



شماره: PE/05/0352 No.: PE/05/0352 Date: May., 26, 2026 Enclo.: Yes تاریخ: ۱۴۰۵/۰۳/۰۵ پیوست: دارد

شرکت مدیریت توسعه انرژی نوین مهام شرق - مدیریت محترم پروژه،

جناب آقای مهندس حقانی

موضوع: محاسبات و نقشه سازه گنتری، پروژه - احداث بخش ۱۳۲ کیلوولت پست ۴۰۰/۱۳۲/۳۳ کیلوولت بهادران،
(قرارداد شماره: ۲۲۴۷۹/۲۰۲۲)

با سلام و احترام، بازگشت به نامه شماره ۱۴۰۵۳/۱۰۶/۸۱ مورخ ۱۴۰۵/۰۳/۰۵ مدارک زیر، ممهور به

مهر "Reviewed"، به همراه برگه های نظرات، جهت اقدام لازم ارسال میگردد.٪

ITEM	DOC.TITLE	DOC.No.	REV.	SHEET	STATUS
2	132 KV Section of 400/ 132/33 KV BAHADORAN Sub., GANTRY STRUCTURE SINGLE LINE DRAWING	9210-MS-CV-DWG-OO00-0064	B01	21	Reviewed

فریده اکبری فرد

معاونت اجرایی پروژه ها



سیستم بريد

رونوشت:

✓ شرکت پیشگامان صنعت سرب و روی مهدی آباد، مدیریت محترم مجتمع، جناب آقای مهندس سلیم پور، جهت استحضار

www.manicco.com

info@manicco.com & manicomahsab@gmail.com

Tel: +98 21 22778773 , 22778712

تلفن دفتر تهران: ۰۲۱-۲۲۷۷۸۷۷۳ و ۰۲۱-۲۲۷۷۸۷۱۲

Tel: +98 41 33274604 , 33274609

تلفن دفتر تبریز: ۰۴۱-۳۳۲۷۴۶۰۹ و ۰۴۱-۳۳۲۷۴۶۰۴

Fax: +98 41 36389249

فاکس: ۰۴۱-۳۶۳۸۹۲۴۹



Reviewed



Checker: Mehdy Rahimpour
Date: 1405/03/05
Signature: MNC

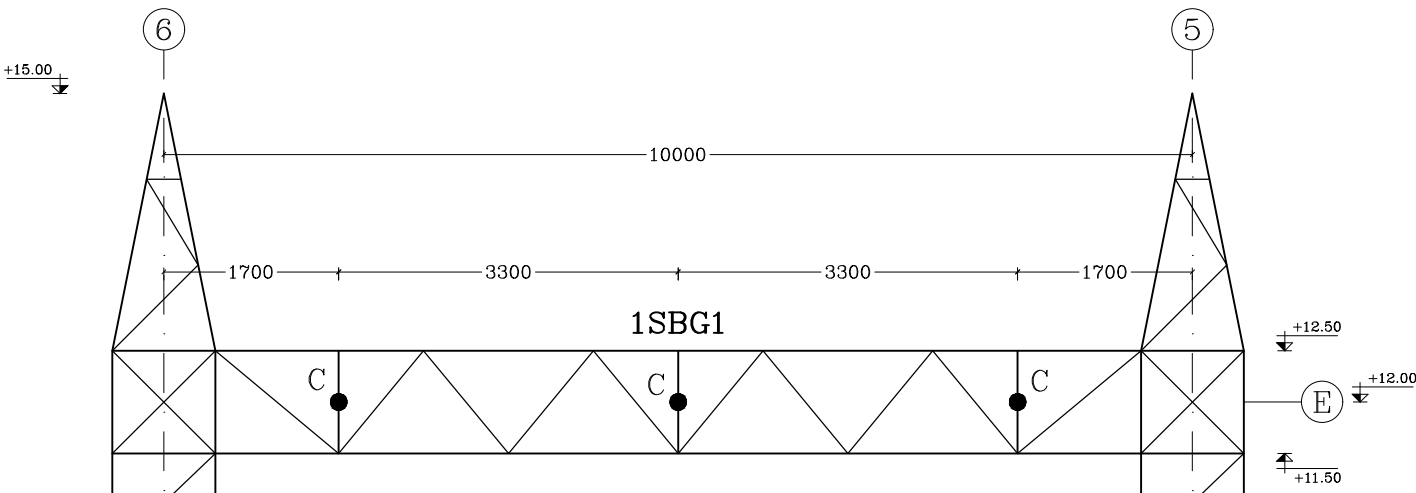
132 KV SECTION OF
BAHADORAN 400/132 KV SUBSTATION

GANTRY STRUCTURE SINGLE LINE
OF DRAWING

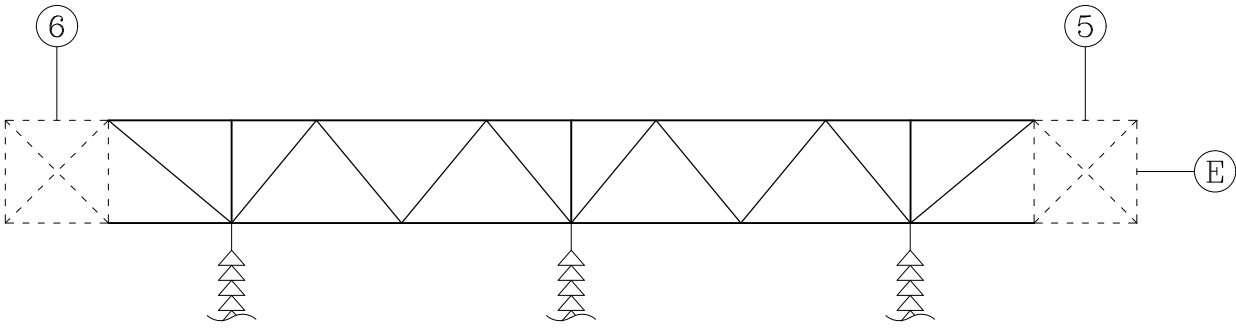
						CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION		CONSULTING ENGINEERS:  (Mahsab Niroo Consulting Engineers Co.)				NAME		DATE		DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION COVER SHEET																			
												DESIGNED		I.REZVANI									1405/03												
												DRAWN		A.MAZLOOM									1405/03												
												CHECKED		I.REZVANI									1405/03												
												APPROVED		M.DANESHPOU									1405/03												
1		1405/03		AS THE LET : PE/05/0307		A.MAZLOOM		I.REZVANI		M.DANESHPOU		CONTRACTOR:  مدیریت توسعه انرژی نوین مهام شرق متانکو		PROJECT: Mehdiabad Lead & Zinc Project																					
0		1405/02		FIRST ISSUE FOR APPROVAL		A.MAZLOOM		I.REZVANI		M.DANESHPOU																									
REV		DATE		DESCRIPTION		DRAWN		CHECKED		APPROVED				CONTRACT NO.:		SHT NO.		SHT SIZE		SCALE		AREA CODE		ISSUED		DISCIP		DOC. TYPE		EQ. NO.		SEQ. NO.		REV.	
														JOB NO.:		01		A3				9210		MS		CV		DWG		00		0064		01	

DRAWING LIST				
NO.SHEET	SUBJECT	REV		
		00	01	02
A-01	COVER SHEET		✓	
A-02	INDEX		✓	
A-03	LOCATION		✓	
A-04	1SGAN1		✓	
A-05	1SCG1		✓	
A-06	DETAIL OF 1SCG1		✓	
A-07	DETAIL OF 1SBG1		✓	
A-08	1SGAN2		✓	
A-09	1SCG2		✓	
A-10	1SCG3		✓	
A-11	DETAIL OF 1SCG2		✓	
A-12	DETAIL OF 1SCG3		✓	
A-13	DETAIL OF 1SBG2		✓	
A-14	1SGAN3		✓	
A-15	1SCG4		✓	
A-16	1SCG5		✓	
A-17	DETAIL OF 1SCG4		✓	
A-18	DETAIL OF 1SCG5		✓	
A-19	DETAIL OF 1SBG3		✓	
A-20	1SST		✓	
A-21	DETAIL OF 1SST		✓	

						CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION	CONSULTING ENGINEERS: MANTICO (Mahsab Niroo Consulting Engineers Co.)		NAME	DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION INDEX								
							DESIGNED	I.REZVANI	1405/03										
							DRAWN	A.MAZLOOM	1405/03										
							CHECKED	I.REZVANI	1405/03										
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	CONTRACTOR: ملهریت توسعه انرژی نوین مهام شرق متانکو METANCO	PROJECT: Mehdiabad Lead & Zinc Project	APPROVED	M.DANESHPOU	1405/03									
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU		CONTRACT NO.:	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.		
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED		JOB NO.:	02	A3		9210	MS	CV	DWG	00	0064	01		
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068						DRGNO													



FRONT VIEW 1SGAN 1



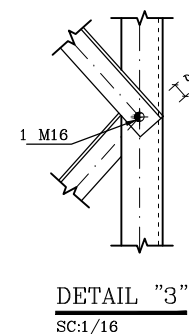
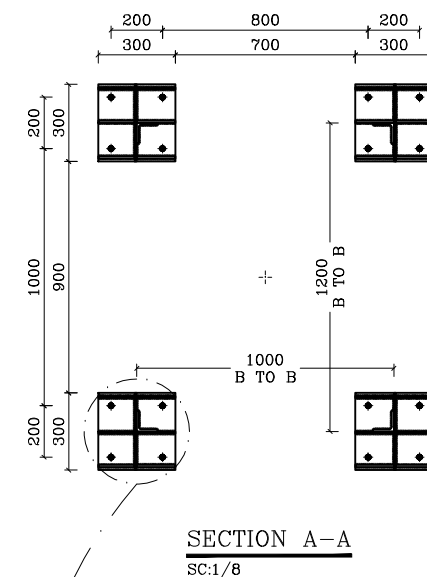
TOP VIEW 1SGAN 1

NO: 1SCG5 = 2
NO: 1SBG3 = 1

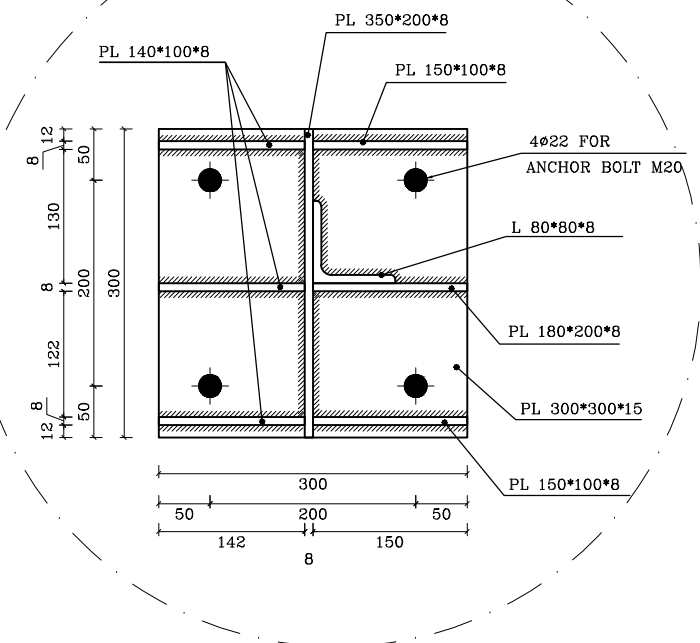
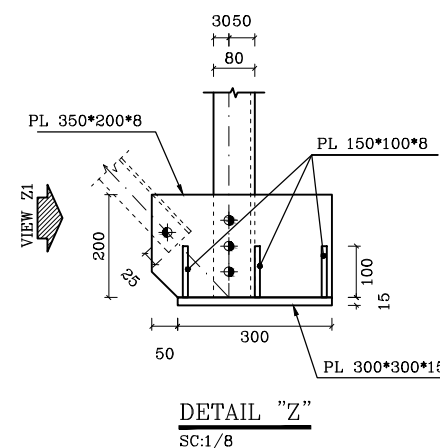
CLIENT:										CONSULTING ENGINEERS:										DWG TITLE:									
Mehdiabad Lead & Zinc Industry Phoenix Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION										Mehdiabad Lead & Zinc Project										132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION									
CONTRACTOR:										PROJECT:										1SGAN 1									
M.DANESHPOU										Mehdiabad Lead & Zinc Project																			
I.REZVANI										M.DANESHPOU																			
I.REZVANI										M.DANESHPOU																			
A.MAZLOOM										M.DANESHPOU																			
A.MAZLOOM										M.DANESHPOU																			
AS THE LET : PE/05/0307										M.DANESHPOU																			
FIRST ISSUE FOR APPROVAL										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/02										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			
1405/03										M.DANESHPOU																			

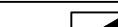


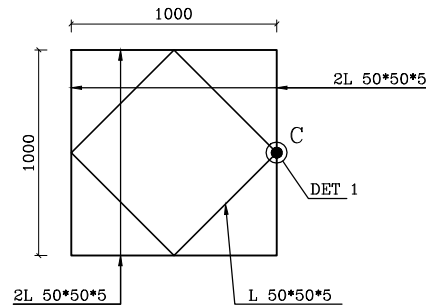
DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION 1SCG1						
AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
9210	MS	CV	DWG	00	0064	01



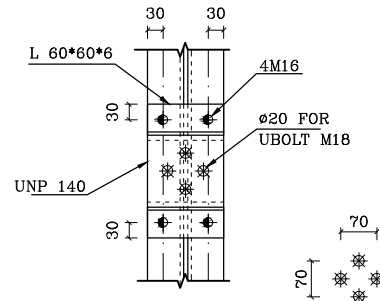
- 1- ALL DIMENTION ARE IN mm.
- 2- ALL MATERIALS (MEMBERS & BOLTS)SHALL BE
HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRUCTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
- 3- ALL DIMENTIONS AND DISTANCES SHALL BE CHECKED
BY MANUFACTURERAND WORK-SHOP DWG. SHOULD BE BASED ON CHECKED VALUE.
- 4-CUTTING THE FLANGS ARE NOT ACCEPTABLE.
- 5-ALL PROFILE ARE MADE OF MILD STEEL WITH
ST 37 (DIN 17100) : $F_y = 2400 \text{ kg/cm}$ AND SHOULD BE PROVIDED ECORDING 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 , $F_u = 8000 \text{ kg/cm}$ &
 $F_y = 6400 \text{ kg/cm}$ 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 ASSEMBLED BEFOR MASS PROTOTYPE &
GALVANIZEING FOR APPROVAL INSPECTION & CLIENT APPROVAL.
- 15-A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBLED 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 SQUARE SHAPE WITH $\phi 18$ HOLE AT CENTER.



