


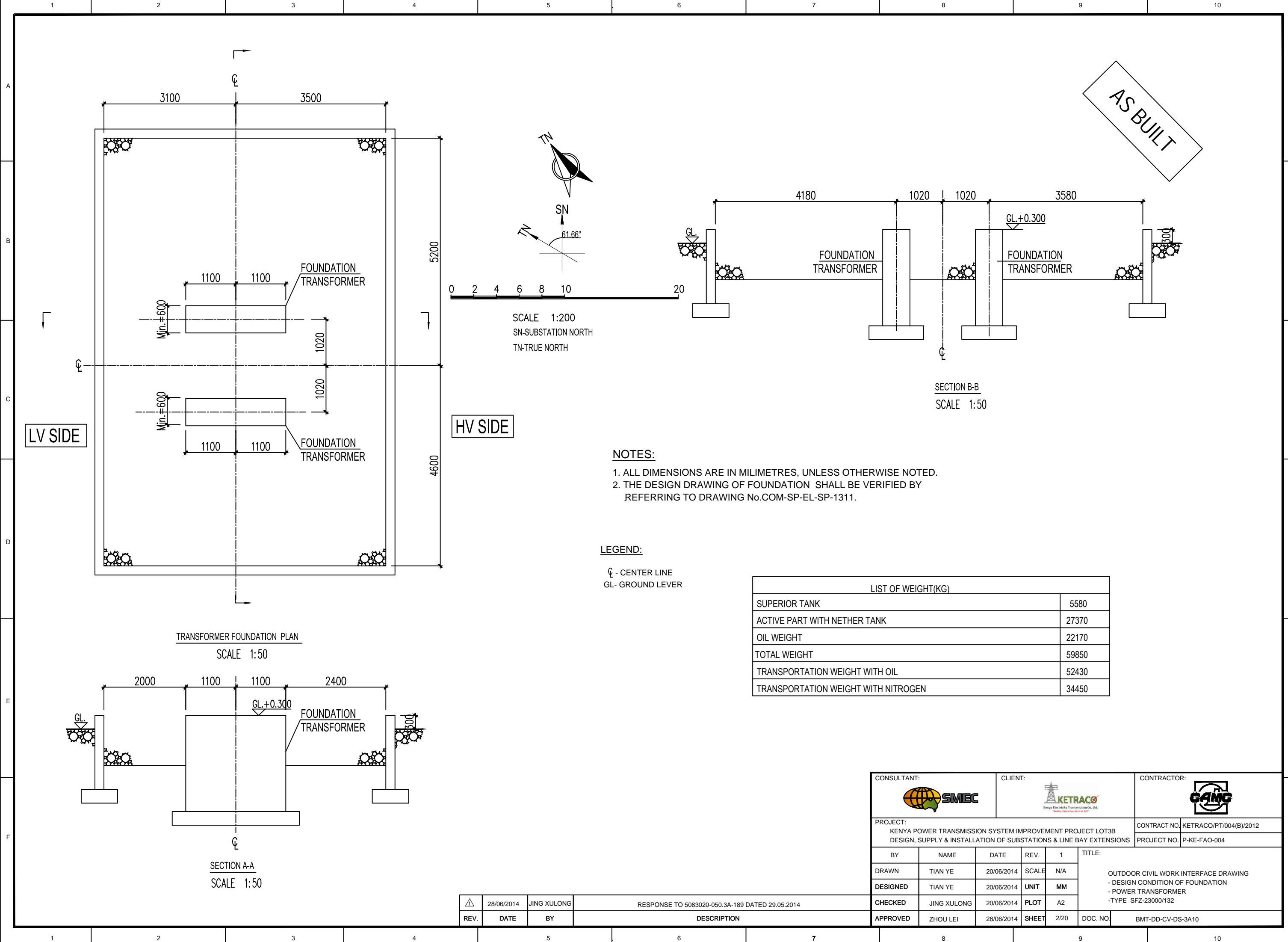


LEGEND:	
	CONCRETE ROAD
	BOUNDARY LINE
	SECURITY FENCE
	CHAIN FENCE
CB	CIRCUIT BREAKER
LA	LIGHTNING ARRESTER
PI	POST INSULATOR
CVT	CAPACITIVE VOLTAGE TRANSFORMER
Aux. Tx.	AUXILIARY TRANSFORMER
DS	DISCONNECTOR SWITCH
CT	CURRENT TRANSFORMER
DSSF1	SUPPORT AND FOUNDATION OF DS WITH ES
DSSF2	SUPPORT AND FOUNDATION OF DS WITHOUT ES
CSF	COMBINED STRUCTURE COLUMN AND FOUNDATION
ESF	EARTHWIRE SUPPORT TOWER AND FOUNDATION
GSF-1	GANTRY AND FOUNDATION OF G132-1
GSF-2	GANTRY AND FOUNDATION OF G132-2
GSF-3	GANTRY AND FOUNDATION OF G132-3
LASF	SUPPORT AND FOUNDATION OF LA
CVTSF	SUPPORT AND FOUNDATION OF CVT
CTSF	SUPPORT AND FOUNDATION OF CT
CBSF	SUPPORT AND FOUNDATION OF CB(LW36-145)
CBFSF	SUPPORT AND FOUNDATION OF CB(LW36-145F)
CBZSF	SUPPORT AND FOUNDATION OF CB(ZW38-40.5)
VTSF	SUPPORT AND FOUNDATION OF VT
CL	CENTER LINE
TB	TERMINAL BOX




- NOTES:
- 1) ALL DIMENSIONS AND ELEVATIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
 - 2) ALL ASPECTS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST PROVISIONS OF APPLICABLE CONSTRUCTION AND BUILDING CODES.
 - 3) REFER TO THE ELECTRICAL PLAN AND LAYOUT OF THE SUBSTATION EQUIPMENT AND GANTRY TOWERS BY THE ELECTRO-MECHANICAL DESIGN DIVISION.
 - 4) ALL COORDINATES SHALL BE VERIFIED BY REFERRING TO DRAWING No. BMT-DD-SI-RT-3011.

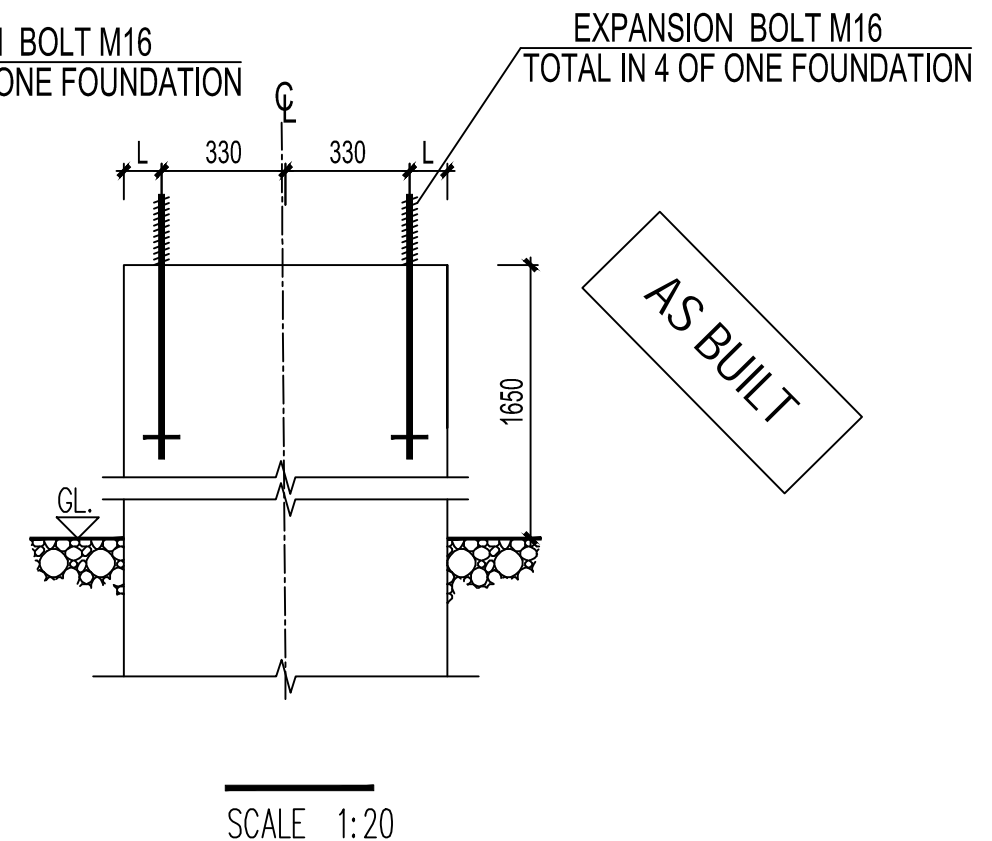
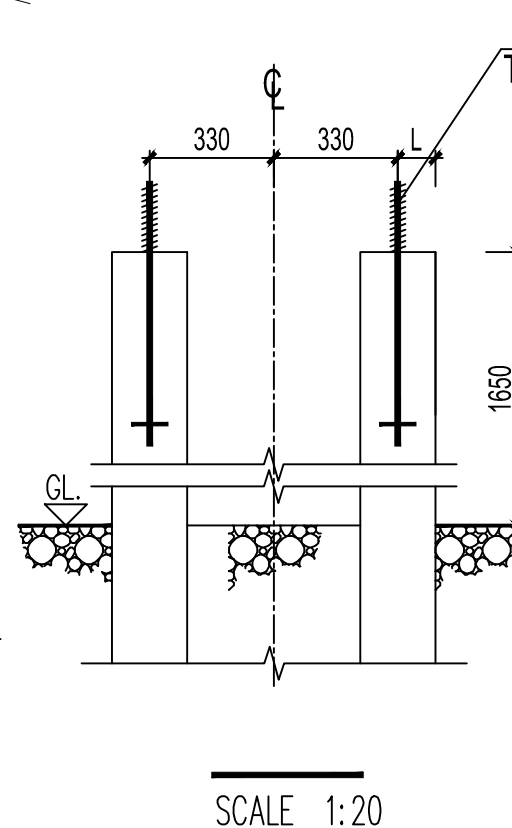
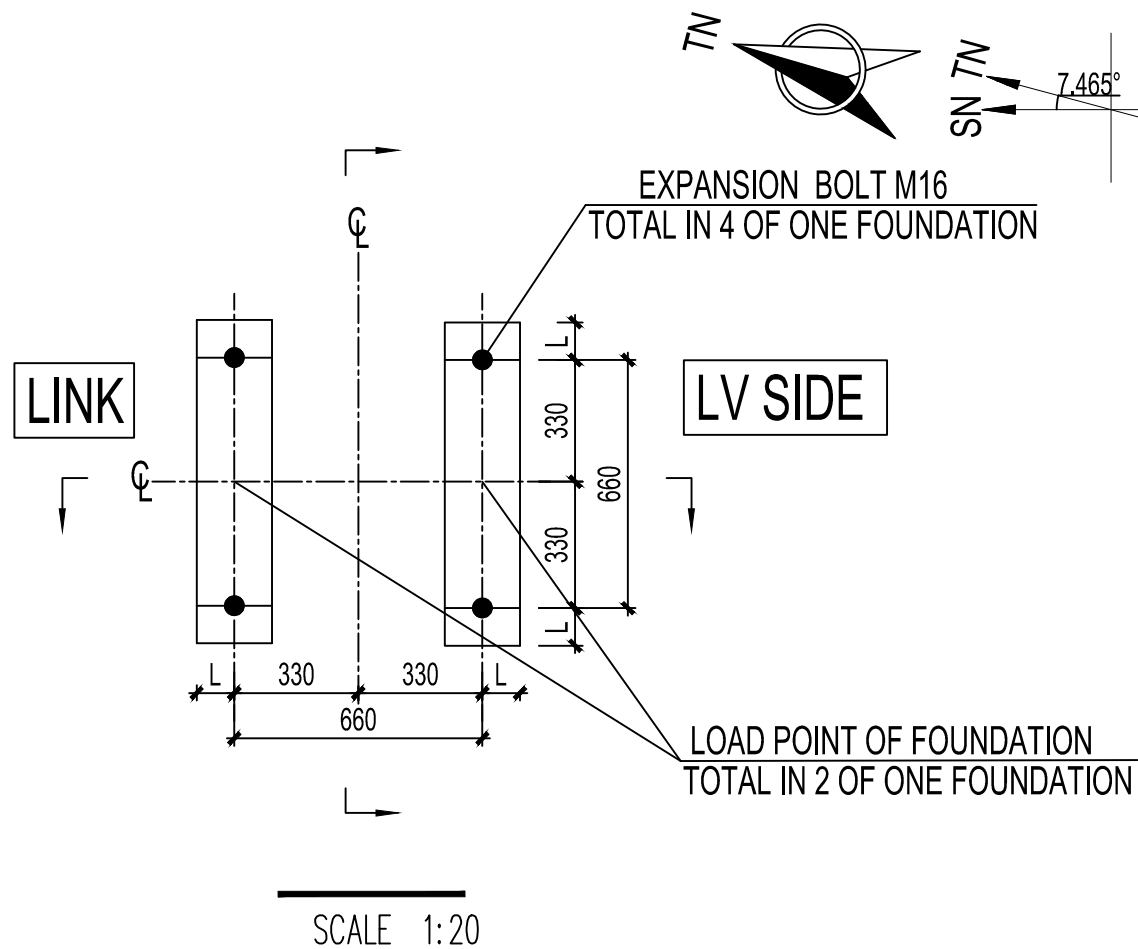
CONSULTANT: 		CLIENT: 		CONTRACTOR: 	
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3A DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS				CONTRACT NO.	KETRACO/PT/004(A)/2012
				PROJECT NO.	P-KE-FAO-004
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - STEEL STRUCTURE LAYOUT PLAN - GENERAL ARRANGEMENT
DRAWN	TIAN YE	14/05/2014	SCALE	1:200	
DESIGNED	TIAN YE	14/05/2014	UNIT	MM	
CHECKED	JING XULONG	20/06/2014	PLOT	A2	
APPROVED	ZHOU LEI	28/06/2014	SHEET	1/20	
			DOC. NO.	BMT-DD-CV-DS-3A10	

	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014		
REV.	DATE	BY	DESCRIPTION		



△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

CONSULTANT: 		CLIENT:  <small>Kenya Electricity Transmission Co. Ltd. Head Office: Ngara Road, Nairobi 00100</small>			CONTRACTOR: 	
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS					CONTRACT NO.	KETRACO/PT/004(B)/2012
					PROJECT NO.	P-KE-FAO-004
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - POWER TRANSFORMER -TYPE SFZ-23000/132	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A2		
APPROVED	ZHOU LEI	28/06/2014	SHEET	2/20	DOC. NO.	BMT-DD-CV-DS-3A10



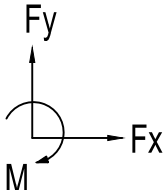



NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-EL-SP-1321.

