

FLOOR PLAN DETAIL

Schedule of Door & Windows

Name	Lintel	Width	Sill lvl	Description
D1	2.10	0.90	--	PVC DOOR
D2	2.10	0.75	--	
W1	2.10	1.50	0.90	
W2	2.10	0.90	0.90	
V	2.10	0.60	1.65	

NOTES:-
 Clear height of DU = 2.85 m
 Chajja projection over windows is 450 mm .
 * All the Dimensions in m

NOTES:-

- All dimensions are in m, 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.
- Nominal mix concrete 1:1.5:3 according IS 456 Clause 9.3
- The reinforcement shall be of high strength deformed steel bars conforming to IS:1786-2008
- Second class brick must be used
- Mortar 1:5 according to Table 3 IS 4326-2013
- All walls are one Brick Thick Masonry walls or Autoclaved Aerated Block of Class 7.5
- Any discrepancy in the structural drawings should be correlated with architectural drawing.
- Refer DWG-2 to DWG-6 for earthquake resistance and structural detail.

DRG. No. - NIT/CED/2017/PMAY-OP1-RCC-SR-ZIV/DWG-1

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR

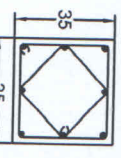
BUILDING NAME:
 PMAY HFA
 OPTION 1
 RCC BUILDING
 SLOPING ROOF
 ZONE IV

DRAWING TITLE:
 FLOOR PLAN

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

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

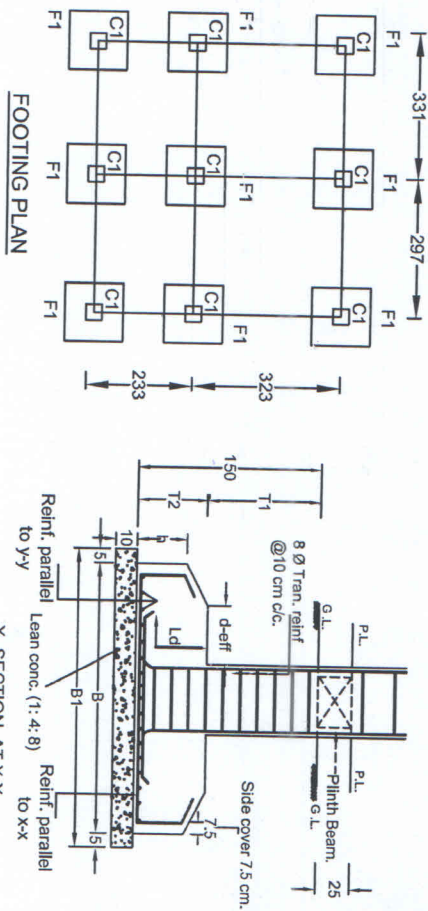
Dr. Pardeep Kumar
 Associate Professor (Structural Engg.)
 Civil Engineering Department
 NIT, Hamirpur (H.P.)-177005

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"	

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

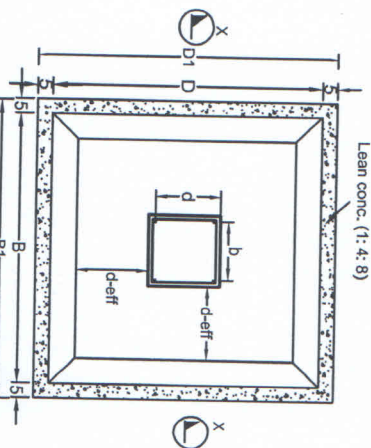
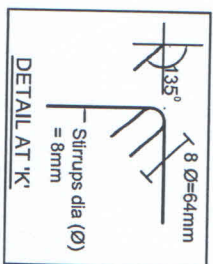
CHART SHOWING DETAIL OF ISOLATED FOOTING REINFORCEMENT

