

26 Oct 2020

To,
Director General
DNRE & HAREDA
Akshay Urja Bhawan, Sector 17, Panchkula



DCMRE/Bury
29.10.20

Sub: Submission of new set of improved / modified drawings of 'module mounting structures' - MMS for solar water pumps

CSE
SE/A
29.10.20

Ref: 1. EESL Tender No EESL / 06/ 2019-20 / KUSUM / SWPS/ Phase-1/ Off Grid / 192012030 dt 20.12.19, duly amended from time to time

2. Our Submission of drawings dated 01.06.2020

Po(SB)
29/10

3. Your Approval letter HAREDA/2020/Pumps/11/2821 dated 11.06.2020

Dear Sir,

This is in reference to above & earlier submitting drawings and subsequent approval to same by you; In our continuous R&D efforts to give quality products, we have made further improvements in design of structure to give it more strength. We shall be incorporating these with immediate effect. Certificate from BM college of Engineering towards evaluation of same attached for your record and reference along-with modified drawings.

Kind regards,

Yours sincerely,

for Solex Energy Ltd

For / Sachin Mulay
Project Head - KUSUM



- Encl: 1. BVM Engineering College Certificate
- 2. Detailed drawings of MMS of 9 and 10 modules / panels.

SOLEX ENERGY LIMITED

(Formerly known as SOLEX ENERGY PVT. LTD.)

Regd. Off. & Works : Plot No. 13104, Phase-1, H. M. Road, G.I.D.C. Vimal Vidyanagar-388 121, Dist. Anand (Gujarat) India
Toll Free No. : 1800 233 25298 • Tel. : +91 - 2692 - 230917 • Fax : +91-2692-231216 • Mob. : +91 94285 91750
Mail : solex14@gmail.com, sales@solex.in • Web : www.solex.in
CIN : U01062GJ2014PLCO000006 • GST No. : 24AAVCS0328R12N • PAN No. : AAVCS 0328 R

Mfg. of: SPV Module, Solar Rooftop Systems, Solar Power Plants, Solar Pumping Systems and Solar Lighting Systems.



Charutar
Principal



Birla Vishvakarma Mahavidyalaya
BVM Engineering College
An Autonomous Institution
(Managed by Charutar Vidya Mandal)

10th Aug 2020

Estd. : 1948

Solex Energy Ltd *NO F/71/926*
Plot no -131/A, Phase -1
H.M. Road, GIDC,
Vitthal Udyognagar
Anand, Gujarat -388121



Sub : Evaluation of Module Mounting Structure

Dear Sir,

Further to our Reprot Nos F/38/052 dt 18/03/2020 and NO: F/38/053 dt 20/05/2020, we have reviewed the following new / revised drawings:

1.	4 MMS	SMP SM 1220.10
2.	6 MMS	SMP SM 1219.10
3.	9 MMS	SMP SM 1216 .10
4.	10 MMS	SMP SM 1217.10

The above drawings are an improved version of the following previous drawings, reviewed by us vide our earlier reports referred above.

1.	4 MMS	SMP SM 1220
2.	6 MMS	SMP SM 1219
3.	9 MMS	SMP SM 1216
4.	10 MMS	SMP SM 1217

The improvements in the new / revised drawings are as follows:

- Centre pipe, where a single pipe of full 1845 mm length is incorporated in the new / revised drawing, having the piling design, has higher bending moment as compared to the previous drawing version.
- Top head rotation, incorporated in the new / revised drawing, for movement of panels from East to West, requires lower force to rotate as compared to the previous drawing, where the rotation is from the bottom of centre pipe.
- Civil works dimensions of the foundation are as per the details provided in the tender No EESL / 06 / 2019-20/ KUSUM/ SWPS/ Phase-1/ Off Grid/ 192007012 dt 18-07-2019.



[Signature]
Prof. Vishalkumar B. Patel
Assistant Professor
Structural Engg. Department
B.V.M. Engineering College,
V. V. Nagar-388120

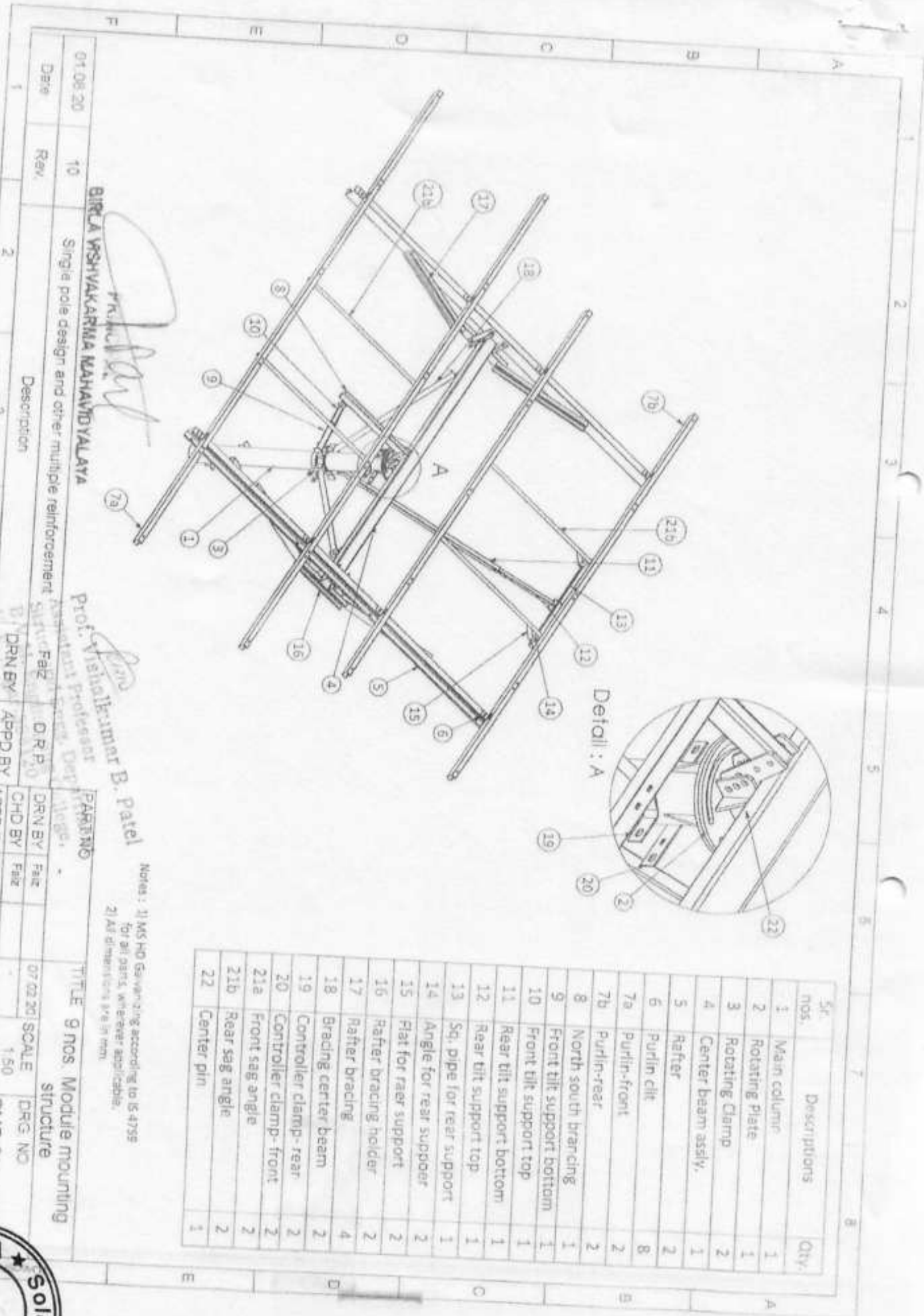
[Signature]
PRINCIPAL
BIRLA VISHVAKARMA MAHAVIDYALAYA

P.O Box No: 20, Vallabh Vidyanagar, Gujarat - 388120

Ph. No: (O) (02692) 230104, (P) (02692) 236672

Visit us: www.bvmengineering.ac.in

Email: principala@bvmengineering.ac.in



Sr. nos.	Descriptions	Qty.
1	Main column	1
2	Rotating plate	1
3	Rotating Clamp	2
4	Center beam assly.	1
5	Rafter	2
6	Purlin cilt	8
7a	Purlin-front	2
7b	Purlin-rear	2
8	North south bracing	1
9	Front tilt support bottom	1
10	Front tilt support top	1
11	Rear tilt support bottom	1
12	Rear tilt support top	1
13	Sq. pipe for rear support	1
14	Angle for rear support	2
15	Flat for raer support	2
16	Rafter bracing holder	2
17	Rafter bracing	4
18	Bracing center beam	2
19	Controller clamp- rear	2
20	Controller clamp- front	2
21a	Front sag angle	2
21b	Rear sag angle	2
22	Center pin	1

01.08.20
 10
 2
 3
 4
 5
 6

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BIRLA WSHVAKARMA MAHAVIDYALAYA

Prof. Vishal Kumar B. Patel
 Assistant Professor

Notes: 1) MS HD Galvanizing according to IS 4755
 for all parts, wherever applicable.
 2) All dimensions are in mm.

TITLE: 9 nos. Module mounting structure

DATE: 07.02.2018
 SCALE: 1:50
 DRG. NO: SMP-SM-1216
 (Sheet 1 of 17)

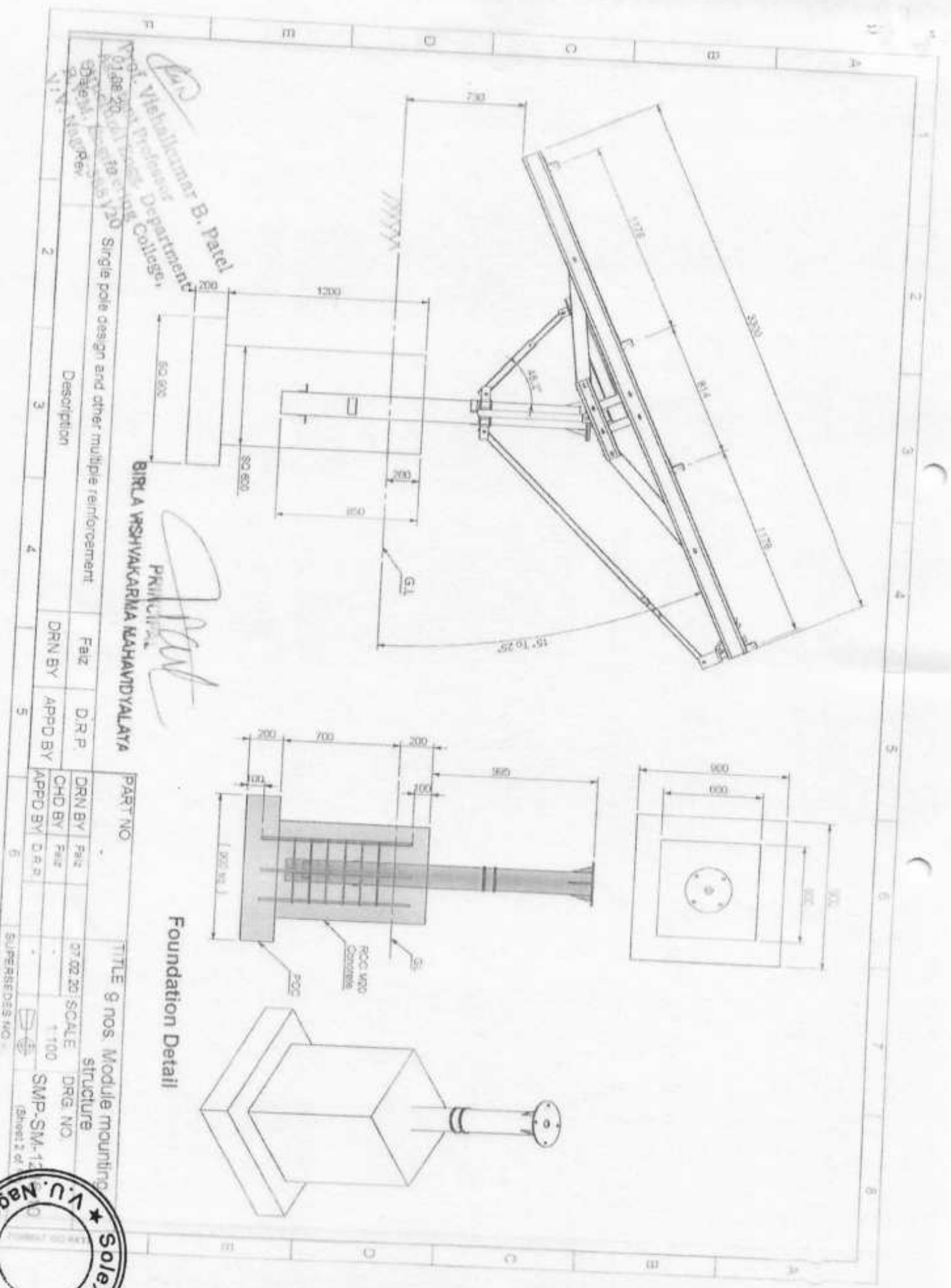
SUPERSSEDS NO.:



Prof. Vihallumar B. Patel
 Department of Mechanical Engineering
 V. U. Nagpur College

Pratik
 PRINICIPAL
 BIRLA VISHVAKARMA MAHAVIDYALAYA

01.08.20
 120
 Single pole design and other multiple reinforcement



Foundation Detail

DRN BY	FAIZ	DRN BY	FAIZ
CHD BY	FAIZ	APPD BY	DRP
APPD BY	DRP	APPD BY	DRP

TITLE 9 nos. Module mounting structure
 SCALE 1:100
 DRG. NO. SMP-SM-12
 (Sheet 2 of 2)



Sr. nos.	Descriptions	Qty.	Total weight (kgs.)	Material Grade	Reference standards
1	Main column	1	35.27		
2	Rotating Plate	1	7.9		IS:1161 & IS 2062
3	Rotating Clamp	1	3.2	E250	IS 2062
4	Center beam assly.	1	40.9		IS:4923, IS:2062 & IS:808
5	Rafter	2	41.44	E350	IS:2062 & IS:811
6	Purlin g/lr	8	2.16	E250	IS:2062
7a	Purlin-front	2	23.65	E350	IS:2062 & IS:811
7b	Purlin-rear	2	20.53		IS:2062 & IS:811
8	North south bracing	2	3.52		
9	Front tilt support bottom	1	1.83		
10	Front tilt support top	1	1.31		
11	Rear tilt support bottom	1	3.34	E250	IS:4923
12	Rear tilt support top	1	1.08		
13	Sq. pipe for rear support	1	2.75	E250	IS:4923, IS:2062 & IS:808
14	Angle for rear support	2	0.48		
15	Flat for rear support	2	0.36		
16	Rafter bracing holder	2	4.61		
17	Rafter bracing	4	15.55	E350	IS:2062 & IS:811
18	Bracing center beam	2	5.69		
19	Controller clamp- rear	2	1.00	E250	IS:1161
20	Controller clamp- front	2	0.88		IS:2062
21a	Front sag angle	2	3.84		
21b	Rear sag angle	2	3.84		
22	Center pin	1	227.14		
Approx. total weight:			227.14		
Galvanizing -7%			15.89		IS:1364
1	M16x50 bolt with 1-nut & 2-plain washer	4	0.42	SS-304	
2	M12x15 bolt with 1-nut & 2-plain washer	1	250.53		
3	M12x100 bolt with 1-nut & 2-plain washer	13			
4	M12x35 bolt with 1-nut & 2-plain washer	16	7.08	8.8 GI	
5	M12x30 bolt with 1-nut & 2-plain washer	4			
6	M12x30 bolt with 1-nut & 2-plain washer	24			
7	Center pin (EN9)	1			
8	Cotter pin for Ø 8mmx50 long	1			
9	M6x25 Anti theft nut bolt, SS-304 (Head OD Ø 15 mm)	35			
Approx. total weight of the structure			250.53		

BIRLA WSHYAKARIMA MAHAVIDYALAYA

PKINIPAL

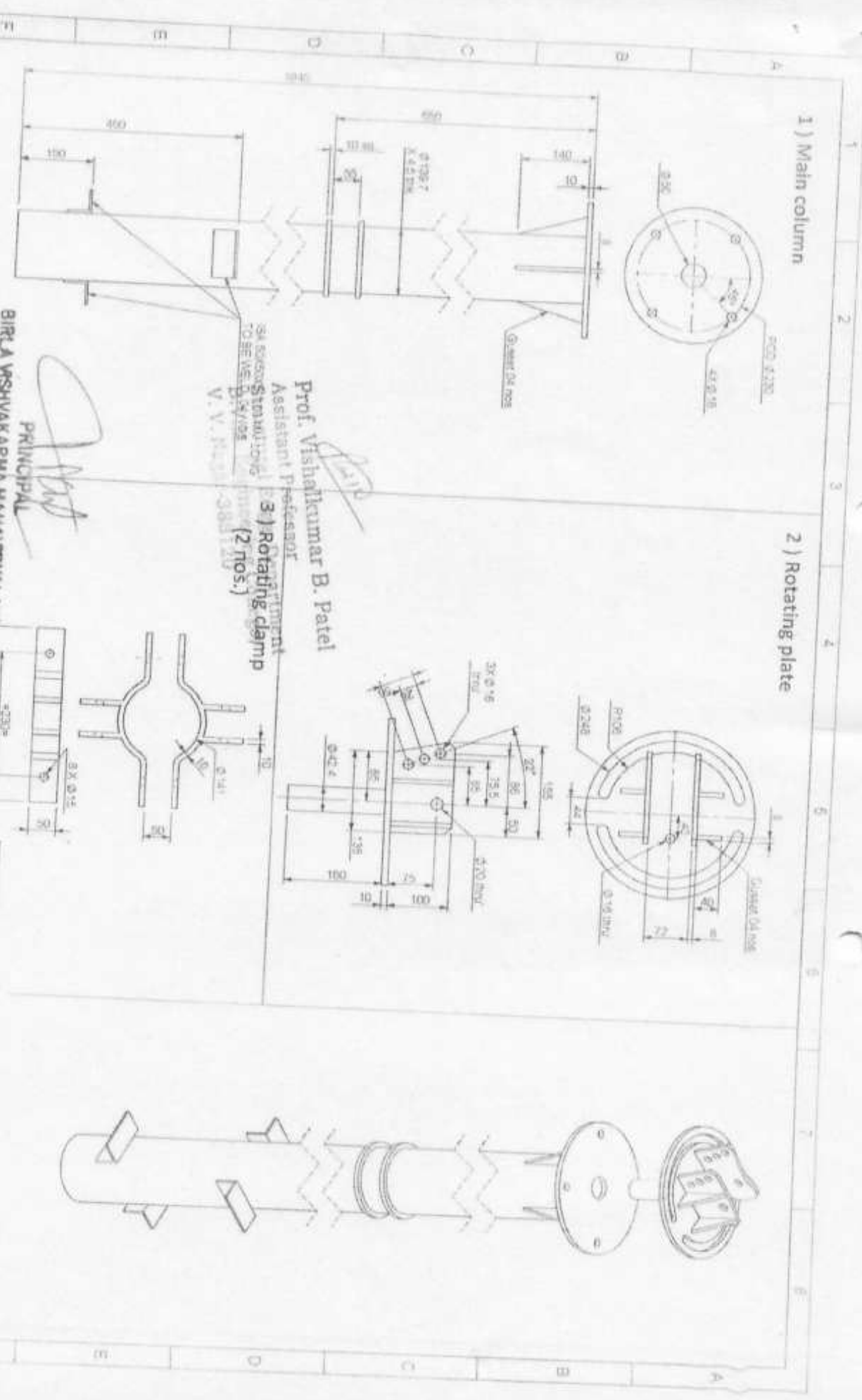
PART NO

TITLE 9 nos. Module mounting structure

Date	Rev	Description	DRN BY	APPD BY
01.08.20	19	Single pole design and other multiple reinforcement	DRN BY	APPD BY



Prof. Vishal Kumar B. Patel
Structure Department
V/1100
SMP-SM-1216.10
(Sheet: 4 of 17)



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BIRLA WSHVAKARMA MAHAVIDYALAYA

Prof. Vishalkumar B. Patel
 Assistant Professor
 Mechanical Engineering
 V. V. Nagar, Bhopal
 (2 nos.)
 (3) Rotating clamp

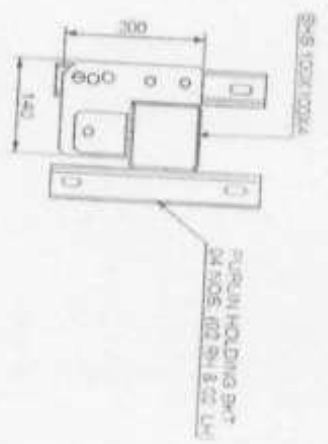
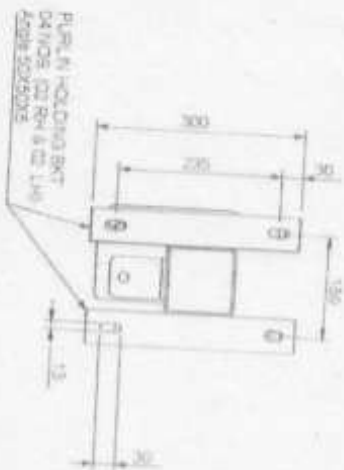
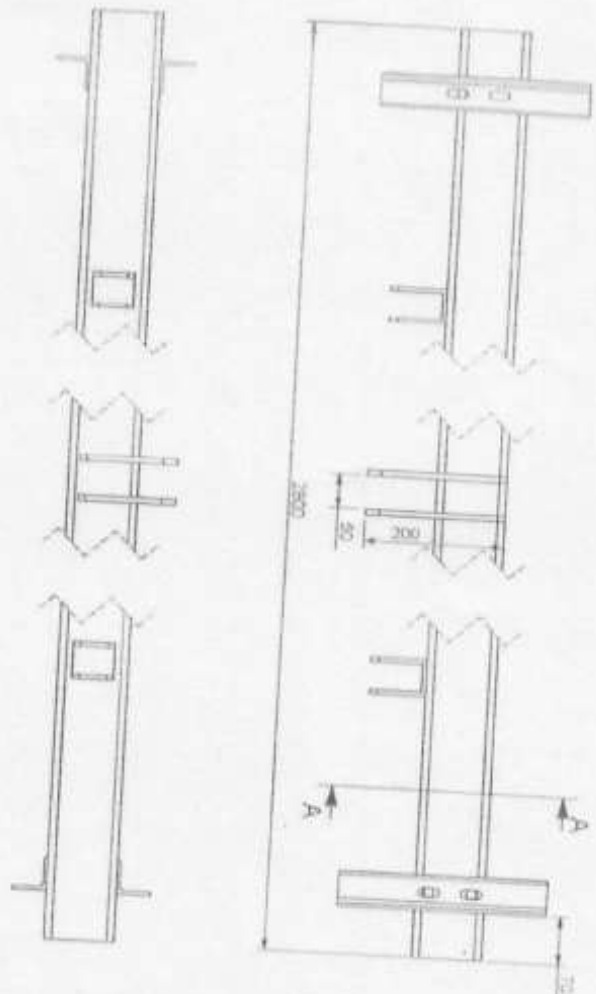
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01/08/20	10	Single pole design and other multiple reinforcement
	2	

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CHD BY	Falzi	CHD BY	Falzi
APPD BY	D.R.P.	APPD BY	D.R.P.

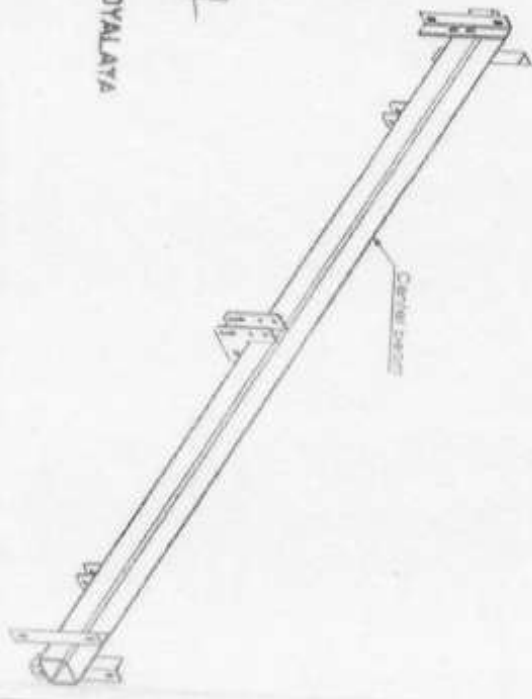
TITLE	SCALE	DRG NO.
9 nos. Module mounting structure	1:100	SMP-SM-12



4) Center beam assly.