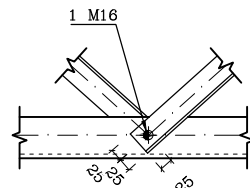
						CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION	CONSULTING ENGINEERS: (Mahsab Niroo Consulting Engineers Co.) 		NAME	DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION DETAIL OF 1SCG1							
							DESIGNED	I.REZVANI	1405/03									
							DRAWN	A.MAZLOOM	1405/03									
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	CONTRACTOR: ملعبیت توسه انرژی نوین مہام شرق مٹانکو 	PROJECT: Mehdiabad Lead & Zinc Project	CHECKED	I.REZVANI	1405/03								
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU			APPROVED	M.DANESHPOU	1405/03								
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED		CONTRACT NO.:	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.	
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068							DRGNO	JOB NO.:	06	A3		9210	MS	CV	DWG	00	0064	01



SECTION A1-A1
SC:1/40



DETAIL "1"
SC:1/16



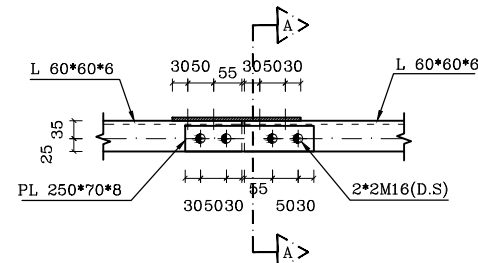
DETAIL "Z"
SC:1/16

NOTE

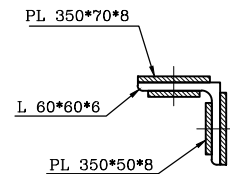
- 1- STEEL: ST-37
- 2- ALL BOLTS ARE GRADE: (8.8)
- 3- ø18 HOLES (●) M 16
ø22 HOLES (●) M 20
ø28 HOLES (●) M 25

NOTES

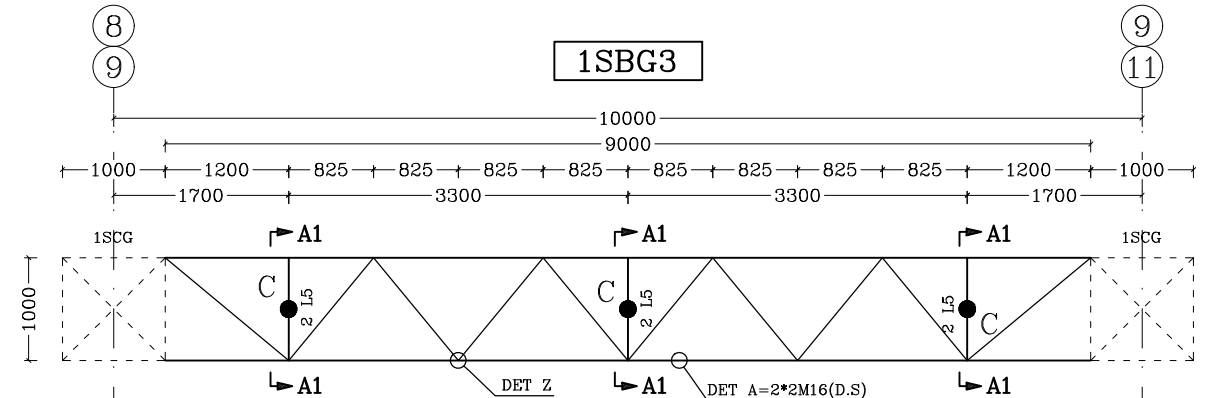
- 1- ALL DIMENSION ARE IN mm.
- 2- ALL MATERIALS (MEMBERS & BOLTS) SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRUCTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
- 3- ALL DIMENSIONS AND DISTANCES SHALL BE CHECKED BY MANUFACTURER AND WORK-SHOP 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) : $F_y = 2400 \text{ kg/cm}^2$ AND SHOULD BE PROVIDED ACCORDING 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 CONNECTIONS.
- 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.



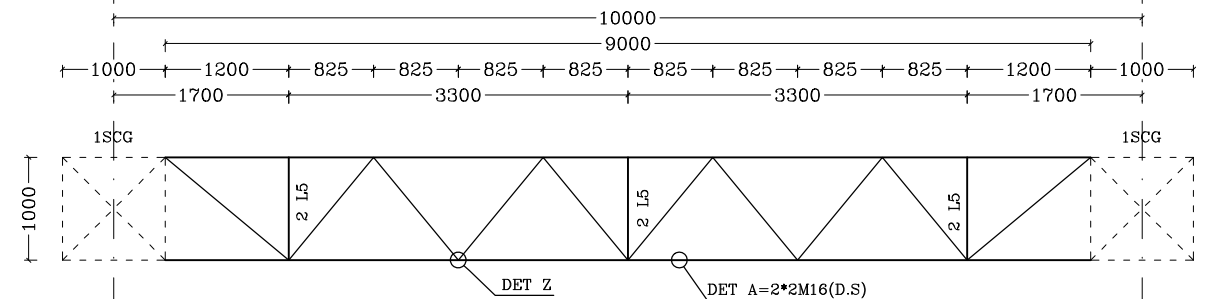
DETAIL A
SC:1/16



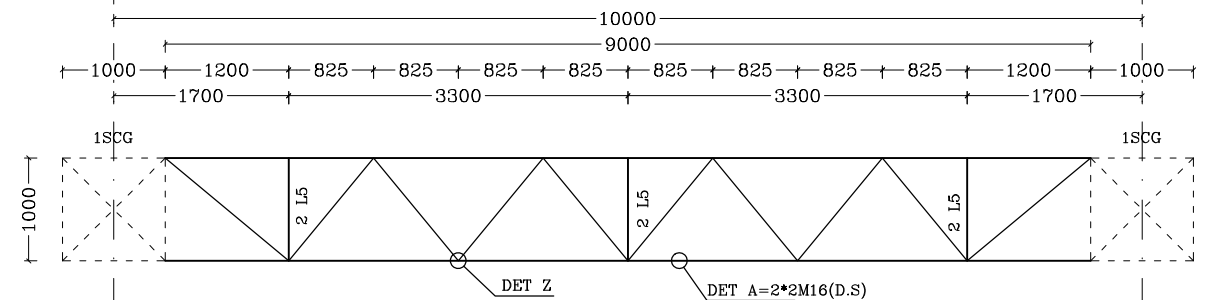
SECTION A-A
SC:1/8



FRONT VIEW OF BEAM
SC:1/80



TOP VIEW OF BEAM
SC:1/80



BOT VIEW OF BEAM
SC:1/80

CLIENT:
Mehdiabad
Lead & Zinc Industry Pioneers Company
132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION

CONSULTING ENGINEERS:
MANICO
(Mahsab Nirou Consulting Engineers Co.)

CONTRACTOR:
MANICO
مدیریت توسعه انرژی نوین مه‌م‌آباد
متانکو

PROJECT:
Mehdiabad Lead & Zinc Project

CONTRACT NO.:
JOB NO.:

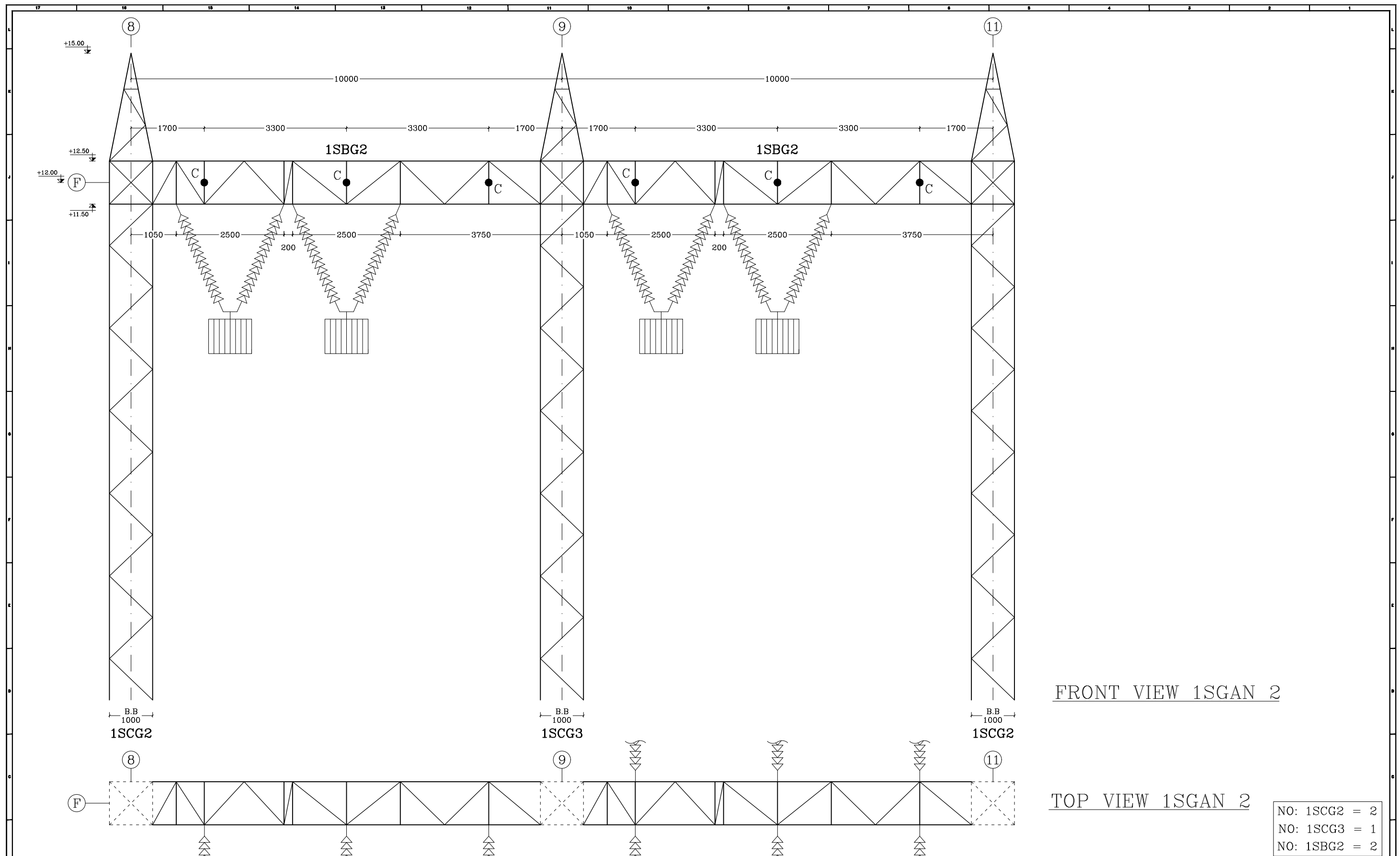
	NAME	DATE
DESIGNED	I.REZVANI	1405/03
DRAWN	A.MAZLOOM	1405/03
CHECKED	I.REZVANI	1405/03
APPROVED	M.DANESHPOU	1405/03

DWG TITLE: 132 KV SECTION OF
BAHADORAN 400/132 KV SUBSTATION
DETAIL OF 1SBG1

REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	07	A3		9210	MS	CV	DWG	00	0064	01

CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068

DRGNO



FRONT VIEW 1SGAN 2

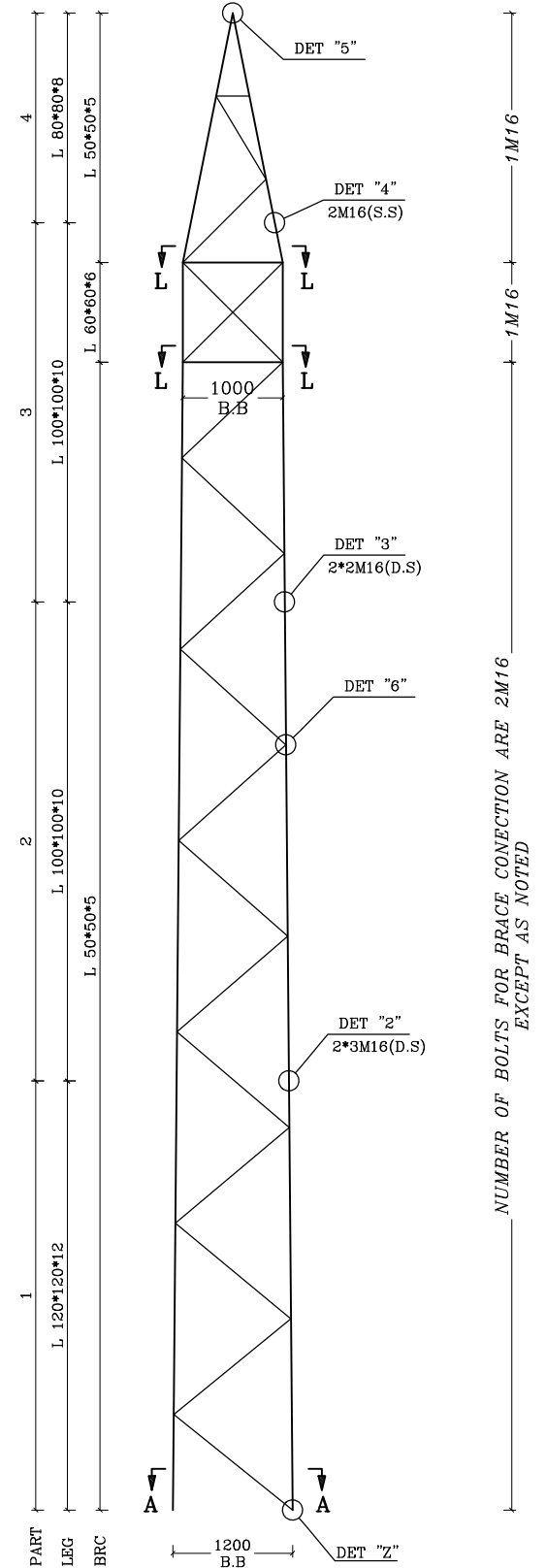
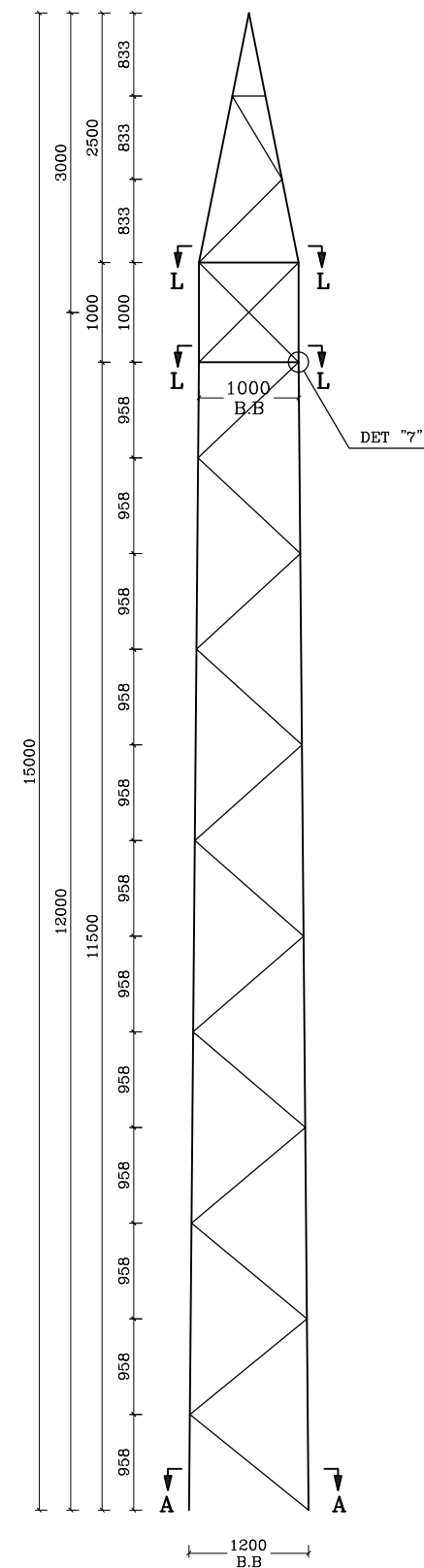
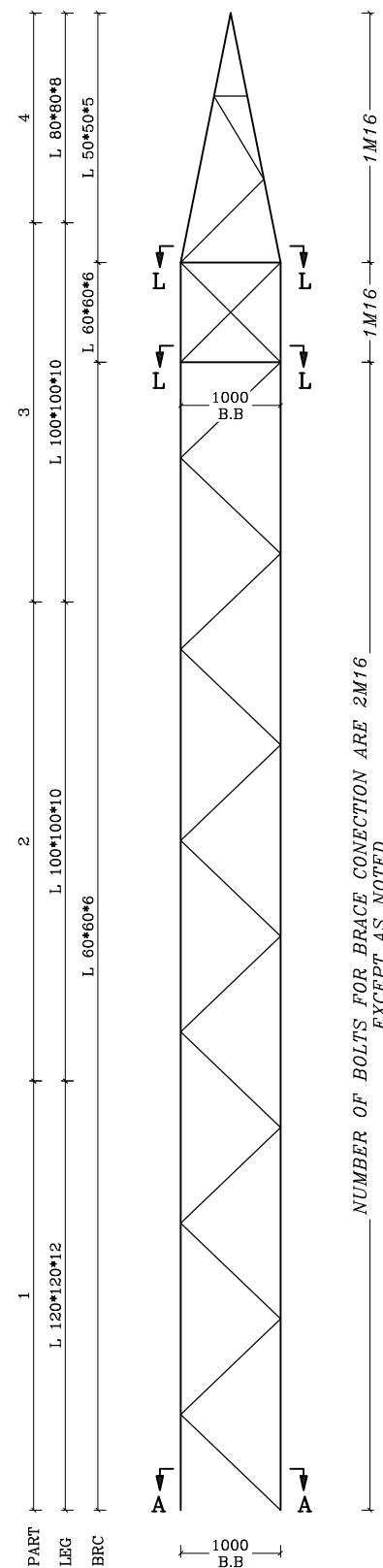
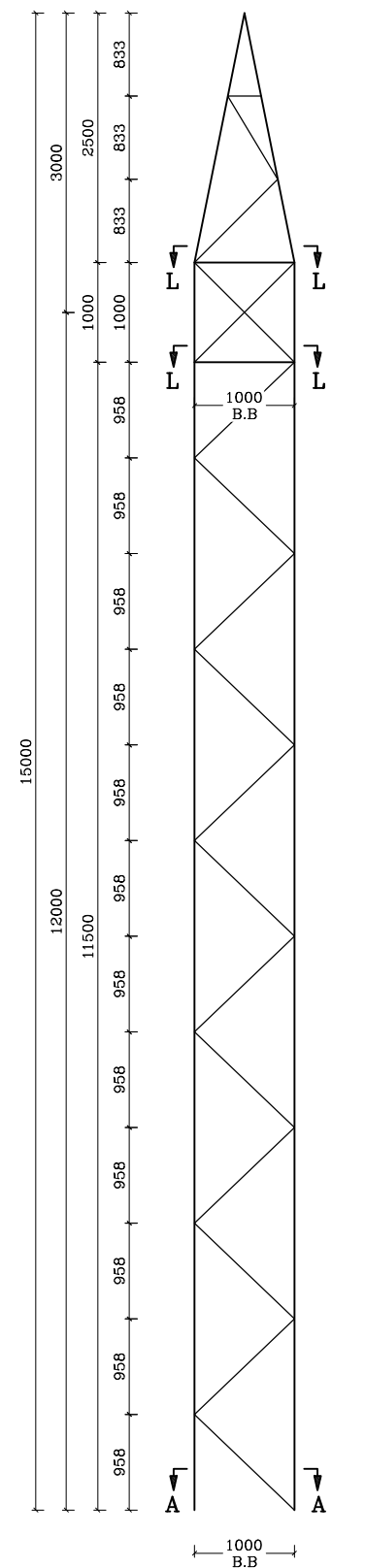
TOP VIEW 1SGAN 2

NO: 1SCG2 = 2
NO: 1SCG3 = 1
NO: 1SBG2 = 2

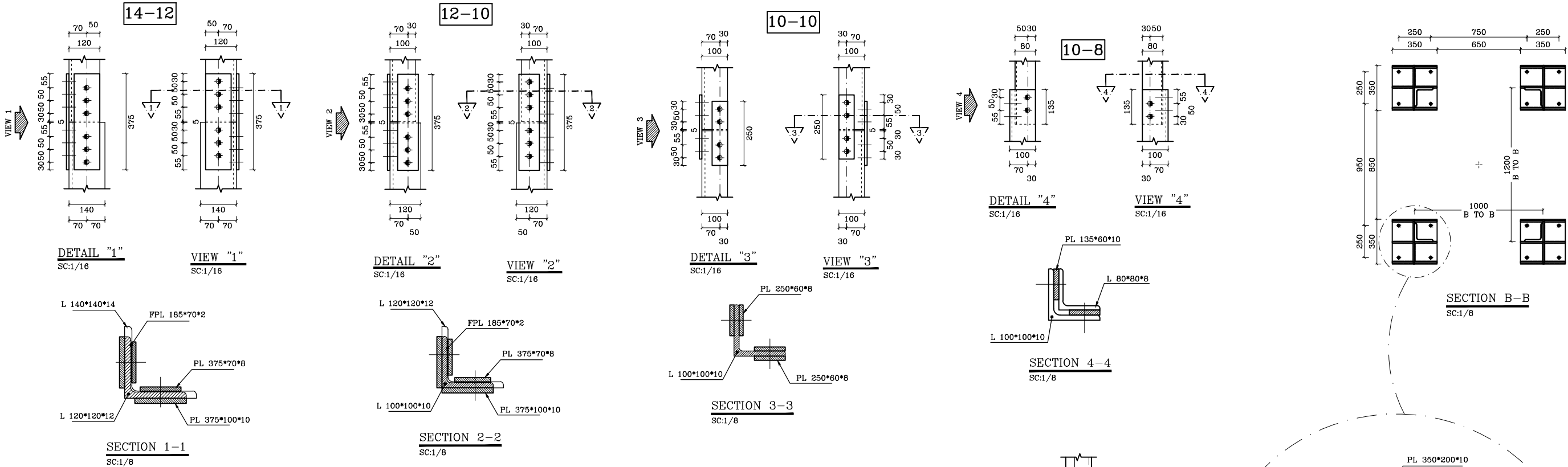
CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION						CONSULTING ENGINEERS: MANTCO (Mahsab Nirou Consulting Engineers Co.)			DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION 1SGAN 1							
CONTRACTOR: مهندسی توسعه انرژی نوین مهام شرق متانکو						PROJECT: Mehdiabad Lead & Zinc Project			DESIGNED	I.REZVANI	1405/03					
									DRAWN	A.MAZLOOM	1405/03					
									CHECKED	I.REZVANI	1405/03					
									APPROVED	M.DANESHPOU	1405/03					
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED	CONTRACT NO.:			SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068						JOB NO.:			08	A3		9210	MS	CV	DWG	00
DRGNO												0064				01



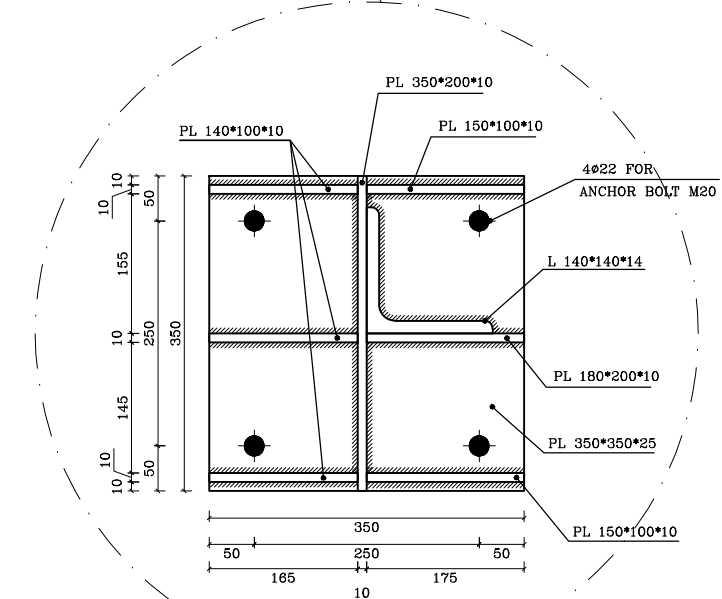
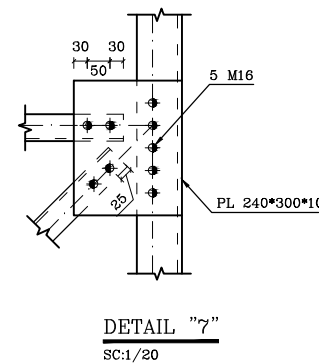
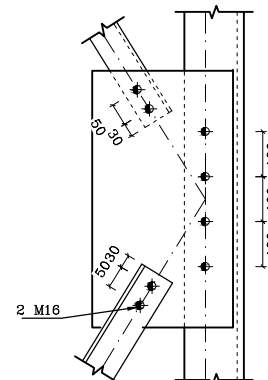
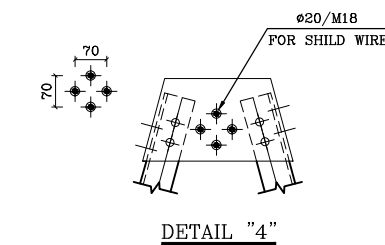
DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION 1SCG2						
AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
9210	MS	CV	DWG	00	0064	01



						CLIENT:  Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION	CONSULTING ENGINEERS:  (Mahsab Niroo Consulting Engineers Co.)		NAME	DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION 1SCG3							
								DESIGNED	I.REZVANI	1405/03								
								DRAWN	A.MAZLOOM	1405/03								
								CHECKED	I.REZVANI	1405/03								
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	CONTRACTOR:  مدیریت توسعه انرژی نوین مهام شرق متانکو	PROJECT: Mehdiabad Lead & Zinc Project		APPROVED	M.DANESHPOU	1405/03							
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU													
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED		CONTRACT NO.:	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.	
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068							DRGNO	JOB NO.:	10	A3		9210	MS	CV	DWG	00	0064	01