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	120 X 120	130 X 130	30	25	20	8Ø @ 200mm C/C	8Ø @ 200 mm C/C



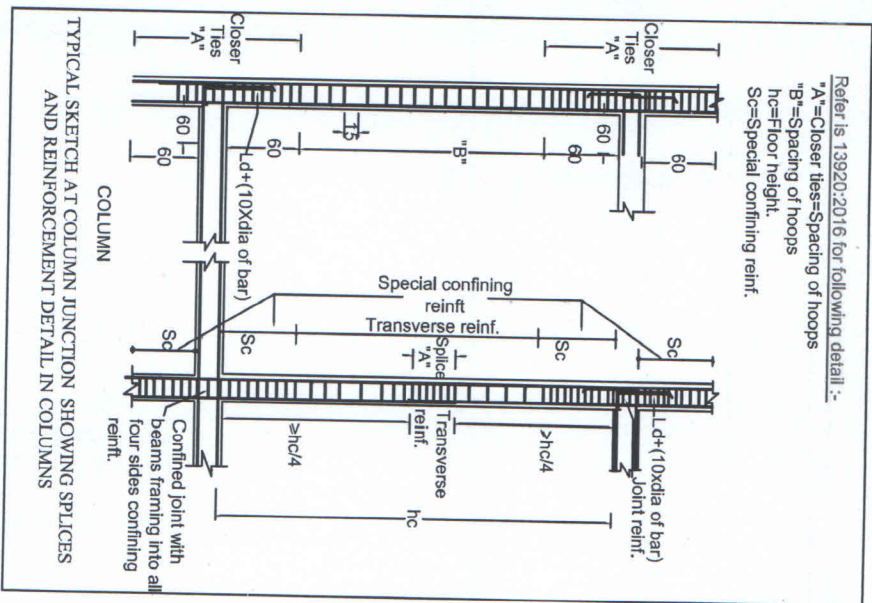
SHAPE OF STIRRUPS

1. 2.



DETAIL OF ISOLATED FOOTING

PLAN (VIEW AT A-A)



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

NOTES:-

- All dimensions are in cm, unless otherwise specified diameter of the bars shown in mm.
- Dimensions are not to be scaled out, only written dimensions may be taken as correct.
- See 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 (L_d)
 - (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

