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उत्तर प्रदेश राजकीय निर्माण निगम लिमिटेड

(उ0प्र0 सरकार का उपक्रम)

हल्द्वानी इकाई, मेडिकल कालेज परिसर, रामपुर रोड, हल्द्वानी (नैनीताल) उत्तराखण्ड

पत्रांक : 848/U.U-S /हल्द्वानी/रा0नि0नि0/14 दिनांक 24-12 2014

197

सेवा में,

प्रभारी निर्माण,
उत्तराखण्ड मुक्त विश्वविद्यालय
हल्द्वानी।

विषयः– **विश्वविद्यालय के अर्न्तगत निर्मित भवनों के वास्तुविदीय एवं संरचनीय मानचित्रों का प्रेषण।**

महोदय,

उ0प्र0राजकीय निर्माण निगम द्वारा निर्माणाधीन प्रशासनिक एवं एकेडमिक भवनों के वास्तुविदीय एवं संरचनीय सम्पूर्ण मानचित्र अभिलेख हेतु संलग्न कर प्रेषित किये जा रहे हैं।

सधन्यवाद,

संलग्नकः– उपरोक्तानुसार।

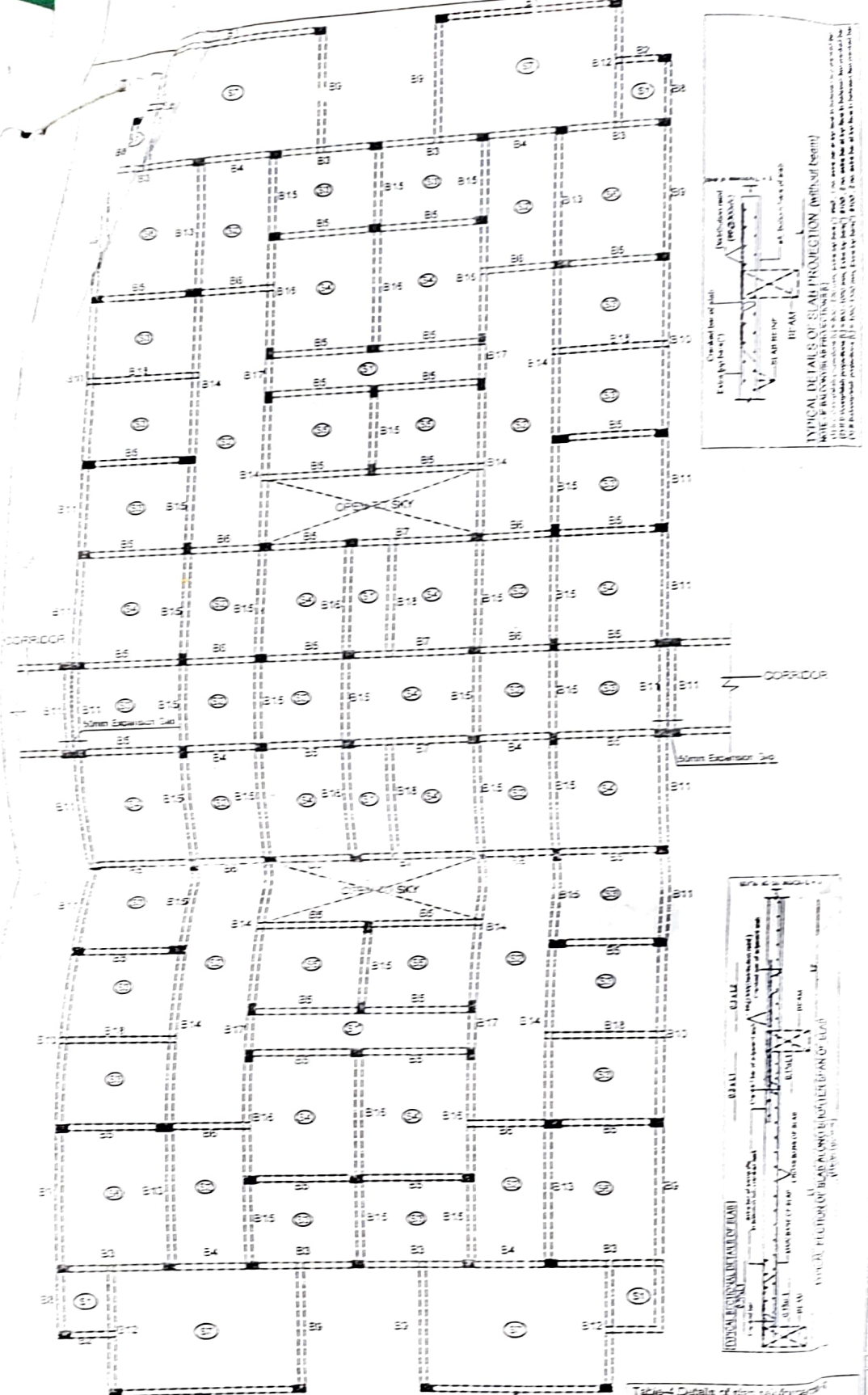
भवदीय

24/12/14

अपर परियोजना प्रबन्धक

PITAMBER DUTT PANT

Digitally signed by PITAMBER DUTT PANT
Date: 2022.04.28 15:29:10 +05'30'



REINF. DETAIL OF 4TH FLOOR SLAB
(i.e. SLAB OF TERRACE FLOOR LVL.)

Table-4 Details of slab reinforcement

SLAB NO.	Thickness (MM)	REINFORCEMENT MAIN BARS	REINFORCEMENT CROSS BARS
S-01	125	#10@125	#8@125
S-02	125	#10@125	#8@125
S-03	125	#10@125	#8@125
S-04	125	#10@125	#8@125
S-05	125	#10@125	#8@125
S-06	125	#10@125	#8@125
S-07	125	#10@125	#8@125

Ar. OMKAR VERMA
B.Arch (CEPT), M.Arch (Setsu)
SPAN STRUCTURES
(CONSULTING STRUCTURAL ENGINEERS)
B-14, ANAND NAGAR, KANPUR

This is to certify that the structural design is checked and found safe.

(Dr. K. Nateyan)
Ph.D.(Civil) IIT ROORKEE
Professor, Deptt. Of Civil Engg.
Institute of Engineering & Technology
LUCKNOW-226021

NO.	DATE	DESCRIPTIONS	INITIAL

PROJECT:
PROPOSED ADMINISTRATION AND ACADEMIC BLOCK AT UTTARAKHAND OPEN UNIVERSITY

DWG TITLE:
DETAIL OF TERRACE FLOOR SLAB

DATE	30.04.15	CONSTRUCTION AGENCY	SHEET NO.
DRN.	Dawat Singh		ST-07
CKD.	Ar Omkar Verma		
SCALE	1:100	DWG NO.	

