Schedule of Door & Windows

Name	Lintel	Width	Sill lvl	Description
D1	2.10	0.90	–	
D2	2.10	0.75	–	PVC DOOR
W1	2.10	2.00	0.90	
W2	2.10	1.50	0.90	
W3	2.10	1.40	1.20	
V	2.10	0.60	1.65	

NOTES:-

Clear height of DU = 2.85 m

* Earthquake resistance structure as per site condition

* All the Dimensions in m

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Floor plan labels

- KITCHEN 2.15X1.67
- W.C. 1.29X1.02
- BATH 2.15X1.06
- PASSAGE 0.90m. WIDE
- BED ROOM 2.81X2.96
- BED ROOM 2.56X3.98
- ENTRY

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

Sl. No.	Column	Transverse reinforcement	Sectional plan with longitudinal reinf.	Footing to,roof level
1.	C1	8Ø @100mm C/C "A" 8Ø@ 150mm C/C "B"		4-16Ø + 4-12Ø

35 × 35 — 4-16Ø + 4-12Ø

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

COLUMN

Closer Ties "A"
Closer Ties "A"
60, 60, 15, "B", 60, 60

Refer is 13920:2016 for following detail :-
"A"=Closer ties=Spacing of hoops
"B"=Spacing of hoops
hc=Floor height.
Sc=Special confining reinf.

Ld+(10Xdia of bar)

Special confining reinft
Transverse reinf.

Sc, Splice "A", Sc, Transverse reinf., Sc, hc
$>hc/4$
Confined joint with beams framing into all four sides confining reinf.
Ld+(10xdia of bar) Joint reinf.

CHART SHOWING DETAIL OF ISOLATED FOOTING REINFORCEMENT

Sr. No.	Name of footing	Size of column (bxd)	Size of footing (BXD)	Size of pit (B1XD1)	Thickness of footing T2	d-eff.	h	Spacing of reinf. parallel to x-x	Spacing of reinf. parallel to y-y
1.	F1	35 X 35	120X 120	130 X 130	30	25	20	8Ø @ 200mm C/C	8Ø @ 200mm C/C

FOOTING PLAN

F1 — C1 grid
3.34, 2.93, 2.73, 4.21

DETAIL AT 'K'

SHAPE OF STIRRUPS

1.
2.

35°
8 Ø=64mm
Stirrups dia (Ø) = 8mm

DETAIL OF ISOLATED FOOTING

PLAN (VIEW AT A-A)
D1, D, 5, 5, B1, B, 5, 5, Lean conc. (1:4:8), d, b, d-eff, d-eff

X-SECTION AT X-X

150, T2, T1
8 Ø Tran. reinf. @10 cm c/c
Reinf. parallel to y-y
Lean conc. (1:4:8)
Reinf. parallel to x-x
h, d-eff, Ld, 10
G.L., P.L., Plinth Beam, 25
Side cover 7.5 cm.
7.5
B1, B

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NOTES:-

- All dimensions are in cm,unless specified diameter of the bars shown in mm. wherever
- 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.
- Minimum clear cover to the reinforcement including stirrups:-
  (i) Beam 25 mm
  (ii) Column 40 mm
  (iii) Footing 50 mm
- Lap length and development length (Ld):-
  (i) For 16 mm Ø = 800
  (ii) For 12 mm Ø = 600
  (iii) for 8 mm Ø = 400
- 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 wall to prevent differential settlement of the foundation.
- Any discrepancy in the structural drawing, should be correlated with architectural drawing
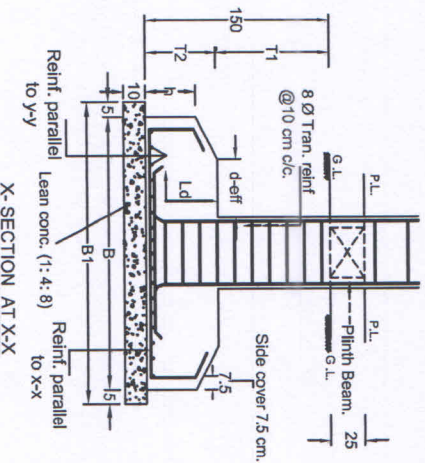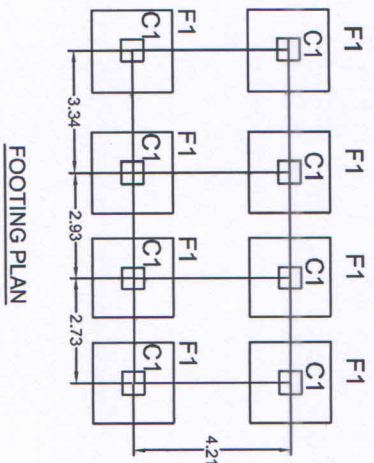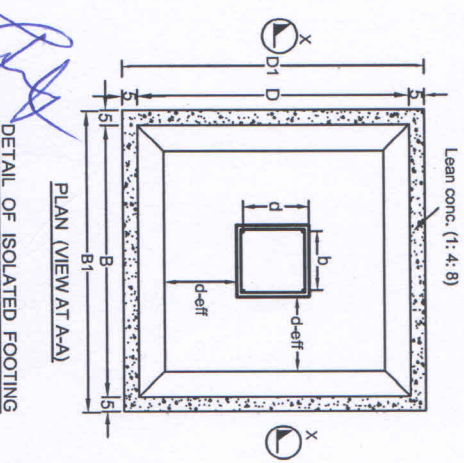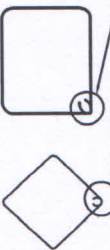
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DRG. No. - NIT/CED/2017/OP-2-RCC-SR Z-IV/DWG-2