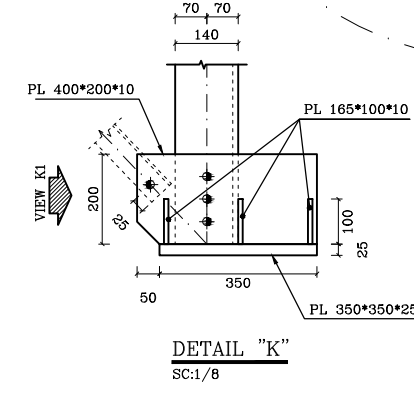
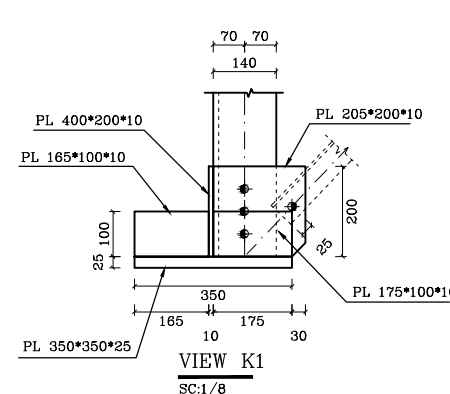
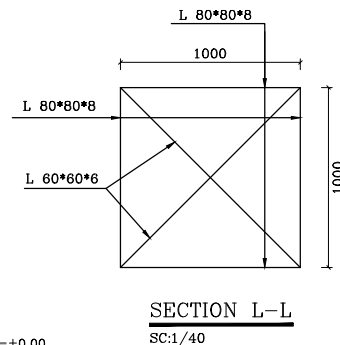
- 1- ALL DIMENTION ARE IN mm.
- 2- ALL MATERIALS (MEMBERS & BOLTS)SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRUCTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
- 3- ALL DIMENTIONS AND DISTANSSES SHALL BE CHECKED BY MANUFACTORERAND WORK-SHOP DWG. 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 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 REQAURED 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 ASSEMBLED BEFOR MASS PROTOTYPE & GALVANIZEING FOR APPROVAL INSPECTION & CLIENT APPROVAL.
- 15-A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBLED 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.



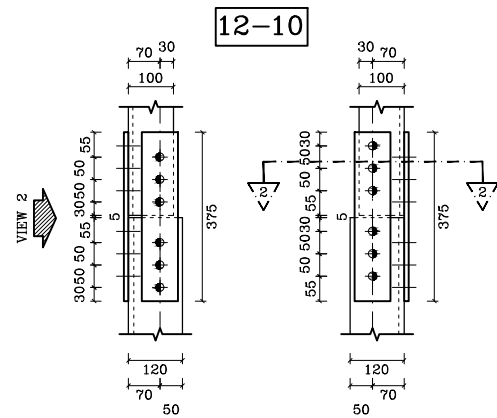
NOTE

- 1- STEEL: ST-37
- 2- ALLBOLTS ARE GRADE: (8.8)
- 3- Ø18 HOLES (●) M 16
- Ø22 HOLES (●) M 20
- Ø28 HOLES (●) M 25

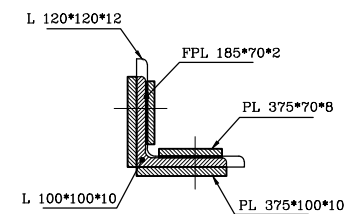
F.E.L = FINISHED EARTH LEVEL.=±0.00
F.S.L = FINISHED SITE LEVEL.=+0.15
F.B.L = FINISHED BLOCK LEVEL.=+0.30



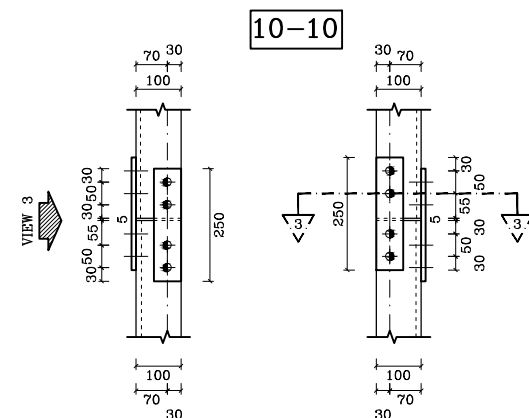
						CLIENT:		CONSULTING ENGINEERS:		NAME		DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION DETAIL OF 1SCG2				
						Lead & Zinc Industry Pioneers Company		(Mahsab Niroo Consulting Engineers Co.)		DESIGNED		1405/03					
						132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION				DRAWN		1405/03					
										CHECKED		1405/03					
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	CONTRACTOR:		PROJECT:		APPROVED		1405/03					
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU												
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED			CONTRACT NO.:		SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068						DRGNO		JOB NO.:		11	A3		9210	MS	CV	DWG	00
																	0064
																	01



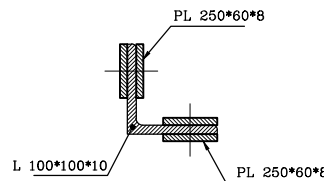
DETAIL "2"
SC:1/16



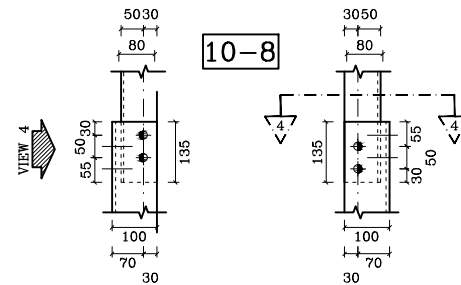
SECTION 2-2
SC:1/8



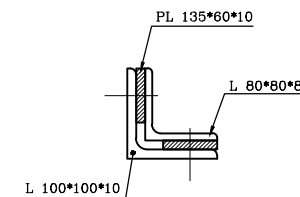
DETAIL "3"
SC:1/16



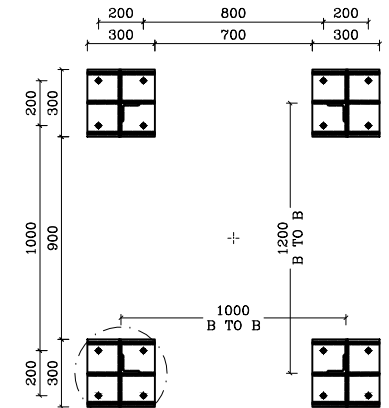
SECTION 3-3
SC:1/8



DETAIL "4"
SC:1/16



SECTION 4-4
SC:1/8

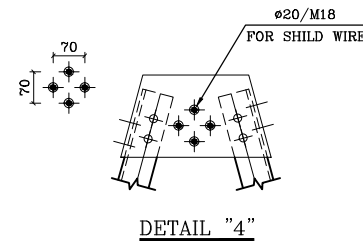


SECTION A-A
SC:1/8

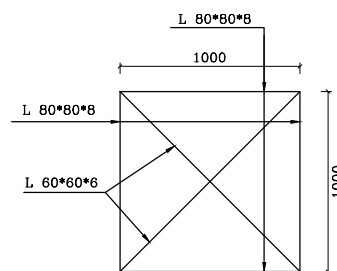
- 1- ALL DIMENSION ARE IN mm.
- 2- ALL MATERIALS (MEMBERS & BOLTS) SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRUCTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
- 3- ALL DIMENSIONS AND DISTANCES SHALL BE CHECKED BY MANUFACTURER AND WORK-SHOP DWG. SHOULD BE BASED ON CHECKED VALUE.
- 4- CUTTING THE FLANGES ARE NOT ACCEPTABLE.
- 5- ALL PROFILE ARE MADE OF MILD STEEL WITH ST 37 (DIN 17100) : $F_y = 2400 \text{ kg/cm}$ AND SHOULD BE PROVIDED ACCORDING 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, $F_u = 8000 \text{ kg/cm}$ & $F_y = 6400 \text{ kg/cm}$ FOR CONNECTIONS.
- 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 REQUIRED 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 MUST BE ACCORDING TO STAHL.
- 14- A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBLED BEFORE MASS PROTOTYPE & GALVANIZING FOR APPROVAL INSPECTION & CLIENT APPROVAL.
- 15- A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBLED BEFORE MASS PROTOTYPE &
- 16- FOR INSTALLING THE INSULATORS SEE LAYOUT MAP.
- 17- FOR INSTALLING THE LIGHTNING PALTE SEE OUTDOOR LIGHTNING MAP.
- 18- ALL FILLER PLATES OF 50x50mm SQUARE SHAPE WITH $\phi 18$ HOLE AT CENTER.

NOTE

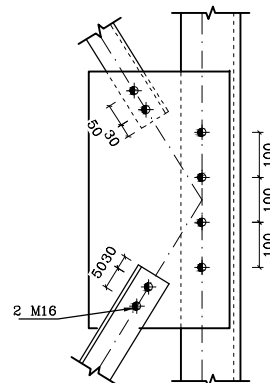
- 1- STEEL: ST-37
 - 2- ALL BOLTS ARE GRADE: (8.8)
 - 3- $\phi 18$ HOLES (⌀) M 16
 $\phi 22$ HOLES (⌀) M 20
 $\phi 28$ HOLES (⌀) M 25
- F.E.L = FINISHED EARTH LEVEL. = ± 0.00
F.S.L = FINISHED SITE LEVEL. = $+0.15$
F.B.L = FINISHED BLOCK LEVEL. = $+0.30$



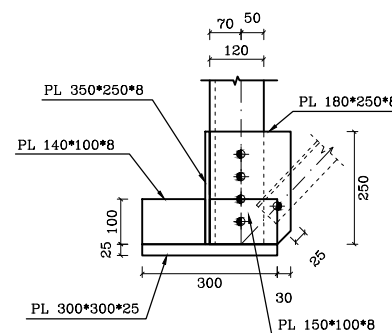
DETAIL "4"



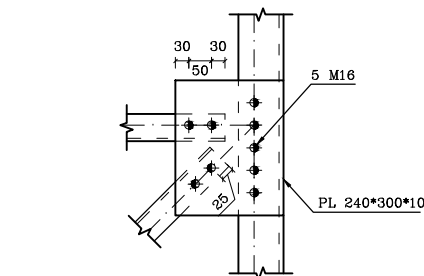
SECTION L-L
SC:1/40



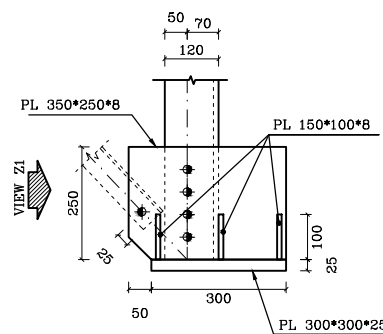
DETAIL "5"
SC:1/16



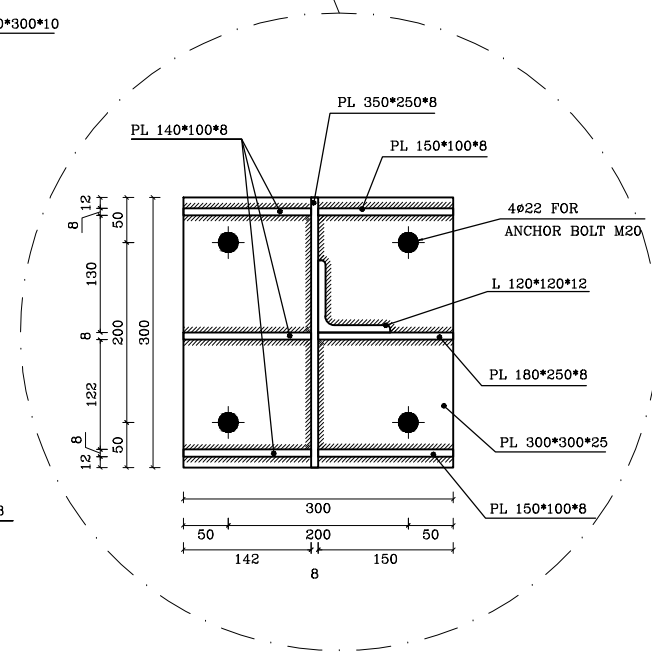
VIEW Z1
SC:1/8



DETAIL "7"
SC:1/20



DETAIL "Z"
SC:1/8



CLIENT:
Mehdiabad
Lead & Zinc Industry Pioneers Company
132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION

CONTRACTOR:
معدنیات توسعه انرژی نوین مهاباد
مهاباد
METANCO

CONSULTING ENGINEERS:

(Mahsab Niroo Consulting Engineers Co.)



