

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)/CDO
VIKAS MINAR NEW DELHI

F.No.CE(D)W/C/13/84/DDA/876

DT: 23/12/08

**CIRCULAR NO.24
(REVISED)**

The following special conditions for RCC work shall be incorporated in the Tender Documents.

1. The cement concrete mix. design shall be done either at the site of work or through an approved organization/testing labs.
2. The maximum water cement ratio for a particular concrete grade shall be kept as per IS 10262 and shall not exceed the value given in Table 5 of IS 456-2000 which are as follows:

M-25	0.50
M-30	0.45
M-35	0.45
M-40	0.40
3. The cement content in any grade of concrete shall not be less than 360 kg. (Port land cement) per cubic meter.
4. Workability of concrete shall be as specified in Para 7.0 of IS 456-2000, for all grades of concrete, depending on the placing conditions/members.
5. Approved plasticisers/super plasticisers/admixtures, conforming to IS 9103 can be used for improving workability and their performance shall be monitored as per Clause 5.5. of IS 456-2000 and Clause 4.1.3 of CPWD specifications 2002.
Keeping in view the purpose to be performed by the admixture the maximum dosage of admixture may be governed as per para 10.3.3 of IS 456-2000.
6. No extra payment shall be made for use of plasticisers.

V. J. Y.
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7. Fully computerized Batching plant shall be provided by the contractor at site for preparation of Design mix concrete.
8. In case computerized plant is not arranged by the contractor, use of Ready Mix Concrete (RMC) obtained from the approved companies based on above conditions, IS: 4926 & latest CPWD specifications, shall be permitted.
9. Concrete mix shall not be handled twice at the site of work. Either concrete shall be pumped or through chute or through 0.50 m³ buckets with crane arrangement for transportation shall be provided by the contractor for placing of concrete.
10. A number of parameters need to be clearly defined for design of ready mix concrete, as per Item of work under execution at site. Para 5.8 of CPWD Specifications 2002 deals with design mix/readymix concrete. Under Para 5.8.8., Important parameters such as mixing, mix-temperature, supply and placing of ready mix, transportation, pumping methods and equipments, sampling and testing, main constituents, admixtures & requirement of slump, compaction, consistency etc. are defined in detail.

Chief Engineer shall ensure that all the engineers under his control refer appropriately to the relevant paras of IS 456 and revised CPWD Specifications 2002 for preparation of NIT. Provision for use of RMC in concrete work shall also be incorporated in the NIT, wherever required.

This issues with the approval of Engineer Member, DDA.

(G.R.Shiromani)
Chief Engineer (Design)

Copy to:

1. ✓ Engineer Member/DDA for kind information.
2. All Chief Engineer/DDA.
3. All SEs (Civil) DDA


Chief Engineer (Design)/CDO

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DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)
CENTRAL DESIGN ORGANIZATION

No: CE (D) TC (13) 84/DDA/72

Dated: / February 2005

1-2-05

CIRCULAR NO. 25

It has been decided by the Competent Authority that concrete grade M35 shall be adopted for all the future pile foundation works, instead of M25. This change has been made to safeguard against aggressive subsoil/ground water conditions, which normally exist and may not get detected during soil investigations.



(R.C. KINGER)
CHIEF ENGINEER (DESIGN)

Copy to:

1. Engineer Member, DDA for information.
2. All Chief Engineers, DDA.



CHIEF ENGINEER (DESIGN)

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)

497

No. CE (D) TC (13) 2005 / DDA / 482

Dated: 27-6-05

CIRCULAR No...26.....

Circulars for general guidelines and reinforcement detailing in RCC members were issued by CDO vide circular 20 (revised 2003) dt.18.2.03 and vide No.F.21/SE(D)II/Misc(Tech)/CDO/03/58 dated 28.7.2004.