SECTION A-A
SCALE 1:10



PRINCIPAL
BIRLA WSHYAKARMA MAHAWIDYALAYA

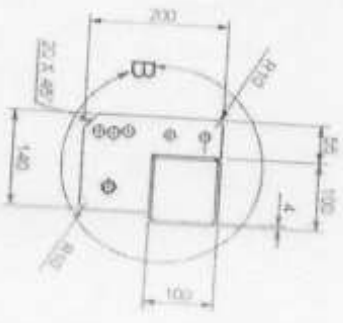
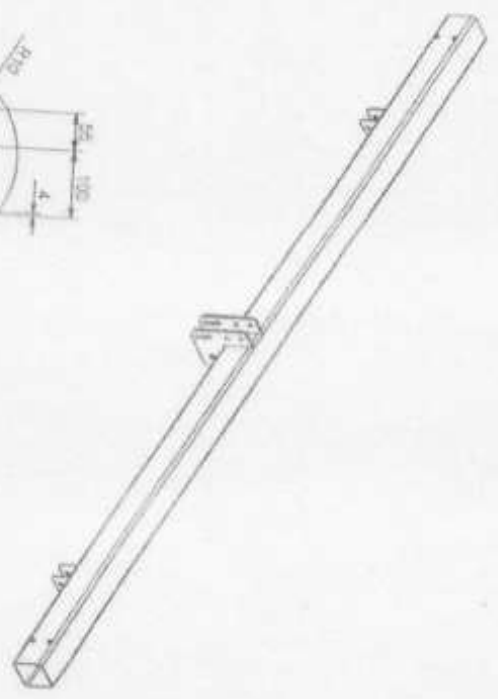
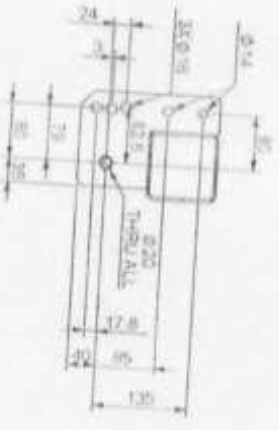
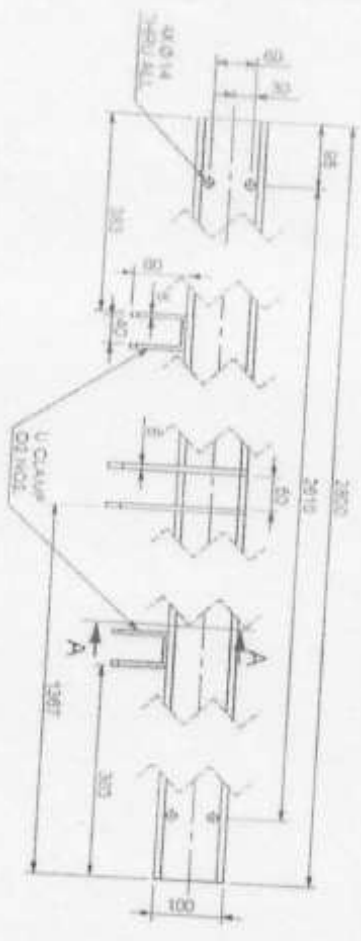
Prof. Vishal Kumar B. Patel
Assistant Professor, Department of Mechanical Engineering, B.V.M. Group of Institutions, Bhopal

Date	Rev	Description
07.08.20	10	Single pole design and other multiple furnorment
1	2	
	3	
	4	
	5	

PART NO	TITLE	DATE	SCALE	DRG NO
	9 nos Module mounting structure	07.02.20	1:100	SMP-SM-12
DRN BY	FAE			
CHD BY	FAE			
APPD BY	D.R.P			
SUPERSEDES NO. 1				



4) Center beam



SECTION A-A
SCALE 1 : 10



DETAIL 9
SCALE 1 : 10

Dr. Vishakhumar B. Patel
Principal
BIRLA WSHVAKARMA MAHAVIDYALAYA
Department of Mechanical Engineering
Birla Wshvakarma Mahavidyalaya College

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PRINCIPAL
BIRLA WSHVAKARMA MAHAVIDYALAYA

Date	Rev	Description	DRN BY	APPD BY
01.08.20	10	Single pole design and other multiple retriopentent	Faiz	D.R.P
	2			
	3			
	4			

PART NO

TITLE 9 nos. Module mounting structure

DRN BY	APPD BY	DRN BY	APPD BY
Faiz	D.R.P	Faiz	D.R.P

SCALE 1:100

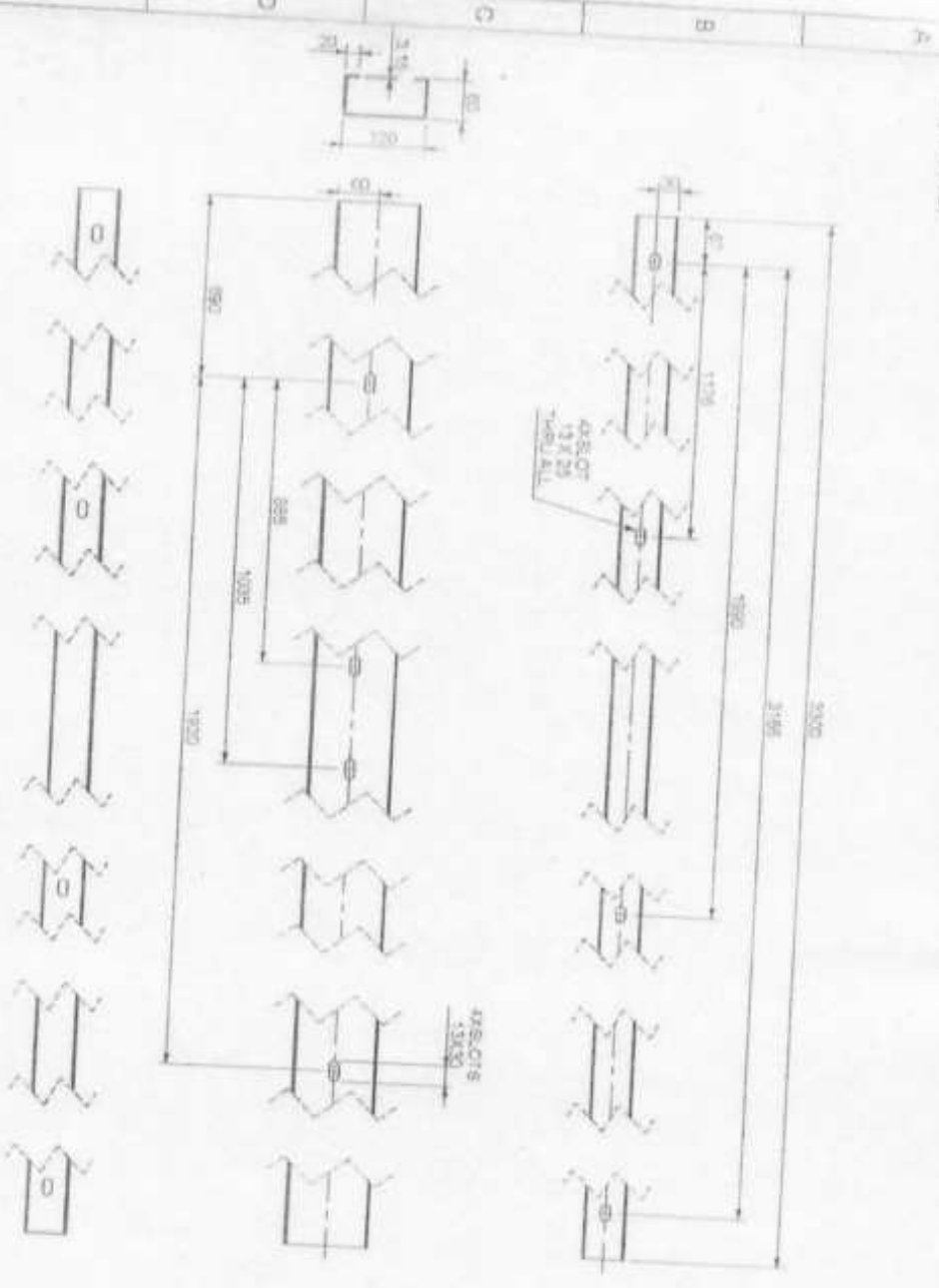
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SMP-SM-12

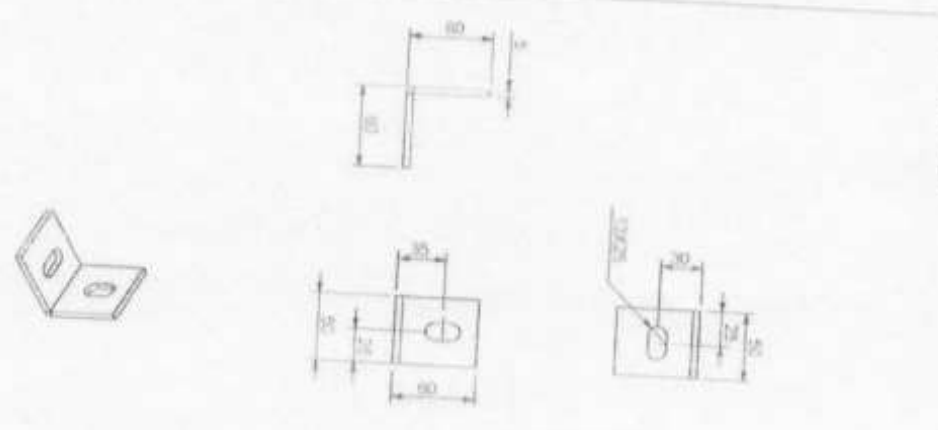
(Sheet 7 of 13)



5) Rafter



6) Purlin clip



Patel
 Vishalkumar B. Patel
 Assistant Professor
 Department
 of Civil Engineering
 Birla Institute of Technology
 and Science, Pilani

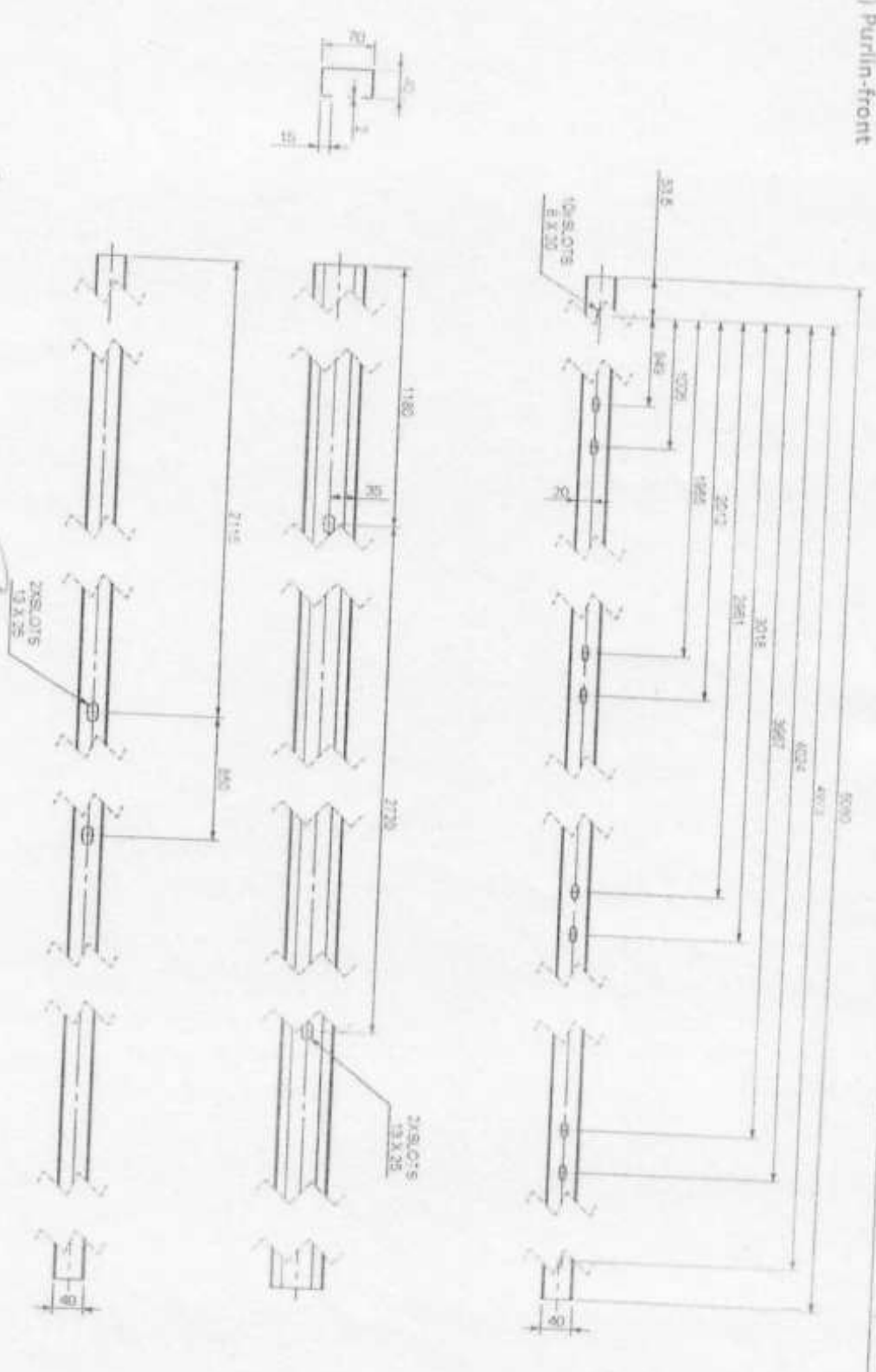
Pratik
 BIRLA WISWAKARMA MAHANTYALAYA

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2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5

