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KHATOON ABAD GAS POWER PLANT
230KV SUBSTATION
SINGLE LINE GANTRY STRUCTURE DRAWING 230 KV

REFERENCE DOCUMENT & DWG

LEGENDS

NOTES

KEY PLAN

D							
C	MODIFIED	1405.02	1405.02	1405.02	1405.02	1405.02	1405.02
B	12105-MMN-SCC-L-4399	1404.10	1404.10	1404.10	1404.10	1404.10	1404.10
A	RF-MED-MHS-T-0017	1404.08	1404.08	1404.08	1404.08	1404.08	1404.08
O	FIRST ISSUE	1404.02	1404.02	1404.02	1404.02	1404.02	1404.02
Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE



PROJECT: KHATOON ABAD GAS POWER PLANT
230KV AIS SUBSTATION

TITLE:
SINGLE LINE GANTRY STRUCTURE DRAWING 230 KV

OWNER'S DWG. NO. : MD1-RF-00-SS-C-08-NT8-303 REV. NO. : C

SCALE : AS SHOWN FORMAT : A3 FILE NO. : SHEET: 0 OF:12

CONTRACT NO. : DESIGN TYPE : BASIC DESIGN ☐
DETAIL DESIGN ☒

XXXX IN-HOUSE REVISION							
C	MODIFIED	1405.02	1405.02	1405.02	1405.02	1405.02	1405.02
B	12105-MMN-SCC-L-4399	1404.10	1404.10	1404.10	1404.10	1404.10	1404.10
A	RF-MED-MHS-T-0017	1404.08	1404.08	1404.08	1404.08	1404.08	1404.08
O	FIRST ISSUE	1404.02	1404.02	1404.02	1404.02	1404.02	1404.02
Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE

NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I)		1405.02	1405.02	1405.02	1405.02	1405.02	1405.02
MAPNA'S DWG. NO. : MD1-RF-00-SS-C-08-NT8-303	FILE NO. : C	SUB CONTRACTOR DWG. NO.:		DATE			

0 1 2 3 4 5 6 7 8 9 10

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KHATOON ABAD GAS POWER PLANT
230KV SUBSTATION
SINGLE LINE GANTRY STRUCTURE DRAWING 230 KV

REFERENCE DOCUMENT & DWG

LEGENDS

NOTES

KEY PLAN

D							
C	MODIFIED	1405.02					
B	12105-MMN-SCC-L-4399	1404.10					
A	RF-MED-MHS-T-0017	1404.08					
O	FIRST ISSUE	1404.02					
Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE



PROJECT: KHATOON ABAD GAS POWER PLANT
230KV AIS SUBSTATION

TITLE:
SINGLE LINE GANTRY STRUCTURE DRAWING 230 KV

OWNER'S DWG. NO.: MD1-RF-00-SS-C-08-NT6-303 REV. NO.: C

SCALE: AS SHOWN FORMAT: A3 FILE NO.: SHEET: 0 OF 12

CONTRACT NO.: DESIGN TYPE: BASIC DESIGN ☐
DETAIL DESIGN ☒

XXXX IN-HOUSE REVISION							
C	MODIFIED	1405.02					
B	12105-MMN-SCC-L-4399	1404.10					
A	RF-MED-MHS-T-0017	1404.08					
O	FIRST ISSUE	1404.02					
Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE

NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)		1405.02					
MAPNA'S DWG. NO.:	MD1-RF-00-SS-C-08-NT6-303	REV. NO.:	C	SUB CONTRACTOR DWG. NO.:			
DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE		

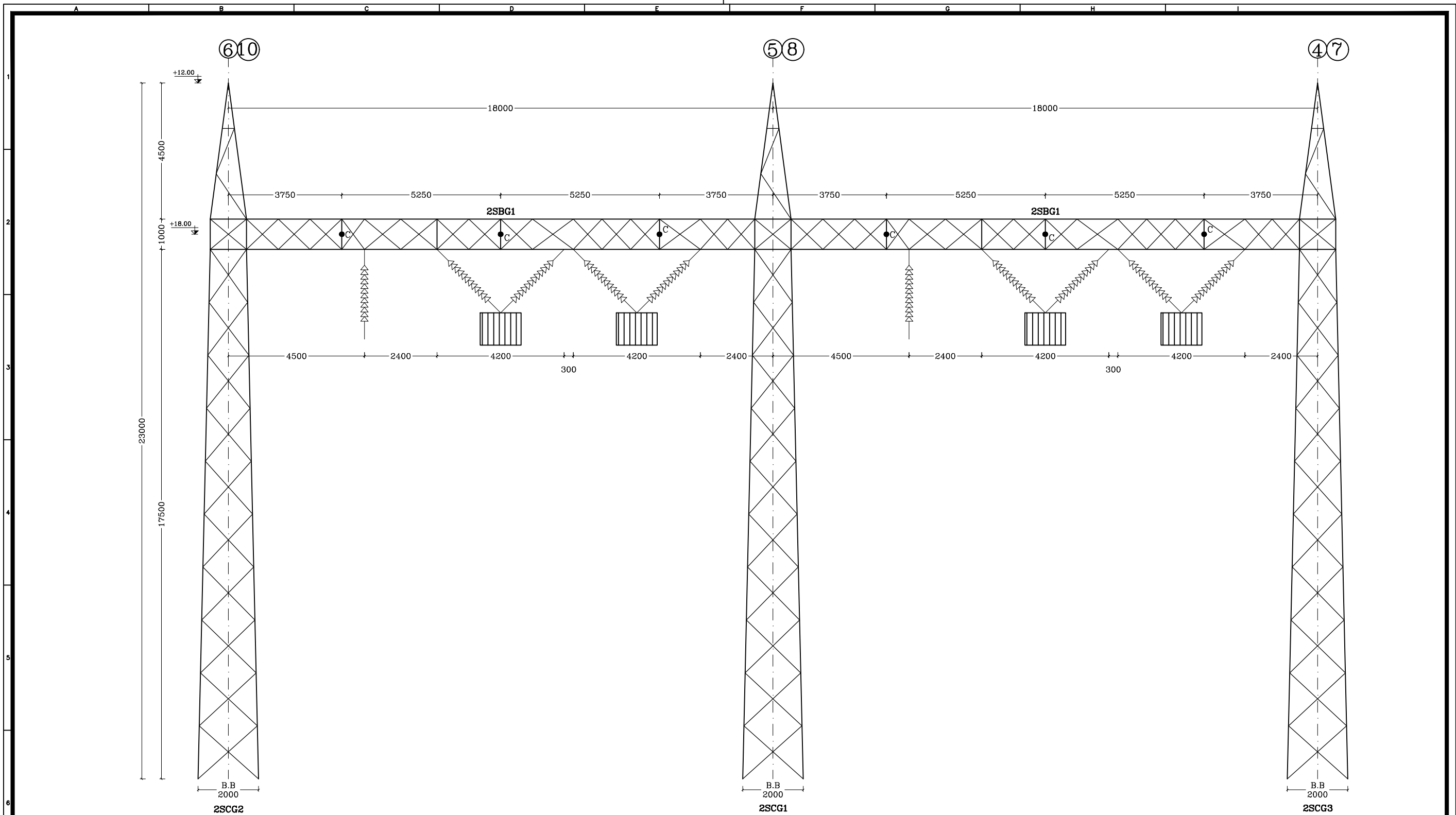
0 1 2 3 4 5 6 7 8 9 10

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DRAWING LIST				
NO.SHEET	SUBJECT	REV		
		A	B	C
1	COVER SHEET			✓
2	INDEX			✓
4	2SGAN1			✓
5	2SGAN2			✓
6	2SCG1			✓
7	DETAILS OF 2SCG1			✓
8	DETAILS OF 2SCG1			✓
9	2SCG2			✓
10	2SCG3			✓
11	DETAILS OF 2SCG2&3			✓
12	DETAILS OF 2SCG2&3			✓
13	2SBG1			✓
14	2SBG2			✓
15	DETAILS OF 2SBG1&2			✓
16	2SCG4-2SBG3			✓
17	2SCG4			✓
18	DETAILS			✓

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY 	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303	 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.		
		D											
	SUB CONTRACTOR DWG. NO.:	C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1405.02				DRAWING TITLE: INDEX	REV. NO. : C
		B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.10					SHEET: 01 OF 17
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.08					
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.02	DESIGN STAGE :	FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S	
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE					