DRG. No. - NIT/CED/2017/OP-1 RCC-SR Z-IV/DWG-2

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR

BUILDING NAME :
PMAY HFA
OPTION I
RCC BUILDING
SLOPING ROOF
ZONE IV

DETAIL OF FOOTINGS & COLUMN

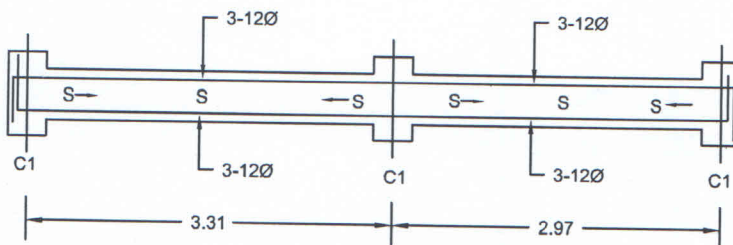
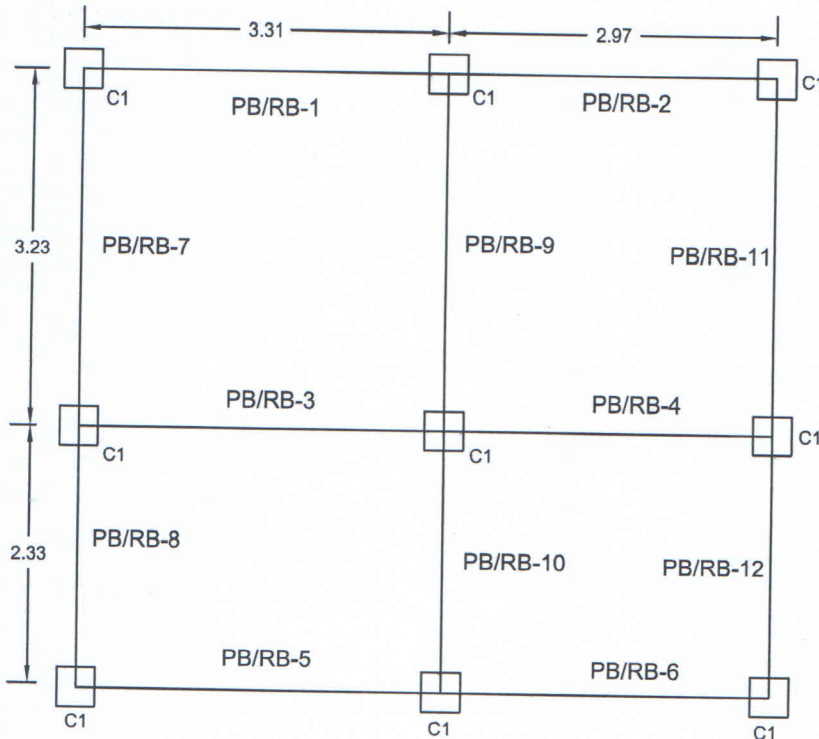
DESIGNED BY:
Dr. Pardeep Kumar
Dr. Hemant Kumar Vinayak

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

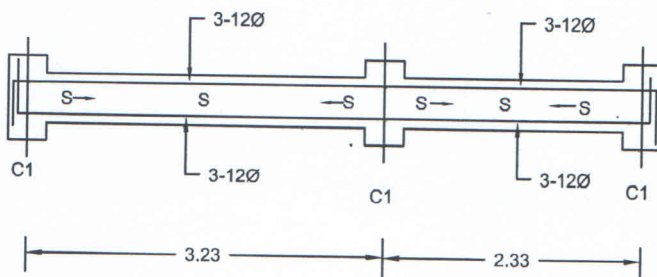
Dr. Pardeep Kumar
Associate Professor (Structural)
Civil Engineering Department
NIT, Hamirpur (H.P.)-177005