PART NO	TITLE	SCALE	DRG NO
07.02.20	9 nos Module mounting structure	1:100	SMP-SM-12



7a) Purlin-front



Dr. Bhalchandra B. Patel
 Professor
 Department
 College

BIRLA WSHVAKARMA MAHAVIDYALAYA
 Pringshap

Rev	Description
1	As per drawing
2	Single pole design and other multiple reinforcement

Rev	Description	DRN BY	APPD BY
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2	Single pole design and other multiple reinforcement		

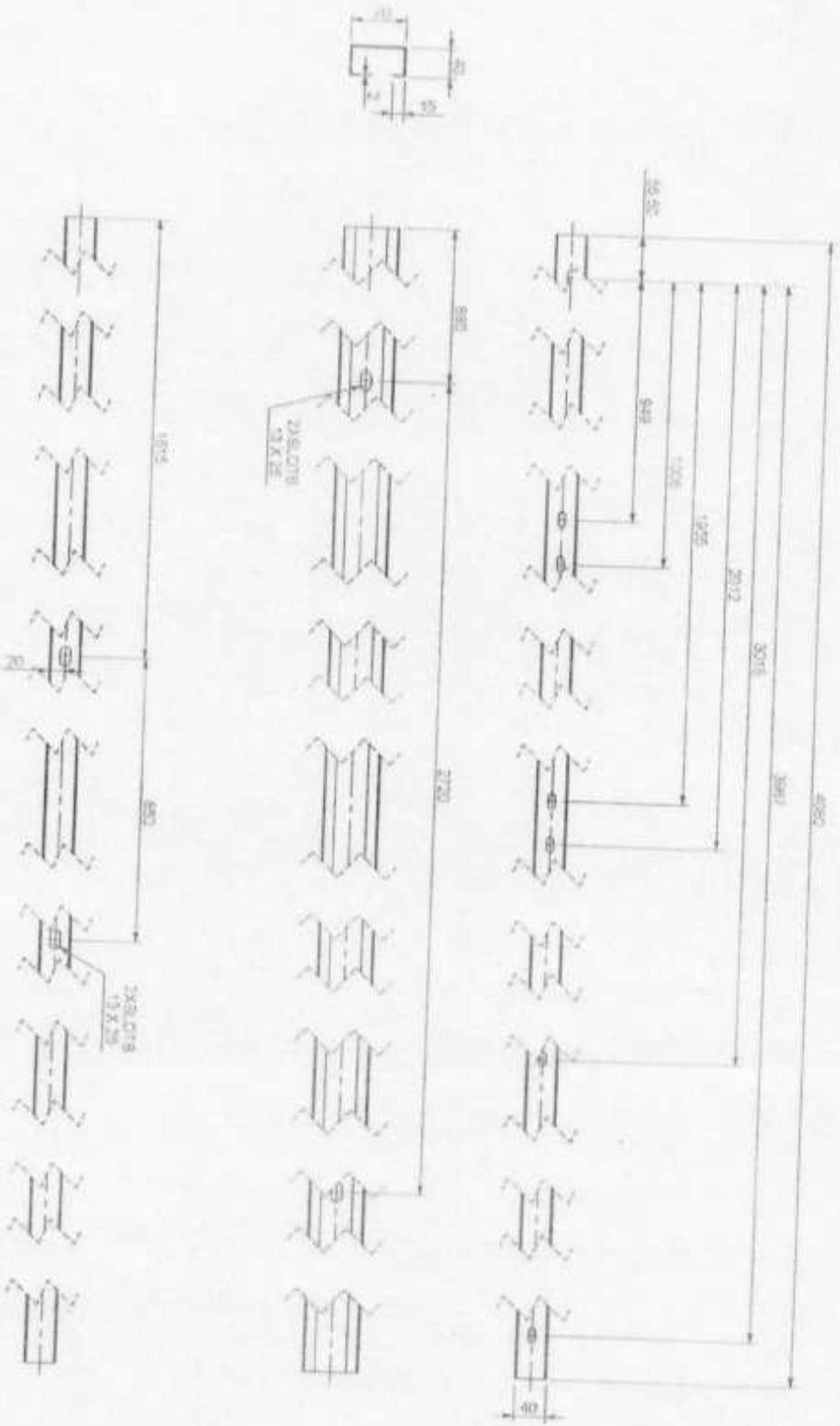
Rev	Description	DRN BY	APPD BY
1	As per drawing		
2	Single pole design and other multiple reinforcement		

Rev	Description	DRN BY	APPD BY	DRN BY	APPD BY	DRN BY	APPD BY
1	As per drawing						
2	Single pole design and other multiple reinforcement						



TITLE 9 nos Module mounting structure
 SCALE 1:1
 DRG. NO. SMP-SM-12
 (Sheet 9 of 17)

7b | Purlin-rear



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 Assistant Professor
 Engineering Department
 Birla Vishvakarma Mahavidyalaya

PRINCIPAL
 BIRLA VISHVAKARMA MAHAVIDYALAYA

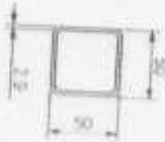
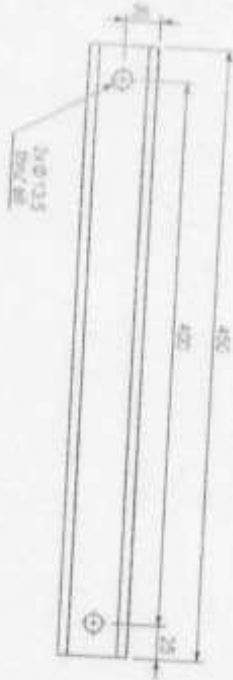
Project No. 07/00/201
 Date: 10/11/20

1	Single pole design and other multiple reinforcement	DRN BY	Appd BY
2		DRN BY	Appd BY
3	Description	DRN BY	Appd BY
4		DRN BY	Appd BY
5		DRN BY	Appd BY

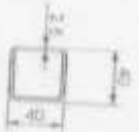
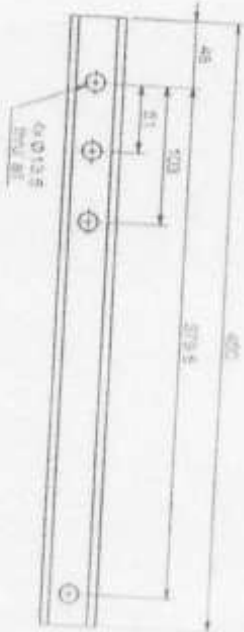
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	9 nos. Module mounting structure
DRN BY	07/00/201
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	SMP-SM-12
	Sheet 10 of 11



9) Front tilt Support bottom



10) Front tilt Support top



Prof. Vishalkumar B. Patel
Assistant Professor
Structural Engg. Department
B.V.M. Engineering College
V. V. Nagar-388120

PRINCIPAL
BIRLA VISHVAKARMA MAHAVIDYALAYA

01.08.20	10	Single pole design and other multiple reinforcement	DRN BY	APPD BY
Date	Rev	Description	DRN BY	APPD BY
1	2	3	4	5

PART NO.

TITLE 9 nos. Module mounting structure

DRG. NO. SMP-SM-1216

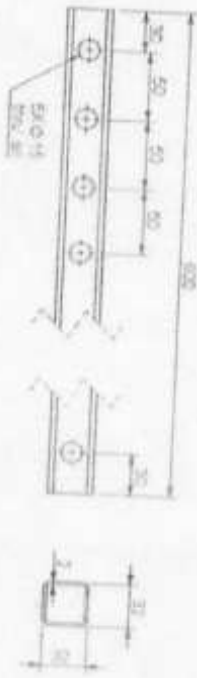
Sheet 12 of 17



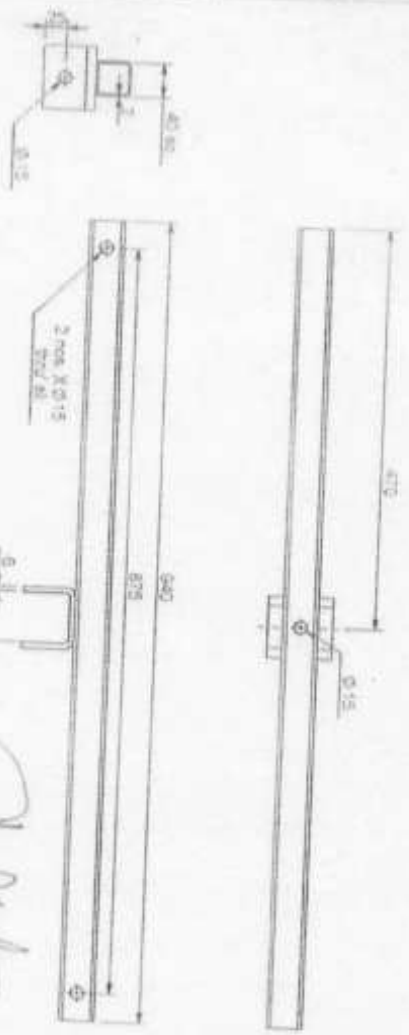
11) Rear tilt Support bottom



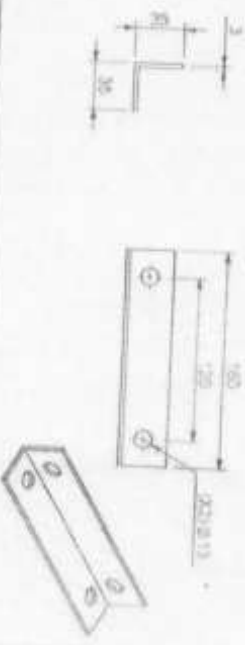
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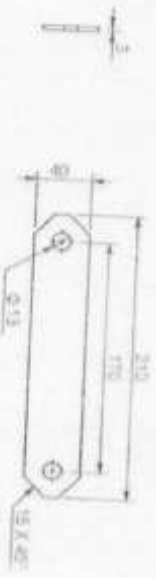
13) Sq. pipe for rear support



14) Angle for rear support



15) Flat for rear support



PRINCIPAL
BIRLA WSHYAKARMA MAHABUDYALAYA

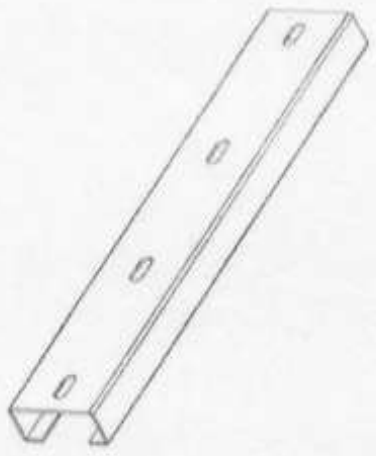
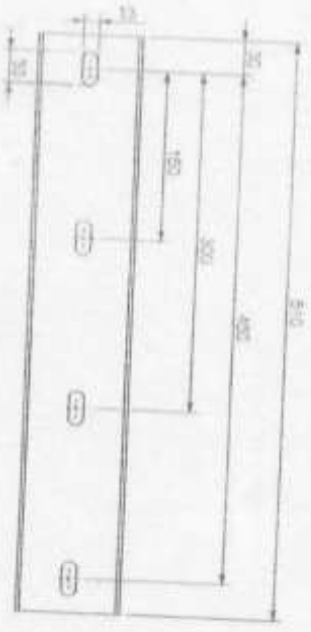
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Date	Rev	Description	DRN BY	APPD BY	DRN BY	APPD BY
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PART NO. TITLE 9 nos. Module mounting structure

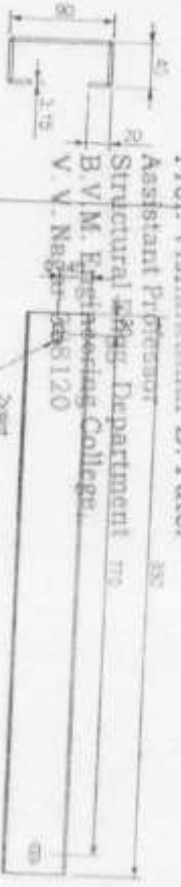
DRN BY	FAIZ	07.02.20	SCALE	DRG NO
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APPD BY	D R P			(Sheet 13 of 14)




16) Rafter bracing holder



17) Rafter bracing




Prof. Vishalkumar B. Patel
 Assistant Professor
 Structural Engg. Department 779
 B.V.M. Engineering College,
 V.V. Nagar - 401120