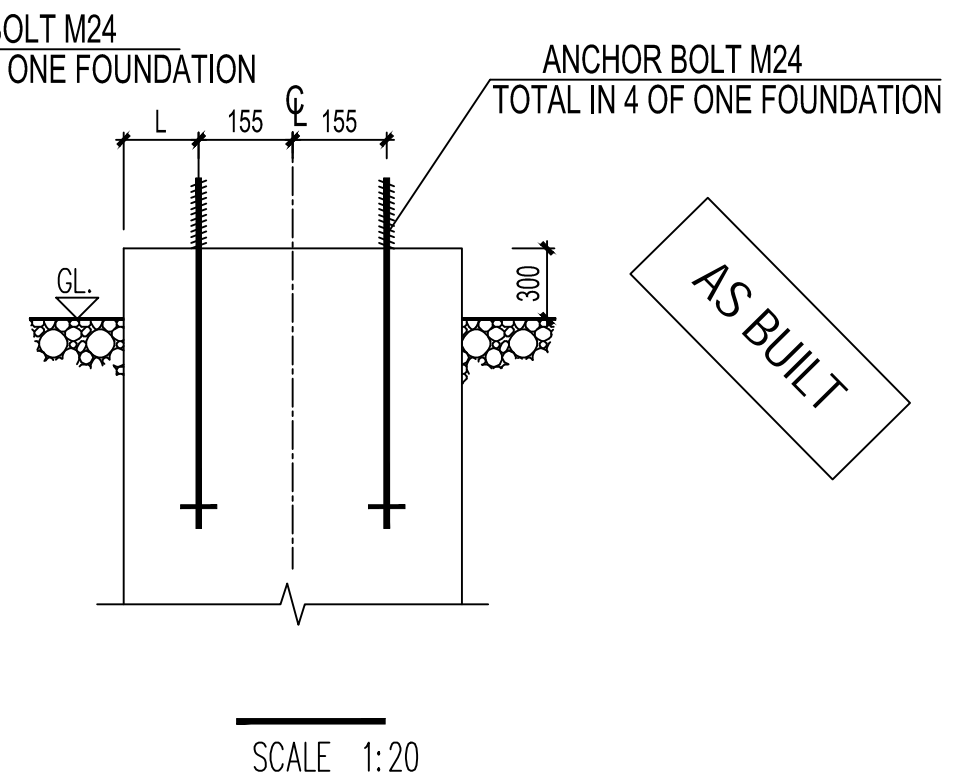
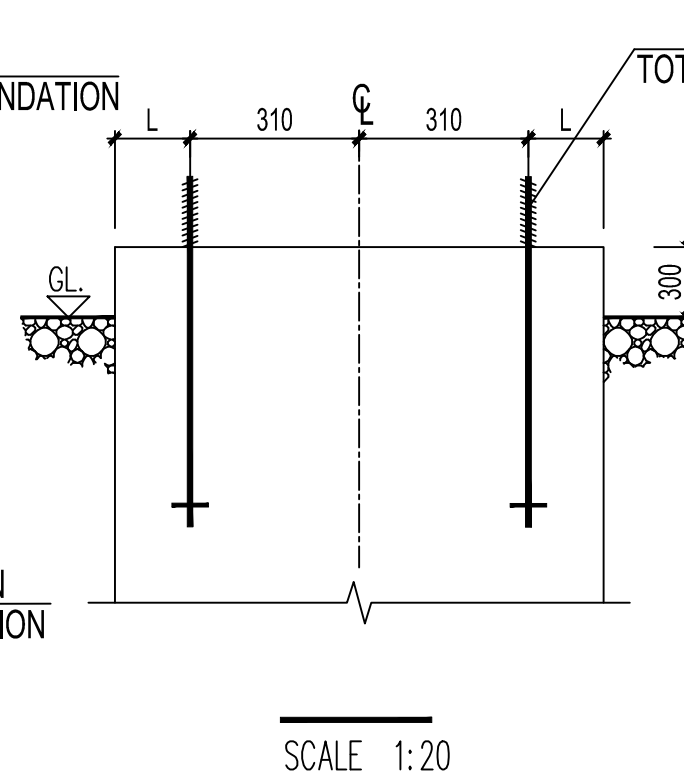
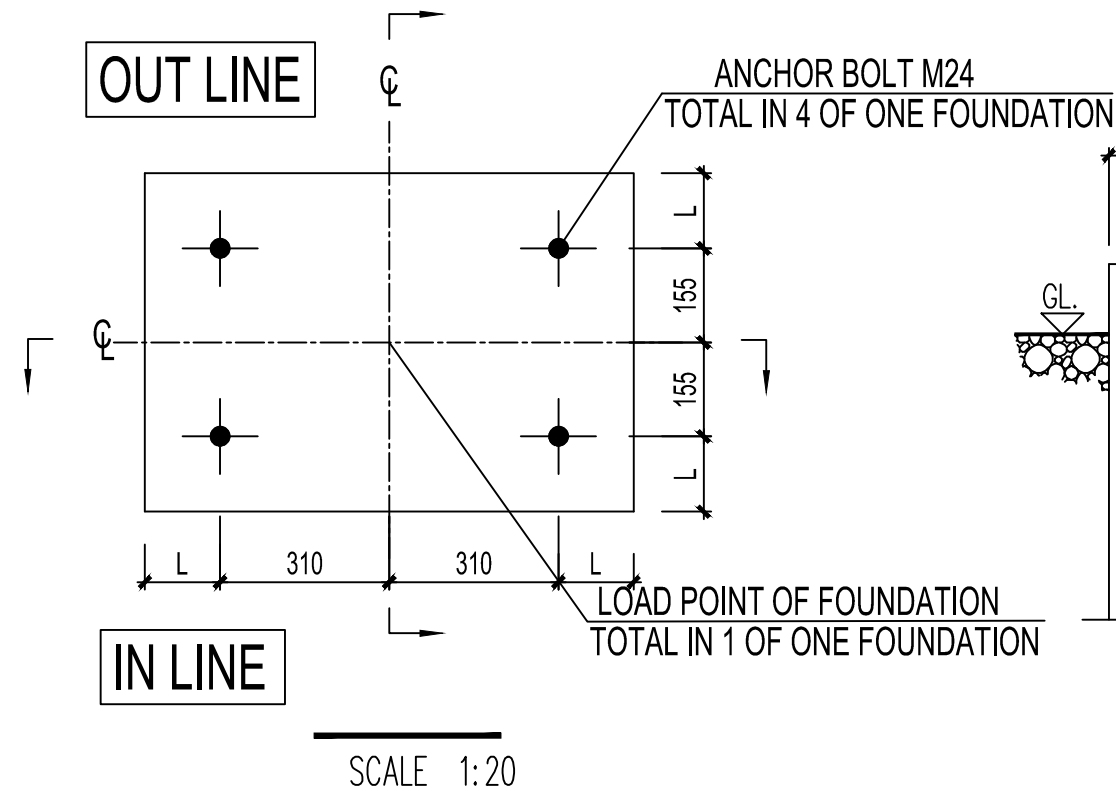
LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

FOUNDATION FORCES (WITHOUT SAFE FACTOR)							
Load condition		Horizontal load Fx (kN)		Vertical load Fy (kN)			Moment M (kN.m)
Ultimate Compression		6.38		-5.64			7.65
CONSULTANT: 			CLIENT: 			CONTRACTOR: 	
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS						CONTRACT NO.	KETRACO/PT/004(B)/2012
						PROJECT NO.	P-KE-FAO-004
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - AUXILIARY TRANSFORMER - TYPE S-100/33		
DRAWN	TIAN YE	20/06/2014	SCALE	N/A			
DESIGNED	TIAN YE	20/06/2014	UNIT	MM			
CHECKED	JING XULONG	20/06/2014	PLOT	A3			
APPROVED	ZHOU LEI	28/06/2014	SHEET	3/20	DOC. NO.	BMT-DD-CV-DS-3A10	

OUTDOOR CIVIL WORK INTERFACE DRAWING
- DESIGN CONDITION OF FOUNDATION
- AUXILIARY TRANSFORMER
- TYPE S-100/33



NOTES:

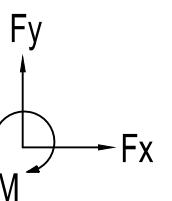
1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1811.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1711.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)
Normal Condition	2646	-9030.7	7914.3
Short Circuit Current	6964	-11182	24727

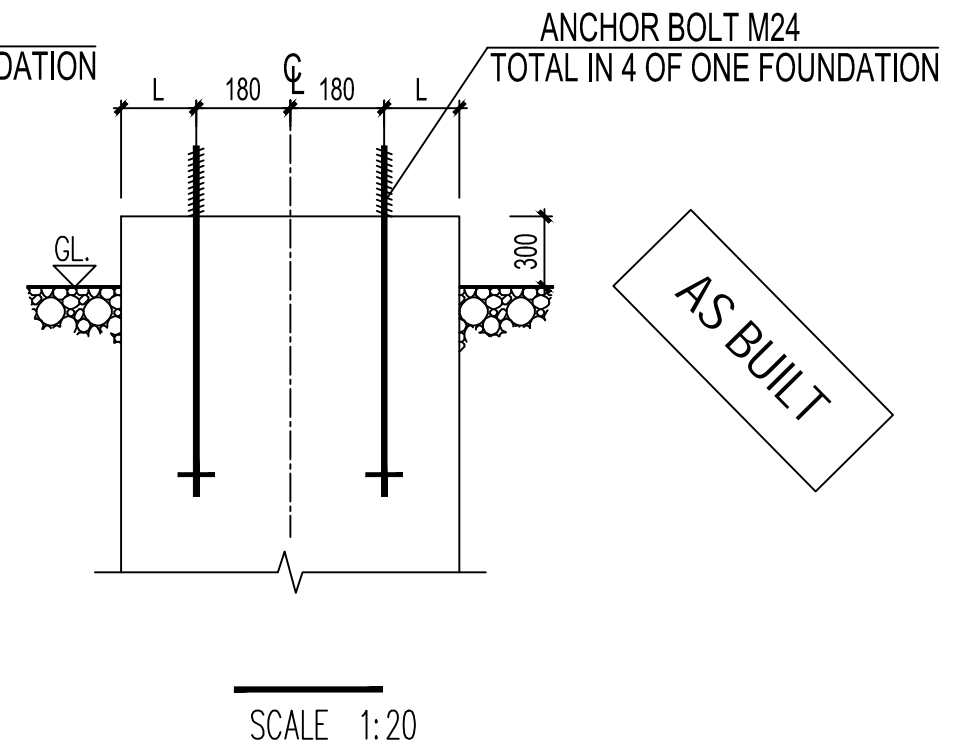
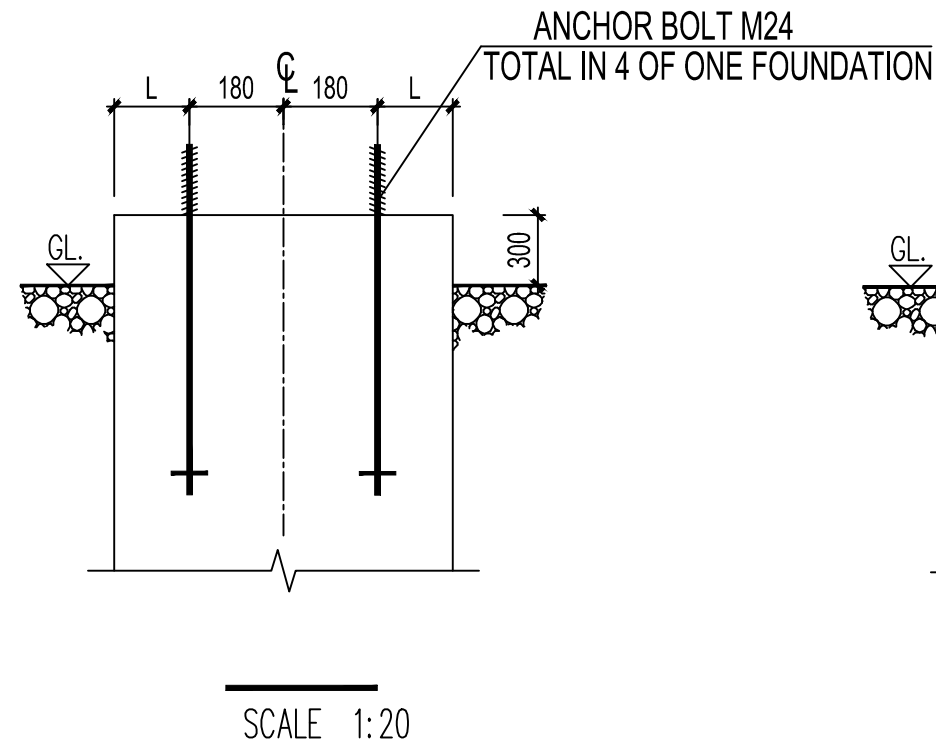
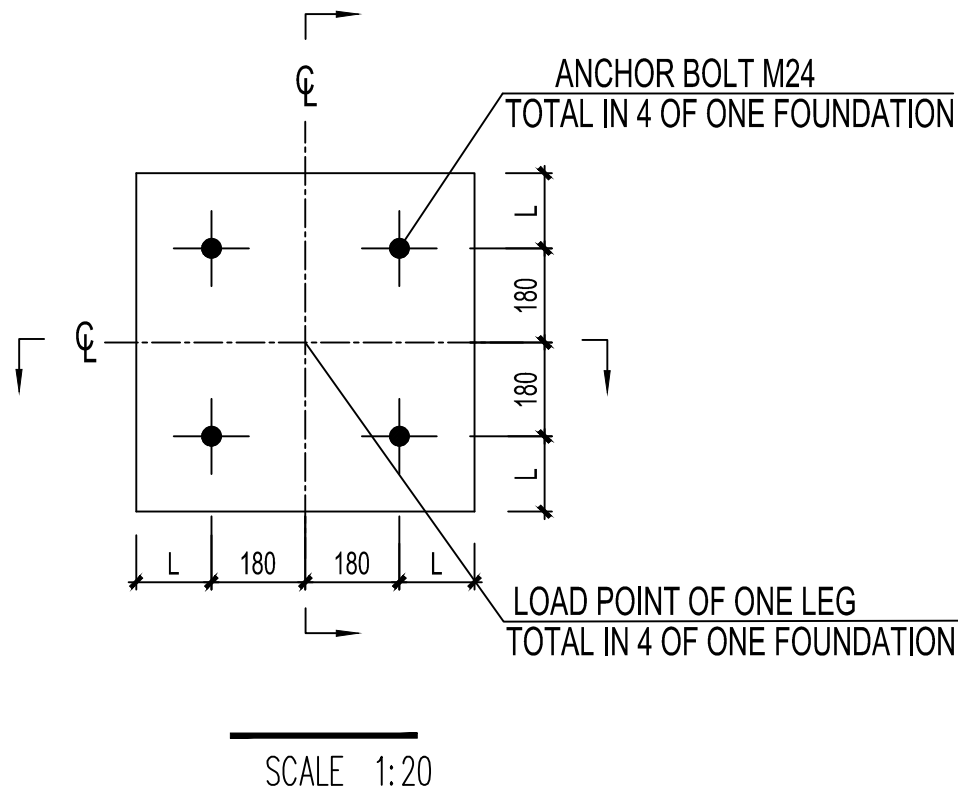


