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INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e- TENDERING

1. In case of e-tendering the entire NIT along with all necessary documents is to be uploaded which can be viewed by the intending bidder free of cost. Therefore, the existing form of Press Notice has been modified since it is no more to be published in news papers and named as information and instructions for Contractors which will form part of NIT and to be uploaded on ITI website.
2. Information and instructions for Contractors for e-tendering inviting open tenders is enclosed as Annexure - I.

**INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING
FORMING PART OF NIT AND TO BE POSTED ON WEBSITE
(Applicable for inviting open tenders)**

Executive Engineer Rohini Project Division 12 on behalf of Delhi Development Authority invites online Item rate tenders from specialized agencies / contractors for the following works.

S.No.	NIT No.	Name of Work & Location	Estimated Cost put to tender	Earnest Money	Period of Completion	Last Date & time of submission of tender	Period during which UTR of RTGS/ NEFT/ Bank Guarantee against EMD, Cost of Tender and other Documents shall be submitted	Time & date of Opening of tender
1	2	3	4	5	6	7	8	9
1.	2/EE.RPD-12/DDA/2013-14	M/o Completed Scheme under (Under NA-II) Rohini Zone SH:Cleaning and desilting of sewer lines of Sector-25, Remaining sewer lines of Sector-23 & 24(Part-II), Mangalam Place Sector-3, Rohini and maintenance of sewer line Sector-20 to 24 with super sucker machine.(peripheral lines)	Rs37,78,623/-	Rs.75,572/-	12 Months	Up to 3.00 PM on 23.05.2013	Up to 03:00 PM 24.05.2013	AT 3.30PM 29.05.2013

The tender document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen from website www.tenderwizard.com/DDA or www.dda.org.in free of cost. For any assistance on e-tendering please contact M/s. ITI Limited on 011-49424365, 9871317488, 9212520281, 9971662903, 9654516163.-

NOT TO BE PUBLISHED BELOW THIS LINE.....

- 1 The enlistment of the contractors should be valid on the last date of submission of tenders. In case only the last date of submission of tender is extended, the enlistment of contractor should be valid on the original date of submission of tenders.
2. Those contractors not registered on the website mentioned above, are required to get registered beforehand. The intending bidder must have valid class-II digital signature to submit the bid. Contractors who fulfill the following requirements shall be eligible to apply:
The tenders shall be issued to specialized agencies / contractors provided they satisfy the following criteria:
 - a) The firms/Contractors who have successfully completed similar nature of works during last 7 years ending last day of the month previous to the one in which the tenders are being invited i.e. 31.03.2012 must produce/submit definite proof from the appropriate authority.
 - i. Three similar completed works (at least one of them should preferably be in Central Govt./ Central Public Sector Undertaking costing not less than the amount equal to 40% of the estimate cost of work i. e. Rs*..... put to tender.
Or
 - ii. Two similar completed works costing not less than the amount equal to 50% of the total estimated cost of work i.e. Rs*.....put to tender.

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Delhi Development Authority

- iii. One similar completed work costing not less than the amount equal to 80% of the total estimated cost of work i.e. Rs*.....-put to tender.
- b) The Cost of respective works completed by the Tenderer shall be suitable enhanced @ 5% of each subsequent year following the financial year in which that particular work has been completed to bring it at par with the present cost.
- c) The pre bid meeting shall be held on _____ in the office of SE/CC-9, Rohini.
3. (i) Earnest money and cost of tender shall be deposited through RTGS/NEFT in the account of Senior A.O. CAU(Rohini Zone),DDA having **SB account No.1347200011 with Central Bank OF India, Sector-14, Rohini Branch (IFSC code -CBIN0283348)**. The unique transaction reference of RTGS/NEFT shall have to be uploaded by the tenderer in the e-tendering system by the prescribed date. The Executive Engineer,RPD-12 will get tender cost/earnest money verified from CAU based on the unique transaction reference number against each RTGS/NEFT payment before the tenders are opened.
- (ii) A part of earnest money is acceptable in the form of bank guarantee also. Earnest Money up to Rs.20.00 lacs will have to be deposited through RTGS/NEFT mode. If the amount of E.M is more than Rs.20.00 lacs then the amount of E.M. beyond Rs. 20.00 lacs can be deposited in the form of Bank Guarantee also. Such Bank guarantee is to be scanned and uploaded to the e-tendering website within the period of tender submission.
- (iii) Earnest money and cost of tender have to be deposited through separate transactions.

Interested contractor who wish to participate in the tender has also to make following payments.

- i) Cost of Tender Document Rs.500/- + 5% VAT to be deposited through RTGS/NEFT in the account of the Sr.A.O.(CAU) Rohini Zone).
- ii) E-Tendering Processing Fee- Rs 2022/-(to be deposited through E-Mode of ITI Limited payable at Delhi)

The unique transaction reference of RTGS/NEFT against EMD Cost of Tender Document and Bank Guarantee shall be placed in single sealed envelope superscripted as "Earnest money, Cost of Tender Documents" with name of work and due date of opening of the bid mentioned thereon and will submit to tender opening Authority by (date) 17.04.13

Copy of Enlistment Order shall be scanned and Certificate Of Work Experience as required shall be scanned and uploaded to the e-tendering website within the period of tender submission and certified copy of each shall be deposited in a separate envelope marked as, "Other Documents".

Both the envelopes shall be placed in another envelope with due mention of Name of work, date & time of opening of tenders and to be submitted in the office of Executive Engineer during the period mentioned above.

Online tender documents submitted by intending bidders shall be opened only of those bidders, whose Earnest Money Deposit, Cost of Tender Document and e-Tender Processing Fee and other documents placed in the envelope are found in order.

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List of Documents to be scanned and uploaded within the period of tender submission:-

1. The unique transaction reference of RTGS/NEFT against EMD , Cost of Tender Document Bank Guarantee & e-Tender Processing Fee.
2. Enlistment order of the Contractor.
3. Affidavit as per provisions of clause 1.2.3 of Form-6.
4. Certificate of Registration for Sales Tax / VAT and Service Tax and acknowledgement of up to date filed return if required.
5. Certificate of work experience in respect of similar works

**Executive Engineer
Division -RPD-12,
DDA.**

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Delhi Development Authority
NOTICE INVITING TENDER
(E – TENDERING MODE)

Item rate online tenders are invited on behalf of Delhi Development Authority from specialized agencies/contractors for the following work:-

Name of work : M/o Completed Scheme under (Under NA-II) Rohini Zone
SH Cleaning and desilting of sewer lines of Sector-25, Remaining sewer lines
of Sector-23 & 24(Part-II), Mangalam Place Sector-3, Rohini and
maintenance of sewer line Sector-20 to 24 with super sucker
machine.(peripheral lines)

The enlistment of the contractors should be valid on the last date of submission of tenders. In case the last date of submission of tender is extended, the enlistment of contractor should be valid on the original date of submission of tenders.

- 1.1 The work is estimated to cost **37,78,623/-** .
- 1.2 Intending tenderer is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below :

Criteria of eligibility for submission of tender documents.

- 1.2.1 Contractors who fulfill the following requirements shall be eligible to apply :

The tender shall be issued to specialized agencies/ contractors provided they satisfied the following criteria:

The firms/Contractors who have successfully completed similar nature of works during last 7 years ending last day of the month previous to the one in which the tenders are being invited i.e. 31.03.2012 must produce/submit definite proof from the appropriate authority

- i. Three similar completed works (at least one of them should preferably be in Central Govt./ Central Public Sector Undertaking costing not less than the amount equal to 40% of the estimate cost of work i. e. Rs ...*..... put to tender.
Or
- ii. Two similar completed works costing not less than the amount equal to 50% of the total estimated cost of work i.e. Rs*.....put to tender.
Or
- iii. One similar completed work costing not less than the amount equal to 80% of the total estimated cost of work i.e. Rs*.....put to tender.

The Cost of respective works completed by the Tenderer shall be suitable enhanced @ 5% of each subsequent year following the financial year in which that particular work has been completed to bring it at par with the present cost.

- 1.2.2 **Similar work shall mean “Cleaning and desilting of sewer lines by super sucker machine”**

- 1.2.3 To become eligible for issue of tender, the tenderers to furnish an affidavit as under:

- (a) “I/we” undertake and confirm that eligible similar work(s) has/have not got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of the Department, then I/we shall be debarred for tendering in DDA in future for ever. Also, if such a violation comes to the notice of the Department before the date of start of work the Engineer-in-charge shall be free to forfeit the entire amount of earnest money deposit /performance guarantee.”

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- (b) Agreement shall be drawn with successful tenderer on prescribed form attached. Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
- 3 The time allowed for carrying out the work will be **Four Months** from the date of start as defined in Schedule F or from the first date of handing over the site, Whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
- 4 The site for the work is available.
- 5 The tender document consisting of schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except standard general conditions of contract form can be seen from website www.tenderwizard.com/DDA or www.dda.org.in.
- 6 (i) Earnest money and cost of tender shall be deposited through RTGS/NEFT in the account of Senior A.O. CAU(Rohini Zone),DDA having **SB account No.1347200011 with Central Bank OF India, Sector-14, Rohini Branch (IFSC code -CBIN0283348)**. The unique transaction reference of RTGS / NEFT shall have to be uploaded by the tenderer in the e-tendering system by the prescribed date. The Executive Engineer,RPD-2 will get tender cost/earnest money verified from CAU based on the unique transaction reference number against each RTGS/NEFT payment before the tenders are opened.
- (ii) A part of earnest money is acceptable in the form of bank guarantee also. Earnest Money up to Rs.20.00 lacs will have to be deposited through RTGS/NEFT mode. If the amount of E.M is more than Rs.20.00 lacs then the amount of E.M. beyond Rs. 20.00 lacs can be deposited in the form of Bank Guarantee also. Such Bank guarantee is to be scanned and uploaded to the e-tendering website within the period of tender submission.
- (iii) Earnest money and cost of tender have to be deposited through separate transactions.

Interested contractor who wish to participate in the tender has also to make following payments.

- i) Cost of Tender Document Rs.500/-+ 5% VAT to be deposited through RTGS/NEFT in the account of the Sr.A.O.(CAU) Rohini Zone).
- ii) E-Tendering Processing Fee- Rs2,022/-(to be deposited through E-Mode of ITI Limited payable at Delhi)
- iii) The unique transaction reference of RTGS/NEFT against EMD Cost of Tender Document and Bank Guarantee shall be placed in single sealed envelope superscripted as "Earnest money, Cost of Tender Documents" with name of work and due date of opening of the bid mentioned thereon and will submit to tender opening Authority by (date) 24.05.2013

Copy of Enlistment Order and certificate of work experience as required and other documents as specified in the press notice shall be scanned and uploaded to the e-tendering website within the period of tender submission and certified copy of each shall be deposited in a separate envelop marked as "Other Documents".

Both the envelopes shall be placed in another envelope with due mention of Name of work, date & time of opening of tenders and to be submitted in the office of Executive Engineer during the period mentioned above.

Online tender documents submitted by intending bidders shall be opened only of those bidders, whose Earnest Money Deposit, Cost of Tender Document and e-Tender Processing Fee and other documents placed in the envelope are found in order.

The bid submitted shall be opened at 03:30 pm on 29.05.2013

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- 7 The contractor, whose tender is accepted, will be required to furnish performance guarantee of 5 % (Five percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than ` 10,000/-) or

Deposit at call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand draft of any scheduled bank/Pay order of any scheduled bank (in case guarantee amount is less than ` 1, 00,000) or Government securities or fixed Deposit Receipts or Guarantee Bonds of any Scheduled bank or the State Bank of India in accordance with the prescribed form.

- 8 Intending Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract document. Submission of a tender by tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant etc will be issued to him by the government and local conditions and other factors having a bearing on the execution of the work.
- 9 The competent authority on behalf of DDA does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without assigning any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
- 10 Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
- 11 The competent authority on behalf of DDA reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
- 12 The contractor shall not be permitted to tender for works in the DDA Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives of any Gazetted officer in DDA or in the Ministry of Urban development. Any breach of this condition by the contractor would render him liable to be removed from approved list of contractors of this department
- 13 No Engineer of gazetted rank or other Gazetted officer employed in engineering or Administrative duties in an Engineering department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from the Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found anytime to be such a person who had not obtained the permission of the DDA as aforesaid before submission of the tender or engagement in the contractor's service.
14. The tender for the work shall remain open for acceptance for a period of ninety (90) days from the date of opening of tender. If any tenderer withdraws his tender the following actions can be taken as per merit.

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Delhi Development Authority

Case of withdrawal of offer

- (i) If the tenderer withdraws his offer before the said period (within 60 days of opening of financial bid) or before issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of tender which are not acceptable to the department.
- (ii) If the contractor withdraws his offer immediately after the award of work.
- (iii) If the contractor withdraws his offer immediately after the award of work and taking over possession of site.

Action to be taken

The DDA shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said Earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the re tendering process of the work.

The Earnest Money deposited by the contractor shall be forfeited absolutely and disciplinary action as deemed fit shall be taken by the department against the contractor.

It is deemed that the contractor has entered into Agreement and action to penalize the contractor, for not completing the work within the stipulated period under Clause-2 & 3 will be taken against the contractor, if he abandons the site after taking over the possession of the site from the Engineer-in-charge. For taking action under Clause 2 & 3, the only documentary proof required will be the document showing signature of the contractor or his authorized representative for taking over the possession of site. It is further clarified that action under Clause 2 & 3 of the agreement attracted even though the Contractor fails to sign the agreement on `50/- non-judicial stamp paper but do not start work from the tenth day after date on which the order to commence the work is issued to the contractor. The date of start of the work will be considered as date of taking over the possession of site. In case of tender for supply of material the documentary proof for start of work will be submission of samples for approval to Engineer-in-Charge i.e. in case the supply order is given to the contractor and he fails to supply the materials or submit the samples to Engineer-in-Charge then the action to be taken against the contractor is only the forfeiture of earnest money and if he submits the samples for supply and there after abandons the work or fails to supply the materials then action under **Clause- 2 & 3** is attracted.

- 15 This 'Notice Inviting Tender' shall form part of the contract document. The successful tenderer/contractor on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of :-

- (a) The Notice inviting tender, all the documents including additional conditions, specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- (b) Standard NIT Form 7/8 or other Standard DDA Form as mentioned.

- 16 The tender document will include following two components:

Part A: - Notice Inviting Tender form, Contract for work form including schedule A to F, General Conditions of Contract for works.

Part B: - General/specific conditions, specifications and schedule of quantities applicable to the work.

Delhi Development Authority

17. In case any discrepancy is noticed between the document as uploaded at the time of submission of the bid online and hard copies as submitted physically in the office of Executive Engineer, then the bid submitted shall become invalid and the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the retendering process of the work.
18. a) If any information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering and taking works in DDA. The department reserves the right to verify the particulars furnished by the applicant independently including carrying out inspection of works completed by them.
b) The department reserves the right to reject any application without assigning any reason.
19. (a) It may please be carefully noted that no condition, whatsoever, shall be accepted by the department and the contractor is strictly prohibited from giving conditional tender and if any contractor is not prepared to execute the work at the terms and conditions contained in the tender documents, he is requested not to tender for this work. It may be noted that if any contractor chooses to submit conditional tender in spite of clear direction given above, his tender is liable to be summarily rejected and his full Earnest Money shall stand forfeited. He will also be liable for being debarred from tendering in DDA for a period of six months.
(b) Monthly payment to the contractor will be made when gross amount of the work done during the previous months is not less than Rs **5,00,000/-**.
20. (a) Sales-Tax / VAT (Except Service Tax) Purchase Tax, Turnover Tax or any other tax on material in respect of this contract shall be payable by the Contractor and DDA will not entertain any claim whatsoever in respect of the same. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the contractor.

(b) Contractor must produce certificate of registration of sales tax/VAT under Delhi Value Added Tax Act 2004 and Service Tax with Sales tax/VAT Department of GNCTD and tax clearance certificate.
21. **Labour Cess:**
- (a) Cess under the provision of Building and Other Construction Workers (RE & CS) Act 1996 and the Building and Other Construction Workers Welfare Cess Act 1996 @ 1% of the cost of Construction/Project shall be deducted at source from the bill paid to the Contractor. DDA shall not bear any liability on account of cess being deducted and reimbursed to GNCTD in pursuance of Building and Other Construction Workers Welfare Cess Act, 1996 read with Delhi Building and Other Construction Workers (RE. & CS.) Rules, 2002.
- (b) Tax @ 2% of total payment will be recovered under Delhi Value Added Tax Act 2004.
22. Tenderers may refer Press Tender Notice/detailed tender notice in e-tendering website for any corrigendum/amendments in the tender.
23. DDA will not be responsible for not getting internet connection/power supply while downloading the Electronic bid sheets/documents or while uploading their bids.

Executive Engineer
Division –RPD-12
For and on behalf of DDA, New Delhi
Dated

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EE (P)

SE /CC-9 (Rohini)

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Delhi Development Authority

INTEGRITY PACT

To

.....
.....
.....

Sub: NIT No.....for the work.....

Dear Sir,

It is here by declared that DDA is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender(NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the D.D.A.

Yours faithfully

Executive Engineer

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Delhi Development Authority

INTEGRITY PACT

To

Executive Engineer

.....
.....

Sub: Submission of Tender for the work of

Dear Sir,

I/We acknowledge that D.D.A. is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that **THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE** of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by D.D.A. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, D.D.A. shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

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Delhi Development Authority

INTEGRITY PACT

To be signed by the bidder and same signatory competent/authorized to sign the relevant contract on behalf of D.D.A.

INTEGRITY AGREEMENT

This Integrity Agreement is made on.....on this.....day of.....
20.....

BETWEEN

Delhi Development Authority represented through Executive Engineer.....
(Name of Division)
D.D.A.(Hereinafter referred as the
(Address of Division)

‘Principal/Owner’, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
(Name and Address of the Individual/firm/Company)
Through.....(Hereinafter referred to as the
“Bidder/Contractor” and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal/Owner has floated the Tender (NIT No.....)(hereinafter referred to as **“Tender/Bid”**) and intends to award, under laid down organizational procedure, contract for.....
(Name of work)

Hereinafter referred to as the **“Contract”**.

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement(hereinafter referred to as **“Integrity Pact”** or **“Pact”**),the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Principal/Owner

- 1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, Demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

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- b) The Principal/Owner will, during the Tender Process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender Process or the Contract Execution.
 - c) The Principal/owner shall endeavour to exclude from the Tender Process any person, whose conduct in the past has been biased nature.
- 2) If the Principal/Owner obtain information on the conduct of any of its employees which is a criminal offence under the Indian Penal Code (IPC) / Prevention of Corruption Act, 1988(PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

- 1) It is required that each Bidder/Contractor(including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government/Department all suspected acts of **fraud or Corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The Bidder(s) Contractor (S) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution.
 - a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender Process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contract(s) will not use improperly,(for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidders(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

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- 3) The Bidders Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 4) The Bidder (s) /Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
- 5) **The Bidder(s) /Contractor(s)** will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may be fall upon a person. his/her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/ Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/ Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/ Owner's absolute right:

- 1) If the Bidder(s) / Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/ Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/ Contractor(s) from the Tender process or terminate/ determine the Contract, if already executed or exclude the Bidder/ Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/ Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/ Owner.**
- 2) **Forfeiture of EMD / Performance Guarantee/ Security Deposit:** If the Principal/ Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/ determined the Contract or has accrued the right to terminate /determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal / Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/ Contractor.
- 3) **Criminal Liability:** If the Principal / Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/ Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4:Previous Transgression:

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/ State Public Sector Enterprises in India that could justify his exclusion form the Tender Process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender Process or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.
- 3) If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, in its own discretion, revoke the exclusion prematurely.

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Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors.

- 1 The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this integrity Pact .The Bidder/Contractor shall be responsible for any violation(s) of the principle laid down in this agreement/Pact by any of its Sub-contractor/sub-vendors.
- 2 The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3 The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article-6 - Duration of the Pact.

This Pact begins when both the parties have legally signed it. It expires for the Contactor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/ determined by the Competent Authority, DDA.

Article 7- Other Provisions

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Head Quarters of the Division of the Principal/ Owner, who has floated the tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- 4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement/Pact, any action taken by the Owner/Principal in accordance with this **Integrity Agreement/ Pact or Interpretation thereof shall not be subject to arbitration.**

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/ Contact documents with regard any of the provision covered under this Integrity Pact.

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IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....
(For and on behalf of Principal/Owner)

.....
(For and on behalf of Bidder/Contractor)

WITNESSESS:

1.
(signature, name and address)

2.
(signature, name and address)

Place:

Dated:

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ITEM RATE TENDER AND CONTRACT FORM

Tender for the work of : M/o Completed Scheme under (Under NA-II) Rohini Zone
SH :- Cleaning and desilting of sewer lines of Sector-25, Remaining sewer lines
of Sector-23 & 24(Part-II), Mangalam Place Sector-3, Rohini and
maintenance of sewer line Sector-20 to 24 with super sucker
machine. (peripheral lines)

- i) To be submitted through E-Tendering up to 3.00 pm on _____ to Executive Engineer,
Division RPD-11/DDA
- ii) To be opened through E-Tendering at 3.30 pm on _____ by the Executive Engineer,
Division RPD-11/DDA

TENDER

I/ We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F. Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special condition, Schedule of Quantities & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the DDA within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the clauses of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for **sixty (60)** days from the due date of its opening and not to make any modifications in its terms & conditions.

A sum of Rs. **75572/-** deposited in the account of Sr. A.O. (CAU) is hereby forwarded in the form of UTR of RTGS /NEFT/ bank guarantee beyond 20 lacs issued by a scheduled bank as earnest money. If I/we, fail to furnish the prescribed performance guarantee within prescribed period, I/we agree that the said DDA or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/we fail to commence work as specified I/we agree that DDA or its successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, up to maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form

Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re tendering process of the work.

I/ we undertake and confirm that eligible similar work (s) has/ have got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of the Department, then I/we shall be debarred for tendering in DDA in future for ever. Also, if such a violation comes to the notice of the Department before the date of start of work the Engineer-in-charge shall be free to forfeit the entire amount of earnest money deposit /performance guarantee.

I/we hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/ confidential documents and shall not communicate

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information derived there from to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Signature of witness

Name:

Address:

Occupation:

Signature of contactor

Name:

Address:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the DDA for a sum of ` _____ * _____
(` _____ * _____
_____)

The letters referred to below shall form part of this contract Agreement:

- i)
- ii)
- iii)

For & on behalf of Delhi Development Authority

Signature _____

Designation: Executive Engineer
Division_RPD-11/ DDA

GENERAL RULES AND DIRECTIONS

1. All work proposed for execution by contract will be notified in a form of invitation to tender pasted in public places & signed by the officer inviting tender or by publication in News paper as the case may be.

This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited along with tender, the Performance Guarantee to be deposited by the successful agency / contractor and the amount of security deposit to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner 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, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.

3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where 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 due authority to give effectual receipts for the firm.

4. Any person who submits a tender shall fill up the Schedule of Quantities, stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works which they refer, written on the envelopes.

4A Deleted

4B Deleted

5. The officer inviting tender or his duly authorized representatives will open tenders and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall be thereupon be given to the contractor who shall thereupon for the purpose of identification of copies of the specifications and other documents mentioned in Rule-1 In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.

6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.

7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgement or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.

8. The memorandum of work tendered for and the schedule of materials to be supplied by the department and their issue-rates, shall be filled and completed in the office of the officer inviting tender before the tender form is uploaded. If a form is uploaded on website without having been so filled in and incomplete, he shall request the officer to have this done before he completes his tender.

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9. The tenderers shall sign a declaration under the official Secret Act 1923, for maintaining secrecy of the tender documents, drawings or other records connected with the work given to them. The unsuccessful tenderer(s) shall return all the drawings given to them.
10. In the case of Item Rate Tenders only rates quoted shall be considered. Any tender containing percentage below/ above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.
- 10A Deleted
11. In the case of any tender where unit rate of any item/ items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
12. All rates shall be filled in tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs.2.15 P' and in case of words, the word, 'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.
- 12A Deleted
- 13(i) The contractor whose tender is accepted will be required to furnish performance guarantee of 5% (five percent) of the tendered amount within the period specified scheduled F. This guarantee shall be in the form of cash (in case guarantee amount is less than `10,000/-) or deposit at call received of any scheduled bank/Banker's cheque of any scheduled bank/ Demand Draft of any scheduled bank/pay order of any scheduled any bank (in case guarantee amount than `1,00,000/-) or Govt. securities fixed deposit receipts or guarantee bonds of any scheduled bank or the state Bank of India in accordance with the prescribed form.
- (ii) The contractor whose tender is accepted will also be required to furnish by way of security Deposit for the fulfillment of his contract, an amount equal to 5% of the tendered value of work. The security deposit will be collected by deductions from the running bills of the contractor at the rates mentioned above and the earnest money deposited at the time of the tenders, will be treated as part of the security deposit. The security deposit will also be accepted in cash or in the shape of government securities. Fixed deposit receipt of a Scheduled bank or State Bank of India will also be accepted for this purpose provided conformity advice is enclosed.
14. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
15. Sales-Tax / VAT (Except Service Tax) Purchase Tax, Turnover Tax or any other tax on material in respect of this contract shall be payable by the Contractor and DDA will not entertain any

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claim whatsoever in respect of the same. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the contractor.

LABOUR CESS:

- (a) Cess under the provision of Building and Other Construction Workers (RE & CS) Act 1996 and the Building and Other Construction Workers Welfare Cess Act 1996 @ 1% of the cost of Construction/Project shall be deducted at source from the bill paid to the Contractor. DDA shall not bear any liability on account of cess being deducted and reimbursed to GNCTD in pursuance of Building and Other Construction Workers Welfare Cess Act, 1996 read with Delhi Building and Other Construction Workers (RE & CS.) Rules, 2002.
- (b) TDS @ 2% of total payment will be recovered under Delhi Value Added Tax Act 2004.
16. The contractor shall give a list of both gazetted and non-gazetted DDA employees related to him.
17. The tender for the work shall not be witnessed by a contractor or contractors who himself/ themselves have/ have tendered or who may has/ have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
18. The tender for composite work includes ,in addition to building work, all other works such as sanitary and water supply installations, electrical work ,horticulture work, roads and paths etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.
19. The contractor shall submit list of works which are in hand (progress) in the following form:-

Name of Work	Name and particulars of Division where work is being executed	Value of work	Position of Work in progress	Remarks
1	2	3	4	5

20. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the DDA may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

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CONDITIONS OF CONTRACT

Definitions

1. The **Contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the DDA and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:
 - i) The expression **works or work** shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
 - ii) The **Site** shall mean the land/ or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work, is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
 - iii) The **Contractor** shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assigns of such individual, firm or company.
 - iv) Deleted.
 - v) The **Engineer-in-Charge** means the Divisional Officer who shall supervise and be in charge of the work and who shall sign the contract on behalf of DDA as mentioned in Schedule 'F' hereunder.
 - vi) Deleted.
 - vii) Deleted.
 - viii) **Accepting Authority** shall mean the authority mentioned in Schedule 'F'.
 - ix) **Excepted Risk** are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works.
 - x) **Market Rate** shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits.
 - xi) **Schedule(s)** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued up to the date of receipt of the tender.
 - xii) Department means DDA/Delhi Development Authority
 - xiii) Deleted.
 - xiv) **Tendered value** means the value of the entire work as stipulated in the letter of award.
 - xv) **Date of commencement of work:** The date of commencement of work shall be the date of start as specified in schedule 'F' or the first date of handing over of the site, which ever is later, in accordance with phasing if any, as indicated in the tender document.

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3. Scope and Performance

Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.

4. Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.

5. The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.

6. Works to be carried out

The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of quantities (Schedule-A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

7. Sufficiency of Tender

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.

8. Discrepancies and Adjustment of Errors

The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.

8.1 In the case of discrepancy between the Schedule of Quantities, Specifications, and/or the Drawings, the following order of preference shall be observed:

- i) Description of schedule of quantities.
- ii) Particular specification and Special Condition, if any.
- iii) Drawings.
- iv) CPWD Specifications.
- v) Indian Standard Specifications of B.I.S

8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.

8.3 Any error in description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.

9. Signing of Contract

The successful tenderer/ contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work sign the contract consisting of:

- i) The letter inviting tender, all the documents including drawings, if any forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- ii) Standard tender document as mentioned in Schedule 'F' consisting of:

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- a) Various Standard clauses with corrections up to the date stipulated in Schedule 'F' along with annexure thereto.
 - b) Safety Code
 - c) Model Rules for the protection of health, sanitary arrangements for workers employed by DDA or its contractors.
 - d) Contractors labour regulations.
 - e) List of Acts and omissions for which fines can be imposed.
- iii) No payment for work done will be made unless contract is signed by the contractor.

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CLAUSES OF CONTRACT

CLAUSE 1

Performance Guarantee

- i) The Contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in schedule 'F' on written request of the contractor stating the reasons for delay in procuring the performance Guarantee to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of cash (in case guarantee amount is less than `10,000/-) or Deposit at call receipt of any scheduled bank or banker cheque of any scheduled bank/ Demand Draft of any scheduled bank/Pay order of any scheduled bank (in case guarantee amount is less than `1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the DDA as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the DDA to make good the deficit.
- ii) The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.
- iii) The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the DDA is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
 - a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
 - b) Failure by the contractor to pay DDA any amount due, either as agreed by the contractor or determined under any of the Clauses/ Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
- iv) In the event of the contract being determined or rescinded under provision of any of the Clause/ Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the DDA

CLAUSE 1A

Recovery of Security Deposit

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit DDA at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running bill till the sum along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. Earnest money shall be adjusted first in the security deposit and further recovery of security deposit shall commence only when the update amount of security deposit starts exceeding the earnest money. Such deductions will be made and held by DDA by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in the form cash or in the form of Government Securities or fixed deposit receipts. In case a fixed deposit receipt of any Bank is furnished by the contractor to the DDA as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the DDA to make good the deficit.

All compensations or the other sums of money payable by the contractor under the terms of this 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 to or may become due to the contractor by DDA on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such

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deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks or Government Securities (if deposited for more than 12 months) endorsed in favour of the DDA, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above and the Earnest money deposited at the time of tender will be treated as part of the Security Deposit.

The security deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of `5 lakh subject to the condition that amount of such bank guarantee, except last one, shall not be less than ` 5 lakh. Provided further that the validity of bank guarantee including the one given against the earnest money shall be in conformity with provisions contained in clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of Clause 2 and Clause 5.

Note-1: Government papers tendered as security will be taken at 5% (five percent) below its market price or at its face value, whichever is less. The market price of Government paper would be ascertained by the Divisional Officer at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Government paper will be withheld if necessary.

Note-2: Government Securities will include all forms of Securities mentioned in rule No.274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the condition mentioned under the rule against each form of security.

Note-3: Note 1 & 2 above shall be applicable for both clause 1 and 1A.

CLAUSE 2

Compensation for Delay

If the contractor fails to maintain the required progress in terms of clause 5 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 DDA on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Authority specified in Schedule F (whose decision in writing shall be final & 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 5 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.