It has been observed by CE(QC) that the said details have not been followed during execution/approving structural designs at zonal level. The specific reference had been made to the NOMINAL COVER which should be provided clear to all reinforcement i.e. clear cover to stirrups, col. Ties/secondary reinforcement.

The sketch showing the provision of nominal cover and other details is being re-circulated (copy enclosed). Chief Engineers may please ensure that these details are made available and followed meticulously at site by their subordinate staff.



(R.C. KINGER)
CHIEF ENGINEER(D)

All Chief Engineers/DDA

Copy with enclosures to:-

1. E.M., DDA;
2. C.E(QC).



CHIEF ENGINEER(D)
CDO/DDA

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OFFICE OF THE CHIEF ENGINEER (DESIGN)
CENTRAL DESIGN ORGANISATION

F 21/SE(D)I/Misc(Tech)/CDO/03/58

Dt. 28.7.2004


CIRCULAR

Subject: Reinforcement detailing for RCC Members
as per ductility requirement of IS:13920:1993

During inspection of Housing Projects, it was observed by Engineer Member that provision of overlaps in reinforcement is not being provided properly for RCC Members.

Normally, bar bending details are incorporated in Structural drawings being issued by CDO. These details have been further elaborated in the diagrams enclosed, so as to ensure precise location of overlaps, cranking slope alongwith stirrups details.

All the Chief Engineers are requested to ensure that these details are followed meticulously in case of RCC framed construction.


(R.N. Bhagi)
Chief Engineer (Design)

Chief Engineer- Rohini/Dwarka/East Zone/
South-east Zone/South-west Zone/North Zone

