DELHI DEVELOPMENT AUTHORITY
(EM'S OFFICE)

NO.:EM1(10)96/1469 Dated:30.1.96

CIRCULAR NO. 482

SUB: Quality management of works by supervisory staff - Guidelines for inspection of works by EEs/SEs.

There is need for strict supervision of all types of works at EE's/SE's levels in a more comprehensive manner over and above the quality control management being done by Quality Control Cell of DDA for construction works costing above Rs. 7 lacs.

In the past, instructions on the subject had been issued by the EM through circulars bearing Nos. 13,25,61,85,161,162,180,210 & 273 enjoining upon the various officers to frequently inspect the works being executed under their jurisdiction to ensure proper quality of the works as well as to ensure that the works are being carried out in accordance with the designs and specifications laid down for the same. However, the experience has been that this spirit is generally not being followed. Thus, there is a need to lay norms about the frequency of inspections, check lists about the various aspects to be covered during inspections and monitoring of the follow-up actions of the directions given during inspections of various works to be carried out by EEs/SEs as per the details given below :-

Frequency of Inspections by EE's/SE's.

1. It is now intended to make minimum stage-wise inspections of the various construction works mandatory as per the stages given below :-

A. For works costing Rs. 2 lacs to Rs.7 lacs.

i)	First stage (20% to 40% progress)	Detailed inspections by EE for checking the quality of work.
ii)	2nd stage (40% to 70% progress)	Inspection by SE for checking the quality in detail.
iii)	3rd stage (70% to 90% progress)	Inspection by EE for checking quality in detail.

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B. Inspection of works costing above Rs.7 lacs.

The minimum frequency of inspection of works costing above Rs. 7 lacs should be as follows :-

Amount of work	No. of inspections EE	SE
i) Rs.7 to Rs.25 lacs	Twice a month	Once during currency.
ii) Rs.25 to Rs.100 lacs	Twice a month	Once a month.
iii) above Rs. 100 lacs	Thrice a month	Once a month.

Note: The above norms only indicate the minimum number of inspections required to be conducted by the EEs/SEs. However, depending upon the exigencies of each work, the respective EEs/SEs may conduct more number of inspections, if the situation so demands.

Written communication of observations/ directions.

2. The respective EEs/SEs should invariably either issue formal inspection notes or record their observation in the site order books.

Register of inspections

3. Attention is invited to the earlier instructions issued vide EM's Circular No.25 dated 16.6.83 vide which it was directed that a register would be maintained at the site of all projects wherein the information about the inspections of the work by all the inspecting officers was required to be kept in a regular and chronological order.

It has been experienced that these instructions are not being followed scrupulously.

It is, therefore, reiterated that, henceforth, such a register would be invariably maintained at all the work sites by the concerned AE in-charge, who will keep such a register under his personal custody. This Register of Inspections would be maintained by AE's in-charge of the work as per the format given in Annexure-I.

Check list for Guidance of Inspecting Officers.

4. A check list of various aspects to be covered by the inspecting officers during their inspections has been indicated in the enclosed Annexure-II. This list has been prepared to serve as broad guidelines to enable the inspecting officers to pick up the items from this list depending upon the stage of works at the time of the inspections. However, they could also add any other aspect/item, not specifically covered in this list, which they might

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consider to be necessary during any particular inspection.

Designation of one AE(Plg.) as AE(QC) in each Circle.

5. All SEs shall designate one AE(Plg.), as AE(QC), who will help SEs to conduct inspections as detailed above, issue inspection reports and monitor follow-up actions as required.

Such AE(QC) would also help SEs to monitor suitable follow-up action on the reports and the rejoinders of the Quality Control Cell of DDA.

Monitoring of Action Taken Reports of the Inspection Memos/ Observations.

6. EEs shall submit to the SE's a regular Action Taken Reports of the Inspections/ Observations on a running format as given in Annexure-III so as to enable SE's to see compliance during their next inspections.

Submission of Monthly Returns of Inspections.
a) By EEs to SEs
b) By SE's to CE's

7 (a) Each EE would send a monthly return containing name of the works inspected with tendered cost, percentage progress and date of inspection to his controling SE for his information.

(b) Similar monthly returns would be sent by SE's for works inspected by him during the month to their controlling CE's.

These monthly returns would be submitted by EEs/SEs to their respective controlling SE's/CE's on the prescribed format given in Annexure-IV.

Thus, CE's/SE's would keep a watch to ensure that all the works are being supervised properly by the concerned SEs/EEs respectively.

Ebcl: As above.

