EMBANKMENT

When an existing embankment and/or subgrade is to be widened and its slopes are steeper than 1 vertical to 4 horizontal, continuous horizontal benches, each at least 300mm wide shall be cut into the old slope for ensuring adequate bond with the fresh embankment/subgrade material to be added. The materials obtained from cutting of benches could be utilized in the widening of the embankment/subgrade. However, when the existing slope against which the fresh material is to be placed is flatter than 1 vertical to 4 horizontal, the slope surface may only be ploughed or scarified instead of resorting to benching. Where the width of the widened portions is insufficient to permit the use of conventional rollers, compactors shall be carried out with the help of small vibratory rollers / plate compactors / power rammers or any other appropriate equipment approved by the Engineer. End dumping of materials from trucks for widening operations shall be avoided except in difficult circumstances when the extra width is too narrow to permit the movement of any other types of hauling equipment.

SETTLEMENT ALLOWANCE

Earthwork on the embankment shall be compacted mechanically using vibratory roller. In the mechanically compacted earth fill compacted to 95% of proctor density, no settlement allowance shall be provided.

MEASUREMENT AND PAYMENT

The unit prices should include arrangement of borrow area, cost of excavation, loading, transportation, unloading at site, breaking clods, spreading to proper thickness including watering for compaction where necessary. The unit prices shall also include stripping of borrow area, preparation and maintenance of haul road, dressing of side slopes with all other general and incidental operations connected with the work. The payments shall be made on volumetric basis for the quantities of excavation/filling to the required extent. The cross sections shall be taken initially before commencement of work. On completion of excavation final cross sections shall be taken at the same points longitudinally and transversely. This cross section as quantities between initial and final cross sections shall be marked on the initial cross sections shall be worked out as per design section and paid accordingly. Running bill shall only be paid for finished sections of embankment.

EXCAVATION FOR STRUCTURES

GENERAL

Excavation for the foundation of structures shall be to the elevations shown in the drawings or as directed by the Engineer-in-Charge. In so far as practicable the materials removed in excavation for structures shall be used for back filling.

2.3.2. FOUNDATIONS FOR STRUCTURES

All trenches in soil, other than rock or hard compact soil more than 1.5m deep, into which men enter, shall be securely shored and strutted and timbered. All trenches in soil, soft or fissured rock or hard soil exceeding 2m. in depth, into which men enter, shall be securely shored and timbered. Notwithstanding anything said above, it shall be understood that the need for shoring shall receive careful and frequent consideration even in trenches of less than 1.5m or 2m. in depth (as the case may be). When there is doubt as to the safety of the work without shoring, no further excavation or other work shall be continued until adequate shoring is provided. Where the sides of trenches are sloped but not within 1.5m. of the bottom, the vertical sides shall be shored and the shoring shall extend at least 30cm. above the vertical sides. When open spaced sheet piling is used, toe board shall be provided to prevent materials rolling down the slope and falling into the part of the trench with vertical walls. Shoring and timbering shall be carried along with the opening of a trench but when conditions permit protection work, such as sheet piling may be done before the excavation commences. All loose stones, projecting clumps of earth, pockets of materials which might come down on the workers in the trench or any condition which is a hazard, shall be either removed or the excavated sides adequately braced and the trench suitably guarded. On steep slopes, workmen shall not be permitted to work one above the other. The contractor shall prepare the foundations at structure sites by methods which will provide firm foundation for the structures. The bottom and side slopes of common excavation upon or against which the structure is to be placed shall be finished to the prescribed dimensions and the surfaces, so prepared shall be moistened and tamped with suitable tools to form firm foundation upon or against which the structure is to be placed. The contractor shall prepare the foundation of the structures as shown on respective drawings. The horizontal foundation material beneath the required excavation shall be moistened if required and compacted in place. If the Engineer considers it necessary to consolidate the foundation strata by grouting cement slurry, then drilling and grouting or any other foundation treatment shall be done by the contractor as directed by the Engineer and the payment will be as per the general contract document in respect of extra items. Density of the compacted foundation materials and the testing thereof shall be in accordance with relevant I.S. specification. Separate payment will not be made to the contractor for moistening and compacting the foundation of structures. The contractor shall include cost thereof in the prices bid per cubic meter of the item of the bill of quantities for preparation of foundation. When unsuitable material is encountered in the foundation for structure the Engineer-in-Charge will direct additional excavation to remove the unsuitable materials. The additional excavations shall be filled as follows. In excavation in soils, the over excavation shall be filled in by selected bedding material and mechanically compacted by suitable compactors. In excavation in rock it shall be filled by cement concrete M-7.5. No. separate payment for excavation, backfill will be made. Should remains of old buildings and structures are met with, the material shall be removed with wedges and levers. Blasting shall not be allowed, without the permission in writing, of the Engineer. If bad ground or loose soil is met with, the contractor shall be responsible for reporting the fact to the Engineer whose orders as may be necessary. For extra excavation concrete and masonry arising from bed ground, the contractor shall be paid treating this as an additional quantity as per the contract rate of contract documents. All excavated earth, which is unfit for surplus requirements

for filling in shall be spread as instructed by the Engineer at the contractor's expense.

2.3.3. OVEREXCAVATION

If at any point in common excavation the foundation materials is excavated beyond the lines required to receive the structure, or if at any point in common excavation the natural foundation material is disturbed or loosened during the excavation process, it shall be suitably and mechanically compacted in place or where directed, it shall be removed and replaced as follows. In excavation in rock it shall be filled by cement concrete M-7.5. Any and all excess excavation or over excavation performed by the contractor for any purpose or reason except for additional excavation as may be prescribed by the Engineer-in-Charge and whether or not due to the fault of the contractor shall be at the expense of the contractor. Filling for such excess excavation or over excavation shall be at the expense of the contractor.

2.3.4 DISPOSAL OF MATERIALS

All suitable materials removed in excavation or as much thereof as may be needed as directed by the Engineer shall be used in the construction of embankments, and for selected bedding materials or for backfill around structure. If there is an excess of material in the excavation, it shall be used to strengthen the embankment on either side of the Flood protective embankment, deposited in low areas as directed by the Engineer. The disposal of the excavated material shall be in accordance with clauses 8.1 and 8.2 of BIS 4701.

2.3.5. MEASUREMENT AND PAYMENT

Foundation for structure will be measured for payment, for the approved section, of foundation and level. The contractor will have to make his own arrangements for shoring, strutting provisions of adequate slopes for the sides to prevent slips etc. and no separate charge will be paid for any incidental charges arising either during excavation of foundation or construction of the structure. The quantity for payment of excavation in soil and rock shall be arrived at by taking pre-levels and finished levels at respective strata. Block levels will be taken at one meter or less intervals, the levels shall be plotted on a graph sheet and average levels arrived at for the purpose of determining the quantity of excavation. The contractor's signature in token of his acceptance shall be recorded in the cross section sheets. Final payment shall be based on levels only. Payment for excavation for structures shall be made at the unit price per cubic meter bid. The rate for excavation for structures shall include the cost of all labour and materials for coffer dam and other temporary construction, cost of all pumping and dewatering, cost of all other work necessary to maintain the excavation in good order during construction, of removing such temporary construction where required and shall include the cost of disposal of the excavated material.

3.0. RIP RAP & LAUNCHING APRON

GENERAL

The rip rap may be hand placed or dumped by machines. The thickness of the rip rap shall be measured normal to the slope of the embankment.

QUALITY OF RIP RAP STONE

Rip Rap and spall material shall be controlled in quarry for quality, gradation and size. Rip Rap and spalls obtained from rock excavation shall be checked for quality, gradation and size before lifting.

The stone for Rip Rap should be dense, resistant to abrasion and free from cracks, seams, shale partings, conglomerate bonds, calcareous materials and other defects that would tend to increase their susceptibility to destruction by the action of water and weather. The finished Rip Rap should present a reasonably uniform surface free of loose stones.

TEST FOR STONE

Soundness - The rock fragments shall be tested for its soundness as per IS-2386-Part-II. Abrasion - The rock fragments shall be tested for its abrasion as per IS-2386-Part IV. Water absorption test - As per IS-2386.

THICKNESS OF RIP RAP/LAUNCHING APRON

In no case the minimum thickness of hand placed Rip Rap/ Launching apron and dumped rip rap shall be less than 30 cm and 45 cm respectively.

PLACEMENT OF RIP RAP/LAUNCHING APRON Hand

placed Rip Rap

The hand placed rip rap shall consist of one man stone (40 to 45 Kg.) laid on edge starting at the bottom. The stone shall be laid compactly with staggered joints and so matched & interlocked that, they shall be keyed together with minimum of joint space. Then rock fragments and spalls shall be driven by a hammer into interstices to wedge the rip rap in place. The hand placed rip rap shall preferably be laid in one course and the layer thickness is same as the stone size. If two layers of stones are used the header stone extending through both layers and spaced at about 1.5m. Shall be used. In two layers placing the top layer stones shall be larger. Dumped Rip Rap / Launching Aprons

The dumped rip rap/ Launching apron shall consist of boulders or blasted rock fragments. It shall be dumped mechanically on the filter layer either over upstream face from embankment level during raising of embankment or after the embankment has been completed.

MEASUREMENT AND PAYMENT

Thickness of rip rap shall be measured at a number of locations and the payments shall be made towards the average thickness arrived at from the measurements. Payment for rip rap shall be made at the applicable unit price per cubic meter in the bill of quantities for rip rap which unit price shall include the cost of procuring or finishing, hauling and placing the rock for rip rap including the rock spalls.