PROJECT:
Mehdiabad Lead & Zinc Project

CONTRACT NO.:

JOB NO.:

NAME

DATE

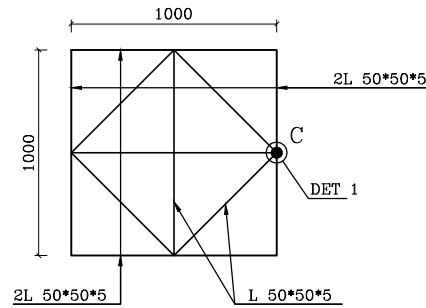
DESIGNED	I.REZVANI	1405/03
DRAWN	A.MAZLOOM	1405/03
CHECKED	I.REZVANI	1405/03
APPROVED	M.DANESHPOU	1405/03

DWG TITLE: 132 KV SECTION OF
BAHADORAN 400/132 KV SUBSTATION
DETAIL OF 1SCG3

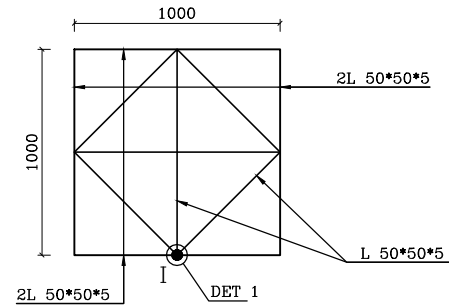
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	12	A3		9210	MS	CV	DWG	00	0064	01

CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068

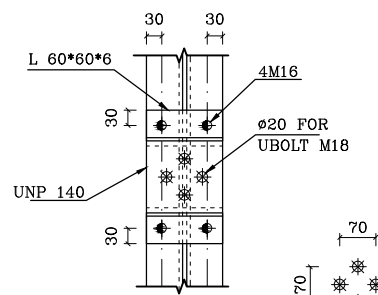
DRGNO



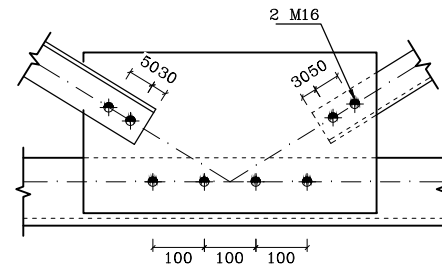
SECTION A1-A1
SC:1/40



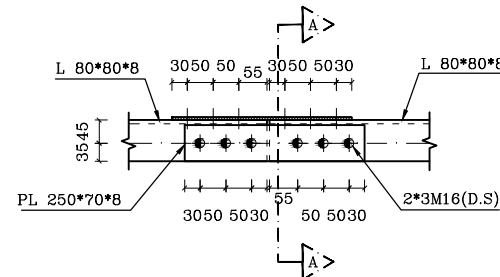
SECTION A2-A2
SC:1/40



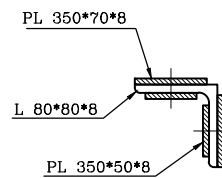
DETAIL "1"
SC:1/16



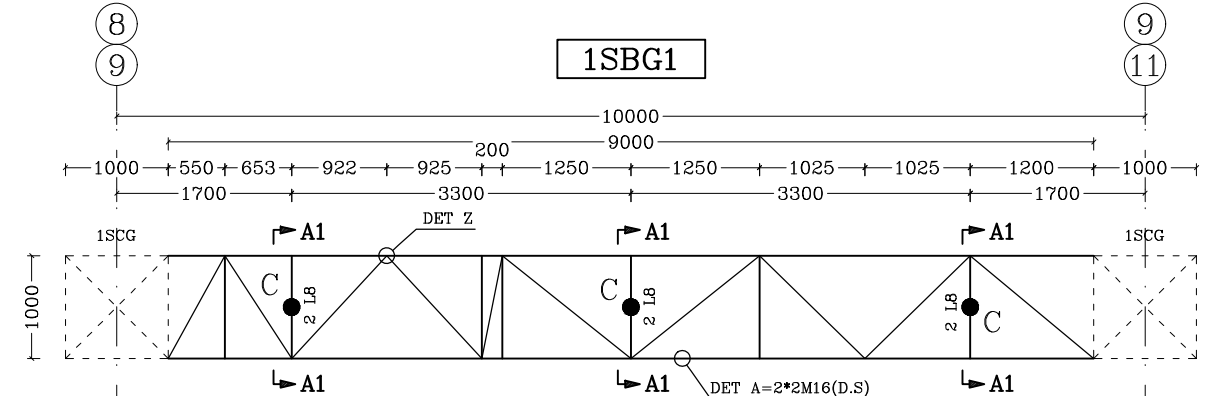
DETAIL "Z"
SC:1/16



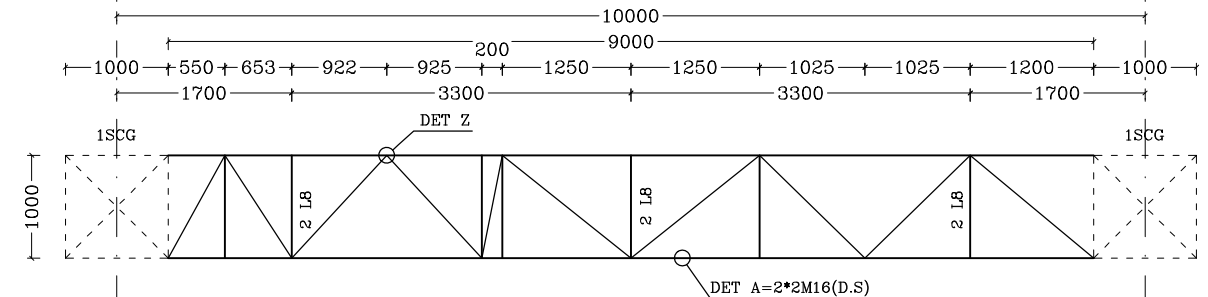
DETAIL A
SC:1/16



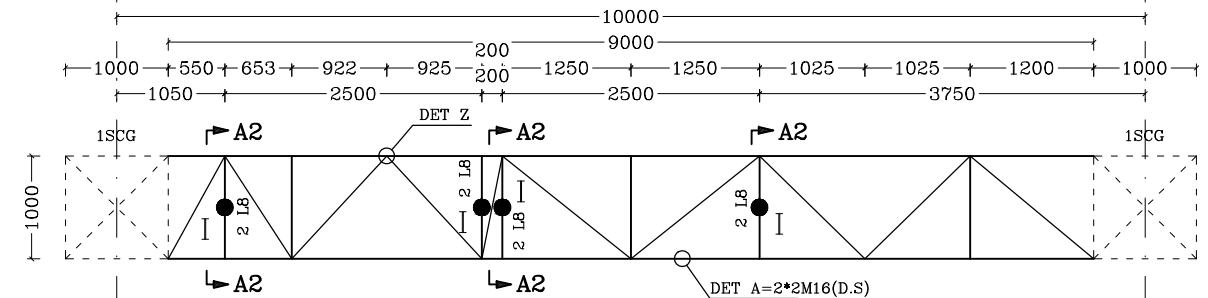
SECTION A-A
SC:1/8



FRONT VIEW OF BEAM
SC:1/80



TOP VIEW OF BEAM
SC:1/80



BOT VIEW OF BEAM
SC:1/80

- NOTE
- 1- STEEL: ST-37
 - 2- ALL BOLTS ARE GRADE: (8.8)
 - 3- ø18 HOLES (●) M 16
ø22 HOLES (●) M 20
ø28 HOLES (●) M 25

- NOTES
- 1- ALL DIMENSION ARE IN mm.
 - 2- ALL MATERIALS (MEMBERS & BOLTS)SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRACTIONS (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
 - 3- ALL DIMENSIONS AND DISTANCES SHALL BE CHECKED BY MANUFACTURER AND WORK-SHOP DWG. SHOULD BE BASED ON CHECKED VALUE.
 - 4- CUTTING THE FLANGES ARE NOT ACCEPTABLE.
 - 5- ALL PROFILE ARE MADE OF MILD STEEL WITH ST 37 (DIN 17100) : $F_y = 2400 \text{ kg/cm}^2$ AND SHOULD BE PROVIDED ACCORDING 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 CONNECTIONS.
 - 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.

CLIENT:
Mehdiabad
Lead & Zinc Industry Pioneers Company
132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION

CONSULTING ENGINEERS:
MANTICO
(Mahsab Nirou Consulting Engineers Co.)

CONTRACTOR:
MANTICO
مدیریت توسعه انرژی نوین مه‌م‌آباد
متانکو

PROJECT:
Mehdiabad Lead & Zinc Project

CONTRACT NO.:
JOB NO.:

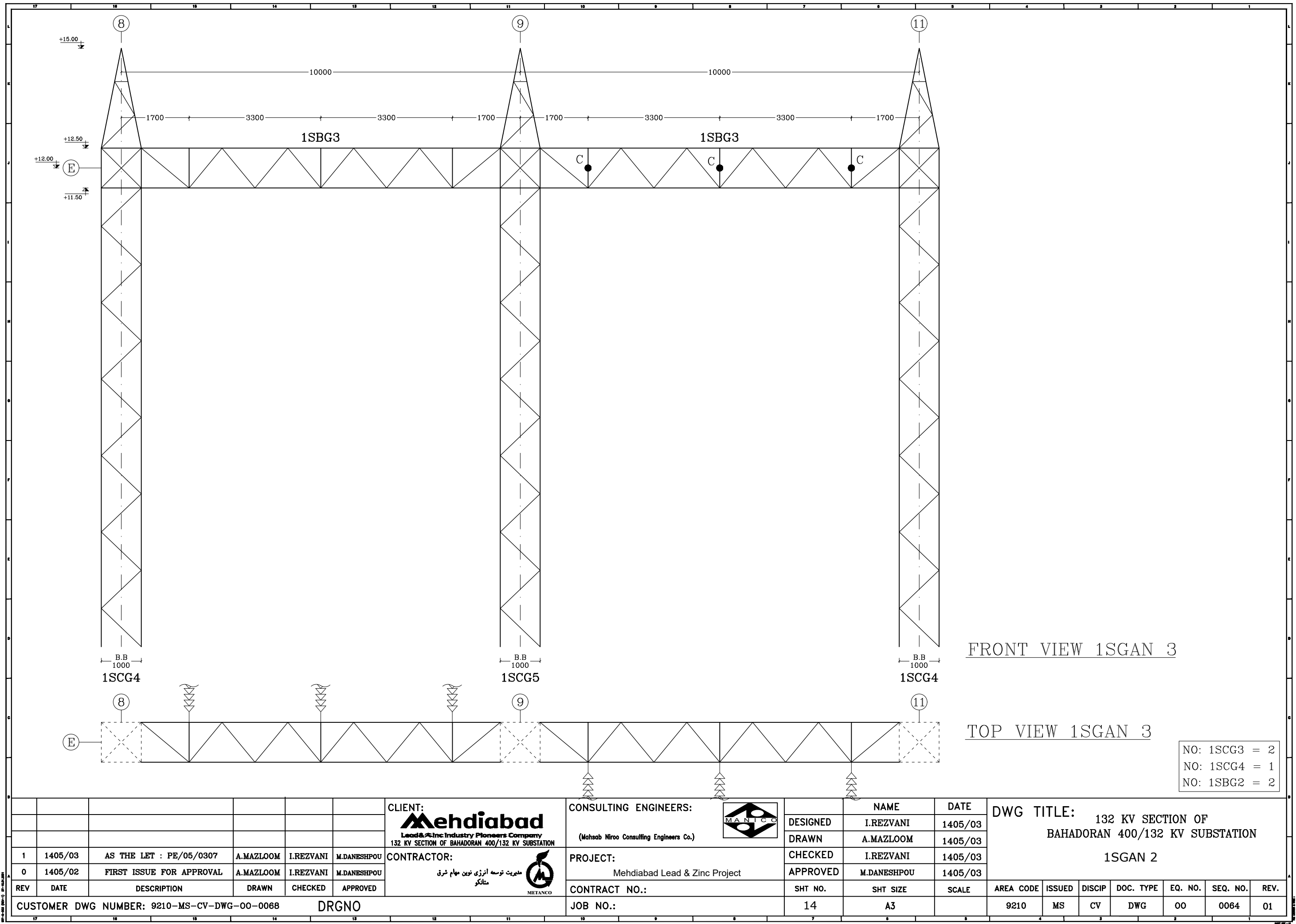
	NAME	DATE
DESIGNED	I.REZVANI	1405/03
DRAWN	A.MAZLOOM	1405/03
CHECKED	I.REZVANI	1405/03
APPROVED	M.DANESHPOU	1405/03
SHT NO.	SHT SIZE	SCALE
13	A3	

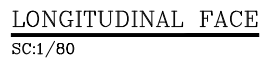
DWG TITLE: 132 KV SECTION OF
BAHADORAN 400/132 KV SUBSTATION
DETAIL OF 1SBG2

REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	9210	MS	CV	DWG	00	0064	01
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU							

CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068

DRGNO



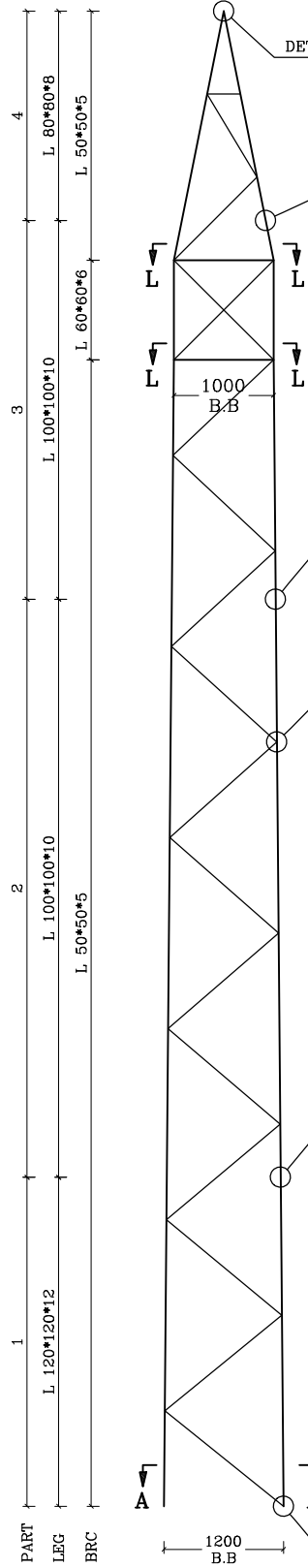
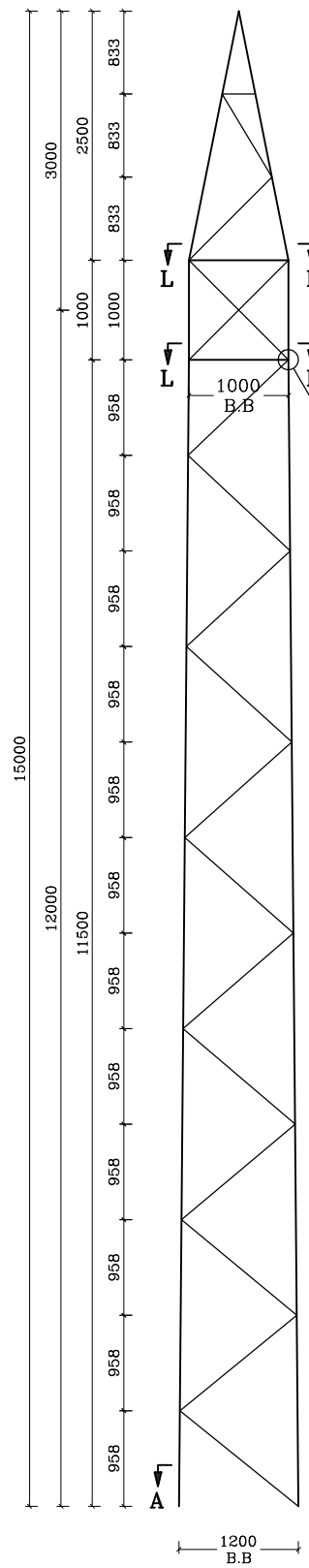
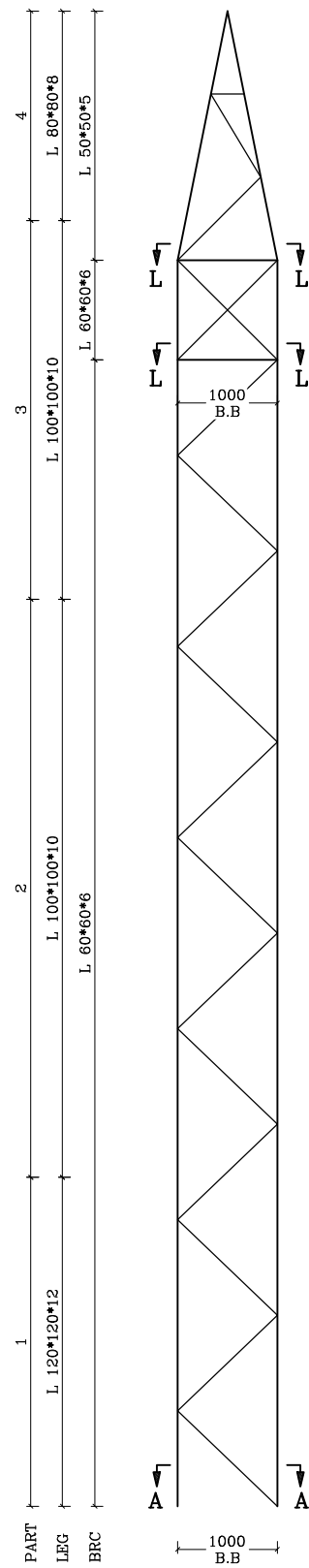
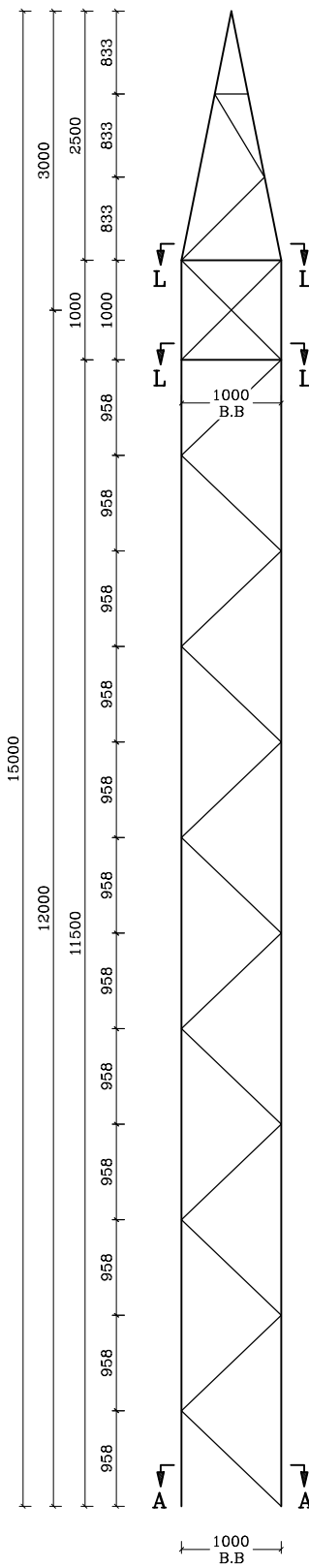


NOTE

- 1- STEEL: ST-37
2- ALLBOLTS ARE GRADE: (8.8)
3- $\varnothing 18$ HOLES (●) M 16
 $\varnothing 22$ HOLES (●) M 20
 $\varnothing 28$ HOLES (●) M 25

F.E.L = FINISHED EARTH LEVEL.=±0.00
F.S.L = FINISHED SITE LEVEL.=+0.15
F.B.L = FINISHED BLOCK LEVEL.=+0.30

						CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION	CONSULTING ENGINEERS: (Mahsab Mirroo Consulting Engineers Co.)			NAME	DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION 1SCG4											
						CONTRACTOR: مهریت نوسه انرژی نوین مهام شرق متانکو 	PROJECT: Mehdiabad Lead & Zinc Project		DESIGNED	I.REZVANI	1405/03												
									DRAWN	A.MAZLOOM	1405/03												
									CHECKED	I.REZVANI	1405/03												
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU				APPROVED	M.DANESHPOU	1405/03												
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU																		
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED								CONTRACT NO.:	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068						DRGNO						JOB NO.:	15	A3		9210	MS	CV	DWG	00	0064	01	



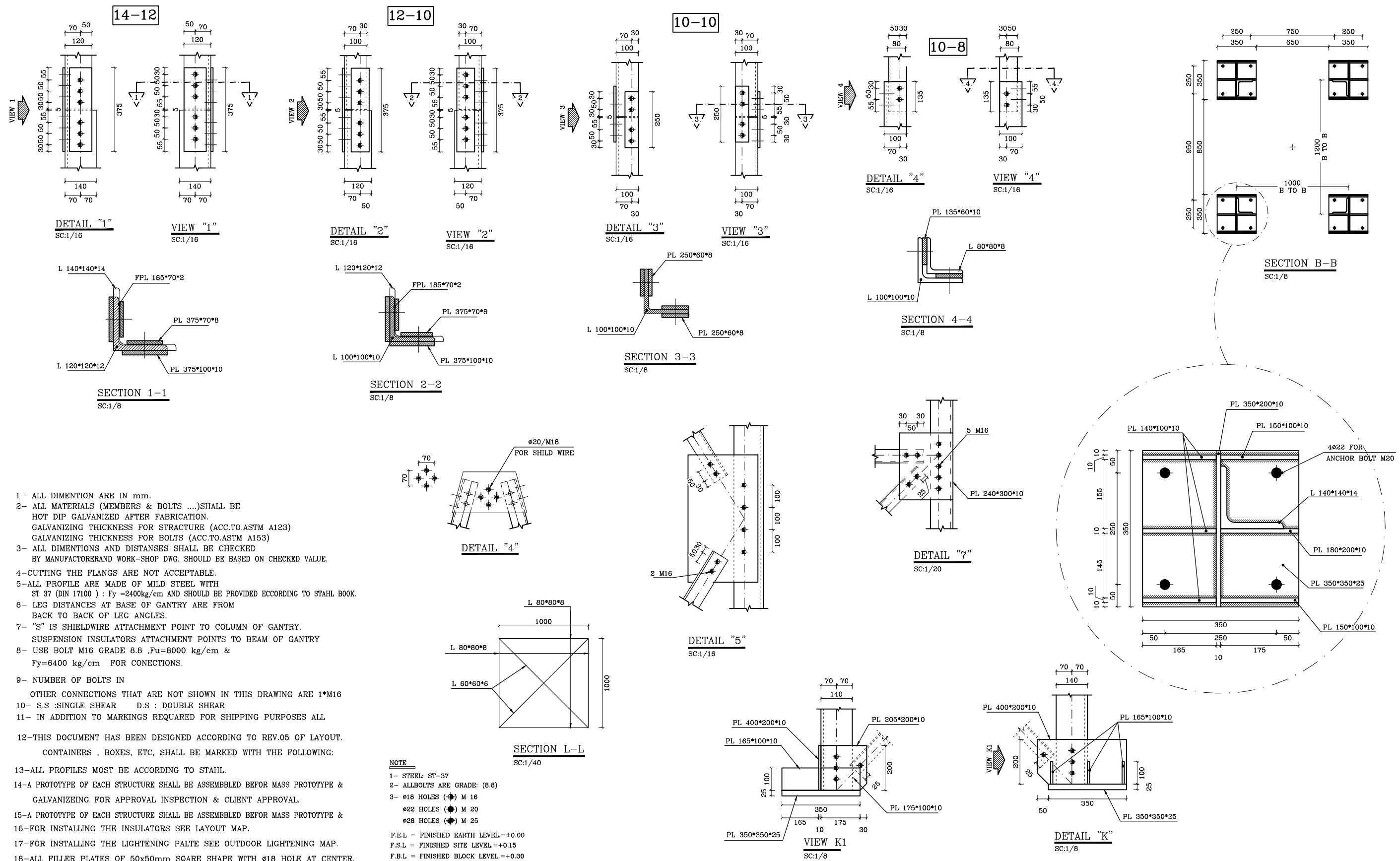
TRANSVERSE FACE
SC:1/80

LONGITUDINAL FACE
SC:1/80

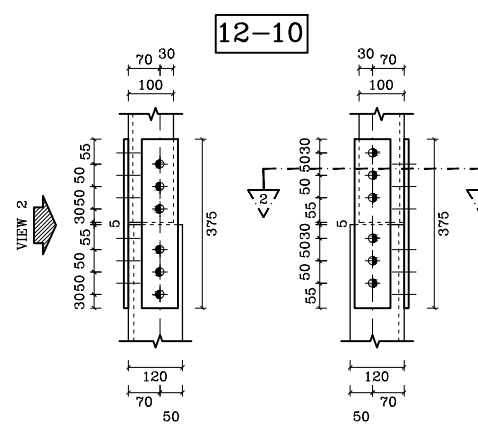
TRANSVERSE FACE
SC:1/80

LONGITUDINAL FACE
SC:1/80

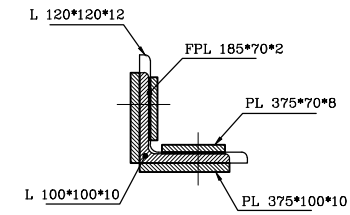
						CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION	CONSULTING ENGINEERS:  (Mahsab Niroo Consulting Engineers Co.)				DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION 1SCG5												
						CONTRACTOR:  مدیریت توسعه انرژی نوین مه‌آباد متانکو METANCO	PROJECT: Mehdiabad Lead & Zinc Project	DESIGNED	I.REZVANI	DATE	1405/03	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.					
								DRAWN	A.MAZLOOM	1405/03													
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU			CHECKED	I.REZVANI	1405/03													
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU		APPROVED	M.DANESHPOU	1405/03														
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED		SHT NO.	SHT SIZE	SCALE	9210	MS								CV	DWG	00	0064	01
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068							DRGNO	JOB NO.:	16	A3													
17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1							



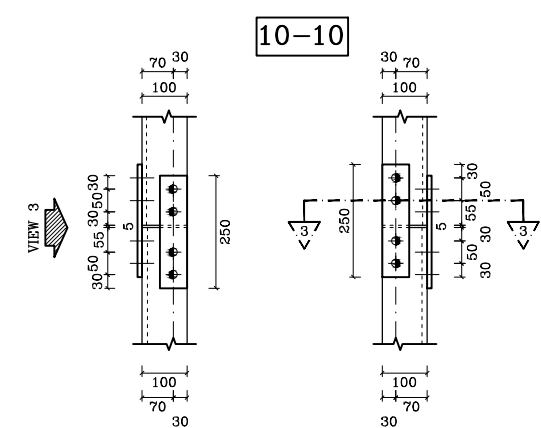
						CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION	CONSULTING ENGINEERS: (Mahsab Niroo Consulting Engineers Co.) 		NAME	DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION DETAIL OF 1SCG4							
								DESIGNED	I.REZVANI	1405/03								
								DRAWN	A.MAZLOOM	1405/03								
								CHECKED	I.REZVANI	1405/03								
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	CONTRACTOR: مطهریت توسعه انرژی نوین مهام شرق  METANCO	PROJECT:			1405/03								
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU			Mehdiabad Lead & Zinc Project										1405/03
							APPROVED	M.DANESHPOU	1405/03									
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED			CONTRACT NO.:	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068							DRGNO	JOB NO.:	17	A3		9210	MS	CV	DWG	00	0064	01