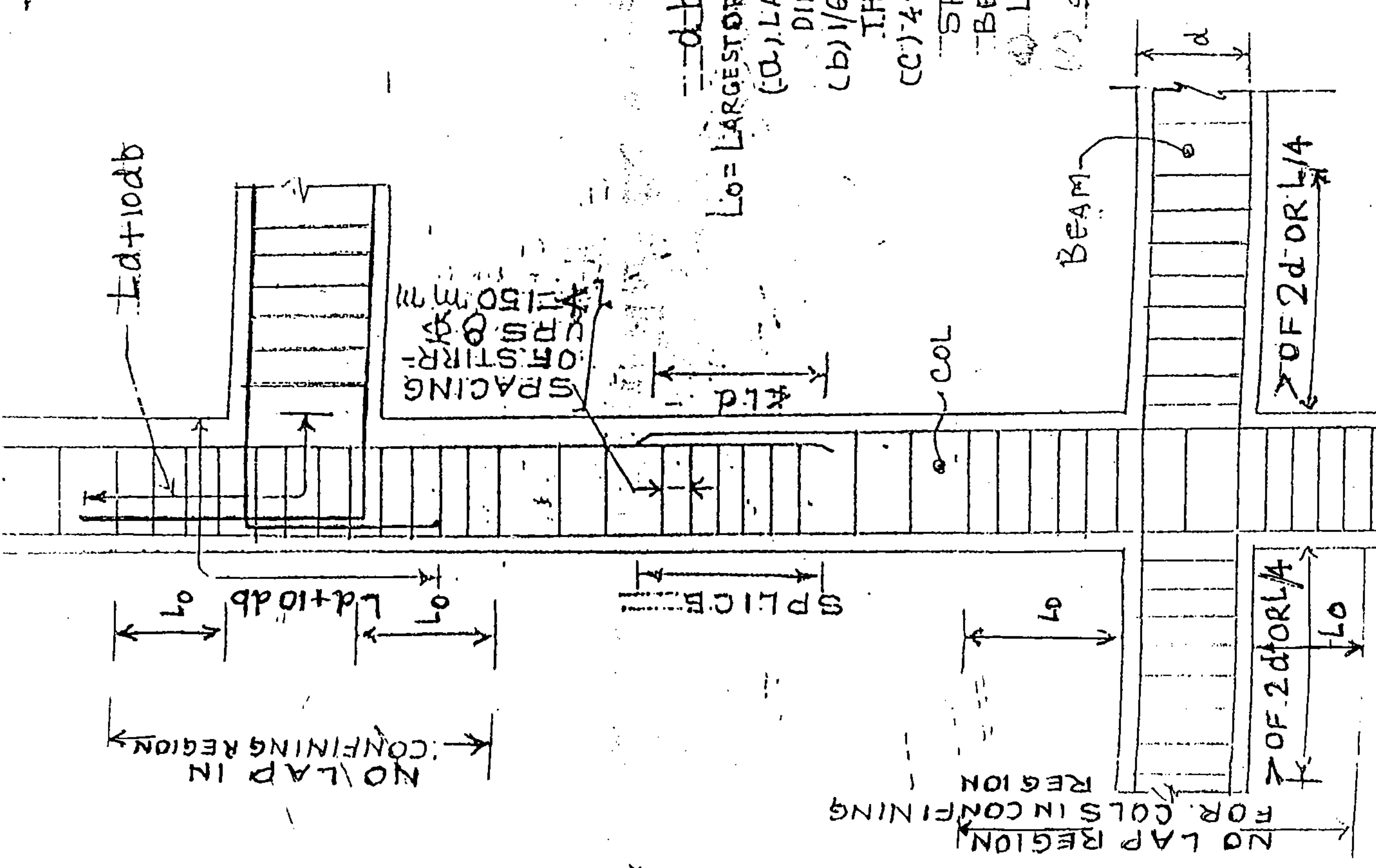
FOR INFORMATION/Necessary Action

1. CE(AC)/DDA.
2. CE(HR)/DDA.
3. SE(D)I/SE(D)II/EE(D)I/EE(D)II/EE(D)III/EE(D)IV/EE(D)V (CDO.)

-1/2

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Contd.