CONSULTANT: 	CLIENT: 	CONTRACTOR:
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS	CONTRACT NO. KETRACO/PT/004(B)/2012 PROJECT NO. P-KE-FAO-004
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BY	NAME	DATE	REV.	1	TITLE:
DRAWN	TIAN YE	20/06/2014	SCALE	N/A	OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV CIRCUIT BREAKER SINGLE-POLE - TYPE LW36-145(W)/T3150-40F
DESIGNED	TIAN YE	20/06/2014	UNIT	MM	
CHECKED	JING XULONG	20/06/2014	PLOT	A3	
APPROVED	ZHOU LEI	28/06/2014	SHEET	4/20	DOC. NO. BMT-DD-CV-DS-3A10

REV.	DATE	BY	DESCRIPTION
△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014



NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1811.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1711.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

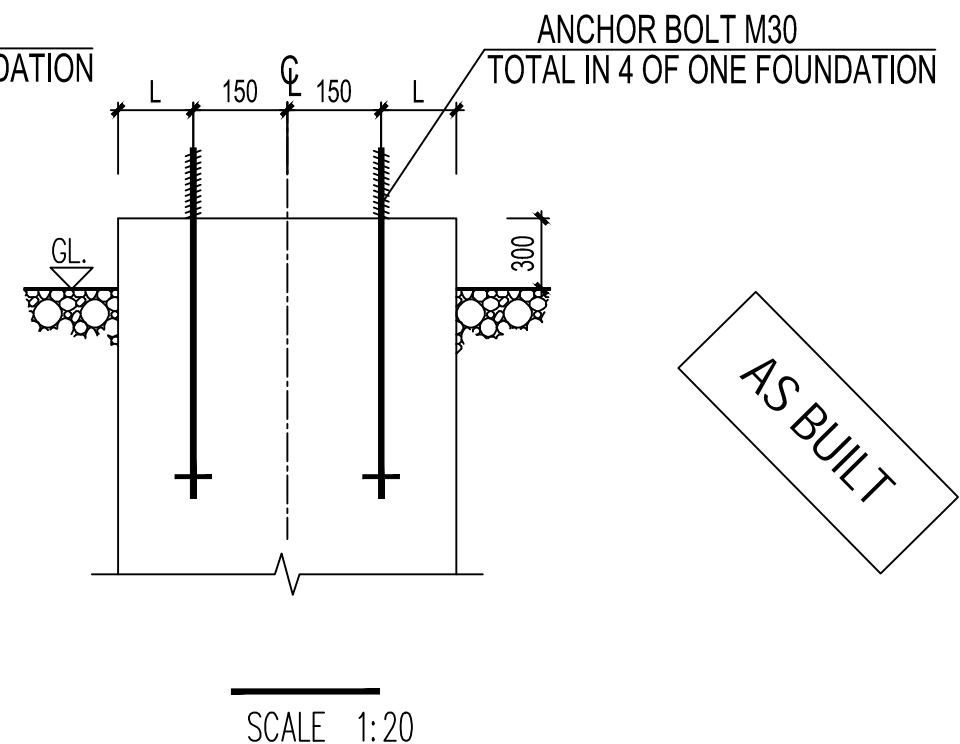
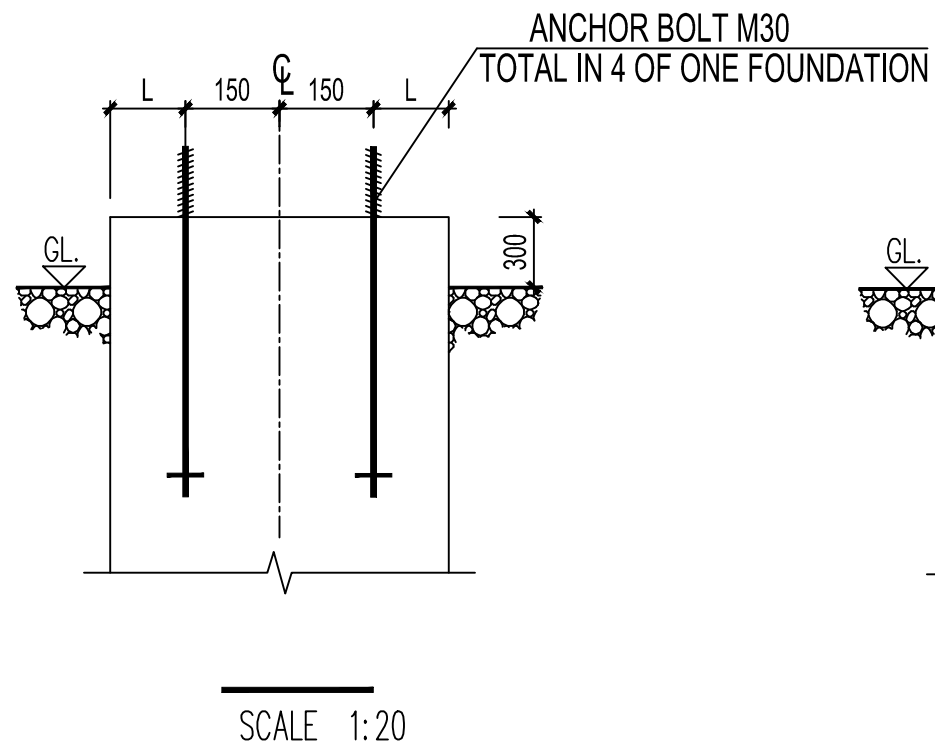
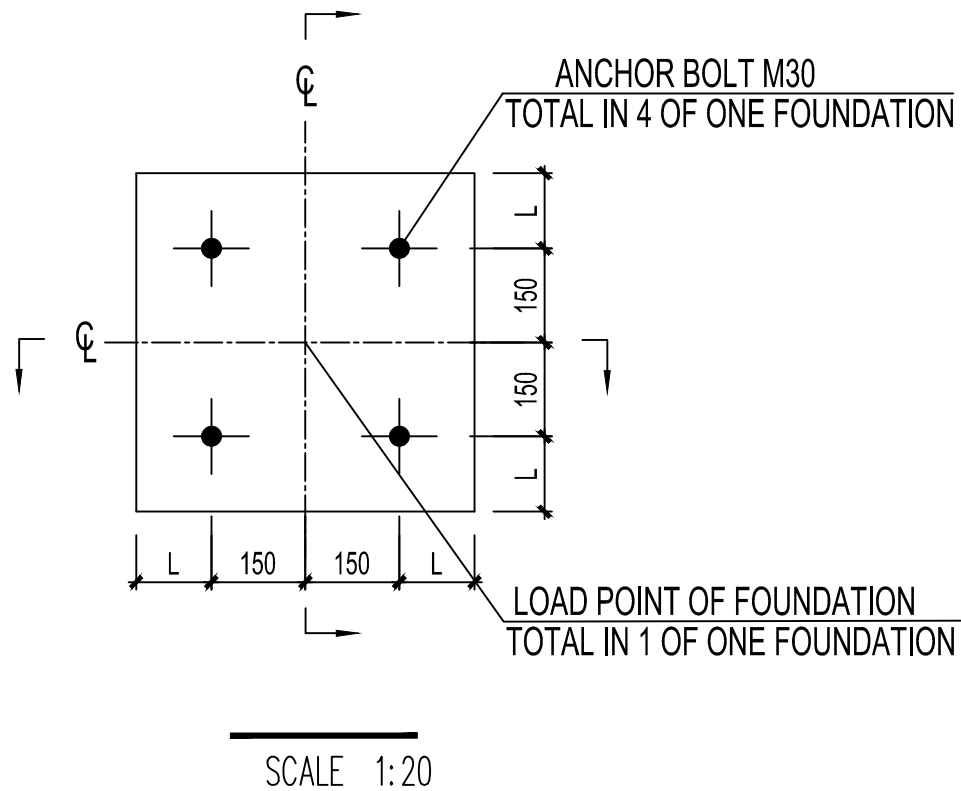
Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)	
Normal Condition	3538	-12140	12062	
Short Circuit Current	6744	-12079	28540	

CONSULTANT: 		CLIENT: 		CONTRACTOR: 	
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS				CONTRACT NO.	KETRACO/PT/004(B)/2012
				PROJECT NO.	P-KE-FAO-004

BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION -132kV CIRCUIT BREAKER THREE-POLE -TYPE LW36-145(W)/T3150-40	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	5/20	DOC. NO.	BMT-DD-CV-DS-3A10

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014	
REV.	DATE	BY	DESCRIPTION	



NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1812.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1712.

LEGEND:

C - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

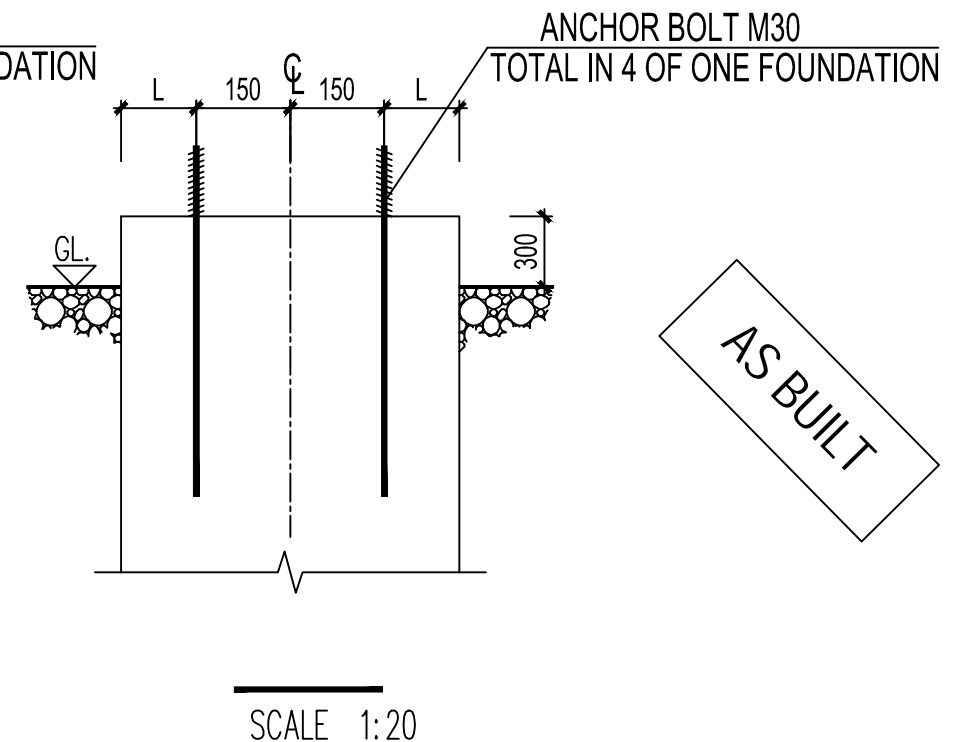
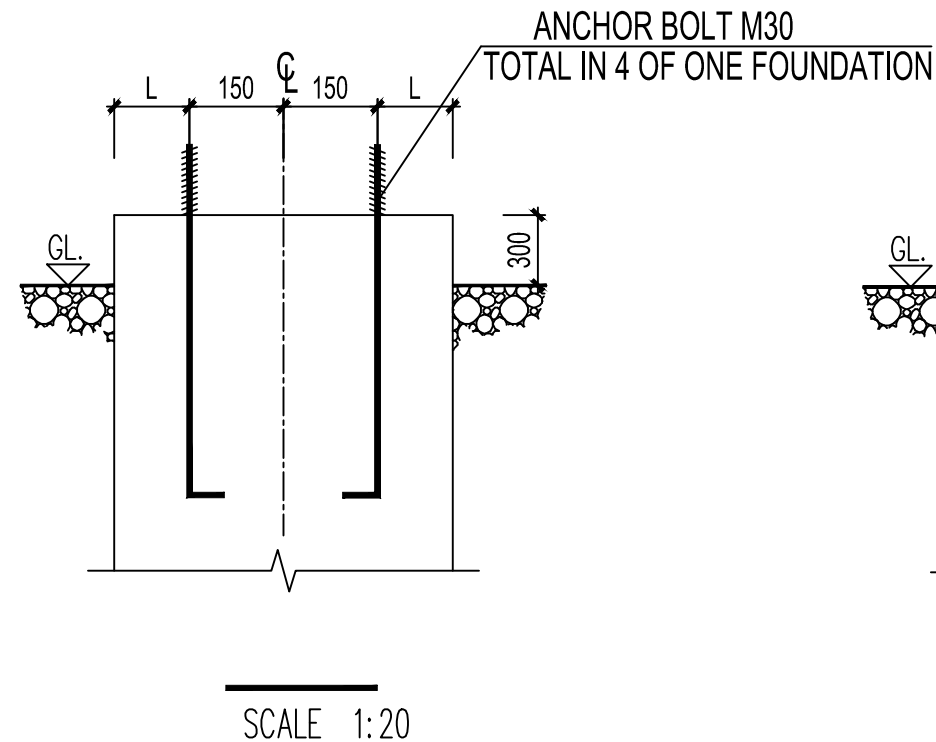
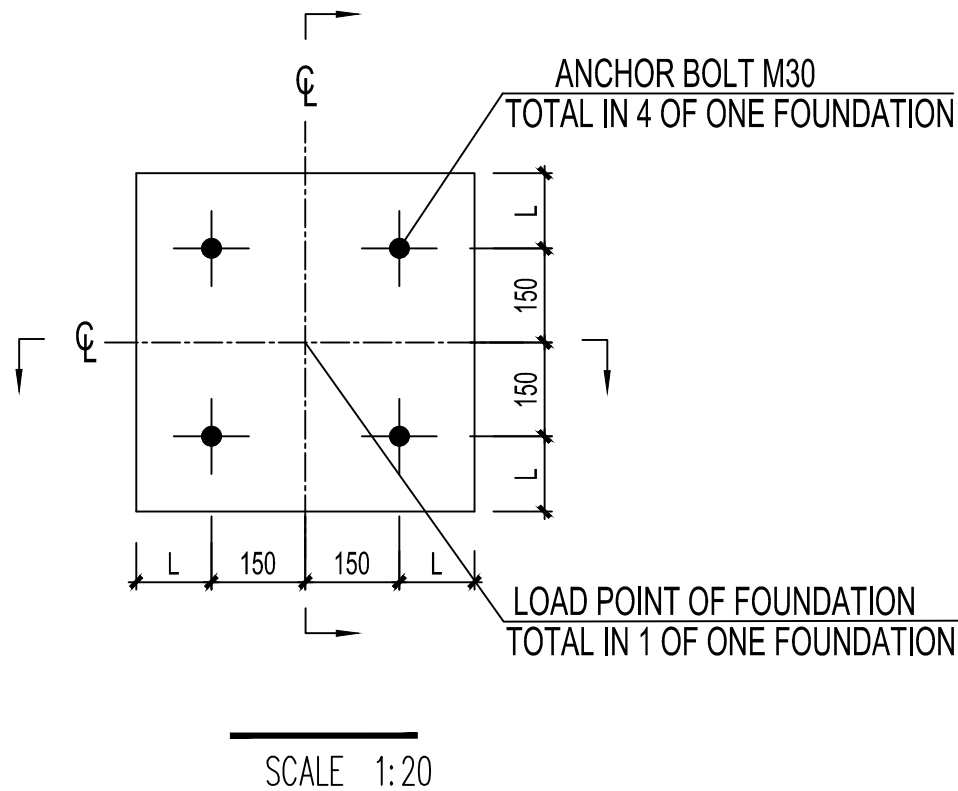
Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)	
Normal Condition	2881.2	-9567	7477.4	
Short Circuit Current	4246.3	-8984.6	13808.2	

CONSULTANT: 	CLIENT: 	CONTRACTOR:
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS		CONTRACT NO.	KETRACO/PT/004(B)/2012
		PROJECT NO.	P-KE-FAO-004

BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132kV DISCONNECTOR WITH ES
DRAWN	TIAN YE	20/06/2014	SCALE	N/A	
DESIGNED	TIAN YE	20/06/2014	UNIT	MM	
CHECKED	JING XULONG	20/06/2014	PLOT	A3	
APPROVED	ZHOU LEI	28/06/2014	SHEET	6/20	DOC. NO.
					BMT-DD-CV-DS-3A10

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION



NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1812.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1712.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

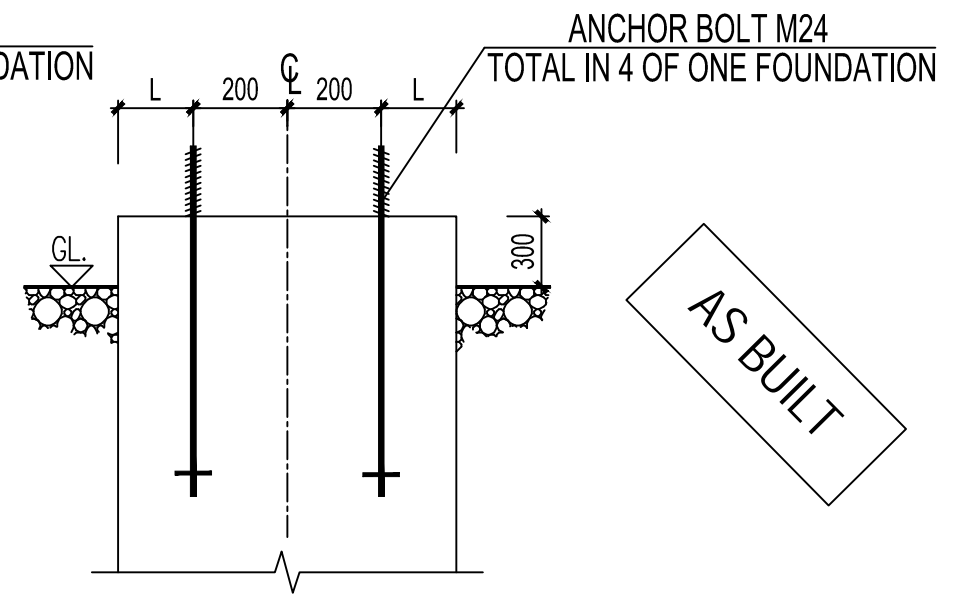
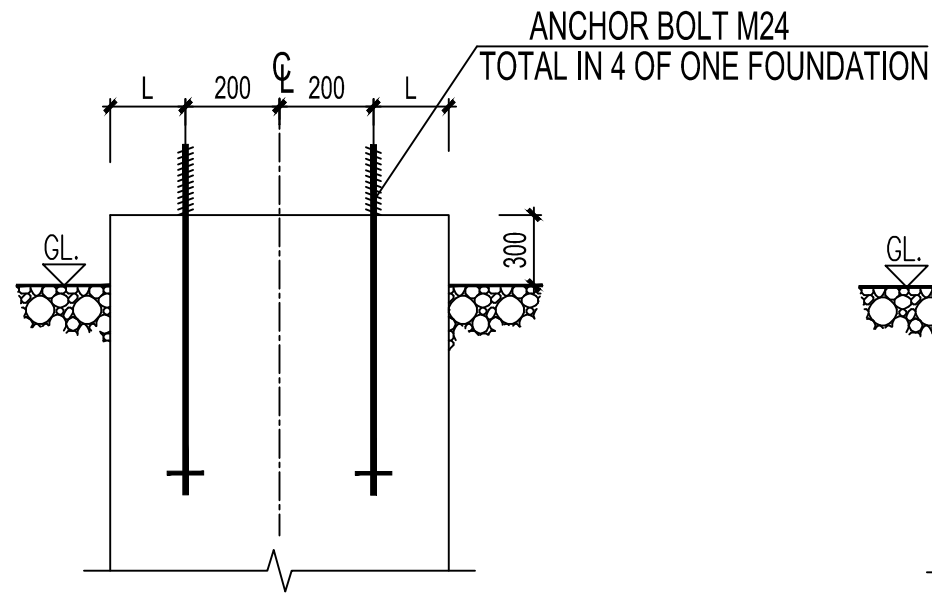
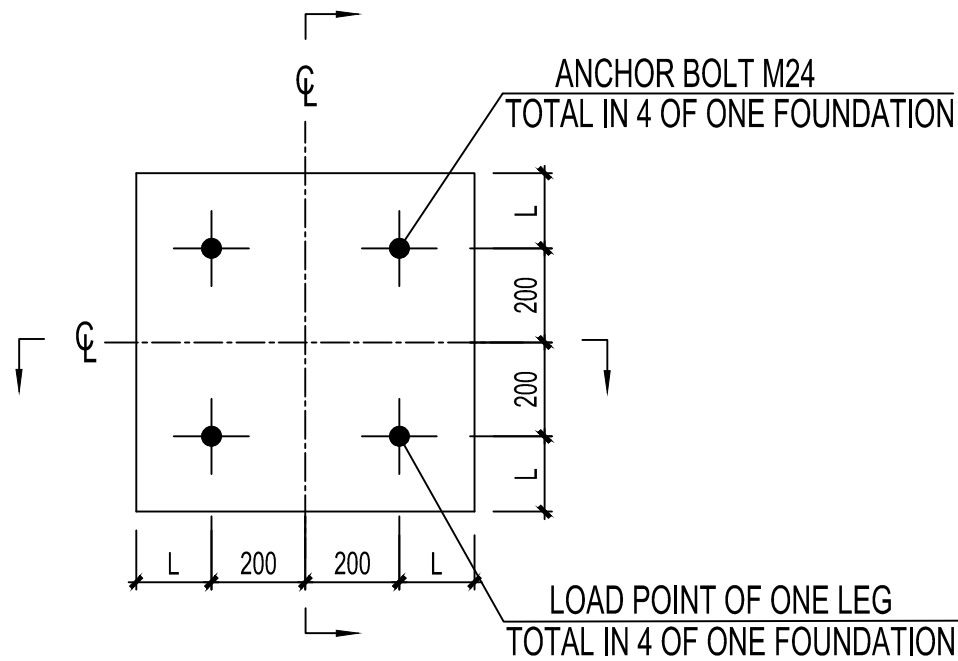
Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)	
Normal Condition	2881.2	-8944.36	7477.4	
Short Circuit Current	4246.3	-8372.9	13808.2	

CONSULTANT: 	CLIENT: 	CONTRACTOR:
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS	CONTRACT NO. KETRACO/PT/004(B)/2012
	PROJECT NO. P-KE-FAO-004

BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION -132KV DISCONNECTOR WITHOUT ES
DRAWN	TIAN YE	20/06/2014	SCALE	N/A	
DESIGNED	TIAN YE	20/06/2014	UNIT	MM	
CHECKED	JING XULONG	20/06/2014	PLOT	A3	
APPROVED	ZHOU LEI	28/06/2014	SHEET	7/20	DOC. NO. BMT-DD-CV-DS-3A10

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION



AS BUILT

NOTES:

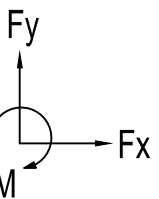
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2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1813.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1713.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)
Normal Condition	1844	-8483	5354
Short Circuit Current	4344	-10983	18280