DESIGN INCORPORATE
ARCHITECTS & INTERIOR DESIGNERS
B/220 ANAND KISHAV ARYA NAGAR, KANPUR (U.P.)
Phone: (0512-3042752, 9336109500(M)

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SPAN STRUCTURES
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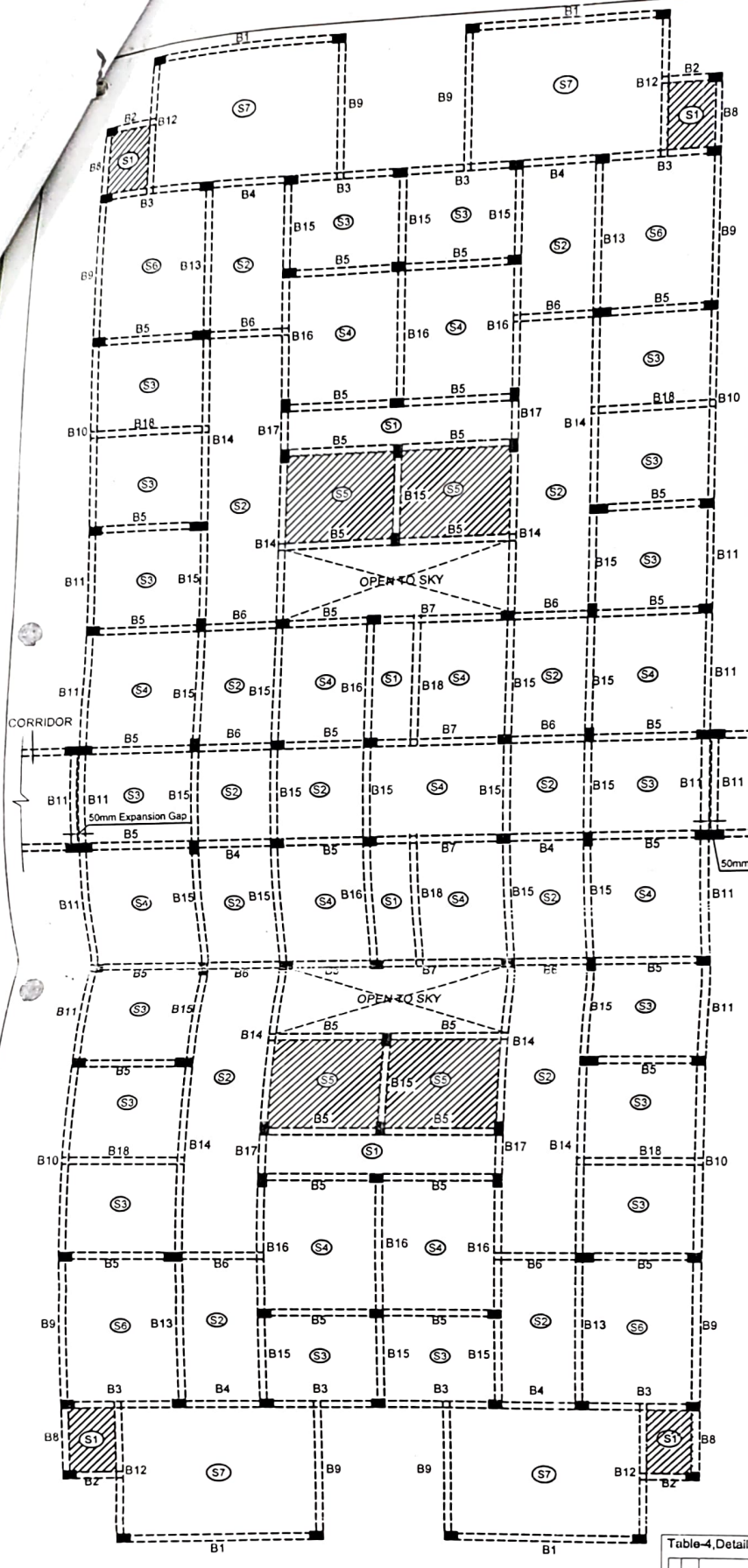
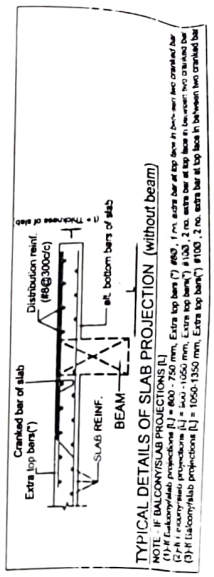


REINF. DETAIL OF GROUND ,1ST, 2ND & 3RD FLOOR SLAB

(i.e. TYPICAL FLOOR SLAB)

NOTE - (1)Toilet slab shall be sunken with beam bottom at the location marked on plan



TYPICAL DETAILS OF SLAB PROJECTION (without beam)

NOTE - IF BALCONY/SLAB PROJECTIONS [L]
(1) If (balcony/slab projections [L] = 800 - 750 mm, Extra top bars (*) #8@, 1 no. extra bar at top slab in between two cranked bar
(2) If (balcony/slab projections [L] = 900 - 1050 mm, Extra top bars(*) #10@, 2 no. extra bar at top slab in between two cranked bar
(3) If (balcony/slab projections [L] = 1050-1350 mm, Extra top bars(*) #10@, 2 no. extra bar at top slab in between two cranked bar

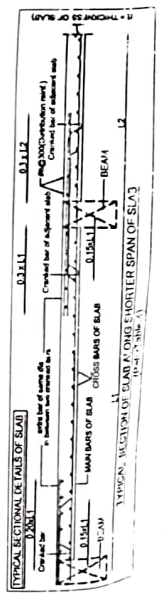


Table-4,Details of slab reinforcement

SR. NO.	SLAB NO.	Thickness (MM)	REINFORCEMENT: MAIN BARS In shorter span	CROSS BARS In longer span
1	S1	125	#8@200	#8@200
2	S2	125	#8@175	#8@175
3	S3	125	#8@175	#8@175
4	S4	125	#8@150	#8@150
5	S5	125	#8@125	#8@125
6	S6	125	#8@125	#8@125
7	S7	150	#10@125	#10@125

Note - for reinforcement in cantilever balcony/projections refer typ. detail of slab projection

Notes:-

[General]

(1) All dimensions are in m.m. unless otherwise mentioned
(2) Only figured dimensions are to be followed neither the bars shall be counted nor the dimensions scaled from the drg. the architect / consultant and clarification obtained in writing prior to execution of work
(3) Any discrepancy in the drgs. shall be brought to the notice of
(4) High yield strength deformed bars of yield stress 500 N/mm2 (Fe-500) which shall conform to IS 1786-1985 shall be used as reinforcement
(5) Clear cover of outer layer reinf. shall be as follows
(a) Foundation = 50 mm (b) Column = 40 mm (c) Beam = 25 mm (top & bottom)
or dia of bar, whichever is more (d) Slab = 20 mm (e) Wall slab = 20 mm
(6) End/side cover of all reinforcement in beams & slab = 25 mm or dia of bar, whichever is more
(7) The cover block of cement mortar shall be used to ensure the end cover of reinf.
(8) Development length(Ld) for different dia meter of bars for conc. mix of grade M - 25 shall be 41 x dia of bar
(9) CONC. MIX FOR R.C.C. WORK SHALL BE OF GRADE M - 25 CONFORMING TO I.S. 456 - 2000
(10) Necessary fixture for electrical, plumbing, etc. shall be provided in slab, beams before execution as per relevant drgs
(11) The structure has been designed for G.F.+4 +5 storey & seismic zone - IV
(12) P.C.C. (1:4:8) shall be provided
(13) All plain concrete & RCC shall be strictly in accordance with the provision of I.S. - 456 2000, with IS - 2502 1963, IS - 5525 1969 & IS - 456 2000

[FOUNDATION]

(1) The layout of building shall be given from the arch. drg
(2) The design data for foundation has been taken from soil test report provided by the dept./ client (S.B.C. =12 MT/SQM)
(3) Earth below foundation shall be properly rammed & consolidated before laying lean concrete

[COLUMNS]

(1) Ties in portion of col. & beam junction shall be same as end zone
(2) Over laps are allowed only at middle zone of the columns
(3) Not more than 50 % of bars shall be lapped at a section and laps shall be staggered
(4) Ties in portion of col. below plinth beam shall be same as end zone
(5) Vertical bars of rcc column at top slab shall be extended upto top of beam & bent into beam by development length

[BEAMS]

(1) For location of beams refer slab plan
(2) The spacing of stirrups at overlaps should not exceed 150 mm c/c
(3) Where two layers of reinf. bars are to be provided, spacer bars are to be provided at spacing 1000 mm. & dia the dia of the spacer bar shall be higher of dia of longitudinal bars or 25 mm
(4) Max. 4 nos. of bars shall be provided in a layer of 300 mm wide beam
(5) At the junction of two diff. number of beams the higher reinf. at the support shall be accepted
(6) Over lap in top bars shall be near mid span & in bottom bars shall be near support of the span
(7) The depth of beam/lintel monolithic with slab as specified in schedule shall be inclusive of slab thickness unless otherwise specified
(8) Hooks in stirrups of beams shall be bent inside at 135° & length of hooks shall be 10 x dia of bar of stirrups