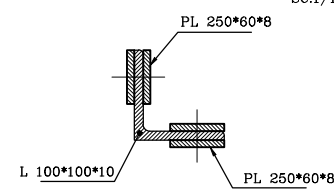
DETAIL "2"
SC:1/16



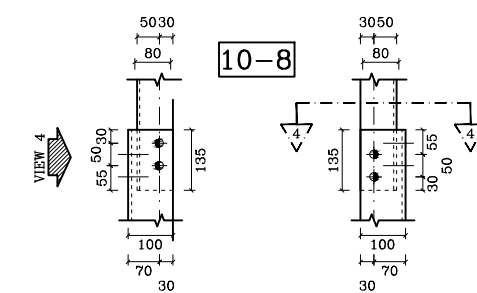
SECTION 2-2
SC:1/8



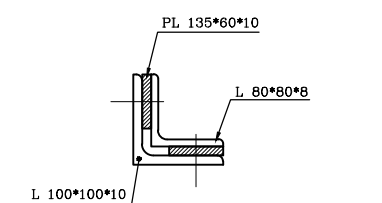
DETAIL "3"
SC:1/16



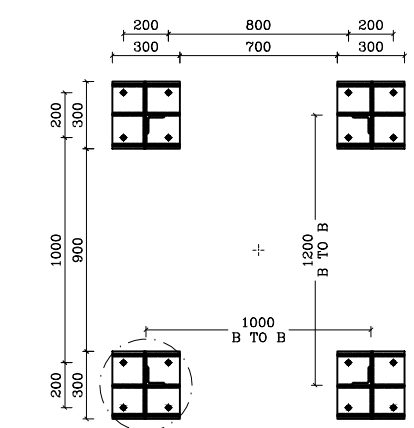
SECTION 3-3
SC:1/8



DETAIL "4"
SC:1/16

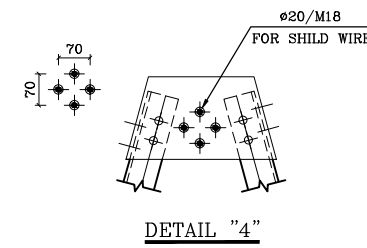


SECTION 4-4
SC:1/8

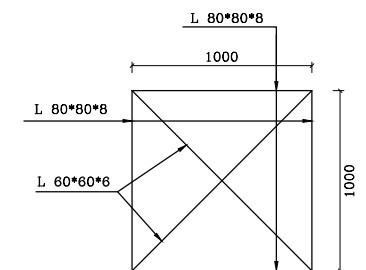


SECTION A-A
SC:1/8

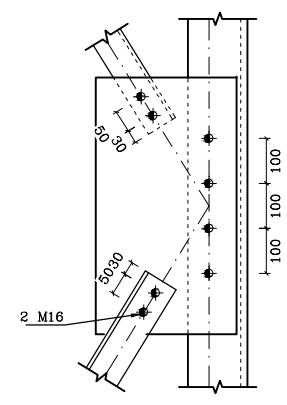
- 1- ALL DIMENTION ARE IN mm.
2- ALL MATERIALS (MEMBERS & BOLTS)SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRACTIONS (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
3- ALL DIMENTIONS AND DISTANSSES SHALL BE CHECKED BY MANUFACTORERAND WORK-SHOP DWG. 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 ASSEMBLED BEFOR MASS PROTOTYPE & GALVANIZEING FOR APPROVAL INSPECTION & CLIENT APPROVAL.
15-A PROTOTYPE OF EACH STRUCTURE SHALL BE ASSEMBLED 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.



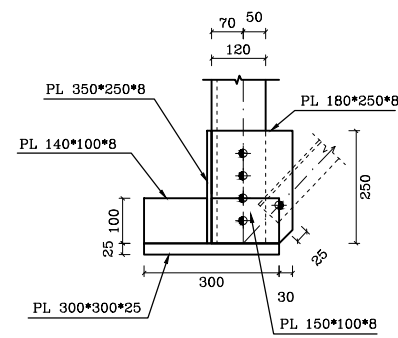
DETAIL "4"
SC:1/16



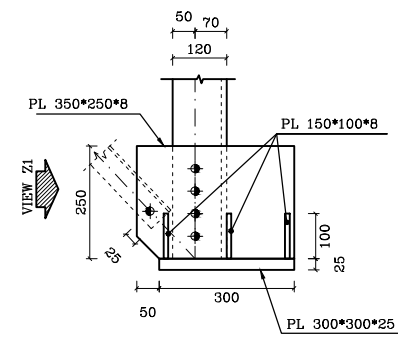
SECTION L-L
SC:1/40



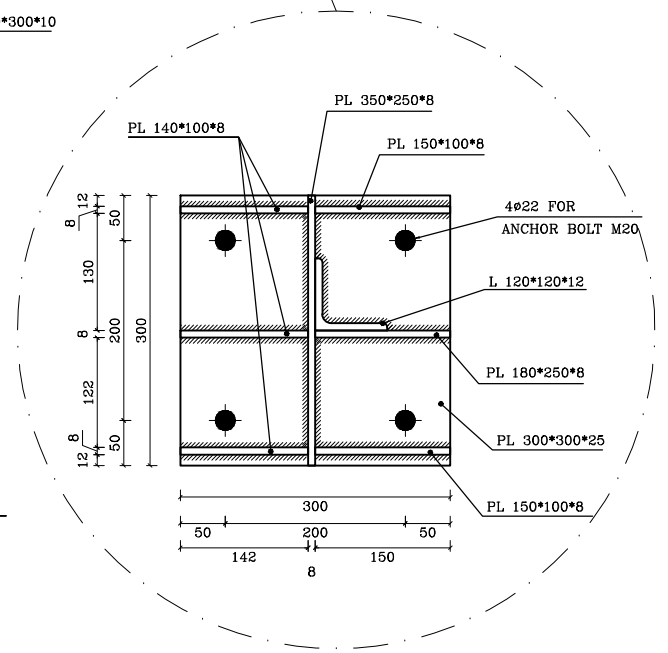
DETAIL "5"
SC:1/16



VIEW Z1
SC:1/8



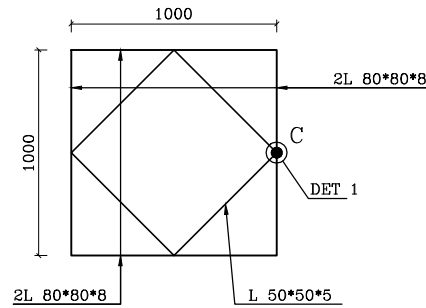
DETAIL "Z"
SC:1/8



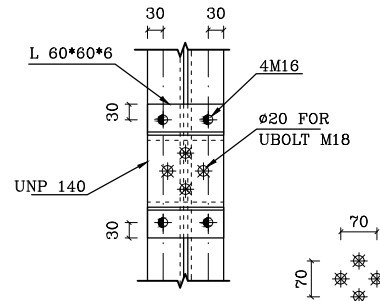
DETAIL "7"
SC:1/20

NOTE
1- STEEL: ST-37
2- ALLBOLTS ARE GRADE: (8.8)
3- Ø18 HOLES (⊕) M 16
Ø22 HOLES (⊕) M 20
Ø28 HOLES (⊕) M 25
F.E.L = FINISHED EARTH LEVEL.=±0.00
F.S.L = FINISHED SITE LEVEL.=+0.15
F.B.L = FINISHED BLOCK LEVEL.=+0.30

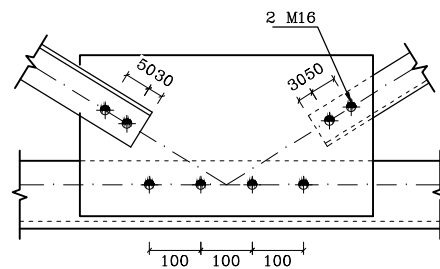
						CLIENT: Mehdiabad Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION		CONSULTING ENGINEERS:  (Mahsab Niroo Consulting Engineers Co.)		NAME		DATE		DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION DETAIL OF 1SCG5																			
										DESIGNED	I.REZVANI	1405/03																					
										DRAWN	A.MAZLOOM	1405/03																					
										CHECKED	I.REZVANI	1405/03																					
												APPROVED	M.DANESHPOU	1405/03																			
1 1405/03 AS THE LET : PE/05/0307 A.MAZLOOM I.REZVANI M.DANESHPOU						CONTRACTOR:  مدیریت توسعه انرژی نوین مهاباد شرق متانکو		PROJECT: Mehdiabad Lead & Zinc Project				SHT NO.		SHT SIZE		SCALE		AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.									
0 1405/02 FIRST ISSUE FOR APPROVAL A.MAZLOOM I.REZVANI M.DANESHPOU												18		A3				9210	MS	CV	DWG	00	0064	01									
REV DATE DESCRIPTION DRAWN CHECKED APPROVED								CONTRACT NO.:																									
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068														DRGNO				JOB NO.:															
17		16		15		14		13		12		11		10		9		8		7		6		5		4		3		2		1	



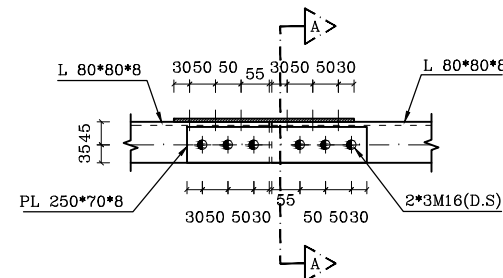
SECTION A1-A1
SC:1/40



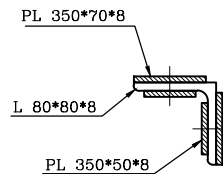
DETAIL "1"
SC:1/16



DETAIL "Z"
SC:1/16



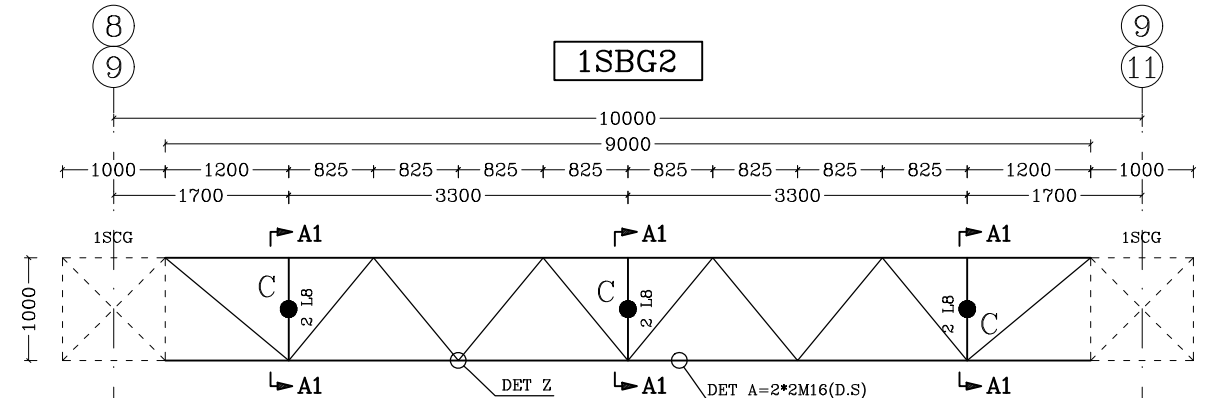
DETAIL A
SC:1/16



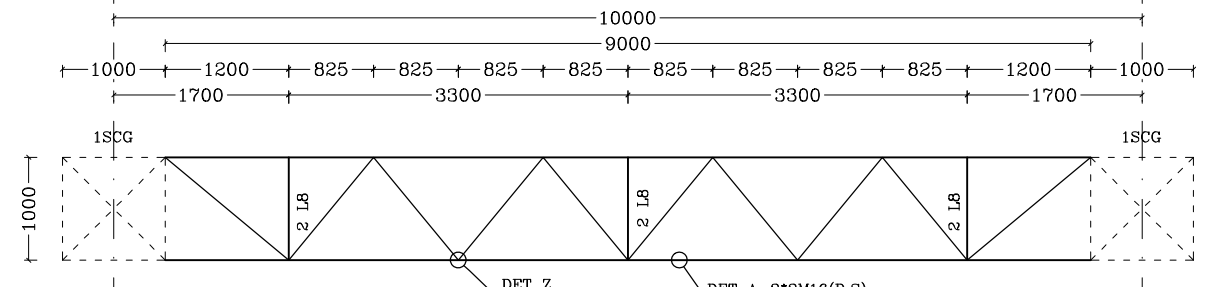
SECTION A-A
SC:1/8

- NOTE**
- 1- STEEL: ST-37
 - 2- ALL BOLTS ARE GRADE: (8.8)
 - 3- $\phi 18$ HOLES (●) M 16
 $\phi 22$ HOLES (●) M 20
 $\phi 28$ HOLES (●) M 25

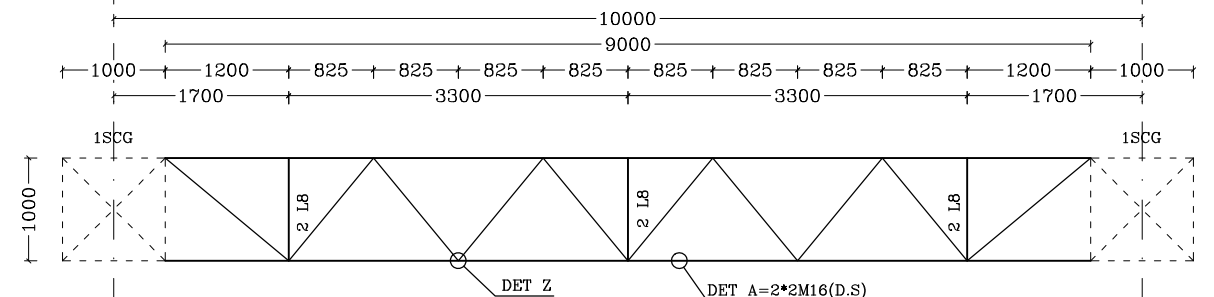
- NOTES**
- 1- ALL DIMENSION ARE IN mm.
 - 2- ALL MATERIALS (MEMBERS & BOLTS) SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRUCTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
 - 3- ALL DIMENSIONS AND DISTANCES SHALL BE CHECKED BY MANUFACTURER AND 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) : $F_y = 2400 \text{ kg/cm}^2$ AND SHOULD BE PROVIDED ACCORDING 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 CONNECTIONS.
 - 9- NUMBER OF BOLTS IN OTHER CONNECTIONS THAT ARE NOT SHOWN IN THIS DRAWING ARE 1*M16 (HOLE $\phi 18$ FOR M16).
 - 10- S.S : SINGLE SHEAR D.S : DOUBLE SHEAR
 - 11- THIS DOCUMENT HAS BEEN DESIGNED ACCORDING TO REV.A OF LAYOUT.



