

# CHART SHOWING DETAIL OF ISOLATED FOOTING REINFORCEMENT

			Footing to,roof level	longitudinal reinf.	Sectional plan with
	1. No.				
	F1		Name of footing		
	35 X 35		Name of column footing (bxd) (BXD)		
	135 X 135		Size of footing (BXD)		
	35 X 35   135 X 135   145 X 145		(B1XD1)	pit	Size of
	30		Thickness of footing T2		
	25		d-eff.		
	20		7		
	25 20 8Ø @ 175mm C/C 8Ø @ 175mm C/C		Spacing of reinf. parallel to x-x		
	8Ø @ 175mm C/C			parallel to y-y	Spacing of reinf.

No.

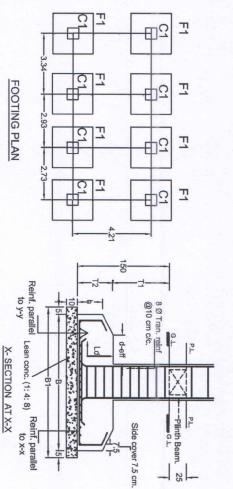
Column

Transverse reinforcement

-

2

8Ø@ 150mm C/C "B" 8Ø @100mm C/C "A"



Refer is 13920:2016 for following detail :-

All Column Size are 35cm x 35cm and Grade is M20

4-16Ø + 4-12Ø

"A"=Closer ties=Spacing of hoops

"B"=Spacing of hoops

Sc=Special confining reinf hc=Floor height.

60

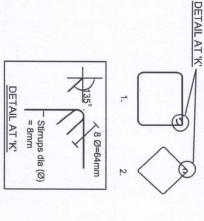
HIIII III III III III

>hc/4

SHAPE OF STIRRUPS

Ld+(10xdia of bar)

L Joint reinf



≥hc/4

Hamirpur -177005 (H.P.) National Institute of Technology Department of Civil Engineering Assistant Professor Dr. Hemant Kumar Vinayak Answer My

TYPICAL SKETCH AT COLUMN JUNCTION SHOWING SPLICES AND REINFORCEMENT DETAIL IN COLUMNS

COLUMN

four sides confining reinft. Confined joint with beams framing into

Ties

\_d+(10Xdia of bar)

2111111

60 H

Special confining reinft Transverse reir

Transverse

-4

The state of the s Lean conc. (1: 4: 8) (P)×

Associate Professor (Structural Engg. Pardeep Kumar DETAIL OF ISOLATED FOOTING PLAN (VIEW AT A-A) FLAT ROOF ZONE IV **OPTION 2** PMAY HFA BUILDING BUILDING NAME: DESIGNED BY:

- All dimensions are in cm,unless wherever specified diameter of the bars shown in mm.
- Dimensions are not to be scaled out, only written dimensions may be taken as correct.
- Safe bearing capacity for design of footing is considered at 15 T/m² to be ensured at site.
- Grade of concrete M:20.
- The reinforcement shall be of high strength deformed steel bars conforming to IS:1786-2008. conforming
- including stirrups:-Minimum clear cover to the reinforcement
- (i) Beam 25 mm
- (ii) Column 40 mm (iii) Footing 50 mm
- Lap length and development length (La) (i) For 16 mm  $\emptyset$  = 800
- (iii) for 8 mm Ø = 400(ii) For  $12 \text{ mm } \emptyset = 600$
- The concrete shall be mechanically mixed and vibrated with water- cement ratio not exceeding 0.55.
- Incase the proposed building is at probable landslide prone area the soil should be retained properly with adequate retaining wal to prevent differential settlement of the foundation.
- Any discrepancy in the structural drawing should be correlated with architectural drawing

# Z-IV/DWG-2 DRG. No. - NIT/CED/2017/OP-2-RCC-FR

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REINFORCED CONCRETE

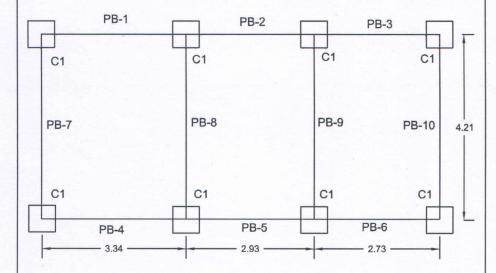
# DETAIL OF FOOTINGS & CLOUMN

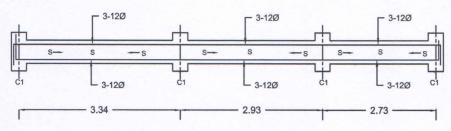
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Oivil Engineering Department NIT, Hamirpur (H.P.)-177005

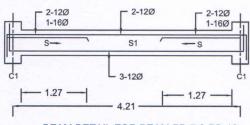
# DETAILED DRAWING OF REINFORCEMENT OF BEAMS AT PLINTH LEVEL

S - 8 mm dia bars @ 100 mm c/c

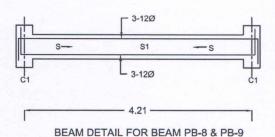




BEAM DETAIL FOR BEAM PB-1 to PB-6



BEAM DETAIL FOR BEAM PB-7 & PB-10



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Dr. Hemant Kumar Vinayak Assistant Professor Department of Civil Engineering National Institute of Technology, Hamirpur -177005 (H.P.)