CRATES

Crates shall be of size 100cm X 100cm X 100cm made out of galvanized iron wire of 10-3WG and stitching with 20-SWG wire tying together with all sides filled with hard stones of not less than 50kg in weight or, 30cm size blocky in shape rather than elongated and more nearly cubical.

MEASUREMENTS AND PAYMENT

Measurement of Crates shall be made in number. The quantity of hard stone will be measured in volume after deducting minimum 1/6th Voids. Payment for crates will be made in numbers and hard stones as cubic meter after deduction of voids at the applicable unit price per cubic meter in the bill of quantities.

ROUGH STONE DRY PACKING

DESCRIPTION OF ITEMS

Rough stone dry packing in aprons and revetments with approved quality of hard granite stones of 30 cm size and above to required shape with all leads, lifts and delifts including cost, carriage, taxes, royalty etc. of stone, labour for preparation of surface for packing, dewatering if required and all other incidental charges etc. complete as per drawing, specifications and direction of the Engineer-in-Charge.

GENERAL:

The pitching materials shall consist of the most durable rock fragments of approved quality selected for the purpose. Stone shall be used from the surplus usable excavated rubble or from the approved quarries, if required and shall be subjected to thorough inspection and approval by the Engineer. The quality of individual stones shall be dense, sound and resistant to abrasion and shall be free from cracks, seams, shale partings, conglomerate, bands and other defects that would tend to increase unduly their susceptibility to destruction by water and weathering action. The shape of individual stones shall be angular. Stone having thickness less than 50% of their maximum dimensions shall not be used for pitching. The compacted embankment, the slope of which is to be protected with stone pitching, shall be trimmed to the lines and slopes as prescribed on the drawings or as directed by the Engineer from time to time. The earth obtained from this trimming shall be laid on top of the embankment if required or as directed by the Engineer. Pitchings shall be hand placed on upstream slope of the canal embankment. The thickness of pitching shall be as indicated on the drawings. The thickness shall be measured normal to the slope of the embankment. Launching apron shall be hand placed in horizontal layers and upstream and downstream of the structures and its thickness shall be as indicated on the drawings. Before laying the pitching/ launching apron on level ground or on sides of the banks, the receiving surface shall be trimmed to the required slopes and profiles put by means of lines and plates at regular intervals. Depressions shall be filled up and thoroughly compacted. Pitching on inverted filter, if any, shall be started from the end and built in courses upwards. Stones shall be placed by derrick or by hand and so placed that the largest dimensions are perpendicular to the face of the slope. The larger stones shall be placed in the bottom course and for use as headers for subsequent courses. All interstices between adjacent stones shall be filled with spalls of proper sizes and wedged in with hammer to ensure tight packing.

TEST FOR STONES

Soundness - The rock fragments shall be tested for its soundness as per IS-2386-Part-II. Abrasion - The rock fragments shall be tested for its abrasion as per IS-2386-Part IV. Water absorption test - As per IS-2386.

MEASUREMENT AND PAYMENT

Measurement for payment will be made on the basis of volumetric measurement of finished stone packing. The unit price per cubic meter in the bill of quantities is inclusive of trimming the earth to required profile, slopes and grade and/ or preparing level at suitable intervals as directed, to have uniform base.

CONCRETE WORKS

GENERAL CONCRETE REQUIREMENTS

Composition

General: - Concrete shall be composed of cement, sand, coarse aggregate, water admixtures (if any) as specified and all well mixed in batching plant by weight or by concrete mixture by volume and brought to the proper consistency. Batching plant shall conform to I.S. Code No. 4925-1968. For works in which water tightness is required the specification in IS 3370-1965

A:-Mixing

Concrete shall be mixed in a mechanical mixer and shall be as dense as possible, plastic enough to consolidate well and stiff enough to stay in place on the slopes.

Mixing shall be continued until there is a uniform mixing of the materials and the concrete is uniform in colour and consistency. The time of mixing shall be as shown in Table 1 of IS 457-1957 reproduced below.

Capacity of Mixer	Minimum Time of Mixing	
	Natural Aggregates	Manufactured Aggregates
All Mixer	2 minutes	2.5 minutes

B. Nominal maximum size of Aggregates

For sizes of aggregates IS 383-1970 shall apply. The coarse aggregate to be used in concrete shall be as large as practicable, consistent with required strength, spacing of reinforcement and embedded items, and placement thickness. The size of the coarse aggregates to be used will be determined by the Engineer-in-Charge and may vary incrementally according to the conditions encountered in each concrete placement. Nominal maximum size of aggregate for concrete in structures and canal lining shall be as indicated in the relevant drawings appended to the contract documents. Smaller coarse aggregate than specified shall be used where in the opinion of the Engineer-in-Charge that proper placement of concrete is impracticable with the size of the aggregate specified in the drawings.

C. Mixproportions

The proportions of various ingredients to be used in the concrete for different items of the work are given in the bill of quantities. In proportioning concrete, the quantity of both cement and aggregates should be determined by volume. Water shall be either measured by volume in calibrate tanks or weighed. Batching plant shall conform IS 4925-1968. (Indian Standard Specification for batching and mixing plant). All measuring equipment shall be maintained in a clean serviceable condition and their accuracy periodically checked. Adjustments shall be made as directed to obtain concrete having suitable workability, impermeability, density, strength and durability without the use of excessive cement. The acceptance or rejection of concrete shall be as per the acceptance criteria laid down in Clause 15 of IS 456-1978. The net water cement ratio exclusive of water absorbed by the aggregate shall be sufficiently low to provide adequate durability in concrete. The water cement ratio or various grades of concrete shall be as determined and ordered by the Engineer-in-Charge. Admixtures of pozzolanas, if ordered, shall conform to the requirements specified in I.S. 9103-1979 (Indian Standard Specification for admixture for concrete).

D. Consistencies: The slump of concrete at the placement shall be as follows

No.	Place conditions	Degree of workability	Value of workability
	Concreting of the light reinforced sections without vibration or heavily reinforced section with vibrations	Medium	25mm to 75mm slump for 20mm aggregate
	Concreting of heavily reinforced sections without vibration		75mm to 125mm slump for 20mm aggregate

- ii. For plain concrete work, slump requirements mentioned in Item 1 above are applicable.
- iii. Lining with slip-form machine 60 to 70 mm, slump and 50 mm slump for concrete paver finisher. If the specified slump is exceeded at the placement, the concrete is unacceptable. The Engineer-in-Charge reserves the right to require lesser slump whenever concrete of such lesser slump can be consolidated readily into place by means of vibration specified by the Engineer-in-Charge. The use of equipment which will not readily handle and place concrete of the specified slump will not be permitted. To maintain concrete at proper consistency, the amount of water and sand batched for concrete shall be adjusted to compensate for any variation in the moisture content or grading of the aggregates as they enter the mixer. Addition of water to compensate for stiffening of the concrete mixing but before placing will not be permitted. Uniformity in concrete consistency from batch to batch will be required.

Concrete quality control measures and concrete quality assurance test programme

- a. The contractor shall be responsible for providing quality concrete to ensure compliance of the contract requirements,
- b. Making and curing concrete test specimens in the field: will conform to I.S. 516-1959.
- c. Capping cylindrical concrete specimens will conform to IS 516-1959.
- d. Compressive strength of concrete specimens will conform to IS 516-1959.

Sampling procedure and frequency

- a. A random sampling procedure shall be adopted to ensure that each concrete batch has a reasonable chance of being tested i.e. the sampling should be spread over the entire period of concreting and should cover all mixing units.
 - b. Frequency
The minimum frequency of sampling of concrete of each grade shall be in accordance with the following:
- | | |
|-----------------------------|------------------------------|
| Quantity of concrete in cum | Number of samples |
| 1 to 5 | 1 |
| 6 to 15 | 2 |
| 16 to 30 | 3 |
| 31 to 50 | 4 |
| 51 to above | 4 Plus one additional sample |
- for each additional 50 cum
Or part thereof.

Note: At least one sample shall be taken during each shift.

TEST FACILITIES

The contractor shall furnish free of cost samples of all ingredients of concrete for testing. He should also supply free of cost, the samples of all the ingredients of concrete used in the work for the test to be conducted by the Engineer-in-Charge or any officer nominated by him.

Contractor to furnish drawings and data

Not less than 30 days prior to start of installation of the contractors' plant and equipment for processing, handling, transporting, storing and proportioning concrete, the contractor shall submit drawings and data to the Engineer-in-Charge for approval, showing the arrangement of plant etc. The drawing and data shall provide a description in sufficient details for an adequate review of the facilities and equipment the contractor proposes to provide at site of work.

Cement

a. General

Cement shall conform to clause 4 of IS 456-1978 of the purposes of specifications. Cement used shall be any of the following with the prior approval of the Engineer-in-Charge.

- a. Ordinary or low heat Portland cement conforming to IS 269-1976.

- b. Rapid hardening Portland cement conforming to IS8041-1978.
- c. Portland slag cement conforming to IS455-1976.
- d. Portland puzzolana cement conforming to IS1489-1976.
- e. High strength ordinary Portland cement conforming to IS8112-1976.
- f. Hydrophobic cement conforming to IS8043-1978.

The contractor shall make his own arrangements for the procurement of cement to required specifications required for the works. Transportation from time to place of supplying to the batching plants shall be in weather tight railcars, trucks, conveyors and other means which will protect the cement completely from exposure to moisture. Immediately upon receipt at the jobsite, bulk cements shall be stored in dry, weather tight, properly ventilated bins until the cement is batched. The bins shall be emptied and cleared by the contractor when so directed by the Engineer-in-Charge. However, the intervals between required cleaning will normally be not less than 6 months. Each shipment of bagged cement shall be stored separately so that it may readily be distinguished from other shipment and shall be stored in a dry enclosed area protected from moisture. Storage of materials shall be as described in I.S. 4082-1977 (I.S. recommendation on stacking and storage of construction materials at site). To prevent under gain of bagged cement after delivery, the contractor shall use bags of cement in the chronological order in which they were delivered to the job site. All storage facilities shall be subject to approval of the Engineer-in-Charge.