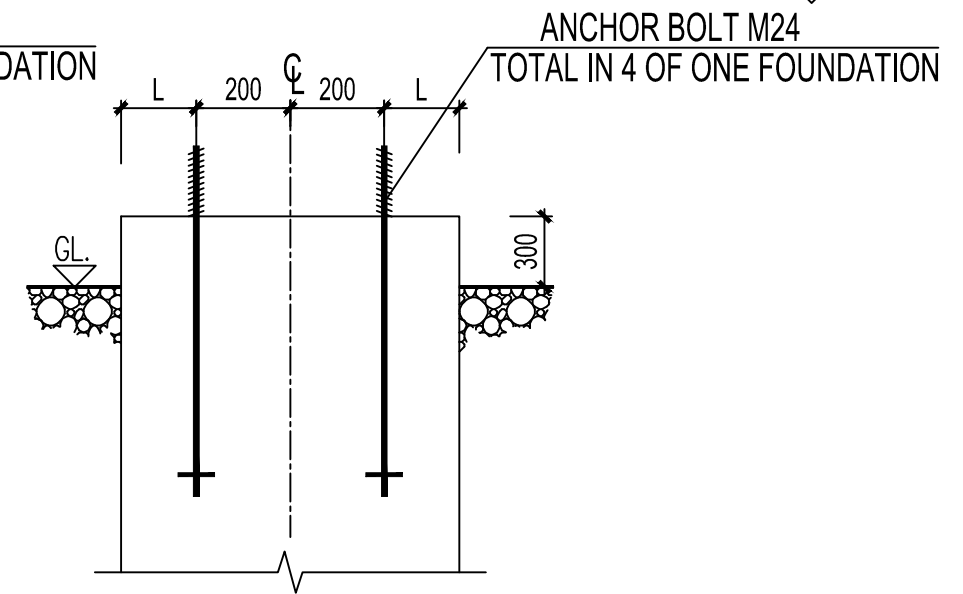
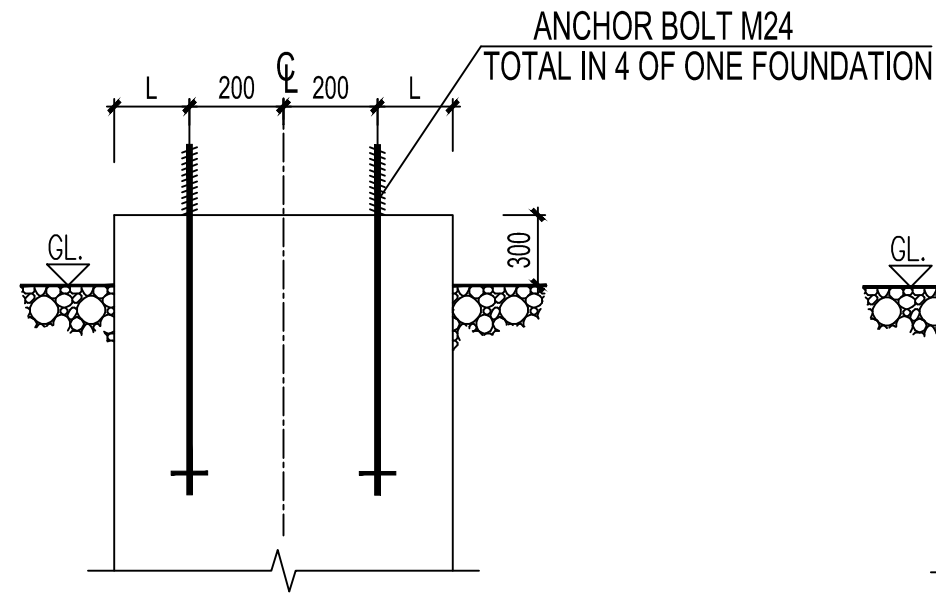
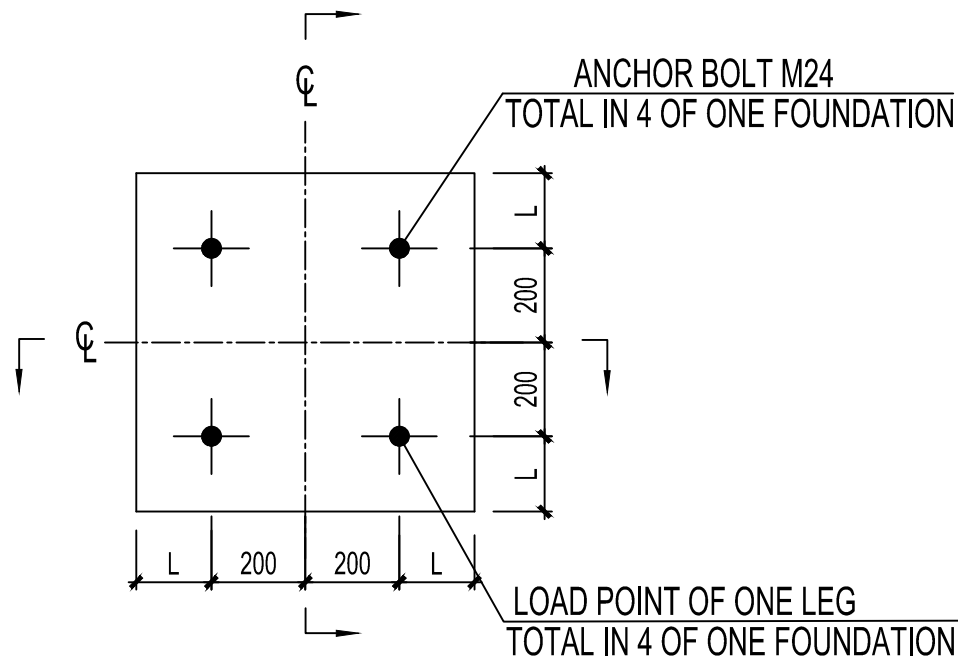


CONSULTANT: 	CLIENT: 	CONTRACTOR:
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS	CONTRACT NO. KETRACO/PT/004(B)/2012 PROJECT NO. P-KE-FAO-004
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BY	NAME	DATE	REV.	1	TITLE:
DRAWN	TIAN YE	20/06/2014	SCALE	N/A	OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV CURRENT TRANSFORMER
DESIGNED	TIAN YE	20/06/2014	UNIT	MM	
CHECKED	JING XULONG	20/06/2014	PLOT	A3	
APPROVED	ZHOU LEI	28/06/2014	SHEET	8/20	DOC. NO. BMT-DD-CV-DS-3A10

REV.	DATE	BY	DESCRIPTION
△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014



AS BUILT

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-SP-MS-DS-1814.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1714.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

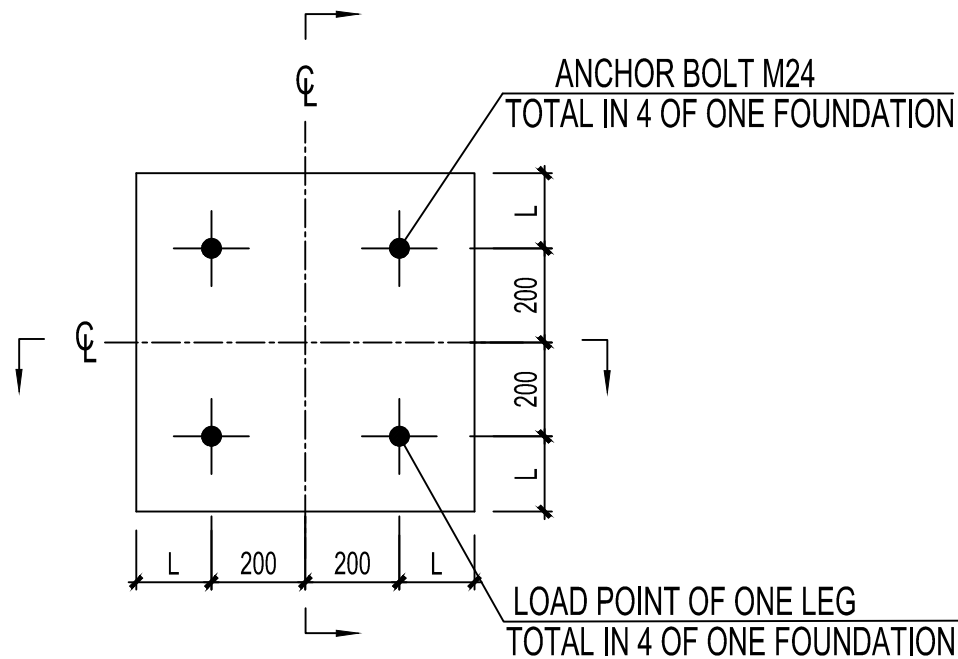
Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)	
Normal Condition	1677	-6453	4374	
Short Circuit Current	3677	-8453	13543	

CONSULTANT: 		CLIENT: 		CONTRACTOR: 	
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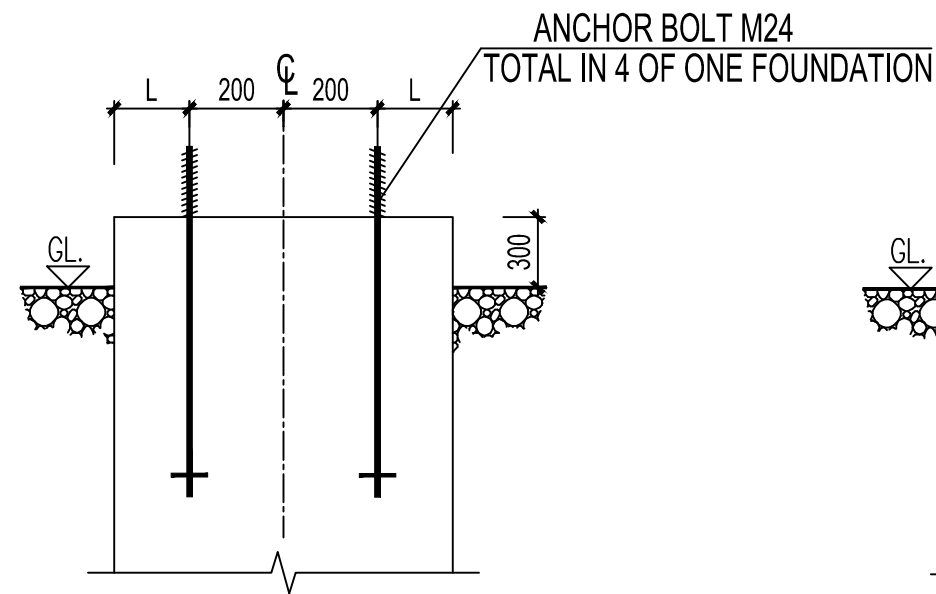
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS				CONTRACT NO.	KETRACO/PT/004(B)/2012
				PROJECT NO.	P-KE-FAO-004

BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV CAPACITIVE VOLTAGE TRANSFORMER	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	9/20	DOC. NO.	BMT-DD-CV-DS-3A10

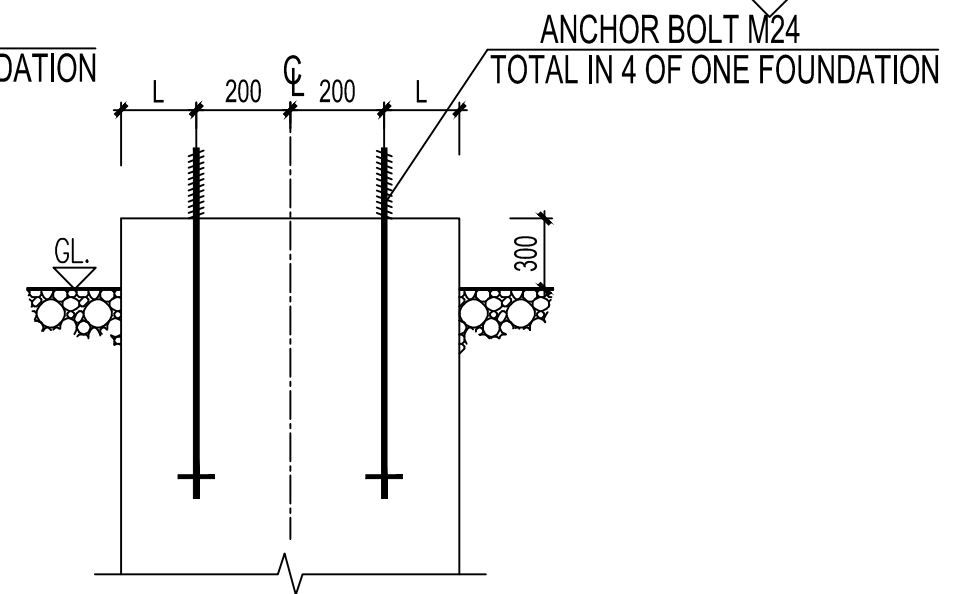
△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION



SCALE 1:20



SCALE 1:20



SCALE 1:20

AS BUILT

NOTES:

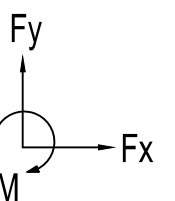
1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-SP-MS-DS-1815.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1715.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)
Normal Condition	1500	-4344	3687
Short Circuit Current	2481	-5325	8081

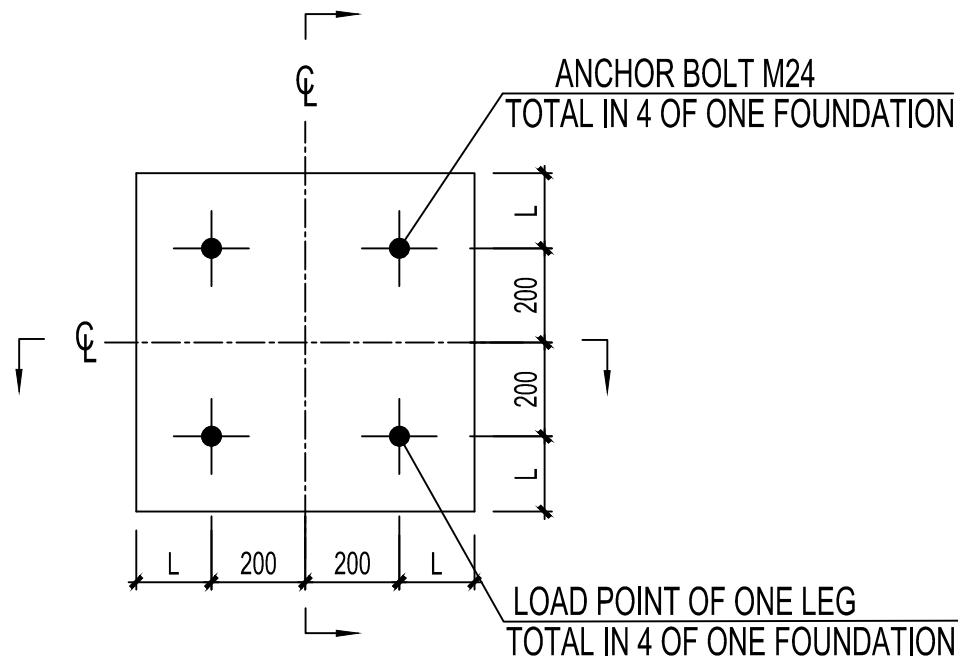


CONSULTANT: 	CLIENT: 	CONTRACTOR:
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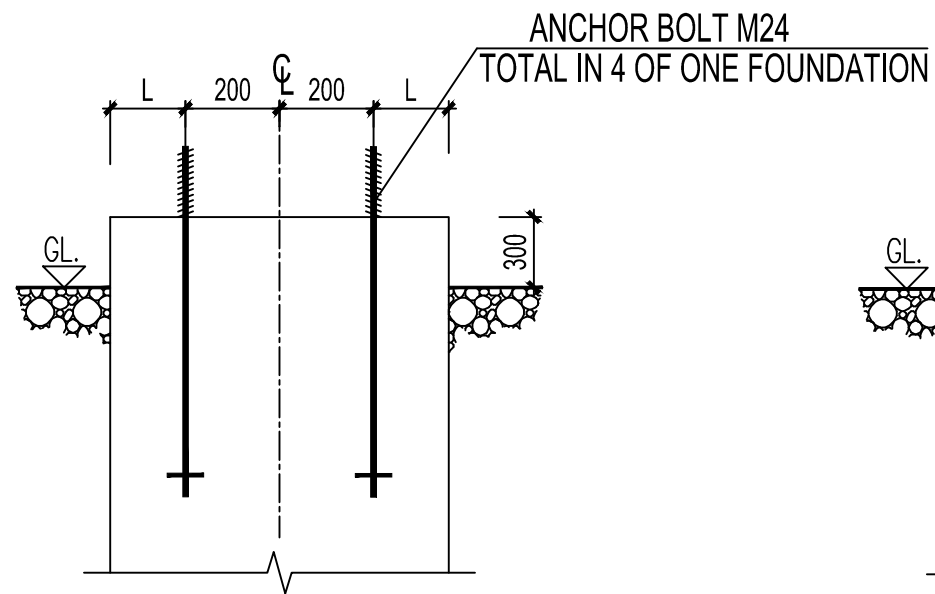
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS	CONTRACT NO. KETRACO/PT/004(B)/2012 PROJECT NO. P-KE-FAO-004
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BY	NAME	DATE	REV.	1	TITLE:
DRAWN	TIAN YE	20/06/2014	SCALE	N/A	OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV LIGHTNING ARRESTER
DESIGNED	TIAN YE	20/06/2014	UNIT	MM	
CHECKED	JING XULONG	20/06/2014	PLOT	A3	
APPROVED	ZHOU LEI	28/06/2014	SHEET	10/20	DOC. NO. BMT-DD-CV-DS-3A10