- | | | |
|----|-----------------------------------|--|
| i) | Compensation
for delay of work | @ 1.5% per month of delay to be
computed on per day basis |
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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 of 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 DDA. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, 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 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.

CLAUSE 2A

Incentive for early completion

In case, the contractor completes the work ahead of scheduled completion time, a bonus @ 1% (one percent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5% (five percent) of the tendered value. The amount of bonus, if payable, shall be paid along with final bill after completion of work. Provided always that provision of the Clause 2A shall be applicable only when so provided in 'Schedule F'.

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CLAUSE 3

When Contract can be Determined

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- i) If the contractor having been given by the Engineer-in-charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
 - ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
 - iii) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-charge.
 - iv) If the contractor persistently neglects to carry out his obligations under the contract and/or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him behalf by the Engineer-in-Charge.
 - v) If the contractor shall offer or give or agree to give to any person in DDA service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for DDA.
 - vi) If the contractor shall enter into a contract with DDA in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-charge.
 - vii) If the contractor shall obtain a contract with DDA as a result of wrong tendering or other non-bonafide methods of competitive tendering.
 - viii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made adjust him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.
 - ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
 - x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
 - xi) If the contractor assigns, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-charge.
- When the contractor has made himself liable under any of the case aforesaid, the engineer in charge on behalf of DDA shall have powers:
- (a) To determine the contract as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the DDA.

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- (b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determine as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchases or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has 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

CLAUSE 3A

In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work, either party may close the contract. In such eventuality, the Earnest Money Deposit and the Performance Guarantee of the contractor shall be refunded, but no payment on account of interest, loss of profit or damages etc. shall be payable at all.

CLAUSE 4

Contractor liable to pay Compensation even if action not taken under Clause 3

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

CLAUSE 5

Time and Extension for Delay

The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in letter of acceptance 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, DDA shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.

- 5.1 As soon as possible after the Contract is concluded the Contractor shall submit a Time and Progress Chart for each milestone and get it approved by the Engineer-in-Charge. 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

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month (save for special jobs for which a separate program has been agreed upon) complete the work as per milestones given in Schedule 'F'.

- 5.2 If the work(s) be delayed by:
- i) force majeure, or
 - ii) abnormally bad weather, or
 - iii) serious loss or damage by fire, or
 - iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
 - v) delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
 - vi) Deleted
 - vii) Deleted
 - viii) any other cause which, in the absolute discretion of the authority mentioned in Schedule 'F' is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Authority as indicated in Schedule 'F' 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.

- 5.3 Request for rescheduling of Milestones and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form to the Authority as mentioned in schedule 'F'. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.
- 5.4 In any such case the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time and reschedule the milestones for completion of work. Such extension shall be communicated to the Contractor by the authority as indicated in schedule 'F' 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 authority as indicated in schedule 'F' and this shall be binding on the contractor.

CLAUSE 6

Measurements of Work Done

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value in accordance with the contract of work done.

All measurements of all items having financial value shall be entered in Measurement book and/or level field book so that a complete record is obtained of all works performed under the contract.

All measurements and levels shall be taken jointly by Engineer-in-charge or his authorized representative and by the contractor or his authorized representative from time to time, during the progress of the work and such measurements shall be signed and dated by Engineer-in-charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurement recorded, a note shall be made to that effect with reason and signed by both the parties.

If for any reason the contractor or his authorized representative is not available and the work of recording measurement is suspended by the Engineer-in-charge or his representative, the Engineer-in-charge and the department shall not entertain any claim from contractor for any loss or damage on his account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative have been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-charge or his representative shall be deemed to be accepted by the contractor.

The contractor shall without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

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Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, the a mutually agreed method shall be followed.

The contractor shall give, not less than seven days' notice to the Engineer-in-charge or his authorized representative in charge of work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimension thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond the reach of measurement any work without consent in writing of the Engineer-in-charge or his authorized representative in charge of work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in-charge's consent being obtained in writing, the same shall be uncovered at the contractors expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-charge or his authorized representative may cause either themselves or through another officer of the department to check the measurement recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurement or levels.

It is also a term of this contract that recording of measurements of any item of work in the measurement book and/ or its payment in the interim on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

CLAUSE 6 A

Computerized Measurement Book

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all the items having financial value shall be entered by the contractor and compiled in the shape of the computerized Measurement Book having pages of A-4 size as per format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-charge or his authorized representative as per interval or program fixed in consultation with Engineering-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and resubmission to Engineer-in charge for the dated signature by the Engineer-in-charge and the Contractor or their representative in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked / test checked from the Engineer-in-Charge and / or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks / test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and / or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks / test checks.

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of Computerized MBs. This should be done before the corresponding bill is submitted to the Division Office for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department.

The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare

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copies of bill. Thereafter, this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall without any extra charge, provide all assistance with every appliances, labour and other things necessary for checking of measurement / levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and / or test checking the measurement of any work in order that the same may be checked and / or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and / or test checking measurement and shall not cover up and place beyond the reach of measurement any work without consent in writing of the Engineer-in-charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and / or test checking measurement without such notice having been given or the Engineer-in-charge consent being obtained in writing, the same shall be uncovered at the contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurement or levels.

It is also a term of this contract that checking and / or test checking the measurements of any item of the work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurements or defects noticed till completion of the defects liability period.

CLAUSE 7

Payment on Intermediate Certificate to be regarded as Advances

No payment shall be made for work, estimated to cost Twenty thousand or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Twenty thousand, the interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payments/adjustment of advances for the material collected, if any, since the last payment is less than the amount specified in schedule 'F', in which case the interim bill shall be prepared on the appointment date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-Charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-charge. The amount admissible shall be paid by 10th working day after the day of presentation of bill by the Contractor to Engineer-in-Charge or his Assistant Engineer together with the account of the material issued by the department, or dismantled materials, if any. In case of works outside the headquarters of Engineer-in-charge, the period of 10 working days will be extended to fifteen working days.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be

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conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Engineer-in-Charge in his sole discretion on the basis of a certificate from to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundation, items to be covered under finishing items) up to lintel level (including sunshade etc) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof.

Payments in Composite Contracts:

In case of composite tenders, running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.

In case main contractor fails to make the payment to the contractor associated by him within 15 days of receipt of each running account payment, then on the written complaint of contractor associated for such minor component, Engineer in charge of minor component shall serve the show cause to the main contractor and if reply of main contractor either not received or found unsatisfactory, he may make the payment directly to the contractor associated for minor component as per the terms and conditions of the agreement drawn between main contractor and associate contractor fixed by him. Such payment made to the associate contractor shall be recovered by Engineer-in-charge of major or minor component the case may be.

CLAUSE 8

Completion Certificate and Completion Plans

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, door, windows, walls, floor or other parts of the 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, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

CLAUSE 8A

Contractor to keep Site Clean

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, color washing, painting etc., on walls, floor, windows, etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor

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with departmentally or through any other agency. Before taking such action, the Engineer-in-Charge shall give ten days notice in writing to the contractor.

CLAUSE 8B : Deleted as not applicable

CLAUSE 8C : Deleted as not applicable

CLAUSE 9

Payment of Final Bill

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period specified herein under, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Assistant Engineer, complete with account of materials issued by the department and dismantled materials.

- (i) If the Tendered Value of work is up to ` 15 lakhs : 3 months
- (ii) If the Tendered Value of work exceeds ` 15 lakhs : 6 months

CLAUSE 9A

Payment of Contractor's Bills to Banks

Payments due to the contractor may, if so desired by him, be made to his bank, registered financial, co-operative or thrift societies or recognized financial institutions instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge (1) an authorization in the form of a legally valid document such as a power of attorney conferring authority on the bank; registered financial, co-operative or thrift societies or recognized financial institutions to receive payments and (2) his own acceptance of the correctness of the amount made out as being due to him by DDA or his signature on the bill or other claim preferred against DDA before settlement by the Engineer-in-Charge of the account or claim by payment to the bank, registered financial, co-operative or thrift societies or recognized financial institutions. While the receipt given by such banks; registered financial, co-operative or thrift societies or recognized financial institutions shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank, registered financial, co-operative or thrift societies or recognized financial institutions.

Nothing herein contained shall operate to create in favour of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any rights or equities vis-à-vis the DDA.

CLAUSE 10

Materials supplied by DDA :

Materials which DDA will supply are shown in Schedule 'B' which also stipulates the quantum, place of issue and rate(s) to be charged in respect thereof. The contractor shall be bound to procure them from Engineer-in-Charge.

As soon as the work is awarded, the contractor shall finalize the program for the completion of work as per clause 5 of this contract and shall give his estimates of materials required on the basis of drawings/or schedule of quantities of the work. The contractor shall give in writing his requirement to the Engineer-in-Charge which shall be issued to him keeping in view the progress of work as assessed by the Engineer-in-Charge, in accordance with the agreed phased program of work indicating monthly requirements of various materials. The contractor shall place his indent in writing for issue of such materials at least 7 days in advance of his requirement.

Such materials shall be supplied for the purpose of contract and value of the materials so supplied at the rates specified in the aforesaid schedule shall be set off or deducted, as and when materials are consumed in items if work (including normal wastage) for which payment is being made to the contractor, from any sum then due or which may therefore become due to the contractor under the contract or otherwise or from the security deposit. At the time of submission of bills, the contractor shall certify that balance of materials supplied is available at site in original good condition.

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The contractor shall submit, along with every running bill (on account or interim bill), material-wise reconciliation statements supported by complete calculations reconciling total issue, total consumption and certified balance (diameter/section-wise in the case of steel) and resulting variations and reasons therefore. Engineer-in-Charge shall (whose decision shall be final and binding on the contractor) be within his rights to follow the procedure of recovery in Clause 42 at any stage of work if reconciliation is not found to be satisfactory.

The Contractor shall bear the cost of getting the material issued loading, transporting to site, unloading, storing under cover as required, cutting, assembling and joining the several parts together as necessary. Notwithstanding anything to the contrary contained in any other clause of the Contract and (or the CPWD code) all stores, materials so supplied to the Contractor or procured with the assistance of the Delhi Development Authority, shall remain the absolute property of Delhi Development Authority and the Contractor shall be the trustee of the store, materials and the said store, material shall not be removed/disposed of from the site of the work on any account and shall be all times open to the inspection by the Engineer-in-charge or his authorized agent. Any such stores/materials remaining unused shall be returned to the Engineer-in-Charge in a good condition in which they were originally supplied at a place directed by him, at a place of issue or any other place specified by him as he shall required but in case it is decided not to take back the stores/materials the Contractor shall have no claim for compensation on any account of such stores/materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores/materials.

On being required to return the stores/materials the Contractor shall hand over the stores/materials on being paid or credited such price as the Engineer-in-charge shall determine, having due regard to the condition of the stores/materials. The price allowed for credit to the Contractor, however shall be at prevailing market rate not exceed the amount charged to him excluding the storage charge, if any. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition the Contractor shall in addition to throwing himself open to account of contravention of the terms of the licenses or permit and/or criminal breach of trust, be liable to Delhi Development Authority for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach, provided that the Contractor shall in no case be entitled to any compensation or damage on the account of the delay in supply or non supply there of all or any such materials and stores. Provided further that the Contractor shall be bound to execute the entire work if the materials are supplied by the DDA with in the original schedule time for the completion of the work plus 50% thereof or schedule time plus 6 months whichever is more if the time of the completion exceed 12 months but if a part of the materials only has been supplied with in the aforesaid period, then the Contractor shall be bound to do so much of the work as may be possible with the materials and the stores supplied in the aforesaid period. For the completion of the rest of the work, Contractor shall be entitled to such extension of the times as may be determined by the Engineer-in-Charge whose decision in this regard shall be final and binding on the Contractor.

The contractor shall see that only the required quantities of material are used. Any such material remaining unused and in perfectly good/original condition at the time of completion or determination of the contract shall be returned to the Engineer-in-Charge at the stores from which it was issued or at the place directed by him by a notice in writing. The contractor shall not be entitled for loading, transporting, unloading and stacking of such unused material except for the extra lead, if any involved, beyond the original place of issue.

CLAUSE 10A

Materials to be provided by the Contractor

The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the DDA.

The contractor shall, at his own expense and without delay; supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

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The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.

The contractor shall, at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in schedule F.

CLAUSE 10B

i) **Secured Advance on Non-perishable Materials**

The contractor, on signing an indenture in the form to be specified by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work up to 90% of the assessed value of any materials which are in the opinion of the Engineer-in-Charge nonperishable, non-fragile and noncombustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

ii) **Mobilization Advance**

Mobilization advance not exceeding 10% of the tendered value may be given, if requested by the contractor in writing within one month of the order to commence the work. Such advance shall be in two or more installments to be determined by the Engineer-in-Charge at his sole discretion. The first installment of such advance shall be released by the Engineer-in-charge to the contractor on a request made by the contractor to the Engineer-in-Charge in this behalf. The second and subsequent installments shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier installment to the entire satisfaction of the Engineer-in-Charge.

Before any installment of advance is released, the contractor shall execute a Bank Guarantee Bond from Scheduled Bank for the amount of advance & valid for the contract period. This shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery, together with interest.

Provided always that the provision of clause 10B (ii) shall be applicable only when so provided in the schedule F

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iv) Plant, Machinery & Shuttering Material Advance

An advance for plant, machinery & shuttering material required for the work and brought to site by the Contractor may be given if requested by the contractor in writing within one month of bringing such plant and machinery to site. Such advance shall be given on such plant and machinery, which in the opinion of the Engineer-in-Charge will add to the expeditious execution of work and improve the quality of work. The amount of advance shall be restricted to 5% percent of the tender value. In the case of new plant and equipment to be purchased for the work, the advance shall be restricted to 90% of the price of such new plant and equipment paid by the contractor for which the contractor shall produce evidence satisfactory to the Engineer-in-Charge. In the case of second hand and used plants and equipment, the amount of such advance shall be limited to 50% of the depreciated value of plant and equipment as may be decided by the Engineer-in-Charge. The contractor shall, if so required by the Engineer-in-Charge, submit the statement of value of such old plant and equipment duly approved by a Registered Valuer recognized by the Central Board of Direct Taxes under the Income-Tax Act, 1961. No such advance shall be paid on any plant and equipment of perishable nature and on any plant and equipment of a value less than Rs.50,000/- Seventy five percent of such amount of advance shall be paid after the plant & equipment is brought to site and balance twenty five percent on successfully commissioning the same.

Leasing of equipment shall be considered at par with purchase of equipment and shall be covered by tripartite agreement with the following:

1. Leasing company which gives certificate of agreeing to lease equipment to the contractor.
2. Engineer-in-charge; and
3. The contractor.

This advance shall further be subject to the condition that such plant and equipment (a) are considered by the Engineer-in-Charge to be necessary for the works; (b) and are in and are maintained in working order; (c) hypothecated to the DDA as specified by the Engineer-in-Charge before the payment of advance is released. The contractor shall not be permitted to remove from the site such hypothecated plant and equipment without the prior written permission of the Engineer-in-Charge. The contractor shall be responsible for maintaining such plant and equipment in good working order during the entire period of hypothecation failing which such advance shall be entirely recovered in lump sum. For this purpose, steel scaffolding and form work shall be treated as plant and equipment.

The contractor shall insure the Plant and Machinery for which mobilization advance is sought and given, for a sum sufficient to provide for their replacement at site. Any amounts not recovered from the insurer will be borne by the contractor.

iv) Interest & Recovery :

The mobilization advance and plant and machinery advance in (ii) & (iii) above bear simple interest at the rate of 10 percent per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contractor's bills commencing after first ten percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.

- v) If the circumstances are considered reasonable by the Engineer-in-Charge, the period mentioned in (ii) and (iii) for request by the contractor in writing for grant of mobilization advance and plant and equipment advance may be extended in the discretion of the Engineer-in-Charge.

CLAUSE 10C

Payment on account of increase in prices/wages due to statutory order(s)

If after submission of the tender, the price of any material incorporated in the work (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and / or wages of labour increases as a direct result of the

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coming into force of any fresh law, or statutory rule or order (but not due to any changes in sales tax/VAT) beyond the prices/wages prevailing at the time of the last stipulated date of receipt of tenders including extensions, if any, for the work during contract period including the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2, then the amount of the contract shall accordingly be varied and provided further that any such increase shall be limited to the price/wages prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less.

If after submission of the tender, the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and / or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rules or order (but not due to any charges in sales tax/vat, Government shall in respect of materials incorporated in the works (excluding the materials covered under Clause 10CA and not being material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 hereof) and / or labour engaged on the execution of the work after the date of coming into force of such law or statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices of the material and / or wages as prevailing at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the prices of material and / or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2.

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 materials and wages.

The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/or 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.

For this purpose, the labour component of the work executed any during period under consideration shall be the percentage as specified in Schedule F, of the value of work done during that period & the increase/decrease in labour shall be considered on the minimum daily wages in respect of any unskilled adult male majdoor, fixed under any law/statutory rule or order.

CLAUSE 10CA : -----DELETED-----

Payment due to variation in prices of materials after receipt of tender.

If after submission of the tender, the prices of materials specified in Schedule 'F' increase/decreases beyond the price(s) prevailing at that time of the last stipulated date for receipt of tenders (including extensions, if any) for the work, then the amount of the contract shall accordingly be varied and provided further that any such variations shall be effected for stipulated period of contract including the justified period extended under the provisions of Clause 5 of the contract without any action under Clause 2.

However for work done/ during the justified period extended as above, it will be limited to indices prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less.

The increase/decrease in prices of cement, steel reinforcement and structural steel shall be determined by the Price Indices issued by the Director General (Works), CPWD. For other items provided in the Schedule F, this shall be determined by the All India Wholesale Price Indices of materials as published by Economic Advisor To Govt. of India, Ministry of Commerce and Industry and base price for cement, steel reinforcement and structural steel as issued under the authority of Director General (Works) CPWD applicable for Delhi as issued under the authority of zonal Chief engineer, DDA and base price of other materials issued by concerned zonal engineer as indicated in Schedule F as valid on the last stipulated date of receipt of tender, including extension if any and for the period under consideration. In case, price index of a particular material is not issued by Ministry of Commerce and Industry, then the price index of nearest similar material as indicated in Schedule F shall be followed.

The amount of the contract shall accordingly be varied for all such materials and will be worked out as per the formula given below for individual material.

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$$V = P \times Q \times \frac{CI - Clo}{Clo}$$

Clo

Where,

V : Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

P : Base Price of material as issued under the authority of DG(W), CPWD or concerned Zonal Chief Engineer as indicated in Schedule F valid at the time of the last stipulated date of receipts of tender including extensions, if any.

Q : Quantity of material brought at site for bonafide use in the works since previous bill.

Clo : Price Index for cement, steel reinforcement bars and structural steel as issued by the DG(W), CPWD as valid on the last stipulated date of receipt of tenders including extensions, if any. For other items, if any, provided in Schedule F, All India Wholesale Price Index for the material as published by the Economic Advisor to Government of India, ministry Industry and Commerce as valid on the last stipulated date of receipt of tenders including extensions, if any.

CI : Price Index for cement, steel reinforcement bars and structural steel as issued under the authority of DG(W), CPWD for period under consideration. For other items, if any, provided in Schedule F, All India Wholesale Price Index for the material for period under consideration as published by Economic Advisor to Government of India, Ministry of Industry and Commerce

NOTE:

(i) In respect of the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, 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.

Provided always that provisions of the preceding clause 10C shall not be applicable in respect of Materials covered in this Clause.

(ii) If during progress of work or at the time of completion of work, it is noticed that any material brought at site is in excess of requirement then amount of escalation if paid earlier on such excess quantity of material shall be recovered on the basis of cost indices as applied at the time of payment of escalation or as prevailing at the time of effecting recovery, whichever is higher.

CLAUSE 10CC: Deleted as not applicable

CLAUSE 10D

Dismantled Material a DDA Property

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as DDA property and such materials shall be disposed off to the best advantage of DDA according to the instructions in writing issued by the Engineer-in-Charge.

CLAUSE 10E: Deleted as not applicable

CLAUSE 11

Work to be Executed in Accordance with Specifications, Drawings, Orders etc.

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule 'F' or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is

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reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

CLAUSE 12

Deviations / Variations Extent and Pricing

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered be extended, if requested by the contractor, as follows:

- i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus
- ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

12.2 Deviation, Extra Items and Pricing

In the case of extra item(s) (items that are completely new and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) supported by proper analysis, for the work and the Engineer-in-Charge shall within one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following Para.

Deviation, Substituted Items, Pricing

- a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted) the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
- b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted) the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

Deviation, Deviated Quantities, Pricing

In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis, for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities the Engineer-in-Charge shall within one month of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

12.3 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after

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taking into consideration and reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

- 12.4 The contractor shall send to the Engineer-in-Charge once every three months an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Engineer in Charge may authorize consideration of such claims on merits.
- 12.5 For the purpose of operation of Schedule F, the following works shall be treated as works relating to foundation unless and otherwise defined in the contract:
- i) For buildings: All works up to 1.2 meters above ground level or up to floor 1 level which is lower.
 - ii) For abutments, piers and well staining: All works up to 1.2m above the bed level.
 - iii) For retaining walls, wing walls, compound walls, chimneys, over head reservoirs/tanks and other elevated structures: All works up to 1.2 meters above the ground level.
 - iv) For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2metres above the ground level.
 - v) For basement: All works up to 1.2m above ground level or up to floor 1 level which is lower.
 - vi) For Roads: All items of excavation and filling including treatment of sub base.
 - vii) For water supply lines, sewer lines, underground storm water drains and similar works : All items of work below ground level except items of pipe work and masonry work.
 - viii) For open storm water drains: All items of work except lining of drains.
- 12.6 Any operation incidental to or necessarily has to be in contemplation of tenderer while filling tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

CLAUSE 13

Foreclosure of Contract due to Abandonment or Reduction in Scope of work

If at any time after acceptance of the tender, DDA shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the Contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure:

- i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.
- ii) DDA shall have to option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however, DDA shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by DDA, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.

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- iii) If any materials supplied by DDA are rendered surplus, the same except normal wastage shall be returned by the contractor to DDA at rates not exceeding those at which these were originally issued less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to DDA stores, if so required by DDA, shall be paid.
- iv) Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
- v) Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.

The contractor shall, if required by the Engineer-in-Charge furnish to him books of account, wage books time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the DDA as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the DDA from the contractor under the terms of the contract.

CLAUSE 14

Carrying out part work at risk & cost of contractor

If Contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge : or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or
- (iii) Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specific in the notice given in writing in that behalf by Engineer- in-Charge.

The Engineer-in-Charge without invoking action under Clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

- a) Take possession of the site and any materials, constructional plant, implements, stores etc., thereon; and/or
- b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by Government because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

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Any excess expenditure incurred or to be incurred by Government in completing the part work/part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by Government as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to Government in law or as per agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all the contractors' unused materials constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, 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 advance on any account or with a view to the execution of work or the performance of the contract.

CLAUSE 15

Suspension of Work

i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:

- a) on account of any default on the part of the contractor or;
- b) for proper execution of the works or part thereof for reasons other than the default of the contractor; or
- c) for safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

ii) If the suspension is ordered for reasons (b) and (c) in sub-Para (i) above:

- a) the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
- b) If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor, provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.

iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-Para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by DDA or where it affects whole of the works, as an abandonment of the works by DDA, shall within ten days of expiry of such period of 15 days given notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by DDA, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries

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and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

Provided, further, that the contractor shall not be entitled to claim any compensation from DDA for the loss suffered by him on account of delay by DDA in the supply of materials in schedule 'B' where such delay is covered by difficulties relating to the supply of wagons, force Measure including non-allotment of such materials by controlling authorities, acts of God, acts of enemies of the state/country or any reasonable cause beyond the control of the DDA.

CLAUSE 16

Action in case Work not done as per Specifications

All works under or in course of execution or executed in pursuance of the contract shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, Officers from Quality Assurance Cell of DDA or any organization engaged by the DDA for Quality assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present 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 himself.

If it shall appear to the Engineer-in-Charge or his authorized subordinates in-charge of the work or to the Chief Engineer in charge of Quality Assurance or his subordinate officers or the officers of organization engaged by the department for Quality Assurance or to Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract the contractor shall, on demand in writing which shall be made within twelve months (six months in case of work costing `10 lakhs and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified

In whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in Schedule F may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

CLAUSE 17

Contractor Liable for Damages, defects during maintenance period

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing `Ten lakhs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security

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deposit of the contractor shall not be refunded before the expiry of twelve months (six months in the case of works costing ` 10 lakhs and below except road work) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.

CLAUSE 18

Contractor to Supply Tools & Plants etc.

The contractor shall provide 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), machinery, tools and plants as specified in schedule F. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications 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 requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled to require together with carriage there for 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 works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or a sufficient portions thereof.

CLAUSE 18A

Recovery of Compensation paid to Workmen

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, DDA is obliged to pay compensation to a workman employed by the contractor, in execution of the works, DDA will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the DDA under sub-section (2) of Section 12, of the said Act, DDA shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by DDA to the contractor whether under this contract or otherwise. DDA shall not be bound to contest any claim made against it under sub-section (1) Section 12, of the said Act, except on the written request of the contractor and upon his giving to DDA full security for all costs for which DDA might become liable in consequence of contesting such claim.

CLAUSE 18B

Ensuring Payment and Amenities to Workers if Contractor fails

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, DDA is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the Contractor's Labour Regulations, or under the Rules framed by Govt. from time to time for the protection of health and sanitary arrangements for workers employed by DDA & its Contractors. DDA will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the DDA under sub-section (2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, DDA shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by DDA to the contractor whether under this contract or otherwise DDA shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the DDA full security for all costs for which DDA might become liable in contesting such claim.

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CLAUSE 19

Labour Laws to be complied by the Contractor

The contractor shall obtain a valid license under the Contract Labour (R&A) Act 1970, and the Contract Labour (Regulation and Abolition) Central Rules 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

CLAUSE 19A

No labour below the age of fourteen years shall be employed on the work.

CLAUSE 19B

Payment of Wages

- i) The contractor shall pay to labour employed by him either directly or through sub-contractors, wages not less than fair wages as defined in the Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
- iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the contractor's Labour Regulations made by Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions un-authorizedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- iv) (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the 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 the 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.

(b) Under the provision of Minimum Wages (Central) Rules 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.

In the case of Union Territory of Delhi, however, as the all inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12(1)142/11/MW/LAB/2023, dated 26.07.2011 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.

- v) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits the modifications thereof or any other laws relating thereto and the rules made there under from time to time.
- vi) The contractor shall indemnify and keep indemnified DDA against payments to be made under and for the observance of the laws aforesaid and the Contractor's Labour Regulations without prejudice to his right to claim indemnify from his sub-contractors.
- vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

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- viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.
- ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

CLAUSE 19C

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

CLAUSE 19D

The contractor shall submit by the 4th and 19th 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 of the current month respectively :

- 1) the number of labours employed by him on the work.
- 2) their working hours
- 3) the wages paid to them
- 4) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
- 5) the number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

Failing which the contractor shall be liable to pay to DDA, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the Engineer in charge shall be final in deducting from any bill due to the contractor the amount levied as fine and be binding on the contractor.

CLAUSE 19E

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Govt. from time to time for the protection of health and sanitary arrangements for workers employed by the DDA and its contractors.

CLAUSE 19F

Leave and pay during leave shall be regulated as follows:

- 1. Leave:
 - i) in the case of delivery – maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,
 - ii) in the case of miscarriage – up to 3 weeks from the date of miscarriage.
- 2. Pay:
 - i) in the case of delivery – leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.
 - ii) In the case of miscarriage – leave pay at the rate of average daily earning 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 such miscarriage.

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3. Conditions for the grant of Maternity Leave:
No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.
4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix-I and II, and the same shall be kept at the place of work.

CLAUSE 19G

In the event of the contractor(s) committing a default or breach of any of the provisions of the, Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing and statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the DDA a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 percent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R&A) Central Rules 1971, for the protection of health and sanitary arrangements for work people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodeled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

CLAUSE 19H

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

- i) (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft) and the floor area to be provided with be at the rate of 2.7 sq.m (30 sq.ft.) for each member of the worker's family staying with the labourer.
- (b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.
- (c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labours each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
- (d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- ii) (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be kutchra but plastered with mud gobi and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by

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the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation the roofs remain water-tight.

- (b) The contractor(s) shall provide each hut with proper ventilation.
 - (c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
 - (d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.
- iii) **Water supply** -The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/their own cost make arrangements for laying pipe lines for water supply to his/their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.
- iv) The site selected for the camp shall be high ground, removed from jungle.
- v) **Disposal of Excreta**- The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/ authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/ authority. The contractor shall provide one sweeper for every eight seats in case of dry system.
- vi) **Drainage**- The contractor(s) shall provide efficient arrangements for draining away sludge water so as to keep the camp neat and tidy.
- vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- viii) **Sanitation**-The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

CLAUSE 19 I

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance / repair of renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. AE/JE will display a list of contractors working in the colony / blocks on the notice board in the colony and also at the service center, to apprise the residents about the same.

CLAUSE 19J

It shall be the responsibility of the contractor to see that the building under construction is not occupied by and body un-authorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay a levy up to 5% of tendered value of work may be imposed by the SE whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, the Superintending Engineer, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

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CLAUSE 19K

Employment of skilled/semi skill worker

The contractor shall, at all stages of work, deploy skilled/semiskilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/National Academy of Construction, CIDC or any similar reputed and recognized Institute mangled/ certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failures on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs.100 per such tradesman per day. Decision of Engineer in Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause shall not be applicable for works with estimated cost put to tender being less than `5 crores.

CLAUSE 20

Minimum Wages Act to be complied with

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.

CLAUSE 21

Work not to be sublet. Action in case of insolvency

The contractor shall not assign or sublet without the written approval of the Engineer-in-Charge. And if the contractor shall assign or sublet this contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public office or person in the employ of Govt. in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the DDA shall have power to adopt the course specified in Clause 3 hereof in the interest of DDA and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

CLAUSE 22

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

CLAUSE 23

Changes in firm's Constitution to be intimated

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

CLAUSE 24

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge 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.

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CLAUSE 25

Settlement of Disputes & Arbitration

(A) Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter.

i) If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Superintending Engineer in writing for written instruction or decision. Thereupon the Superintending engineer shall give his written instructions or decision within a period of one month from the receipt of the contractor's letter.

If the Superintending Engineer fails to give his instructions or decision in writing within the aforesaid period or if the contractor is dissatisfied with the instructions or decision of the Superintending Engineer, the contractor may, within 15 days of the receipt of Superintending Engineer's decision appeal to the Chief Engineer who shall afford an opportunity to the contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The chief Engineer shall give his decision within 30 days of receipt of the Contractor's Appeal. If the contractor is dissatisfied with this decision, the contractor shall within a period of 30 days from receipt of the decision, give notice to the Engineer Member for appointment of Arbitrator, failing which, the said decision shall be final, binding and conclusive and not referable to adjudication by the Arbitrator.

ii) Except where the decision has become final, binding and conclusive in terms of Sub Para (i) above disputes or difference shall be referred for adjudication through arbitration by a Sole Arbitrator who shall be a technical person having the knowledge and experience of the trade, appointed by the Engineer Member, DDA. It will be no objection to any such appointment that the arbitrator so appointed is a DDA employee that he had to deal with the matter to which the contract relates and that in the course of his duties as DDA employee, he has expressed his views in all or any of the matter in dispute of difference. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another sole arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Chief Engineer of the appeal.