DETAILED DRAWING OF REINFORCEMENT OF BEAMS AT PLINTH LEVEL

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



DETAIL FOR BEAM PB-1 to PB-6



DETAIL FOR BEAM PB-7 to PB-12

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-1 RCC-SR Z-IV/DWG-3

**NATIONAL INSTITUTE OF
TECHNOLOGY HAMIRPUR**

**BUILDING NAME :
PMAY HFA
OPTION 1
RCC BUILDING
SLOPING ROOF
ZONE IV**

DETAIL OF PLINTH BEAM

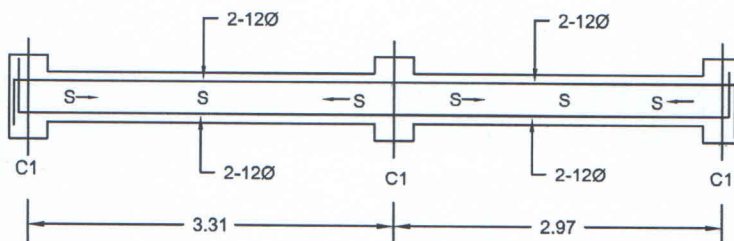
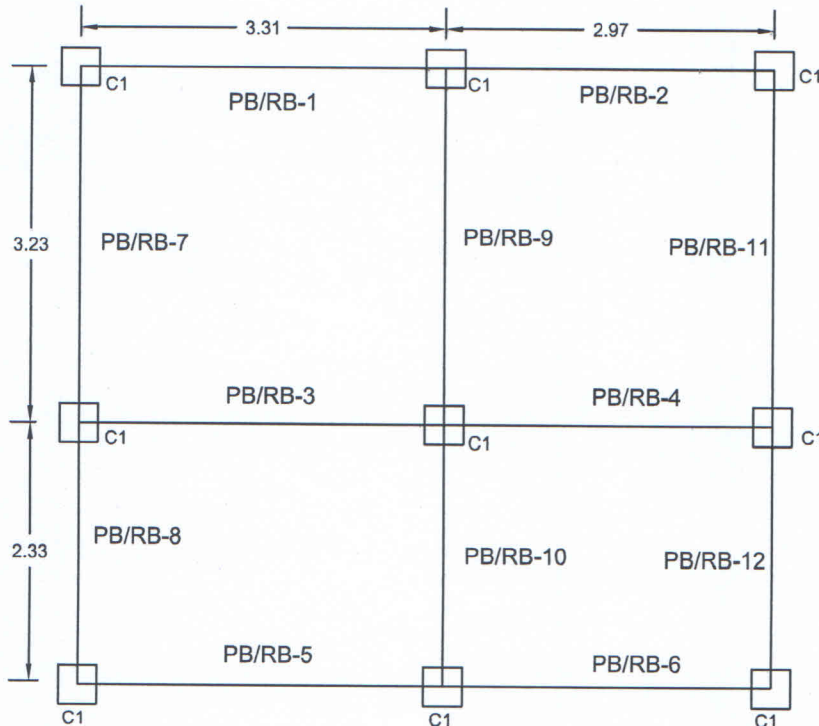
**DESIGNED BY:
Dr. Pardeep Kumar
Dr. Hemant Kumar Vinayak**

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

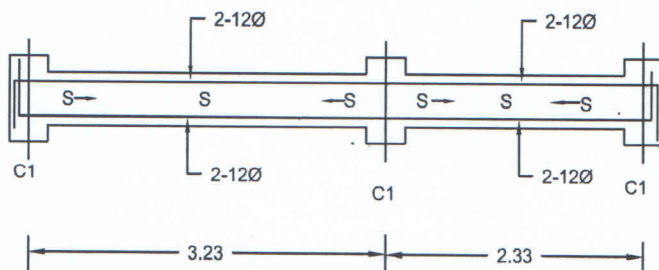
Dr. Pardeep Kumar
Associate Professor (Structural Engg.)
Civil Engineering Department
NIT, Hamirpur (H.P.)-177005