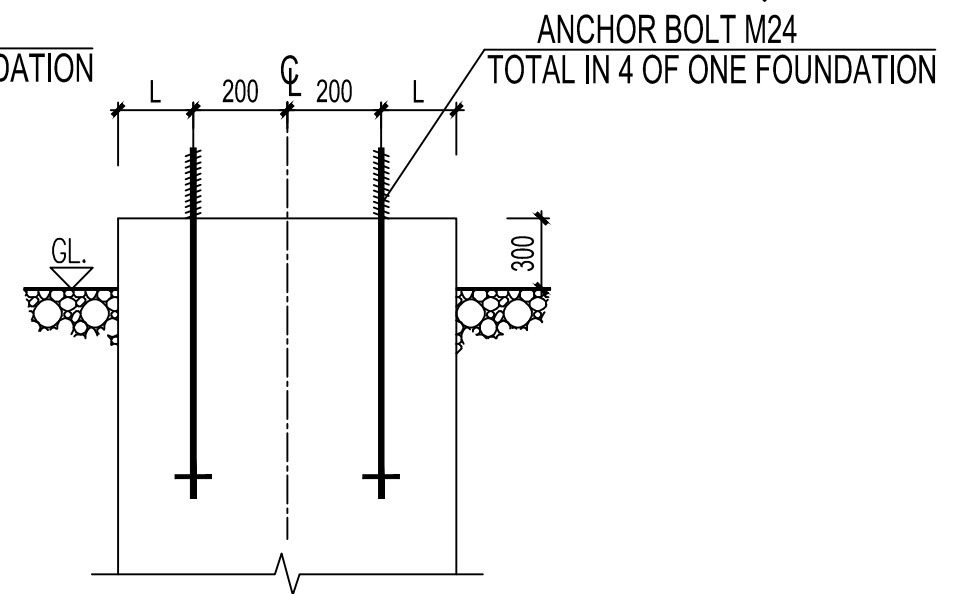
△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION



SCALE 1:20



SCALE 1:20



SCALE 1:20

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-SP-MS-DS-1816.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1716.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)	
Normal Condition	1500	-4207	3589	
Short Circuit Current	2236	-4943	6796	

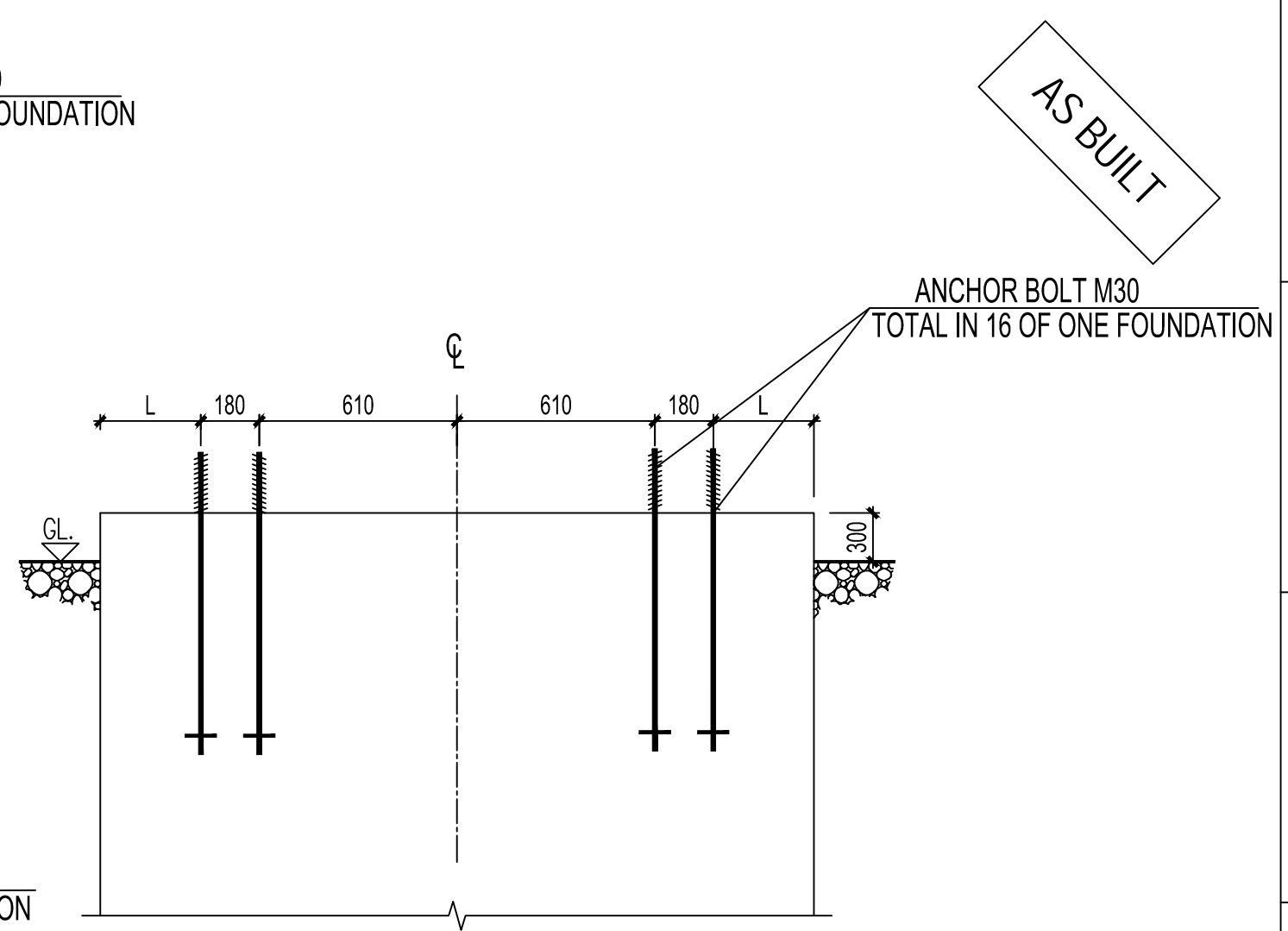
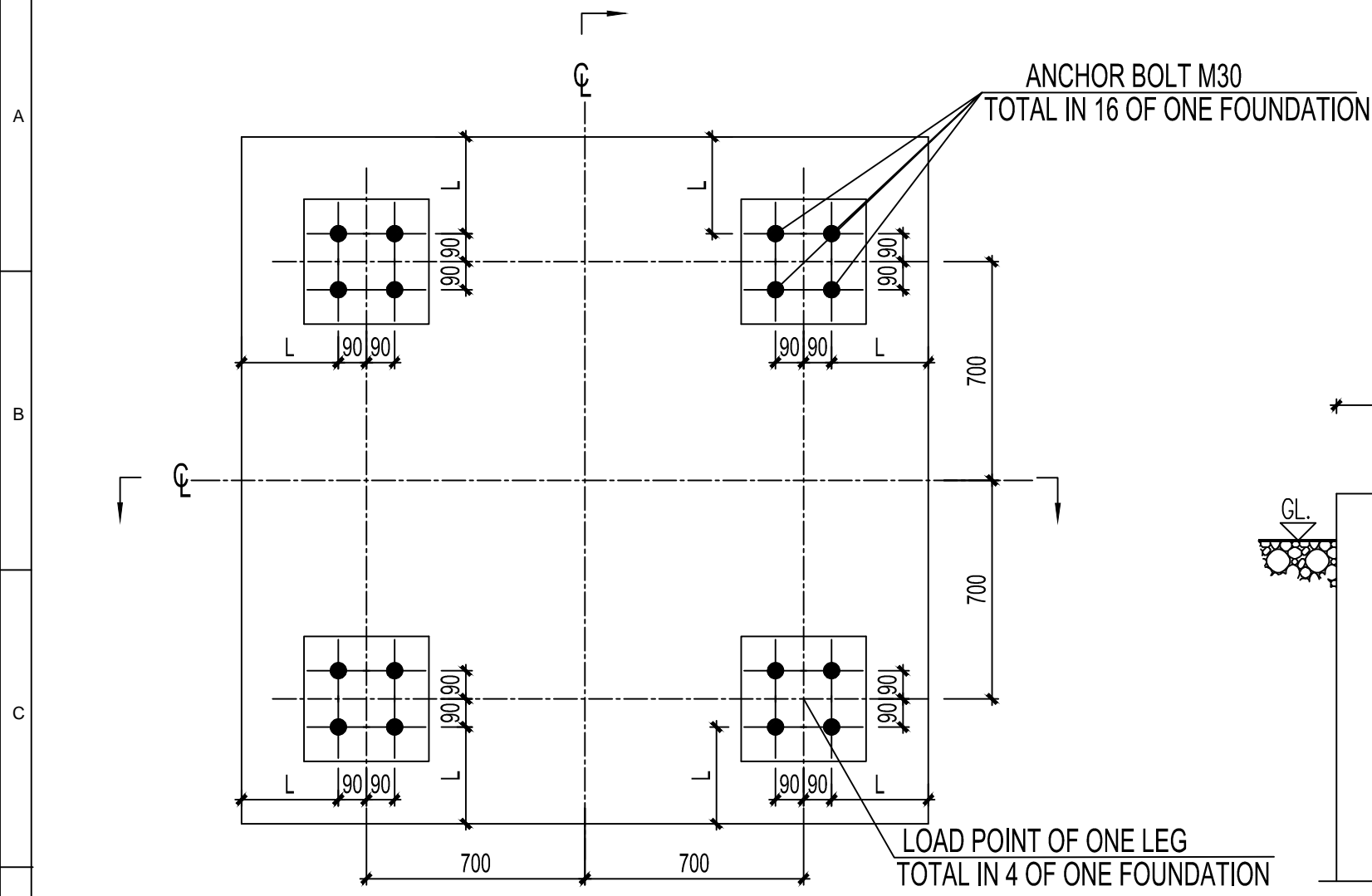
CONSULTANT: 		CLIENT: 		CONTRACTOR: 	
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS				CONTRACT NO.	KETRACO/PT/004(B)/2012
				PROJECT NO.	P-KE-FAO-004

BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV POST INSULATOR	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	11/20	DOC. NO.	BMT-DD-CV-DS-3A10

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

1 2 3 4 5 6 7 8



SCALE 1:20

SCALE 1:20

NOTES:

- 1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
- 2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1817.
- 3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
- 4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1717.