It is also a term of this contract that no person other than a person appointed by the Engineer Member, DDA, as aforesaid, should act as arbitrator and, if, for any reason that is not possible; the matter shall not be referred to arbitration at all. It is also a term of this contract that if the contractor does not make any demand for appointment of arbitrator in respect of any claims in writing as aforesaid within 120 days of receiving the intimation from the Engineer-in-Charge that the final bill is ready for the payment, the claim of the contractor shall be deemed to have been waived and absolutely barred and the DDA shall be discharged and released of all liabilities under the contract in respect of these claims.

The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is also a term of this contract that the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and, in all cases, where the total amount of the claims by any party exceeds ` 1, 00,000/-, the arbitrator shall give reasons for the award.

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It is also a term of the contract that if any fees are payable to the arbitrator, these shall be paid equally by both the parties.

It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues the notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator, shall, if required, to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.

- (B) The Decision of the Superintending Engineer regarding the quantum of reduction as well as justification thereof in respect of rates for sub standard work which may be decided to be accepted will be final and could not be open to Arbitration.

CLAUSE 26

Contractor to indemnify Govt. against Patent Rights

The contractor shall fully indemnify and keep indemnified the DDA against and action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against DDA in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the DDA if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

CLAUSE 27

Lump sum Provisions in Tender

When the estimate on which a tender is made includes lump sum in respect of parts of the work, the contractor shall be entitled to payment 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 payable of measurement, the Engineer-in-Charge may at his discretion pay the lump sum amount 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 sum or sums payable to him under the provisions of the clause.

CLAUSE 28

Action where no Specifications are specified

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturer's specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

CLAUSE 29

With-holding and lien in respect of sums due from contractor

- i) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the DDA shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the DDA shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the DDA shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become

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payable to the contractor under the same contract or any other contract with the Engineer-in-charge of the government or any contracting person through the Engineer-in-charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or DDA will be kept withheld or retained as such by the Engineer-in-Charge or DDA till the claim arising out of or under the contract is determined by the arbitrator (if the contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the DDA shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/ limited company as the case may be, whether in his individual capacity or otherwise.

- ii) DDA shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over payment and it shall be lawful for DDA to recover the same from him in the manner prescribed in sub clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by DDA to the contractor, with any interest thereon whatsoever.

Provided that the DDA shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment or any sum paid short where such payment has been agreed upon between the Superintending Engineer or Executive Engineer on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Superintending Engineer or Executive Engineer.

CLAUSE 29A

Lien in respect of claims in other Contracts

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the DDA any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or DDA or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the DDA or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the DDA will be kept withheld or retained as such by the Engineer-in-Charge or the DDA or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

CLAUSE 30-Deleted

CLAUSE 31

Unfiltered water supply

The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions:

- i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.

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- ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

CLAUSE 31A

Departmental water supply, if available

Water if available may be supplied to the contractor by the department subject to the following conditions:

- i) The water charges @ 1% shall be recovered on gross amount of the work done.
- ii) The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply.
- iii) The Department do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor(s) to make alternative arrangements for water at his/their own cost in the event of any temporary break down in the DDA water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.

CLAUSE 32

Alternate water arrangements

- i) Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the Government, no charge shall be recovered from the contractor on that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and wells are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.
- ii) The contractor shall be allowed to construct temporary wells in DDA land for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

CLAUSE 33

Return of Surplus materials

Notwithstanding anything contained to the contrary in this Contract, where any materials for the execution of the Contract are procured with the assistance of Delhi Development Authority either by issue from DDA stock or purchase made under order or permits or licenses issued by DDA, the Contractor shall hold the said materials economically and solely for the purpose of the Contract and not dispose of them without the permission of the D.D.A. and return, if required by the Engineer-in-Charge all surplus materials or unserviceable materials that may be left with him after the completion of the Contract or at its termination for any reason whatsoever on being paid or credited such price at the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the Contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition the Contractor shall in addition throwing himself open to action for contravention of the term of the Licenses or permit and or for criminal breach of trust be liable to D.D.A. for all moneys, advantages or profit resulting or which in the usual course would have resulted to him by reason of such breach.

CLAUSE 34

Hire of Plant & Machinery

- i) The contractor shall arrange at his own expense all tools, plant, machinery and equipment (herein after referred as T & P) required for execution of the work, except for plant and Machinery listed in schedule 'C' and stipulated for issue to the contractor. If the contractor

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requires any item of T & P on hire from the T & P available with DDA over and above the T & P stipulated for the issue, DDA will, if such item is available, hire it to the contractor at the rates to be agreed upon between him and the Engineer-in-charge. In such case, all the conditions hereunder for issue of T & P shall be applicable to such T & P as is agreed to be issued.

- ii) Plant and Machinery when supplied on hire charges shown in Schedule 'C' shall be made over and taken back at the departmental equipment yard/shed shown in Schedule 'C' and the contractor shall bear the cost of carriage from the place of issue to the site of work and back. The contractor shall be responsible to return the plant and machinery with condition in which it was handed over to him, and he shall be responsible for all damage caused to the said plant and Machinery at the site of work or elsewhere in operation and otherwise during transit including damage to or loss of the plant and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Divisional Engineer shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- iii) The plant and machinery as stipulated above will be issued as and when available and if required by the contractor. The contractor shall arrange his program of work according to the availability of the plant and machinery and no claim, whatsoever, will be entertained from him for any delay in supply by the Department.
- iv) The hire charges shall be recovered at the rates decided by the Engineer in charge from and inclusive the date the plant and machinery made over up to and inclusive of the date of return in good order even though the same may not have been working for any cause except major breakdown due to no fault of the contractor or faulty use requiring more than three working days continuously (excluding intervening holiday and Sunday) for bringing the Plants in order. The Contractor shall immediately intimate in writing to the Engineer-in-Charge when any Plant or Machinery gets out of order requiring major repairs as aforesaid. The Engineer-in-Charge shall record the date and time of receipt of such intimation in the log sheet of the Plant and Machinery. Based on this if the break down occurs before lunch, the period of major break down will be computed considering half a day's break down on the day of complaint. If the break down occurs in the post lunch period, the period of major break down will be computed starting from the next working day. In case of any dispute under this clause the decision of the Superintending Engineer shall be final & binding on the Contractor.
- v) The hire charges are for each day of 8 hours (inclusive of the one hour lunch break) or part thereof.
- vi) Hire Charges will include service of operating staff required and supply of lubricating oil and stores for cleaning purpose. Power fuel of approved type e.g. fireworks and Kerosene oil, for running the Plant & Machinery and also the full time chowkidar for guarding the Plant and Machinery against any loss or damage, shall be arranged by the Contractor who shall be fully responsible for the safeguard and security of Plants and Machinery. The Contractor shall on or before the supply of Plant & Machinery signed an Agreement indemnifying the Department against any loss caused to the Plant & Machinery either during transit or at the site of work.
- vii) Ordinarily no Plant and Machinery shall work for more than 8 hours a day inclusive of hour lunch break. In case of a urgent work, however the Engineer-in-Charge may, at his directions, allow the Plant and Machinery to worked for more than normal period of 8 hours a day In that case the hourly hire charges for over time to be borne by the Contractor shall be 50% more than the normal proportionate hourly charges ($1/8^{\text{th}}$ of the daily charges) subject to a minimum of half day's normal charges on any particulars day for working out hire-charges for over time, a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored.
- viii) The Contractor shall release the Plant and Machinery every seventh day for periodical servicing and / or wash out, which may take about three to four hour or more. Hire charges for full day/shall be recovered from the Contractor for the day of servicing / wash out irrespective of the period employed in servicing.
- ix) The Plant and Machinery once issued to Contractor shall not be returned by him on account of lack of arrangements of labour and materials etc on his part, the same will be returned only when they require major repairs or when in the opinion of the Engineer-in-Charge the work or a portion for which the same was issued is completed.

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- x) Log book for recording the hour of daily work for each of the Plant and Machinery supplied to the Contractor will be maintained by the Department and will be countersigned by the Contractor or his authorized agent daily. In case Contractor contests the correctness of the entries and /or failing to sign the Log Book, the decision of the Engineer-in-Charge shall be final and binding on him. Hire charges will be calculated according to the entries in the Log book, and will be binding on the Contractor. Recovery on account of hire charge, for road roller shall be made for the minimum numbers of days worked out on the assumption, that a roller can consolidate per day and maximum quantity of material or area of surfacing as noted against in the annexed statement(see attached annexure) .
- xi) In the case of concrete mixers, Contractor shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or each occasion.
 - a. In case rollers for consolidation are employed by the Contractor himself, the log book for such roller shall be maintained in the same manner as is done in case of Departmental rollers, maximum quantity of any items to be consolidated for each roller day's shall also be same as in annexure to clause 34 (x). For less use of roller, recovery or the less roller days shall be made at the stipulated issue rate.
- xii) The contractor shall be responsible to return the Plant and Machinery in the same condition in which it was handed over to him and he shall be responsible for all damages caused to the said Plant and Machinery at the site of work or elsewhere when in operation or otherwise or during including damages to or loss of parts and for all losses due to this failure to return the same soon after completion of work for which it was issued. The Divisional Engineer shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- xiii) The contractor will be exempted from levy of any hire charges for the number of days he is called upon in writing by the Engineer-in-Charge to suspend execution of work provided DDA plant and machinery in question have, in fact, remained idle with the contractor because of the suspension.
- xiv) In the event of the contractor not requiring any item of plant and machinery issued by DDA though not stipulated for issue in Schedule 'C' anytime after taking delivery at the place of issue, he may return it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in any way, affecting the right of the Engineer-in-Charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party.

CLAUSE 35

Condition relating to use of asphaltting materials

- (i) The Contractor undertakes to make arrangements for the supervision of the works by the firms supplying the tar or bitumen used.
- (ii) The Contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of material in actual execution for reason other than authorized changes of specification and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and material returned to the Contractors. Although the material are hypothecated to D.D.A. the Contractors under takes the responsibility for their proper watch, safe custody and protection against all risk. The material shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.
- (iv) The Contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work. The Security Deposit relating to an asphaltting work shall be refunded after the expiry of this period.

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CLAUSE 36

Employment of Technical Staff and employees

Contractors Superintendence, Supervision, Technical Staff & Employees

- i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Minimum requirement of such technical representative(s) and their qualifications and experience shall not be lower than specified in Schedule 'F'. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-Charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and/or his designated representative, to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/ test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/checked measurement/ test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative(s) by more than two days.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the contractor as specified in Schedule 'F' and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) along with every on account bill/final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

- ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or

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negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

CLAUSE 37

Levy/Taxes payable by Contractor

- i) Sales-Tax / VAT (**except Service Tax**), Building and other Construction Workers Welfare Cess or any other tax or Cess in respect of this contract shall be payable by the contractor and DDA shall not entertain any claim whatsoever in this respect. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the contractor.
- ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.
- iii) If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Government of India and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works then in such a case, it shall be lawful to the DDA and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

CLAUSE 38

Conditions for reimbursement of levy/taxes if levied after receipt of tenders

- i) All tendered rates shall be inclusive of all taxes and levies (**except Service Tax**) payable under respective statutes. However, if any further Tax or Levy or Cess is imposed by Statues, after the last stipulated date for the receipt of tender including extensions if any and the Contractor thereupon necessarily and properly pays such taxes/ levies/Cess, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Superintending Engineer (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the control of the contractor.
- ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the DDA and/or the Engineer-in-Charge and shall also furnish such other information/ document as the Engineer-in-Charge may require from time to time.
- iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or Cess, give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

CLAUSE 39

Termination of Contract on death of contractor

Without prejudice to any of the rights or remedies under this contract if the contractor dies, the Divisional Officer on behalf of the DDA shall have the option of terminating the contract without compensation to the contractor.

CLAUSE 40

If Near relative working in DDA then the contractor not allowed to tender

The contractor shall not be permitted to tender for works in the DDA circle (Division in case of Contractors of Horticulture/Nursery Categories) responsible for award and execution of contracts in which his near relative is posted as Divisional Accountant or as an officer any capacity between the grades of superintending Engineer and Junior Engineer(both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted Officer in the DDA or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department. If however the contractor is registered in any other department, he shall be debarred from tendering in DDA for any breach of this condition.

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Note : By the term "Near relatives" is meant wife, husband, parents and grandparents, children and grand children, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

CLAUSE 41

No Gazetted Engineer to work as Contractor within one year of retirement

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the DDA shall work as a contractor or employee of a contractor for a period of one year after his retirement from Government service without the previous permission of DDA in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of DDA as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

CLAUSE 42

Return of material & recovery for excess material issued

- i) After completion of work and also at any stage in the event of non-reconciliation of materials issued, consumed and in balance – (see clause 10), theoretical quantity of materials issued by DDA for use in the work shall be calculated on the basis and method given here under:-
 - a) Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen required for different items of work as shown in Schedule of Rates mentioned in Schedule 'F'. In case any item is executed for which standard constants for consumption of cement or bitumen are not available in the above mentioned schedule/statement or cannot be derived from same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge.
 - b) Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorized by Engineer-in-Charge, including authorized laps, chairs etc plus 3 % wastage due to cutting into pieces, such theoretical quantity being determined and compared with actual issues each diameter wise, section wise and categories separately.
 - c) Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables, pig lead and G.I./M.S. sheets shall be taken as quantity actually required and measured plus 5 % for wastage due to cutting into pieces (except in the case of G.I./M.S. sheets it shall be 10 %), such determination & comparison being made diameter wise & categories.
 - d) For any other material as per actual requirement.
- ii) Over the theoretical quantities of materials so computed a variation shall be allowed as specified in schedule 'F'. The difference in the net quantities of the material actually issued to the contractor and the theoretical quantities including such authorized variation, if not returned by the contractor or if not fully reconciled to the satisfaction of the Engineer-in-Charge within fifteen days of the issue of the written notice by the Engineer-in-Charge to this effect shall be recovered at the rates specified in schedule 'F', without prejudice to the provision of the relevant conditions regarding return of materials governing the contract. Decision of Engineer-in-Charge in regard to theoretical quantities of materials, which should have been actually used as per the Annexure of the standard schedule of rates and recovery at rates specified in Schedule 'F', shall be final and binding on the contractor.

For non scheduled items, the decision of Superintending Engineer regarding theoretical quantities of materials which should have been actually used shall be final and binding on the contractor.
- iii) The said action under this clause is without prejudice to the right of the DDA to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.

CLAUSE 43

Compensation during warlike situations

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In

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the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation up to the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Divisional officer up to Rs.5,000/- and by the Superintending Engineer concerned for a higher amount. The contractor shall be paid for the damages/ destruction suffered and for the restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work.

In the event of the contractor having to carry out the reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Divisional Officer.

CLAUSE 44

Apprentices Act provisions to be complied with

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

CLAUSE 45

Release of Security deposit after labour clearance

Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.

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SAFETY CODE

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1.4 horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm (3ft.).
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder up to and including 3m. (10ft.) in length. For longer ladder, this width should be increased at least ¼" for each additional 30cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.
6. Excavation and Trenching – All trenches 1.2m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30m. (100ft.) in length or fraction thereof Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
7. Demolition – Before any demolition work is commenced and also during the progress of the work.
 - i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
 - iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure

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proper use of equipment by those concerned: - The following safety equipment shall invariably be provided.

- i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.
- iii) Those engaged in welding works shall be provided with welder's protective eye-shields.
- iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at-least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :
 - a) Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher office.
 - b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - c) Before entry presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
 - d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.
 - e) Safety belt with rope should be provided to the workers. While working inside the manholes such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - f) The area should be barricaded or cordoned of by suitable means to avoid mishaps of any kind. Power warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
 - h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
 - i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
 - j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
 - k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapor proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
 - l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.
 - m) The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
 - n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.

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- o) It a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
- p) The extents to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard is an individual case will be final.
- vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken :
 - a) No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
 - b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scraped.
 - c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
- 9. An additional clause (viii) (i) of Safety Code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product contained lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:
 - i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of paint in the form of spray.
 - iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - v) Overall shall be worn by working painters during the whole of working period.
 - vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of DDA
 - viii) DDA may require, when necessary medical examination of workers.
 - ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
- 10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
- 11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:
 - i) a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
 - b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
 - ii) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding which or give signals to operator.
 - iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by

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adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

- iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned
- 12. Motors, gearing transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
- 13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- 14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
- 15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
- 16. Notwithstanding the above clauses from 1 to 15 there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

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MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY DDA OR ITS CONTRACTORS

1. **APPLICATION**

These rules shall apply to all buildings and construction works in charge of DDA in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. **DEFINITION**

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. **FIRST-AID FACILITIES**

i) At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.

ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment:

a) For work places in which the number of contract labour employed does not exceed 50

Each first-aid box shall contain the following equipments:

1. 6 small sterilized dressings.
 2. 3 medium size sterilized dressings.
 3. 3 large size sterilized dressings.
 4. 3 large sterilized burn dressings.
 5. 1 (30 ml.) bottle containing a two percent alcoholic solution of iodine.
 6. 1 (30ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 7. 1 snakebite lancet.
 8. 1 (30 gms.) bottle of potassium permanganate crystals.
 9. 1 pair scissors.
 10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
 11. 1 bottle containing 100 tablets (each of 5 gms.) of aspirin.
 12. Ointment for burns.
 13. A bottle of suitable surgical antiseptic solution.
- b) For work places in which the number of contract labour exceed 50
- Each first-aid box shall contain the following equipments:
1. 12 small sterilized dressings.
 2. 6 small size sterilized dressings.
 3. 6 large size sterilized dressings.
 4. 6 large size sterilized burn dressings.
 5. 6 (15 gms.) packets sterilized cotton wool.
 6. 1 (60 ml.) bottle containing a two percent alcoholic solution iodine.
 7. 1 (60 ml.) bottle containing Sal volatile having the does and mode of administration indicated on the label.
 8. 1 roll of adhesive plaster.
 9. 1 snake bite lancet.
 10. 1 (30 gms.) bottle of potassium permanganate crystals.
 11. 1 pair scissors.
 12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes/ Government of India.
 13. A bottle containing 100 tablets (each of 5 gms.) of aspirin.
 14. Ointment for burns.
 15. A bottle of suitable surgical antiseptic solution.

iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.

iv) Nothing except the prescribed contents shall be kept in the First-aid box.

v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.

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- vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment, in the work places where the number of contract labour employed is 150 or more.
- vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compo under. The compo under shall be on duty and shall be available at all hours when the workers are at work.
- viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- ii) 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.
- iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source 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 a trap door which shall be dust and waterproof.
- iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

- i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- i) Latrines shall be provided in every work place on the following scale namely :
 - a) Where female are employed there shall be at least one latrine for every 25 females.
 - b) Where males are employed, there shall be at least one latrine for every 25 males.

Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be up to the first 100, and one for every 50 thereafter.
- ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- iii) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.
- iv) a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.
 - b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- v) There shall be at least one urinal for male workers up to 50 and one for female workers up to fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereafter.
- vi) a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.

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- b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- viii) Disposal of excreta: Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure)
- ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 meters (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sqm (6 sq ft.) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a, b & c.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- iv) The contractor shall provide one Ayah to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.
- v) The use of the rooms earmarked as crèches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more is ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- ii) The canteen shall be maintained by the contractor in an efficient manner.
- iii) The canteen shall consist of at least a dining hall, kitchen, store room, pantry and washing places separately for workers and utensils.
- iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- v) The floor shall be made of smooth and impervious materials and inside walls shall be lime-washed or colour washed at least once in each year.

Provided that the inside walls of the kitchen shall be lime-washed every four months.

- vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.

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- viii) Suitable arrangements shall be made for the collection and disposal of garbage.
 - ix) The dining hall shall accommodate at a time 30 percent of the contract labour working at a time.
 - x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square meter (10 sq. ft.) per diner to be accommodated as prescribed in sub-Rule 9.
 - xi a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
 - b) Washing places for women shall be separate and screened to secure privacy.
 - xii) Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.
 - xiii) a(1) There shall be provided and maintained sufficient utensils crockery, furniture and any other equipments necessary for the efficient running of the canteen.
 - a(2) The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
 - b(1) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
 - b(2) A service counter, if provided, shall have top of smooth and impervious material.
 - b(3) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
 - xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
 - xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No losses and shall be conspicuously displayed in the canteen.
 - xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:
 - a) The rent of land and building
 - b) The depreciation and maintenance charges for the building and equipments provided for the canteen.
 - c) The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.
 - d) The water charges and other charges incurred for lighting and ventilation.
 - e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.
 - xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.
10. **ANTI-MALARIAL PRECAUTIONS**
The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.
11. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.
12. **AMENDMENTS**
Government may, from time to time, add to or amend these rules and issue directions – it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

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CONTRACTOR'S LABOUR REGULATIONS

1. **SHORT TITLE**

These regulations may be called the Contractors Labour Regulations.

2. **DEFINITIONS**

i) **Workman** means any person employed by DDA or its contractor directly or indirectly through a sub-contractor with or without the knowledge of the DDA to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :

a) Who is employed mainly in a managerial or administrative capacity: or

b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature : or.

c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

i) No person below the age of 14 years shall be employed to act as a workman.

ii) **Fair Wages** means wages whether for time or piecework fixed and notified under the provisions of the Minimum Wages Act from time to time.

iii) **Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a sub-contractor.

iv) **Wages** shall have the same meaning as defined in the Payment of Wages Act.

3. i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

b) Where the minimum wages prescribed by the Government under the Minimum Wages Act are not inclusive of the Wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. **DISPLAY OF NOTICE REGARDING WAGES ETC.**

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual

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wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'III'.

5. PAYMENT OF WAGES

- i) The contractor shall fix wage periods in respect of which wages shall be payable.
- ii) No wage period shall exceed one month.
- iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- iv) Where 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 second working day from the date on which his employment is terminated.
- v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- vi) Wages due to every worker shall be paid to him direct or to other person authorized by him in this behalf.
- vii) All wages shall be paid in current coin or currency or in both.
- viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.
- ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgement.
- x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Junior Engineer or any other authorized representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.
- xi) The contractor shall obtain from the Junior Engineer or any other authorized representative of the Engineer-in-Charge as the case may be a certificate under his signature at the end of the entries in the "Register of Wages" or the "wage-cum-Muster Roll" as the case may be in the following form :

"Certified that the amount shown in column No. ----- has been paid to the workman concerned in my presence on ----- at -----"

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

- i) The wages of a worker shall be paid to him without any deduction of any kind except the following
 - a) Fines
 - b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction 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 of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
 - d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
 - e) Any other deduction which the Central Government may from time to time allow.

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- ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

Note: An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-I.

- iii) No fine 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 cause against such fines or deductions.
- iv) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- v) No fine imposed on any worker shall be recovered from him by installment, or after the expiry of sixty days from the date on which it was imposed.
- vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

- i) The contractor shall maintain a **Register of persons employed** on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (Appendix IV).
- ii) The contractor shall maintain a **Muster Roll register** in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).
- iii) The contractor shall maintain a **Wage Register** in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI).

iv) Register of accident

The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

- a) Full particulars of the labourers who met with accident
- b) Rate of Wages
- c) Sex
- d) Age
- e) Nature of accident and cause of accident
- f) Time and date of accident
- g) Date and time when admitted in Hospital
- h) Date of discharge from the Hospital
- i) Period of treatment and result of treatment
- j) Percentage of loss of earning capacity and disability as assessed by Medical Officer
- k) Claim required to be paid under Workmen's Compensation Act
- l) Date of payment of compensation
- m) Amount paid with details of the person to whom the same was paid
- n) Authority by whom the compensation was assessed
- o) Remarks.

- v) The contractor shall maintain a **Register of Fines** in the Form XII of the CL (R&A) rules 1971 (Appendix-XI).

The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X).

- vi) The contractor shall maintain a **Register of deductions for damage or loss** in Form XX of the CL (F&A) rules 1971 (Appendix-XII).

- vii) The contractor shall maintain a **Register of Advances** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII).

- viii) The contractor shall maintain a **Register of Overtime** in Form XXIII of the CL (R&A) rules 1971 (Appendix-XIV).

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8. **ATTENDANCE CARD-CUM-WAGE SLIP**

- i) The contractor shall issue an **Attendance card-cum-wage slip** to each workman employed by him in the specimen form at (Appendix-VII).
- ii) The card shall be valid for each wage period.
- iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- iv) The card shall remain in possession of the worker during the wage period under reference.
- v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. **EMPLOYMENT CARD**

The contractor shall issue an **Employment Card** in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

10. **SERVICE CERTIFICATE**

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a **Service certificate** in Form XV of the CL (R&A) Central Rules 1971 (Appendix-IX).

11. **PRESERVATION OF LABOUR RECORDS EMPLOYMENT CARD**

All records required to be maintained under Regulations Nos. 6&7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorized by the Ministry of Urban Development in this behalf.

12. **POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY**

The labour Officer or any person authorized by Central Government on their behalf shall have power to make enquires with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or sub-contractor in regard to such provision.

13. **REPORT OF LABOUR OFFICER**

The Labour Officer or other persons authorized as aforesaid shall submit a report of result of his investigation or 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. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Executive Engineer after the Superintending Engineer has given his decision on such appeal.

- i) The Executive Engineer shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the Superintending Engineer as the case may be.

14. **APPEAL AGAINST THE DECISION OF LABOUR OFFICER**

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorized may appeal against such decision to the Superintending Engineer concerned 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.

15. **PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER**

- i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by :

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- a) An officer of a registered trade union of which he is a member.
 - b) An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.
 - c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.
- ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :
- a) An officer of an association of employers of which he is a member.
 - b) An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.
 - c) Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.
- iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.
16. **INSPECTION OF BOOKS AND SLIPS**
The contractor shall allow inspection of all the prescribed labour records to any of this workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorized by the Central Government on his behalf.
17. **SUBMISSION OF RETURNS**
The contractor shall submit periodical returns as may be specified from time to time.
18. **AMENDMENTS**
The Central Government may from time to time add to or amend the regulations and on any question as to the application/ Interpretation or effect of those regulations the decision of the Superintending Engineer concerned shall be final.

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GENERAL CONDITIONS

1. Before tendering, the tenderer shall inspect the site of work and shall fully acquaint himself about the conditions with regard to site, nature of soil, availability of materials, extent of leads and lifts involved in the work (over the entire duration of Contract) including local conditions, traffic restrictions, obstructions and other conditions for satisfactory execution of the work. He should take into consideration all such factors and contingencies, while quoting his rates. No claim whatsoever shall be entertained by the Department on this account.
2. The Contractor must study the Specifications and conditions carefully before tendering for the work to be executed.
3. Periphery of works area shall be the area shown in the layout plan of the scheme.
4. The Architectural, structural and other services drawings for the work shall at all time be properly correlated before executing any work and no claim whatsoever shall be entertained in this respect.
5. The Contractor shall have to make approaches to the site, if so required and keep them in good condition for transportation of labour and materials as well as inspection of works by the Engineer-in-Charge. Nothing extra shall be paid on this account.
6. The work shall be carried out in such a manner so as not to interfere or affect or disturb other works being executed by other agencies, if any. He shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it, in proper sequence to the complete satisfaction of the Engineer-in-charge. Any damage done by the contractor to any existing work shall be made good by him at his own cost. Otherwise the same shall be got done at his risk and cost.
7. The Contractor or his authorized representative should always be available at the site of work to take instructions from Departmental officers, and ensure proper execution of work.
8. All work and materials brought and left upon the ground by the Contractor or by his orders for the purpose of forming part of the works, are to be considered to be the property of the DDA and the same are not to be removed or taken away by the Contractor or any other person without consent in writing of the Engineer-in-Charge but the DDA shall not be in any way responsible for any loss or damage which may happen to or in respect of any such work or materials either by the same being lost or damaged by weather or otherwise.
9. Royalty at the prevalent rates and all other incidental expenditure shall have to be paid by the Contractor on all the boulders, metal, shingle, earth, sand, bajri etc. collected by him for the execution of the work directly to the concerned revenue Authority of the State or Central Government. His rates are deemed to include all such expenditure and nothing extra shall be paid.
10. The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of smoke, streams and waterways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross-drainage works or public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the Contractor. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants/users of adjoining buildings.
12. Existing drains, pipes, cables, overhead wires, sewer lines, water lines and similar services encountered in the course of the execution of the work shall be protected against the damage by the Contractor at his own expense. The Contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
13. The work shall be executed and measured as per metric dimensions given in the Schedule of Quantities, drawings etc. (FPS units wherever indicated are for guidance only).
14. The Contractor shall give the following undertaking in respect of taking over of land in the following pro forma.
I/We hereby undertake that:
 - (i) The labour huts..... in nos. constructed by me/us at site as shown on the site plan duly signed be me/us belong to me/us
 - (ii) The site office, casting yard, laboratory, cement Godown etc., will be constructed as per the plan attached.
 - (iv) Construction of labour huts near the work sites shall be avoided as far as possible. The final bill shall not be paid unless all the huts are cleared & removed from the site.
15. All the above land is handed over only for the execution of above mentioned work.
16. The above site will be given on temporary basis. After the completion/foreclosure/rescission of the work, clear site shall have to be handed over to the Engineer-in-Charge. Similarly the site for labour camp given to the agency shall be returned after the completion/foreclosure/ rescission of the work free from all the occupation.
17. If the agency delays the vacation of occupied area of land after the completion recorded/ stoppage/ rescission of the work, he will be charged at the rate of Rs.1, 50,000/- per month per hectare. The decision of the SE will be final and binding.
18. The Engineer-in-Charge shall not be precluded or stopped for taking any measurements, and framing of estimates or detaining any certification made either before or after the completion and acceptance of the work and payment, from showing the true amount and character of the works performed any materials furnished by the Contractors and from showing that by such measurements, estimates or certificates in nature are incorrectly made, such that the Engineer- in-charge shall not be precluded or stopped from recovering from the Contractor such damages as it may be sustained by reason of his failure to comply with the terms and conditions of the Contract.
19. Engineer-in-Charge shall have full powers to send workmen employed on the premises to execute fittings and other work not included in the Contract for whose operation the Contractor is to afford every reasonable facility during ordinary working hours provided that such operations shall be carried on in such manner as not to hinder the progress of the work included in the Contract.
21. Any permission, if required from police authorities or other Departments for closing or cutting of the road will be obtained by the Contractor at his own. He will have no claim for any financial loss or extension of time on this account.
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Restaurants, Tea shops or kiosks shall not be allowed to put up by the Contractor in the works area/labour huts area. Temporary kiosk(s) put up by the Engineer-in-Charge shall be taken by the Contractor on lease which is to be determined on the date of completion or termination of Contract whichever is earlier, and the rate of Rs.500 per kiosk per month shall be recovered from the Contractor from the bills paid. On date of completion of the work or termination of Contract whichever is earlier, the kiosk(s) shall be vacated by the Contractor and a vacant possession shall be handed over to the Engineer-in-Charge failing which penalty shall be levied on the Contractor at the rate of Rs.150 per day per kiosk of delay involved.