[SLABS]

(1) For slab reinforcement refer table-4 (detail of slab reinforcement)
(2) Alternate bottom bars shall be cranked at 1/7 of span and extended upto 1/3 in adjacent slab panel as shown in typ. section of slab
(3) Extra bar of same dia of slab bars shall be provided at top face in between two cranked bars as shown in typ. section of slab
(4) The cross reinf. / temp. reinf. below top reinf of slab i.e #8@ c/c is to be provided just below the main top steel as shown in typ. sec. of slab
(5) The first main bar of slab shall be placed at 80 mm

[MASONRY WORK]

(1) 100 th block wall - 1:4 cement sand mortar shall be used & #8, 1 nos. bars at every 4th course shall be provided
(2) 200 th & 300 th block wall - 1:6 cement sand mortar shall be used
(3) The vertical face of concrete at junction of wall & RCC member shall be raked to give a rough surface & 1:4 cement sand mortar should be applied to developed bond between brick & rcc member

This is to certify that the structural design is ... safe

29/7/13

(Dr. K. Narayan)
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Professor, Deptt Of Civil Engg.
Institue of Engineering & Technology
Lucknow-226021

References: IS 456 - 2000,IS - 13920, - 1993,IS - 1893 PART (1):2002,SP-16, SP-34
Arch. Drg. No. - All arch. drgs

REVISION

S.N.	DATE	DESCRIPTIONS	INITIAL

PROJECT :
PROPOSED ADMINISTRATION AND ACADEMIC BLOCK AT UTTARAKHAND OPEN UNIVERSITY

DRG. TITLE:
DETAIL OF 1st, 2nd & 3rd FLOOR SLAB

DATE	APR-13	CONSTRUCTION AGENCY :	SHEET NO.
DRN	Govind Singh		ST-06
CKD	Er Omkar Verma		
TCD			
SCALE	1:100	DRG. NO.	

architectural consultants:
DESIGN INCORPORATE
ARCHITECTS & INTERIOR DESIGNERS
8/220 ANAND KESHAV ARYA NAGAR, KANPUR(U.P.)
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Structural Consultants
SPAN STRUCTURES
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ER. OMKAR VERMA
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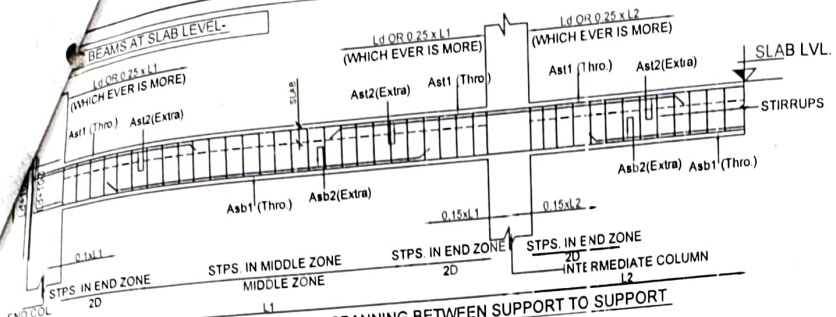
8/14, Indira Nagar, Lucknow (UP). Tel. - 0522-4047199, +91-9335903224
e-mail :-spanstructures@rediffmail.com, spanstructures@gmail.com
website :- spanstructures.in

SPAN STRUCTURES
(CONSULTING STRUCTURAL ENGINEERS)
8/14, INDIRA NAGAR, LUCKNOW (U.P.)

(D)

BEAMS AT SLAB LEVEL-



TYP.REINF. DETAILS IN THE SLAB BEAMS SPANNING BETWEEN SUPPORT TO SUPPORT

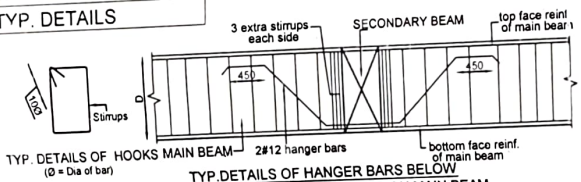
FOR DETAILS REFER TABLE [3] BELOW

NOTE :AT THE JUNCTION OF TWO DIFF. NUMBER OF BEAMS THE HEIGHER REINFORCEMENT AT THE SUPPORT SHALL BE ADDOPTED.

TABLE -3 DETAILS OF SLAB BEAMS

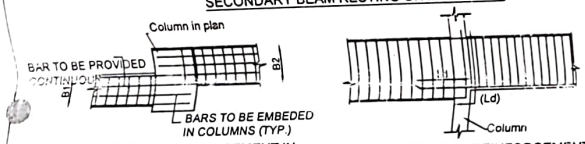
SR. NO	BEAM NO	BEAM SIZE B mm	BEAM SIZE D mm	LONGITUDINAL REINFORCEMENT: TOP FACE REINFORCEMENT Ast1 (Thro.at Top)	TOP FACE REINFORCEMENT Ast2 (Extra at support)	BOTTOM FACE REINFORCEMENT Asb1 (Thro at Bottom)	BOTTOM FACE REINFORCEMENT Asb2 (Extra at middle)	STIRRUPS: END ZONE '2L'STPS	STIRRUPS: MIDDLE ZONE '2L'STPS	SIDE FACE REINF. (ON EACH FACE)
1	B1	230	600	3#16Ø	3#20Ø	3#20Ø	2#16Ø	#8@100	#8@175	-
2	B2	230	450	2#16Ø	-	2#16Ø	-	#8@100	#8@150	-
3	B3	230	450	2#20Ø	2#20Ø	3#20Ø	-	#8@100	#8@150	-
4	B4	230	450	2#20Ø	2#20Ø	2#20Ø	-	#8@100	#8@150	-
5	B5	230	450	3#16Ø	2#16Ø	3#16Ø	-	#8@100	#8@150	-
6	B6	230	450	2#16Ø	2#16Ø	2#16Ø	2#16Ø	#8@100	#8@150	-
7	B7	230	450	3#16Ø	3#16Ø	3#16Ø	-	#8@100	#8@150	-
8	B8	230	450	3#16Ø	-	3#16Ø	2#12Ø	#8@100	#8@175	-
9	B9	230	600	3#16Ø	2#16Ø	3#16Ø	2#16Ø	#8@100	#8@150	-
10	B10	230	600	3#16Ø	3#16Ø	3#16Ø	-	#8@100	#8@150	-
11	B11	230	450	3#16Ø	2#16Ø	3#16Ø	2#16Ø	#8@100	#8@150	-
12	B12	230	450	3#16Ø	3#16Ø	3#16Ø	2#12Ø	#8@100	#8@175	-
13	B13	230	600	3#16Ø	2#20Ø	3#16Ø	3#16Ø	#8@100	#8@150	-
14	B14	230	600	3#16Ø	3#20Ø	3#16Ø	-	#8@125	#8@150	-
15	B15	230	450	3#16Ø	2#20Ø	3#16Ø	2#16Ø	#8@100	#8@150	-
16	B16	230	450	3#16Ø	2#20Ø	3#16Ø	-	#8@100	#8@150	-
17	B17	230	450	3#16Ø	-	3#16Ø	2#12Ø	#8@100	#8@150	-
18	B18	230	450	2#12Ø	1#16Ø	3#16Ø				

TYP. DETAILS



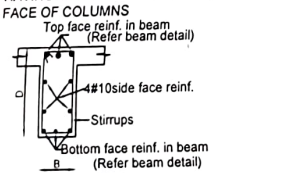
TYP. DETAILS OF HOOKS MAIN BEAM (Ø = Dia of bar)

TYP.DETAILS OF HANGER BARS BELOW SECONDARY BEAM RESTING ON MAIN BEAM

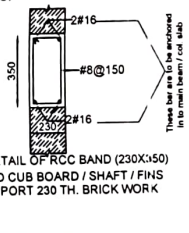


TYPICAL DETAILS OF REINFORCEMENT IN BEAM AT THE JUNCTION OF COLUMNS BEAM HAVING UNEQUAL WIDTH AT THE DIFFERENT FACE OF COLUMNS

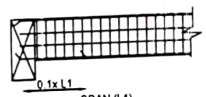
TYPICAL DETAILS OF REINFORCEMENT AT THE JUNCTION OF TWO UNEQUAL DEPTH OF BEAMS.