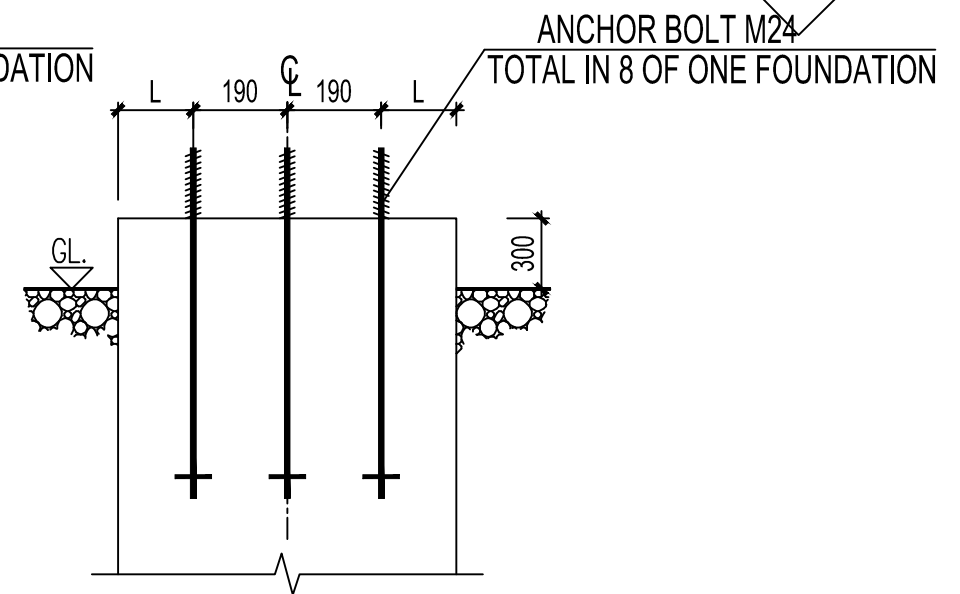
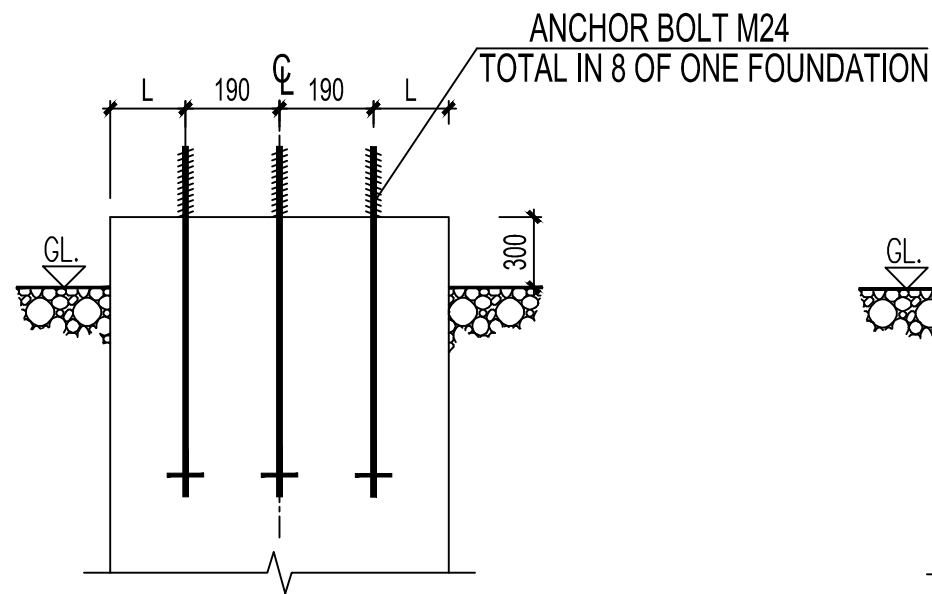
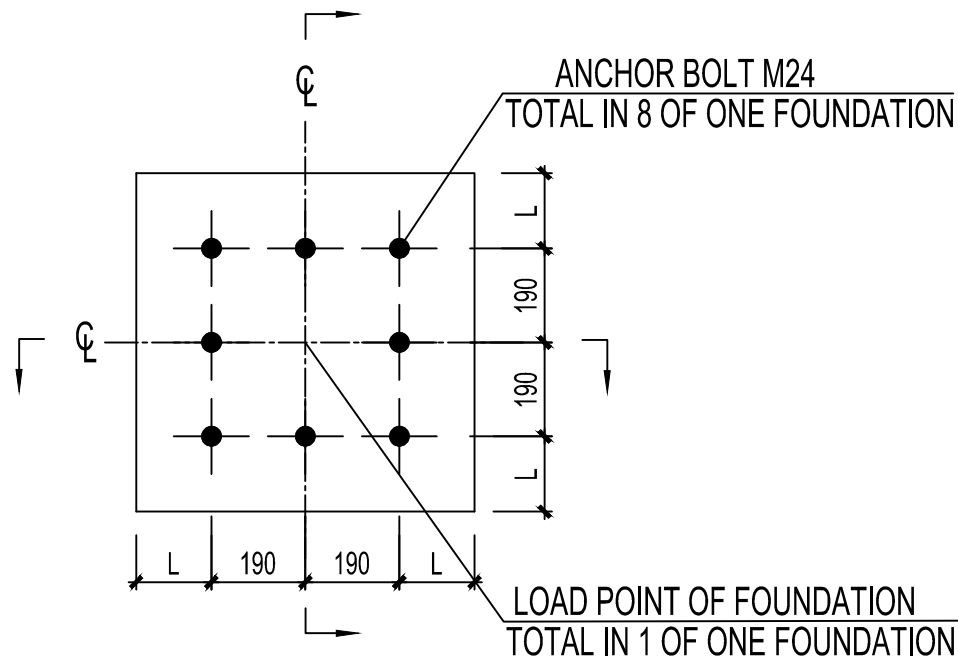
LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)						
Load condition		Horizontal load Fx (kN)		Vertical load Fy (kN)		
Ultimate Compression		0.59		-29.50		
Ultimate Tension		0.74		36.21		
						2.29
						2.29
CONSULTANT:		CLIENT:			CONTRACTOR:	
PROJECT:					CONTRACT NO.	KETRACO/PT/004(B)/2012
KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS					PROJECT NO.	P-KE-FAO-004
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - EARTHWIRE SUPPORT TOWER	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	12/20	DOC. NO.	BMT-DD-CV-DS-3A10

	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014	
REV.	DATE	BY	DESCRIPTION	

1 2 3 4 5 6 7 8



AS BUILT

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1821.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1721.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE COLUMN : (WITHOUT SAFE FACTOR)

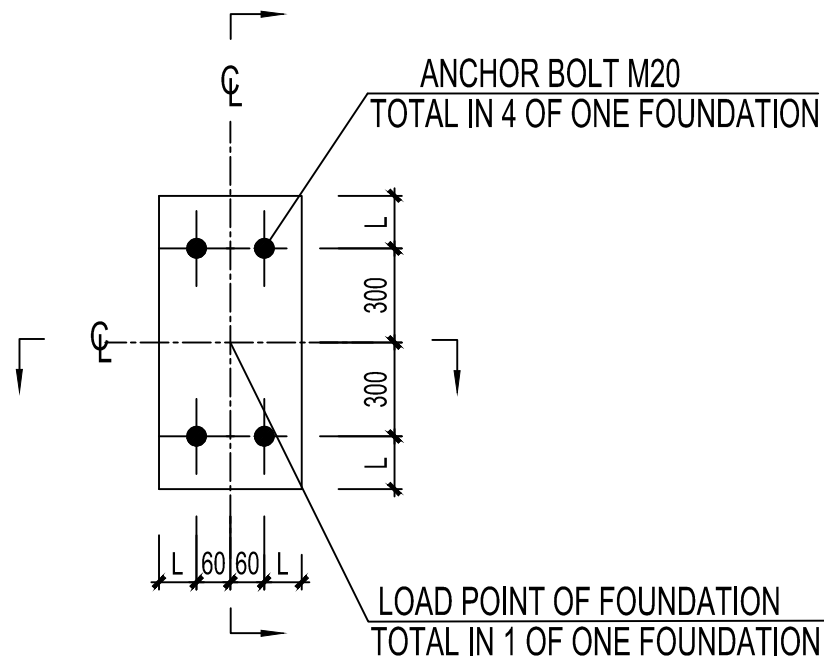
Load condition	Horizontal load Fx (kN)	Vertical load Fy (kN)	Horizontal load Fz (kN)	Moment load M (kN.m)	
Ultimate Compression	2.19	-34.76	6.68	22.17	
Ultimate Tension	1.37	66.71	11.70	37.48	

CONSULTANT: 		CLIENT: 		CONTRACTOR: 	
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS				CONTRACT NO.	KETRACO/PT/004(B)/2012
				PROJECT NO.	P-KE-FAO-004

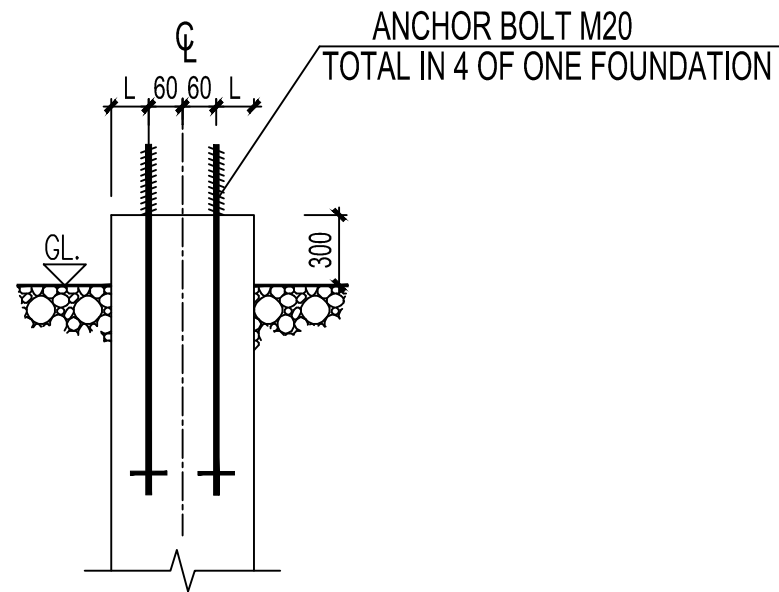
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 33KV COMBINED STRUCTURE	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	13/20	DOC. NO.	BMT-DD-CV-DS-3A10

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

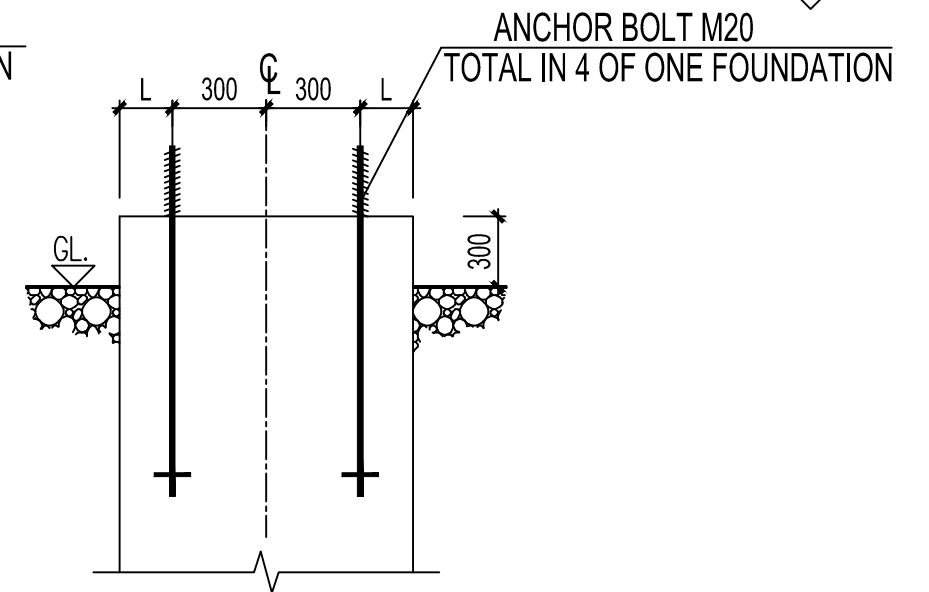


SCALE 1:20

LV SIDE



SCALE 1:20



SCALE 1:20

AS BUILT

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.COM-SP-MS-DS-1822.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1722.

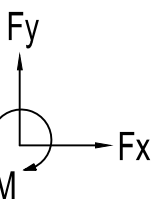
LEGEND:




CL - CENTER LINE
GL- GROUND LEVER

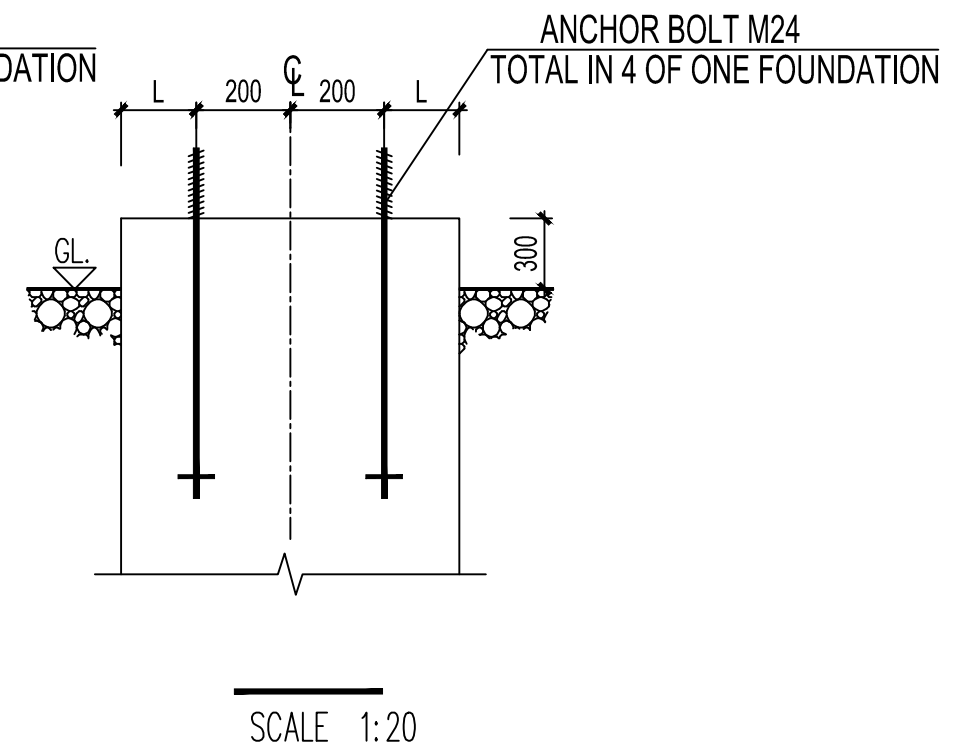
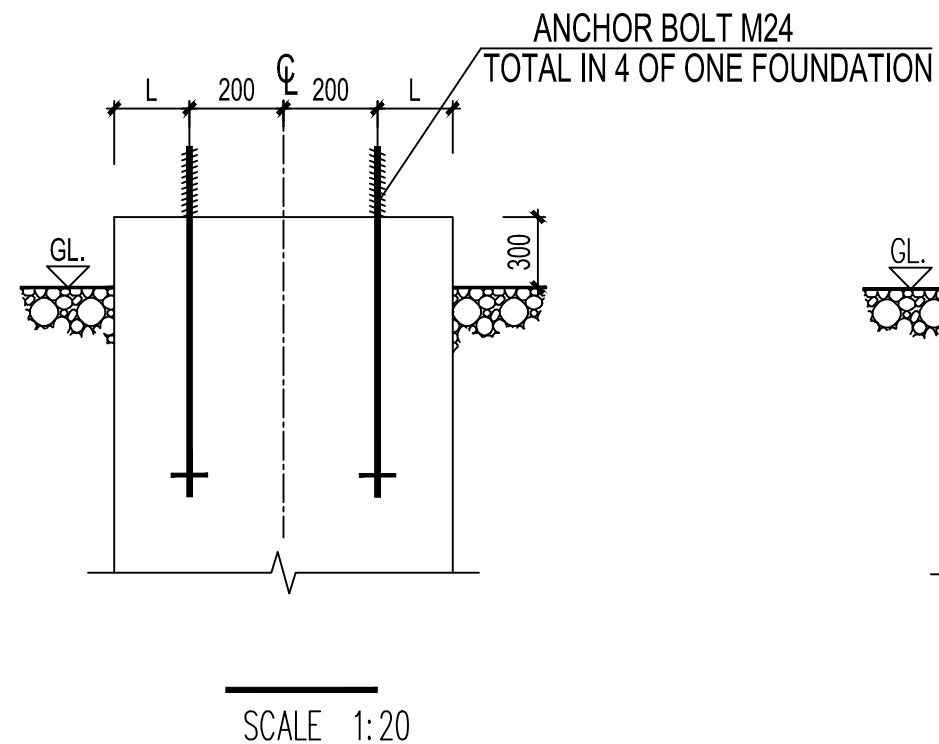
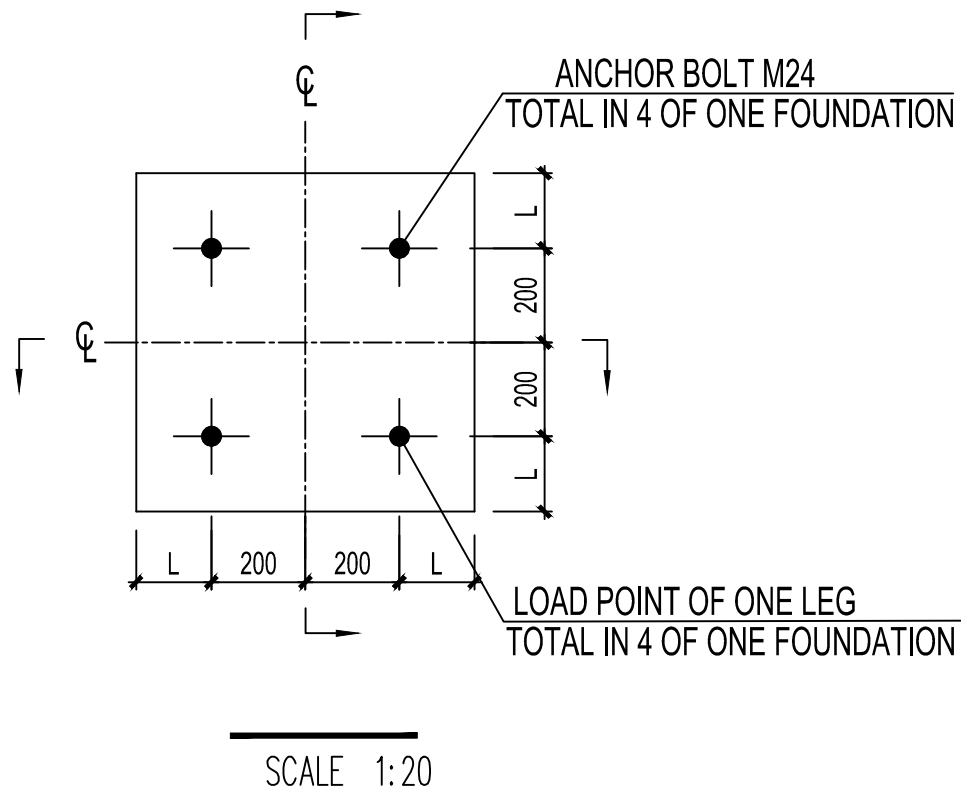
△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)
Normal Condition	2881.2	-8944.36	7477.4
Short Circuit Current	4246.3	-8372.9	13808.2