PRINCIPAL
BIRLA VISHWAKARMA MAHAVIDYALAYA

Date	Rev	Description	DRN BY	APPD BY
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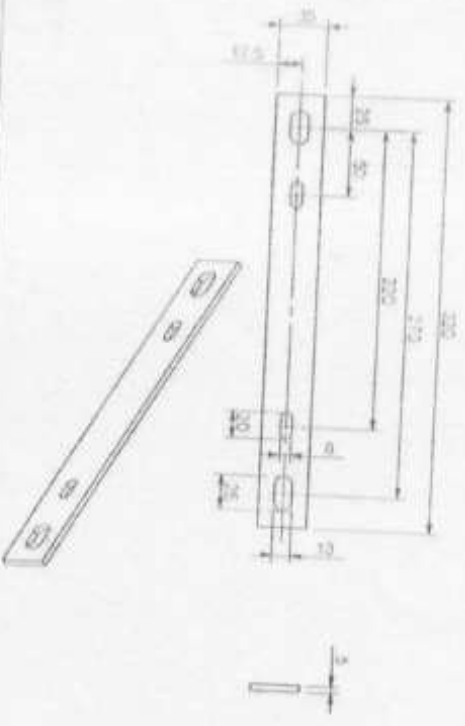
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Fairz	D.R.P	Fairz	D.R.P	Fairz	D.R.P

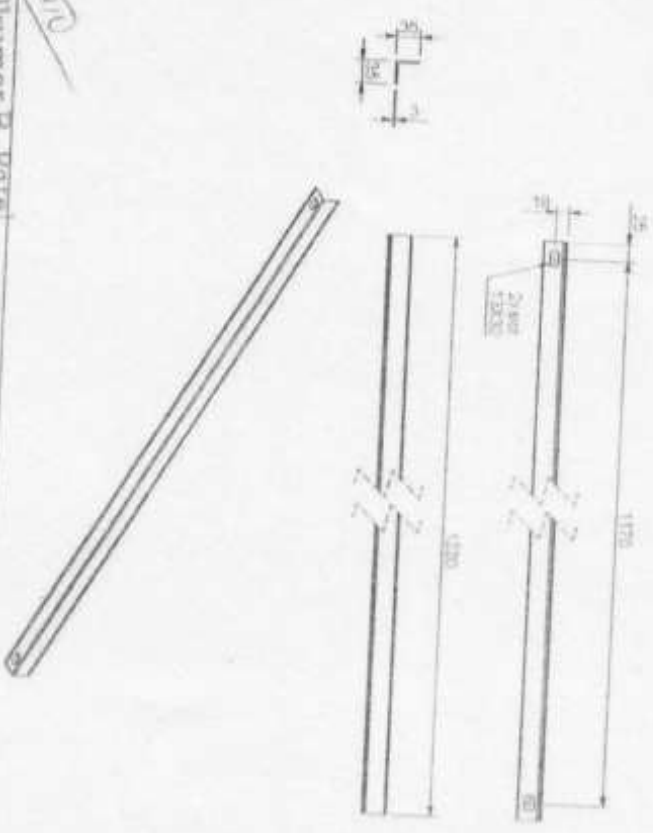
07.02.20 SCALE 1:10
 DRG NO SMP-SM-10
 SHEET NO. 10
 SUBSERIES NO.



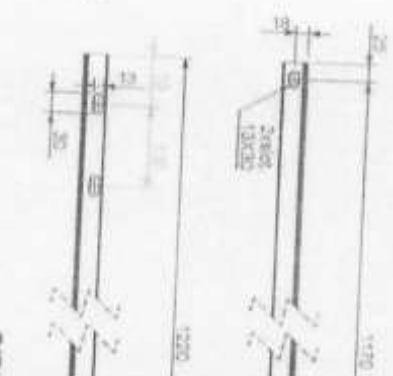
20) Controller clamp - Front



21a) Front sag angle



21b) Rear sag angle



Prof. Vishalkumar B. Patel
 Assistant Professor
 Structural Engg. Department
 B.V.M. Engineering College,
 V. V. Nagar - 58120

PRINCIPAL
 BIRLA VISHVAKARMA MAHANDYALATA

Date	01.08.20	Rev	10	Description	Single pole design and other multiple reinforcement	DRN BY	APPD BY	DRN BY	APPD BY
1		2		3	4	5	5	5	5

PART NO

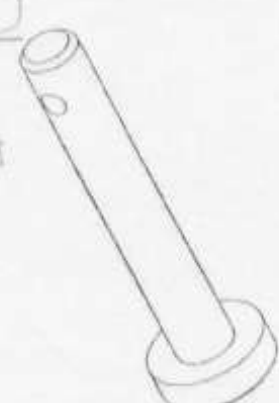
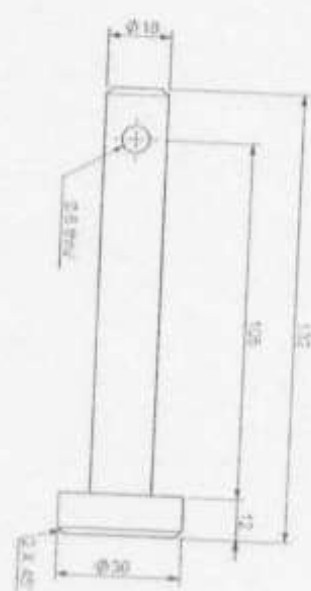
TITLE 9 nos. Module mounting structure

DRN BY: Faiz
 CHD BY: Faiz
 APPD BY: DRP

DATE: 07.08.20
 SCALE: 1:2
 DRG NO: SMP-SM-10
 SHEET: 1



22) Center pin



Dr. Vishal Kumar B. Patel
 Assistant Professor
 Department
 of Mechanical Engineering
 Birla Institute of Engineering College,
 Raigarh (C.G.)

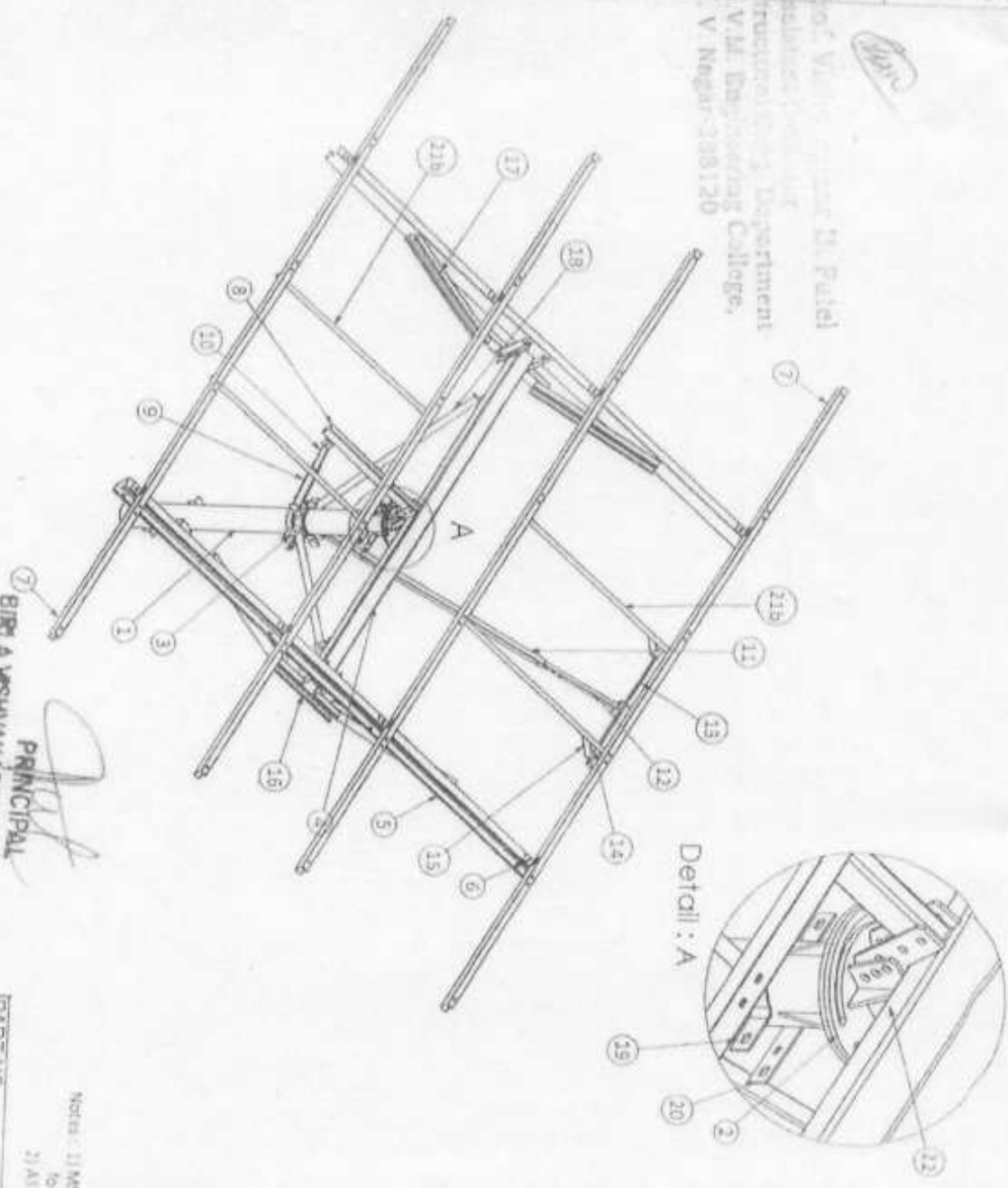
PRINCIPAL
BIRLA WSHVAKARMA MAHAPDYALAYA

Date	01.08.20	Rev	1.0	Description	Single pole design and other multiple reinforcement	DRN BY	FAIZ	APPD BY	DR.P.
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PART NO	TITLE	9 nos Module mounting structure
DRN BY	FAIZ	07.02.20
CHD BY	FAIZ	SCALE
APPD BY	DR.P.	1:5
DRG NO.	SMP-SM-1216	(Sheet 17 of 17)
SUPPESSES NO.		



Prof. V. V. Negar, Director, D. Patel
 Bachelors, Faculty
 Structural Engineering Department
 H. V. M. Engineering College,
 V. V. Nagar-388120



Sr. Nos.	Descriptions	Qty.
1	Main column	1
2	Rotating plate	1
3	Rotating Clamp	2
4	Center beam assly.	1
5	Rafter	2
6	Purlin clit	8
7	Purlin-front	4
8	North south bracing	1
9	Front tilt support bottom	1
10	Front tilt support top	1
11	Rear tilt support bottom	1
12	Rear tilt support top	1
13	So. pipe for rear support	1
14	Angle for rear support	2
15	Flat for raer support	2
16	Rafter bracing holder	2
17	Rafter bracing	4
18	Bracing center beam	2
19	Controller clamp- rear	2
20	Controller clamp- front	2
21a	Front sag angle	2
21b	Rear sag angle	2
22	Center pin	1

PRINCIPAL
 BIRLA MSHVAKARMA MAHARAJALAYA

Notes: 1) MS HD Galvanizing according to IS 4759
 For all parts, wherever applicable.
 2) All dimensions are in mm.

Date	Rev	Description	DRN BY	APPD BY
01.06.20	10	Single pole design and other multiple reinforcement	Faiz	D.R.P.
	2			
	3			
	4			

PART NO	DRN BY	APPD BY	TITLE
	Faiz	D.R.P.	10 nos. Module mounting structure (For 7.5 & 15)
	CHD BY	APPD BY	DRG NO
	Faiz	D.R.P.	150
			S.M.P.S. No. 17/10
			SUPERSEDES NO.