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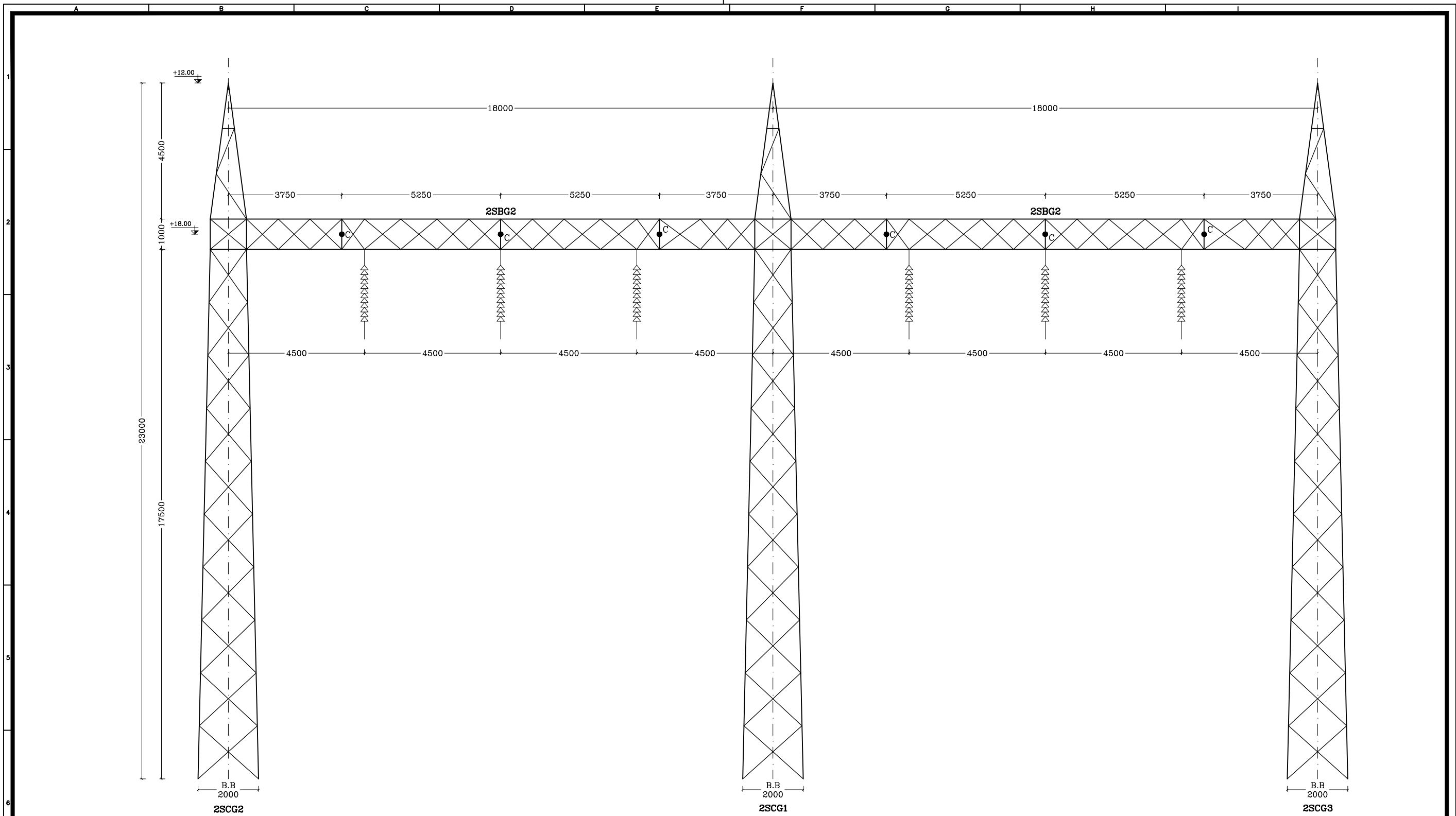


FRONT VIEW 2SGAN1

NO. 2SGAN1= 8

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.) MAPNA'S DWG. No. :	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.	
		D												
	SUB CONTRACTOR DWG. NO.:	C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1405.02	DRAWING TITLE: 2SGAN1			REV. NO. : C		
		B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.10				SHEET: 02 OF:17		
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.08						
	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.02	DESIGN STAGE :		FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S	
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE						

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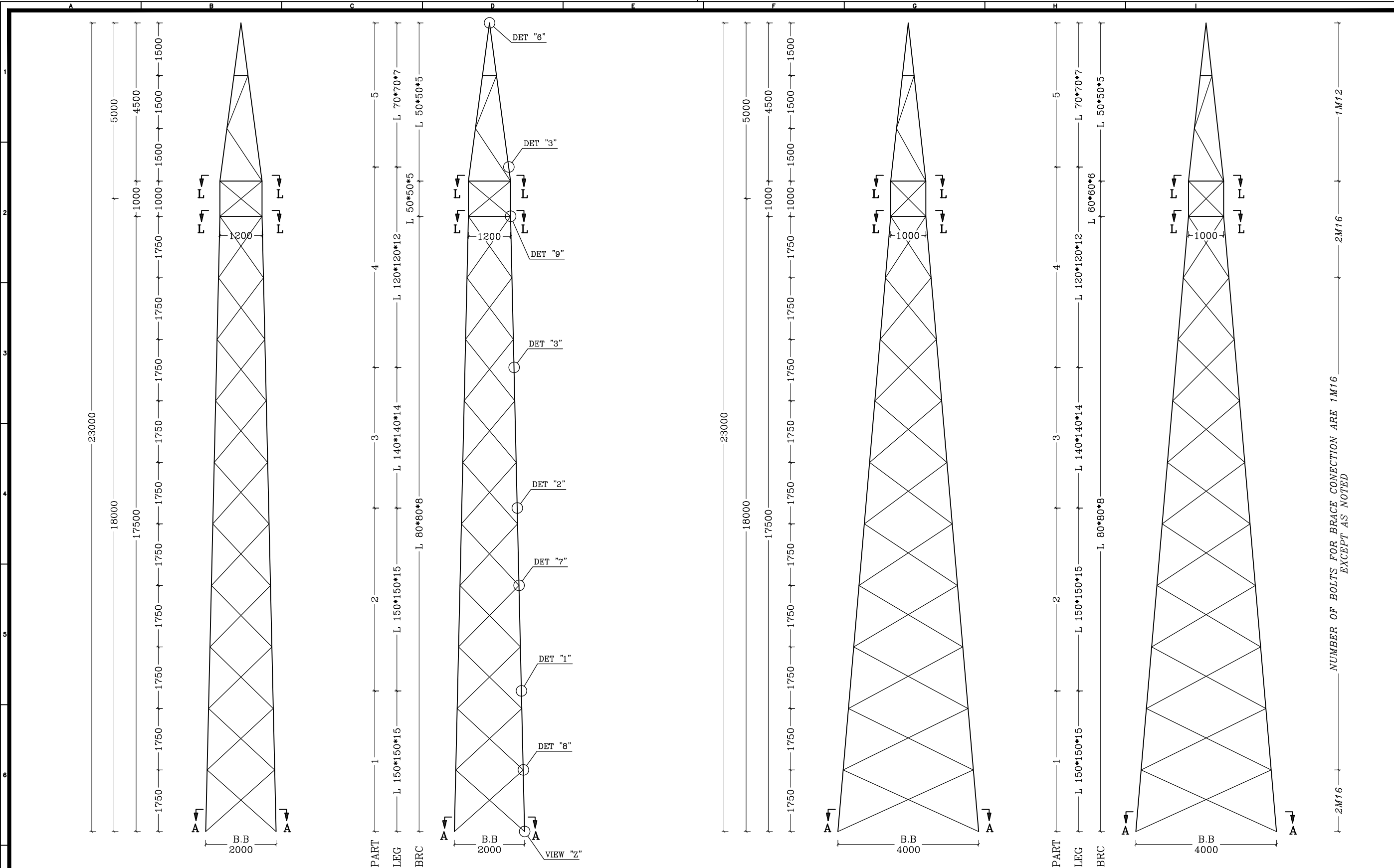


FRONT VIEW 2SGAN2

NO. 2SGAN2= 8

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.) MAPNA'S DWG. No. :	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1) NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S	
		D								DRAWING TITLE: 2SGAN2				
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1405.02	REV. NO. : C					
		B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.10	SHEET: 03 OF:17					
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.08	FORMAT : A3					
SUB CONTRACTOR DWG. NO.:	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.02	DESIGN STAGE :		FILE No.			
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE						

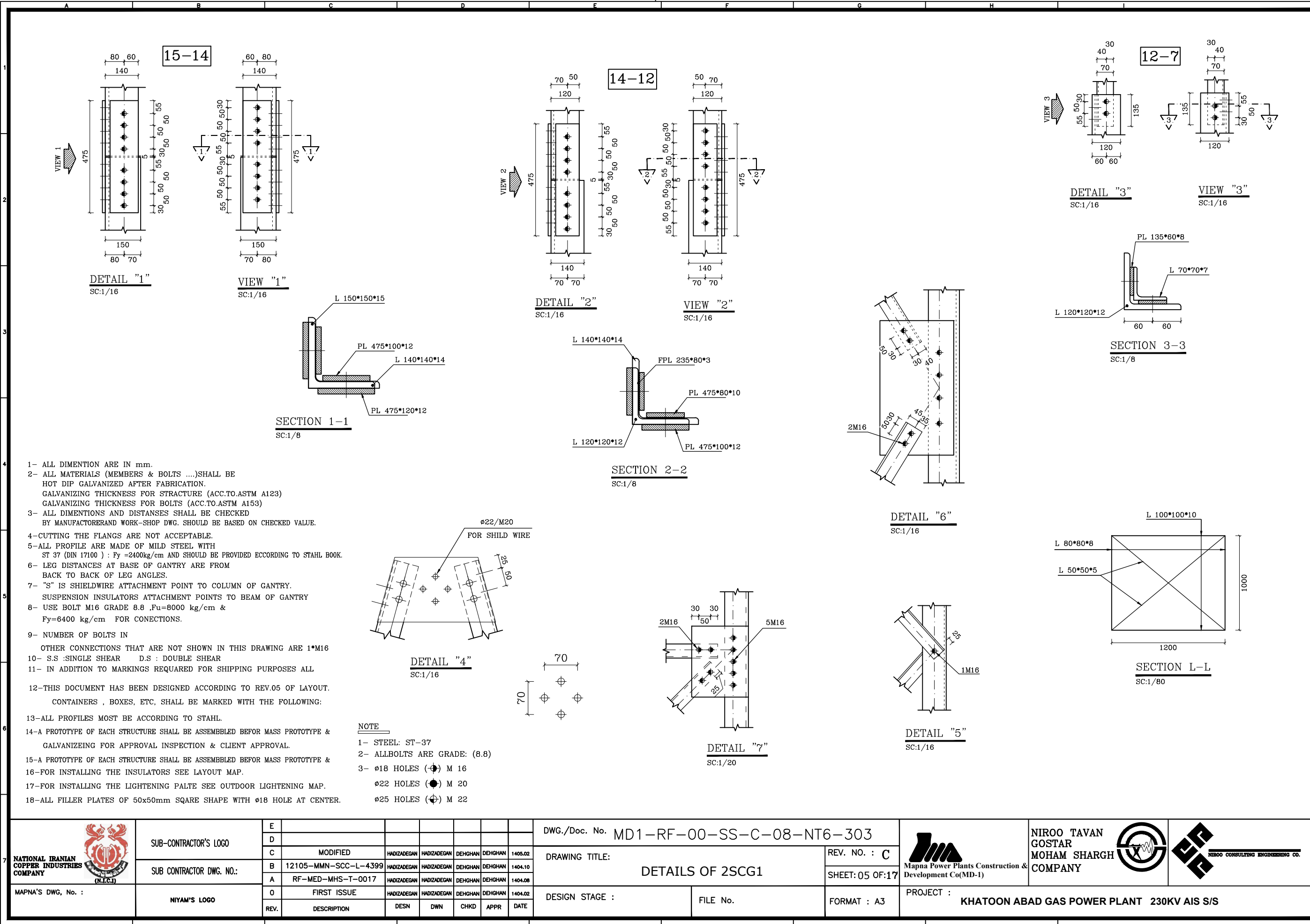
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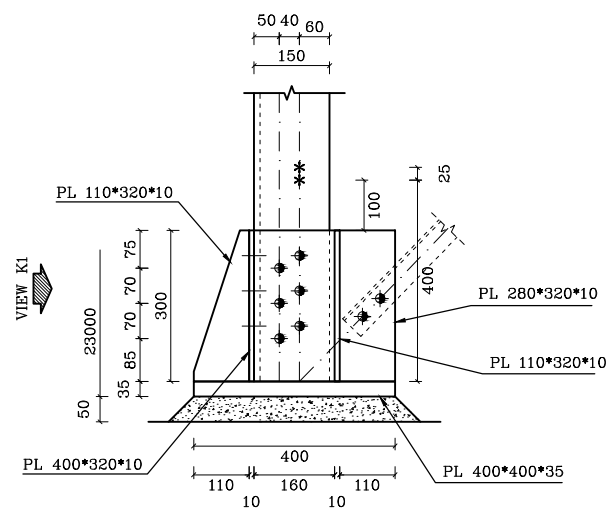
NUMBER OF BOLTS FOR BRACE CONNECTION ARE 1M16
EXCEPT AS NOTED