(R.L. HANS)
ENGINEER MEMBER

COPY TO:-
1. VC, DDA for kind information.
2. FM, DDA for kind information.
3. All CEs of DDA i/c CE(QC), Elect. & Design).
4. All SEs of DDA i/c SE(QC, Elect. & Design).
5. Director (MM).
6. Director (Hort.) North & South.
7. All Jt. Director (Hort.).
8. All EEs i/c EE(QC), Elect.,Design).
9. All Dy. Director (Hort.).
10. File No.PA/CE/QC/27/DDA.
11. File No. EM.3(13)86/Pt.

ENGINEER MEMBER
D.D.A.

4. PROGRESS MONITORING

4.1 System adopted at site for monitoring progress.

4.2 Percentage Progress achieved vis-a-vis time given for completion.

4.3 Steps taken to accelerate Progress when short fall is noticed.

4.4. Any extension of time required. Are reasons for the same justified;?

4.5. Coordination amongst various agencies involved in execution of work.

4.6. Constraints noticed in smooth progress of work and directions, if any, received from EE/SE/CE to overcome them.

ANNEXURE - I

INSPECTION OF WORKS

SNo.	Division	Name of work (Agency)	Date of start/ Stipulated date of completion.
1.	2.	3.	4.

Estimated Cost		Date of Inspection	Inspection carried out by
Tendered	Cost.		
5.		6.	7.

Reference of Inspection memo.	Reference of reply received.	Reminder issued on.
8.	9	10.

Reference of Rejoinder	Remarks.
11.	12.

ANNEXURE: II

CHECK LIST DURING INSPECTION OF WORKS

1. ROUTINE QUALITY CONTROL

1.1 Quality control wise

1.1.1 Is field staff equipped with-

a) Copy of agreement with relevant specifications (detailed as well as special)

b) Copy of preliminary estimate, detailed estimate and details of measurements

c) Up-to-date architectural as well as structural drawings.

d) Testing facilities with the help of necessary field instruments/equipments(List of equipments available at site including levels, theodolite etc. may be given.).

2. OBSERVATIONS ON QUALITY OF WORK AFTER INTENSIVE INSPECTION

Enumerate the defects/drawback, deficiencies noticed in the work sub-headwise:

2.1 Earth work
2.2 Concrete work
2.3 RCC work
2.4 Brick work
2.5 Stone work
2.6 Steel work
2.7. Flooring(including marble work, if any).
2.8 Roofing
2.9 Finishing
2.10 Miscellaneous
2.11 Services etc.

3. QUALITY AND TESTING OF MATERIALS/PRODUCTS:

3.1 Comments on:

3.1.1 Testing facilities available with the department at site.

3.1.2 Testing facilities arranged with other Department/Institution

3.1.3 Testing facilities further required to be arranged.

3.1.4 Is material/Product of/make borne on approved list of Department/ ISI

3.1.5 Are tests carried out on materials/products(covered under 3 to 3.1.3) found satisfactory ?

3.2 TESTING:

3.2.1 Are all mandatory tests being carried out at the frequency mentioned in C.P.W.D. Specifications.

3.2.2 No. of tests failed and approx. quantity rejected.

3.2.3 General observations on tests, viz. erratic results, consistently low or high results etc.

3.2.4 Follow up action taken on unsatisfactory results, with lapses in prompt follow up action.

3.2.5 Samples tested by AE(QC) and their results (Sample should invariably be taken where materials/product at site does not appear to conform to the latest test results.).

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Annexure - III

Ist Copy: (to be retained by the EE at site)
2nd Copy (to be returned to SE after recording compliance).
3rd Copy (to be retained in SE's Office.)

Inspection Note NO. S.NO. / Year
(S.NO. to be given workwise)

NO. :
date:

1.Name of work:
2.Agreement NO.:
3. Name of Agency:
4. Date of Inspection:
5 Percent:
5. Percentage Progress of work

Ex. Engineer: Sh.
Asstt.Engineer: Sh.
Jr.Engineer. Sh.
Sh.
Sh.

SNO.	Observation of SE	Location	Compliance Report of E.E.	Verification of compliance by S.E.(Where it considered necessary by him.)	Remarks.
1.	2.	3.	4.	5.	6.

ANNEXURE-IV

MONTHLY RETURN OF INSPECTIONS OF WORKS CARRIED OUT BY EEs / SEs

DIVISION / CIRCLE _____ MONTH _____

SNO.	Name of work	Estimated Cost / Tendered cost	percentage progress	Date of inspection by EEs/SEs
1.	2.	3.	4.	5.

SIGNATURE OF EE / SE

DIVISION / CIRCLE