23. Levy of Taxes.
- 23.1. Tendered rates are inclusive of all taxes and levies payable under the respective statutes. However, pursuant to the Constitution Act, 1982 if any further tax or levy is imposed by statute after date of receipt of tenders and the Contractor there upon necessarily and properly pays such taxes/levies, the Contractor shall be reimbursed the amount so paid provided such payment, if any, is not in the opinion of SE (whose decision shall be final and binding) attribute to delay in execution of work under the control of the Contractor.
- 23.2. The Contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of DDA and further he shall furnish such other information/documents as the Engineer-in-charge may require.
- 23.3. The Contractor shall within a period of 30 days of imposition of any further tax or levy, pursuant to the Constitution Act, 1982 give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition together with all necessary information relating thereto.
24. The Contractor shall leave such recesses, holes, openings etc. as may be required for the electric, air-conditioning and other related works for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be supplied free of cost by the Contractor unless otherwise specifically mentioned and the Contractor shall fix the same at the time of casting of concrete, stone work and brickwork, if required and nothing extra shall be payable on this account unless otherwise mentioned in the item/Contract.
25. The Contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the Department concerned. The Department will however, make all reasonable recommendations to the Authority concerned in this regard.
26. No foreign exchange shall be made available by the Department for the purpose of procurement of equipment, Plants, Machinery, materials of any kind or any other items required to be carried out in execution of work.
27. The Contractor shall be required to do the work of development simultaneously along with building work, as per the direction of Engineer-in-Charge.
28. No payment will be made to the Contractor for damage caused by rains, or other natural calamities during the execution of the works and no such claim on this account will be entertained unless specified otherwise.
29. Lowest rate of the item shall be paid in case the item appears in more than one sub-head of schedule of quantities of the same contract.
30. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.
31. The malba/garbage removed from the site shall be disposed off by the Contractor at any suitable place as directed by the Engineer in-charge. Nothing extra shall be payable for this.
32. a) The surplus soil/earth shall be disposed off as per directions of Engineer-in-Charge.
- b) The field staff shall keep the record of initial level and final levels of all such low lying area.
33. Barricading of excavated trenches on both sides of the trench shall be done by the contractor to a height of 1.60 meters with galvanized steel plain sheet of 1.00mm thick (Class-I) fixed with nails etc. on 100mm dia. Sal ballies, fixed 3m apart as a safety measure. He will also provide red & white strips on sheets with aluminum paint 75mm wide alternatively on outside of sheets vertically and no extra payment will be made on this account.
34. The Contractor shall, during the currency of the Contract, when called upon by the Engineer-in-Charge, engage and also ensure engagement of sub-Contractors and other employees by the Contractor in connection with the works, apprentices for such periods as may be required by the Engineer-in-Charge. The Contractor shall then train them as required under the Apprentices Act, 1961 and the rules made there under and shall be responsible for all obligations of the employer under the said Act, including the liability to make payment(s) to apprentices as required under the said Act.
35. The Contractor is to provide at all times during the progress of the work and the maintenance period, proper means of access with ladders, gangways etc. and other necessary attendant to move and adopt as directed for the inspection or measurements of the works by the Engineer in-charge or his authorized representative.
36. The layout, alignment and the orientation of the different members of the structural work should be carried out after thoroughly checking the drawing and obtaining clarification, if any from the Engineer-in-Charge. The setting out work should be carried out by the precision surveying instruments and got approved from the Engineer-in-Charge. The Contractor shall arrange the necessary equipment and instruments.
37. Where directed by the Engineer-in-Charge, the Contractor shall provide permanent bench marks. Likewise, any other levels or line or points specifically required by the Engineer-in-Charge shall be built-in. The Contractor shall carefully protect and preserve such important marks during execution of work.
38. Contractor may be required to execute the work under foul position and nothing extra for executing the work in foul position/condition is payable.
39. The work shall be done in conformity with the plans and within the requirements of the general Architectural and Structural Plans. This work shall be properly coordinated with the work of the other trades.
40. If there is any discrepancy due to incomplete description/ ambiguity or omission in the drawing and other documents, whether original or supplementary, forming the Contract, either found on completion or during progress of the work, the Contractor shall immediately, on discovering the same, bring to the notice of the Engineer-in-Charge and the decision of the Engineer-in-Charge shall be final and binding on the Contractor.
41. During the progress of the work, completed portions of the building may be occupied and put to use by the DDA but the Contractor shall remain fully responsible for maintenance of the installations till the entire work covered by the Contract is satisfactorily completed.
42. a) Separate godowns shall be provided for OPC & PPC storage.
- b) No PPC should be used in RCC framed structures specially in the exposed portion like Chhajjas, Balconies, open terraces, top roofs, extended beams, open staircases and slabs, beams in toilets.
43. The Contractor shall be responsible for any activity, authorized or Unauthorized, going on within the site area handed over to him by the Department for construction/development/maintenance or for any other purpose. The

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Contractor shall also be responsible for informing the Engineer-in-Charge, in writing, wherever their supervision is essential. Further this shall not be a ground for seeking time extension in completion of the work and/or for claiming any loss and/or damage by the Contractor, if at all this causes prolongation of completion of work.

44. SAFETY OF WORKERS:

In respect of all labourers directly or indirectly employed in the work for the performance of the Contractor's part of this Agreement, the Contractor shall at his expense arrange for the safety provisions as per the latest edition of India Standard Safety Codes and shall at his own expenses, provide for all facilities in connection therewith. In case the Contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay penalty prescribed under relevant clauses of these tender documents for each default and in addition the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost incurred in on that behalf from the Contractor and no claims shall be entertained.

- i) I.S: 3006 Part I Safety code for Scaffolds and Ladders.
- ii) I.S: 3696 Part II Safety code for Scaffolds and Ladders Part II Ladders.
- iii) I.S: 76 Safety code for Excavation work.
- iv) I.S: 4031 Safety code for Blasting and Drilling operations.
- v) I.S: 4138 Safety code for working in Compressed air.
- vi) I.S: 5121 Safety code for piling and other deep foundations.
- vii) I.S: 5916 Safety code for constructions involving use of Bituminous materials.
- viii) I.S: 7293 Safety code for working construction Machinery.
- ix) I.S: 7969 Safety code for storage and handling of building materials.
- x) Any other code as per directions of Engineer-in-Charge.

45 The field staff shall keep the record of initial levels of all low lying area.

46 The field staff shall ensure that the quantity of excavated earth disposed off by mechanical transport is dumped in the area certified by the Executive Engineer as low lying area.

47 QUALITY CONTROL:

47.1 Contractor shall be fully responsible for the quality of work being executed as per prescribed specification, relevant BIS codes and drawings. All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Quality Assurance Cell/Vigilance Cell of DDA & CTE of CVC, Govt. of India. Contractor shall be required to uncover the hidden item whenever it is required by CE (QAC) or CTE for checking measurements, quality of work and Specifications etc.

47.2 The Divisional Officer of DDA will also examine the work executed from the point of view of scope of work, inventory of fittings and fixtures and Specifications for the various items before the work is finalized. If in the opinion of the CE (QAC) or CTE, any of the work has been executed with improper material or defective workmanship, the contractor shall rectify or remove and reconstruct such work in whole or in part, remove such materials or articles and provide other proper and suitable materials or articles at his own charge and cost and in the event of his failure to do so he will make him liable for penalty and other actions under clause 14 of PWD-8 attached with the agreement. If during any of the visits, use of sub-standard material or improper workmanship is noticed by the Divisional Officer or his Superiors or CE (QAC) or any of the authorized representative or his supervisors, the same shall also be promptly rectified on getting a written notice to do so.

48. No work shall commence in the absence of Contractor's engineers and they shall certify in writing about the correctness of layout, alignment of structure and shall ensure stability of all structural and other building items.

49 All materials which are specified to be tested at the manufacturer's works shall satisfactorily pass the test in presence of the authorized representative of Engineer-in-Charge before being used in the work. In case all requisite testing facilities are not available at the manufacturer's premises, such testing shall be conducted at laboratory approved by the Engineer-in-Charge.

50. The Contractor shall make available Theodolite, Dumpy level with staff, steel tapes, stop watch, platform type weighing machine of 200 Kg Capacity, steel balance with weights, spring balance, slump cone with tamping rod, 15 cm cube moulds (sufficient in number), Plumb bob, spirit level, Vernier calipers/ Micrometer, Calibrated cylinder, hammers, thermometers etc readily and in good working condition at site to ensure proper quality of work.

51 Earth excavated from trenches shall be stacked at a distance equal to depth of the trench below ground level or equal to 1.5m whichever is greater from the top edge of excavation.

52. Where the Contractor is required to provide materials of certain sizes or weights which may have gone out of market due to change over to metric standard, substitutes conforming to the nearest equivalents on the higher side, as approved by the Engineer-in-Charge, shall be used. No claim of extra payment shall be entertained on this account.

53. The Engineer-in-Charge shall require (where he deems so necessary) to provide grooves of approved pattern between various surfaces such as timber/ plaster, exposed aggregate/ plaster/ concrete/ exposed concrete/ brick work, ceiling/ walls, skirting/ plaster between various concreting operations of same or different members (particularly in the exposed concrete work) or as required etc. such grooves shall be provided without extra charges and the Contractor's rate for various items are deemed to include the cost of all labour, tools and materials required for making such grooves.

54. Large sized details shall take precedence over small sized drawings. The Contractor shall verify all dimensions at site.

55. Whenever directed by the Engineer-in-Charge with a view to obtain exposed face concrete by itself, form work shall have to be provided by the Contractor in specific pattern as required and instructed. A sample of the exposed face finish shall be made by the Contractor and the same shall be got approved before the work is started. Due care shall be taken while removing the form work. Time allowed for such shuttering shall be as per decision of Engineer-in-Charge. On removal of form work, the surface shall be rubbed with carborandum stone, so as to give a smooth finish and to match the surrounding surface. No patching up with cement plaster or otherwise shall be allowed. If however, any honey combs, broken edges, or ugly off sets etc. are found, the

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- Contractor shall have to re-do the work without any extra charges. The material used for shuttering for exposed concrete shall be only timber with freshly sawn surfaces or as approved by the Engineer-in-Charge.
56. The item of External plastering shall be taken after getting the approval of the Engineer-in-Charge. The item of external finishing if got executed from another agency may need a close co-ordination between the items of external plastering and finishing for which the Contractor shall have to work in close liaison with the second agency as per the direction of Engineer-in-Charge.
57. In the event of any difference of opinion among site representative in carrying out the item of work in accordance with the Agreement, the Engineer-in-Charge shall decide the issue and his decision shall be final and binding on the Contractor and the Contractor shall be bound to carry out the instruction to complete the work in time. At no point of time the Contractor shall stop execution of the work on any ground whatsoever.
58. Unless stated otherwise, rates quoted by the Contractor shall hold good for work at all heights and depths. The Contractor shall not be paid anything extra for maintaining in good condition all the work executed till completion of the entire work; nor on account of damage to the works caused by rains or other natural phenomenon during the execution of works.
59. Payment for work in different floors, extra for items for RCC, brick work above different floor levels shall be made at rates provided for these items. For operations of these rates, the floor level shall be considered as the top of main structural RCC slab in that floor viz. top of RCC slab in main room and not the top of any sunken or depressed floor for lavatory slabs.
60. The rate shall be inclusive of working under water and adverse conditions and including pumping out or bailing out water, unless otherwise specified in the nomenclature. This will include water encountered from any source such as rains, floods, sub-soil water table being high or any cause whatsoever.
61. Cutting of holes in walls, floors, chhajjas, R.C.C. slabs etc. The tendered rates shall include the cost of cutting holes wherever required and making good the same, nothing extra shall be paid for this.
62. All chases shall be cut mechanically and nothing extra shall be paid on this account. The rate shall also include making good the same.
63. The Contractor shall execute his work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors or piece meal workers or by the Engineer-in-Charge and shall as far as possible arrange his work, shall place and dispose off the materials; being used or removed, so as not to interfere with the operations of the other Contractor, piece meal workers, or of DDA or other Departments. He shall arrange his work with that of the others in an acceptable manner and shall perform it in proper sequence to complete satisfaction of Engineer-in-charge.
64. If there is any discrepancy due to incomplete description/ ambiguity or omission in the drawing and other documents, whether original or supplementary, forming the Contract, either found on completion or during progress of the work, the Contractor shall immediately, on discovering the same, bring to the notice of the Engineer-in-Charge and the decision of the Engineer-in-Charge shall be final and binding on the Contractor.

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SPECIAL CONDITIONS

1. The site of the work will be handed over to the contractor in a piece meal manner as and when the same will be made available to the department after its reclaiming by removal of encroachment.
2. Works under sub-soil water.
Trenches/ working area should be kept free of water till working in the trench/work is over. No payment shall also be made for quantities to be executed in or under subsoil water.
3. A detailed programme in the form of precedence network diagram is to be submitted to the Engineer-in-Charge within 15 days of the award of work. Any modification suggested by the Engineer-in-Charge shall be incorporated in the Bar Chart. It will be ensured by the Contractor that the time schedule laid down in the aforesaid Bar Chart is adhered to. In case of any slippage, the time lost will have to be made good by the Contractor by speeding up the activities. In such case, he shall be bound to follow the revised programme decided by the Engineer-in-Charge. The programme chart should include the following.
 - i) Descriptive note explaining sequence of various activities.
 - ii) Network (bar chart/precedence network)
 - iii) Programme for procurement of materials by the Contractor.
 - iv) Programme of mobilization of Machinery/equipment.
 - v) Programme for deployment of labour, time schedule for the requirement of material to be supplied by the Department, if any.
 - vi) Cash flow statement.
4. If the Contractor fails to submit the Bar chart, the Engineer-in-Charge shall get it prepared at the risk and cost of the Contractor.
5. Contractor shall give the Engineer-in-Charge on the 4th day of each month, the progress report of the work done during the previous month. The progress of work will be reviewed periodically by the Engineer-in-Charge with the Contractor and shortfalls, if any, will be sorted out. The Contractor shall there upon take such action as may be necessary to bring back his work to schedule without additional cost to the Department.
6. The submission of detailed programme, for approval by the Engineer-in-Charge, or the furnishing of such particulars shall not relieve the Contractor from any of his duties or responsibility under the Contract. This is, without prejudice to the right of the Engineer-in-Charge to take action against Contractor as per terms and conditions of the Agreement.
7. In order to adhere the programme, if the work is to be carried out in more than one shift, no claim on this account shall be entertained. Contractor will have to give advance notice in writing to Engineer-in-Charge for executing any work in odd hours i.e. beyond normal working hours between 9 AM to 5 PM. Contractor shall arrange suitable, to and fro transportation for DDA site staff to their residences, in case the site staff is required to stay beyond office hours.
8. Contractor shall be allowed 15 days for mobilization from the date of issue of letter of award for the work. During this period Contractor will mobilize Plant & equipment and complete other preliminaries like approval of quarry, mix design, trial mix etc.
9. The Contractor shall provide and maintain C.G.I. sheet barricading not less than 2.5m in height from ground level duly painted in white and green as required according to the rules around the work site. Nothing extra shall be paid for the same. Wherever, compound wall/fencing exists this provision will not be insisted upon.
10. The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, marking, flags, lights and flagman as necessary, at either end of the excavation/embankment and at such intermediate points, as directed by the Engineer-in-Charge for the proper identification of construction area. He shall be responsible for all damages and accidents caused due to negligence on his part. These provisions are in addition to the safety measures already mentioned in PWD-8.
11. Some restrictions may be imposed by the security staff/Delhi Police on the working and for movement of labour, materials etc as under.
 - i) The movement of trucks and vehicles shall be regulated in accordance with rules and regulations as approved by competent Authority.
 - ii) The Contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.
 - iii) No claim whatsoever will be entertained by the Department on _____ account of any restrictions (including temporary suspension of work) imposed by the security agencies in execution of work.
12. All precautionary measures are to be taken which may include propping etc. to avoid any damage to any property, adjoining works on account of excavation, and on account of flooding of excavated portion from any sources of water.
13. While excavating for the works under ground electric lines, telephone cables, if, encountered are not to be damaged under any circumstances. If needed, the work may be proceeded ahead after inspection and guidelines from Electrical or Telephone Department.
14. In case, if any, damage is done to any of the existing services, the same will have to be rectified and made good by the contractor at his own risk and cost.
15. The contractor shall be required to produce samples of all materials and fittings sufficiently in advance to obtain approval of the Engineer-in-charge.
16. The contractor shall be responsible to arrange at his own cost all necessary tools and plants required for execution of work. The contractor shall make his own arrangement for the proper watch and ward of the plant and equipment and materials brought to site. Moreover he will provide all equipment which to the opinion of the

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Engineer in Charge shall be mandatory as a safe guard against the public resentment at the time of execution of work.

17. Rate for all items in which use of cement is involved is inclusive of charges for curing.
18. The contractor shall be informed in writing by the Engineer-in-charge about various measures and precautions to be taken before the execution of work. Contractor will not start the work of his site before these instructions are obtained in writing.
19. A proper record is to be maintained by the Engineer-in-charge, the disposal of earth by mechanical transport within in the works area for cross checking of the quantities for which the measurement has been recorded for the payment. Apart from CPWD's specifications, the latest specifications and laws of DJB may also be strictly followed.
20. Filling of the excavated area shall be carried on simultaneously on both sides in such a manner that unequal pressure does not exist. Trenches should be kept free of water till the working in the trench is not over.
21. The contractor must take all precautions to avoid all accidents exhibiting day and night necessary caution boards, speed limit boards, road, flag and red lights and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part/employees/workers etc. No hindrance shall be come to traffic during the execution of work.
22. Nothing extra on anything shall be paid regarding the precaution taken by the contractor.
23. No natural watercourse shall be closed unless suitable diversions are made to the satisfaction of this department.
24. No extra payment shall be made for working in any soft/hard rock, if encountered during the execution of the work.

25. QUALITY ASSURANCE

- a) The Contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted.
- b) The Contractor shall intimate the source of various raw materials namely aggregate, cement, sand, water etc. to be used on the work and get it approved from the Engineer-in-Charge. Trial mixes for controlled concrete shall be prepared using the approved materials. The Contractor shall stick to the approved source unless it is absolutely unavoidable. The change if any, shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be carried out by the Contractor at his own cost.

26. SAMPLES OF MATERIALS:

- a) The Contractor shall submit to the Engineer-in-Charge samples of all materials to be used in the work for approval before procuring bulk supplies and before commencing the work. These approved samples shall be preserved and retained in the custody of the Engineer-in-Charge as standards of materials and workmanship till the completion of the work. The cost of such samples shall be borne by the Contractor and nothing shall be payable on this account. Preference shall be given to those articles which bear ISI certification mark. In case articles bearing ISI Certification mark are not available, the quality of samples brought by the Contractor shall be judged by the standard laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved which shall be preserved till the completion of the work.
- b) Coarse sand will be used after washing in case silt contents is beyond permissible limit.

27. SUB STANDARD MATERIAL/WORK:

In case any material/work is found sub standard the same shall be rejected by the Engineer-in-Charge and the same shall be removed from the site of work within 48 hours, failing which the same shall be got removed by the Engineer-in-Charge at the risk & cost of the Contractor without giving any further notice and time.

28. TESTING OF MATERIALS:

Even ISI marked materials may be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specification described for the item/materials. Whenever ISI marked materials are brought to the site of work the Contractor shall if required by the Engineer-in-Charge, furnish manufacturer test certificate or test certificate from approved testing laboratory to establish that the material procured by the Contractor for incorporation in the work satisfies the provisions of IS Codes relevant to the material and/or the work done.

The Contractor shall arrange to carry out all tests as required under the Agreement from the laboratories as approved by the Engineer-in-Charge. He shall bear all charges in connection with the cost of samples, packing, transportation, loading & unloading including fee for testing. The cost of tests shall be borne by the Contractor/Department in the manner indicated below:

(i) By the Contractor, if results show that the material does not pass the required tests.

(ii) By the Department, if the results show that the material passes the required tests

However, no testing charges will be payable by the Contractor for the tests conducted in DDA laboratories.

Allowing establishing the laboratory at site shall not absolve the Contractor from fulfilling the criteria of getting the test done in independent lab. The decision of the Engineer-in-Charge for allowing any test in the site laboratory or any other laboratory shall be final.

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In case there is any discrepancy in frequency of testing as given in the list of mandatory tests and that in individual sub-heads of work as per "C.P.W.D. Specifications" (lower of two frequencies of the testing i.e. higher number of tests shall be followed) and nothing extra shall be payable to the Contractor on this account.

The quality of cement concrete and RCC shall be tested during the execution of the item of work as prescribed in CPWD Specifications.

Any cement slurry added over base surface or for continuation of concreting for better bond is considered to have been included in the item (unless otherwise specifically stated) and nothing extra shall be payable or extra amount considered in consumption in this account.

The Contractor shall necessarily use the surface vibrator for compaction of concrete in floor slab etc. For placement of concrete at various levels tower crane of appropriate size, capacity and boom length or concrete pump shall necessarily be deployed by the Contractor. However, mechanical hoist can be used by the Contractor for lifting other construction materials.

The tenderer will indicate the system of centering and shuttering, he proposes to adopt for easy erection and de-shuttering. Based on this system, the type of material to be used in shuttering will be determined.

29. CONDITIONS OF CEMENT:

- (a) The Contractor shall procure 43 grade (conforming to IS: 8112) ordinary Portland cement as required in the work, from reputed manufacturers of cement, having production capacity of 1 million tonnes or more per annum, such as ACC, Ultra tech, JP Rewa, Vikram, Shree Cement and Cement Corporation of India, as approved by Ministry of Industry, Government of India, and holding license to use ISI certification mark for their product. Supply of cement shall be taken in 50 kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the Contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS Codes. In case test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.
- (b) The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-in-Charge.
- (c) The two cement godowns, one for the untested and the other one for cement that has been tested & approved, of capacity to store a minimum 2000 bags of cement shall be constructed by the Contractor at site of work for which no extra payment shall be made. Double lock provision shall be made to the door of cement godowns. The keys of the one lock shall remain with Engineer-in-Charge or his authorized representative and the key of the other lock shall remain with the Contractor. The Contractor shall be responsible for the watch and ward and safety of the cement godowns and no extra payment shall be paid for the same. The Contractor shall facilitate the inspection of the cement godowns by the Engineer-in-Charge or his authorized representatives at any time.
- (d) The cement shall be got tested by Engineer-in-Charge and shall be used on work only after test results have been received. The Contractor shall supply free of cost the cement required for testing. The cost of tests shall be borne by the Contractor/Department in the manner indicated below:
- (i) By the Contractor, if results show that the cement does not conform to relevant BIS codes.
- (ii) By the Department, if the results show that the cement conforms to relevant IS Codes.
- (e) Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-Charge.
- (f) Damaged cement shall be removed from the site immediately by the Contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do so within three days of receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the Contractor.
- (g) The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the Contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in **Special Conditions at Sl.No.32** of the Contract and shall be governed by conditions laid therein. No payment for excess consumption of cement will be allowed. However, for lesser consumption beyond permissible theoretical variation recovery shall be made in accordance with conditions of Contract without prejudice to action for acceptance of work/item at reduced rate or rejection as the case may be.
- (h) For non-schedule items, the decision of the Superintending Engineering regarding theoretical quantity of cement which should have been actually used, shall be final and binding on the Contractor.

30. CONDITIONS OF STEEL:

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- i) The Contractor shall procure steel reinforcement of Thermo Mechanically Treated Bars conforming to relevant BIS Codes directly from the main producers i.e. SAIL, TISCO, IISCO and RINL. The Contractor shall have to submit documentary proof to the satisfaction of the Engineer-in-Charge of having procured the steel reinforcement from the main producers. In exceptional circumstances of non-availability of particular diameter for limited quantity and for a limited period, procurement of steel from secondary producers having valid BIS license and having Thermax / Tempcore Plant for production of TMT bars will be allowed with the prior approval of Chief Engineer in writing and who shall satisfy himself independently about the non-availability of particular diameter of steel for which request has been made by the Contractor for procurement from the secondary producers. The Contractor shall necessarily produce documentary evidence regarding non-availability of particular diameter of steel from the main producers.

In case of use of TMT bars from secondary producers, reduction in rate of Rs.2.00 (Rupees two only) per kg from the quoted rate of Item No. 3.2 shall be made for the quantity procured from secondary producers and used on the work.

The Contractor shall have to obtain and furnish test certificates to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant specifications. In case, test results indicate that the steel arranged by the Contractor does not conform to the Specifications, the same shall stand rejected and shall be removed from the site of work by the Contractor at his own cost within 7 days of written order from the Engineer-in-Charge to do so.

- (ii) The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more or as decided by the Engineer-in-Charge.
- (iii) The steel reinforcement shall be stored by the Contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- iv) For checking nominal mass, tensile strength, bend test, re-bend test, etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Size of bar	For consignment below 100 tonnes.	For consignment over 100 tonnes.
Under 10mm dia Bars.	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof.
10mm to 16mm.dia bars.	One sample for each 35 tonnes or part thereof.	One sample for each 45 tonnes or part thereof.
Over 16mm dia Bars.	One sample for each 45 tonnes or part thereof.	One sample for each 50 tonnes or part thereof.

- (v) The Contractor shall supply free of charge the test pieces of steel bars required for testing. The cost of tests shall be borne by the Contractor/Department in the manner indicated below:
- a) By the Contractor, if results show that the steel does not conform to relevant IS Codes.
- b) By the Department, if the results show that the steel conform to relevant IS Codes.
- vi) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the Contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in **Special Conditions at S.No. 32** of the Contract and shall be governed by conditions laid therein.

31. CONDITIONS FOR WATER:

- 31.1 The Contractor shall make his own arrangement for providing water for construction and drinking purposes. Contractor shall have to get the water tested from any laboratory approved by the Engineer-in-Charge at regular interval as per CPWD Specifications 2009 Vol.I & II. All expenses towards collection of samples, packing, transportation and testing charges, etc. shall be borne by the Contractor.

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- 31.2. If the source of water is not suitable, the Contractor shall arrange suitable water from municipal or any other source at his own cost and nothing extra shall be paid to the Contractor on this account. The water shall be got tested at frequency specified in latest BIS Code/CPWD Specifications.

32. Conditions for Theoretical Consumption of Materials

For the materials, which are not stipulated/issued from the store of Engineer-in-Charge, **Clause 42 will not be applicable** and following conditions shall apply.

(i) After the completion of the work the theoretical quantities of the following materials, duration of equipment to be used in different items of work shall be calculated on the basis of statement showing quantities of materials to be used in different items of the work provided in the DSR 2007 with up to date Correction Slips. In case any of the items is executed for which the standard coefficient for the consumption of the materials/duration of equipment cannot be derived from the statement, the same shall be calculated on the basis of standard formula to be laid down by the Superintending Engineer of the Circle concerned. Over these theoretical quantities of the materials/duration of equipment shall be allowed a variation up to a percentage as given below. In the event it is being discovered that the quantities of the materials/duration of equipment used is less than the materials/duration of equipment as ascertained as here before said, provided (allowing variation on the minus side as stipulated above). The cost of quantities of the materials and equipment not so used shall be recovered from the Contractor on the basis of double the market rates. The market rates of such materials/duration of equipment shall be ascertained and approved by the Superintending Engineer of the Circle concerned and the same shall be final and binding on the Contractor. The above procedure will also be repeated along with each and every running account bill and recovery, if any, shall be made simultaneously.

<u>S.No.</u>	<u>Item</u>	<u>Variation on minus side</u>
1.	Cement	2%
2.	Steel	Nil
3.	All other Materials	Nil

- (ii) The provisions made above are without prejudice to the rights of the D.D.A. to take action against the Contractor under the conditions of the Contract for not doing the work according to the prescribed Specifications.
- (iii) The contractor shall construct suitable godowns at site of work for storing the materials safe against damages from Sun, rain, dampness, fire, thefts etc. He shall also employ necessary watch & ward establishment for this purpose.
- (iv) Cement bags shall be stored properly so that these are not affected by weather or by any other cause. The day to day receipt and issue statement verifiable should be submitted to the Assistant. Engineer daily showing the work done against the cement issued duly signed by the Contractor or his authorized agent. The statement must show the consumption variation as per above Clause (i).
- (v) The same criteria of test mentioned above shall apply Mutatis-Mutandis in case of other materials brought at site by the Contractor.
- (vi) Cement bags shall be stored in separate godown as per typical godown sketch attached, with pucca floor and weatherproof roofs & walls. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with DDA's Junior Engineer-in-Charge of work and that of the other lock with the authorized agent of the Contractor at the site of work, so that the cement issued from the godown according to the daily requirement with the knowledge of both the parties. The cement bags shall be stacked on proper floor consisting of two layers of dry bricks laid on well consolidated earth at a level of at least 30 cm above ground level. These stacks shall be in rows of 2 bags and 10 bags high within minimum 60 cm clear space around. The bags should be placed horizontally continuous in each line shown in the accompanying sketch. The day to day receipt and issue accounts of cement shall be maintained by the Junior Engineer-in-Charge and signed daily by the Contractor or his authorized agent. Materials will be issued to the Contractor during working hours as per rule of DDA framed from time to time.
- (vii) The Contractor shall bear all incidental charges, storage and safe custody for the materials.
33. Contractor shall provide one signboard of size 3m x 5m, displaying name of the , and the project, architects, consultants and main Contractor, as approved by the Engineer-in-Charge. Nothing extra shall be paid on this account.

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GENERAL SPECIFICATIONS

1. SPECIFICATIONS:

Specifications to be followed for execution of work shall be: -

- 1.1 The entire work shall be executed as per description of item, specifications attached, CPWD Specifications 2009 Vol.I & II with correction slips issued up to date of receipt of tender wherever referred to in this tender document as CPWD specifications and particular specifications attached herewith. However, in case of any discrepancy in the description of any item as given in the schedule of quantities appended with the tender and the specification relating to the relevant item, the former shall prevail. If the Specification for any items are not available in CPWD Specifications referred above, relevant BIS Specifications shall be followed. In case BIS Specifications are also not available, the decision of the Engineer-in-Charge shall be final.

- 1.2 Samples of all building materials, doors and windows fitting, sanitary wares and other articles required for execution of works shall be got approved from Engineer-in-Charge. Articles classified, as First quality by the manufacturer shall be used unless otherwise specified.

- 1.3. The weep holes, expansion joints, wherever required in S.W.drains, may be provided at suitable intervals as per specification and nothing extra shall be paid on this account.

2.0 BRICKWORK:

- 2.1 All mortars shall be mixed in Mechanical mixtures. No hand mixing shall be allowed for mixing of mortar.

- 2.2 Due care shall be taken by the contractor to ensure the execution of brick masonry walls in plumb. The outer face of the building shall be kept as true face.

3.0 FORMWORK:

3.1 Cleaning and Treatment of Works:

All rubbish, particularly chipping, shaving and saw dust shall be removed from the interior of the forms before the concrete is placed. The form work in contact with the concrete shall be cleaned and thoroughly wetted or treated with an approved composition to prevent adhesion between form work and concrete. Care shall be taken that such approved composition is kept out of contact with the reinforcement.