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.) MAPNA'S DWG. No. :	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.	 EP	
		D								DRAWING TITLE:					
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1405.02	REV. NO. : C						
	SUB CONTRACTOR DWG. NO.:	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.10	2SCG1						SHEET: 04 OF:17
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.08							
	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.02	DESIGN STAGE :		FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S		
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE							

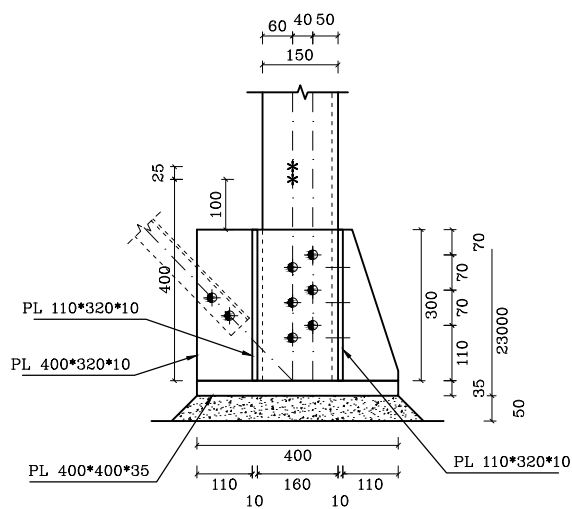
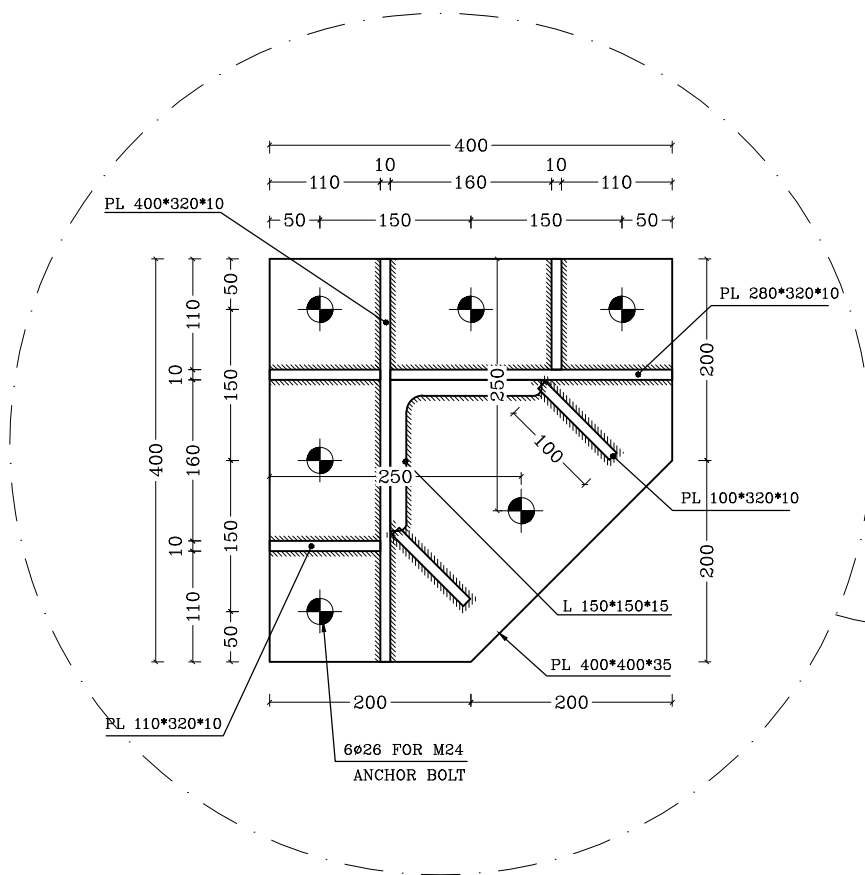
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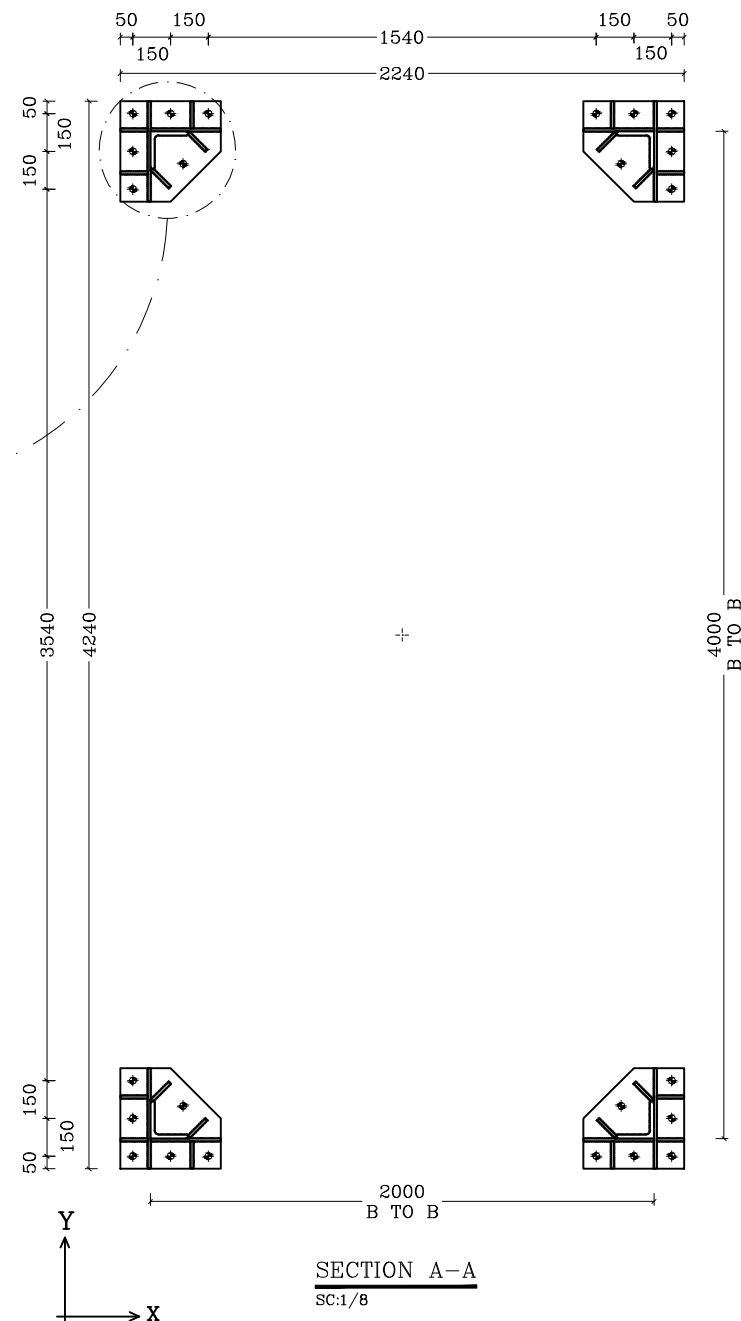
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VIEW K
SC:1/8