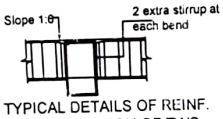
TYP.DETAILS OF SIDE FACE REINF. IN ALL OUTER BEAMS FOR BEAM DEPTH (D) 600 MM OR MORE



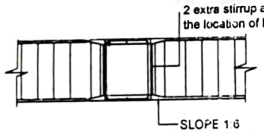
TYP. DETAIL OF RCC BAND (230X350) AROUND CUB BOARD / SHAFT / FINS TO SUPPORT 230 TH. BRICK WORK



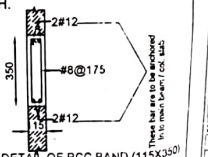
TYPICAL DETAILS OF BEAM AT END RESTING ON THE ANOTHER BEAM OF HIGHER BEAM



TYPICAL DETAILS OF REINF. AT THE JUNCTION OF TWO BEAMS OF UNEQUAL DEPTH.

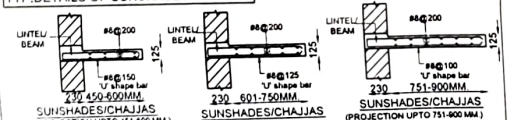


TYPICAL DETAILS OF REINFORCEMENT AT THE JUNCTION OF TWO BEAMS OF EQUAL DEPTH.

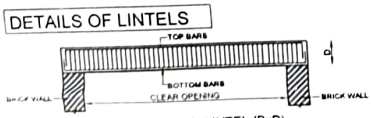


TYP. DETAIL OF RCC BAND (115X350) AROUND CUB BOARD / SHAFT / FINS TO SUPPORT 115 TH. BRICK WORK

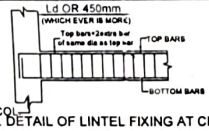
TYP.DETAILS OF SUNSHADES/CHAJJAS



DETAILS OF LINTELS



L - SEC. OF R.C.C. LINTEL (BxD)
(FOR LINTEL REFER TABLE-5)



TYP. DETAIL OF LINTEL FIXING AT CILUMN
(for top & bottom bars of diffe ent span refer table -5)

TABLE-5 DETAIL OF LINTELS FOR DOOR / WINDOW OPENING

SR. NO	FOR 230 TH WALL: DOOR/ WINDOW OPENING (L)	Lintel Cross Section (B X D)	Longitudinal Reinforcemnt: BOTTAM BARS	TOP BARS	Stirrups '2L' STPS	FOR 115 TH WALL: DOOR/ WINDOW OPENING (L)	Lintel Cross Section (B X D)	Longitudinal Reinforcemnt: BOTTAM BARS	TOP BARS	Stirrups '2L' STPS
1	>750≤1000	230 X125	2 # 12	2 # 10	#8@200	>750≤1000	115 X125	2 # 10	2 # 10	#8@200
2	>1000≤1500	230 X150	2 # 12 +1#10	2 # 10	#8@175	>1000≤1500	115 X150	2 # 10	2 # 10	#8@175
3	>1500≤2000	230 X175	3 # 12	2 # 10	#8@150	>1500≤2000	115 X175	2 # 12	2 # 10	#8@150
4	>2000≤2500	230 X200	4 # 12	2 # 10	#8@125	>2000≤2500	115 X200	2 # 12+1#10	2 # 10	#8@125

Notes:-

[General]
(1) All dimensions are in m.m. unless otherwise mentioned
(2) Only figured dimensions are to be followed neither the bars shall be counted nor the dimensions scaled from the drg.
(3) Any discrepancy in the drgs shall be brought to the notice of the architect / consultant and clarification obtained in writing prior to execution of work.
(4) High yield strength deformed bars of yield stress 500 N/mm2 (fe-500) which shall conform to1786-1985 shall be used as reinforcement
(5) Clear cover of outer layer reinf. shall be as follows
(a) Foundation = 50 mm. (b) Column = 40 mm. (c) Beam = 35 mm (top & bottom) or dia of bar, whichever is more (d) Slab = 20 mm. (c) Waist slab = 20 mm.
(6) End/side cover of all reinforcement in beams & slab = 25 mm. or dia of bar whichever is more
(7) The cover block of cement mortar shall be used to ensure the requ. cover of reinf.
(8) Development length(Ld) for different dia meter of bars for conc. mix of grade M - 25 shall be =41 x dia of bar
(9) CONC. MIX FOR R.C.C. WORK SHALL BE OF GRADE M - 25 CONFORMING TO I.S. 456 - 2000
(10) Necessary fixture for electrical, plumbing, etc. shall be provided in slab, beams before execution as per relevant drgs.
(11) The structure has been designed for G.F.+4 =5 storey & seismic zone - IV
(12) All plain concrete & RCC shall be strictly in accordance with the provision of is - 456 2000 with IS - 2502 1968, IS - 5525 1969 & IS - 456 2000

[FOUNDATION]
(1) The layout of building shall be given from the arch. drg.
(2) The design data for foundation has been taken from soil test report provided by the dept./ client (S.B.C.=12.6T/SQM)
(3) Earth below foundation shall be properly rammed & consolidated before laying lean concrete

[COLUMNS]
(1) Ties in portion of col. & beam junction shall be same as end zone
(2) Over laps are allowed only at middle zone of the columns
(3) Not more than 50 % of bars shall be lapped at a section and laps shall be staggered
(4) Ties in portion of col. below plinth beam shall be same as end zone
(5) Vertical bars of rcc column at top slab shall be extended upto top of beam & bent into beam by development length

[BEAMS]
(1) For location of beams refer slab plan
(2) The spacing of stirrups at overlaps should not exceed 150 mm. c/c
(3) Where two layers of reinf. bars are to be provided, spacer bar are to be provided at spacing 1000 mm. and the dia of the spacer bar shall be higher of dia of longitudinal bars or 25 mm.
(4) Max. 4 nos. of bars shall be provided in a layer of 300 mm wide beam.
(5) At the junction of two diff. number of beams the higher reinf. at the support shall be adopted.
(6) Over lap in top bars shall be near mid span & in bottom bars shall be near support or at support.
(7) The depth of beam/lintel monolithic with slab as specified in schedule shall be inclusive of slab thickness unless otherwise specified
(8) Hooks in stirrups of beams shall be bent inside at 135° & length of hooks shall be 10 x dia of bar of stirrups

[SLABS]
(1) For slab reinforcement refer table-4 (detail of slab reinforcement)
(2) Alternate bottom bars shall be cranked at l / 7 of span and extended upto l/3 in adjacent slab panel as shown in typ. section of slab
(3) Extra bar of same dia of slab bars shall be provided at top face in between two crancked bars as shown in typ. section of slab
(4) The cross reinf. / temp. reinf. below top reinf of slab i.e #8@300c/c is to be provided just below the main top steel as shown in typ. sec of slab
(5) The first main bar of slab shall be placed at 80 mm.