Water

The water used in making and curing of concrete, mortar and grout shall be free from objectionable quantities of silt, organic matter, injurious amounts of oils, acids, salts and other impurities etc. as per I.S. specification No. 456-1978. The Engineer-in-Charge will determine whether or not such quantities of impurities are objectionable. Such determination will usually be made by comparison of compressive strength, water requirement, time of set and other properties of concrete made with distilled or very clean water and concrete made with the water proposed for use. Permissible limits for solids when tested in accordance with I.S. 3025-1964 shall be as tabulated below. Permissible limits for solids in water

1. Organic	Maximum permissible limit 200mg/ltr
2. Inorganic	300mg/ltr
3. Sulphate (as SO ₄)	500mg/ltr
4. Chlorides (as Cl)	2000 mg/ltr for plain concrete work and 1000 mg/ltr for RCC work
5. Suspended matter	2000 mg/ltr

The PH value of water shall generally be not less than 6.

If any water to be used in concrete, mortar, or grout is suspected by the Engineer-in-Charge of exceeding the permissible limits for solids, samples of water shall be obtained and tested by the Engineer-in-Charge in accordance with I.S. 3025-1964.

Sand (Fine Aggregate)

A. General

The terms sand is used to designate aggregate most of which passed 4.75mm I.S. sieve and contains only so much coarser material as permitted in Clause 4.3 of I.S. 383-1970. Sand shall be predominately natural sand which may be supplemented with crushed sand to make up deficiencies in the natural sand grading. All sand shall be furnished by the contractor from any approved sources specified in the contract. Sand as delivered to the batching plant shall frequently as possible, the frequency for a given job being determined by the Engineer-in-Charge according to weather conditions (I.S. 456-1978). Sand as delivered to the batching plants shall have a uniform and stable moisture content. Determination of moisture contents shall be made as frequently as possible, the frequency for a given job being determined by the Engineer-in-Charge according to weather conditions. (I.S. 456-1978).

B. Quality

The sand shall consist of clean, dense durable uncoated rock fragments, as per I.S. 383-1979. Sand may be rejected if it fails to meet any of the following quality requirements.

Organic impurities in sand

Colour no darker than the specified standard in clause 6.2.2 of I.S. 2386 Part II 1963 (Indian Standard method of test for aggregates for concrete part II estimation of deleterious materials and organic impurities).

Sand shall be screened before use. If sand brought to site is not clean it must be washed clean in water. Fine drafts and or sea sand and sand containing saline impurities shall on no account be used. Sodium sulphate test for soundness. The sand to be used shall pass a sodium or magnesium sulphate accelerated test as specified in I.S. 2386 (Part V) 1963 for limiting loss on weight.

Specific gravity

The sand to be used shall have minimum specific gravity of 2.6. Deleterious substances

The amount of deleterious substances in sand shall not exceed the maximum permissible limits prescribed in table 1 clause 3.2.1 of IS 383-1970 (Indian Standard Specification for coarse and fine aggregates from natural source for concrete) when tested in accordance with I.S. 2386-1963.

C. Grading

The sand as batched shall be well graded and when tested by means of standard sieve shall conform to the limits given in Table 4 of I.S. 383-1970 and shall be described as fine aggregates, grading zones I, II and IV. Sand complying with the requirements of any of the four grading zones is suitable for concrete. Sand confirming to the requirements of grading zone - IV shall not be used for reinforced cement concrete work.

Coarse aggregate

a. General

For the purposes of these specifications, the term 'Coarse Aggregate' designed clean well graded aggregate most of which is retained on 4.75 mm I.S. Sieve and containing only so much finer material as permitted for various types described under Clause 2.2 of I.S. 383-1970. Coarse aggregate for concrete shall consist of uncrushed stone, or crushed stone and partially uncrushed and crushed stone. Coarse aggregate for concrete shall be furnished by the contractor from the approved quarries specified in the contract documents. The contractor shall, unless otherwise specified in the tender notice and subsequently on this basis in the contract, be responsible for the payment of seigniorages, quarry fees etc. on all materials.

Coarse aggregate as delivered to the batching plant shall generally have uniform and stable moisture content. In case of variations, clause 9.2.3 of I.S. 456-1978 shall govern during batching, b. Quality

The coarse aggregate shall consist of naturally occurring (crushed or uncrushed) stones, and shall be hard, strong, durable, clear and free from veins and adherent coating and free from juniors amounts of disintegrated pieces, alkali, vegetable matter and other deleterious materials. Coarse aggregate will be rejected if it fails to meet any of the following requirements.

1. Los-Angles Abrasion Test

The abrasion value of Aggregates when tested in accordance with the method specified in I.S. 2386 (Part IV) using Los-Angles machines shall not exceed 30% for Aggregates to be used in concrete for wearing surface and 50% for aggregate to be used in other concrete.

2. Aggregate crushing strength test

Aggregate crushing value, when determined in accordance with I.S. 2386 (Part IV) 1963 shall not exceed 45% for aggregate used for concrete other than wearing surface and 30% for wearing surfaces. As an alternative to the crushing strength test, aggregate impact values shall be found out with the methods specified in I.S. 2386 (Part IV) 1963. The aggregate impact values shall not exceed 45% by weight for aggregates used for concrete for other than wearing surfaces, and 30% by weight for concrete for wearing surfaces such as runways, roads and pavements.

3. Soundness test

The coarse aggregate to be used for all concrete work shall pass sodium or magnesium sulphate accelerated soundness tests specified in I.S. 2386 (part V) 1963 and the average loss of weight after 5 cycles shall not exceed the limits specified in clause 3.6 of I.S. 383-1970.

4. Specific gravity

The coarse aggregate shall have specific gravity of 2.60 minimum.

5. Deleterious material

The maximum quantity of deleterious materials in coarse aggregates shall not exceed the limits specified in Table 1 of I.S. 383-1970 when tested in accordance with I.S. 2386-1963.

MIXING

a. General

The concrete ingredients shall be thoroughly mixed in mechanical mixers designed to positively insure uniform distribution of all the component materials throughout the concrete at the end of the mixing period. Mixing shall be done as per Clause of I.S. 456-1978. The mixer should comply with I.S. 1791-1985 (I.S. Specifications for batch type concrete mixer)

The concrete as discharged from the mixers shall be uniform in composition and consistency from batch to batch.

Workability shall be checked at frequent intervals as per I.S. 1199-1959. Mixers shall be examined regularly by the Engineer-in-Charge or his authorized Engineer for changes in condition due to accumulation of hardened concrete or mortar or to wear of blades. The mixing shall be continued until there is a uniform in colour and consistency and to the satisfaction of the Engineer-in-Charge. If there is segregation after unloading the concrete should be remixed.

Any mixer that at any time produces unsatisfactory mix shall not be used until repaired. If repair attempts are unsuccessful, a defective mixer shall be replaced. Batch capacity shall be at least 10% of but not in excess of the rate capacity for the mixer unless otherwise authorized by the Engineer-in-Charge.

b. Central mixers

Water shall be admitted prior to and during charging of the mixer with all other concrete ingredients. After all materials are in the mixer, each batch shall be mixed for not less than the time specified by the Engineer-in-Charge. The minimum mixing time shall be 2 minutes. The minimum mixing time specified is based on average mixer performance. The Engineer-in-Charge will adjust the minimum mixing time as required by the observations of the mix delivered from mixer. Excessive over mixing which require addition of water to maintain the required concrete consistency shall not be permitted. In addition to I.S. 1791-1985 the mixing equipment shall conform to the following further requirements.

1. Plant configuration shall be such that the mixing of each mixer can be observed from a safe location which can be easily reached from the control station. Provisions shall be made so that the operator can observe the concrete in the receiving hopper or bucket as it is being dumped from the mixers.
2. Each mixer shall be controlled with a timing device which will indicate the mixing period and assure compliance of the required period of mixing.
3. The batch plant shall be equipped with an interlocking mechanism which will prevent concrete batches from entering mixers which are not empty.

Temperature of concrete

Fresh structural concrete and fresh canal lining concrete shall be placed at temperature of between 15°C to 30°C. During hot or cold weather, the concreting should be done as per the procedure set in I.S. 7861- (Part- 1) 1975 or I.S. 7861 (Part II).

The temperature will be determined by placing a thermometer in the concrete immediately after sampling at the site of placement. The temperature of concrete at the batch plant shall be adjusted to assure that the specified concrete temperature is attained at the placement.

In case of concrete in hot weather condition, the contractor shall employ effective means such as precooling of aggregates and mixing water and placing at nights, as necessary to maintain the temperature of the concrete as it is placed at the specified limit. The methods of pre-cooling shall be subject to approval by the Engineer-in-Charge.

The contractor shall not be entitled for any additional compensation due to the foregoing requirements.

Forms

a. General

Forms shall be used wherever necessary, to confine the concrete and shaping it to the required lines. If a type of form does not consistently perform in an acceptable manner, as determined by the Engineer-in-Charge, the type of form shall be changed and method of erections shall be modified by the Contractor subject to approval of the Engineer-in-Charge.

Plumb and string lines shall be installed before, and maintained during concrete placement. Such lines shall be used by the Contractor's personnel and by the Engineer-in-Charge and shall be sufficient number and properly installed as determined by the Engineer-in-Charge. During concrete placement, the contractor shall continuously monitor plumb and string line form positions and immediately correct deficiencies.

Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete and shall be maintained rigidly in position. Where form vibrators are to be used, forms shall be sufficiently rigid to effectively transmit energy from the form vibrators to the concrete, while not damaging or altering the position of forms. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Chamfer strips shall be placed to produce bevelled edges on permanently exposed concrete surfaces. Interior angle of intersecting concrete surfaces and edges of construction joints shall not be bevelled except where indicated on the drawings.

Suitable struts or stiffener or ties shall be used for the form work wherever necessary. All supports shall be braced and cross braced in two directions. All splices and braces shall be secured by bolting unless specially intended otherwise. All struts shall be firmly supported against settlement and slipping, by suitable means as directed. All supports shall be cut square at both ends and firmly supported against settlement and slipping. When the form work is supported on soils, sleepers etc., shall be used to properly disperse the loads. In case, the supports rest on already completed beam or slab; suitable props shall be provided under the latter.

b. The form work shall be of well-seasoned timber or steel. When timber forms are used, they shall be lined with M/S sheet or other suitable smooth faced non-absorbent material as specified. Supports may be of timber or steel. Suitable wedges in Paris to facilitate adjustment and subsequent releasing of forms shall be provided preferably at the upper end of the supports. The details of the proposed form work and supports shall be submitted to the Engineer-in-Charge and got approved before erection.

c. In case of columns, retaining walls or deep vertical component, the height of the column shall facilitate placement and compaction of concrete and suitable arrangement may be made for securing the forms to the already poured concrete for placing the subsequent lifts. Nosteelties or wires used for securing this formwork shall be left exposed of the face for the finished work.

d. Suitable inserts for block outs for electrical and other service fixtures where necessary shall be provided in the required locations as specified.

e. Cleaning and oiling of Forms: At the time the concrete is placed in forms, the surfaces of the forms shall be free from encrustations of mortar, grout or other foreign material. Before concrete is placed the surface of the forms shall be oiled with commercial forms oil.

f. Removal of Forms

The stripping of formwork shall conform to clause 10.3 of IS 456-1978. The contractor shall be liable for damage and injury caused by removing forms before the concrete has gained sufficient strength. Forms on upper sloping faces of concrete such as forms on the water sides of warped transitions shall be removed as soon as the concrete has attained sufficient stiffness to prevent sagging. Any needed repairs or treatment required on such sloping surfaces shall be performed at once and be followed immediately by the permitted curing.

To avoid increasing appearance in concrete that might result from swelling of forms, wood forms for wall openings shall be loosened as soon as the loosening can be accomplished, without damages to the concrete. Forms for the openings shall be constructed as to facilitate such loosening. Forms shall be removed with care so as to avoid injury to concrete and any concrete so damaged shall be repaired in accordance with paragraph 6.2.21.

g. Cost

The cost of furnishing all materials and performing all work for constructing forms, including any necessary treatment or coating of forms is included in the item of concreting made at the unit price of bid thereof in the bill of quantities.

Tolerances for concrete constructions

a. General

Tolerances are defined as allowable variations from specified lines, grades, and dimensions and as the allowable magnitude of the surface irregularities. Allowable variations from specified lines, grades and dimensions are listed as given under sub-paragraph (b) below.

The intent of this paragraph is to establish tolerances that are consistent with modern construction practice that is governed by the effect that permissible variations may have upon a structure. The Government reserves

the right to diminish the tolerances set-forth herein if such tolerances impair the structural action, operational function or architectural appearance of a structure or position thereof. Concrete shall be within all stated tolerances even though more than one tolerance may be specified for a particular concrete structure. Provided that the specified variation for one element of the structure shall not apply when it will permit another element of the structure to exceed its alterable variation. Where tolerances are not specified for particular structure, tolerance shall be those specified for a similar work. As an exception to clause 2 of the general provisions, specific tolerances shown herein in connection with any dimensions shall govern. The contractor shall be responsible for finishing the concrete forms within the limits necessary to insure that the completed work will be within the tolerance limit specified. The defective work where the tolerance limit is exceeded shall be remedied in accordance with the sub-paragraphs b and c.

b. Variations from specified lines, grades and dimension

Hardened concrete structure shall be checked by the contractor and will be subject to such inspection and measurement as needed to determine that the structures are within the tolerance specified in the table below. Variation is defined as the distance between the actual position of the structure or any element of the structure and the specified position in plan for the structure or the particular element. Plus or minus variations shown as (+) indicate a permitted actual position up or down and in or cut from the specified position in plan. Variations not designated as plus or minus indicate the maximum deviation permitted between designated successive points on the completed element of construction.

c. Concrete surface irregularities

a. General

Bulges, depressions and offsets are defined as concrete surface irregularities. Concrete surface irregularities are classified as 'abrupt' or 'gradual' and are measured relative to the actual concrete surface.

b. Abrupt surface irregularities

Abrupt surface irregularities are defined herein as offsets such as those caused by misplaced or loose forms, loose knots in form lumber, or other's similar forming faults. Abrupt surface irregularities are measured using a straight edge held firmly against the concrete surface over the irregularity and the magnitude of the offset is determined by direct measurement.

c. Gradual surface irregularities

Gradual surface irregularities are defined herein as bulges and depressions resulting in gradual changes on the concrete surface. Gradual surface irregularities are measured using a suitable template conforming to the design profile of the concrete surface being examined. The magnitude of the gradual surface irregularities is defined herein as measures of the rate of change in slopes of the concrete surface.

The surface irregularities shall not exceed 6 mm for bottom slab and 12 mm for side slopes when tested with a straight edge of 1.5 metre in length/

The magnitude of gradual surface irregularities on concrete shall be checked by the contractor to ensure that the surfaces are within the specified tolerances. The Engineer-in-Charge will also make such checks of hardened concrete surfaces as determined necessary to insure compliance with such specifications.

d. Repair of hardened concrete not within specified tolerances

Hardened concrete which is not within specified tolerances shall be repaired to bring it within those tolerances. Such repair shall be in accordance with paragraph 6.2.21 and shall be accomplished in a manner approved by the Engineer-in-Charge. Concrete repair to bring concrete within the tolerances shall be done only after consultation with a representative of Engineer-in-Charge regarding the method of repair. The Engineer-in-Charge shall be notified as to the time when repair will be performed. Concrete shall be finished in a manner which will result in concrete surface with a uniform appearance. The fins and any rough projections can then be rubbed down and the whole surface brought to an even finish by rubbing with a wooden float using a mortar of one part cement by two parts of coarse sand as an abrasive, the mortar at the same time filling the voids. A neat cement work shall then be applied to give a smooth surface. If the concrete has set hard the fins and rough projections, if any, shall be removed by using corborandum brick or a paved girding machine by chipping, before finishing off with the smoothing wash. If the work of chipping is not done with care or if the surface exposed after removal of the forms cannot be satisfactorily dealt with in this manner due to bad work or for other reasons, a coat of cement plaster of 1:2 of thickness as ordered by the Engineer-in-Charge shall be applied. No extra payment will be given for finishing concrete surface as instructed above in this clause,

e. Prevention of repeated failure to meet tolerances

When concrete placements result in hardened concrete that does not meet the specified tolerances, the contractor shall submit to the Engineer-in-Charge an outline of all prevention actions such as modification to form modified procedure for setting screeds, and different finishing techniques to be implemented by the contractor to avoid repeated failure.

The Engineer-in-Charge reserves the right to delay concrete placement until the contractor implements such preventive actions which are approved by the Engineer-in-Charge.

REINFORCING BARS

a. General

The contractor shall make his own arrangement for procurement of tor steel of required specification for the work from Steel Authority of India Ltd. (A Govt. of India Undertaking) only. Transportation from the place of supply to work site and all incidental charges will be borne by the contractor.

Reinforcing bars shall be placed in the concrete as shown in the drawings or as directed. For concrete canal lining the reinforcement rods as provided for in the drawing shall be placed. For anchoring the concrete canal

lining to the hard rock provision of anchor rods is made in the drawing and contractor shall place these anchor rods to the spacing and depth shown in the drawings,

b. Materials

Unless shown otherwise on the drawings the reinforcement to be used shall be high yield strength deformed bars of grade FE415 conforming to IS 1786-1985 specification for high yield strength deformed steel bars and wire for concrete reinforcement.

c. Placing

Reinforcement shall be bent and fixed in accordance with the procedure specified in I.S. 2502-1963 (code of practice for bending and fixing of bars for concrete reinforcement). All reinforcements shall be placed and maintained in the position shown in the drawings.

Unless otherwise prescribed, placement dimensions shall be to the centre line of the bars. Reinforcement will be inspected for compliance with requirement as to size, shape, length, splicing, position and amount after it has been placed, but before being embedded with concrete. Before reinforcement is embedded in concrete the surface of the bars shall be cleaned of heavy flaky rust, loose scale, dirt, grease or other foreign substances which in the opinion of the Engineer-in-Charge are objectionable. Heavy flaky rust that can be removed by firm rubbing with burlap or equivalent treatment is considered objectionable.

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

a. For effective depth 200 mm or less = ± 10mm

b. For effective depth more than 200 mm = ± 15mm

The cover in no case be reduced by more than one third of specified cover or 5 mm whichever is less. Reinforcements shall be securely held in position so that it will not be displaced during the placing of the concrete and special care shall be exercised to prevent any disturbances of the reinforcement in concrete that has already been placed. Welding of bars shall be done as directed by the Engineer-in-Charge and in conformity with the requirements of clause 11.4 of IS 456-1978. Chairs, hangers, spaces and other supports for reinforcement shall be of concrete, metal or other approved material. Concrete cover shall be as shown on the drawings.

d. Reinforcement drawings

The Engineer-in-Charge will supply drawings of reinforcement details and bar bending schedules for adoption,

e Measurement and payment

Measurement for payment of reinforcement bars will be based on the weight of the bars placed in the concrete in accordance with the drawings supplied by the Engineer-in-Charge when conformance with these specifications drawings has been determined at the time of embedment. Except as otherwise provided below payment for finishing and placing reinforcing bars will be made at the unit price bid in the bill of quantities for furnishing and placing reinforcement bars which unit price shall include the cost of reinforcing bars, attaching wire and of cutting, bending, cleaning securing and maintaining in position reinforcing bars as shown on the drawings.