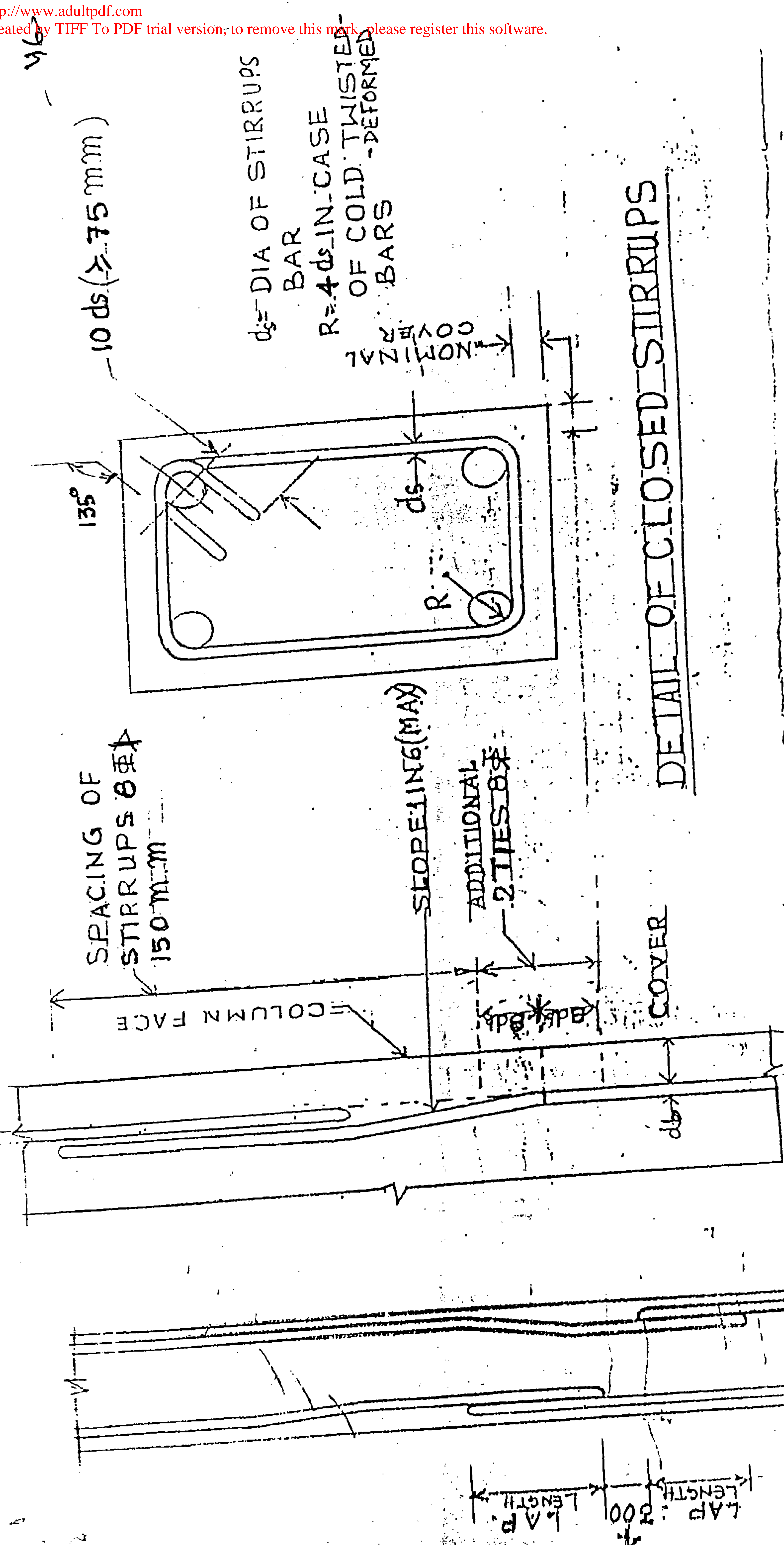
~~$d_b = \text{DIA OF THE BAR}$~~
 $L_o = \text{LARGEST OF THE FOLLOWINGS}$
 (a) LARGER LATERAL DIMENSION OF THE COL.
 (b) $1/6$ OF CLEAR SPAN OF THE COLUMN
 (c) 450 MM

SPACING OF STIRRUPS SHALL BE AS PER STRUCTURAL DRAWING
 (i) $L_d = \text{DEVELOPMENT LENGTH IN TENSION}$
 (ii) SPACING OF STIRRUPS IN SPLICE PORTION FOR COLS. & BEAMS SHALL BE $\geq 150\% c$

$L = \text{CLEAR SPAN OF THE BEAM}$

DETAILING OF SPLICES IN BEAMS AND COLUMNS

2/2



NOTES:-

1. NOT MORE THAN ONE THIRD OF THE BARS SHALL BE SPLICED AT ONE LOCATION. (RESTRICTED TO MAX. 50%)
2. IN CASE OF SECONDARY / SIMPLY SUPPORTED BEAMS LAP SHALL NOT BE PROVIDED IN THE MIDDLE ONE THIRD OF SPAN
3. WHEN BARS OF TWO DIFFERENT DIAMETER ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF SMALL BARS
4. LAP LENGTH FOR CONCRETE MIX M25 = $40.3 \times$ DIA. OF BAR

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)/CDO
VIKAS MINAR NEW DELHI

F.No.CE(D)TC(13)2005/302/877

CIRCULAR NO.27
(REVISED)

DT: 23/12/08

It has been decided by the Competent Authority that in addition to other conditions included in the Structural Drawings for pile foundation works, the following conditions need to be incorporated in the Tender Documents so as to ensure good quality of work:

1. In case of pile foundation work the boring operation shall be done by using Hydraulic power Rig with power unit as stipulated in DAR-2007.
2. Concrete of grade M-35 shall be used in piles.
3. Where required, provision for ready mix concrete shall be made in accordance with Circular No.24 (revised in 2008)/CDO.
4. Concreting under water may be done either with the use of tremie method or by use of specially designed under water placer to permit deposition of concrete in successive layers, without permitting the concrete within the placer to fall through free water.
5. Temporary liner shall be provided, minimum top 2.00 m of the pile bore or as per site requirements. Liner shall be withdrawn after concreting by slow rotary action only.
6. **Integrity testing:** For housing and related structures, minimum 25% piles shall be got tested, using low strain integrity testing method. In case results are not satisfactory, the testing can be extended further as per decision of Chief Engineer. The contractor shall prepare the pile heads for testing of the piles. Test report shall be furnished to Engineer-in charge and no extra cost shall be paid to the contractor for these tests. Decision of the Engineer-in-Charge will be final and binding in this regard. Initial and routine test shall also be carried out as per IS- 2911(P.IV).
7. Cement, used for all the pile foundation works, shall be as per Table-4 of IS-456-2000.

This issues with the approval of Engineer Member, DDA.

(G.R.Shromani)
Chief Engineer (Design)/CDO

Copy to:

1. Engineer Member/DDA for kind information.
2. All Chief Engineer/DDA for information and necessary action please.
3. All SEs (Civil) DDA for information & necessary action please.

23/12/08
A/2 (D) IV


Chief Engineer (Design)/CDO

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)
14TH FLOOR, VIKAS MINAR, NEW DELHI

No. F11(8)Gen.Misc./EE(D)IV/2008 / 46

DT: 18/9/08

CIRCULAR NO: 29

Sub: Use of Fe-500 steel in place of Fe 415 steel.

A number of references have been received from various divisions/circles requesting for permission to use Fe 500 grade steel instead of Fe 415 grade steel alongwith corresponding reduction in area of steel to be incorporated. The relevant para of NBC-2005 (Note-I/Table-22/Part 6/NBC) is as under:

"For high yield strength deformed bars of Grade Fe 500, the permissible stress in direct tension and flexural tension shall be 0.55 fy. The permissible stress for shear and compression reinforcement shall be as for Grade Fe 415."

In view of above, the matter has been examined in CDO and decision of the Competent Authority is as under:

- i) In case of non-availability of the Fe 415 grade steel, Fe 500 grade steel may be used, in the interest of work, subject to the following conditions:
 - a) There shall be no change in the dia. and spacing of re-inforcement bars as provided for Fe 415 Grade steel in the structural drawing.
 - b) No financial benefit can be given to the agency for not procuring Fe 415 grade steel.
- ii) Future tender documents may incorporate these conditions.

This issues with the approval of Engineer Member, DDA.

(J.M.Joshi)
Chief Engineer (Design)

Copy to:

1. Engineer Member, DDA for information please.
2. All Chief Engineers, DDA with - 20 extra copies.


Chief Engineer (Design)

Annexure I

**NOTICE FOR INVITING APPLICATIONS FOR EMPANELMENT OF
STRUCTURAL / SOIL CONSULTANTS**

Structural Consultants / Soil Consultants / Engineering firms who are interested in the empanelment in DDA as Structural / Soil Consultant may apply in the prescribed formats, Form A and Form B. The salient features are as follows :-

1. The applications may be addressed to the Chief Engineer (Design).**
There is no last date for sending applications. Any consultant may apply as and when he intends to.
2. Normally, the consultants are empanelled for three years.
3. The minimum qualification of the individual consultant / sole proprietor / all partners should be a degree in the Civil Engineering or equivalent.
4. ^{For soil consultants, the individual/one of the partner of a firm shall} DDA has right to modify or change its policy / formats etc. in respect of empanelment as and when deemed necessary.