[MASONRY WORK]
(1) 100 th block wall -1:4 cement: sand mortar shall be used & #8,1 nos. bars at every 4th course shall be provided
(2) 200 th & 300 th block wall - 1:6 cement: sand mortar shall be used
(3) The vertical face of concrete at junction of wall & RCC member shall be raked to give a rough surface & 1:4 cement sand mortar should be applied to developed bond between brick & rcc member

This is to certify that the structural design is checked and found safe

29/3/13
(Dr. K. Narayan)
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References: IS 456 - 2000,IS - 13920, - 1993,IS - 1893 PART (1):2002,SP-16, SP-34
Arch. Drg. No. - All arch. drgs

REVISION			
S.N.	DATE	DESCRIPTIONS	INITIAL

PROJECT :
PROPOSED ADMINISTRATION AND ACADEMIC BLOCK AT UTTARAKHAND OPEN UNIVERSITY

DRG. TITLE:
DETAIL OF SLAB BEAM

DATE	APR-13	CONSTRUCTION AGENCY :	SHEET NO.
DRN.	Govind Singh		ST-05
CKD.	Er Omkar Verma		
TCD.			
SCALE	1:100	DRG. NO.	

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SPAN STRUCTURES
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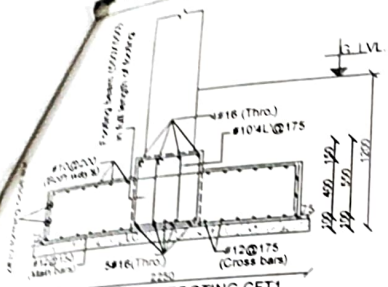
OF COMBINED FOOTINGS



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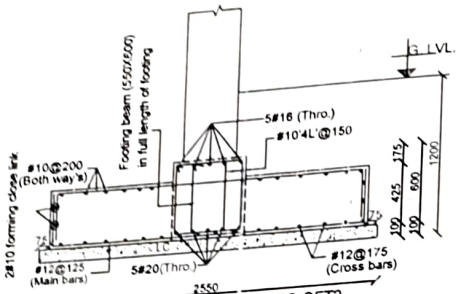
AT SEC. X1 - X1



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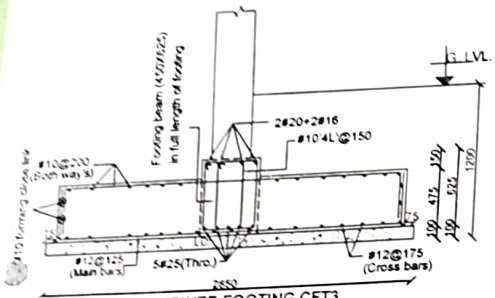

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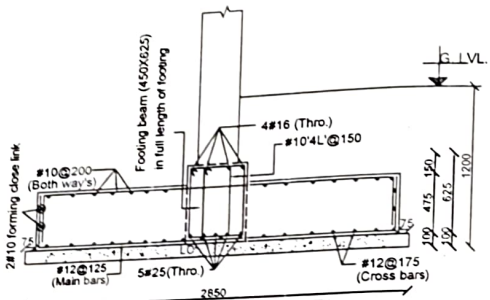

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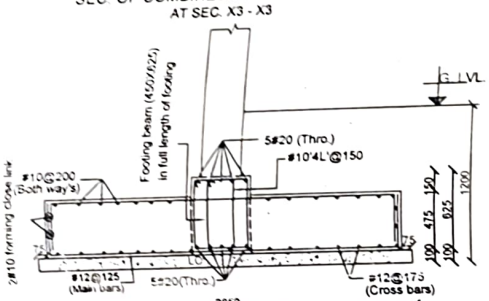

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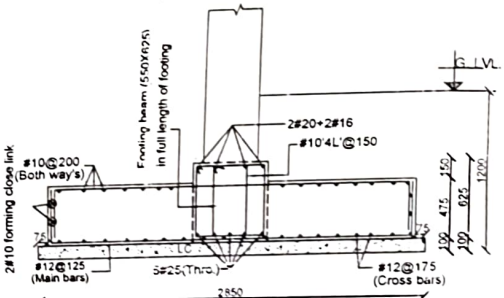
AT SEC. X5 - X5



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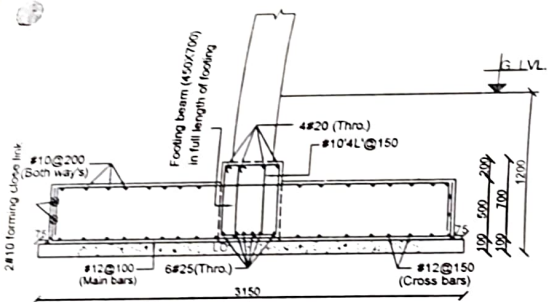

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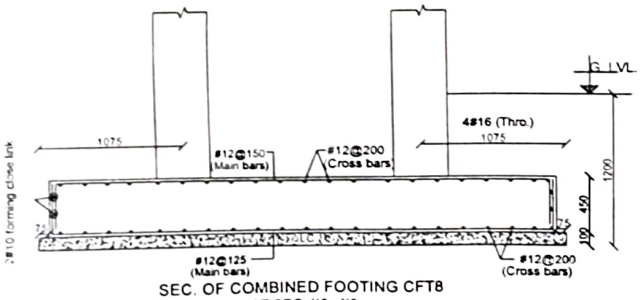
AT SEC. X7 - X7



SEC. OF COMBINED FOOTING CFT8
AT SEC. X8 - X8

Notes:-

[General]

(1) All dimensions are in m.m. unless otherwise mentioned.
(2) Only figured dimensions are to be followed neither the bars shall be counted nor the dimensions scaled from the drg.
(3) Any discrepancy in the drgs. shall be brought to the notice of the architect / consultant and clarification obtained in writing prior to execution of work.
(4) High yield strength deformed bars of yield stress 500 N/mm2 (fe-500) which shall conform to1786-1985 shall be used as reinforcement.
(5) Clear cover of outer layer reinf. shall be as follows.
(a) Foundation = 50 mm. (b) Column = 40 mm. (c) Beam = 35 mm (top & bottom) or dia of bar, whichever is more (d) Slab = 20 mm. (e) Waist slab = 20 mm.
(6) End/side cover of all reinforcement in beams & slab = 25 mm. or dia of bar, whichever is more.
(7) The cover block of cement mortar shall be used to ensure the reqd. cover of reinf.
(8) Development length(Ld) for different dia meter of bars for conc. m.
(9) CONC. MIX FOR R.C.C. WORK SHALL BE OF GRADE M - 25 CONFORMING TO I.S. 456 - 2000.
(10) Necessary fixture for electrical, plumbing, etc. shall be provided in slab, beams before execution as per relevant drgs.
(11) The structure has been designed for G.F.+4 =5 storey & seismic zone - IV.
(12) P.C.C (1:4:8) shall be provided.
(13) All plain concrete & RCC shall be strictly in accordance with the provision of is - 456 2000 with IS - 2502 1968 IS - 5525 1969 & IS - 456 2000.

[FOUNDATION]

(1) The layout of building shall be given from the arch. drg.
(2) The design data for foundation has been taken from soil test report provided by the dept/ client (SBC = 12 T/SQM).
(3) Earth below foundation shall be properly rammed & consolidated before laying lean concrete.

[COLUMNS]

(1) Ties in portion of col. & beam junction shall be same as end zone.
(2) Over laps are allowed only at middle zone of the columns.
(3) Not more than 50 % of bars shall be lapped at a section and laps shall be staggered.
(4) Ties in portion of col. below plinth beam shall be same as end zone.
(5) Vertical bars of rcc column at top slab shall be extended upto top of beam & bent into beam by development length.