- 3.2 For the execution of centering and shuttering, the Contractor shall use propriety "Reebole" chemical mould release agent of FOSROC or equivalent as shuttering oil as recommended by the manufacturer and nothing extra shall be paid on this account.

4.0 STEEL WORK:

- 4.1 The names of suitable workshops having technical capability and experience in executing similar work shall be submitted well in advance for approval of the Engineer-in-charge.

- 4.2 10-mm dia MS tie bar shall be provided at the bottom end of pressed steel/Tee iron frames to maintain them in true alignment and nothing extra is to be paid for the same.

- 4.3 The railing height shall be clear height above the finished floor/tread. The height of vertical bars at the turning points of the stair case railing shall be adjusted so as to provide smooth curvature to the railing.

- 4.4 All the welded joints for Doors and windows shutters and frames shall have continuous arc/flash butt welding. The welding joints shall be properly finished by grinding, before applying coat of primer.

- 4.5 The hinges of door shutters shall be welded to angle iron/ tee iron frames in full length of contract area. Eyes and hooks shall be provided to such frames as per requirement. Nothing extra shall be paid for this work or for providing wooden padding for fixing the fitting the door shutter to suit angle iron frames.

- 4.6 The rate of M.S. Grills shall cover all work provided. No distinction shall be made between plain and ornamental grills for payment. The grill should be welded along the full length of the structure with M.S. frames of doors & windows.

- 4.7 Welding wherever required in the structure like grill, railing and frames shall be done in full length along the contract area of the member. Tuck welding is not allowed.

5. FINISHING:

- 5.1 The external finishing with plaster shall be done as per CPWD Specification and as per item of Schedule of Quantity and sample of such plaster should be prepared by the Contractor and got approved by Engineer-in-Charge before undertaking mass work.

- 5.2 The primer, ready mixed paint, distemper etc. of makes as approved by Engineer in Charge shall only be used and brought to the site of work, in the original sealed containers. The material brought to the site of work shall be sufficient for at least 30 days work. The material shall be kept under the joint custody of contractor and representative of the Engineer in charge. The empty containers shall not be removed from the site till the completion of the work without permission of Engineer in charge.

6.0 CONSTRUCTION JOINTS:

- 6.1 The Contractor shall give his proposal for location and treatment of construction joints. The construction joints shall be provided only at places and in the manner as approved by Engineer-in-Charge.

- 6.2 Except where shown otherwise on the drawing, reinforcement shall continue through construction joints.

- 6.3 The foreign matter and laitance shall be cleaned properly by compressed air before starting further work.

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ADDITIONAL CONDITIONS

1. The quantities taken in the schedule of quantities may be reduced to any extent depending upon the site requirements and availability of land. The decision of Engineer in-charge in this regard shall be final and binding on the contractor. No claim what so ever shall be entertained on this account.
2. Any losses made by the agitating demonstrators to the work executed by the contractor shall be covered under the provision of clause 44 for deciding the quantum of damage. For operation of this clause lodging of an FIR with local police shall be mandatory on the part of the contractor.
3. Intimation for demolition and making the site clear will be given to contractor by Engineer in-charge well in advance and at least 48 hours before start of demolition programme. The contractor will be required to arrange all the manpower & material at site at given time to immediately start the work of fencing/brick work. In case the contractor fails to start the work immediately, penalty for Rs 10,000/- per day for such lapse will be imposed on the contractor. The decision of the Engineer in-charge for imposing the penalty will be final and binding on the contractor and the same will not be open to arbitration.
4. The contractor will be informed for tentative length of fencing and period of it's execution for which he would be required to arrange sufficient number of manpower, RCC posts of fencing, GI barbed wire & other building material as per the direction of the Engineer in-charge. Intimation for the requirement shall be conveyed to the contractor well in advance and at least 48 hours prior to commencement of demolition programme. In case the contractor fails to arrange required number of manpower and material at site on given time as intimated by Engineer in-charge, a penalty of Rs 10,000/-per day shall be imposed on contractor. The decision of the Engineer in-charge for imposing the penalty will be final and binding on the contractor and the same will not be open to arbitration.
5. In case the schedule of demolition programme fails, the contractor would be paid Rs 5000/- for such failure on the part of the department. This will be subject to the written confirmation of cancellation of programme by the land management department of DDA, as per the satisfaction of Engineer in-charge
6. Work can be executed anywhere in Delhi as per the direction of Engineer in-charge

Appendix 'I'

REGISTER OF MATERNITY BENEFITS (Clause 19 F)

Name and address of the contractor -----

Name and location of the work -----

Name of the employee	Father's/ husband's name	Nature of employment	Period of actual employment	Date on which notice of confinement given
1	2	3	4	5

Date on which maternity leave commenced and ended				
Date of Delivery/ Miscarriage	In case of delivery		In case of miscarriage	
	Commenced	Ended	Commenced	Ended
6	7	8	9	10

Leave pay paid to the employee				
In case of delivery		In case of miscarriage		Remarks
Rate of leave pay	Amount paid	Rate of leave pay	Amount paid	
11	12	13	14	15

SPECIMEN FORM OF THE REGISTER, REGARDING
MATERNITY BENEFIT ADMISSIBLE TO THE CONTRACTOR'S
LABOUR

Name and address of the contractor -----

Name and location of the work -----

1. Name of the woman and her husband's name
2. Designation
3. Date of appointment
4. Date with months and years in which she is employed
5. Date of discharge/ dismissal, if any
6. Date of production of certificates in respect of pregnancy
7. Date on which the woman informs about the expected delivery
8. Date of delivery/ miscarriage/ death
9. Date of production of certificate in respect of delivery/ miscarriage
10. Date with the amount of maternity/ death benefit paid in advance of expected delivery
11. Date with amount of subsequent payment of maternity benefit
12. Name of the person nominated by the woman to receive the payment of the maternity benefit after her death
13. If the woman dies, the date of her death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date of payment
14. Signature of the contractor authenticating entries in the register
15. Remarks column for the use of Inspecting Officer

LABOUR BOARD

Name and work -----

Name of Contractor -----

Address of Contractor -----

Name and address of Division -----

Name of Labour Officer -----

Address of Labour Officer -----

Name of Labour Enforcement Officer -----

Address of Labour Enforcement Officer -----

S.No.	Category	Minimum wage fixed	Actual wage paid	Number present	Remarks

Weekly holiday -----

Wage period -----

Date of payment of wages -----

Working hours -----

Rest interval -----

Form-XIII (See rule 75)

REGISTER OF WORKMEN EMPLOYED BY CONTRACTOR

Name and address of contractor -----

Name and address of establishment under which contract is carried on -----

Nature and location of work -----

Name and address of Principal Employer -----

S.No.	Name and surname of workman	Age and Sex	Father's/ Husband's name	Nature of employment/ designation	Permanent home address of the workman (Village and Tehsil, Taluk and Districts)	Local address	Date of commencement of employment	Signature or thumb impression of the workman	Date of termination of employment	Reasons for terminations	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

MUSTER ROLL

Name and address of contractor -----

Name and address of establishment under which contract is carried on -----

Nature and location of work -----

Name and address of Principal Employer ----- For the Month of fortnight -----

S.No.	Name of Workman	Sex	Father's/ Husband's name	Dates					Remarks
1	2	3	4	5					6
				1	2	3	4	5	

Form-XVII
REGISTER OF WAGES

Name and address of contractor -----

Name and address of establishment under which contract is carried on -----

Nature and location of work -----

Name and address of Principal Employer ----- Wages Period: Monthly/ Fortnightly

Sl. No.	Name of Workman	Serial No. in the register of workman	Designation/ nature of work done	No. of days worked	Units of work done	Daily rate of wages/ piece rate	Basic wages	Dearness allowances	Overtime	Amount of wages earned			Total	Deductions if any, (indicate nature)	Net amount paid	Signature or thumb impression of the workman	Initial of contractor or his representative
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		

Delhi Development Authority

Wage Card No. -----

Appendix 'VII'

(Obverse)

WAGE CARD

Name and address of contractor ----- Date of Issue -----

Name and location of work ----- Designation -----

Name of workman ----- Month / Fortnight -----

Rate of Wages -----

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Morning																																Rate
Evening																																Amount
Initial																																

Received from ----- the sum of Rs. ----- on account of my wages

The Wage Card is valid for one month from the date of issue

Signature

A____
C____
OW____
D____

AE(P) EE (P)

Form-XIX [See rule 78(2) b]

WAGES SLIP

Name and address of contractor -----

Name and Father's/ Husband's name of workman -----

Nature and location of work -----

For the Week/ Fortnight/ Month ending -----

1. No. of days worked -----

2. No. of units worked in case of piece rate workers -----

3. Rate of daily wages/ piece rate -----

4. Amount of overtime wages -----

5. Gross wages payable -----

6. Deduction, if any -----

7. Net amount of wages paid -----

Initials of the Contractor or his representative

A____
C____
OW____
D____

AE(P)

EE (P)

Form-XIV [See rule 76]
EMPLOYMENT CARD

Name and address of contractor -----

Name and address of establishment in/under which contract is carried on -----

Name of work and location of work -----

Name and address of Principal Employer -----

1. Name of the workman -----

2. S.No. in the register of workman employed -----

3. Name of employment/ designation -----

4. Wage rate (with particulars of unit in case of piece work) -----

5. Wage period -----

6. Tenure of employment -----

7. Remarks-----

Signature of Contractor

A____
 C____
 OW____
 D____

AE(P)

EE (P)

Form-XV (See rule 77)
SERVICE CERTIFICATE

Name and address of contractor -----

Name and location of work -----

Name and address of workman -----

Age or date of birth -----

Identification marks -----

Father's/Husband's name -----

Name and address of establishment in under which contract is carried on -----

Name and address of Principal Employer -----

S.No.	Total Period for which employed		Nature of Work Done	Rate of wages (with particulars of unit in case of piece work)	Remarks
	From	To			
1	2	3	4	5	6

Signature

A _____
C _____
OW _____
D _____

AE(P) EE (P)

LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 7 (v) of the Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language.

1. Willful insubordination or disobediences, whether along or in combination with other.
2. Theft fraud or dishonesty in connection with the contractors beside a business or property of DDA.
3. Taking or giving bribes or any illegal gratifications.
4. Habitual late attendance.
5. Drunkenness lighting, riotous or disorderly or indifferent behavior.
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked.
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the DDA or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age father's name, etc.
13. Habitual loss of wage cards supplied by the employers.
14. Unauthorized use of employer's property of manufacturing or making of unauthorized particles at the work place.
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the Department and for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorized divulgence of business affairs of the employees.
19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.
21. Threatening or intimidating any workman or employer during the working hours within the premises.

Form-XII [See rule 78(2)(d)]

REGISTER OF FINES

Name and address of contractor -----

Name and address of establishment in under which contract is carried on -----

Nature and location of work -----

Name and address of Principal Employer-----

S.No.	Name of Workman	Father's/ Husband's name	Designation/ nature of employment	Act/ Omission for which fine imposed	Date of Offence	Whether workman showed cause against fine	Name of person in whose presence employee's explanation was heard	Wage period and wages payable	Amount of fine imposed	Date of which fine realized	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

A____
C____
OW____
D____

AE(P)

EE (P)

Form-XX [See rule 78(2) d]

REGISTER OF DEDUCTION FOR DAMAGE OR LOSS

Name and address of contractor -----

Name and address of establishment in under which contract is carried on -----

Nature and location of work -----

Name and address of Principal Employer-----

S.No.	Name of Workman	Father's/ Husband's name	Designation/ nature of employment	Particulars of damage or loss	Date of damage or loss	Whether workman showed cause against deduction	Name of person in whose presence employee's explanation was heard	Amount of deduction imposed	No. of installments	Date of recovery		Remarks
										First installment	Last installment	
1	2	3	4	5	6	7	8	9	10	11	12	13

Form-XXII [See rule 78(2)d]
REGISTER OF ADVANCES

Name and address of contractor -----

Name and address of establishment in under which contract is carried on -----

Nature and location of work -----

Name and address of Principal Employer-----

S.No	Name of Workman	Father's/ Husband's name	Designation/ nature of employment	Wage period and wages payable	Date and amount of advance given	Purpose(s) for which advance made	Number of installments by which advance to be repaid	Date of amount of each installment repaid	Date on which last installment was repaid	Remarks
1	2	3	4	5	6	7	8	9	10	11

Form-XXIII [See rule 78(2) e]

REGISTER OF OVERTIME

Name and address of contractor -----

Name and address of establishment in under which contract is carried on -----

Nature and location of work -----

Name and address of Principal Employer-----

S.No.	Name of Workman	Father's/ Husband's name	Sex	Designation/ nature of employment	Date on which Overtime worked	Total overtime worked or production in case of piece rated	Normal rate of wages	Overtime rate of wages	Overtime earnings	Rate on which overtime wages paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

A_____
C_____
OW_____
D_____

AE(P) EE (P)

NOTICE FOR APPOINTMENT OF ARBITRATOR
(Refer Clause 25)

To
The Chief Engineer/EM
.....

Dear Sir,

In terms of Clause 25 of the agreement, particulars of which are given below, I/we hereby give notice to you to appoint and arbitrator for settlement of dispute mentioned below:

- a. Name of applicant
- b. Whether applicant is individual/Prop.Firm/O\Partnership Firm/Ltd. Co.
- c. Full address of applicant.
- d. Name of the work and contract number in which arbitration sough
- e. Name of the Division which entered into contract
- f. Contract amount in the work
- g. Date of Contract
- h. Date of initiation of work
- i. Stipulated date of completion of work
- j. Actual date of completion of work (if completed)
- k. total number of claims made
- l. Total amount claimed
- m. Date of intimation of final bill (if work is completed)
- n. Date of payment of final bill (if work is completed)
- o. Amount of final bill (if work is completed)
- p. Date of request made to SE for decision
- q. Date of receipt of SE's decision.
- r. Date of appeal to you
- s. Date of receipt of your decision. Specimen signature of the applicant

(only the person/authority who signed
the contract should sign)

Yours faithfully,

(Signature)

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents. 1.Statement of claims with amount of claims
1.

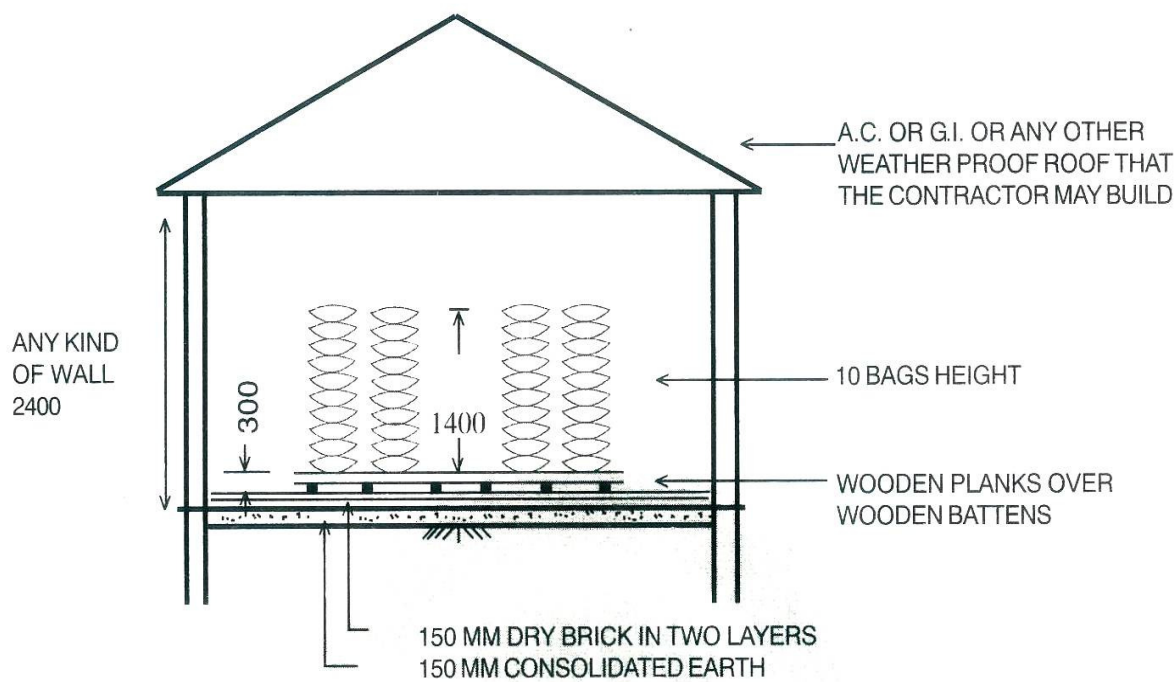
Copy in duplicate to:
1.The executive Engineer

.....Division

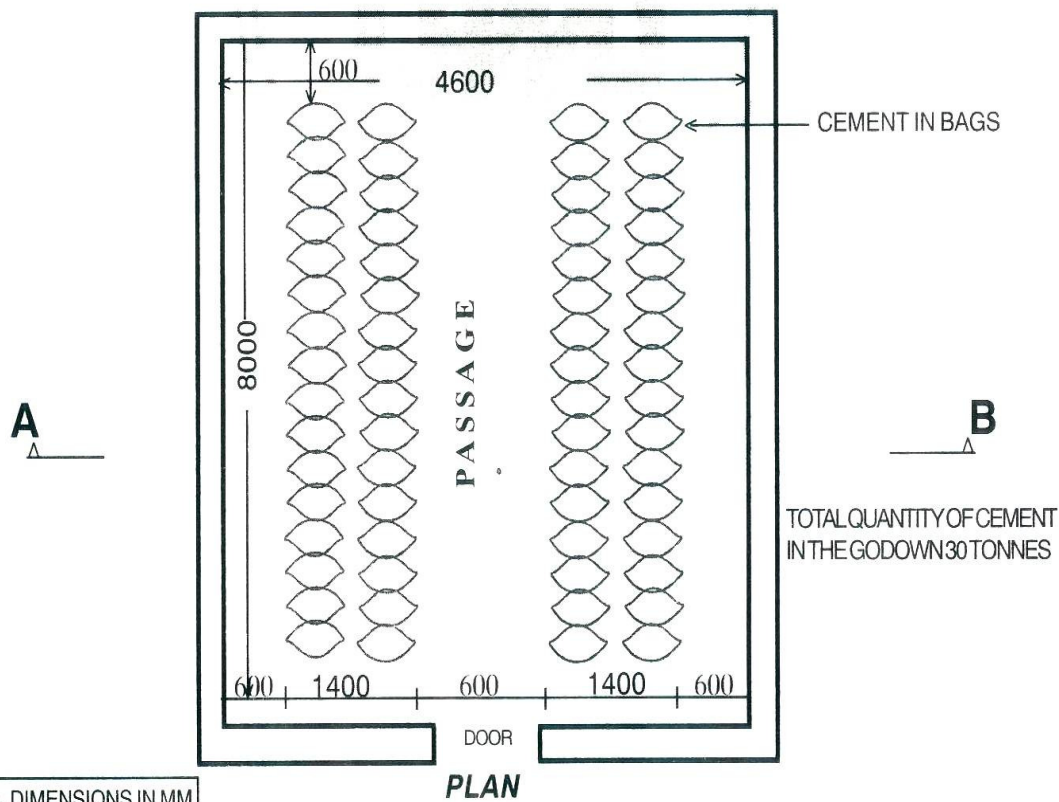
A____
C____
OW____
D____

AE(P) EE (P)

सीमेन्ट गोदाम का रेखाचित्र / SKETCH OF CEMENT GODOWN



SECTION AB



ALL DIMENSIONS IN MM

PLAN

List of Approved make of material

A _____
C _____
OW _____
D _____

AE(P)

EE (P)

Specification brands names of material (Refer materials, whichever are applicable for the scope of work) and finishes approved by the Architect are listed below. However, approved equivalent materials and finishes of any other specified firms may be used, in case it is established that the brands specified below are not available in the market and subject to approval of the alternate brand by the Engineer-in-charge (**also see Conditions of Contract**).

S.No.	Materials	Approved Make
1.	PORTLAND CEMENT (GRADE-43)	ACC, JAY PEE, VIKRAM, BIRLA CHETAK, CEMENT CORPORATION OF INDIA, SHREE CEMENT,ULTRATECH,
2.	BITUMEN	I.O.C., H.P.C.L., B.P.C.L.

SCHEDULE-B

SCHEDULE OF MATERIALS TO BE ISSUED TO THE CONTRACTOR

A____
C____
OW____
D____

AE(P)

EE (P)

S.No	Description of item	Quantity	Rates in figures words at which the material will be charged to the contactor	Place of issue
1	2	3	4	5
1	Ordinary Portland/ Pozzolana Cement	Nil	Nil	NIL
2	Twisted Deformed bars	Nil	Nil	- do -
3	Bitumen	Nil	Nil	- do -

SCHEDULE-C

TOOLS AND PLANTS TO BE HIRED TO THE CONTRACTOR

A____
C____
OW____
D____

AE(P)

EE (P)

S.No	Description	Hire charges per day	Place of issue
1	2	3	4
	NIL	NIL	NIL

SCHEDULE - D

Extra schedule for specific requirements/ document for the work, if any ‘*’

NIL

SCHEDULE - E

REFERENCE TO GENERAL CONDITIONS OF CONTRACT

A____
C____
OW____
D____

AE(P)

EE (P)

Name of Work :	M/o Completed Scheme under (Under NA-II) Rohini Zone SH:- Cleaning and desilting of sewer lines of Sector-25, Remaining sewer lines of Sector-23 & 24(Part-II), Mangalam Place Sector-3, Rohini and maintenance of sewer line Sector-20 to 24 with super sucker machine.(peripheral lines)
Estimated cost	Rs. 37,78,623/-
(i) Earnest money:	Rs.75,572/-
(ii)Performance Guarantee:	5% of Tender Value
(iii)Security Deposit:	5% of Tender Value
(IV)Time allowed:	Twelve Months.

SCHEDULE-F

General Rules & Directions and Conditions of Contract:

Officer inviting tender:	Executive Engineer RPD-12/DDA
Definition :	
2(v) Engineer-in-Charge	Executive Engineer RPD-12/DDA
2(viii) Accepting Authority	SE/CC-9/DDA
2(x) Percentage on cost of materials and labour to cover all overheads and profits	15%
2(xi) Standard Schedule of Rates	Delhi schedule of rates- 2012 with up to date Correction slips issued up to last date of issue of tender.
2(xii) Department	Delhi Development Authority / DDA
9(ii) Contract Form	Item Rate Contract Form.
Clause 1	
(i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance, in days	15 days
(ii) Maximum allowable extension beyond the period provided in (i) above in days	7 days
Clause 2	
Authority for levy compensation under clause 2	Superintending Engineer in Charge
Clause 2A	
Whether Clause 2A shall be applicable.(Yes/No)	yes
Clause 5	
Number of days after the date of issue of letter of intent for reckoning date of start	10 days
Table of Mile Stone(s)	See table attached
Time allowed for execution of work.	12 Months
Authority to decide:	
(i) Extension of time	Superintending Engineer in Charge
(ii) Rescheduling of milestones	Superintending Engineer in Charge
Clause 6, 6A,	
Clause Applicable - (6 or 6A)	Clause-6

Clause 7 Gross work to be done together with net payment/ adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	Rs.5,00,000/-
Clause 10A List of testing of equipment to be provided by the contractor at site lab:- See table attached.	
Clause 10B (ii) Whether clause 10B (ii) shall be applicable.(Yes/No)	No
Clause 10C (Component of labour expressed as percent of value of work = 25 %)	Applicable
Clause 10CA	Not Applicable
Clause 10CC	Not Applicab
Clause 11 Specifications to be followed for execution of work	CPWD specifications 2009 Volume I and Volume II with up to date correction slips issued till last date of issue of tender and Particular Specifications attached.
Clause 12 Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work	30.00 % 100.00 %
Clause 16 Competent Authority for deciding reduced rates	Superintending Engineer in Charge
Clause 18 List of mandatory machinery tools & plants to be deployed by the contractor at site:- Nil	
Clause 36 (i) Requirement of Technical Representative(s) and recovery Rate.	See table attached
Clause 42	Clause 42 Not Applicable

TABLE OF MILESTONE(S)

S.No.	Financial Progress	Time Allowed (From Date of Start)	Amount to be withheld in case of non achievement of Milestone
1.	1/8 th (of the whole work)	1/4 th (of the whole work)	In the event of not achieving the necessary progress as assessed from the running payment, 1% of the Tendered Value of work will be withheld for failure of each Milestone.
2.	3/8 th (of the whole work)	1/2 (of the whole work)	
3.	3/4 th (of the whole work)	3/4 th (of the whole work)	
4.	Full	Full	

Requirement of Technical staff for work in compliance of clause 36 (i)

A ____
C ____
OW ____
D ____

AE(P)

EE (P)

Sl. No.	Cost of work (Rs. in lakhs)	Requirement of Technical staff		Minimum Experience (Years)	Designation
		Qualification	Number		
1	10 to 50	Graduate Engineer or Diploma Engineer	1	Nil 5	Principal Technical Representative

Note :

1. Assistant Engineer retired from Government services that are holding Diploma will be treated at par with Graduate Engineer
2. Rate of recovery in case of non compliance of Clause 36 (i) shall be made at the following rates.

S.No.	Qualification	Experience (years)	Rate of recovery
1.	Graduate Engineer or Diploma Engineer	Nil 5	` 20,000/- pm

List of testing of equipment to be provided by the contractor at site lab as per Clause 10A

(A) General Equipments :

1. Theodolite/ Total Station
2. Leveling Machine
3. Balance (more than 3 Kg capacity) with 0.1 % accuracy
4. A stout water container
5. Glassware's, spatulas, steel scales, measuring tape, enameled trays, porcelain dishes, plastic bags, chemicals, digging tools like pickaxes, shovels, crow bars etc.
6. Set of IS sieves with lid and pan:
450mm diameter.
75mm, 63mm, 53mm, 45mm, 37.5mm, 26.5mm, 19mm, 13.2mm, 12.5mm, 10mm, 9.5mm, 6.7mm and 4.75mm
200mm diameter
2.36mm, 2.0mm, 1.18mm, 600 micron, 425 micron, 300 micron, 150 micron, 75 micron size.
7. Sieve Shaker Machine
8. Othe all equipment required at work.

(B) Coarse Aggregates Testing :

1. Trays
2. Thickness Gauge
3. Length Gauge
4. Balance (more than 3 Kg capacity) with 0.1 % accuracy
5. Oven (100 to 110 °C Capacity)
6. Wire Basket of lesser than 6.3 mm mesh,
7. A stout water container
8. Two dry soft absorbent cloths each not less than 75 x 45 cm.
9. A shallow tray not less than 650 cm²
10. An airtight container
11. Cylindrical metal measure of 11.5 cm ϕ , 18 cm height
12. 15 cm ϕ open-ended steel cylinder, with plunger and base plate
13. Cylindrical Tamping Rod of 16mm ϕ , 60 cm length and rounded at one end
14. Compressive Testing Machine capable of applying a load of 40 T
15. Seive Shaker

Any other instrument/equipment as desired by the Engineer-in-charge for site testing of materials.

List of mandatory machinery tools & plants to be deployed by the contractor at site
(As per Clause 18)

A ____
C ____
OW ____
D ____

AE(P)

EE (P)

Sr No	Equipment Type
1.	Equipment for Road work : <ol style="list-style-type: none"> 1 Road rollers 2 Bitumen paver finishers 3 Earth rammers
2.	Equipment for Transportation : <ol style="list-style-type: none"> 1. Tippers 2. Trucks
3.	Power Equipment : <ol style="list-style-type: none"> 1. Diesel Generators
4.	Any other Plant/ Equipment as per requirement/ direction of Engineer in charge.

FORM OF PERFORMANCE GUARANTEE-BANK GUARANTEE BOND

1. In consideration of the Delhi Development Authority(hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement between _____ and _____ (hereinafter called "the said contractor(s)" for the work of _____ (hereinafter called "The said agreement") having agreed to production of a irrevocable Bank Guarantee for `_____ (Rupees _____ only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.
We _____ (indicate the name of the bank) (hereinafter referred to as "the Bank) hereby undertake to pay to the Government an amount not exceeding `_____ (Rupees _____ only) on demand by the Government.
2. We _____ (indicate the name of the bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding `_____ (Rupees _____ only).
3. We _____ (indicate the name of the bank) the said bank further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.
The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.
4. We _____ (indicate the name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-charge on behalf of the Government certified that the terms and condition of the said agreement have been fully and properly carried out by the said contractor (s) and accordingly discharges this guarantee.
5. We _____ (indicate the name of the bank) further agree with the Government that the government shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor(s) and to for bear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor(s) or by any such matter of thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We _____ (indicate the name of the bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.
8. This guarantee shall be valid up to _____ unless extended on demand by Government. Not withstanding anything mentioned above, our liability against this guarantee is restricted to

A _____
C _____
OW _____
D _____

AE(P)

EE (P)

_____ (Rupees _____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated _____ the day of _____ for _____ .
(Indicate the name of Bank)

A____
C____
OW____
D____

AE(P)

EE (P)

ANNEXURE-III

BANK GUARANTEE FORM OF EARNEST MONEY

WHEREAS, contractor (Name of the contractor) (Hereinafter called "the contractor") has submitted his tender dated (date) for the construction of (Name of work) (Hereinafter called "the Tender").

KNOW ALL PEOPLE by these presents that we (Name of bank) having our registered office at (Hereinafter called "the Bank") are bound unto (Name and division of Executive Engineer) (Hereinafter called "the Engineer-in-Charge") in the sum of ` (in words) for which payment well and truly to be made to the said Engineer-in-charge the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said bank this day of20.....

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the form of Tender.
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge :
 - (a) fails to refuses to execute the Form of Agreement in accordance with the instructions to contractor, if required; OR
 - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and instructions to contractor, OR
 - (c) fails or refuses to start the work, in accordance with the provisions of the contract and instructions to contractor, OR
 - (d) fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the Engineer-in-Charge up the above amount upon receipt of his first written demand, without the Engineer-in-Charge having to substantiates his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date* after the deadline for submission of tender as such deadline is stated in the instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

Date

Signature to the Bank

Witness
(Signature, Name and Address)

SEAL

* Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

ANNEXURE-IV

GUARANTEE TO BE EXECUTED BY CONTRACTOR FOR REMOVAL OF DEECTS AFTER THE EXPIRY OF MAINTAINANCE PERIOD OF WORK

The agreement made thisday of year two thousand andbetween(Hereinafter called the Guarantor of the one part) and the Delhi Development Authority (Hereinafter called the DDA of the other part).

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the contract) dated and made between the GUARNTOR of the one part and the DDA of the other part, whereby the contractor, inter-alia, undertook to render the structure in the said contract structurally sound .

AND WHEREAS THE GURANTOR agreed to give guarantee to the effect that the said work will remain structurally stable and guaranteed against faulty workmanship, finishing and materials as per this contract.