The total weight of bars placed as reinforcement in concrete shall be arrived at by adding the products of lengths of each size and mass per metre (vide Table 1 and para 6.2.1 of IS 1786-1985) of that size of rod.

Dowels

The dowels shall be same HYSD bars of grade Fe 415 conforming to IS 1786-1985 as used for reinforcement. Details of dowels shall be as shown on the drawings or as directed by the Engineer-in-Charge.

Dowels shall be placed in the concrete wherever 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.

Before the dowels are embedded in concrete, the surfaces of dowels be cleaned of all dirt, grease or other foreign substances which in the opinion of Engineer-in-Charge are objectionable. The dowels shall be accurately placed and secured in position so that they will not be displaced during the placing of the concrete.

Measurement for payment of dowels will be made only on the weight of the dowels placed in the concrete in accordance with the drawings or as directed.

Payment for furnishing and placing of dowels will be made at the unit price bid in the bill of quantities for furnishing and placing of reinforcing bars which unit prices shall include the cost of furnishing all the materials and for placing the dowels as required.

Preparation for placing

a. General

No concrete shall be placed until all form work installation of items to be embedded and preparation of surface involved in the placement have been approved.

The contractor shall supply concrete placement check-out cards (placement register) satisfactory to the Engineer-in-Charge and shall provide a watertight container for such cards at the convenient location near each individual concrete placement site. The cards shall list all the various work items for example 'cleanup' and 'embedded items' required prior to placement of concrete. After each work item for an individual placement has been completed that item on the cards shall be signed by contractor or his representative signifying completion of the required work. Engineer authorized by the Engineer-in-Charge will inspect the work during and after completion of each phase of the preparation and if the work is satisfactory will sign the check-out card (placement register). Approval of preparation for placement will not be complete until the contractor or his representative and above authorized Engineer have approved by signature all applicable, items for the placement.

All surfaces of forms and embedded materials shall be free from curing compound, dried mortar from previous placement and other foreign substance before the adjacent or surrounding concrete placement is begun.

Prior to beginning concrete placement the contractor shall make ready a sufficient number of properly operating vibrators and operators and shall have readily available additional vibrators to replace defective one during the progress of the placement. The Engineer's representative at the placement may delay the start of the concrete placement until the number of working vibrators available is acceptable.

b. Foundations surfaces

All surfaces upon or against which concrete is to be placed shall be free from frost, ice, water, mud and debris.

1. Rock surface shall be free from oil, objectionable coatings, and loose semi-detached and unsound fragments. Immediately prior to placement of concrete, surfaces of rock shall be washed with an air water jet and shall be brought to uniform surface dry condition.
2. Earth foundations surfaces shall be wet to a depth of 15 cm. or to impermeable material whichever is less before concrete placement.

c. Construction joints

Construction joints are defined as concrete surfaces upon or against which concrete to be placed and to which new concrete is to adhere but which have become so rigid that the new concrete cannot be incorporated integral with that previously placed. The provision of construction joints shall conform to clauses 12.4.1 and 12.4.2 of I.S. 456-1978.

When the work has to be resumed on a surface which has hardened such surface shall be roughened. It shall then be swept clean thoroughly wetted. For vertical joints near cement slurry shall be applied on the surface before it is dry. For horizontal joints the surface shall be covered with a layer of mortar about 10 to 15 mm thick composed of cement and sand in the same ratio as the cement and sand in concrete mix. This layer of cement slurry or mortar shall be freshly mixed and applied immediately before placing of the concrete.

Where the concrete has not fully hardened all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken to avoid dislodgement of particles or aggregate. The surfaces shall be thoroughly wetted and all free water removed. The surfaces shall then be coated with near cement slurry. On this surface, a layer of concrete not exceeding 150 mm in thickness shall first be placed and shall be well rammed against old work, particular attention being paid to corners and close spots and work there after shall proceed in the normal way.

d. Contraction joints

Contraction joints are to be provided for volumetric shrinkage of monolithic concrete and movement between monolithic unit at established joints, thus preventing formation of objectionable shrinkage cracks elsewhere in concrete. Prior to application of wax based curing compound to contraction joints, the surface of all joints shall be cleaned thoroughly of accretion of concrete or other foreign material by scrapping, chipping or other means approved by the Engineer-in-Charge. Water stops, reinforcing bars and other embedded items shall be free of curing compound when adjoining concrete is placed.

Placing

a. General

The contractor shall notify the Engineer-in-Charge before batching begins for placement of concrete. Placing shall be performed only on the presence of an authorised Engineer's representative. Placement shall not begin until after preparations are complete and the concrete placement checkout card has been signed by the contractor or his representative and the authorised representative of the Engineer-in-Charge substantiating completion of all preparation for that placement.

All surface upon or against which concrete is to be placed shall be prepared in accordance with paragraph 5.2.16.

Re-tampering of concrete will not be permitted. Any concrete which has become so stiff that proper placing can not be assured shall be wasted.

Concrete shall not be placed in standing water except with written permission of the Engineer-in-Charge and the method of placing shall be subject to approval. Concrete shall not be placed in running water and shall not be subjected to running water until after the concrete has hardened. Concrete shall be deposited as nearly as practical in its final position and shall not be allowed to flow in such a manner that the lateral movement will cause segregation of the coarse aggregate from the concrete mass methods and equipment employed in depositing concrete in forms shall minimize clusters of coarse aggregates, clusters that occur shall be scattered before the concrete is vibrated. Forms shall be constantly monitored and their position adjusted as necessary during concrete placement in accordance with paragraph 5.2.12 and 5.2.13.

All concrete except canallinings shall be placed in approximately horizontal layers. The depth of layers shall not exceed 15 cm. The Engineer-in-Charge reserves the right to require lesser depths of a layer where concrete cannot otherwise be placed and consolidated in accordance with the requirements of these specifications. All construction joints which intersect exposed concrete surfaces shall be made straight and level top lumb except as shown otherwise on the drawings. The placing of concrete shall be in accordance with Clause 12.2 of I.S. 456-1978. If concrete is placed monolithically around openings having vertical dimensions greater than 60 cm or if concrete in decks, floor slabs, or other similar parts of structures is placed monolithically with supporting concrete, the following requirements shall be strictly observed.

1. Concrete shall be placed up to the top of the formed opening at which point further placement will be delayed to accommodate settlement of fresh concrete. If levels are specified beneath nearly horizontal structural members

such as decks floor slabs, beams and girders or the levels being between the nearly horizontal members and the vertical supporting concrete below, concrete shall be placed to the bottom of the bevels before delay of placement.

2. The last 60 cm or more of concrete placed below horizontal members or levels shall be placed with a 50 mm or less slump and shall be thoroughly consolidated.

In placing concrete on uniformed slopes so steep as to make internal vibration of the concrete impractical without footing, the concrete shall be placed ahead of no-vibrating skip forms screened extending approximately 0.75 meters back from its leading edge. Concrete ahead of the slip form screened shall be consolidated by internal vibrations so as to ensure complete filling under the slip form. A cold joint is an unplanned joint resulting when a concrete surface hardens before the next batch is placed against it, cold joints would be allowed only in the event of equipment breakdown or other unavoidable prolonged interruption of continuous placing. If such unavoidable delays in placing occur which make it appear that unconsolidated concrete may harden to the extent that later vibration will not fully consolidate it, the contractor shall immediately consolidate such concrete to a stable and uniform slope. If delay of placement is then shortened to permit penetration of the underlying concrete placement shall resume with particular care being taken to thoroughly penetrate and revibrate the concrete surface placed before the delay. If concrete cannot be penetrated with vibrator, the cold joint shall be then treated as a construction joint.

Care shall be taken to prevent cold joints when placing concrete in any part of the work. The concrete placing rates shall ensure concrete is placed while the previously placed adjacent concrete is plastic so that the concrete can be made monolithic by normal use of vibrators /tamping.

Concrete shall not be placed in rain sufficiently heavy or prolonged to wash mortar from concrete. A cold joint may necessarily result from prolonged heavy rainfall.

The contractor shall not be entitled to any additional payment, over the unit price bid in the schedule for concrete by reason of any limitation in the placing of concrete required under the provisions of this paragraph,

c. Compaction

The compaction of concrete shall conform to clause 12.3 of IS 456-1978.

Concrete shall be consolidated by vibrators/tampers, The vibrations shall be sufficient to remove all undesirable air voids from the concrete, including the air voids trapped against the forms. After consolidation, the concrete shall be free of rock pockets and honeycombs and shall be closed snugly against surface of forms and embedded materials. All concrete shall be properly consolidated before it hardens.

Except as herein after provided, consolidation of all concrete shall be by immersion type vibrators. Immersion type vibrators shall be operated in nearly vertical position and the vibrating head shall penetrate and re-vibrate the concrete in the upper portion of the underlying layer. Care shall be exercised to avoid contact of the vibrating head with embedded items and with formed surfaces which will alter be exposed to view. Concrete shall not be placed upon either plastic concrete until the previously placed concrete has been thoroughly consolidated, Immersion type vibrators shall be used in conjunction with slip form lining machines to consolidate concrete in canal linings, such vibrators shall be arranged for effective uniform consolidation of the concrete. The Engineer-in-Charge or his representative may remove samples of the hardened concrete for testing and examination and the contractor shall repair, at no cost to the Government, concrete from which such samples are removed.