[BEAMS]

(1) For location of beams refer slab plan.
(2) The spacing of stirrups at overlaps should not exceed 150 mm. c/c.
(3) Where two layers of reinf. bars are to be provided, spacer bar are to be provided at spacing 1000 mm. and the dia of the spacer bar shall be higher of dia of longitudinal bars or 25 mm.
(4) Max. 4 nos. of bars shall be provided in a layer of 300 mm wide beam.
(5) At the junction of two diff. number of beams the higher reinf. at the support shall be adopted.
(6) Over lap in top bars shall be near mid span & in bottom bars shall be near support or at support.
(7) The depth of beam/lintel monolithic with slab as specified in schedule shall be inclusive of slab thickness unless otherwise specified.
(8) Hooks in stirrups of beams shall be bent inside at 135° & length of hooks shall be 10 x dia of bar of stirrups.

[SLABS]

(1) For slab reinforcement refer table-4 (detail of slab reinforcement).
(2) Alternate bottom bars shall be cranked at 1/7 of span and extended upto l/3 in adjacent slab panel as shown in typ. section of slab.
(3) Extra bar of same dia of slab bars shall be provided at top face in between two cranked bars as shown in typ. section of slab.
(4) The cross reinf. / temp. reinf. below top reinf of slab i.e #8@300c/c is to be provided just below the main top steel as shown in typ. sec of slab.
(5) The first main bar of slab shall be placed at 50 mm.

[MASONRY WORK]

(1) 100 th block wall -1:4 cement sand mortar shall be used & #8,1 nos bars at every 4th course shall be provided.
(2) 200 th & 300 th block wall - 1:6 cement sand mortar shall be used.
(3) The vertical face of concrete at junction of wall & RCC member shall be raked to give a rough surface & 1:4 cement sand mortar should be applied to developed bond between brick & rcc member.

This is to certify that the structural design is [illegible] and safe

29/5/13

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Arch. Drg. No. - All arch. drgs

REVISION			
S.N.	DATE	DESCRIPTIONS	INITIAL

PROJECT :
PROPOSED ADMINISTRATION AND ACADEMIC BLOCK AT UTTARAKHAND OPEN UNIVERSITY

DRG. TITLE:
DETAIL OF COMBINED FOOTINGS

DATE	APR-13	CONSTRUCTION AGENCY :	SHEET NO.
DRN	Govind Singh		ST-04
CKD	Er Omkar Verma		
SCALE	1:100	DRG. NO.	

Architectural consultant-
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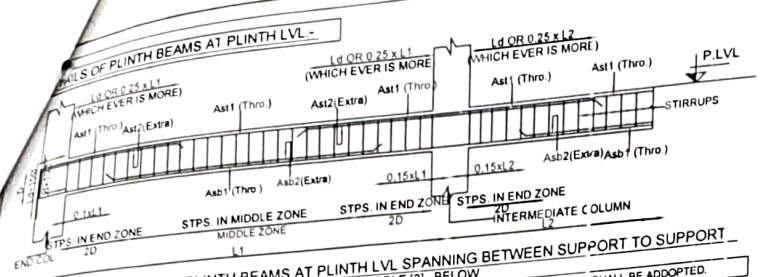
DETAILS OF PLINTH BEAMS AT PLINTH LVL :-



TYP REINF. DETAILS IN THE PLINTH BEAMS AT PLINTH LVL SPANNING BETWEEN SUPPORT TO SUPPORT

FOR DETAILS REFER TABLE [2] BELOW

NOTE : AT THE JUNCTION OF TWO DIFF. NUMBER OF BEAMS THE HEIGHER REINFORCEMENT AT THE SUPPORT SHALL BE ADDOPTED.

TABLE -2 DETAILS OF PLINTH BEAMS

SR. NO	PLINTH BEAM NO	BEAM SIZE		LONGITUDINAL REINFORCEMENT				STIRRUPS		SIDE FACE REINF. (ON EACH FACE)
				TOP FACE REINFORCEMENT		BOTTOM FACE REINFORCEMENT		END ZONE '2L'STPS	MIDDLE ZONE '2L'STPS	
		W mm	D mm	Ast1 (Thro at Top)	Ast2 (Extra at support)	Asb1 (Thro at Bottom)	Asb2 (Extra at middle)			
1	PB1	230	450	2#16	3#16	3#16	2#12	#8@100	#8@150	-
2	PB2	230	450	3#16	2#16	3#16	-	#8@100	#8@150	-
3	PB3	230	450	3#16	-	3#16	-	#8@100	#8@150	-
4	PB4	230	450	2#16	3#16	3#16	-	#8@100	#8@150	-

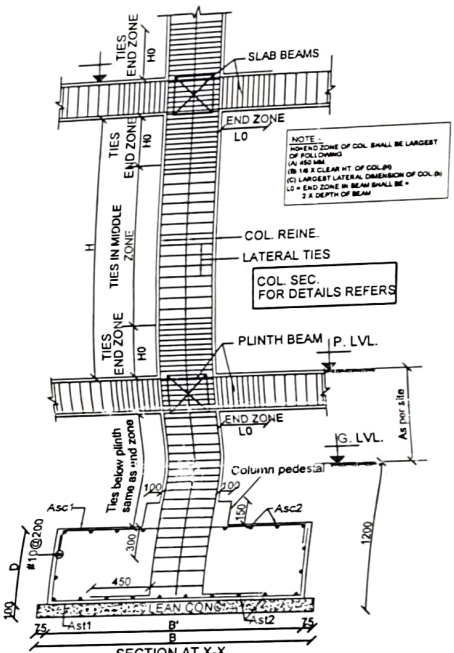


TABLE-1 DETAIL OF ISOLATED FOOTINGS

S. NO	FOOTING NO	TRENCH SIZE (A X B) (mmxmm)	FOOTING SIZE (A' X B') (mmxmm)	FOOTING BOTTOM FACE REINF.		FOOTING TOP FACE REINF.		D [mm] THICKNESS OF FOOTING
				Ast1	Ast2	Asc1	Asc2	
1	FT1	2250X2550	2100X2400	#12@150	#12@150	#8@225	#8@225	425
2	FT2	2550X2850	2400X2700	#12@125	#12@125	#8@200	#8@200	475
3	FT3	2850X2850	2700X2700	#12@100	#12@100	#8@200	#8@200	475
4	FT4	2850X3000	2700X2850	#12@100	#12@100	#8@175	#8@175	500

B.Tech (Civil), M.Tech (Struc.)
SPAN STRUCTURES
(CONSULTING STRUCTURAL ENGINEERS)
8/14, INDRA NAGAR, LUCKNOW (U.P.)

Notes:-

[General]

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(2) Only figured dimensions are to be followed neither the bars shall be counted nor the dimensions scaled from the drg.
(3) Any discrepancy in the drgs. shall be brought to the notice of the architect / consultant and clarification obtained in writing prior to execution of work.
(4) High yield strength deformed bars of yield stress 500 N/mm2 (fe-500) which shall conform to1786-1985 shall be used as reinforcement.
(5) Clear cover of outer layer reinf. shall be as follows. (a) Foundation = 50 mm. (b) Column = 40 mm. (c) Beam = 35 mm (top & bottom) or dia of bar, whichever is more (d) Slab = 20 mm. (e) Waist slab = 20 mm.
(6) End/side cover of all reinforcement in beams & slab = 25 mm. or dia of bar whichever is more.
(7) The cover block of cement mortar shall be used to ensure the reqd. cover of reinf.
(8) Development length(Ld) for different dia meter of bars for conc. mix of grade M - 25 shall be =41 x dia of bar.
(9) CONC. MIX FOR R.C.C. WORK SHALL BE OF GRADE M - 25 CONFORMING TO I.S. 456 - 2000.
(10) Necessary fixture for electrical, plumbing, etc. shall be provided in slab, beams before execution as per relevant drgs.
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(12) P.C.C (1:4:8) shall be provided.
(13) All plain concrete & RCC shall be strictly in accordance with the provision of is - 456 2000 with IS - 2502 1968, IS - 5525 1969 & IS - 456 2000.
(14) Cutting,bending,fixing & placing of bars shall be in accordance

[FOUNDATION]

(1) The layout of building shall be given from the arch. drg.
(2) The design data for foundation has been taken from soil test report provided by the dept./ client (S.B.C.=12.67S/QM).
(3) Earth below foundation shall be properly rammed & consolidated before laying lean concrete.