DETAILED DRAWING OF REINFORCEMENT OF BEAMS AT ROOF LEVEL

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



DETAIL FOR BEAM RB-1 to RB-6



DETAIL FOR BEAM RB-7 to RB-12

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-1 RCC-SR Z-IV/DWG-4

**NATIONAL INSTITUTE OF
TECHNOLOGY HAMIRPUR**

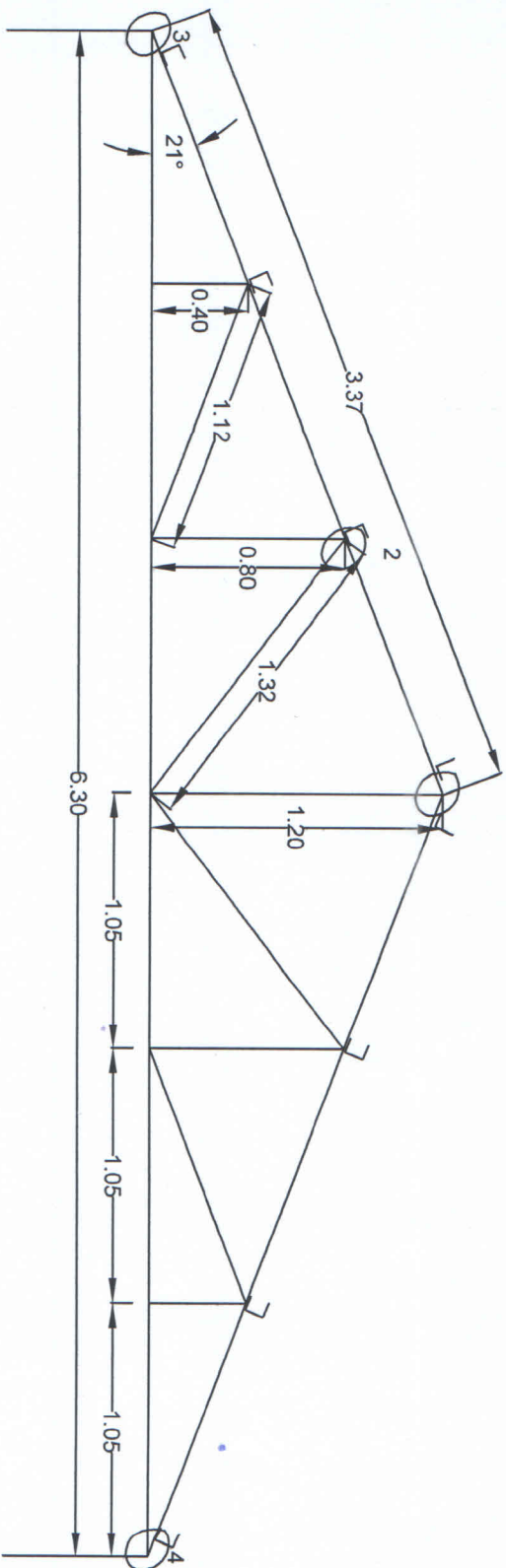
**BUILDING NAME :
PMAY HFA
OPTION 1
RCC BUILDING
SLOPING ROOF
ZONE IV**

DETAIL OF 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,
Hamirpur -177005 (H.P.)

Dr. Pardeep Kumar
Associate Professor (Structural Engg.)
Civil Engineering Department
NIT, Hamirpur (H.P.)-177005