VIEW K1
SC:1/8



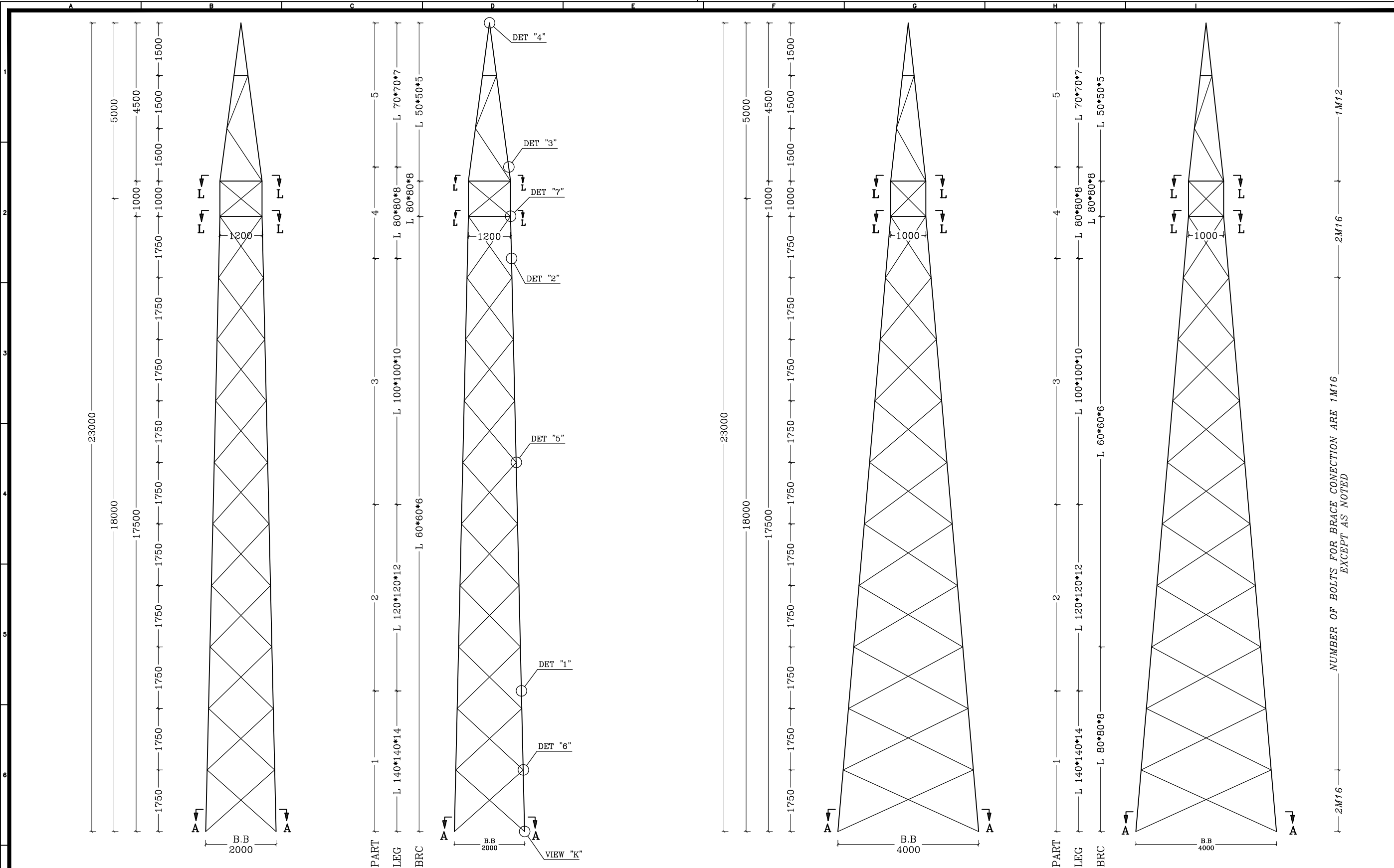
- 1- ALL DIMENSION ARE IN mm.
- 2- ALL MATERIALS (MEMBERS & BOLTS ...)SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRAUTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
- 3- ALL DIMENTIONS AND DISTANSSE SHALL BE CHECKED BY MANUFACTORERAND WORK-SHOP DWG. SHOULD BE BASED ON CHECKED VALUE.
- 4-CUTTING THE FLANGS ARE NOT ACCEPTABLE.
- 5-ALL PROFILE ARE MADE OF MILD STEEL WITH ST 37 (DIN 17100) : Fy =2400kg/cm AND SHOULD BE PROVIDED ECCRORDING TO STAHL BOOK.
- 6- LEG DISTANCES AT BASE OF GANTRY ARE FROM BACK TO BACK OF LEG ANGLES.
- 7- "S" IS SHIELDWIRE ATTACHMENT POINT TO COLUMN OF GANTRY.
SUSPENSION INSULATORS ATTACHMENT POINTS TO BEAM OF GANTRY
- 8- USE BOLT M16 GRADE 8.8 ,Fu=8000 kg/cm & Fy=6400 kg/cm FOR CONECTIONS.
- 9- NUMBER OF BOLTS IN
OTHER CONNECTIONS THAT ARE NOT SHOWN IN THIS DRAWING ARE 1*M16
- 10- S.S :SINGLE SHEAR D.S : DOUBLE SHEAR
- 11- IN ADDITION TO MARKINGS REQUARED FOR SHIPPING PURPOSES ALL
- 12-THIS DOCUMENT HAS BEEN DESIGNED ACCORDING TO REV.05 OF LAYOUT.
CONTAINERS , BOXES, ETC. SHALL BE MARKED WITH THE FOLLOWING:
- 13-ALL PROFILES MOST BE ACCORDING TO STAHL.
- 14-A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBBLED BEFOR MASS PROTOTYPE & GALVANIZEING FOR APPROVAL INSPECTION & CLIENT APPROVAL.
- 15-A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBBLED BEFOR MASS PROTOTYPE &
- 16-FOR INSTALLING THE INSULATORS SEE LAYOUT MAP.
- 17-FOR INSTALLING THE LIGHTENING PALTE SEE OUTDOOR LIGHTENING MAP.
- 18-ALL FILLER PLATES OF 50x50mm SQARE SHAPE WITH ø18 HOLE AT CENTER.

NOTE

- 1- STEEL: ST-37
- 2- ALLBOLTS ARE GRADE: (8.8)
- 3- ø18 HOLES (⊕) M 16
ø22 HOLES (●) M 20
ø25 HOLES (⊕) M 22

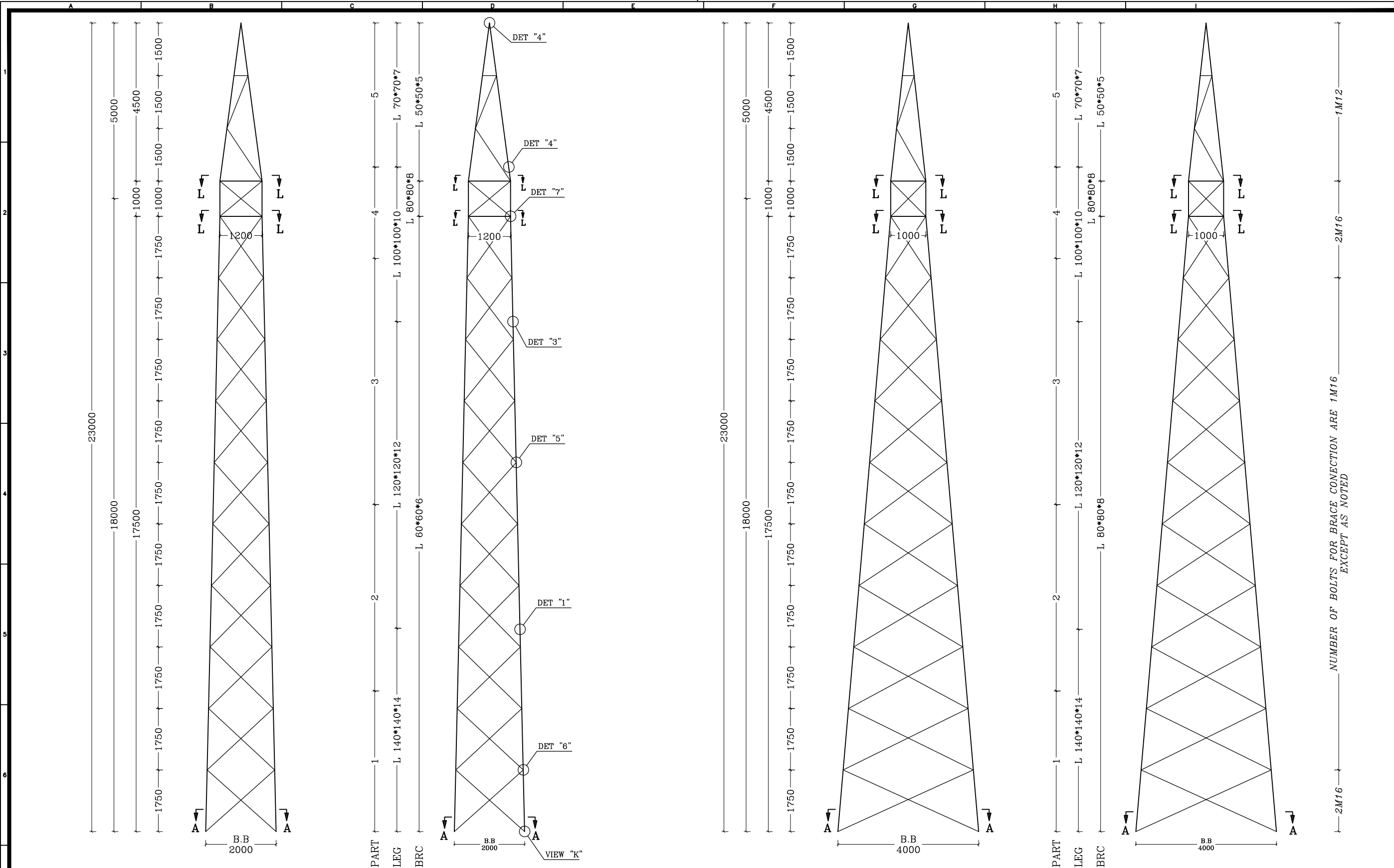
 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY	 NIROO CONSULTING ENGINEERING CO.	
		D													
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1405.02	DRAWING TITLE:						REV. NO. : C
	SUB CONTRACTOR DWG. NO.:	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.10	DETAILS OF 2SCG1						SHEET: 06 OF:17
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.08							
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.02	DESIGN STAGE :		FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S		
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE							