Immersion type vibrators shall be operated at speeds of at least 7000 revolutions per minute when immersed in concrete. Form vibrators at speeds of at least 8000 revolutions per minute when being used to consolidate concrete. The contractor shall immediately replace improperly operating vibrators with acceptable vibrators.

Finishes and finishing

The requirements for finishing of concrete surfaces shall be as specified in this paragraph, paragraph 5.2.12 and 5.2.13 or as otherwise indicated on the drawings. The contractor shall notify the Engineer-in-Charge before finishing concrete. Unless inspection is waived, in each specific case, finishing of concrete shall be performed only when an Engineer's representative is present. Concrete surface will be tested by the Engineer-in-Charge in accordance with paragraph 5.2.13 where necessary to determine whether the concrete surface is within the specified tolerances. Finished concrete which is not within the specified tolerances shall be repaired in accordance with paragraph 5.2.21. Interior surfaces shall be sloped for drainage where shown on the drawings or as directed. Surfaces which will be exposed to the weather and which would normally be level shall be sloped for drainage. Floating may be performed by use of hand or power driven equipment. Floating shall be started as soon as the screened surface has stiffened sufficiently and shall be to the minimum necessary to produce a surface that is free from screened marks and is uniform in texture. Joints and edges shall be tooled where shown on the drawing or as directed. After the surface of roadway slabs of concrete bridges, have been wood floated, the surface shall be given a broom finish. The finish shall be applied when the water sheet has practically disappeared. The broom shall be drawn transversely across the pavement with adjacent strokes slightly overlapping. The brooming shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The finished surface shall have a uniform appearance and shall be free of corrugation exceeding 1.5 millimetres in depth. Broom shall be of a quality, size and construction and be so operated as to produce a surface finish satisfactory to the Engineer-in-Charge. The finishing in linings shall be in accordance with Clause 5.7 of IS 3873-1978. The finished surface shall be equivalent in evenness, smoothness and free from rock pockets and surface voids to that obtainable by effective use of a long handled steel trowel. Where the surface produced by lining machine meets the specified requirements no further finishing operations will be required.

The top portion of the side slopes of the canal lining extending 1-1/2 meter vertical below the top of the lining shall receive a non kid, longitudinal brisk finish as approved by the Engineer-in-Charge.

Protection

The contractor shall protect all concrete against damage until final acceptance by the Engineer-in-Charge.

The contractor shall provide protection to prevent erosion of fresh concrete whenever precipitation either periodic or sustaining is imminent or occurring.

When precipitation appears imminent, the contractor shall immediately make ready at the placement site all materials which may be required for protection of fresh concrete. The Engineer-in-Charge may delay placement of concrete until adequate provisions for protection against weather are made. All fresh concrete surfaces shall be protected from contamination and from foot traffic until the concrete has hardened. Hardened concrete surfaces which have to receive finish shall be protected against damage from foot traffic and the construction activity by covering with protective mats, plywood or by other effective means. Method of protection shall be subject to approval by the Engineer-in-Charge.

Curing

a. General

The contractor shall furnish all materials and perform all work required for curing concrete. All concrete including bed and sides of canal lining shall be cured by water curing. The precast slab for canal lining shall be cured by keeping them immersed in water for seven days and by sprinkling water for another 21 days with straw canvass, hessian or similar materials cover over slab. The uniformed top surfaces of bridges decks shall be cured for 28 days with a damp sand cover or curing mat cover. These and curing mats shall not be kept so wet as to allow water to drain from them or strain the concrete. These and curing mats shall be removed after the expiry of the curing period. All concrete surfaces shall be treated as specified to prevent loss of moisture from the concrete until the required curing period elapsed or until immediately prior to placement of other concrete or back fill against those surfaces. Only sufficient time to prepare construction joints surfaces and to bring them to a surface dry condition shall be allowed between discontinuance of curing and placement of adjacent concrete.

Forms shall be removed within 24 hours after the concrete has hardened sufficiently confirming to clause 10.3 of I.S. 456-1978 to prevent structural collapse or other damage by careful removal and prior to curing minor surface repair shall be completed within 2 hours after form removal and shall be immediately followed by the initiation of curing by the applicable method specified herein. Concrete surfaces shall be kept continuously moist after form removal until initiation of curing.

Repair of concrete

Concrete shall be repaired in accordance with clause 5.7 of I.S. 3873-1978. Imperfections and irregularities on concrete surface shall be corrected in accordance with paragraph 5.3.13 and clause 5.7 of IS 3873-1978.

Types of repair

All repair shall be made with concrete. Repairs to concrete surfaces and addition where required shall be made by cutting regular opening into the concrete and placing fresh concrete to the required lines. The chipped openings shall be reinforced and chipped and troweled to the surface of the openings. The mortar shall be placed in layers not more than 20 mm in thickness after being completed and each layer shall be compacted thoroughly. All exposed concrete surfaces shall be cleaned of impurities lumps of mortar or grout and unsightly stains.

Cost

The cost of furnishing all materials and performing all work required in the repair of concrete shall be borne by the contractor.

Measurement & Payment of concrete

Measurement for payment of concrete including centring and shuttering required to be placed directly upon or against surface of excavation will be made to the lines for which payment for excavation is made.

Measurement for payment of concrete in canal linings shall be made to the lines shown on the drawing. The unit of measurement will be cubic meter of concrete shown in the drawing. Measurement for payment of all other concrete will be made to the neat lines of structures, unless otherwise specifically shown on the drawings prescribed in the specification. The unit measurement will be cubic meter. In measuring concrete for payment the volume of all opening, fixtures embedded pipes and metal work, each of which is larger than 0.1 square meter in cross section will be deducted.

Payment for concrete including centring and shuttering in the various parts the works shall be made at the applicable unit price in the bill of quantities, which unit prices shall include the cost of furnishing all materials and performing all works required for the concrete construction, except that payment for furnishing and placing reinforcement bars and form work shall be made at the respective unit price's bid therefore in the schedule.

5.0 STONEMASONRY

GENERAL

The stone of the required quality shall be obtained from the quarries in the lead charge appended to the bill of quantities. The common types of natural stones which are generally used are granite and other igneous rocks and shall be free from defect like decay, cavities, cracks, flaws, sand holes, soft heads, veins, patches of soft or loose materials or any other deleterious materials like Iron Oxide organic impurities, etc. they should be free from rounded work or weathered surface or skin coating which prevents the adherence of mortar. All stones used shall be clean of uniform colour and texture, strong, hard and durable.

The stones shall be sound, and shall have abrasions shall have determined in accordance with IS 1121-1974. The strengths shall be as detailed below in Table.4(a)

Table-(A)

Sl.No	type of stone	Minimum Crushing strength
1.	Granite & other igneous rocks	100kgs/sq.Cm
2.	Laterite	30kgs/sq.Cm

The percentage of water absorption shall not exceed 5% by weight as determined in accordance with I.S.1121-1974

Sample of the stones collected from the stone stacks by the contractor shall be tested for the standards specified above and other relevant Indian standards and stone stacks not conforming to the standards will be rejected and their costs shall be borne by the contractor. The contractor shall obtain the stone from the approved portion of the approved quarries only.

LATERITE STONE FOR MASONRY WORK

The stones shall be best procurable and free from any admixture of white earth. It shall be dug out from the quarry as sufficient time in advance, to harden well, before being placed in the work. The least thickness of stones shall be 17.5 Cms and other dimensions shall be as laid down in the relevant drawings or specification or as directed by the Engineer. The stones shall be laid as headers and structures alternatively breaking joints by at least 7.5 Cms

RR STONE FOR MASONRY WORK

GENERAL

Stone masonry in general shall conform to the requirements of I.S. 1597 code of practice for construction of stone masonry (part-I) 1967 and I.S. 1129-1970 for rubble stone masonry. I.S. 1597 (part-II) 1967 Ashlar Masonry, IS. 1129- 1972 specification for dressing natural building stones. In the absence of further definition cut stone masonry, shall be executed with a fine dressing for the face. By fine-tooled dressing or fine dressing is meant the finest surface which can be given to stone with a chisel and without rubbing. The approval of the quarries by the Engineer shall not be construed as constituting approval of all or any of the stones collected from the deposits and the contractor will be held responsible for suitability of the stone used in the work.

5.1.4 SAND FOR MASONRY

Sand shall generally conform to specifications given in paragraph 4.2.6 except the sand for mortar shall conform to the grading as given in clause 7 of I.S. 2116-1980 as detailed below, in table Grading of sand for use in Masonry

I.S. Sieve Designation	Percentage passing by Mass
4.75mm	95 to 100
2.36mm	95 to 100
1.18mm	90 to 100
600micron	80 to 100
300micron	20 to 65
150micron	0 to 50

Sand whose grading falls outside the specified limits due to excess or deficiency of coarse or fine particulars may be processed to comply with the standard by screening through suitably sized sieves and/or blending with quantities of suitable sized sand and particular.

If the sand brought to site is not clean, it must be washed clean in water. Fine dirt sand or sea sand containing saline impurities shall on no account be used.

CEMENT

The specifications and conditions specified for procuring cement in paragraph 4.2.5 shall be applicable here also.

WATER

The specifications and conditions specified for procuring water in paragraph 4.2.5 shall be applicable here also.

5.1.7 MORTAR

PREPARATION OF MORTAR.