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

DETAIL OF FOOTINGS & CLOUMN

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

DETAILED DRAWING OF REINFORCEMENT OF BEAMS AT PLINTH LEVEL / ROOF BEAM

S - 8 mm dia bars @ 100 mm c/c
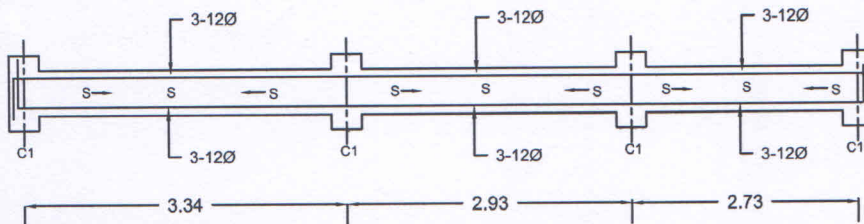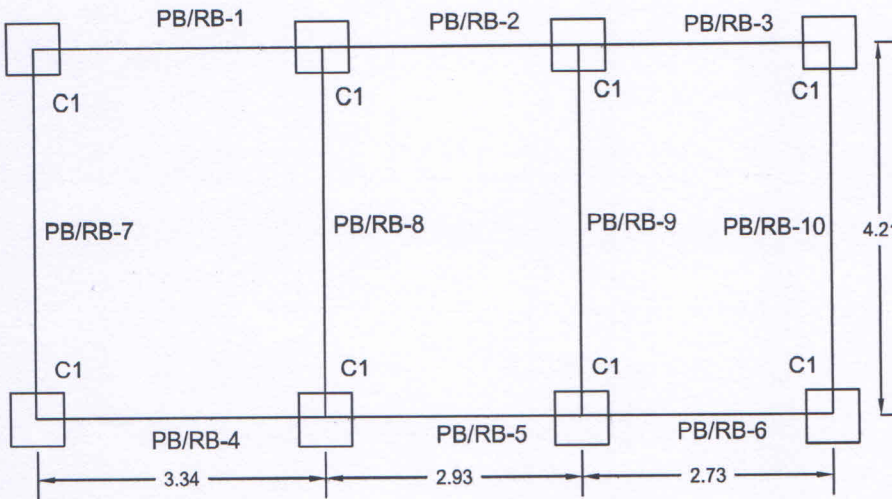
BEAM DETAIL FOR BEAM PB/RB-1 to PB/RB-6
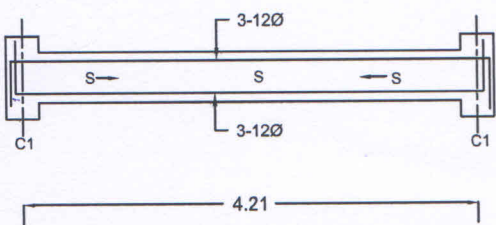
BEAM DETAIL FOR BEAM PB/RB-7 & PB/RB-10