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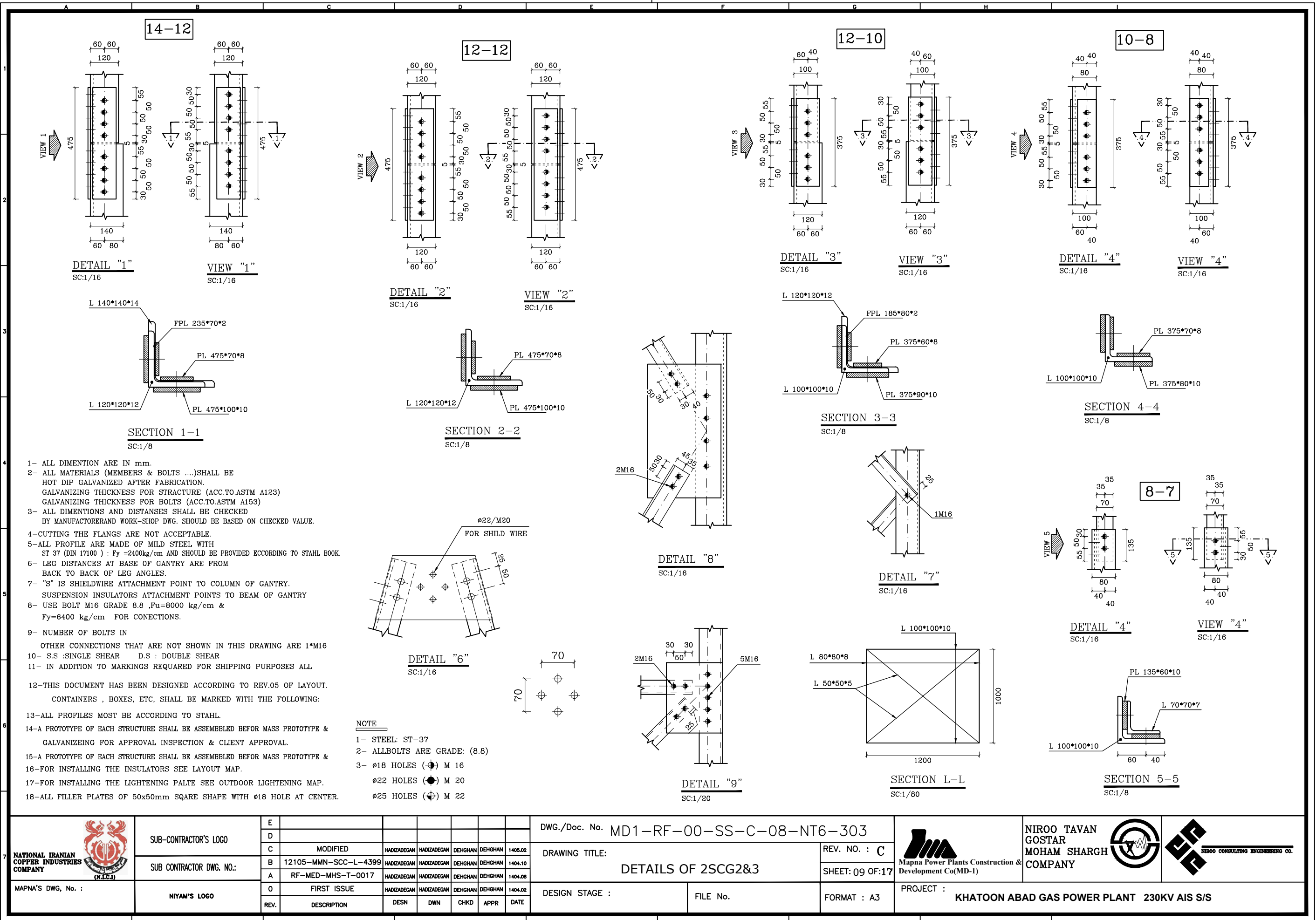
 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY   HIROO CONSULTING ENGINEERING CO.		
		D								DRAWING TITLE: 2SCG2				REV. NO. : C	
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1405.02						SHEET: 07 OF:17	
	SUB CONTRACTOR DWG. NO.:	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.10							
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.08							
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.02	DESIGN STAGE :		FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S		
		REV.	DESCRIPTION		DESN	DWN	CHKD	APPR	DATE						

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 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.) MAPNA'S DWG. No. :	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY   NIROO CONSULTING ENGINEERING CO.	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S	
		D								DRAWING TITLE: 2SCG3					
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1405.02	REV. NO. : C						
	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.10	SHEET: 08 OF:17							
	A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.08	DESIGN STAGE :			FILE No.		FORMAT : A3		
SUB CONTRACTOR DWG. NO.:	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.02							
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE							

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[illegible]

- 1- ALL DIMENTION ARE IN mm.

2- ALL MATERIALS (MEMBERS & BOLTS)SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

GALVANIZING THICKNESS FOR STRAUTURE (ACC.TO.ASTM A123)

GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)

3- ALL DIMENTIONS AND DISTANSES SHALL BE CHECKED BY MANUFACTORERAND WORK-SHOP DWG. SHOULD BE BASED ON CHECKED VALUE.

4-CUTTING THE FLANGS ARE NOT ACCEPTABLE.

5-ALL PROFILE ARE MADE OF MILD STEEL WITH ST 37 (DIN 17100) : Fy =2400kg/cm AND SHOULD BE PROVIDED ECCORDING TO STAHL BOOK.

6- LEG DISTANCES AT BASE OF GENTRY ARE FROM BACK TO BACK OF LEG ANGLES.

7- "S" IS SHIELDWIRE ATTACHMENT POINT TO COLUMN OF GENTRY.

SUSPENSION INSULATORS ATTACHMENT POINTS TO BEAM OF GENTRY

8- USE BOLT M16 GRADE 8.8 ,Fu=8000 kg/cm & Fy=6400 kg/cm FOR CONECTIONS.

9- NUMBER OF BOLTS IN OTHER CONNECTIONS THAT ARE NOT SHOWN IN THIS DRAWING ARE 1*M16

10- S.S :SINGLE SHEAR D.S : DOUBLE SHEAR

11- IN ADDITION TO MARKINGS REQUARED FOR SHIPPING PURPOSES ALL

12-THIS DOCUMENT HAS BEEN DESIGNED ACCORDING TO REV.05 OF LAYOUT.

CONTAINERS , BOXES, ETC, SHALL BE MARKED WITH THE FOLLOWING:

13-ALL PROFILES MOST BE ACCORDING TO STAHL.

14-A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBBLED BEFOR MASS PROTOTYPE & GALVANIZEING FOR APPROVAL INSPECTION & CLIENT APPROVAL.

15-A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBBLED BEFOR MASS PROTOTYPE &

16-FOR INSTALLING THE INSULATORS SEE LAYOUT MAP.

17-FOR INSTALLING THE LIGHTENING PALTE SEE OUTDOOR LIGHTENING MAP.

18-ALL FILLER PLATES OF 50x50mm SQARE SHAPE WITH ø18 HOLE AT CENTER.

50 40 50

140

25

100

400

300

70

50

23000

30

50

400

110

160

110

10

10

PL 110*300*10

PL 400*300*10

PL 400*400*30

PL 110*300*10

VIEW Z1

SC:1/8

50 150

150

2000

B TO B

SECTION A-A

SC:1/8

Y

X

ø18 HOLES (⌀) M 16

ø22 HOLES (⌀) M 20

ø26 HOLES (⌀) M 24

NOTE

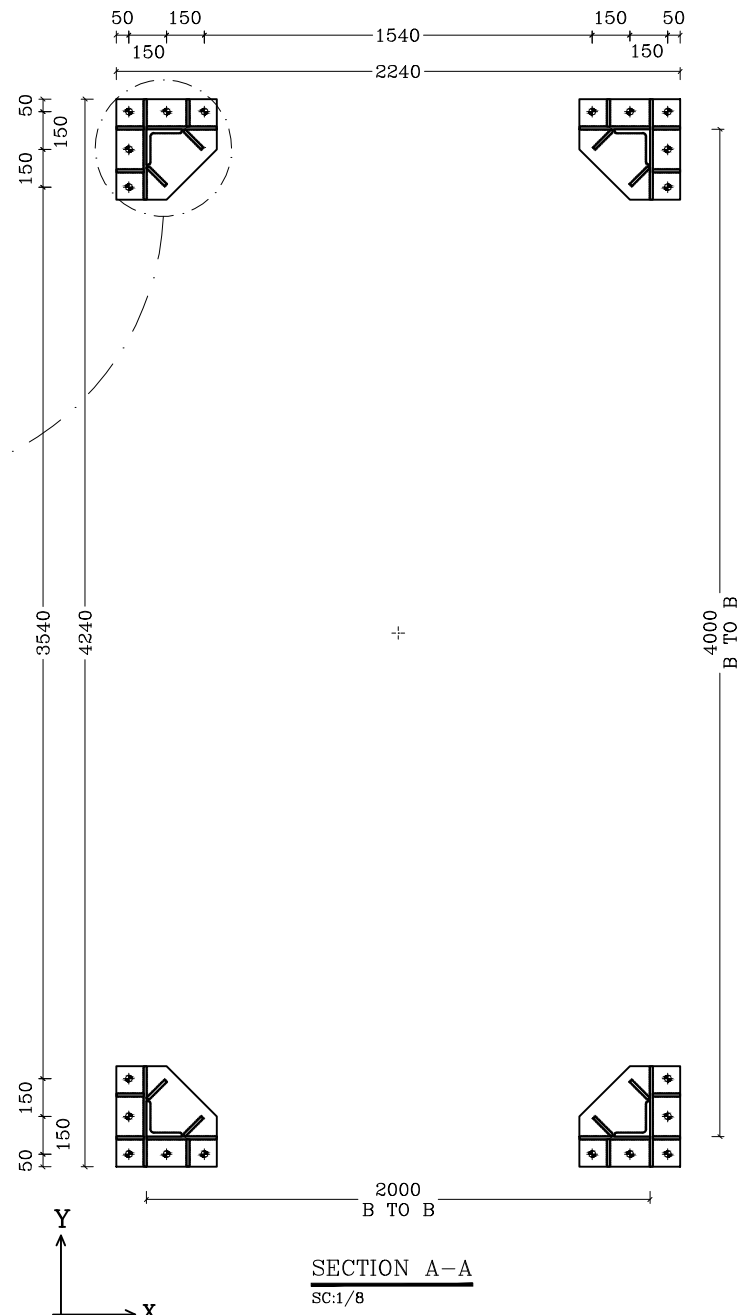
1- STEEL: ST-37

2- ALLBOLTS ARE GRADE: (8.8)