Unless otherwise specified the cement mortar used in masonry work shall be cement mortar mix. 1:4 (one cement four sand by volume). Mixing shall be done thoroughly preferably in a mechanical mixer. In such case the cement and sand in the specified proportions shall be mixed by thoroughly in the mixer operating manually or by power. Water shall then be poured gradually and wet mixing continued at least for 2 minutes. Water shall not be more than that requires for bringing the mortar to the required working consistency of 90 to 130 millimeters as required in clause 9.1.1 of IS. 2250-1981. the mix shall be cleaned and free from injurious kind of soil, acid, alkali, organic matters or deleterious substances.

TIME OF USE OF CEMENT MORTAR

Cement mortar shall be used as soon as possible after mixing before it has begun to set, within 30 minutes after the water is added to the dry mixture.

Mortar used for more than 30 minutes should not be used and shall be removed from the site or work. The cost of such wasted mortar shall be borne by contractor. The use of retempered mortar will not be permitted to be used for the memory.

5.1.10 TESTS OF MORTAR

Mortar test tubes shall be cast for the mortar used on the work and shall be tested in accordance with Appendix-A of I.S. 2250-1965 of practice for preparation and use of Masonry mortar. Such cubes shall develop a compressive

strength of at least 50-kgs/square centimeter for mortar mix 1:5 and 75-kgs/square centimeter for mortar mix 1:4. Mortar not conforming to these specifications will be rejected and the cost of such waste shall be borne by contractor.

5.1.11. MEASUREMENT AND PAYMENT

Cement mortar shall not be measured and paid separately and its cost including cost of materials, mixing, transporting and placing shall be included in the unit price per cubic meter and therefore in the bill of quantities of the contract for the relevant finished item of work for which cement mortar mix mentioned in the above paragraph is required.

5.2. DISMANTLING OF THE DAMAGED STRUCTURES OR STRUCTURE TO BE REHABILITATED.

Structures defined in the schedule for rehabilitation shall be dismantled down to ground level or bottom of foundation or the iron work set which are specified shall be brought up to below as may be specified in the schedule of item. All materials obtained from dismantling shall be property of the Government. The stone obtained during dismantling shall be separated out and staked or stored properly as directed by Engineer and should be taken that the account for.

Special care shall be taken that the materials are not damaged in the process of dismantling. The value of materials broken or damaged shall be recovered from the contractor. When dismantling is done for a portion of the structure, remaining part of the structure, remaining part of the structures should not be damaged. If damaged, the dismantling and reconstruction, shall be done at the cost of the contractor. All serviceable materials shall be removed and stacked or disposed off as specified. For dismantling of structure blasting operation shall not be resorted to.

6.0 ROADWORK

SPECIFICATION FOR I.R.C. GR. I & GR. III MATERIALS:

DESCRIPTION:

This work shall consist of clean crushed cross aggregate mechanically interlocked by rolling and voids thereof filled with binding materials with the assistance of water laid on a prepared sub-base. It shall be constructed in accordance with specification and in conformity with the lines, grade and cross section shown on the drawings or as directed by Engineer.

MATERIALS:

Coarse aggregates

I.R.C Gr. I metal (90mm to 40mm)

I.R.C Gr. II metal (50mm to 25mm)

I.R.C Gr. III metal (50mm to 25mm)

i) The coarse aggregates shall be crushed or broken of hard granite metal of above size durable and generally free from flat, elongated, soft, gritty disintegrated particles and other objectionable materials and conforming to most grading and after physical requirement.

Binding materials: The admixture of sand and moorum /query dust in accordance with 2.20 shall be used as binding materials.

CONSTRUCTION OPERATION:

Preparation of subgrade:

The sub-base to receive the I.R.C. Gr. I and Gr. III metaling courses shall be prepared to the required grade and camber and cleaned of all dust, any ruts or soft fielding places that have appeared due to improper drainage service under traffic or other reasons shall be corrected and rolled in this firm. Where the Gr. I and Gr. III metals to be laid on existing un surfaced load, the surface shall be scarified and reshaped to the required grade and camber as necessary. Weak shall be strengthened, corrugation removed and depressions and potholes made with suitable materials before spreading the coarse aggregates.

Where the existing road surface is black topped 50mm x 50mm. Borrow shall be cut in the existing surfaces at 1m interval to the center line of carriageway before proceeding with the laying coarse aggregate in all cases, the foundation shall be kept well drained during the construction operation. Provision of lateral confinement of aggregator:

Before start of laying I.R.C. Gr. III metaling necessary arrangements shall be made for all the central confinement of aggregates one method is to be constructed sideshoulder in advance to the thickness corresponding to the compacted layers. After should are ready their inside edge may be trimmed vertical and the included are cleaned of all special materials there by setting the stage for spread of coarse aggregates. Spreading Coarse aggregates:

The coarse aggregates shall be spread uniformly and evenly upon the prepared base in required quantities from premeasured stack along the side of the road. In no case shall these be dumped in heaps directly on the area where are to be laid not shall their hauling over partly complete base be permitted. The aggregates shall be spread to proper profile by using templates placed across the road about 6 meter approximately where possible approves mechanical device shall be used to spread the aggregate uniformly so as to minimize the need of Manipulation by hand.

The Gr. I and Gr. III shall normally be constructed in layers of not more than 75mm compacted thicknesses. Each layer shall be passed by depth blocks, no segregation of large and fine particles shall be allowed in the coarse aggregates as spreading shall be uniform gradation with no pockets of fine materials..

ROLLING:

After the laying coarse aggregate, these shall be compacted to full width by rolling with either three wheel power roller of 10 tones capacity or an equivalent vibratory roller. The weight of the rollers shall depend on the type of the coarse aggregates.

The rollers shall begin from the edge with the roller running forward and backward until the edges have been compacted, the rollers shall then progress gradually from the edge towards the center parallel to the center line of the road, uniformly lapping each preceding rear wheel track by one half width. Rolling shall be discontinued when the aggregates are partially compact with sufficient void space in them to permit application of screening compaction shall be continued until the aggregate are thoroughly keyed or interlocked with no creeping of stones ahead of the roller. Slight sprinkling of water may be done during rolling if necessary.

On super elevated portion of the road, rolling shall commence from the lower edge and progress gradually towards the upper edge of the pavement. Rolling shall not be done when the sub-grade is soft or yielding or when it causes a wave like profile in the base course or sub-grade. If irregularities develop during rolling which exceeds 1mm tested with a 3 meter strengthed gages the surfaces shall be laid and aggregates added or removed as required before rolling again so as to achieve a uniform surface conforming to the desired cross section and grade. The surfaces shall also be checked transversely by template for chamber, and any irregularities corrected in the manner described above. In no case shall the use of screening to make up depressions be permitted.

APPLICATION OF SCREENING:

After coarse aggregates have been rolled above screening (the admixture of sand and moorum/ quarry dust in accordance with 2.20) to fill the interstices shall be applied gradually over the surface rollers shall be done when the screening are being spreaded so that the jarring effect of roller cause them to settle into the voids of the coarse aggregates. The screening shall not be dumped in piles but applied uniformly in successive thin layers either by the spreading motion for hand shovels, mechanical spreaders.

The screenings shall be applied at a slow rate in three or one applications as necessary, this shall be accompanied by rolling and brooming. Either mechanical broom/hand brooms or both may be used. In no case shall the screening be applied as fast and thick as to form cakes or bridges on the surface making the filling roller on the coarse aggregates. The spreading, rolling and brooming of screenings shall be taken upon sections which can be completed within one day operation. Dry and wet screening shall not be used in any circumstances.

SPRINKLING AND GROUTING:

After application of screening, the surfaces shall be copiously sprinkled with water, swept and rolled. Hand brooms shall be used to sweep the wet screening into the voids and to distribute them evenly. The sprinkling, sweeping and rolling operations shall be continued and additional operation shall be continued and additional screening applied where necessary until the coarse aggregates are well bound and firmly set a grout has been formed of screenings. Care shall be taken that the base or sub-grade does not get damaged due to adoption of excessive quantities of water during the construction.

SETTING AND DRYING:

After final compaction of the coarse, the road shall be allowed to cure overnight, next morning the hungry spots shall be filled with screening materials lightly sprinkled with water if necessary and rolled, no traffic shall be allowed till the macadam sets.

In case of Gr. I and Gr. III metal base coarse to be provided with bituminous surfacing the latter shall be laid only after the Gr. I and Gr. III metal coarse is completely dry & before allowing any traffic on it.

PLY OF CONSTRUCTION TRAFFIC:

In general construction traffic may ply over completed portions of the Gr. I or Gr. III metal provided vehicles move over its full width having no rutting or uneven compaction. However the Engineer shall have full authority to stop the passage of construction traffic when in his opinion this is leading to excessive damage.

RECTIFICATION OF DEFECTING CONSTRUCTION:

Where the surface irregularities of the Gr. I or Gr. III metal exceeds or where the coarse is otherwise defective due to sub-grade soil mixing with the aggregates, the layer to its full thickness shall be scarified over the affected area, reshaped with added material or removed and replaced with fresh materials as applicable and recompact. The area treated in the aforesaid manner shall not be less than 10m². In no case, shall depressions be filled up with screening or binding materials.

SURFACE DRESSING.

Description:

This work shall consist of the application of one coat or two coats of surface dressing each coat consisting of a layer of bituminous binders spread of a base prepared previously, followed by a cover of stone chipping properly rolled to form a wearing coarse to the requirement of this specification.