FRONT VIEW OF BEAM
SC:1/80



TOP VIEW OF BEAM
SC:1/80



BOT VIEW OF BEAM
SC:1/80

CLIENT:
Mehdiabad
Lead & Zinc Industry Pioneers Company
132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION

CONSULTING ENGINEERS:
MANICO
(Mahsab Niroo Consulting Engineers Co.)

CONTRACTOR:
MANICO
مدیریت توسعه انرژی نوین مهام شرق
متانکو

PROJECT:
Mehdiabad Lead & Zinc Project

CONTRACT NO.:
JOB NO.:

	NAME	DATE
DESIGNED	I.REZVANI	1405/03
DRAWN	A.MAZLOOM	1405/03
CHECKED	I.REZVANI	1405/03
APPROVED	M.DANESHPOU	1405/03

DWG TITLE: 132 KV SECTION OF
BAHADORAN 400/132 KV SUBSTATION
DETAIL OF 1SBG3

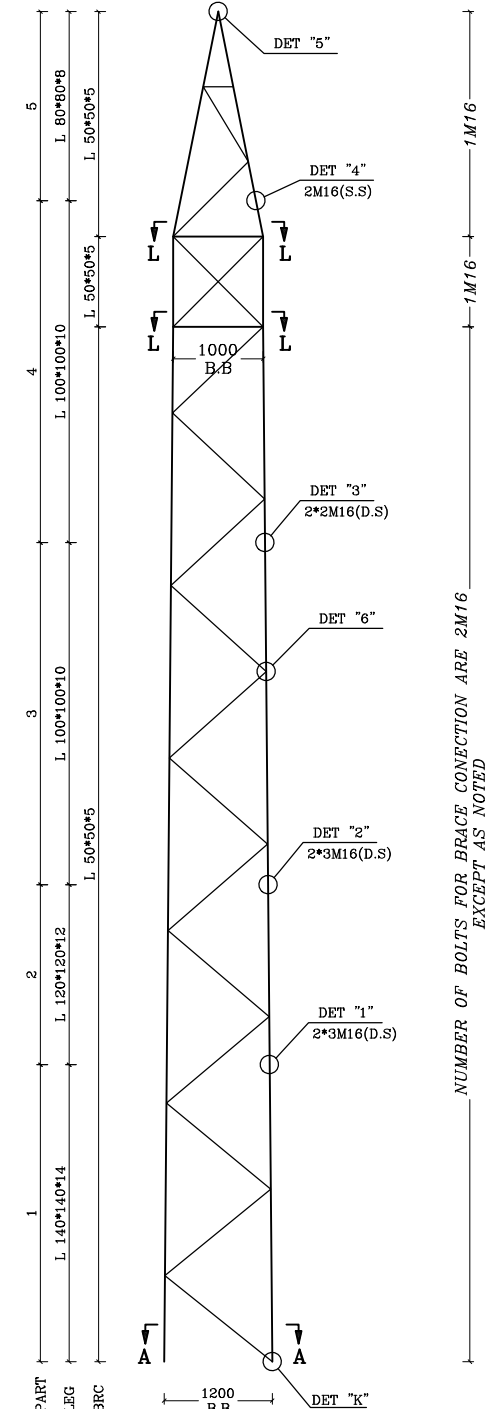
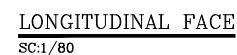
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	19	A3		9210	MS	CV	DWG	00	0064	01

CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068

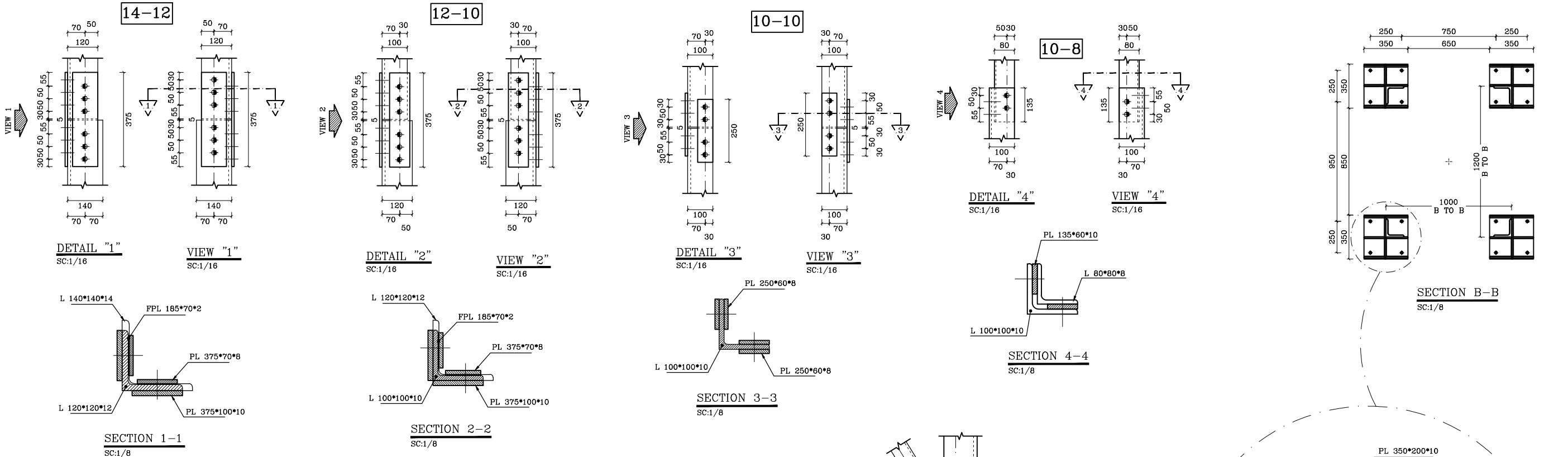
DRGNO



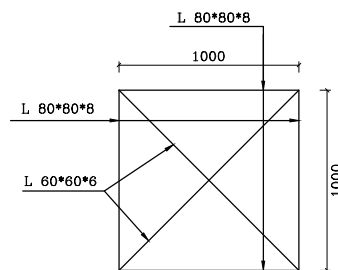
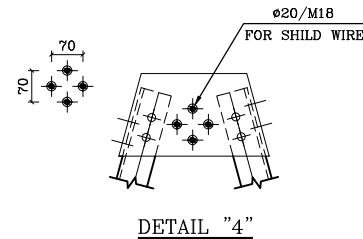
TRANSVERSE FACE
SC:1/80



						CLIENT:  Lead & Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION	CONSULTING ENGINEERS:  (Mahsab Niroo Consulting Engineers Co.)		NAME	DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION 1SST							
								DESIGNED	I.REZVANI	1405/03								
								DRAWN	A.MAZLOOM	1405/03								
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU				CHECKED	I.REZVANI								1405/03
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU	CONTRACTOR:  مطهریت توسعه انرژی نوین مهاباد متانکو METANCO	PROJECT:	Mehdiabad Lead & Zinc Project	APPROVED	M.DANESHPOU	1405/03							
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED		CONTRACT NO.:	SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DISCIP	DOC. TYPE	EQ. NO.	SEQ. NO.	REV.	
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068							DRGNO	JOB NO.:	20	A3		9210	MS	CV	DWG	00	0064	01



- 1- ALL DIMENTION ARE IN mm.
2- ALL MATERIALS (MEMBERS & BOLTS)SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
GALVANIZING THICKNESS FOR STRUTURE (ACC.TO.ASTM A123)
GALVANIZING THICKNESS FOR BOLTS (ACC.TO.ASTM A153)
3- ALL DIMENTIONS AND DISTANSSES 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 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 REQUIRED 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
Ø28 HOLES (●) M 25
F.E.L = FINISHED EARTH LEVEL.=±0.00
F.S.L = FINISHED SITE LEVEL.=+0.15
F.B.L = FINISHED BLOCK LEVEL.=+0.30

						CLIENT:  Lead&Zinc Industry Pioneers Company 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION		CONSULTING ENGINEERS:  (Mahsab Niroo Consulting Engineers Co.)			NAME	DATE	DWG TITLE: 132 KV SECTION OF BAHADORAN 400/132 KV SUBSTATION DETAIL OF 1SST						
					DESIGNED					I.REZVANI	1405/03								
					DRAWN					A.MAZLOOM	1405/03								
1	1405/03	AS THE LET : PE/05/0307	A.MAZLOOM	I.REZVANI	M.DANESHPOU	CONTRACTOR:  مدیریت توسعه انرژی نوین مهام شرق متانکو		PROJECT: Mehdiabad Lead & Zinc Project		CHECKED	I.REZVANI	1405/03							
0	1405/02	FIRST ISSUE FOR APPROVAL	A.MAZLOOM	I.REZVANI	M.DANESHPOU					APPROVED	M.DANESHPOU	1405/03							
REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED					SHT NO.	SHT SIZE	SCALE							
CUSTOMER DWG NUMBER: 9210-MS-CV-DWG-00-0068						DRGNO		JOB NO.:		21	A3		9210	MS	CV	DWG	00	0064	01



جناب آقای مهندس عباس زاده
مدیر عامل محترم شرکت مهندسی مشاور مهساب نیرو

موضوع: ارسال مدارک GANTRY STRUCTURE

طرح "احداث بخش ۱۳۲ کیلو ولت پست ۴۰۰/۱۳۲/۳۳ کیلوولت بهادران"

با درود و احترام؛

بازگشت به نامه شماره ۰۵/۳۰۷/PE مورخ ۱۴۰۵/۰۲/۳۰ آن مشاور محترم، به استحضار می رساند، به پیوست

مدارک GANTRY STRUCTURE پروژه مذکور تقدیم حضور می گردد.

ITEM	SUBJECT	DUC NO.	REV.
1	GANTRY STRUCTURE CALCULATION	9210-MS-CV-CAL-OO-0063	B01
2	GANTRY STRUCTURE SINGLE LINE DRAWING	9210-MS-CV-DWG-OO-0064	B01

لذا خواهشمند است دستور اقدام لازم را صادر فرمایید

با سپاس
مصطفی حقانی
مدیر امور پروژه ها

رونوشت:

جناب آقای دکتر حیدری - مدیر عامل محترم - شرکت پیشگامان صنعت سرب و روی مهدی آباد - جهت استحضار

Client:  Lead & Zinc Industry Pioneers Company	Consultant: MAHSAB NIROO Consulting engineers Co. 	MEHDIABAD Lead & Zinc Beneficiation Plant- Phase 2 Comment/ Reply Sheet	Conductor : METANCO 
Document Title: 132 KV SECTION OF BAHADORAN 400/132/33 KV Substation , GATNRY STRUCTURE SINGLE LINE DRAWING			No. of pages in the doc.: 21 Page 1 of 1
Document No.: 9210-MS-CV-DWG-OO00-0064 / Rev.B00	Transmittal No.: 2023-RA-MZ-TR-0063 Comment Date: May.,20,2026		Transmittal Date: Apr.,27,2026 Received Date: Apr.,29,2026
Comment Sheet No: 9210-MN/MS-CS-049	Reply Date:		Comment Sheet Status: ☒ C- Commented ☐ AC- Acceptable with Comment ☐ A- Approved- No Comment ☐ R- Document Reject

Item	Comment	Reply/ Clarification	Clarification
1	بر اساس نحوه اخذ خروجی گنتری به ترمینال تاور و نیروهای الکتریکی و مکانیکی وارده به هادی که به گنتری هم منتقل میشود و در صورت تغییرات در نقشه لی اوت و نحوه برقراری اتصالات مکانیکی و الکتریکی ، مقررهای بشقاب پرسیلینی مورد نیاز و ... که منجر به اصلاحات و تغییرات در مدرک محاسبات این مدرک نیز باید بروز رسانی شود.	با توجه به تأیید مدرک مکانیکال باسورک بخش HV تغییری در محاسبات و قشه ایجاد نمی شود و مدرک با REV 01 ارسال می گردد .	
2	مدرک بر اساس مدرک محاسبات نهایی شود.	در نقشه اصلاحی ندارد.	
3	در روپژن بعدی تمامی تغییرات می بایست با ابرک یا علامت مشخص گردند.	با توجه به مورد 1 تغییری در مدرک اعمال نمی شود .	
4	مدرک پس رفع کامنتها ، تایید و برای تصویب به شرکت برق منطقه ای یزد ارسال خواهد شد.	-----	

Commented by: Mehdy.Rahimpour & Mehdi Norifard Date: May.,20,2026 	Reply/ clarification by: Date:	Planning and Project Control Department: Date:
---	---	---