[COLUMNS]

(1) Ties in portion of col. & beam junction shall be same as end zone.
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Arch. Drg. No. - All arch. drgs

REVISION

S.N.	DATE	DESCRIPTIONS	INITIAL

PROJECT :
PROPOSED ADMINISTRATION AND ACADEMIC BLOCK AT UTTARAKHAND OPEN UNIVERSITY

DRG. TITLE:
DETAIL OF ISOLATED FOOTINGS & PLINTH BEAMS

DATE	APR-13	CONSTRUCTION AGENCY :	SHEET NO.
DRN.	Govind Singh		ST-03
CKD.	Er Omkar Verma		
TCD.			
SCALE	1:100	DRG. NO.	

architectural consultant-

DESIGN INCORPORATE
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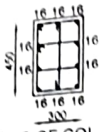
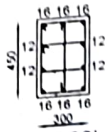
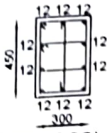
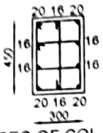
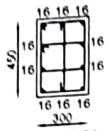
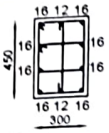
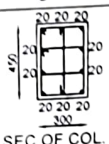
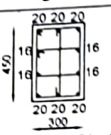
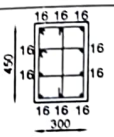
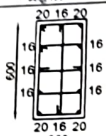
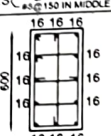
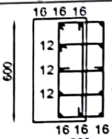
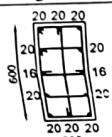
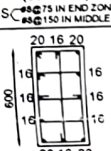
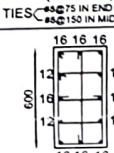
DETAIL OF COLUMNS REINFORCEMENT

A - COLUMN AT GROUND & FIRST FLOOR	B - COLUMN AT SECOND & THIRD FLOOR	C - COLUMN AT FOURTH FLOOR
 SEC.OF COL. C1 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C1 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C1 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE
 SEC.OF COL. C2 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C2 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C2 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE
 SEC.OF COL. C3 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C3 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C3 (300X450) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE
 SEC.OF COL. C4 (300X600) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C4 (300X600) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C4 (300X600) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE
 SEC.OF COL. C5 (300X600) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C5 (300X600) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE	 SEC.OF COL. C5 (300X600) TIES @8@75 IN END ZONE @8@150 IN MIDDLE ZONE

Notes:-

[General]

(1) All dimensions are in m.m. unless otherwise mentioned.
(2) Only figured dimensions are to be followed neither the bars shall be counted nor the dimensions scaled from the drg.
(3) Any discrepancy in the drgs shall be brought to the notice of the architect / consultant and clarification obtained in writing prior to execution of work.
(4) High yield strength deformed bars of yield stress 500 N/mm2 (fe-500) which shall conform to IS 1786- 1985 shall be used as reinforcement.
(5) Clear cover of outer layer reinf. shall be as follows.
(a) Foundation = 50 mm (b) Column = 40 mm (c) Beam = 35 mm (top & bottom) or dia of bar, whichever is more (d) Slab = 20 mm (e) Waist slab = 20 mm
(6) End side cover of all reinforcement in beams & slab = 25 mm or dia of bar, whichever is more
(7) The cover block of cement mortar shall be used to ensure the reqd. cover of reinf.
(8) Development length(Ld) for different dia meter of bars for conc. mix of grade M - 25 shall be =41 x dia of bar.
(9) CONC. MIX FOR R.C.C. WORK SHALL BE OF GRADE M - 25 CONFORMING TO I.S. 456 - 2000
(10) Necessary fixture for electrical, plumbing, etc. shall be provided in slab, beams before execution as per relevant drgs.
(11) The structure has been designed for G.F.+4 +5 storey & seismic zone - IV
(12) P.C.C (1:4:8) shall be provided.
(13) All plain concrete & RCC shall be strictly in accordance with the provision of is - 456 2000 with IS : 2502 1968, IS - 5525 1969 & IS - 456 2000

[FOUNDATION]

(1) The layout of building shall be given from the arch. drg.
(2) The design data for foundation has been taken from soil test report provided by the dept./ client (S.B.C.=12 8T/SQM)
(3) Earth below foundation shall be properly rammed & consolidated before laying lean concrete.

[COLUMNS]

(1) Ties in portion of col. & beam junction shall be same as end zone.
(2) Over laps are allowed only at middle zone of the column.
(3) Not more than 50 % of bars shall be lapped at a section and laps shall be staggered.
(4) Ties in portion of col. below plinth beam shall be same as end zone.
(5) Vertical bars of rcc column at top slab shall be extended upto top of beam & bent into beam by development length.

[BEAMS]

(1) For location of beams refer slab plan.
(2) The spacing of stirrups at overlaps should not exceed 150 mm c/c.
(3) Where two layers of reinf. bars are to be provided, spacer bar are to be provided at spacing 1000 mm, and the dia of the spacer bar shall be higher dia of longitudinal bars or 25 mm.
(4) Max 4 nos. of bars shall be provided in a layer of 300 mm wide beam.
(5) At the junction of two diff. number of beams the higher reinf. at the support shall be adopted.
(6) Over lap in top bars shall be near mid span & in bottom bars shall be near support or at support.
(7) The depth of beam/lintel monolithic with slab as specified in schedule shall be inclusive of slab thickness unless otherwise specified.
(8) Hooks in stirrups of beams shall be bent inside at 135° & length of hooks shall be 10 x dia of bar of stirrups.

[SLABS]

(1) For slab reinforcement refer table-4 (detail of slab reinforcement)
(2) Alternate bottom bars shall be cranked at l / 7 of span and extended upto l/3 in adjacent slab panel as shown in typ. section of slab.
(3) Extra bar of same dia of slab bars shall be provided at top face in between two cranked bars as shown in typ. section of slab.
(4) The cross reinf / temp. reinf. below top reinf of slab i.e #8@300c/c is to be provided just below the main top steel as shown in typ. sec of slab.
(5) The first main bar of slab shall be placed at 50 mm.

[MASONRY WORK]

(1) 100 th. block wall -1:4 cement sand mortar shall be used & #8,1 nos. bars at every 4th course shall be provided.
(2) 200 th & 300 th block wall - 1:6 cement sand mortar shall be used.
(3) The vertical face of concrete at junction of wall & RCC member shall be raked to give a rough surface & 1:4 cement sand mortar should be applied to developped bond between brick & rcc member.