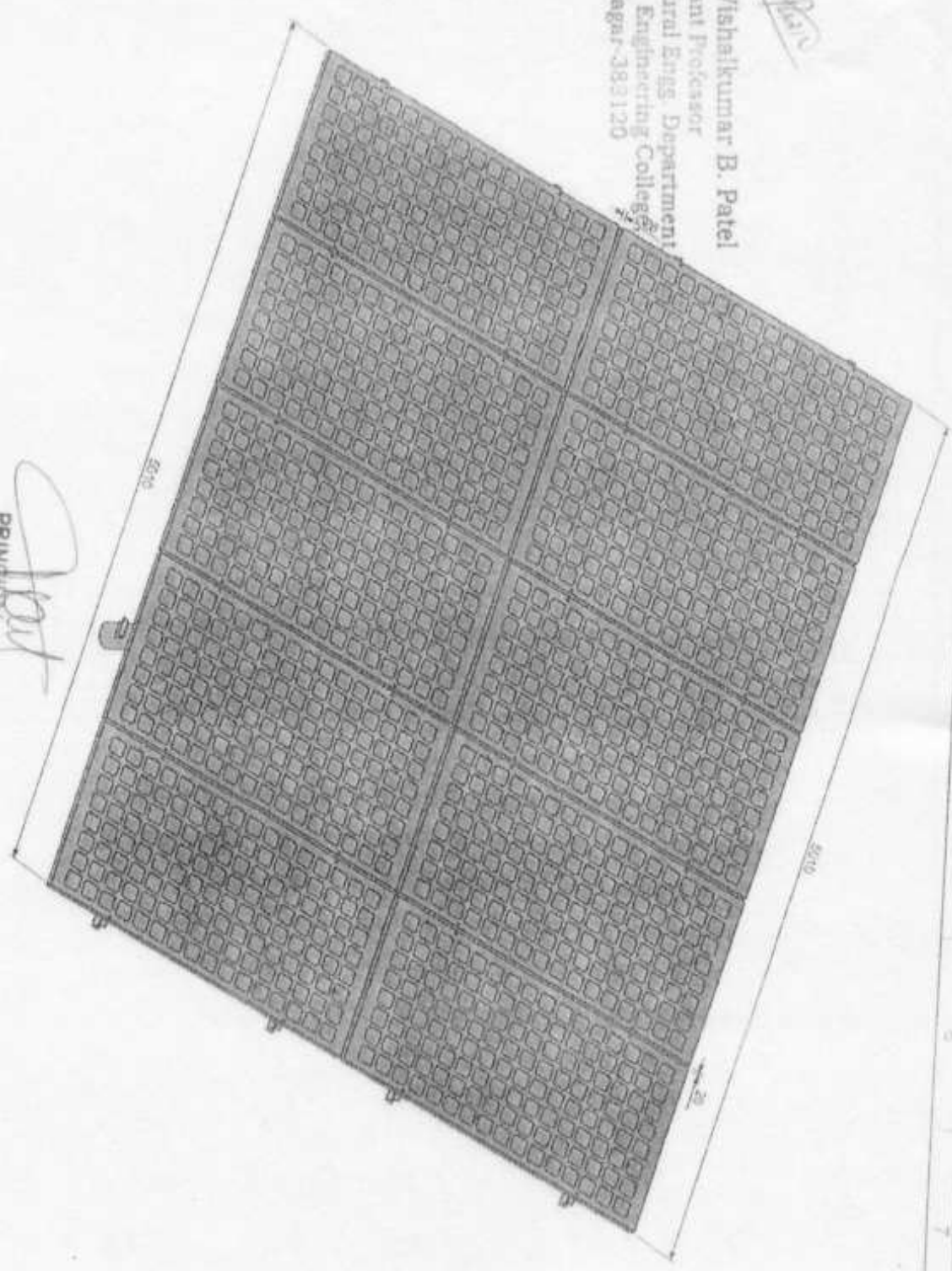


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Patel

Patel

PRINDIPAL
 GIRLA VSHVAKARMA MAHAVIDYALAYA



Date	Rev	Description	FAZ	D.R.P.	DRN BY	APPD BY	CHD BY	APPD BY	DRN BY	FAZ	DRG. NO.	SMP-SM-12
01.08.20	10	Single pole design and other multiple reinforcement									07.02.20	1:100

PART NO	TITLE	SCALE	DRG. NO.	SMP-SM-12
	10 nos. Module mounting structure (For 7.5 & 10')	1:100		



Sr. nos.

Descriptions

Item list of gnos. MMS

Qty

Total weight (kgs.)

Material Grade

Reference standards

1	Main column	1	35.27	E250	IS:1161 & IS 2062
2	Rotating plate	1	7.9	E250	IS:1161 & IS 2062
3	Rotating Clamp	1	3.2	E250	IS:1161 & IS 2062
4	Center beam assly.	1	40.9	E250	IS:1161 & IS 2062
5	Rafter	2	41.44	E350	IS:4923, IS:2062 & IS:808
6	Purlin girt	8	2.16	E250	IS:2062 & IS:811
7	Purlin-front	4	51.3	E350	IS:2062 & IS:811
8	North south branching	1	3.52	E350	IS:2062 & IS:811
9	Front tilt support bottom	1	1.83	E250	IS:4923
10	Front tilt support top	1	1.31	E250	IS:4923
11	Rear tilt support bottom	1	3.34	E250	IS:4923
12	Rear tilt support top	1	1.08	E250	IS:4923, IS:2062 & IS:808
13	Sq. pipe for rear support	1	2.76	E250	IS:4923, IS:2062 & IS:808
14	Angle for rear support	2	0.48	E250	IS:4923, IS:2062 & IS:808
15	Flat for rear support	2	0.36	E250	IS:4923, IS:2062 & IS:808
16	Rafter bracing holder	2	4.61	E350	IS:2062 & IS:811
17	Rafter bracing	4	15.55	E350	IS:2062 & IS:811
18	Bracing center beam	2	5.69	E250	IS:1161
19	Controller clamp-rear	2	1.00	E250	IS:2062
20	Controller clamp-front	2	0.88	E250	IS:2062
21a	Front sag angle	2	3.84	E250	IS:2062
21b	Rear sag angle	2	3.84	E250	IS:2062
22	Center pin	1	232.26	E250	IS:2062

Approx. total weight

Galvanizing -7%

Approx. total weight of the structure

1	M16x50 bolt with 1-nut & 2-pallin washer	4	16.25	E250	IS:4759
2	M12x15 bolt with 1-nut & 2-pallin washer	1	7.08	E250	IS:1364
3	M12x100 bolt with 1-nut & 2-pallin washer	1	8.8	E250	IS:1364
4	M12x35 bolt with 1-nut & 2-pallin washer	4	7.08	E250	IS:1364
5	M12x30 bolt with 1-nut & 2-pallin washer	4	7.08	E250	IS:1364
6	M12x30 bolt with 1-nut & 2-pallin washer	4	7.08	E250	IS:1364
7	Center Pin (EN9)	24	7.08	E250	IS:1364
8	Cotter pin for ϕ 8mmx50 long	1	0.46	E250	IS:1364
9	M5x25 Anti theft nut bolt, SS-304 (HeadOD ϕ 15 mm)	40	256.05	SS-304	IS:1364

01.08.20	10	Single pole design and other multiple reinforcement
Date	Rev	Description

BIRLA VISHWAKARMA MAHARAJALAYA
PRINCIPAL

DRN BY: Fair
APPD BY: D.R.P

PART NO.

TITLE: 10 nos. Module mounting structure (For 7.5 & 10 nos.)

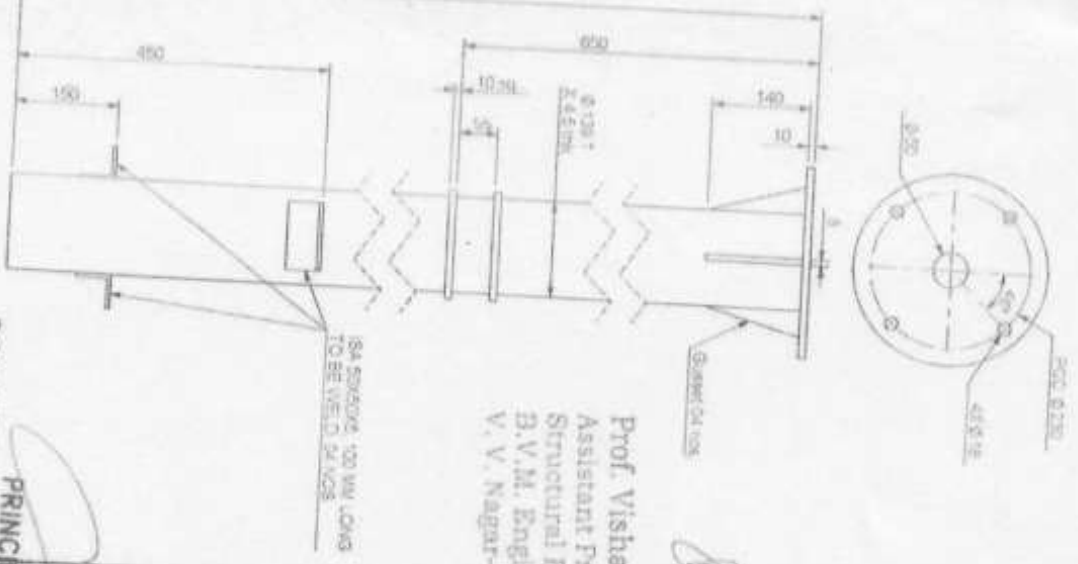
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DRG NO: SMP-SM-10

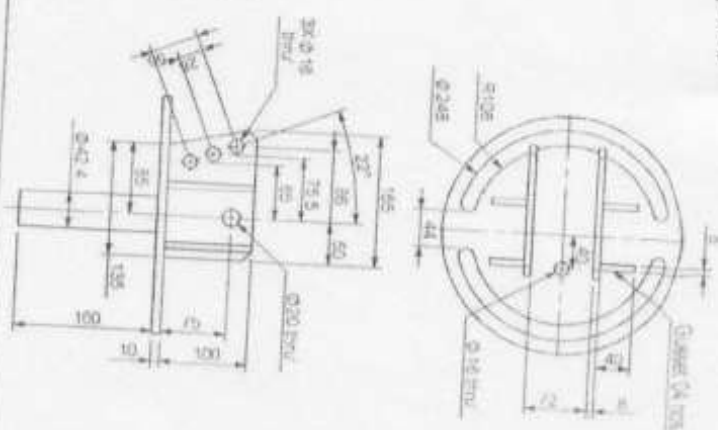


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V.V. Nagar-388120

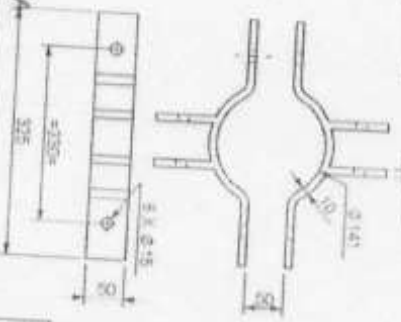
1) Main column



2) Rotating plate



3) Rotating clamp (2 nos.)



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 V. V. Nagar-383120

PRINCIPAL

BIRLA VISHVAKARMA MAHARAJA

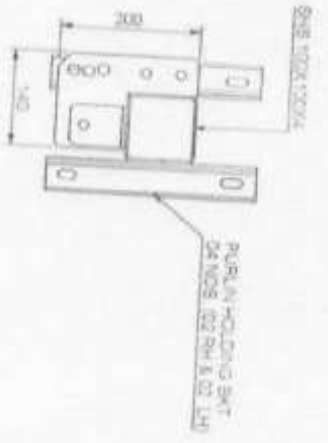
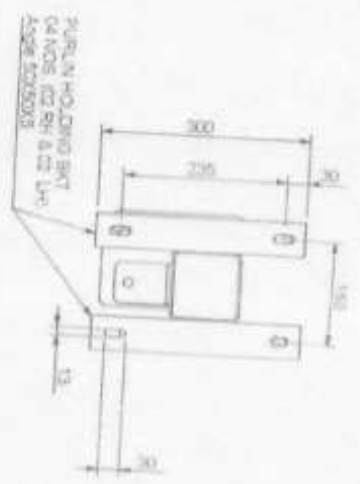
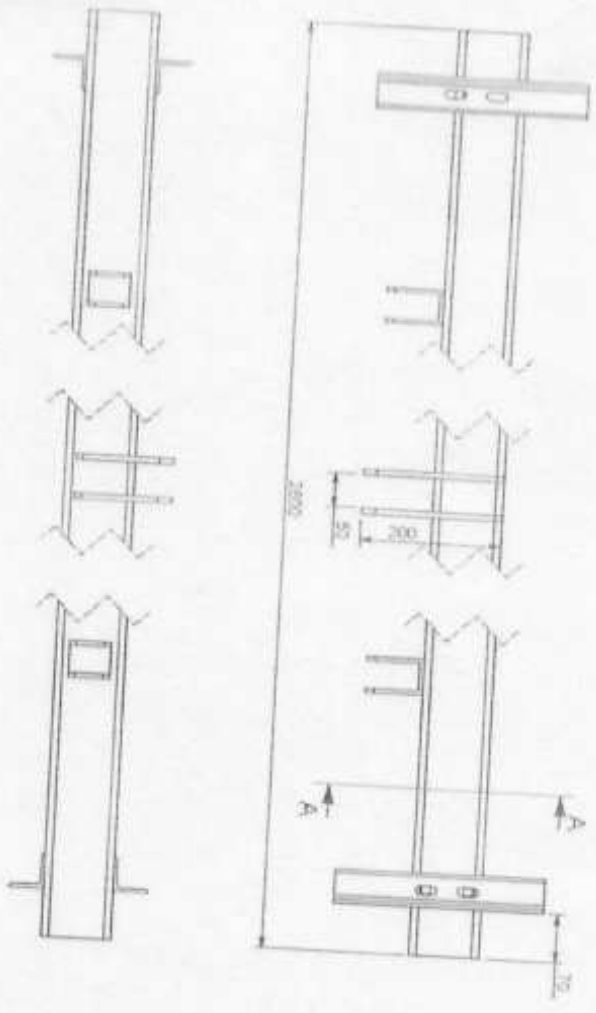
Date	01.08.20	Rev	10
Description	Single pole design and other multiple reinforcement		

DRN BY	FAZ	D.R.P
APPD BY	APPD BY	DRP

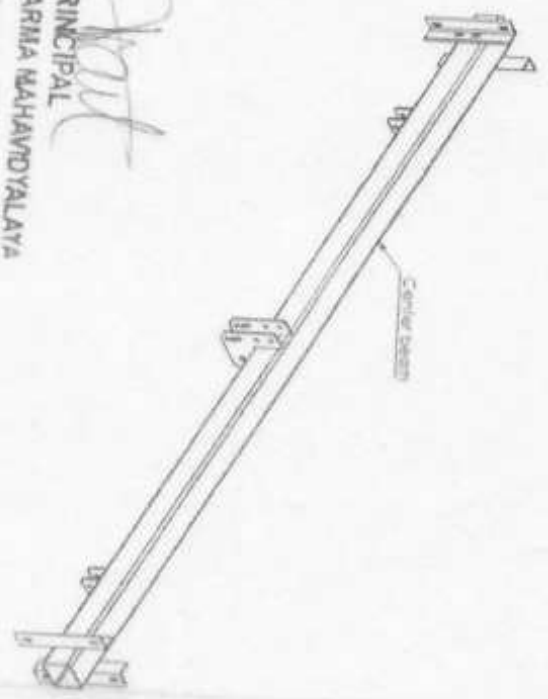
TITLE	10 nos Module mounting structure For 7.5 & 10
SCALE	1:100
DRG. NO.	SMP-SM-10



A) Center beam assly.