3- ø18 HOLES (⌀) M 16

ø22 HOLES (⌀) M 20

ø26 HOLES (⌀) M 24



 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I)	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.		
		D								DRAWING TITLE: DETAILS OF 2SCG2&3				REV. NO. : C	
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1405.02	SHEET: 10 OF 17						
	SUB CONTRACTOR DWG. NO.:	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.10	DESIGN STAGE : FILE No.					FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S
A		RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.08								
O		FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.02								
MAPNA'S DWG. No. :	NIYAM'S LOGO	REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE							

2SBG1

18000
16800
1200 1050 1050 1050 750 1200 1200 1050 1050 1050 1350 950 950 950 1350 900 900 1200
3750 5250 5250 3750

1SCG DET Z A1 A1 A1 1SCG

1000

DET A

NUMBER OF BOLTS FOR BRACE CONECTION ARE 1M16

BRC L 50*50*5

LEG L 80*80*8 L 80*80*8 L 80*80*8

PART 5600 5600 5600

FRONT VIEW OF BEAM
SC:1/80

18000
16800
1200 1050 1050 1050 750 1200 1200 1050 1050 1050 1350 950 950 950 1350 900 900 1200
3750 5250 5250 3750

1SCG DET Z 2L10 2L10 2L10 2L10 1SCG

1000

DET A

NUMBER OF BOLTS FOR BRACE CONECTION ARE 1M16

BRC L 50*50*5

LEG L 80*80*8 L 80*80*8 L 80*80*8

PART 5600 5600 5600

BACK VIEW OF BEAM
SC:1/80

18000
16800
1200 1050 1050 1050 750 1200 1200 1050 1050 1050 300 950 950 950 1350 900 900 1200
6900 4200 4200 2400

1SCG DET Z A2 A2 A2 1SCG

1000

DET A

NUMBER OF BOLTS FOR BRACE CONECTION ARE 1M16

BRC L 50*50*5

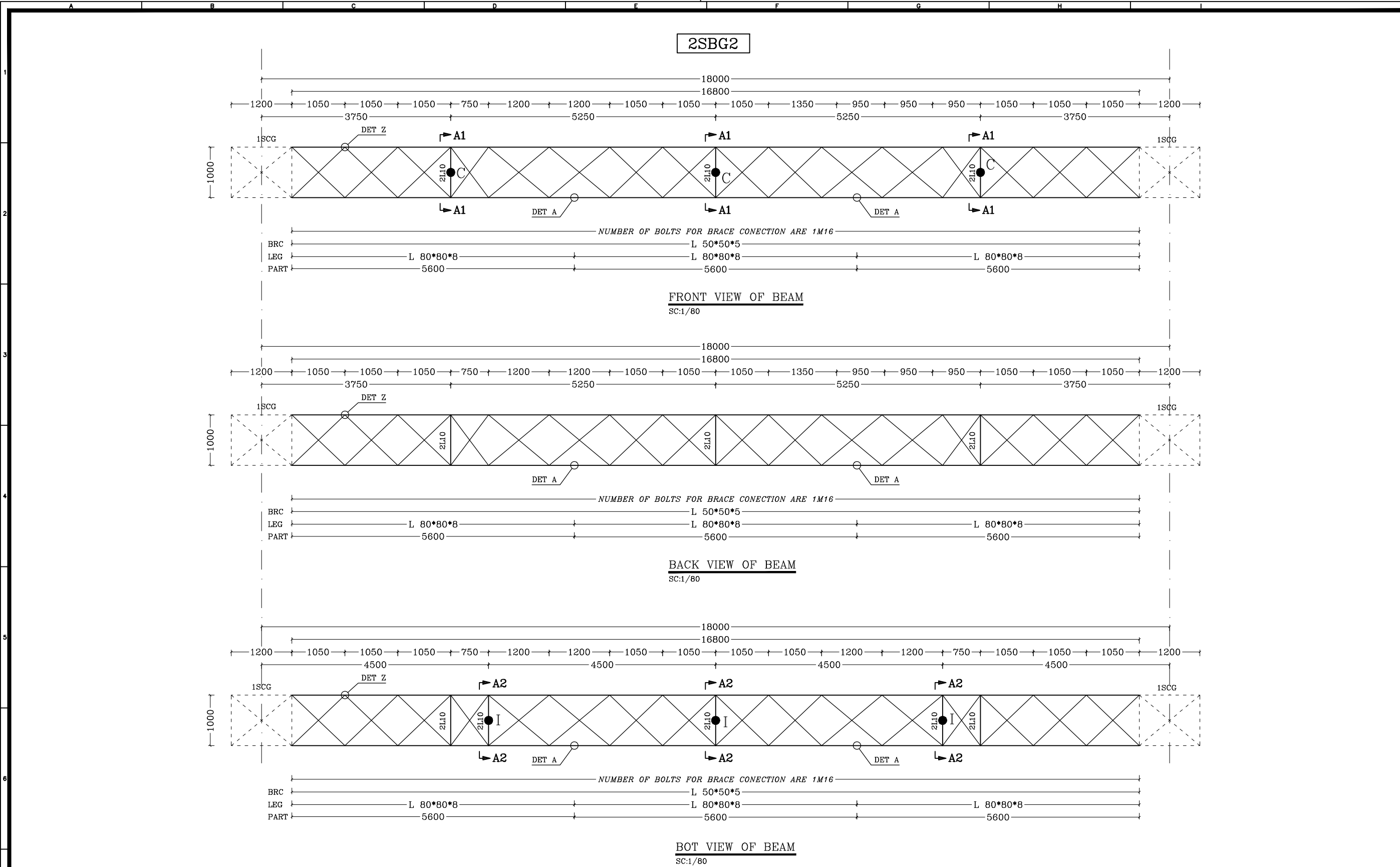
LEG L 80*80*8 L 80*80*8 L 80*80*8

PART 5600 5600 5600

BOT VIEW OF BEAM
SC:1/80

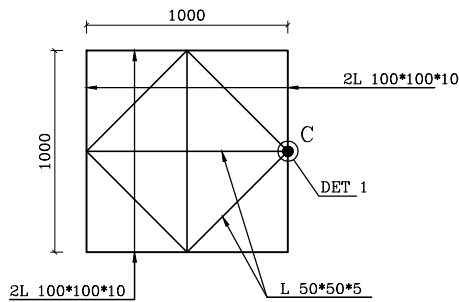
 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY	SUB-CONTRACTOR'S LOGO	E						DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303	 Mapna Power Plants Construction & Development Co (MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.			
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN				1405.02		
	SUB CONTRACTOR DWG. NO.:	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN				1404.10	DRAWING TITLE: 2SBG1	REV. NO. : C
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN				1404.08		SHEET: 11 OF 17
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.02	DESIGN STAGE :	FILE No.	FORMAT : A3	PROJECT :	
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE				KHATOON ABAD GAS POWER PLANT 230KV AIS S/S	

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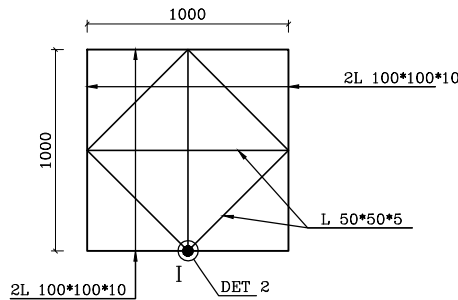


 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303	DRAWING TITLE: 2SBG2	REV. NO. : C	 Mapna Power Plants Construction & Development Co(MD-1)	 NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY	 NIROO CONSULTING ENGINEERING CO.				
		D																
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1405.02										
	SUB CONTRACTOR DWG. NO.:	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.10							DESIGN STAGE :	FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S
		A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.08										
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.02										
		REV.	DESCRIPTION		DESN	DWN	CHKD	APPR	DATE									

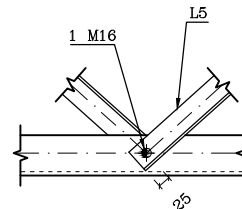
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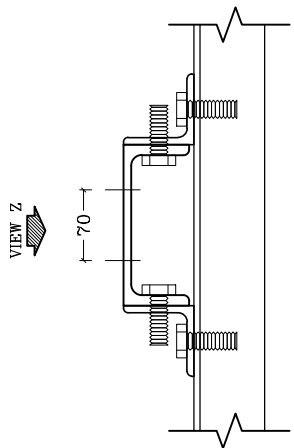
SECTION A1-A1
SC:1/40