NOW THIS GURANTOR hereby guarantees that work executed by him will remain structurally stable after the expiry of maintenance period prescribed in the contract for the minimum life of the five Years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer- in-charge with regard to nature and cause of defect shall be final. During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's risk and cost. The decision of the Engineer-in-charge as to the cost recoverable from the Guarantor shall be final and binding.

That if guarantor fails to make good all the defects, commits breach hereunder, then the guarantor will indemnify the Principal and his successors against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARNATOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the DDA, the decision of the Engineer-in-charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the obligatorand.....by.....for and on behalf of the DDA on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of :

1. 2.

SIGNED FOR AND ON BEHALF OF THE DELHI DEVELOPMENT AUTHORITY BYin the presence of:

1. 2.

**ANNEXURE TO CLAUSE 34(X) SHOWING QUANTITIES OF MATERIALS FOR
AREAS OF SURFACING TO BE CONSIDERED FOR WORKING OUT MINIMUM
PERIOD FOR WORKING OF ROAD ROLLER**

Sl. No	Material of Surfacing	Quantity or Areas
1	Consolidation of earth Sub grade	1860 sq.m
2	Consolidation of stone soling 15cm to 22.5cm thick	170 cu.m
3	Consolidation of brick soling 10cm to 20cm thick	230 cu.m
4	Consolidation of wearing coat of stone ballast 7.5 cm to 11.5 cm thick	30 cu.m
5	Consolidation of wearing coat of brick ballast 10cm.thick	60 cu.m
6	Spreading and consolidation of red bajri 6 mm.	1860 sq.m
7	Painting one coat using stone aggregate 12.5 mm nominal size : (a)@ 1.65 cum per 100 sqm. and paving bitumen A-90 or S-90 @ 2.25 Kg. per sqm.or (b) @ 1.5 cum per 100 sqm .and bitumen emulsion or road tar @ 2.25 Kg per sqm.	930 sq.m
8	Painting two coats using : (a)For first coat stone aggregate 12.5 mm nominal size. (i) @ 1.50 cum per 100 sqm. with paving bitumen A-90 or S-90 @ 2.00 Kg./sqm. or (ii) @ 1.35 cum per 100 sqm with bitumen emulsion @ 2.00Kg./sqm. or (iii)@ 1.25 cum per 100 sqm with road tar @ 2.25Kg./sqm	600 sq.m
	(b)For 2 nd coat, stone aggregate 10 mm nominal size 0.9 cum. per 100 sqm with (i) 1.00 kg of paving bitumen A-90 or S-90 or bitumen emulsion per sqm. or (ii) 1.25 kg of road tar per sqm.	600sq.m
9	Repainting with stone aggregate 10 mm nominal size 0.9 cum. per -100 sqm. with (a)1.00 kg of paving bitumen A-90 or S-90 bitumen emulsion per sqm. or (b) 1.25 kg of bitumen emulsion per sqm.	1670 sq.m

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10	2 cm. premix carpet surfacing using 2.4 cum. of stone aggregate 11.2 mm nominal size per 100 sqm and binder including tack coat, the binder being hot cut back bitumen or bitumen emulsion in specified quantities.	930 sq.m
11	2.5 cm thick premix carpet surfacing using 3.00 cum of stone aggregate 11.2 mm nominal size per 100 sqm and binder including tack coat, the binder being hot cut back bitumen or bitumen emulsion in specified quantities.	930 sq.m
12	4 cm thick bitumen concrete surfacing using stone aggregate 3.8 cum. (60% 20mm nominal size and 40% 12.5 mm nominal size) per 100 sqm and coarse sand 1.90 cum. per 100 sqm and hot cutback bitumen over a tack coat of hot cut back bitumen.	460 sq.m
13	5 cm thick bitumen concrete surfacing using stone aggregate 4.8 cum (60% 25mm nominal size and 40%, 20mm nominal size) per 100sqm and coarse sand 2.40 cum per 100 sqm and hot cut back bitumen over a tack coat of hot cut back bitumen.	370 sq.m
14	6 cm thick bitumen concrete surfacing using stone aggregate 5.8 cum.(60%, 40mm nominal size and 40%, 25mm nominal size) per 100 sqm and coarse sand 2.9 cum per 100 sqm and hot cut back bitumen over a tack coat of hot cut back bitumen.	280 sq.m
15	7.5 cm thick. Bitumen concrete surfacing using stone aggregate 7.3 cum (60%, 50mm nominal size and 40%, 40mm nominal size) per 100 sqm and coarse sand @ 3.65 Cum per100 sqm and hot cut back bitumen over a tack coat of hot cut back bitumen.	230 sq.m
16	2.5 cm bitumastic sheet using stone aggregate 1.65 cum (60%, 13.2mm nominal size and 40%, 11.2mm nominal size) per 100 sqm. and coarse sand 2.5cum.per 100 sqm. and hot cut bitumen over a tack coat of hot cut back bitumen.	750 sq.m
17	4 cm bitumastic sheet using stone aggregate 2.6 cum (60%, 13.2mm nominal size and 40% 11.2mm nominal size) per 100 sqm and coarse sand 2.5cum.per 100 sqm. and hot cut back bitumen over a tack coat of hot bitumen.	560 sq.m

18	Laying full grouted surface using stone aggregate 40mm nominal size 6.10 cum per 100 sqm. with binder, binding with 20mm to 13.2 nominal size stone grit 1.83 cum per 100 sqm. and seal coat of binder and stone grit 11.2 mm nominal size 1.07 cum. per 100 sqm., the binder being hot bitumen or tar as specified.	460sq.m
19	Laying full grouted surface using stone aggregate 50mm nominal size 9.14 cum, per 100 sqm grouting with binder with stone grit 22.4mm nominal size 1.83 cum per 100 sqm., seal coat of binder with 13.2mm and stone grit 11.2mm nominal size 1.07 cum per 100 sqm, the binder being hot bitumen or tar.	370sq.m
20	4cm thick premix macadam surfacing using stone aggregate 25mm nominal size 4.57 cum per 100 sqm and hot bitumen binding with stone aggregate 13.2 mm nominal size 1.52 cum per 100 sqm. and seal coat of hot bitumen and stone aggregate 11.2 mm nominal size 1.07 cum per 100sqm.	560sq.m
21	5cm thick premix macadam surfacing with stone aggregate 25mm nominal size 6.10 cum per 100 sqm. and hot bitumen binding with stone aggregate 13.2 nominal size 1.52 cum per 100 sqm and seal coat of hot bitumen and stone aggregate 11.2 mm nominal size 1.07 cum/100 sqm.	460sq.m

SPECIAL DIRECTONS & CONDITIONS

1. Desilting of sewer line should be dne using high vacuum sewer cleaning machine with combination of Super Sucker and High Pressure jetting followed with safety precaution as per BIS 11792 and internainally accepted standard for safety. Over and above DJB safety code should also be strictly followed. The agency will be responsible for accident that may occur during the progress of work and for injury or damage to the person or property of any description what so ever which may be caused by or as a result from the execution of work.
2. Cleaning of sewer line shall be carried out through mechanical means i.e. UPER SUCKER MACHINE.
3. The agency / contractor who their own Super Sucker machine and Allied T&P have related lto cleaning of sewer line
4. Safety equipment required for cleaning of sewer line shall be issued by DDA to the agency at the start of work. The equipment has to be returned back to DDA. Cost depreciatin of equipments shall be recovered frm the agency from R/A bills. The safety equipment to provided to the contractor by the department shall be recovered from the contractor @Rs.1,80,000/-(Rs. One lacs eighty thousand only) per year as usages charges of the safety equipments. In case any theft/ loss/damage to individual equipment/equipments shall also be recovered from the contractor at the market rate as decided by Engineer in charge which shall be final binding to the contractor?

The following sewer cleaning safety equipment shall be provided departmentally to the contractor and shall be required as per the conditions of agreement.

- a) Gas Mask.
 - b) Oxygen inhalator with cylinder.
 - c) Gum boots(Size 6,7,8,9,10)
 - d) Safety google.
 - e) Safety helmet.
 - f) Air breathing apparatus
 - g) Portable Horizontal blower
 - h) Nylon Rope Ladder
 - i) Lead acetate paper
 - j) Manhole Guard Cone.
 - k) Multi Gas Detector
 - l) PVC Hand Gloves
 - m) PVC protective suit(Coat, Pent & Hood)
 - n) Safety Belt with additional rope.
 - o) Head Lamp.
5. No sewer cleaning shall be permitted without safety equipments.
 6. First adi kit, Portable blower and forced ventilator should be at work location or locations. The motors of blowers to be sede shuld be weather and flame proof and without sparking plug. In no case sewer man shall be allowed to enter the manhole without use of safety devices. Manual entry of labor into the manholes is to be restricted in the rare cases with all sasety equipments.
 7. desilting of sewer line includes removal and taking out Debris, brick, stone ,grit and building rubbish etc. including disposal of silt within Municipal dumping ground or at any other area approved by Engineer in charge. The work also includes installation of adequate number of pumping system, leak proof stacking arrangement on upstream and donw stream of working length and later on if any temporary interim arrangement etc. for smooth flow of sewer system to avoid flooding over flow in area. Supply of all material, labor, tools, plants, temporary power generator with stand by Generator set of capacity 62.5KVA, traffic control arrangement and proper lighting at night barricading display of sign board comp0lete shall be provided by the contractor.
 8. All the works should be ensured against any mishaps.
 9. No person belowq the age of 18 years shall be employed for carrying out cleaning and desilting work of sewage system

10. Cleaning and desilting work should be carried out under the Direct Personal Supervision of JE/AE in charge.
11. Basic facilities such as safe drinking water, washing facility, latrine, urinals, rest room, and canteen shall be provided by DDA at the cost of the agency.
12. Manholes shall be kept open for minimum Half and Hour to allow fuel gases to escape if any and manhole shall be covered with manhole guards and tripod stand shall be kept above them with danger flag.
13. On completion of work at the end of the day, all manholes shall be checked and ascertained that they are properly closed for which a register shall be maintained by JE in charges & signed at the end of work.
14. DDA shall pay to legal heir of sewer cleaning worker an immediate exgratia of Rs.2,50,000/- (Rs. Two lacs fifty thousand only) as fixed by Hon'ble Court vide Suit No.WP(C)5232 of 2007 order dated 21.4.09 in the event of death. This will be recoverable from the contractor.
15. (a) The compensation shall be paid by the DDA and recoverable from the contractor to all the sewer cleaning workmen suffering from any occupational disease, ailment or accident up to full treatment or death in accordance with the Provision of Workmen's Compensation Act or under other applicable law.
(a) DDA shall authenticate payment by signing the wage register of sewer cleaning workers engaged by the contractor in terms of clause 5 of Contractor's labour regulations.
16. The services of any sewer cleaning worker shall not be terminated during the period of illness. They shall be treated as if on duty and DDA will pay their wages & recover the same from contractor.
17. DDA shall pay all statutory dues such as PE, gratuity and bonus to all sewer cleaning workers as applicable in law, the same shall be recovered from the contractor.
18. DDA shall provide oil and soap to sewer workers according to present quota on monthly basis and same shall be recovered from the contractor.
19. DDA shall provide all sewer cleaning workers engaged by the contractor an Accident card-cum wage slip as set out in contractor's labor register at the cost of contractor.
20. Before any sewer man is engaged, he shall be got examined from any Hospital empanelled in DDA at the cost of contractor. Sewer worker shall be allowed to carry out the sewer cleaning work only after he is found Medically Fit.
21. Two manholes on either side of the effected manhole shall be kept open for sufficient duration to allow gases to escape. A blower shall be used to escape the toxic/ poisonous gases.
22. A register shall be maintained by contractor for registration of complaints, its compliance and feed back to be checked by AE/JE in charge and contractor.
23. Workers above the age of 50 years, weak in health and infirm are not allowed to enter in the manhole.
24. DDA shall provide to all sewer cleaning worker an employment card, attendance-cum-wages slip and service certificate to all, at the cost of contractor as per provision of agreement. However, this employment card is not a guarantee of permanent employment.
25. The contractor shall deposit a sum of Rs.5,00,000/- (Rs. Five lacs only) as Bank Guarantee issued by Schedule Bank in advance on account of compensation advance i.e. compensation to be paid to the labour on account of any accident, medical treatment, EPF, Gratuity, bonus.

INSURANCE

26. Before commencing the execution of work, the contractor shall, without in any way limiting his obligations and liabilities, insure at his own cost and expense against any damage or loss or injury, which may be caused to any person or property, at site of work. The contractor shall obtain and submit to the DDA proper Contractor All risk Insurance Policy for an amount of 1.25 times the contract amount for this work with DDA as the first beneficiary. The insurance shall be obtained in joint names of DDA and the Contractor (who shall be second beneficiary). Also, he shall indemnify the department from any liability during the execution of the work. Further, he shall obtain and submit to the DDA, a third party insurance policy for maximum Rs.10.00 lacs for each accident, with the DDA as the first beneficiary. The insurance shall be obtained in joint names of DDA and the contractor (who shall be documentary evidence as regards payment of premium for all the insurance Policies for keeping them valid till the completion of the work. The contractor shall however be responsible, to the Department, for any claim or loss resulting from the failure of his sub Contractors/ specialized agencies in obtaining such insurance policies. Without prejudice to any of its obligations and responsibilities specified above, the contractor shall within 10 days from the date of letter of acceptance of the tender and thereafter at the end of each quarter submit a report to the Department giving details of the Insurance Policies along with the certificate of these insurance Policies being valid, along with documentary evidences as required by the DDA.

No Work shall be commenced by the contractor unless he obtains the insurance policies as mentioned above. Also, no payment shall be made to the contractor on expiry of insurance policies unless renewed by the contractor. Nothing extra shall be payable on this account. No claim of hindrance (or any other claim) shall be entertained from the contractor on these accounts.

27. The work shall be executed and strictly in accordance with DJB/MCD specifications & directions, relevant code, sewerage manual and direction of Hon'ble High Court in WP(C)5232 of 2007. A copy of Hon'ble High court order can be seen in the office of Engineer in charge.
28. In case of contradiction, the order of precedence shall be under;
 - a. Special Directions & Conditions.
 - b. Guidelines & safety code for operation and maintenance of sewerage system.
 - c. Safety Code
 - d. General specifications
 - e. Special Conditions
 - f. Standing instructions as per annexure '2' & '3'
29. Some manhole are inaccessible/or buried, the contractor shall search the buried manholes and make arrangements to make the manhole sites approachable at his own risk and cost. Nothing extra shall be paid to him on this account. Specific arrangements for accessing the manholes or the sewer line may involve providing scaffolding, struts, supports through tubular pipes etc. or construction of temporary platforms with M.S. sheets, plans, gunny bags filled with earth, or other construction work.
30. In the event of provision of stinking/plugs/rockers or any other act of the contractor due to which there is a possibility of overflowing of sewage at any point, the contractor shall be responsible for keeping this sewage level well below the present level of sewage till completion of work. Contractor shall deploy sufficient number of pumps of adequate capacity for dewatering and pumping out of sewage from the existing sewer so that no flooding or surcharging of sewers from the existing of sewage and its proper disposal to the nearest drain/nallah shall be borne by the contractor and nothing extra shall be paid. Basically/principally super sucker to avoid risk of life of the workers and also to complete the work of blockage/malba, debris or other material, the successful contractor has to abide by and follow all the safety precautions as per Annexure. This is however without prejudice to the contents, special conditions and General conditions.
31. No claim on account of working in foul conditions and confined space shall be entertained.
32. The contractor shall comply with the "Safety Guide for men working in sewer" as published by 'National Human Rights commission'.
33. After completion of the work, the agency has to attend all complaints received from Engineer in charge during the maintenance period i.e. upto 12 months by taking above illustrated precautions while executing the lining of sewer line. The complaints have to be attended in the personal supervision of the AE/JE in charge and details programme is to be submitted by the agency to Engineer in charge at least a day in advance from Sector 20 to 25 and Manglam Place Sector-3, Rohini. Nothing extra shall be paid on account of the same.

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**COPY OF COMPREHENSIVE
GUIDELINES AND SAFETY CODE FOR
OPERATION AND MAINTENANCE OF
SEWERAGE SYSTEM**

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GUIDELINES AND SAFETY CODE FOR OPERATION AND MAINTENANCE OF SEWERAGE SYSTEM.

1. Introduction.

Modern concepts for public health engineering demand, adequate means of collection, conveyance and hygienic disposal of wastes of all kind whether solid or liquid. disposal of human waste has gone through many stages before the conventional water borne sewerage system came into existence. Water borne sewerage system has eliminated direct involvement of human labour in handling the human waste, but the labour force is definitely required for its maintenance and operations. This can be minimized to an extent but cannot be completely eliminated, even by involving more and more mechanical devices/ employing advanced technologies.

The quality maintenance of sewerage system consists of the optimum use of labour, equipment and material to keep the system in good conditions so that it can accomplish efficiently its intended purpose of collection and transportation of waste water to the treatment plant.

2. Types of maintenance.

There are two types of maintenance of the sewerage system preventive & Emergency/ Breakdown. It is necessary that preventative or routine maintenance are carried out to prevent any breakdown of the system and to avoid emergency operations to deal with clogged sewer lines, overflowing manhole, backing up of sewage into a house or structural failure of the system/. Preventive maintenance is more economical and provides for reliability in operations of sewer facilities. Emergency repair, which would be very rare if proper preventive maintenance is carried out, will also have to be provided for. Periodical inspection and preventive maintenance is a necessity.

3. Necessity of Maintenance.

- 3.1 Sewer maintenance functions are too often neglected and given attention only as emergency arises, Considering the health hazards, that the public at large has to face, it will appropriate to provide sufficient funds to take care of men. material, equipment and machinery required for efficient maintenance.
- 3.2 Maintenance held to protect the capital investment and ensures an effective and economical expenditure in operating and maintaining the sewerage facilities. It also helps to build up an maintain cordial relations with the public, whose understanding and support are essential for the success of the facility.

4. Problems in Sewerage System.

- 4.1 Improper design and material - Serious and expensive sewer problems can result from improper design or poor construction. Adequate slopes to maintain self cleaning velocities are essential to minimize maintenance. Selection of a suitable pipe joints is vital to prevent penetration of roots and excessive infiltration. Cutting of tree roots from sewer lines can be expensive and recurring cleaning process. Ground water entering joints carries with it soil from around the pipe, which ultimately causes structural failure.
- 4.2 Presence of non biodegradable material- Sewer stoppages are caused chiefly by sand, greasy materials., plastic sticks stones and tree roots etc.
- 4.3 Physical Action.—Gradual breaking of jointing materials, poorly made branch connections alternations connections alternations in overburden pressure, impact loading due to traffic, vibrations, ground movements, scouring due to improper designing, damage due to maintenance equipment or during making connection contribute to physical actions.
- 4.4 Characteristics of Sewerage- Sewers convey the various types of waste water, domestic or industrial. Some of its constituents can be hazardous and can create various type of ____ Some are explosive in nature, and can create fire or explosion hazards. Some can obstruct type hydraulic capacity of the sewers and some create ____to the public, in treatment process, or to receiving waters in the sewer systems. The sewage characteristic shall be governed by the relevant BIS Code. Environment Protection Rules and the limits specified by the local body/ Civil Authority/ Sewerage Board under their Act/ Byelaws.
- 4.5 Chemical Actions—Chemical actions are single most important reason for deterioration of sewer lines in general. Sewer material under humid atmosphere is susceptible to action due to presence of various undesirable elements in sewage. Most common element being Hydrogen Sulphide. Domestic sewage contains sulphides and if industrial waste not properly treated are added to municipal waste water the sewage becomes more prone to Sulphide attack. Besides, industrial wastes from tanneries, dye houses, abattoirs etc..are high in Sulphide contents. Septic tank sludge and that from cess pools also have high Sulphide contents.
 - 4.5.1 Factors which lead to Sulphide formations are:-
 - i) Low PH of sewage.
 - ii) Long flow durations within sewers i.e. longer distances between collection and discharge points.
 - iii) High BOD.
 - iv) Poor ventilation.
 - v) High temperature of sewage enhancing microbial action.
 - vi) High sewage velocity or turbulence due to poor design.
 - 4.5.2 Lower and high velocities of sewage, turbulence and greater depths are conducive to generation of Hydrogen Sulphide.
 - 4.5.3 Attack on concrete or mortar takes place when Hydrogen Sulphide depths are conducive to generation of Hydrogen Sulphide is converted into Sulphur dioxide on surfaces. Acid forming bacterial in present of nutrients such as ammonia, phosphates etc. convert. Hydrogen Sulphide into sulphuric Acid in presence of moisture. Permeable and weaker concretes are easily attacked by the Condensed moisture on the walls of the conduit leads to acidic conditions leading to channel scour.
- 4.6 Electro Chemical Actions:

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These lead to corrosion in metallic pipelines. This can be controlled by proper coating or even cathodic protection consisting of sacrificial anodes or even impressed current cathodic protections.

4.7 Biological, Actions:

Acid forming bacterial aid in Hydrogen sulphide actions. In addition, growth of roots, algee also cause damage to pipelines.

4.8 Surcharged Conditions:

4.8.1 The surcharge conditions of the sewers occur owing to various reasons like the failure or the inadequate capacity of pumps, non availability delay in development of out fall facility/ treatment plants etc.

4.8.2 Surcharge condition/ overflow may also occur due to discharge of storm water into the sewer lines. In case such a situation is noticed, the maintenance agency shall report the matter to the concerned local authorities to take appropriate measures to get it delinked to the extent possible.

4.9 Rodents;

4.9.1 Sewers form an ideal environment for the build up rat infestation. Norway rat (*Rattus norvegicus*) is the species particularly inhabiting sewers.

4.9.2 Rats gain access to the sewers through defective drains or through inspection chambers to infest the sewer system. The infestation then spreads through the network of sewer to distant parts of the city. Conversely the sewer rats negotiate through house drains and plumbing to enter the premises through toilet. Whenever the storm water and sewer system are combined the sewer rats infest both the systems.

4.9.3 The burrowing activity of rat around sewer lines causes sinking of sewer lines particularly the house drains adversely affecting the flow.

4.10 Trespassing in manholes and sewer lines.

5. Provision in Design.

5.1 Maintenance really begins with the design and construction of the sewerage system. Hence due considerations shall be given to maintenance requirements at the time of designing sewerage system.

5.2 Since sewer maintenance which are located in the street, the size of the manholes must be designed to permit safe access and sufficient working space.

5.3 Location of manholes depends on several factors, but consideration of safety alone required that they should be sited at all changes of sewer section and gradient, at junctions and the heads of all sewers. The spacing between manholes should not be large.

5.4 In deep manholes ladder bolted to built in legs are preferable to foot irons.

5.5 The sewers shall be laid at a sufficient grade to provide self cleansing velocity. the velocity of flow of the sewage should be great enough to prevent the deposition of solid matter and its subsequent putrefaction Alternatively the velocity should not be so high as to involve the risk of a workman being swept off, or cause erosion.

5.6 Particular care should be taken to ensure that the provisions made for ventilation will be adequate and efficient in practice.

5.7 Inverted siphons and eccentric manholes should be avoided as

5.8 As far as possible, deep sewers should be avoided. With its optional cost sewerage system should be designed with intermediate pumping stations restrict depths to workable levels.

5.9 Manhole covers should be designed/ provided within built locking arrangement as a check against the foot and trespassing.

6. Organisation for maintenance.

6.1 The organization responsible for the maintenance of the sewerage system will vary with the size and type of the sewerage system and the relative age of the system. The larger the Municipality, the larger and more complex will be its maintenance organization. The size of the organization will vary from a couple of employees to several hundred regular employees. The primary effort of the staff is to maintain sewers free flowing and unobstructed.

6.2 The sewer system with its components properly designed and installed is handed over to the person in charge of maintenance who assumes the responsibility to make it function satisfactorily for the benefit of the community. One should have sufficient experience in the design and construction of the system to enable him to perform his task efficiently with an understanding and appreciation of the problems that may arise during maintenance. One has to not only attend to technical issues but also to deal with human relations in order to be successful in his work in service training shall be imparted to the maintenance personnel to improve upon the methods adopted based on the latest trends. Failure to develop a better understanding of human relations and also lack of development of the concept of service to the community generally results in the maintenance part becoming unpopular. the general public is also to be made aware of dos and don'ts to help in keeping the sewer free flowing and unobstructed.

6.3 The work of cleaning, desilting and other maintenance of system shall be carried out departmentally or through concerned local body/ civil authority/ sewerage board by mutual arrangement and shall not be entrusted to the private contractors, unless there is an exigency for engaging contractors.

6.4 For meeting such exigencies experienced and well equipped agencies with trained manpower shall be prequalified. Such private agencies shall be engaged on annual/ periodical contract basis at zonal/ sectional level. Such agencies shall be required to strictly observe all the conditions..... of the same requiring the entry of workers in the sewerage system.

6.5 As far as possible mechanical process for cleaning de-silting and rehabilitation of sewer lines shall be used, minimizing manual process for the same requiring the entry of workers in the sewerage system.

7. Sewer Maintenance and Cleaning

7.1 Sewer inspection and maintenance should be planned. The whole sewerage system should be marked on a plan showing location, depth, diameter & type of line, direction of flow, location of manholes, flushing inlets, services connections and other appurtenances. the entire system of the city should be divided into different zones/ circles/divisions/

subdivisions/sections/ sub sections assigning depending upon the size of sewer its depth spacing of manholes, the conditions of sewer(whether surcharged or not), whether cleaning is being done by manual labour or by mechanical sewer gang..... preferably consisting of a supervisor or mate with at least six skilled sewer men. In case house gully traps are to be maintained, special gang of one or two persons who will clean those traps regularly in a phased or planned manner is necessarily.

- 7.2 Records should be kept on maintenance performed, with particular emphasis on troublesome line that are known to require more frequent inspection or cleaning . While large sewers with adequate slopes may never require flushing or cleaning, others must be placed on a regular schedule that may range from every month to once a year. The number of emergency sewer blockage can be materially reduced by such preventative maintenance.
- 7.3 The work of each sewer maintenance gang would consist of the following:
 - 7.3.1 Check manholes conditions for deposition of slit, flow, new connections done, damage walls or steps, manholes covers, clogged vertical pipes in drop manholes etc. While the cleaning of the manholes pipes etc., will be undertaken by the gang, repairs etc. may be reported to be handled by a separate.....occurs when repairs are done separately. In such cases couples of sewer mane should be deputed to clean the manholes of the debris immediately after repair work is completed.
 - 7.3.2 Chock the sewer line between two successive manholes for silting and flow conditions and remove the deposited silt and
 - 7.3.3 Check for any harmful and extraneous matter entering into the sewer line so that further investigation of the cause and location can be determined.
 - 7.3.4 Check air release valves in rising or force mains, sluice gates or stoppage in the sewer lines, overflow arrangements etc.
- 7.4 A record of daily work done by the gang and also a record of work done on the sewer lines should be maintained so that chronic trouble spots may be investigated and remedial action taken.
- 7.5 All operating records of the sewerage system should properly complied on day to day basis and daily, monthly and yearly reports prepared. History cars for individual sewer line and the equipment installed on the sewerage system should also be recorded. Record should also contain the details of maintenance operations carried out its cost, time and resources involved and also defects notice during maintenance operation. This will facilitate not only the prompt corrective action to be taken for the purpose of future planning.

8. Sewer cleaning equipment and procedures

- 8.1 Sewer cleaning work require usual implements like pick axes, manholes guards, tripod stands, danger glugs, lantern, batteries, safety lamps, leads acetate paper silt drums, ropes, iron hooks, hand carts, plunger rods, observations rods, shelves etc.
- 8.2 In addition, sewer cleaning work calls for the following special equipments and devices like a portable pump set running on either diesel or petrol engine, manila rope and cloth bass, sectional sewer rods, a sewer cleaning bucket machine, a degree, a Roding machine with flexible sewer rods and cleaning tools attachments such as flush bags, sewer balls, wooden ball and sewer scooters, sewer jetting machine, gully emptier and pneumatic plugs.

8.2.1 Portable Pumps set

In case where sewers are clogged completely and sewer has accumulated in manholes, the collected sewage has to be pumped out to tackles the sewer blockage. Such pumps should be of non clogging type preferably on four wheel trailers for the large sizes and should be provided with self priming unit to save time and effort. Small pneumatic pumps can be used where high lifts are required and the volume of liquid to be pumped is not large, such as when pumping out flooded basements and de watering deep trench excavation. In case of very deep manholes, non clog submersible pumps may be used.

8.2.2 Manila Rope and Cloth Ball.

The most common way of cleaning small up to 300mm dia-meter is by the use of a manila rope and cloth ball. Flexible bamboo strips tied together are inserted into the sewer line by a person on top. If necessary, another man inside the manhole helps in pushing the rod through the sewer line. When the front end of the bamboo strip reaches the next manhole, a thick manila rope is tied to the rear end of the bamboo splits. The bamboo splits are then pulled by another man in the downstream manhole and pushed through the sewer line and the accumulated grit is carried to the next manhole where it is removed out, by means of buckets. The operation is repeated between the next manholes until the stretch of sewer line is cleaned.

8.2.3 Sectional Sewer Rods.

These rod are used for cleaning small sewers. The sewer rods may be of bamboo or teakwood or light metal usually about one meter long at the end of which is a coupling which remains intact in the sewer but can be easily disjointed in the manhole. Sections of the rods are pushed down the sewer. The front of the advancing end of the sewer rod is generally fitted with a brush, a rubber ring for cleaning or a cutting edge to cut and dislodge the obstruction. These rod are also useful to locate the obstruction from either manhole, in case that particular portion of the sewer has to be exposed for attending to the problem.

8.2.4 Sewer cleaning bucket Machine.

The bucket machine consists of two powered winches with cable in between in cleaning a section of sewer, the winches are centered over two adjacent manholes. To get the cable from one winch to the other, it is necessary to thread the cable through, the sewer line by means of sewer rods or flexible spilt bamboo rods. The cable from the drum of each winch is fastened to the barrel on each end of an expansion sewer bucket fitted with closing device, so that the bucket can be pulled in either direction by the machine on the appropriate end. The bucket is pulled into the loosened material in the sewer until the operation feels that it is loaded with debris. The winch is then thrown out of gear and the opposing winch is put into action. When the reverse pull starts, the bucket automatically closes and the dirt is deposited in a truck or. a

trailer. This operation is repeated until the line is clear. Various bucket sizes are available for sewer 150mm to 900mm in size. The machine is also used along with other scrapping instruments for loosening sludge banks of detritus or cutting roots and dislodging obstructions. (Fig. 8.1)

8.2.5 Dredger (Clam shell)

It consists of a grab bucket on a wire which is lowered into the manhole in open conditions with the help of crane and pulley. On reaching the bottom of the manhole the segments are closed picking up the accumulated silt. The bucket is then raised above ground level where the bucket opens and the silt is automatically dropped into a truck or a trailer. The closing of the bucket can be effected by wire ropes or by pneumatically operated cylinder. The disadvantage in this system is that it cannot clean the corner of the catch of manholes. Sometimes the deposits at the 'corners may become so hard that the same may be required to be chiseled out.