### NOTES:

- All dimensions are in meters, unless wherever specified diameter of the bars shown in mm.
- Dimensions are not to be scaled out, only written dimensions may be taken as correct.
- Size of Beam is 250 X 250 mm.
- Grade of concrete shall be M20.
- All reinforcement shall be of grade
   Fe 415 confirming to IS:1786-2008.
- Clear Cover to reinforcement shall be 25 mm.
- Bending and fixing of reinforcement shall be as per is:2502-1963.
- Lap length and anchorage length shall be 57 times the bar diameter
- Further refer notes from the drawing of 'Detail of footings'.

DRG. No. - NIT/CED/2017/OP-2-RCC-FR Z-IV/DWG-3

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BUILDING NAME:
PMAY HFA
OPTION 2
REINFORCED CONCRETE
BUILDING
FLAT ROOF
ZONE IV

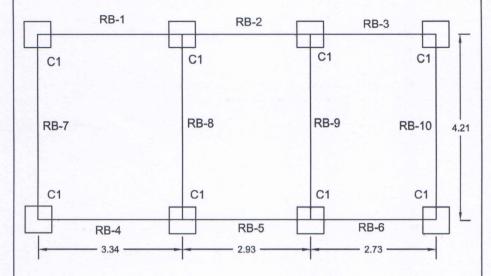
**DETAIL OF PLINTH BEAM** 

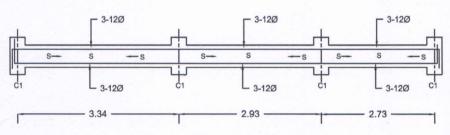
DESIGNED BY: Dr. Pardeep Kumar Dr. Hemant Kumar Vinayak

Dr. Partieep Kumar
Associate Professor (Structural Engg.)
Civil Engineering Department
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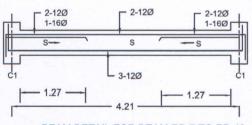
# DETAILED DRAWING OF REINFORCEMENT OF BEAMS AT ROOF LEVEL

S - 8 mm dia bars @ 100 mm c/c





BEAM DETAIL FOR BEAM RB-1 to RB-6



BEAM DETAIL FOR BEAM RB-7 TO RB-10

### NOTES:

- All dimensions are in meters, unless wherever specified diameter of the bars shown in mm.
- Dimensions are not to be scaled out, only written dimensions may be taken as correct.
- · Size of Beam is 250 X 250 mm.
- Grade of concrete shall be M20.
- All reinforcement shall be of grade Fe 415 confirming to IS:1786-2008.
- Clear Cover to reinforcement shall be 25 mm.
- Bending and fixing of reinforcement shall be as per is:2502-1963.
- Lap length and anchorage length shall be 57 times the bar diameter
- Further refer notes from the drawing of 'Detail' of footings'.

DRG. No. - NIT/CED/2017/OP-2-RCC-FR Z-IV/DWG-4

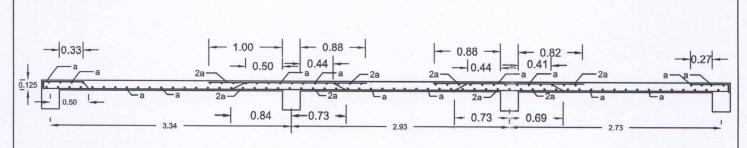
NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR

BUILDING NAME:
PMAY HFA
OPTION 2
REINFORCED CONCRETE
BUILDING
FLAT ROOF
ZONE IV

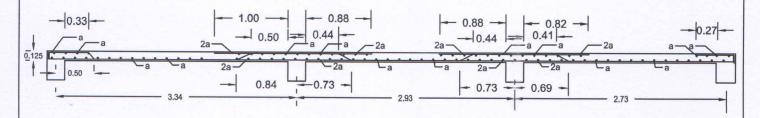
**DETAIL OF ROOF BEAM** 

DESIGNED BY: Dr. Pardeep Kumar Dr. Hemant Kumar Vinayak

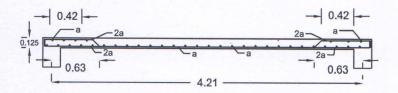
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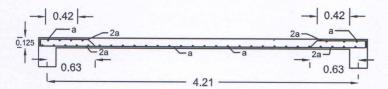
# Section 1-1



# Section 2-2



# Section 3-3



Section 4-4

- Clear cover for the slab should be 20mm.
- · All dimensions are in meter

# SCHEDULE OF BARS

a. 8 mm Ø @ 150 mm c/c

DRG. No. - NIT/CED/2017/PMAY -OP2-RCC-FR-ZIV/DWG-5

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR

BUILDING NAME: PMAY HFA OPTION 2 REINFORCED CONCRETE BUILDING FLAT ROOF ZONE IV

DRAWING TITLE: SLAB DETAILS

DESIGNED BY: Dr. Pardeep Kumar Dr. Hemant Kumar Vinayak

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