This is to certify that the structural design is checked and found safe

29/5/13

(Dr. K. Narayan)
Ph.D.(Civil) IIT ROORKEE
Professor, Deptt Of Civil Engg.
Institue of Engineering & Techonology
Lucknow-226021

References: IS 456 - 2000,IS - 13920, - 1993,IS - 1893 PART (1):2002,SP-16, SP-34
Arch. Drg. No. - All arch. drgs

REVISION

S.N.	DATE	DESCRIPTIONS	INITIAL

PROJECT :
PROPOSED ADMINISTRATION AND ACADEMIC BLOCK AT UTTARAKHAND OPEN UNIVERSITY

DRG. TITLE:
DETAIL OF COLUMNS

DATE	APR-13	CONSTRUCTION AGENCY :	SHEET NO.
DRN.	Govind Singh		ST-02
CKD.	Er Omkar Verma		
TCD.			
SCALE	1:100	DRG. NO.	

architectural consultant:
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ARCHITECTS & INTERIOR DESIGNERS
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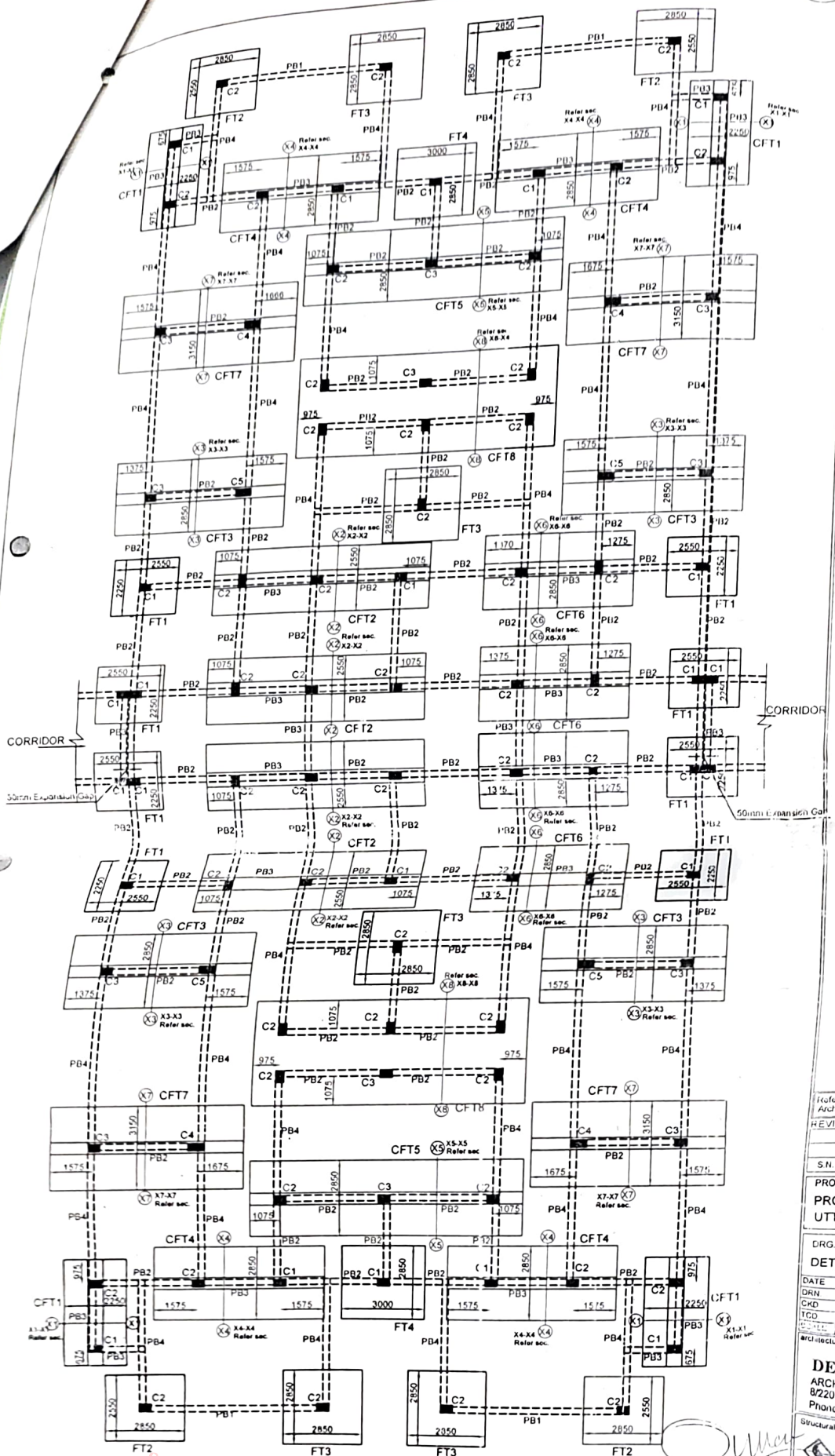

FOUNDATION PLAN

(Plan showing footing nos. , col. nos. & plinth beam nos.)

Notes:-

[General]

(1) All dimensions are in m.m. unless otherwise mentioned.
(2) Only figured dimensions are to be followed neither the lines shall be counted nor the dimensions scaled from the drg.
(3) Any discrepancy in the drgs. shall be brought to the notice of the architect / consultant and clarification obtained in writing prior to execution of work.
(4) High yield strength deformed bars of yield stress 500 N/mm2 (fe 500) which shall conform to IS1786: 1985 shall be used as reinforcement.
(5) Clear cover of outer layer reinf. shall be as follows
(a) Foundation = 50 mm (b) Column = 40 mm (c) Beam = 35 mm (top & bottom) or dia of bar, which ever is more (d) Slab = 20 mm (e) Waist slab = 20 mm
(6) End/side cover of all reinforcement in beams & slab = 25 mm or dia of bar, whichever is more
(7) The cover block of cement mortar shall be used to ensure the requ. cover of reinf.
(8) Development length (Ld) for different dia meter of bars for conc. mix of grade M - 25 shall be 41 x dia of bar.
(9) CONC. MIX FOR R.C.C WORK SHALL BE OF GRADE M - 25 CONFORMING TO I.S. 456 : 2000
(10) Necessary fixtures for electrical, plumbing, etc. shall be provided in slab, beams before execution as per relevant drgs.
(11) The structure has been designed for G.F.+4 storey & seismic zone - IV
(12) P.C.C. (1:4:8) shall be provided.
(13) All plain concrete & RCC shall be strictly in accordance with the provision of is - 456 2000
(14) Cutting bending,fixing & placing of bars shall be in accordance with IS - 2502:1966, IS - 5525:1969 & IS - 456:2000

[FOUNDATION]

(1) The layout of building shall be given from the arch. drg.
(2) The design data for foundation has been taken from soil test report provided by the deptt./ client (S.B.C.=12 MT/SQM)
(3) Earth below foundation shall be properly rammed & consolidated before laying lean concrete

[COLUMNS]

(1) Ties in portion of col. & beam junction shall be same as end zone.
(2) Over laps are allowed only at middle zone of the columns.
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(4) Ties in portion of col. below plinth beam shall be same as end zone.
(5) Vertical bars of rcc column at top slab shall be extended upto top of beam & bent into beam by development length.

[BEAMS]

(1) For location of beams refer slab plan.
(2) The spacing of stirrups at overlaps should not exceed 150 mm c/c.
(3) Where two layers of reinf. bars are to be provided, spacer bar are to be provided at spacing 1000 mm, and the dia of the spacer bar shall be higher of dia of longitudinal bars or 25 mm.
(4) Max. 4 nos. of bars shall be provided in a layer of 300 mm wide beam.
(5) At the junction of two diff. number of beams the higher reinf. at the support shall be adopted.
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(3) Extra bar of same dia of slab bars shall be provided at top face in between two crancked bars as shown in typ. section of slab.
(4) The cross reinf. / temp. reinf. below top reinf of slab i.e #@6.5cm/c is to be provided just below the main top steel as shown in typ. sec of slab.
(5) The first main bar of slab shall be placed at 80 mm.

[MASONRY WORK]

(1) 100 th block wall - 1:4 cement sand mortar shall be used & #@1 nos. bars at every 4th course shall be provided.
(2) 200 th & 300 th block wall - 1:6 cement sand mortar shall be used.
(3) The vertical face of concrete at junction of wall & RCC member shall be raked to give a rough surface & 1:4 cement sand mortar should be applied to developed bond between brick & rcc member.

This is to certify that the structural design is [illegible] and safe.

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References: IS 456 - 2000,IS - 13920, - 1993,IS - 1893 PART (1) 2002,SP-16, SP-34
Arch. Drg. No. - All arch. drgs

REVISION			
S.N.	DATE	DESCRIPTIONS	INITIAL

PROJECT :
PROPOSED ADMINISTRATION AND ACADEMIC BLOCK AT UTTARAKHAND OPEN UNIVERSITY

DRG. TITLE:
DETAIL OF FOUNDATION PLAN

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