8.2.6 Redding Machine with Flexible Sewer Rods.

This consists of a machine rotates a rod to which is attached the cleaning tool such as auger, corkscrew or hedgehog and sand cups (fig. 8.2). The flexible rod consists of a series of steel rods with screw couplings. The flexible rod is guided through the manhole by a bent pipe. The machine rotates the rod with the tool attached to one end, the other being fixed to the machine. The rotating rod is thrust into the bent pipe manually with clamps with long handles holding the rod near the couplings. As the rod is thrust inside, the machine also is drawn towards the manhole. The rod is pulled in and but in quick succession when the tool is engaged the obstructions, so as to dislodge or loosen it. When the obstruction is cleared, the rod is pulled out' by means of clamps keeping the rod rotating to facilitate quick and easy removal. The various tools attached to the rods are shown in Fig. 8.3.

8.2.7 Scraper.

This method is used for sewers of diameter larger than 750mm. The scraper is an assembly of wooden planks of slightly smaller size than the sewer to be cleaned. Where the scraper cannot be lowered through the opening of a manhole, the scraper has to be assembled inside the manhole. The scraper chains, attached to a control chain in that manhole into which it is lowered, is then connected to a which in the next downstream manhole by means of chains. The winch is then revolved to push the debris ahead of the scraper. The heading up of the flow behind the scraper and the water dropping from the top of the scraper will also assist in pushing it in the forward direction. This ensures that the bottom and the sides of the sewer are cleaned thoroughly. The scraped debris is removed manually.

Circular scrapers are used on small sewers below 350mm diameter for cleaning the body of the line. They are commonly known as discs and these discs are either of collapsible type made out of metal or a wooden apart by steel rods. (Fig. 5)

8.2.8 Hydraulically propelled Devices.

The hydraulically propelled devices take advantage of the force of impounded water to effectively clear sewers. Efficiency depends on the hydraulic principle that an increase in velocity in a moving stream is accompanied by a greatly increased ability to move entrapped material. The transporting capacity of water varies as the sixth power 'of its velocity.

8.2.9 Flush Bags.

A most effective tool for cleaning portions of sewer where rods cannot be used is the sewer flusher or flush bag. The flusher is a canvas bag or rubber bag equipped with a fire \hose coupler at one end and a reducer in the other end. The flusher is connected to the fire hose and placed in the downstream end from the point where a choke is located. The bag is allowed to fill up until it expands and seals the sewer. The upstream pressure built up due to this damming effect breaks loose the obstructions. Caution must be exercised in using these types of devices as there is a likely hood of sewage flowing back into the house connections or breaking of the pipes or joints due to high pressure that may develop.

8.2.10 Sewer Balls.

These are simple elastic pneumatic type rubber balls which can be blown up to varying degree of inflation. These are manufactured in sizes from 150 mm to 750 mm when fully inflated. When used in cleaning a sewer the ball is first in flatted and then wrapped in a canvas cloth, the edges of which are sewed together. A trial line, litter longer than the distance between the manholes, is attached securely to the cover in the size of the ball and the covering shall be such as to fit fairly snugly into the sewer. Immediately the ball is thrust into the sewer, Sewage commences to back up in the manhole and continues to rise until such time as its pressure is great enough to force the ball, moving it downstream through the pipe. Acting as a compression floating plug, it affords enough obstruction, so that a continuous high velocity jet sorts under and to some extent around the ball, thereby sluicing all the moveable material ahead to the next manhole. If the ball encounters an obstruction which is immovable the ball merely indents to the necessary degree and moves forward. The only fixed obstruction which will stop the forward progress of the ball is a root mass or some similar obstruction tightly wedged into the pipe. Bricks, stones, bottles loose metal parts broken pieces of pipes, sand, gravel and settled sludge are easily moved ahead. If the ball stops momentarily, a pull on the trial line is usually sufficient to set it in motion again. If the pipe is very dirty, the trial line can be tied to a step in the upper manhole and the bail's progress can be retained to the required degree as the lower manhole is reached, thus giving time for complete removal of accumulated silt and debris which has piled up ahead on the ball (Fig. 8.4) A wooden ball, also called a sewer pile, can also be used for this purpose, particularly for cleaning large out fail sewers. It is dropped into the sewer and owing to its buoyant action rolls along the invert of the sewer. The obstruction caused by it to the flow produces a vigorous / scouring action along the invert and the sides which has the effect of removing the growths and the deposits from the sewers. The method is economical and hence can be used at frequent intervals.

8.2.11 Sewer Scooter

This arrangement is an improved version of the scraper and consists of two jacks, a controlling rope and the scooter with a tight fitting shield. In contrast to the scraper, the scooter completely stops any flow of sewage. The scooter attached to the control rope, is lowered into the manhole and then into the downstream sewer Use. The down stream manhole is lowered into place from the road and upper manhole jack across the top of the manhole.

When the scooter is introduced into the line, it stops the flow of sewage thus building up a head behind the shield. The resulting pressure causes the scooter to move through the sewer until it accumulates enough debris to stop its movement. The head is then allowed to build approximately one meter before the control rope is pulled, causing the shield to fold back, thus allowing the accumulated sewage to gush into the sewer downstream, flushing the debris ahead to the next manhole from where it is removed. The control rope is released, cleaning the shield against the sewage and causing the scooter to advance again until the debris stops its movement. This process is repeated till the scooter reaches the downstream manhole where it may be removed or allowed to continue through the next section.

8.2.12 Velocity cleaners (Jetting Machines).

The high velocity sewer cleaner makes use of high velocity water jets to remove and dislodge obstructions, soluble, grease, grit and other materials from sanitary, storm and combined sewerage system. It combines the functions of a roding machine and gully emptier machine. Basically it includes a high pressure hydraulic pump capable of delivering water at variable pressure up to about 80 kg/cm² through flexible hose to a sewer cleaning nozzle. The nozzle has one forward facing hole and a number of rear ward facing holes. The high pressure water coming out of the holes with a high velocity breaks up and dislodges the obstructions and flushes the materials down the sewer. Moreover by varying the pressure suitably, the nozzle itself acts as jack hammer and breaks up stubborn obstructions. (A separate suction pump or air flow devices may also be used to suck the dislodged material). The entire equipment is usually mounted on a heavy truck, chassis with either a separate prime mover or a power take off for the suction device. The high pressure hose reel is also hydraulically driven. The truck also carries fresh water tanks for the hydraulic jet and a tank for the removed sludge and the various controls grouped together for easy operation during sewer cleaning. The manufacture's operating and servicing manuals should be carefully followed for best results in the use of the machine.

8.2.13 Suction Units, (Gully Emptier)

Suction units create vacuum required for siphoning of mud, slurry, grit and other materials from sanitary, storm and combined sewerage systems. The vacuum created is such as to siphon the materials from the manholes, catch pits etc having depth ranging from 1m to 8m in normal cases with an option to suck additional 4m with the help of special accessories for the purpose. The unit can be vehicle or trolley mounted.

Silt and heavy particles settled at the bottom can be agitated and loosened by "pressurized air with the help of the pump and then sucked in a tank. Once the silt tank is full, the effluent is discharged in the nearby storm water drain or manhole, and the operation is repeated till the manhole is cleared off the silt. The silt deposited in the tank is then emptied at the predetermined dumping spot.

This machine is very much useful in de silting surcharged manholes and in routine course the manholes can be de-silted without the workers getting down into the manhole.

8.2.14 Pneumatic Plugs

The plugs are used for:

1. Isolating the gravity sewers for low pressure testing of sewers.
2. Stopping the flow of sewerage in the sewer line to carry out structural repairs.
3. Stopping the flow to carry out routine maintenance on the downstream side of plugged sewer line.

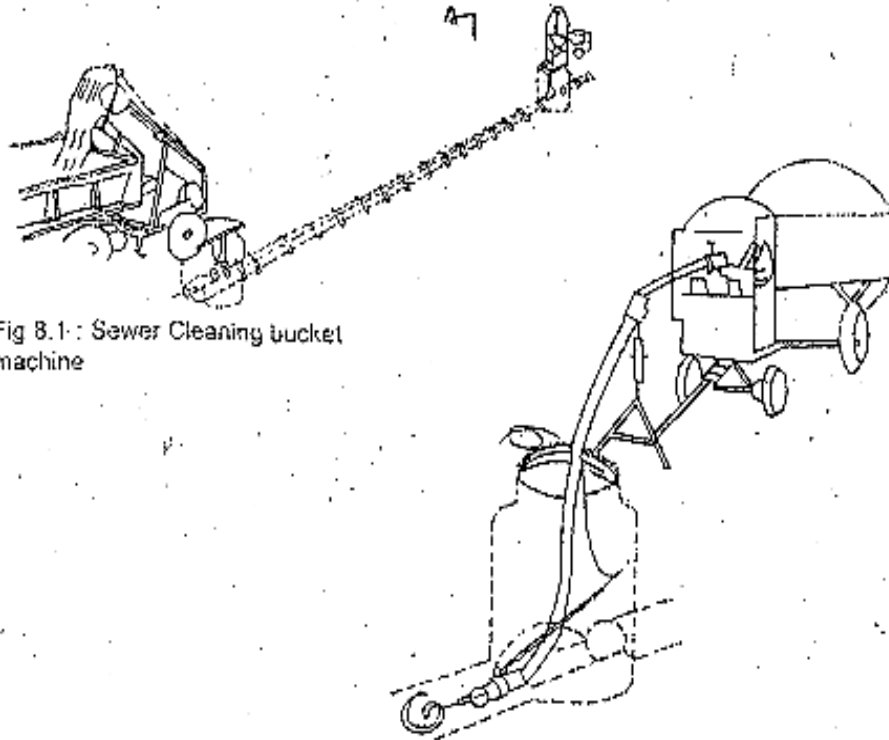


Fig 8.1 : Sewer Cleaning bucket machine

Fig 8.2 : Rodding machine with flexible sewer rods for sewer cleaning

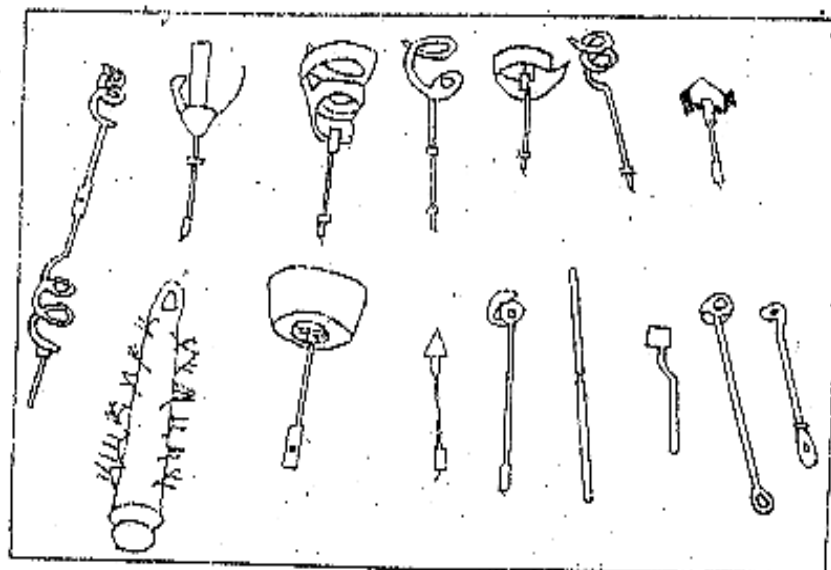


Fig 8.3 : Tools for sewer cleaning

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15) D,
 A.E.P. - E.E.P.

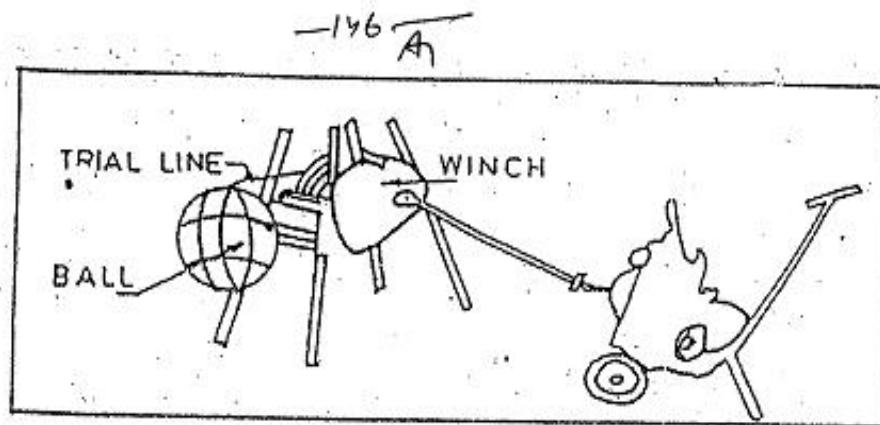


Fig 8.4 : Sewer ball with mechanical arrangement for sewer cleaning

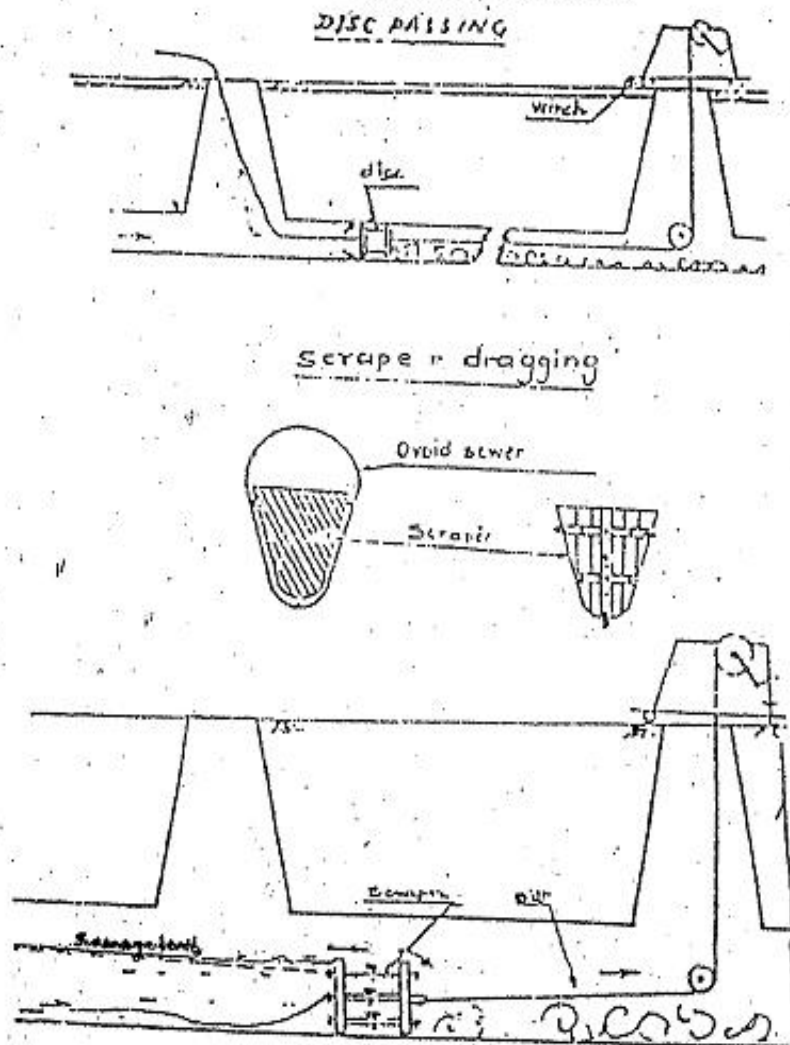


Fig 8.5

A.....1
C.....
CS.....
OW.....
D.....1

AE (P)

EE (P)

The plugs should withstand the minimum hydrostatic back pressure likely to be encountered. The plugs can be inflated and deflated within the sewer line itself by suitable controls from the road level. Suitable hook and chain are provided to chain the plug in the manhole. Tethering life line and inflation hose are supplied with each plug. All plugs above 450mm diameter should have a bye-pass fitting suitable for fixing a fire hose and suction hose.

9. Safety Guide for men working in sewers:

9.1 Preface

1. Throughout the country there are many hundreds of men who, in the course of their duties work in manholes or sewers, pumping stations or at sewage disposal works. This is work of considerable importance which can be done only by experienced men. How well such sewers and works are designed and executed their successful operation and freedom from breakdown depend upon the skill of the men who maintain them.
2. **SAFETY IS FIRST** : This is also to be observed in maintenance of sewer lines. Safety awareness, i.e. acquiring necessary skill & knowledge to avoid the hazards around us, among workers & supervisors is a basic requirement.
3. The risks likely to be met in this day to day work are no more than those present in general industry. Everybody should know exactly what to do when an accident occurs but prevention is better than cure. One must learn how to avoid accidents. If one is in doubt about any aspect of accident prevention procedure then one must ask the man in charge of his gang or group.
4. In no circumstance should enter a manhole, sewer, sump or any underground chamber until the necessary safety precautions have been taken else one may place himself in danger and may hinder the rescue of others. **EVEN IF THERE IS AN EMERGENCY & LIVES ARE AT STAKE, DO NOT NEGLECT SAFETY PROCEDURES.**
5. **STATUTORY PROVISIONS, FOR SAFETY**
 1. There are laid down guidelines for safety measures to be adopted by each department in regard to workmen deputed for de-silting / cleaning of sewers under Section ,36 of the Factories Act, 1948.,
 2. There is also a BIS code of practice for safety precautions to be taken when entering a sewerage system (BIS Code No. 11972-1987).

These are to be followed in all sewerage maintenance workers.

9.2 Potential Hazards & Precautions

Personal engaged in operation and maintenance of sewerage systems including sewage pumping stations are exposed to different types of occupational hazards. The health and safety of personnel can be safeguarded to a great extent by taking the likely hazards into consideration at the time of designing the sewers, sewer appurtenances and pumping stations. Hazards which are still possible despite due consideration being given at the design stages, can be reduced by the use of safety equipment and precautions appropriate for each hazardous condition. Finally to guard against human error and carelessness, proper job instructions and adequate effective supervision by competent personnel are most essential. Education of all personnel in the hazards present and preventive and safety measures is must.

1. The causes of accidents in sewer maintenance could be following categories:

- A) Road accidents at ground or road level.
- B) Accidents within sewer lines.
- C) Accidents due to machines & equipments used in sewer maintenance & cleaning.
- D) Accidents due to other reasons.

9.2.1.1 Accidents on ground levels

1. The accidents on the ground or road level could further be classified as under:

- A). Accidents due to speeding vehicles:

The sewers are normally laid by the carriage way of the road. The staff working on the sewer maintenance and cleaning at road level is therefore exposed to the accidents due to speeding vehicles.

- B). Accidents to the Vehicles:

For sewer cleaning it becomes necessary to open number of manholes on the upstream and downstream sides of the spot of working to provide ventilation. If proper safety gratings, barricades and signals are not provided on these open manholes, vehicles in general and two wheelers in particular, are likely to run over these manholes and meet with accidents. Similar situations may arise in case of theft of manhole covers.

- C). Accidents to pedestrians:

If the open manholes are not provided with safety grating and signals the pedestrians are likely to fall into the manholes.

A. PRECAUTIONS

As a precautions following control measures should be adopted:

- i) Place easily readable and clear warning signals well ahead of work area.
- ii) Provide Red lanterns or electric light at night.
- iii) Fence off adequate space around the manhole for placing equipment and deposition of silt removed.
- iv) Place barricades or signs to channelize the traffic, if possible.
- v) Vehicles can be parked between the traffic and the work area as a time gap arrangement.
- vi) Use a flagman at the two ends for controlling flow of traffic from each direction and to avoid a traffic jam if the road is narrow and only one lane of traffic is possible.
- vii) Better to inform traffic police in advance to control/direct traffic on heavy traffic/congested roads.
- viii) On completion of the work, all manholes shall be checked and it should be ascertained that the same are properly closed.

9.2.1.2 Accidents in the sewer lines:

For cleaning of the sewers, either manually or mechanically, it becomes necessary for the workers to go down in the manhole and sometimes into the body of the sewer. The risk to which the workers are exposed while working in the sewer are as under:

- a. Suffocation (Asphyxiation) as a result of oxygen deficiency or poisoning due to gases or vapor.

- b. Physical injury
- c. Infection
- d. Drowning
- e. Harmful industrial effluents
- f. Others
- 1. Gases in Sewerage System-Suffocation or gas Poisoning.
 - a. Sewer gas is a mixture of gases in sewers and manholes containing abnormally high percentage of Carbon Dioxide, varying amounts of Methane, Hydrogen, Hydrogen Sulphide and low percentage of Oxygen caused by septic action through the accumulation of organic matter inside the sewer. The actual hazard is due to the presence of high level of Methane, forming. an explosive mixture or the Oxygen deficiency or Hydrogen Sulphide in excess of permissible levels. Some times trade wastes may also contribute to other gases like Chlorine, Ammonia, Sulphur Dioxide etc.
 - b. The characteristics of common gases encountered in sewers, sewage pumping stations and sewage treatment plants, their physiological effects and safe exposure limits are detailed in Appendix 9.1
 - c. A noxious gas or vapor is any gas or vapor that is directly or indirectly injurious or destructive to the health or life of human beings. It can be a simple asphyxiate, chemical asphyxiate, irritant;---by volatile solvent or a combustible gas.
 - d. Nitrogen carbon.
 - e. Chemical asphyxiates are carbon Monoxide which by combining with the hemoglobin of the blood or with some constituents of the tissues either prevent Oxygen from reaching the tissues or prevent the tissues from using it.
 - f. Irritants are substances like Chlorine which injure the air passage and lung and induce inflammation in the surface of the respiratory tract
 - g. Volatile solvents and drug like substances exert little or no effect on the lungs- but effect. the nervous system including anesthesia. Inorganic and organe metallic poisonous substances in a volatile form prove toxic after their absorption into the body.
 - h. Combustible vapours will burn as long as they are in contact with flame, spark or a heated material having a temperature equal to or greater than the ignition temperature of the gas or vapours, provided, there is enough Oxygen of the air, resulting in,progressive combustion or propagate in of flame, occurs only when the concentration of the gas or vapours is within certain limits expressed as percentage of gas or vapours in air by volume. The limits are called explosive limits. Outside these limits, local combustion may occur at the source of ignition but there will be no propagation of flame and hence the combustion ceases on removal of the source of ignition. While the limits along with the propagation of the flame through the mixture, there will be development of pressure leading to violent explosion.

B. PRECAUTIONS

- i) Ventilate the sewer line by opening two or three manholes on both the sides where work is to be carried out. This is more important when adequate blowers for ventilating sewers are not available. The manholes should be opened at least one hour before start of operations. The opened manholes should be properly fenced to prevent any person, especially children, accidentally falling into the sewer. Dummy covers with BRC welded fabric can be used.
- ii) Where it is desirable to use the blowers, operate these for at least 30 minutes before start and during cleaning operations to ventilate the lowest working levels. Portable air blowers, for ventilating manhole, are recommended for all tank, pit or manhole works where there is a possibility of presence of noxious gas, vapours or Oxygen deficiency. The motor of these air blowers shall be of weatherproof and flameproof type compression ignitions, diesel type (without spark plug), These shall be placed not less than 2m away from the opening and on the leeward side protected form wind so that they will not serve as a source of ignition for any inflammable gas which may be present. Forced type ventilation should be provided by blower located at ground level with suitable flexible ducting to displace out air from the manhole.
- iii) Use safety helmet and life line before entering the sewer line and ventilation at the top should provided for each person. The person standing at the top must send signals at every few minutes interval to the person in the manhole to ensure safety. Two way wireless communication system is recommended for better communication.
- iv) Test for hazardous gases before entry of a person into the sewer line and also in between if the operations are for a longer time in case of scum formation the water and sediments in the manhole should be agitated with the help of rod or any other suitable instrument for trapped gases when manhole is chocked for noxious gases and oxygen deficiencies.
- v) For extended jobs the gas tests shall be repeated every three minutes while men are in the sewer.
- vi) Presence of H₂S can be detected by use of the lead acetate paper available in the market. The lead acetate paper can also be prepared by dipping a filter paper in a solution of 50/0 lead acetate. For detecting H₂S the lead acetate paper is moistened and lowered in the manhole. Change of colour to brown ~ grey indicates presence of H₂S.
- vii) To ensure the presence of minimum required level of Oxygen in the sewer line, a safety lamp is inserted into the manhole. The lamp will burn smoothly if sufficient Oxygen is available in the sewer line.
- viii) If the gas or Oxygen deficiency is present and it is not practicable to ventilate adequately before workers enter, a hose - mask shall be worn and extreme care shall be taken to avoid all sources of ignition. Workers shall be taught how to use the hose equipment. In these cases, they shall always use permissible safety lights (not ordinary flash lights) rubber boots or non sparking shoes and non sparking tools.

9.2.1.2.2 Physical Injury

- A. The work men are likely to receive physical injury
 - a) Due to fall of heavy materials like pieces of broken manhole covers tools like hammer, phowda, pickaxe and accidental dropping of the silt bucket while hoisting. The workers working on the road surface are required to be more careful while lowering these items into the manhole or hoisting silt buckets from the manhole.
 - b) Due to workman himself falling down/slipping from ladders.
 - c) Due to knocking down by a speeding vehicle at road level.
- B. Precautions

A
 C
 CS
 OW
 D

- i) Test manhole rungs or steps for structural safety before using. Workmen descending a manhole start to inspect or clean sewers shall try each ladder step or rung carefully before putting the full weight on it to guard against insecure fastening due to corrosion of the rung at the manhole.
- ii) Ensure that, where portable ladders are used they are properly seated or fixed.
- iii) Which can into the manhole and injure the workman.
- iv) Lower all tools to the workman in a bucket.
- v) Allow no smoking or open flame and guard against spark.
- vi) Use lighting equipment which must be explosion and fire proof mirror for reflection of light.
- vii) Provide helmets to the workers working in the manhole.

9.2.1.2.3. Infection

A: Body infection to the workers may be caused by cuts or wounds coming in contact sewage. Cleanliness is, therefore, most important. The worker should be asked to oil (coconut or sweet oil) their body before entering into the manholes and take bath immediately after completing the work. Providing rubber hand gloves and boots is a good practice.

B : Precautions

- i) Emergency First Aid treatment kits shall be provided to take care of all minor injuries like cuts and burns.
- ii) A physician's services should be available for emergencies.
- iii) The workers should be educated about the hazards of waterborne diseases. Such as typhoid and cholera through sewage and tetanus through cuts and wounds. Cuts and grazes should be covered with waterproof plasters. Effective immunization of workers against diseases such as typhoid, cholera, tetanus, etc. should be done by vaccination.
- iv) The importance of personal hygiene should be emphasized and the workers should be instructed to keep finger nails short and well trimmed wash hands with soap and hot water before taking food or smoking and to keep fingers out of nose, mouth and eyes, because the hands carry most infections.
- v) Use of rubber gloves should be insisted so that sewage or sludge does not come in direct contact with the hands. Before starting work, skin likely to be exposed to sewage should be covered with barrier cream or worker should be provided with ladder suit.
- vi) The workers should be provided with a complete change of work clothes to be worn during working hours. Gum boots should also be provided for the workers.
- vii) When the work is completed, thoroughly wash all contaminated parts of the body.
- viii) In laboratory work only pipettes with rubber teats should be used in prevent contamination of the mouth. Laboratory glassware should be not used for drinking purposes. In no event food should be prepared in the laboratory.
- ix) Adequate facility of clean water and soap shall be provided for the workers for cleaning their body after completion of the job.
- x) The gangs/JE/site-in-charge must have telephone numbers for call of an ambulance, fire service, police and near by hospital for any emergency.

9.2.1.2.4 Drowning:

A. In case of very big sewers, sudden rise in the level of the sewage can cause death due to drowning. Similarly in case of blocked sewers sudden removal of blockages can flood the manholes and can endanger the life of the workers.

B. Precautions

- i) Sewage levels shall be checked in the manholes and the same should not be more than 1.5 feet.
- ii) Rise of water level or sudden breeze in the sewer, onset of rain or even dark clouds in the distance may be taken as warning to possible flooding particularly in combined sewers.
- iii) When men are working in man entry sewer lines, 3rd manhole on u s side should be plugged and upstream sewage should be pumped over to the 3rd manhole on the downstream side of the working section to ensure safety against flood flows drowning or sliding into the sewers. Similarly, as a check against sudden removal of blockage causing flood, the pumping should be resorted to maintain the level of flow within workable limit as mentioned above.

9.2.1.2.5 Harmful Industrial Effluents

- a) Hot discharges :. The hot discharges from industries like textile mil.ls can cause injuries to the workers working inside the manhole. It become, therefore, necessary to restrict the temperature of the discharge to 40 deg. C or below by suitable regulations. If not implemented then the factory manager should be contacted in advance and requested not to discharge high temperature waste while the work is in progress.
- b) Chemical discharges: discharge from the chemical factories may contain acids and other harmful chemicals which may cause injuries to the skin. Similar precautions as in (a) above would be necessary.
- c) The use of radioactive material in hospitals, research laboratories and industry can give rise to presence of radioactive waste matter which should not be discharged to sewers except in controlled conditions and with adequate precaution. Normally the amount of radioactive waste in conjunction with the volume of diluting the sewage is too small to provide any hazard. But in case of fire or accidental spillage, this amount can be large enough to be dangerous. Such instance should be reported to Local Bodies. Pollution Control Board immediately and dealt with jointly by the police, fire services and local authority P.C.B.
- d) Some establishments like petrol pumps discharge oil in large quantities. In surcharged condition the oil floats on the sewage in manhole and makes it difficult for the workers to enter into the manhole. Therefore, suitable action should be taken against these establishments to prevent hazards due to such discharges.
- e) The Central/State Pollution Control Board shall strictly regulate and ensure that no industrial and/or manufacturing unit shall discharge untreated and hazardous effluents in the municipal/public sewers and shall observe as the conditions and norms imposed upon them under the provision of law in this behalf.
- f) The agency in charge for maintenance of sewers shall be entitled to test the effluent discharged in the municipal/public sewers by all industrial and manufacturing units from time to time to ascertain whether the said effluent are properly

treated and are not poisonous or hazardous. In case it is found that the effluent discharged by any industrial or manufacturing units is untreated hazardous, or poisonous, the agency-in-charge shall report the same to the Central/State Pollution Control Board" for necessary action. This is without prejudice to the right of the agency-in-charge to take necessary action under the provision of the relevant Act.

9.2.1.2.6. Other reasons :

- a) When the sewer is in stagnant condition for long time scum of considerable thickness is formed above the sewage. This gives false indication of firm ground.
- b) Such scum has to be mixed well with sewage before entering into the manhole.

9.2.1.3 Accidents due to machines & equipments used in sewer Maintenance & cleaning:

- a) Various types of machines are used for cleaning and de-silting of sewers. Many of these machines are power operated and, therefore, comprise of gears chains, belts etc. These moving parts can cause accident to the operator if he is not careful and the moving parts are not provided with proper safety guards.
- b) In case of power bucket machines, two machines at a time are used for cleaning, and labourers are required to go into the manholes for removing the silt deposited under the pulley periodically. If the machines are wrongly operated, the worker removing the silt inside the manhole to get injury because of the wire rope. In case of high pressure jetting machine, the pressure of the water is as high as 200 psi. If a leakage develops in any component or hose pipe a worker can get serious injuries due to the water emitting at high pressure. Necessary instructions be issue to machine drivers to ensure that the safety Precautions have been complied with by the such man before operating the machines. The power Roding machine consists of Chromo Flex rods which are rotated in bent position. If a rod breaks accidentally it is likely to hit a worker or a person standing near by, resulting in injury.