SECTION A-A
SCALE 1 : 10



Prof. Vishal Kumar B. Patel
Assistant Professor

PRINCIPAL
BIRLA WSHVAKARMA MAHARAJALAYA

Date	01.08.20	Rev	10
Single pole design and other multiple reinforcement			

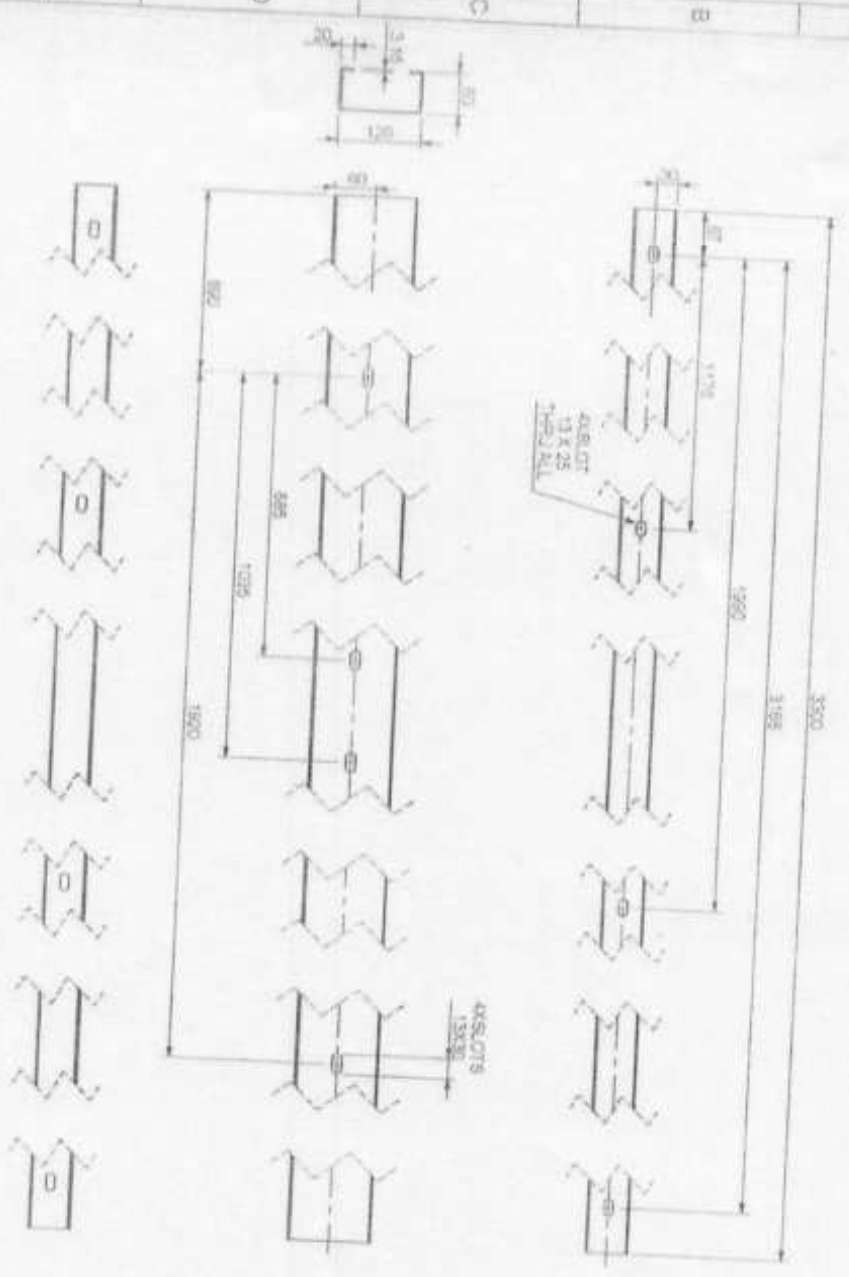
Description V. V. Nagar
DRN BY APPD BY

DRN BY	FAZ	CHD BY	FAZ
APPD BY	DR. P	APPD BY	DR. P

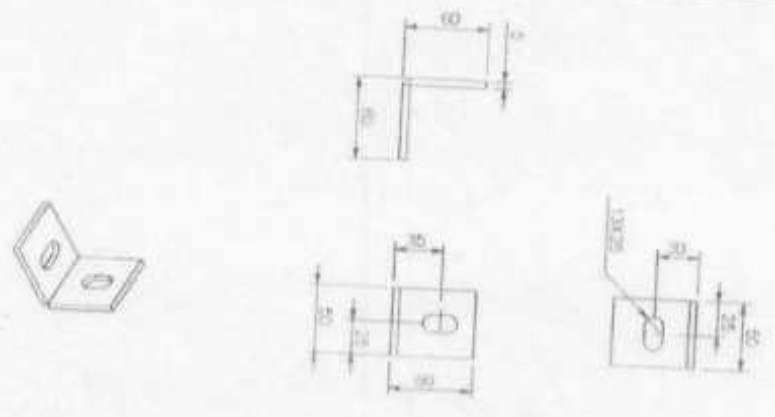


TITLE 10 nos. Module mounting structure (For 7.5 & 10)
SCALE 1:100
DRG. NO. SMP-SM-11
SUPERSEDES NO.

5) Rafter



6) Purlin clip



Principal
PRINCIPAL

Prof. Vishal Kumar B. Patel
BIRLA MSHYAKARMA MAHAWDYALAYA

Attestant / Signatory

Single pile design and other multiple reinforcement

Date: _____

DRN BY: _____

D.R.P. APPD BY: _____

DRN BY: _____

CHD BY: _____

DRN BY: _____

DRP: _____

DRP: _____

DRP: _____

PART NO

TITLE 10 nos Module mounting structure (For 7.5 & 10mp)

SCALE 1:100

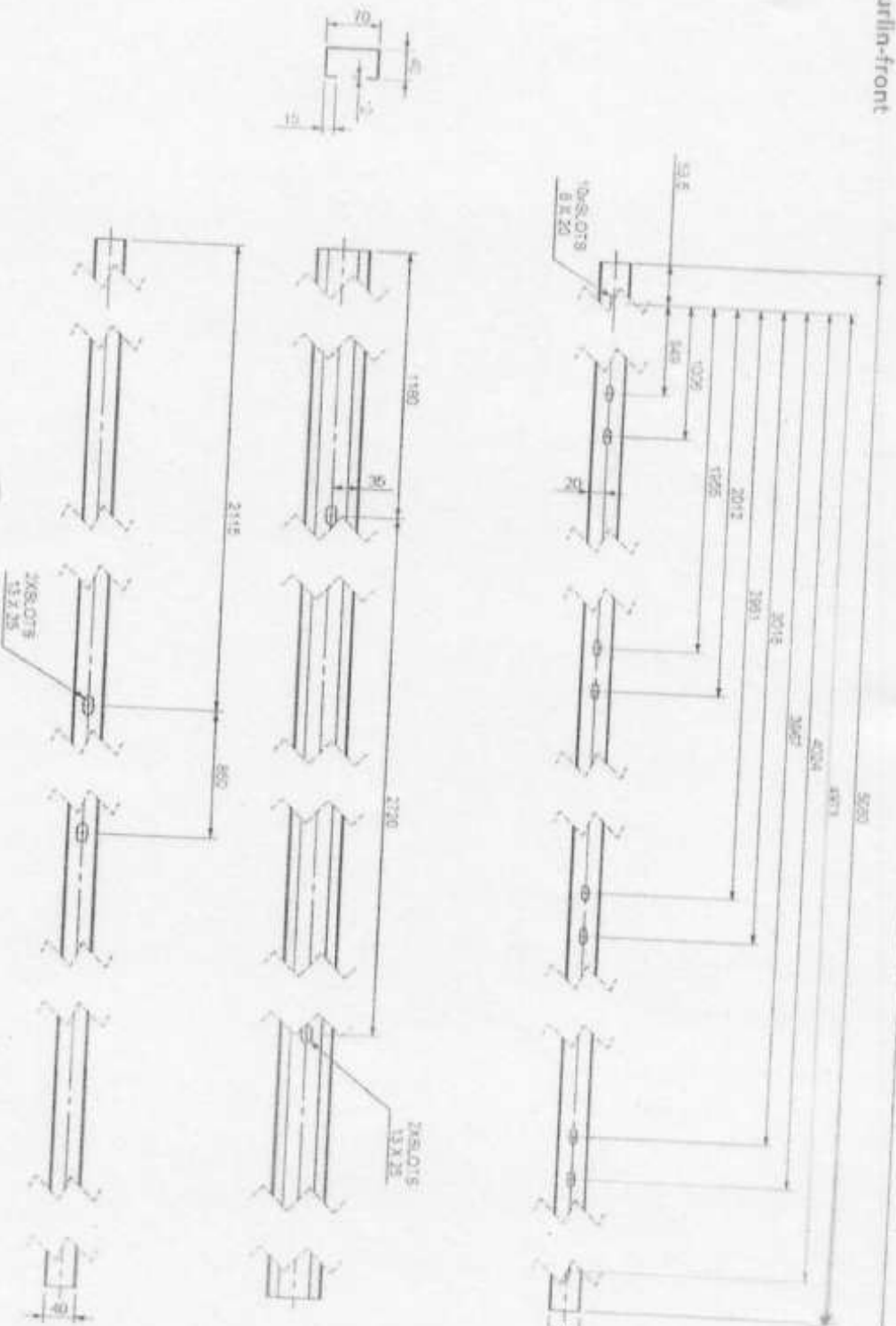
DRG NO

SMP-SM-1217

(Sheet 8 of 16)



7) Purlin-front



Prof. Vishalkumar B. Patel

BIRLA WSHVAKARMA MAHAVIDYALAYA

Project: Design of Single pole structure
 Description: Single pole design and other multiple reinforcement

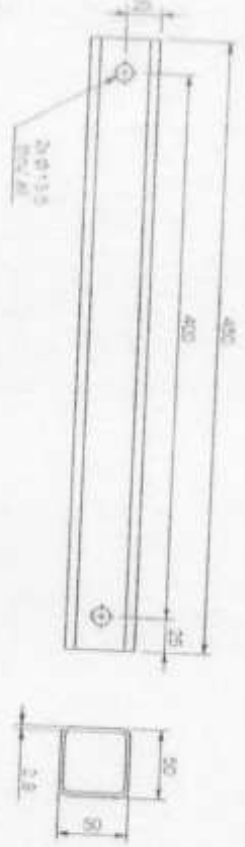
DRN BY: Faiz
 APPD BY: D.R.P.

DRN BY: Faiz
 CHD BY: Faiz
 APPD BY: D.R.P.