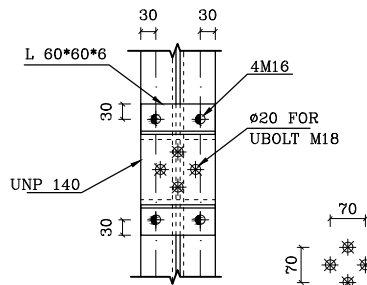
SECTION A2-A2
SC:1/40



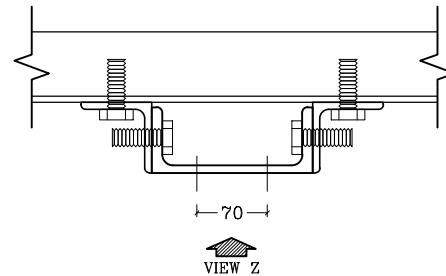
DETAIL "Z"
SC:1/16



DETAIL "1"
SC:1/16



VIEW "Z"
SC:1/20



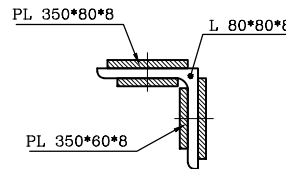
DETAIL "2"
SC:1/20

NOTES

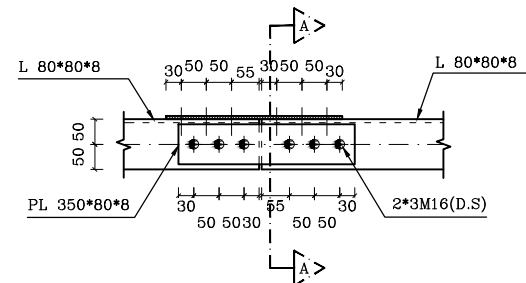
- 1- ALL DIMENTION ARE IN mm.
- 2- ALL MATERIALS (MEMBERS & BOLTS)SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRACTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
- 3- ALL DIMENTIONS AND DISTANCES SHALL BE CHECKED BY MANUFACTURERAND WORK-SHOP DWG.
SHOULD BE BASED ON CHECKED VALUE.
- 4-CUTTING THE FLANGS ARE NOT ACCEPABLE.
- 5-ALL PROFILE ARE MADE OF MILD STEEL WITH ST 37 (DIN 17100) : $F_y = 2400 \text{ kg/cm}^2$ AND SHOULD BE PROVIDED ECCORDING TO STAHL BOOK.
- 6- LEG DISTANCES AT BASE OF GANTRY ARE FROM BACK TO BACK OF LEG ANGLES.
- 7- "S" IS SHIELDWIRE ATTACHMENT POINT TO COLUMN OF GANTRY.
SUSPENSION INSULATORS ATTACHMENT POINTS TO BEAM OF GANTRY
- 8- USE BOLT GRADE 8.8 , $F_u = 8000 \text{ kg/cm}^2$ & $F_y = 6400 \text{ kg/cm}^2$ FOR CONECTIONS.
- 9- NUMBER OF BOLTS IN OTHER CONNECTIONS THAT ARE NOT SHOWN IN THIS DRAWING ARE 1*M16 (HOLE ø18 FOR M16).
- 10- S.S :SINGLE SHEAR D.S : DOUBLE SHEAR
- 11-THIS DOCUMENT HAS BEEN DESIGNED ACCORDING TO REV.A OF LAYOUT.

NOTE

- 1- STEEL: ST-37
- 2- ALLBOLTS ARE GRADE: (8.8)
- 3- ø18 HOLES (⊕) M 16
ø22 HOLES (●) M 20
ø25 HOLES (⊕) M 22



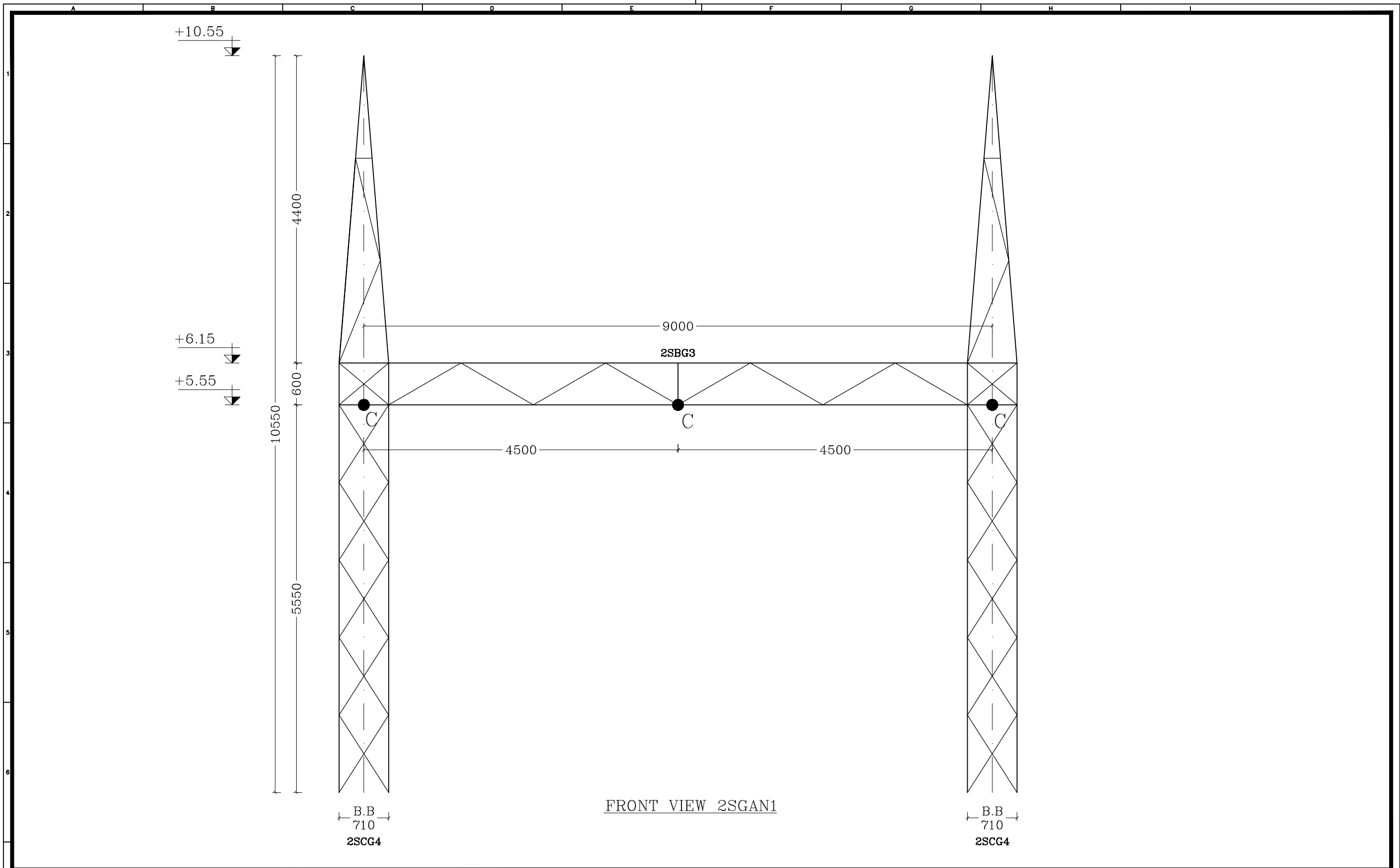
SECTION A-A
SC:1/8



DETAIL A
SC:1/16

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY	 NIROO CONSULTING ENGINEERING CO.				
		D																
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1405.02	DRAWING TITLE:						REV. NO. : C			
	SUB CONTRACTOR DWG. NO.:	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.10	DETAILS OF 2SBG1&2						SHEET: 13 OF:17			
A		RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.08											
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.02	DESIGN STAGE :		FILE No.				FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S		
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE										

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 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.) MAPNA'S DWG. No. :	SUB-CONTRACTOR'S LOGO	E							DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303			 Mapna Power Plants Construction & Development Co(MD-1) NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S		
		D								DRAWING TITLE:					
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1405.02	2SCG4-2SBG3						REV. NO. : C
	B	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.10	SHEET: 14 OF:17							
	A	RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.08								
SUB CONTRACTOR DWG. NO.:	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEHGHAN	DEHGHAN	1404.02	DESIGN STAGE :		FILE No.	FORMAT : A3				
	REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE								

Technical drawing of a lattice tower structure, showing dimensions and part details.

Dimensions (Left Side):

- 10550
- 5550
- 1110
- 1110
- 1110
- 1110
- 1110
- 600
- 4400
- 1467
- 1467

Dimensions (Right Side):

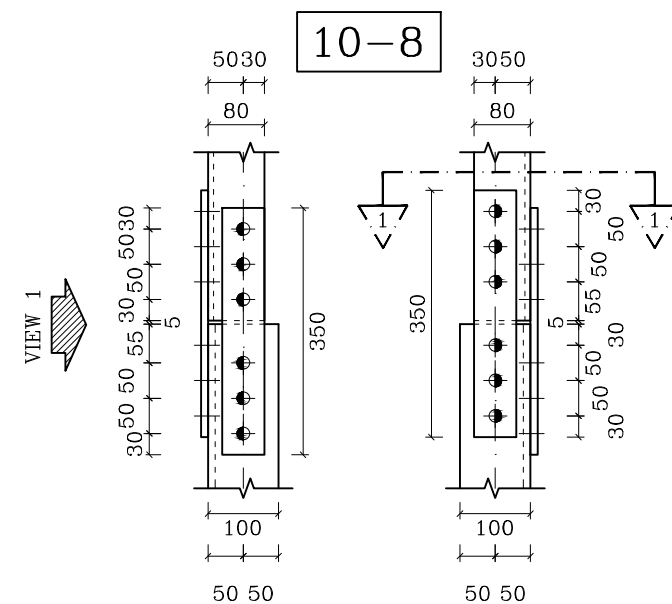
- 1
- 2
- 3
- 4
- 5
- 6

Part Details:

- PART 1:** L 100*100*10
- LEG 2:** L 80*80*8
- BRC 3:** L 40*40*4
- DET "1":** DET "1"
- DET "2":** DET "2"
- DET "3":** DET "3"

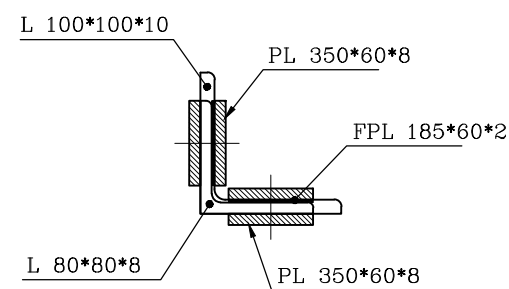
Notes:

- NUMBER OF BOLTS FOR BRACE CONNECTION ARE 1M16 EXCEPT AS NOTED

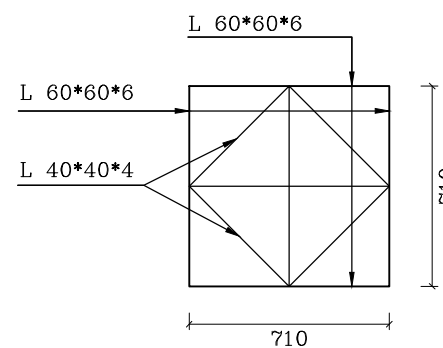


DETAIL "1"
SC:1/16

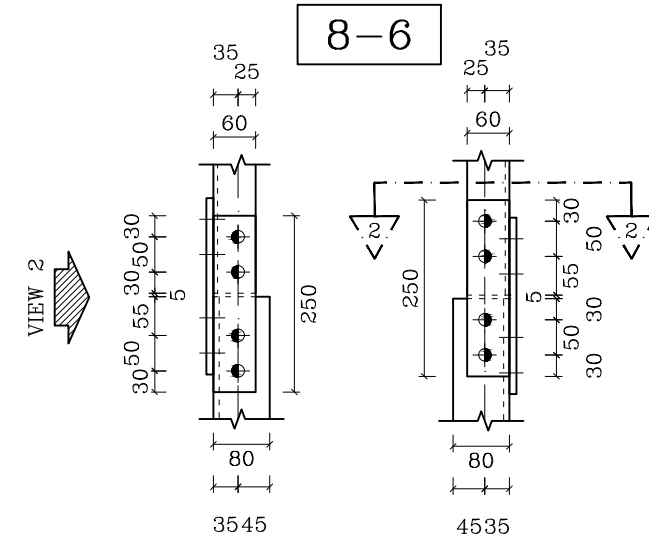
VIEW "1"
SC:1/16



SECTION 1-1
SC:1/8

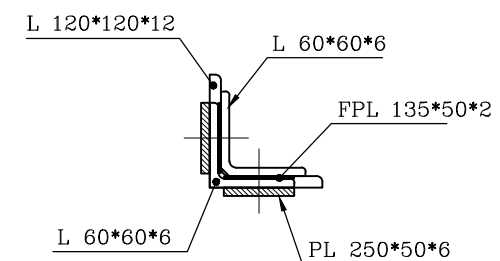


SECTION L-L
SC:1/80

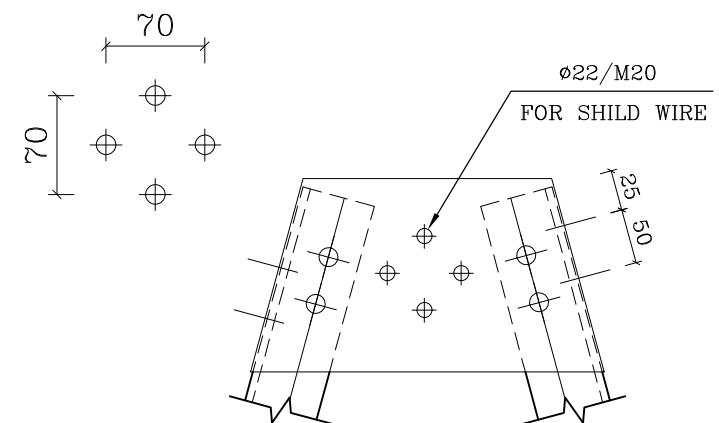


DETAIL "2"
SC:1/16

VIEW "2"
SC:1/16



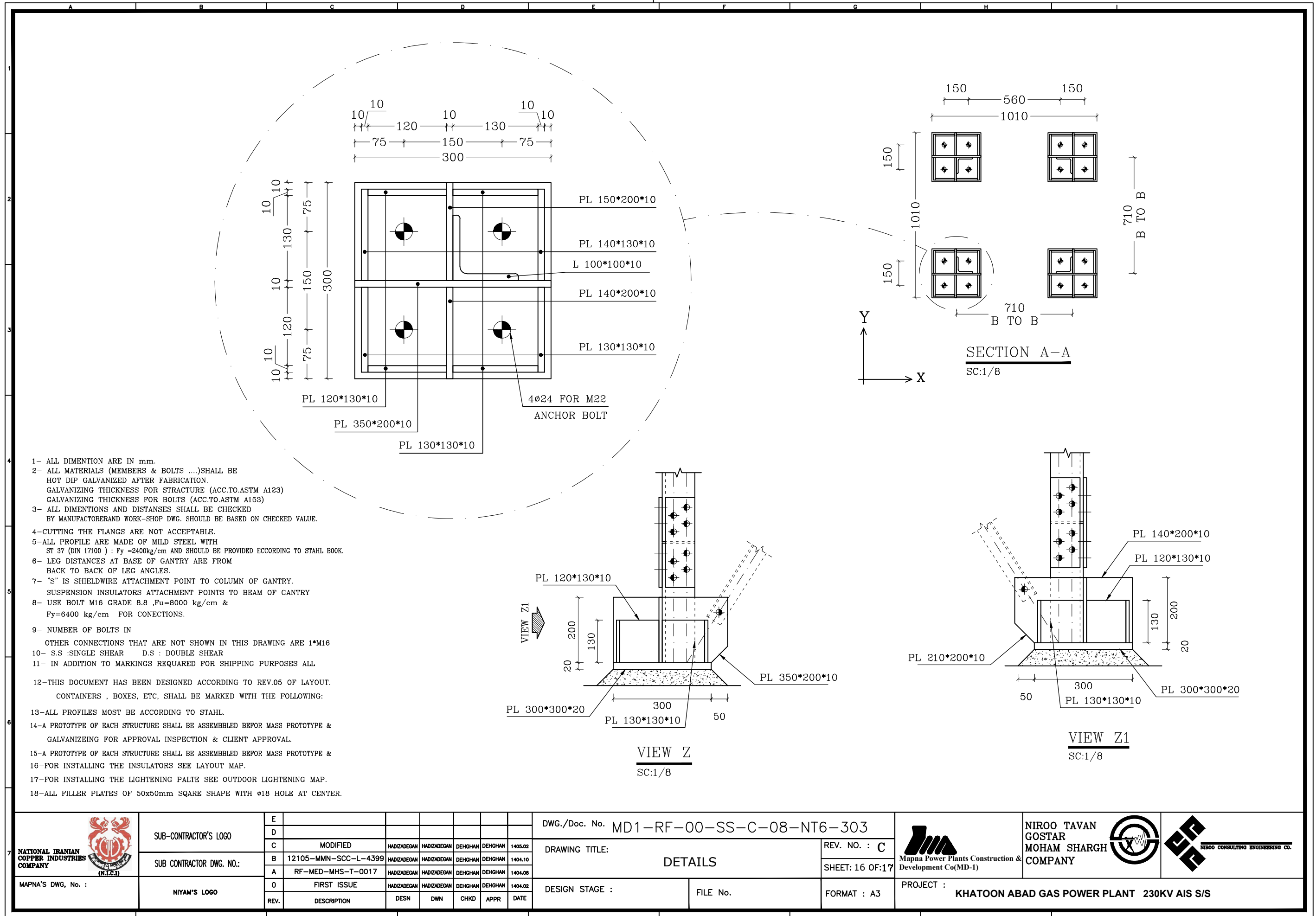
SECTION 2-2
SC:1/8



DETAIL "3"
SC:1/16

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)	SUB-CONTRACTOR'S LOGO	E						DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303	 Mapna Power Plants Construction & Development Co(MD-I)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.		
		D										
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN				1405.02	
	SUB CONTRACTOR DWG. NO.:	A	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.10	DRAWING TITLE: 2SCG4	REV. NO. : C		
B		RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.08	SHEET: 15 OF 17				
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.02	DESIGN STAGE :	FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE				

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2SBG1

9000

710 1036 1036 1036 1036 1036 1036 1036 1036

4500 4500

1SCG

600

A1

2L10

C

DET Z

DET A

C

NUMBER OF BOLTS FOR BRACE CONECTION ARE 1M16

BRC L 40*40*4

LEG L 80*80*8 L 80*80*8

PART 5600 2690

FRONT VIEW OF BEAM

SC:1/80

9000

710 1036 1036 1036 1036 1036 1036 1036 1036

4500 4500

1SCG

710

A1

2L10

C

DET Z

DET A

C

NUMBER OF BOLTS FOR BRACE CONECTION ARE 1M16

BRC L 40*40*4

LEG L 80*80*8 L 80*80*8

PART 5600 2690

TOP VIEW OF BEAM

SC:1/80

9000

710 1036 1036 1036 1036 1036 1036 1036 1036

4500 4500

1SCG

710

A1

2L10

C

DET Z

DET A

C

NUMBER OF BOLTS FOR BRACE CONECTION ARE 1M16

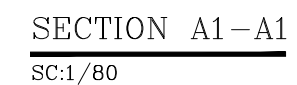
BRC L 50*50*5

LEG L 80*80*8 L 80*80*8

PART 5600 2690

BOTTOM VIEW OF BEAM

SC:1/80



 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)	SUB-CONTRACTOR'S LOGO	E						DWG./Doc. No. MD1-RF-00-SS-C-08-NT6-303	 Mapna Power Plants Construction & Development Co(MD-I)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.		
		D										
		C	MODIFIED	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN				1405.02	
	SUB CONTRACTOR DWG. NO.:	A	12105-MMN-SCC-L-4399	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.10			DRAWING TITLE: 2SBG3	REV. NO. : C
B		RF-MED-MHS-T-0017	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.08	SHEET: 17 OF 17				
O		FIRST ISSUE	HADIZADEGAN	HADIZADEGAN	DEGHAN	DEGHAN	1404.02					
MAPNA'S DWG. No. :	NIYAM'S LOGO	REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE	DESIGN STAGE :	FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S