9.2.1.4 Accidents due to some other reasons:

Occupational hazards:

- a) Due to heavy traffic and surcharged conditions of the sewer, in large cities particularly in congested areas, the maintenance and desilting of the sewer are necessarily carried out ? a right Because of the nature of the work and continuous' right duty, eye sight and alertness of the work IS likely to get affected. As far as possible rotation of shifts should be given to. the workers at regular interval.
- b) Accidents may occur due to falling of heavy materials from upper floors in a common house gully. A headgear helmet should be provided when a worker is asked to go in such gullies.
- c) Accidents may also occur due to electric shock while excavating trenches for carrying out repairs to the sewer. These can be avoided if workers are careful with underground cables while excavating.

9.3.0 SAFETY EQUIPMENT

9.3.0.1 The various safety equipments that are normally required in sewer maintenance work are gas masks, Oxygen breathing apparatus, portable lighting equipment no sparking tools, portable air blowers, safety belts, inhalators, diver's suit bump helmets, gloves, lead acetate paper, barrier cream, head lamps, first aid kits, gas detector lamps etc.

9.3.0.2 The use of the particular safety equipment is governed by the detection of various gases and Oxygen deficiency.

9.3.0.3 A knowledge of the type of gases in the atmosphere and of the working location becomes essential for the selection of the right type of safety equipment. Equipment and simple tests for detection of various gases and Oxygen deficiency are furnished in App. 9.2.

9.3.1 Gas Masks

9.3.1.1 General purpose gas masks are used for respiratory protection from low and moderately high concentrations of all types of toxic gases and vapours present the atmosphere in which there is sufficient to support life. Masks afford necessary respiratory protection under many circumstances but it is most important to know the limitations of the various types available and to be family with their use. Even when masks are used properly, other precautions such as never using open flame or creating sparks in the, presence of inflammable gases must be taken. The general purpose gas masks affords protection against organic vapours, acid gases, carbon monoxide up to 2 percent concentration toxic dusts, fumes and smoke.

9.3.1.2. The gas mask consists of a face piece, a canister containing purifying chemicals, a timer for showing duration of service and a harness for support. Protection against specific contaminants can be achieved by the selection of appropriate canisters.

9.3.1.3 Persons using gas masks should practice regularly with them in order to become proficient in putting them on quickly and breathing through them.

9.3.1.4 Gas masks cannot be used in oxygen deficient atmospheres, in non ventilated locations or areas where large concentrations of poisonous gases exist.

9.3.2 Breathing Apparatus

This is designed for respiratory protection from atmosphere that contains very high concentrations of toxic gases and vapours or that are deficient in Oxygen. It fully protects a worker against all gases, vapours, dusts, fumes, smokes and oxygen deficiencies and can be safely used in petroleum vapours and is the most dependable device for work in atmospheres normally encountered in sewerage works.

9.3.2.1 Air Hose Respirator

9.3.2.1.1 This is used where a source of fresh air is available within a distance of some from the working location. It is essential that the supply of air is obtained from an uncontaminated source.

9.3.2.1.2 It consists of a mask which is a tight fitting face piece attached to a large diameter flexible hose, breathing tubes and a harness. Fresh air is blown to the mask through either a power operated or a hand operated blower. An inhalation check valve. in the breathing tube assembly and exhalation valve in the face piece permit air flow only in one direction, from the source to the mask; when the blower is in operation. Exhaled air is released into the surrounding. atmosphere through the exhalation valve. The valve arrangement permits the wearer to breathe directly

though the hose in the event of blower failure. The maximum length of hose will be about SOM. The hose, being of large diameter permits breathing without excessive resistance in the event of blower failure. A special pressure release valve on the blower permits regulation of air delivery and a fresh air bypass valve functions automatically in the event of blower failure permitting the wearer to breathe directly through the hose. When a hand operated blower is used the operator will be available to attend to any emergent situation also. This apparatus does not depend on chemical and may be used over extended periods at low costs.

9.3.2.1.3 Purified air is used where a source of fresh air is not" available within SOM to permit the use of an air hose respirator or in situations where an air hose would encumber the worker.

9.3.3 Portable Lighting Equipment

The equipment normally used are portable electric hand lamps of permissible types, electric cap lamps and explosion proof flash light.

9.3.4. Non sparking Tools

These are made of an alloy (containing at least 80 percent of copper) that will not spark when struck against other objects and metals and yet retains the necessary strength and resistance to wear.

9.3.5 Portable Air Blowers

Forced ventilation of manholes, pits and tanks can be provided by portable air blowers. Special precautions should be taken to ensure that the blowers do not serve as a source of ignition for inflammable gases. Such precautions shall include placing of the blower upwind from the manhole or at right angles to the wind direction and at least 2 m away from the opening. The use of such equipment requires a consideration of the depth of the manhole, size of enclosure and the number of openings to uncontaminated atmosphere. Trailer mounted blower having a capacity of 210 M3/min can ventilate easily many meters of medium sized sewers.

9.3.6 Safety Belt

This consists of a body belt with a buckle and shoulder harness. The life line is of high grade spliced manila rope, nylon rope or a steel cable 'anchored with rings on each side of the belt and provided with safety straps for anchoring or securing to a stable support. The life line should be about 15m in length and the overall assembly should be capable of withstanding a tensile load of 2000 kgs. The safety belt and life line should be tested by lifting the wearer clean of ground before each day's use.

9.3.7 Inhalators

Approved inhalators employing a mixture of Oxygen and Carbon Dioxide are used for resuscitating victims of gas collapse, drowning or electric shock. Artificial respiration should be started at once on the patient and an inhalator face piece attached to the victims mouth as soon as the equipment can be made ready. The Carbon Dioxide used in small percentages stimulates deep breathing so that more Oxygen may be inhaled. Pure Oxygen should be used only when irritant gases such as Hydrogen sulphide or Chlorine have caused the victim's collapse.

9.3.8 Diver's Suit

A good quality diver suit should be provided to the diver whose services are very necessary while plugging the sewer fine or removal of some hard blockage due to stone etc. at the mouth of the pipe in the manhole. Depending upon the site condition, suit should have provision to connect an air line with compressor or Oxygen cylinder.

9.4 SELECTION OF SEWER WORKERS, TRAINING & PREREQUISITE

9.4.1 Only workers who are above 18 years of age, physically fit for their task, aware of the possible hazards and alert for action should be emergency arise, shall be employed.

9.4.2 The selection of prospective employees for the sewerage and sewerage disposal functions should take into account the duties they will be expected to perform those duties may be divided into two categories.

- Duties not requiring entry into confined spaces.
- Duties requiring entry into confined spaces.

9.4.3 GUIDANCE FOR SELECTION OF SEWER MEN

9.4.3.1 REQUIREMENTS FOR DUTIES NOT REQUIRING ENTRY INTO CONFINED SPACE.

No specific requirements except a routine medical examination shall be made. Those with the following disabilities shall not be selected as any of the disease involves risks to the health and safety of both the prospective employee and/or other employees.

- History of fits, blackouts, fainting attacks
- Chronic skin disease.
- Meniers disease or diseases involving loss of balance.

9.4.3.2 REQUIREMENTS FOR DUTIES REQUIRING ENTRY INTO CONFINED SPACE.

Persons considered for employment Land capable of understanding training given. Those with the 2- disabilities shall not be recruited for this type of work and those who contract these should cease to be employed in this capacity.

- A history of fits, blackouts, fainting attacks
- A history for heart disease or disorder.
- High blood pressure.
- Asthma, bronchitis or a shortness of breath on exertion.
- Deafness
- Menirs disease or disease involving giddiness or
- loss of balance
- Claustrophobia or nervous or mental disorder;
- Back pain or joint trouble that would limit mobility in confined spaces.
- Deformity or disease of the lower limbs limiting movement.
- Chronic skin disease.

- l) Serious defects in eyesight.
- m) Lack of sense of smell.
- 9.4.3.3 The workmen entrusted with the work task of sewers cleaning and desilting should have basic functional literacy.
- 9.4.3.4 Employees should be medically re-examined at reasonable intervals taking into account the person's age and duties.
- 9.4.4 The local agency shall impart training to the supervisory staff regarding implementation of this scheme and of safety measures including rescue methods and the use of safety equipment. Such training programme shall be repeated periodically. This training should be imported through Central Labour Institute Fire Brigade Department, Department of Sewerage Operation and National Environmental Engineering Research Institute (NEERT, and /or other relevant institutions.
- 9.4.5 Training and demonstration regarding implementation of the safety measures including rescue method and the use of safety equipment shall be imparted to each worker and a certificate shall be issued to that effect. Such training programme shall be imparted to every new entrant. The training in safety and welfare shall be imparted through the Central Labour Institute and local/ state Fire Brigade department, Department of Sewerage Operation, and other relevant institutions. Every officer of the local agency or contractors, should ensure that the training is imparted to all the workers. The Labour Officer of the local agency shall coordinate and monitor the training programme. The training programme to be conducted by the institutions shall be especially designed for this purpose and should be imparted to the workers in local/regional/ Hindi language, preferably with visual aids. The Contractors supervisors and then labour staff shall also undergo these training and the contractors shall submit to the local agency a true copy of the certificates before taking over any assignments showing that their supervisor and labour staff have undergone the specified Level of training in safety and welfare. This condition shall be incorporated by Chief Engineer (Sewerage Operation) in the tender for cleaning and de-silting the sewer lines and manholes.
- 9.4.6 An annual schedule for medical checkup of workers engaged in such work will be drawn and implemented. This check up should include a full clinical examination proper blood tests, routine radiological tests, pulmonary functions test, a psychiatric evaluation and other specialized tests wherever necessary. Special emphasis must be given to study the respiratory system, the eyes and the skin problems.
- 9.4.7 Copy of the safety measures in either regional or Hindi language shall be given to each worker and also read out to them by Supervisors of the local agency or/and the Contractor's Supervisors.
- 9.5 GENERAL
- 9.5.1 During the summer or hot period, persons should be allowed to go inside the manhole during morning hours or when the temperature is low.
- 9.5.2 No person should work inside the manhole for more than 15 minutes at a stretch He should be withdrawn afterwards and the next person be sent.
- 9.5.3 Smoking naked lights or fires should not be permitted within 3 m of any manhole in no circumstance should the safety lamp be inside the sewer or manhole.
- 9.5.4 Man working in manholes or sewers must have with them their detector lamp, test papers and air must be treated at frequent intervals. If at any time a unsafe conditions re indicated or if there is an unusual smell or peculiar smell, all men must leave the Manhole at once.
- 9.5.5 When the sewers are large enough to be entered, guard bars or chains must be kept in position across the sewer downstream of the place of the work.
- 9.5.6 No one should walk along a sewer inside. A lifeline must be used when working in sewers with a fast flowing current and special care must be taken when clearing blockage.
- 9.5.7 Copy of the safety measures in Hindi/local language be provided to such workers.
- 9.5.8.1. Proper arrangements should be made for arranging treatment including arrangements to ensure speedy admission and treatment at any hospital in nearby vicinity of site. The information of each accident should be given to the concerned authorities and the labour welfare officer immediately on telephone as well in writing.
- 9.5.8.2. In the event of a man collaps.ing suddenly, when it is thought that this is due to 'gas', the top man must be warned at once. Unless the casually can be removed quickly, the men with him must immediately return to the surface. No further rescue attempt should be made without breathing apparatus, and help must be summoned at once by telephoning for the fire and ambulance services.
- 9.5.9 A responsible officer of the supervisory cadre of the department such as Junior Engineer, sanitary facility Inspector, sewer ASI etc. should be physically present at the site and he or she should ensure and document compliance of these guidelines and entry worthiness in the manhole, He/she should remain physically present throughout the operation and the onus of compliance with the guidelines should lie on him/her. A log book should be maintained by him/her giving the date and time, the names of workers, place and other relevant particulars of stay in the manhole etc. The said official should hold a certificate of training from a Competent Body such as St. John's Ambulance Brigade, Loss Prevention Association of India, Fire Brigade etc. of training in First Aid and Emergency. Measures, if the said Supervising Officer is not satisfied about the various requirements as per this scheme then he/she should immediately stop the work.
- 9.5.10 The list of various safety tools, overall and safety equipment to be used while entering the manhole and during the cleaning / de-silting operation should be periodically reviewed / checked. Each section of Main Sewer Division shall be equipped with these tools, overall and safety equipment.
- 9.5.11 Each Worker working in the Main Sewer Division engaged in cleaning and de-silting operation of the sewer lines, manholes, etc. shall be medically examined once a year and shall not be engaged if he is suffering from any of the disease, such as respiratory, skin, eye problems, infections, cardio vascular, spinal psychiatric nature etc. He should not be engaged for cleaning and de-silting work inside the manhole or sewer lines till he is cured. Whether a person is suffering from any of the above mentioned diseases, shall be certified by any Municipal/Govt. Hospital/

Doctor/authorized medical practitioner. Similarly, the contractors engaged in cleaning and de-silting operations, shall get their workers, employees medically examined and shall not employ any worker who is found to be suffering from any of the above mentioned ailments. The contractor shall submit with the contractee agency, a certificate from a registered medical practitioner showing that the workers to be engaged for the said contract of cleaning and de-silting operation, are not suffering from any of the above mentioned ailments.

- 9.5.12 The workers should be provided with vaccination against certain diseases which sewerage workers normally suffer due to the nature of their work.
- 9.5.13 First Aid Box properly stocked including washing bottles to wash away skin and eyes, should be kept.
- 9.5.14 If any worker on medical examination is found to be suffering from any disease attributable to this work and when certified by a Municipal Medical practitioner) Govt. hospital shall be granted special disability leave as per the provisions of the relevant regulations.
- 9.5.15 The Contractors engaged by local body for sewer cleaning and de-silting work should take out workmen insurance policy at the contractor's cost (individual or group) for Rupees one lakh for each worker engaged by him for the work of sewer line and/or de-silting in order to cover death of the worker, permanent disability or hospitalization of the worker caused by the said work. Similar insurance cover will also be arranged by the local body/authority responsible for operation and maintenance of sewer lines for its regular roll/casual roll employees engaged in such jobs.
- 9.5.16 A vehicle with the safety equipment such as breathing apparatus, diver's suit, air blower, escape set, etc., should be available to meet any emergency. The same vehicle shall have other facility such as .first aid kit provision for eyewash etc. This vehicle should be as a ambulance van in case of an emergency or accident.
- 9.5.17 Local body/Authority will incorporate in the tender all the conditions incorporated in this scheme including safety procedure, use of safety equipment, tools, shackles and personal gear as also the insurance for each worker and ensure that the contractors fill them in total. A provision of penalty shall be component in the tender for non compliance of the conditions related to health, safety and welfare of the workers and other conditions of this scheme. The contractors shall not be allowed to start t~ ~work of cleaning and desilting of the sewer line
- 9.5.18 List of the contractor's employees including their residential addresses, age, etc. is required to be supplied by the Contractor in separate register.
- 9.5.19 If the contractor has engaged 20 or more labourers. It is required to be registered under the Contract Labour Act and interstate Migrate Labour Act, wherever applicable.
- 9.5.20 Contractors should abide by all the rules and regulations in respect of labour laws prescribed by the Govt. Authorities and submit the returns etc.
- 9.5.21 The workmen should be paid to the per the provisions of compensation contractor's employees as Workmen's Compensation Act.
- 9.5.22 After working in sewer or manholes.
The ganger, foreman, ASI or Junior Engineer site in charge must check carefully that all men have left the sewer or manhole.
All equipment should be cleaned, dried, checked and adjusted ready for further immediate use.

APPENDIX 9.1 Characteristics of common gases causing hazards (All percentages are percent by Volume of Air)

S.No.	Name of Gas	Chemical Formula	Common Properties	Specific Gravity of Vapor Density (Air = 1)	Physiological Effect	Maximum Safe Limit %	Exposure	Exposure Limit		Body Location of Highest Concentration	Most common source
								Lower	Upper		
1	Carbon Dioxide	CO ₂	Colorless, odorless, when breathed in large quantities may cause acid blood, non flammable	1.53	Causes the endocrine at 10% for short time but few minutes even if oxygen content is normal. Acts on respiratory system.	~0 to 6.0	0.5			At bottom when trapped may be at points above bottom.	Products of combustion, lower gas, air, also found from carbonaceous solids.
2	Carbon Monoxide	CO	Colorless, odorless, tasteless, inflammable, poisonous, non irritating	0.97	Causes death by asphyxiation, binds with hemoglobin, interferes with oxygen transport in blood. LD 50 is 0.25% for 4 hrs, 0.1% for 24 hrs.	0.01	0.025	12.5	24.0	On top especially if present with a heavier gas.	Manufactured from gas, also produced in many chemical, oil, and alcohol distillations.
3	Oxygen	O ₂	Weakish green color, dissolves in very low concentrations, non flammable.	1.10	Increases respiratory work, but most animals in very short time at 0.1%.	0.0004	0.0001			Acrobatic	Chlorine cylinders and kind of tanks.
4	Gasoline	C ₈ H ₁₈	Colorless, odorless, dissolves in 0.03%, inflammable.	3.0-4.0	Alcoholic effects when inhaled, rapidly toxic at 2.5%, dangerous for short exposure at 1.1% to 2.7%.	0.4 to 0.7	0.1	1.3	6.0	At bottom	Service stations, garages, bay tops.
5	Hydrogen	H ₂	Colorless, odorless, inflammable, tasteless.	0.07	Acts reducingly to displace oxides of Oxygen, does not support life.			4.0	74.0	Along	Manufactured from gas, also.
6	Hydrogen Sulfide	H ₂ S	Has an egg odor in small concentrations, about not evident at high concentrations, colorless, inflammable.	1.19	Exposure for 2 to 10 min at 0.01% causes severe effects, at 0.07% to 0.1% rapidly causes death, poisoning, paralytic respiratory center. Death in few min at 0.2%.	0.02	0.001	4.3	46.0	Low bottom but may be above bottom, if air is trapped and hydrocarbon.	Coal gas, petroleum, sewer gas, found from burning, sulfur etc.
7	Acetylene	C ₂ H ₂	Colorless, odorless, highly inflammable, non-toxic, tasteless.	0.95	Acts reducingly to displace oxides of Oxygen, does not support life.			1.0	5.0	Normally at top according to carbon depth.	Hydrogen gas, manufactured from gas, also found from burning, sulfur etc.
8	Nitrogen	N ₂	Colorless, odorless, tasteless, non flammable, principal component of air (78%).	0.97	Physiologically inert.					Shall not end may be found at bottom.	Sewer gas, also found from burning, sulfur etc.
9	Oxygen (in air)	O ₂	Colorless, odorless, tasteless, supports combustion, non poisonous.	1.11	Normal air contains 21% of Oxygen, can tolerate oxygen up to 12%, minimum safe level is 14%, maximum safe level is 16%, above 15% dangerous to life, above 20% probably fatal.					At bottom of different levels.	Carbon dioxide from poor ventilation and restriction of air, also from oxygen.
10	Smoker Gas	Absent O ₂ , Moisture and ash, Carbon Dioxide with small amounts of H ₂ , N ₂ , S ₂	Moisture, odorless, colorless, carbon dioxide, inflammable.	0.94	Will not support life.	Should vary widely with composition		3.3	10.3	Low top of structure	For operation of burner in case.

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APPENDIX 9.2

Equipment and sample tests for detection of gases and oxygen deficiency

Combustible gas indicators are used for testing the atmosphere for hazardous concentration of inflammable and vapours and for making quantitative estimates for the percentage of combustible gas present. The indicator consists of a battery operated unit, which oxidizes or burns a sample of atmosphere to be tested over a heated catalytic filament which is a part of a balanced electrical circuit. Combustibles in the samples are burned on the hot wire, thus raising its temperature and incur its resistance in proportion to the concentration of the combustibles in the sample. The imbalance in the electrical circuit causes the deflection of the pointer of the meter which indicates on a scale, the concentration of combustible gases or vapours in the sample. This scale is calibrated in percentages of the lower explosive limit. The scale is generally calibrated for a single specific inflammable gas, but may also be calibrated for known mixtures of gases and vapours. The types of combustible gas indicator may be selected to suit the gas or vapour usually encountered.

Carbon monoxide indicator may be used to detect, the percentage of the gas present. There are both hand operated and battery operated units which determine electrically the percentage of carbon monoxide present. They are very sensitive to low concentrations of gas and reliably indicate low but dangerous concentrations of carbon monoxide.

The sample of the atmosphere drawn into the indicator is oxidized to carbon dioxide by catalytic action. The heat liberated by oxidation is proportional to the amount of carbon monoxide present and is measured by a differential thermocouple in series with the indicating meter which is calibrated to read directly the percentage of carbon monoxide in the atmosphere.

Colorimetric detectors are used to detect specific gases like carbon monoxide, hydrogen sulphide etc. In a specific gas detector, when a sample of the atmosphere is drawn into the instrument, that specific gas reacts chemically with the special substance in the detector producing a change in colour. The colour with its intensity produced is compared with a chart to estimate the percentage of the specific gas present.

In the carbon monoxide detector the chemical used is iodine pentoxide or palladium chloride. In hydrogen sulphide detector the chemical used is lead acetate.

Oxygen deficiency indicator is an adaptation of the flame safety lamp used by miners, for testing the atmosphere suspected of being deficient in oxygen. Normally the indicator is used for an external source to test the suspected atmosphere. The sample of air is drawn in, using an aspirator bulb and the flame inside the lamp is observed. When the atmosphere is normal the flame of the lamp will have normal appearance. With decreased oxygen content in the atmosphere and the absence of another combustible gas, the flame will be dimmer.

When the oxygen content in the atmosphere is as low as 16% or lower, the flame will be extinguished.

At altitudes more than 1500 M above sea level, the flames may continue to burn even if the percentage of oxygen in the atmosphere is less than 16%. Hence the possibility must be considered at high altitudes.

Simple tests in the absence of the indicators and detectors mentioned above. The following simple tests must be conducted after providing sufficient forced or natural ventilation.

In asphyxiating conditions, a safety lamp should burn continuously for at least 5 minutes in the atmosphere under test. It is essential to check if the lamp is undamaged before being used.

For hydrogen sulphide, a filter paper moistened with 5% solution of lead acetate is exposed for five minutes to the atmosphere under test. As hydrogen sulphide is heavier than air, the atmosphere at the bottom of the manhole should be tested. The presence of hydrogen sulphide gas is indicated by paper turning Grey or brown. The greater the percentage of the gas, the darker will be the colour.

Detectors and indicators for various gases and oxygen deficiency normally encountered in sewerage worker are as follow.

Gas or Vapour	Detector
Hydrogen sulphide	Lead Acetate impregnated paper (Qualitative) Hydrogen sulphide ampoules,
Hydrogen	sulphide detector (qualitative).
Methane	Combustible gas indicator, Oxygen deficiency indicator, Methane alarm.
Carbon dioxide	Oxygen deficiency indicator
Nitrogen	Oxygen deficiency indicator
Oxygen	Oxygen deficiency indicator.
Carbon Monoxide	Carbon Monoxide indicator, Carbon Monoxide tube (quantitative)
Hydrogen	Combustible gas indicator, Oxygen deficiency indicator.
Gasoline	Combustible gas indicator, Oxygen deficiency' indicator (for concentration over
0.3%)	
Sludge	Combustible gas indicator, Oxygen deficiency indicator Methane.
Chlorine	Aqueous ammonia, Odour

ANNEXURE-2

**COPY OF STANDING INSTRUCTIONS
DATED 13.03.2009**

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STANDING INSTRUCTIONS

The following facilities are to be provided to all workers including contract workers and workers employed by the contractors for carrying out sewer cleaning and other allied works.

1. Medical Examination
2. Fee medical treatment to all workers suffering from occupational disease, ailment or accidents.
3. Ex-gratia payment of Rs.2,50,000/- to be paid in the case of death.
4. To ensure to start the provident fund.
5. To ensure issue of soap and oil on monthly basis. The quantity of mustard oil supplied to each sewer employee per month should be raised to 3 litres. The quantity of soap supplied to each sewer employee per month should be raised to 450 gms of lifebuoy and 450 gms of dettol soap.
6. To provide :
 - Rest rooms
 - Canteens
 - First aid facilities
 - Safe drinking water
 - Washing facilities
 - Latrines and urinals
 - Shelters
 - Cretches.
7. To provide accident car-cum-wage slip.
8. To provide employment cards.

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ANNEXURE-3

**COPY OF STANDING INSTRUCTIONS
DATED 08.04.2009**

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STANDING INSTRUCTIONS

The following safety measures for the life and limb of sewerage & allied workers are to be adopted by the contractors for carrying out sewer cleaning and other allied works :

1. Cleaning and desilting of sewer liens beyond 5 feet depth should be carried out through a mechanical process, the manual process should be progressively minimized and these operations should also be carried out through specialized agencies.
2. No person below the age of 18 years shall be employed for carrying out cleaning and desilting work of sewerage system.
3. All safety appliances (air breathing apparatus, full face cover safety mask, safety goggles, safety helmets, safety belts, gum boots, gas detectors, air blowers, exhausts and torch etc) must be made available for use.
4. Workers shall be provided with all cleaning equipments, such as Manhole Guards, Tripod stands, Ropes, Iron hooks, Pick axes, danger flats etc.
5. Manhole shall be kept open for minimum half an hour to allow foul gases to escape, if any and Manhole shall be covered with manhole guards and tripod stands shall be kept above them with danger flag.
6. Manual entry of labour into the manholes is to be restricted in the rarest of the rare cases.
7. Cleaning and desilting work should be carried out under the direct personal supervision of JE/AE concerned.
8. On completion of the work at the end of the day all Manholes shall be checked and ascertained that they are properly closed.

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ANNEXURE-4

**DESCRIPTION : PROFORMA FOR ATTENDANCE
CARD-CUM-WAGE SLIP TO KEEP RECORD OF
ATTENDANCE AND WAGES OF INDIVIDUAL
LABOUR TO BE MAINTAINED BY JE/AE
CONCERNED AND DULY SIGNED BY
CONTRACTOR.**

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Wage Card No. _____

Appendix – VII

Attendance Card cum Wage Slip

Name and address of the contractor _____ Date of issue _____

Name and location of work _____ Designation _____

Name of Workman _____ Month/Forenight _____

Rate of Wages _____

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Rate	Amount
Morning																																	
Evening																																	
Initial																																	

Received from _____ the sum of Rs. _____ on account of my wages.

The wage card is valid for one month from the date of issue.

Signature of Contractor

Signature of JE/AE

A 1

C 2

W 3

A.E. (P)

E.E. (P)

A
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ANNEXURE-5

COPY OF EMPLOYMENT CARD

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C
CS
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Form-XIV**Employment Card (Subject to order of
Hon'ble Delhi High Court in W.P.(C) 5232/07)**

Name and address of Contractor :

Name and address of establishment under which contract is carried on :

Name of work and location of work :

Name and address of Principal Employer :

1. Name of the workman _____
2. Sl.No. in the register of workman
employed _____
3. Nature of employment/designation _____
4. Wage rate (with particulars of unit in case of piece
work) _____
5. Wage period _____
6. Tenure of employment

7. Remarks _____

Signature of Contractor

Signature of JE/AE

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OW

D

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ANNEXURE-6

SERVICE CERTIFICATE

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Form- XV

Service Certificate

Name and address of Contractor

Nature and location of work

Name and address of workman

Age or date of birth

Identification Marks

Father's / Husband's name

Name and address of establishment under which contract is carried on

Name and address of Principal Employer

Sl. no	Total period for which employed		Nature of work done	Rate of wages (with particulars of unit in case of piece work)	Remarks
	From	To			
1	2	3	4	5	6

Signature of Contractor

Signature of JE/AE

A.....
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A.E. (P)

E.E. (P)

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SCHEDULE OF QUANTITIES.

NAME OF WORK :- M/o Completed Scheme under (Under NA-II) Rohini Zone

SH :- Cleaning and desilting of sewer lines of Sector-25, Remaining sewer lines of Sector-23 & 24(Part-II), Mangalam Place
Sector-3, Rohini and maintenance of sewer line Sector-20 to 24 with super sucker machine.(peripheral lines)

S.No.	Description of items	Qty.	Unit	Rate	Amount.
1.	Cleaning & desilting of sewer line with Super Sucker machine with allied equipment and taking out of debris/ silt from sewer lines and manholes which are heavily surcharged including safe disposal of silt/ sludge received from the cleaning to MCD sanitary land fill or low laying dumping area as directed by Engineer -in-charge and thereafter CC TV Survey of the sewer line with Pan & tilt rotated camera's and recording giving three sets of CD as directed by Engineer- in-charge. Sealing of all joints of sewer line found leaking with admixture of cement and other suitable chemicals Installation of adequate number of over pumping system leak proof staking arrangement on Upstream & Downstream, side of working lengths temporary rising main etc. for smooth flow of sewerage system to avoid flooding in the area. Supply of all material, labour, tool & plants, temporary power connection with stand by generator set of minimum capacity 62.5KV. A gas detector, forced air ventilators etc, as per guidelines laid in IS:11972(1987)/ Reaffirmed 2002 and International standard traffic control arrangement and proper lighting at night , barricading, display of reflective sign boards etc. Insurance of workmen & cleaning of site. Removal of all hindrances/ obstructions, unforeseen items, permission from other departments (Department will only assist in getting the permission all inclusive & nothing extra shall be paid on these accounts)				
	1. 250mm dia sewer line	5296	Meter		
	2. 300mm dia sewer line	638	Meter		

	3. 350mm dia sewer line	398	Meter		
	4. 400mm dia sewer line	668	Meter		
	5. 450mm dia sewer line	575	Meter		
	6. 500mm dia sewer line	129	Meter		
	7. 600mm dia sewer line	184	Meter		
	8. 700mm dia sewer line	375	Meter		
	9. 800mm dia sewer line	954	Meter		
	10. 900mm dia sewer line	756	Meter		
	11. 1200mm dia sewer line	380	Meter		
	12. 1400mm dia sewer line	260	Meter		
2	a) Tracing of buried manholes with metal detector i/c dismantling of Cement concrete in 1:3:6 or richer mix/ bituminous road/ brick work manually or by mechanical means including disposal of dismantled material within 50m lead as per direction of Engineer in charge.	10 Nos.	Each		
3.	Providing and fixing SFRC manhole covers and frames of designation HD-35 including dismantling existing manholes frames and disposal of rubbish and prefixing after raising of manholes all complete. Raising shall be paid for Separately.	10 Nos.	Each		

4.	Providing and fixing SFRC manholes covers without frame of designation HD-35 of approved make as per direction of Engineer in charge.	10 Nos.	Each		
5.	Brick work with bricks of class designation 75 in foundation and plinth in cement mortar 1:4(1 cement: 4 coarse sand)	5	Cum		
6.	12mm cement plaster 1:3(1 cement: 3 coarse sand) finished with a floating coat of neat cement.	50	Sqm.		
	Total				