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-SR Z-IV/DWG-3

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR

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

DETAIL OF PLINTH / ROOF BEAM

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

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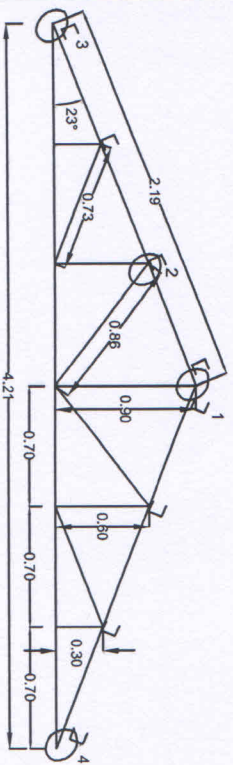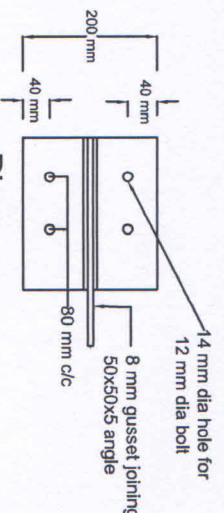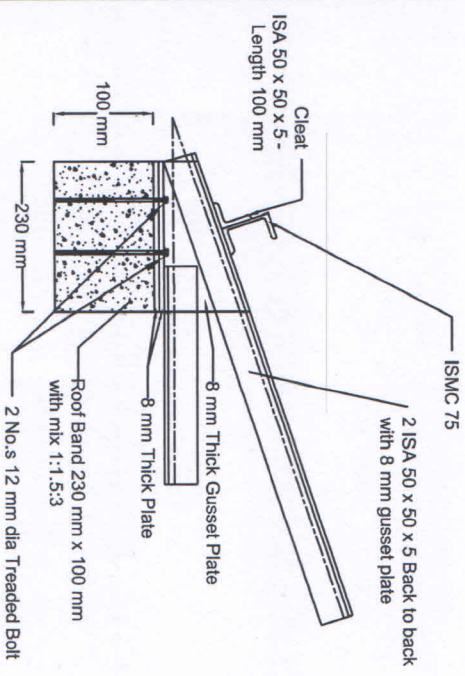National Institute of Technology,
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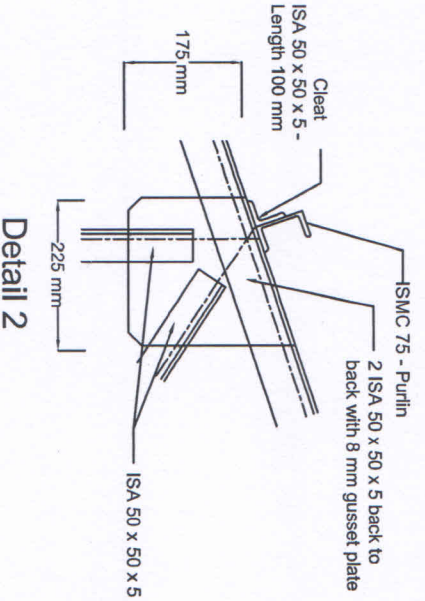Civil Engineering Department
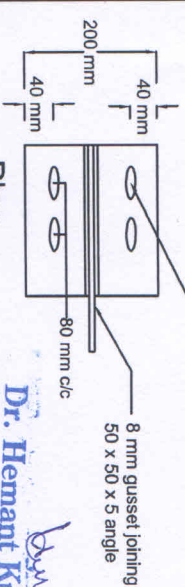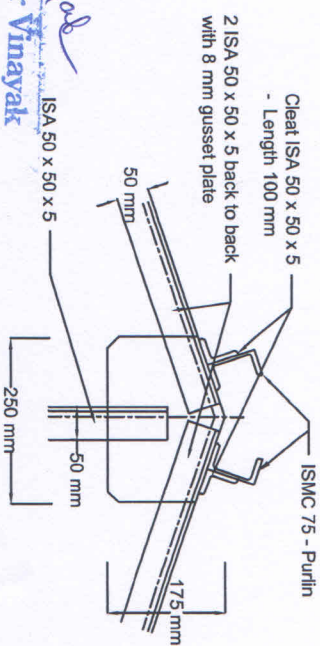NIT Hamirpur (H.P.) 177005

ELEVATION OF TRUSS

23°

2.19
0.73
0.86
4.21

0.70
0.90
0.60
0.70
0.30
0.70

1
2
3
4

Elevation
Detail 3

Cleat
ISA 50 x 50 x 5 -
Length 100 mm

2 ISA 50 x 50 x 5 Back to back
with 8 mm gusset plate

ISMC 75

100 mm
230 mm

8 mm Thick Gusset Plate
8 mm Thick Plate
Roof Band 230 mm x 100 mm
with mix 1:1.5:3
2 No.s 12 mm dia Treaded Bolt

Plan
Detail 4

200 mm
40 mm
40 mm
80 mm c/c

8 mm gusset joining
50 x 50 x 5 angle

50 mm slot for 12 mm dia bolt

ISA 50 x 50 x 5

Detail 2

175 mm
225 mm

Cleat
ISA 50 x 50 x 5 -
Length 100 mm

ISMC 75 - Purlin

2 ISA 50 x 50 x 5 back to
back with 8 mm gusset plate

ISA 50 x 50 x 5

Plan
Detail 3

200 mm
40 mm
40 mm
80 mm c/c

14 mm dia hole for
12 mm dia bolt

8 mm gusset joining
50x50x5 angle

Detail 1

2 ISA 50 x 50 x 5 back to back
with 8 mm gusset plate

50 mm
50 mm
250 mm
175 mm

ISMC 75 - Purlin

NOTES:-

Sr.No.	
1.	All dimensions are in mm unless specified.
2.	Dimensions are not to be scaled out, only written dimensions may be taken as correct.
3.	Grade of concrete M:20.
4.	Any discrepancy in structural Drawings should be correlated with Architectural drawing.
5.	Scale : Not to scale
6.	Truss has been designed for 0.3m snow depth
7.	

TYPICAL DETAILS OF WELD LENGTH
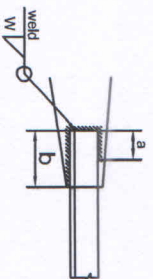
weld
W

ANGLE SIZE	WELD THK W. mm	a(mm)	b(mm)	GUSSET THk mm
L 50 x 50 x 5	6	50	90	8

NATIONAL INSTITUTE OF
TECHNOLOGY HAMIRPUR

DRG. No. - NIT/CED/2017/PMAY
-OP2-RCC-SR-ZIV/DWG-4

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

DRAWING TITLE:
CROSS SECTION OF TRUSS

DESIGNED BY:
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