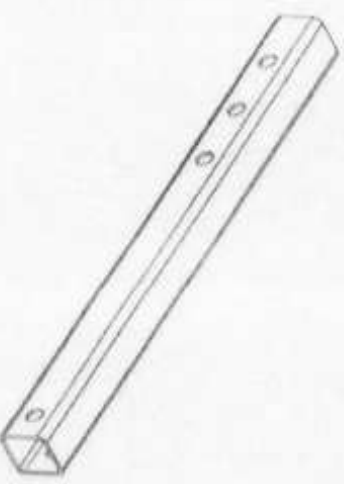
TITLE: 10 nos. Module mounting structure (For 7.5 & 10hp)
 SCALE: 1:1
 DRG. NO: SMP-SM-1217
 (Sheet 9 of 10)



9) Front tilt Support bottom



10) Front tilt Support top



PRINCIPAL
 BIRLA WSHVAKARMA MAHAVIDYALAYA

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 Sector-11, Engineering College,
 V.V. Nagar-388120

Date	Rev	Description
01.08.20	10	Single pole design and other multiple reinforcement
	2	
	3	
	4	

DRN BY	D R P	FAIZ

DRN BY	CHD BY	APPD BY

DRN BY	FAIZ	SCALE
		1:5

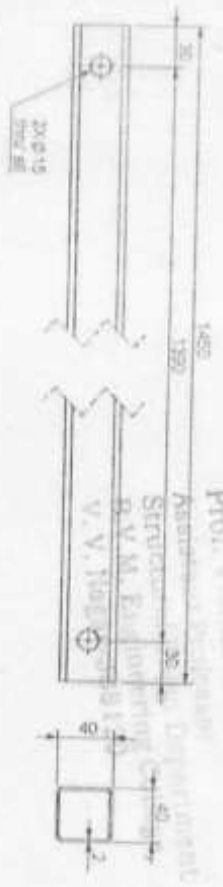
DRG NO	SMP-SM-1217

PART NO. TITLE 10 nos. Module mounting structure (For 7.5 & 10hp)

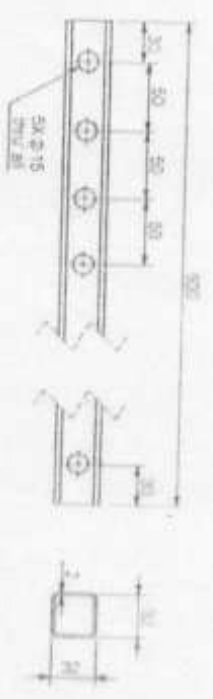
07.02.20 SUPPRESSED NO. 11



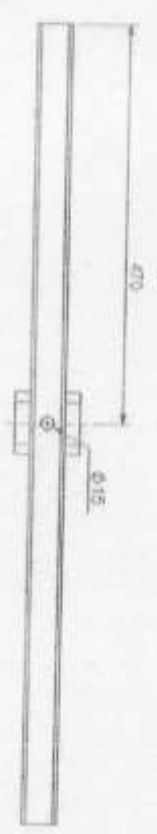
11) Rear tilt Support bottom



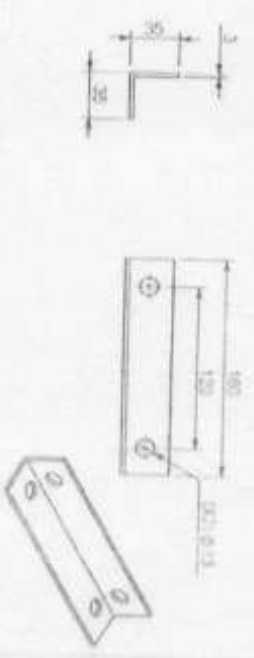
12) Rear tilt Support top



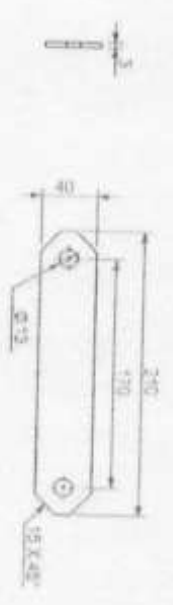
13) Sq. pipe for rear support



14) Angle for rear support



15) Flat for rear support



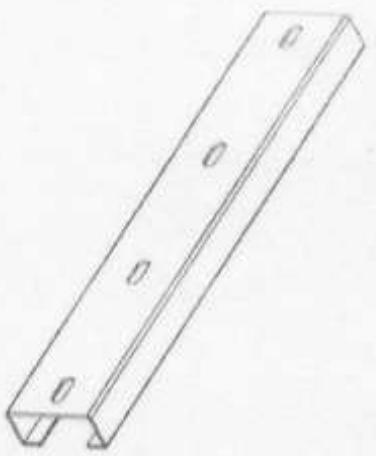
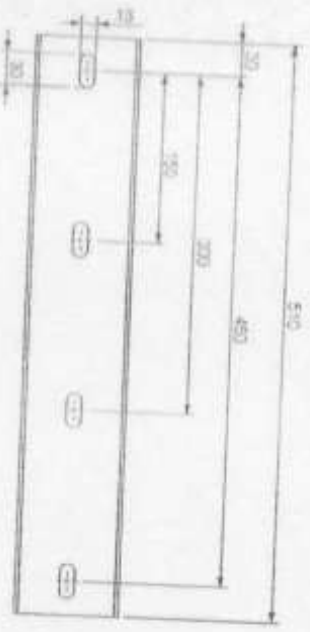
BIRLA VISHVAKARMA MAHAVIDYALAY,
PRINCIPAL

Date	Rev	Description	DRN BY	APPD BY
01.08.20	10	Single pole design and other multiple reinforcement	Faiz	D.R.P
	2			
	3			
	4			

PART NO	TITLE	DRN BY	APPD BY	SCALE	DRG. NO
	10 nos. Module mounting structure (FOR 7.5 & 10hp)	Faiz	Faiz	1:5	SMP-SM-121
					(Sheet 12 of 16)



16) Rafter bracing holder



17) Rafter bracing



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 V. V. Nagar - 368120

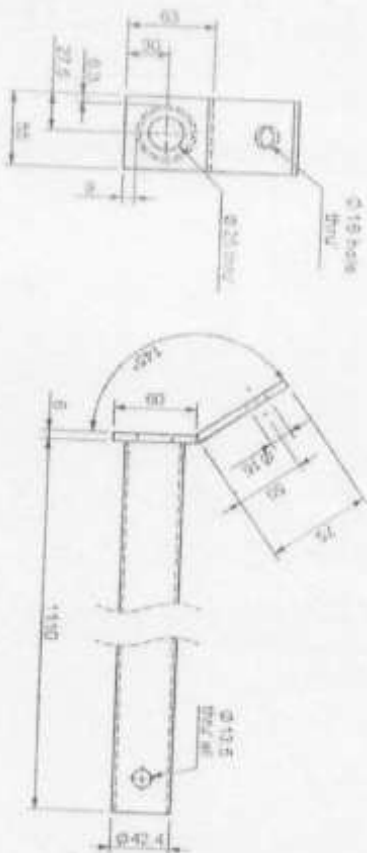
PRINCIPAL
 BIRLA WSHVAKARMA MAHAVIDYALAYA

01.06.20	10	Single pole design and other multiple reinforcement	DRN BY	APPD BY
Date	Rev	Description	DRN BY	APPD BY
	2			
	3			
	4			

PART NO	TITLE	DRN BY	APPD BY	SCALE	DRG NO
	10 nos. Module mounting structure (For 7.5 & 10hp)			1:10	SMP-SM-121
					(Sheet 13 of 16)



18) Bracing center beam



19) Controller clamp - rear



PRINCIPAL
SIRIJA VISHVAKARMA MAHAVIDYALAY

Prof. Vishalkumar B. Patel
Assistant Professor
Structural Engg Department
B.V.M. Engineering College
V. Valdagar D.R.P.

Date	Rev	Description
01.06.20	10	Single pole design and other multiple reinforcement

DRN BY	APPD BY
V. Valdagar D.R.P.	

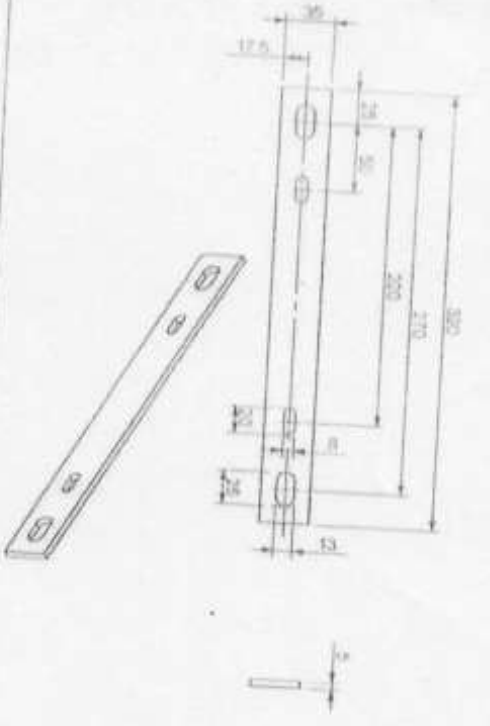
DRN BY	FAZ	CHD BY	FAZ	APPD BY	DR.P

TITLE	SCALE	DRG. NO.
10 nos. Module mounting structure (For 7.5 & 10m)	1:10	SMP-SM-121

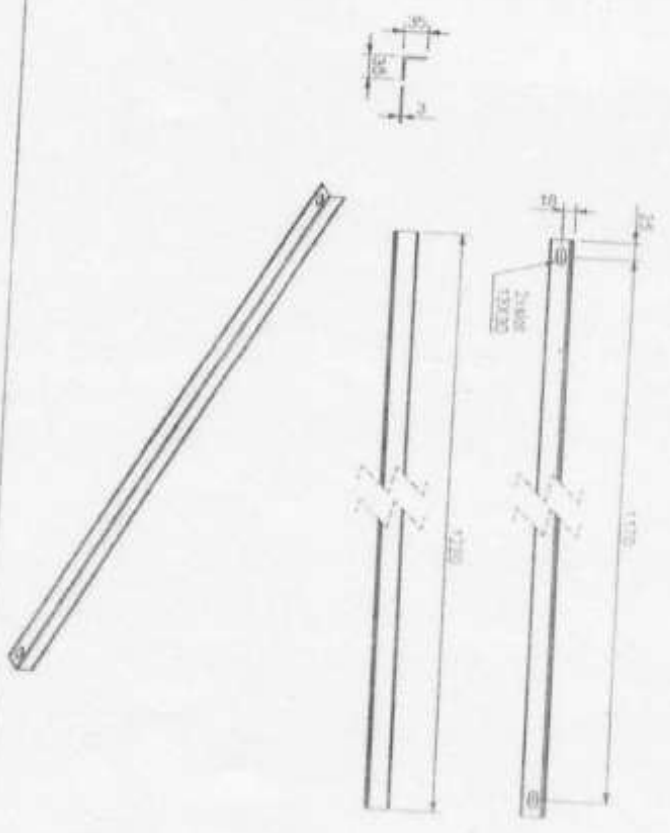


SUPERSEDES NO.

20) Controller clamp - Front



21a) Front sag angle



21b) Rear sag angle



01.08.20	10	Single pole design and other multiple reinforcement	DRN BY	APPD BY
Date	Rev	Description	DRN BY	APPD BY
1	2	3	4	5

BIRLA WSHVAKARMA MAHAVIDYALAYA

PRINCIPAL

PART NO. TITLE 10 nos. Module mounting structure for 7.5 & 10kV

DRN BY: Faiz, CHD BY: Faiz, APPD BY: D.R.P.

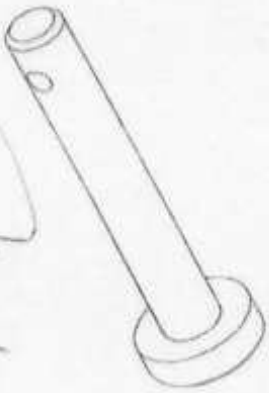
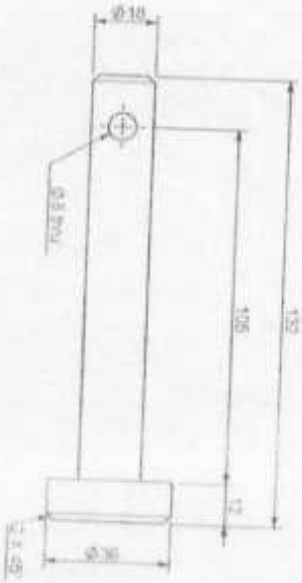
07.02.20 SCALE 1:2 DRG. NO. SMP-SM-121 (Sheet 15 of 18)

SUPERSEDES NO. 1

Prof. Vishal Kumar G. Patel
Assistant Professor
Structural Engg.



22) Center pin



PRINCIPAL

BIRLA WSHYAKARMA MAHABIDYALAY

Prof. V. V. Nagar (Former R. Pathi)
 Assistant Professor
 Structural Engg. Department
 B.V.M. Engineering College,
 V. V. Nagar-384140

Handwritten signature

PART NO. 10 nos. Module mounting structure (For 7.5 & 10hp)

DATE 07/02/20

SCALE 1:5

DRG. NO. SMP-SM-121

SHEET 18 OF 18

SUPPESSES NO.

Date	Rev	Description	DRN BY	D.R.P	APPD BY
01/08/20	10	Single pole design and other multiple reinforcement	Faiz		
	2				
	3				
	4				
	5				