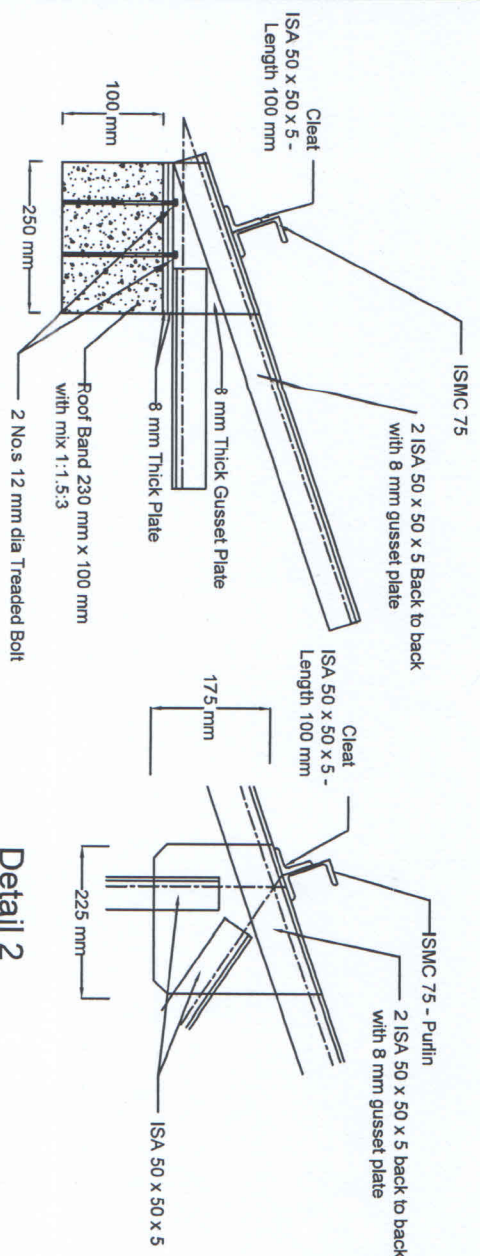


ELEVATION OF TRUSS

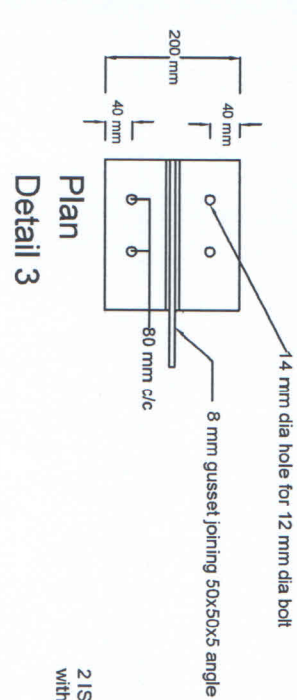
	<p>DRG. No. - NIT/CED/2017/ PMAY -OP1-RCC-SR-ZIV/ DWG-5</p>
<p>NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR</p>	<p>BUILDING NAME: PMAY HFA OPTION 1 RCC BUILDING SLOPING ROOF ZONE IV</p>
<p>DRAWING TITLE: ELEVATION OF TRUSS</p>	<p>DESIGNED BY: Dr. Pardeep Kumar Dr. Hemant Kumar Vinayak</p>

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

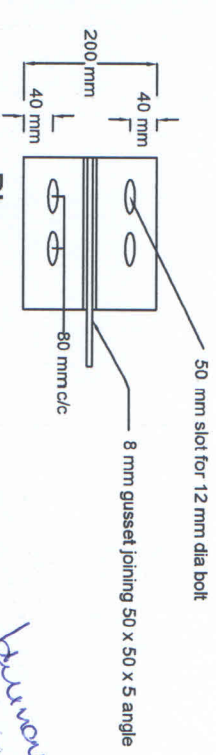
Dr. Pardeep Kumar
Associate Professor (Structural Engg.)
Civil Engineering Department
NIT, Hamirpur (H.P.)-177005



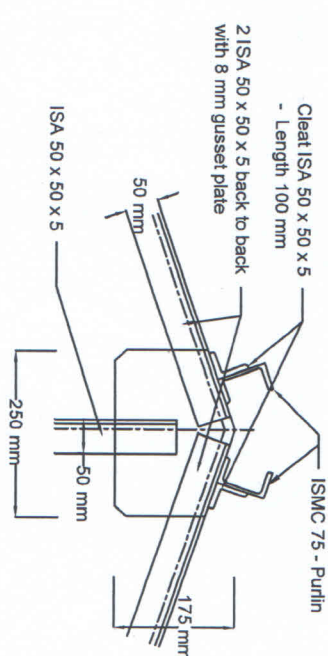
**Elevation
Detail 3**



**Plan
Detail 3**



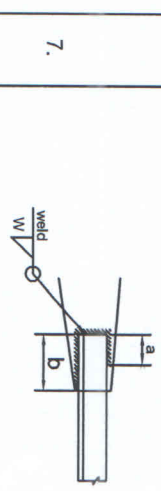
**Plan
Detail 4**



Detail 1

Sr.No. NOTES:-

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



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

TYPICAL DETAILS OF WELD LENGTH

**DRG. No. - NIT/CED/2017/PMAY
-OP1-RCC-SR-ZIV/DWG-6**

**NATIONAL INSTITUTE OF
TECHNOLOGY HAMIRPUR**

**BUILDING NAME:
PMAY HFA
OPTION 1
RCC BUILDING
SLOPING ROOF
ZONE IV**

**DRAWING TITLE:
CROSS SECTION OF TRUSS**

**DESIGNED BY:
Dr. Pardeep Kumar
Associate Professor (Structural Engineering)
Dr. Hemant Kumar Vinayak**

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

Dr. Pardeep Kumar
Associate Professor (Structural Engineering)
Civil Engineering Department
NIT, Hamirpur (H.P.)-177005