MATERIALS:

- i) Binder: The binders shall be straight run bitumen of a suitable grade appropriate to the region, traffic, rainfall and other environmental conditions as directed by the Engineer.
- ii) Stone Chipping: The stone chipping shall consist of crushed stone. They shall be clear, strong, durable of fairly cubical shape and free from disintegrated pieces, organic or other deleterious matters and adherent coating. The size of materials used for this work shall be 12mm.
- iii) Quantities of materials: The quantities of materials used for this work shall be 18.00Kg/1.0m².

CONSTRUCTION OPERATION

Weather and seasonal limitation :

The work of laying shall not be taken up during rainy or foggy weather or when the base coarse is damp or wet or during dust storm.

Preparation of base:

The base on which the surface dressing is to be laid shall be scraped, cleaned, free from dust and foreign materials and shall be prepared, shaped and condition to the specified lines, grade and cross section. Where the existing surface shows signs of flattening this shall be testified

Application of Binders

Bitumen shall be heated to 163°C to 177°C and sprayed on the dry surface in uniform manner preferably with the help of self propelled mechanical sprayers having self heating arrangement and bitumen pressure pump and spray nozzle are capable of spraying bitumen uniformly.

Application of Stone Chipping:

Immediately after the application of binder, stone chippings in a dry and cleaned state shall be spread uniformly on the surface, by means of a self propelled or towed mechanical grit-spreader capable of spraying -uniformly SQ as to cover the surface completely. If necessary the surface shall be boomed to ensure uniform spread of chippings.

ROLLINGS:

Immediately after the application of the cover materials, the entire surface shall be rolled with a 8-10 ton smooth wheeled steel roller suitable vibratory roller. Rolling shall commence at the edges and progress towards the center except in super-elevated portions where it shall proceed from the inner edge to the outer. Each pass of the roller shall uniformly overlap not less than 1/3rd of the track made in the preceding pass. While rolling is in progress additional chippings shall be spread by hand necessary quantities required to make up irregularities. Rollings shall continue until all aggregate particles are firmly bedded in the binder and present a uniform closed surface.

Opening to traffic shall not be permitted to run on any newly surface dressed area until the following day.

PREMIX CARPET:

DESCRIPTION:

This work shall consist of laying and compacting carpet of 25 mm. thickness in angle coarse composed of suitable small size aggregates prepared with bituminous binder on a previously prepared base, in accordance with the requirement of this specifications to serve as a wearing coarse.

MATERIALS:

Binder	Same as surface dressing
Aggregates	Same as surface dressing
Quantities of materials	
Stone chips	20mm to 12 mm @ 0.34 m ³ /10m ²
06 mm to 12 mm 0.06m ³ /10 Pm ²	15.9 Kg for 10m ²
Binder for premix	9.076Kg for 10m ²

CONSTRUCTION OPERATION:

Weather and season all limitation: The work of laying shall not be taken up during rainy or foggy weather or when the base coarse is damp or wet or during dust storm. Preparation of base:

The underlying, base on which the bituminous carpet is to be laid shall be prepared, shaped and conditioned to the specified lines, grade and cross section. Tack coat:

Description: This work shall consist of application of low viscosity liquid bituminous material to an existing road surface preparation to another bituminous construction over it.

Materials: The binder used for tack coat shall be bitumen of a suitable grade appropriate to the region, traffic, rainfall and other environmental condition as directed by the Engineer.

6. 3.4 CONSTRUCTION OPERATION:

Preparation of base: The surface on which the tack coat is to be applied shall be cleaned of dust and any extraneous materials before the application of materials.

Application of Binder: Binders shall be heated to the temperature to the grade of bitumen used and approved by the Engineer and sprayed on the base @ 5Kg.110m². The rate of spread is in terms of straight run bitumen.

The binders shall be applied uniformly with the aid of either self propelled or towed bitumen pressure sprayer with self heading arrangement and spraying nozzles arrangement capable of spraying bitumen at specified rates and temperature so as to provide a uniformly. Preparation of Premix:

Mixers of approved type shall be employed to the mixer for mixing the ' aggregates with the bituminous binder. The binders shall be heated to the temperature appropriate to the grade of bitumen approved by the Engineer in suitable design avoiding local over heating a continuous supply. The aggregates shall be dry and suitable heated to a temperature as directed by Engineer before these are replaced in the mixer. After about 15 seconds of dry mixing, the heated binder shall be distributed over the aggregates at the rates specified.

The mixing of binder with chipping shall be continued until the chippings are thoroughly coated with the binder. The mix shall be immediately transported from the mixer to the point of use in suitable vehicles or wheel borrows.

The vehicles employed for transport shall be clean and the mix being transported covered in transit if so directed by the Engineer-in-Charge.

6.3.5 SPREADING AND ROLLING:

The premixed materials shall be spread on the road surface with racks to the required thickness and cross fall (camber) on distributed evenly with the help of a drag spread without any undue loss of time. The cross fall shall be checked by means of camber boards. As soon as sufficient length of bituminous materials has been laid, rollings shall commence with 8 to 10 ton power rollers, preferably of smooth wheel type, or other approved

equipment. Rolling shall begin" at the edges and progress towards the center longitudinally, except that on the super elevated portions it shall progress from the lower upper edge parallel to the center line of the pavement.

When the roller has passed over the whole area- one, any high Spots on depressions which become apparent shall be corrected by removing or adding premixed materials. Rolling shall then be continued until the entire surface eliminated. In each pass of the roller, Preceding track shall be over lapped uniformly by at least 1/3111 width. The roller wheel shall be kept damp to prevent the premix from adhering to the wheels and being picked up. In no case shall fuel lubricating oil be used for this purpose. Excess use of water for this purpose shall also be avoided. Rollers shall not stand on newly laid materials while there is a risk that it will be deformed thereby.

6.4. **SEAL COAT:**

Description: This work shall consist of application of a seal coat for sealing the voidsina bituminous surface laid to the specified levels, grade and cross fall(camber).

MATERIALS:

- i) Binder: The quantity of binder to be utilized, in terms of straight run bitumen shall be 6.8 Kg per 10 m² area per coat.
- ii) Aggregate: Stone chippings shall consist of angular fragments of clean hard, tough and durable rock or uniform quality throughout. The size of aggregate shall be 6mm. The quantity use for premixing shall be 0.06 m³ for 10 m² area.

CONSTRUCTION OPERATION:

Preparation of base: The seal coat shall be applied immediately after the laying of bituminous coarse which" is required to be sealed. Before application of seal coat materials, the surface shall be cleaned free of any dust or other extraneous matter.

ii) Construction: Mixer of approved types shall be employed for mixing" the aggregate with the bituminous binder. The binder shall be heated in boilers of suitable design to a temperature appropriate to a grade of bitumen approved by the Engineer. Also the aggregates shall be dry and suitably heated to a temperature directed by the Engineer before the same are placed in the mixer.

Mixing of binder with aggregates to the specified proportion shall be continued with the latter are thoroughly coated with the former. The mix shall be immediately transported from the mixing plan to the point of use and spread uniformly on the bituminous surface to be sealed. As soon as sufficient length has been covered with the premixed materials, the surface shall be rolled with 6 to 9 ton smooth wheeled power roller. Rolling shall be continued till the premixed materials completely seal the voids in the bituminous coarse and a smooth uniform surface is obtained.

6.5. **BLINDING THE ROAD SURFACE:**

Blinding the road surface after the seal coat processing is over then the traffic is to be allowed.

SECTION - 6
DRAWINGS

SECTION - 7
FORMS

ANNEXURE - 'A'

NO RELATION CERTIFICATE

certified that I / We / am / are not related to any officer of Water Resources Department of the rank of Assistant Engineer and above or any officer of the rank of Assistant Secretary above.

CONTRACTOR

CONTRACTOR

: 66 :

SUPERINTENDING ENGINEER
NAYAGARH IRRIGATION DIVISION
NAYAGARH

**INFORMATION REGARDING CURRENT LITIGATION, DEBARRING EXPELLING OF
TENDERED OR ABANDONMENT OF WORK BY THE TENDERER.**

- | | | |
|----|---|----|
| 1. | Is the tenderer currently involved | |
| | a) in any litigation relating to the works. | No |
| | b) If yes: give details: | |
| 2. | Has the tenderer or any of its constituent partners been | |
| | a) debarred/ expelled by any agency in india during the last 5 Years. | No |
| 3. | Has the tenderer or any of its constituent partners failed to | |
| | a) perform on any contract work in india during the last 5 Years. | No |
| | b) If yes: give details: | |

Contractor

ANNEXURE - 'D'

AFFIDAVIT

I, Sri..... Aged.....year, Son/ Daughter/Wife
of Sri.....at present residing At.....
P.O..... P.S. Dist. Pin do hereby
solemnly affirm as follows.

- i) That, I / We possess a valid license for execution of works contract issued by
..... belongs to Class & is valid up to **
- I am submitting tenders before the Executive Engineer, Nayagarh Irrigation Division, Nayagarh At/Po/Dist-
Nayagarh, Odisha for execution of"
- " in response to 'e' Procurement

Notice No.

I am the authorized signatory on behalf of contractor for the tender for the work mentioned above.

- ii) I am swearing this affidavit that all tender documents and accompanying papers those being submitted by me before
the Executive Engineer, Nayagarh Irrigation Division, Nayagarh including E.M.D. in any shape are all
authentic and bonafied documents in the eyes of the law of the land.

That the fact stated in the affidavit are true to the best of my knowledge and belief.

**Signature of Contractor /
Authorized Signatory**

Note :

"Mention the license issuing authority.

* "Mention the date up to which the license is valid

SECTION - 8
BILL OF QUANTITIES

END OF THE BID DOCUMENT

FOR ON-LINE PARTICIPATION IN THE TEDNER

PLEASE VISIT THE GOVT. OF ODISHA WEB SITE: <http://tendersorissa.gov.in>