Encl: Form A & B

EXECUTIVE ENGINEER (D) IV
CENTRAL DESIGN ORGANIZATION
DDA, VIKAS MINAR, 15TH FLOOR;
NEW DELHI-110002
TEL. NO. 23370417
23378288 Extn. 314, 358

** Address of the Chief Engineer (Design)

Chief Engineer(Design)
Delhi Development Authority,
Central Design Organization
14th floor, Vikas Minar,
New Delhi-110002

⊗ possess M.Tech in Soil Mechanics / foundation Engg.

FORM - A

Proforma for Structural Consultants

1. Name & address of the firm. :
2. Qualification & specialization of individual Consultant / proprietor /all Partners :
3. Details of office infrastructure & employees. :
4. Software used for analysis & design work. :
5. *Brief details i/c cost of projects dealt during the last five years and works in progress. The projects dealt during the last three years should be given in more details.
 - (i) Projects of DDA:
 - (ii) Projects other than DDA. :
 - (iii) Any outstanding work/achievement
6. Attested certificates from the client department in respect of work done/ under progress. Certificate should be signed by not less than Project Manager / E.E. Incharge of Project. :
7. Attested copy of the partnership deed (if applicable) :
8. Attested copy of Income Tax Clearance Certificate

Notes:-

1. Attach separate sheets wherever necessary.
2. *In case only a part-portion of a project had been / is being undertaken, the extent of the scope of the work shall be clearly specified.
3. Those works which are not accompanied by the certificates from the client department are liable to be ignored.
4. Chief Engineer (Design) reserves the right to cancel any or all applications without assigning any reason.

FORM - B

Proforma for Soil Consultants Empanelment.

1. Name & address of the firm and soil testing lab. :
2. Qualification & specialization of individual consultant / proprietor/ all partners :
3. Details of office infrastructure & employees. :
4. *Brief details i/c cost of projects dealt during the last five years and works in progress. :
The projects dealt during the last three years should be given in more details.
 - (i) Projects of DDA: :
 - (ii) Projects other than DDA. :
 - (iii) Any outstanding projects /achievement
5. *Testing Facility:
 - (i) Soil / Rock testing facility available in - house (The lab facility will be inspected by the officer as deputed by Chief Engineer (Design). :
 - (ii) (a) List of soil/rock tests for which out sourcing is required. :
(b) Name of the organizations where tests under (ii) a - above shall be got done.
6. Attested certificates from the client department in respect of work done/ under progress. Certificate should be signed by not less than Project Manager /E.E. Incharge of Project. :
7. Attested copy of the partnership deed (if applicable) :
8. Attested copy of Income Tax Clearance Certificate

Cond.....2/-

Notes:-

1. **Attach separate sheets wherever necessary.**
2. ***In case only a part-portion of a project had been / is being undertaken, the extent of the scope of the work shall be clearly specified.**
3. **Those works which are not accompanied by the certificates from the client department are liable to be ignored.**
4. **Chief Engineer (Design) reserves the right to cancel any or all applications without assigning any reason.**

Subject: Eligibility Criteria for qualification and experience for empanelment of Soil and Structural Consultants.

The criteria as recommended in CRB meeting held on 7/03/07 and minutes circulated vide letter dated 16.05.07 has been adopted for considerations for empanelment of structural/soil consultants and is as follows :-

A) Structural Consultant :

1. In Case of an Individual:

- a) B.E./B.Tech (Civil) with minimum 5 years' work experience.
- b) M.Tech (Structural) with minimum 2 years' work experience.

2. In case of Partnership firm :

- a) All partners shall be B.E./B.Tech(Civil) and the firm shall have minimum 5 years of work experience;
- b) If one of the partner/Director(Key person) is, M.Tech (Structural), the firm need to have minimum 2 years of work experience.

B) Soil Consultant :

1. In Case of an Individual:

M.Tech (Soil Mech. & Foundn.Engg.) with own lab.

2. In case of Partnership firm :

- a) All partners should be B.E./B.Tech(Civil) and at least one partner should be M.Tech (Soil Mech. & Foundn. Engg.) with their own lab.