CONSULTANT: 		CLIENT: 			CONTRACTOR: 	
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS					CONTRACT NO.	KETRACO/PT/004(B)/2012
					PROJECT NO.	P-KE-FAO-004
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION -33kV CIRCUIT BREAKER THREE-POLE -TYPE ZW39-40.5	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	14/20	DOC. NO.	BMT-DD-CV-DS-3A10



AS BUILT

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-SP-MS-DS-1824.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1724.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

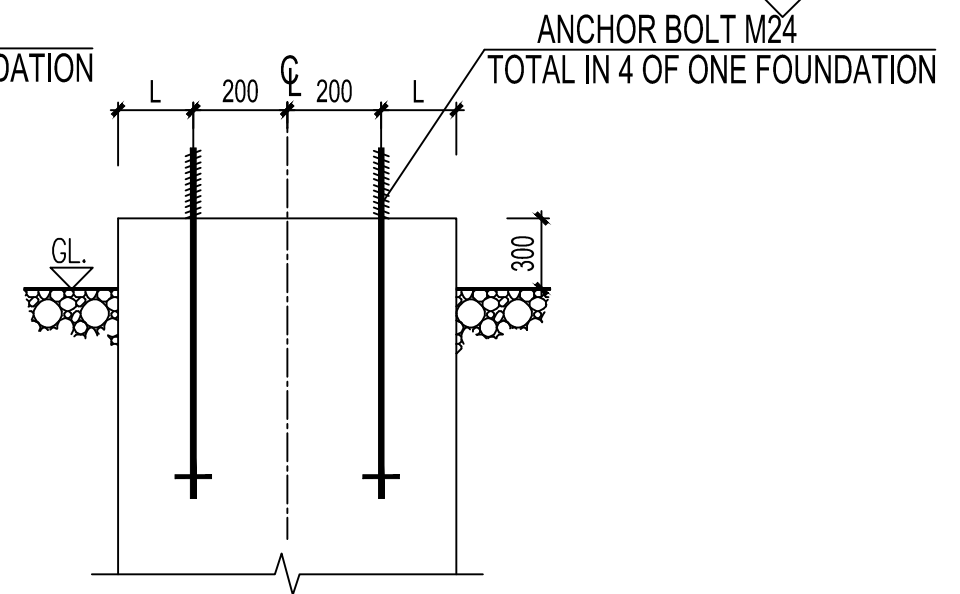
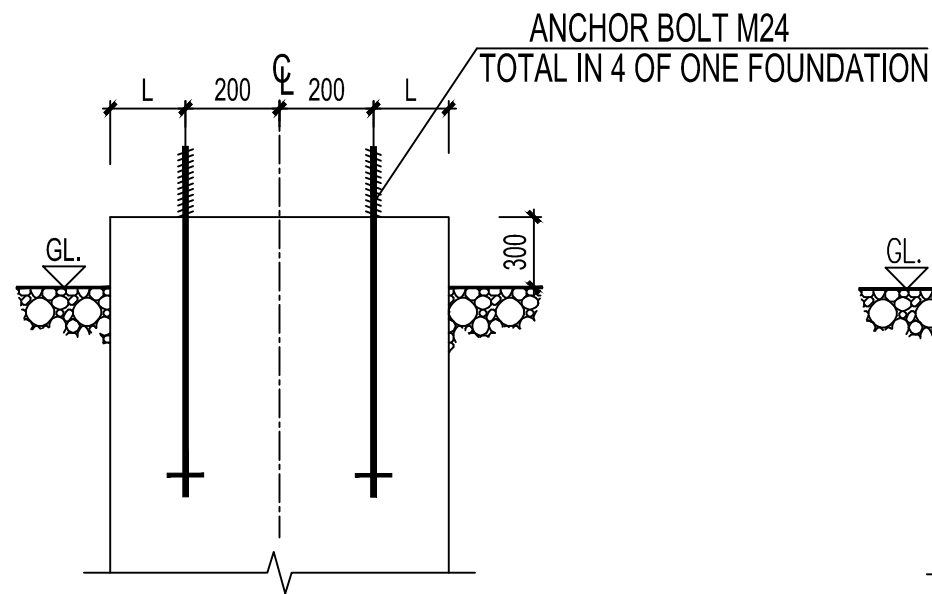
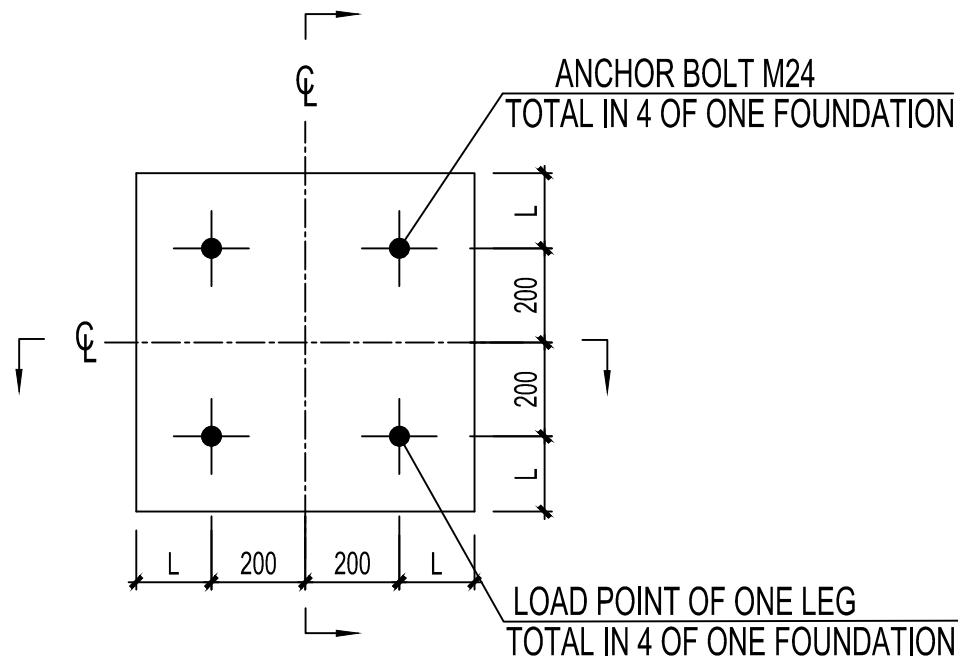
Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)	
Normal Condition	2118	-5884	6531	
Short Circuit Current	3099	-6865	11758	

CONSULTANT: 	CLIENT: 	CONTRACTOR:
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PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS		CONTRACT NO.	KETRACO/PT/004(B)/2012
		PROJECT NO.	P-KE-FAO-004

BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 33KV VOLTAGE TRANSFORMER
DRAWN	TIAN YE	20/06/2014	SCALE	N/A	
DESIGNED	TIAN YE	20/06/2014	UNIT	MM	
CHECKED	JING XULONG	20/06/2014	PLOT	A3	
APPROVED	ZHOU LEI	28/06/2014	SHEET	15/20	DOC. NO.
					BMT-DD-CV-DS-3A10

	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION



AS BUILT

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-SP-MS-DS-1824.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. COM-DD-MS-CN-1725.

LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)

Load condition	Horizontal load Fx (N)	Vertical load Fy (N)	Moment M (N.m)	
Normal Condition	1804	-4511	3658	
Short Circuit Current	2785	-5011	6923	

CONSULTANT: 		CLIENT: 		CONTRACTOR: 	
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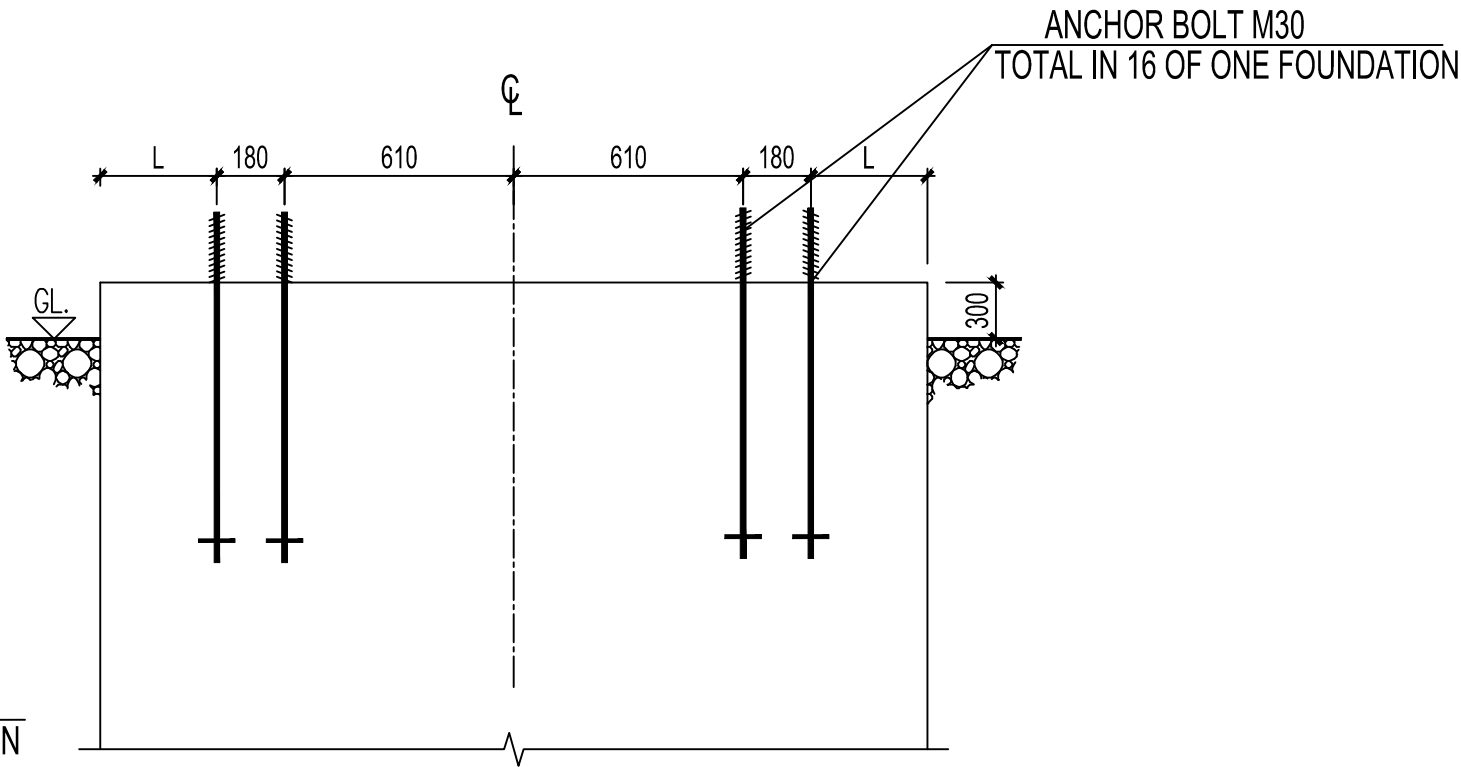
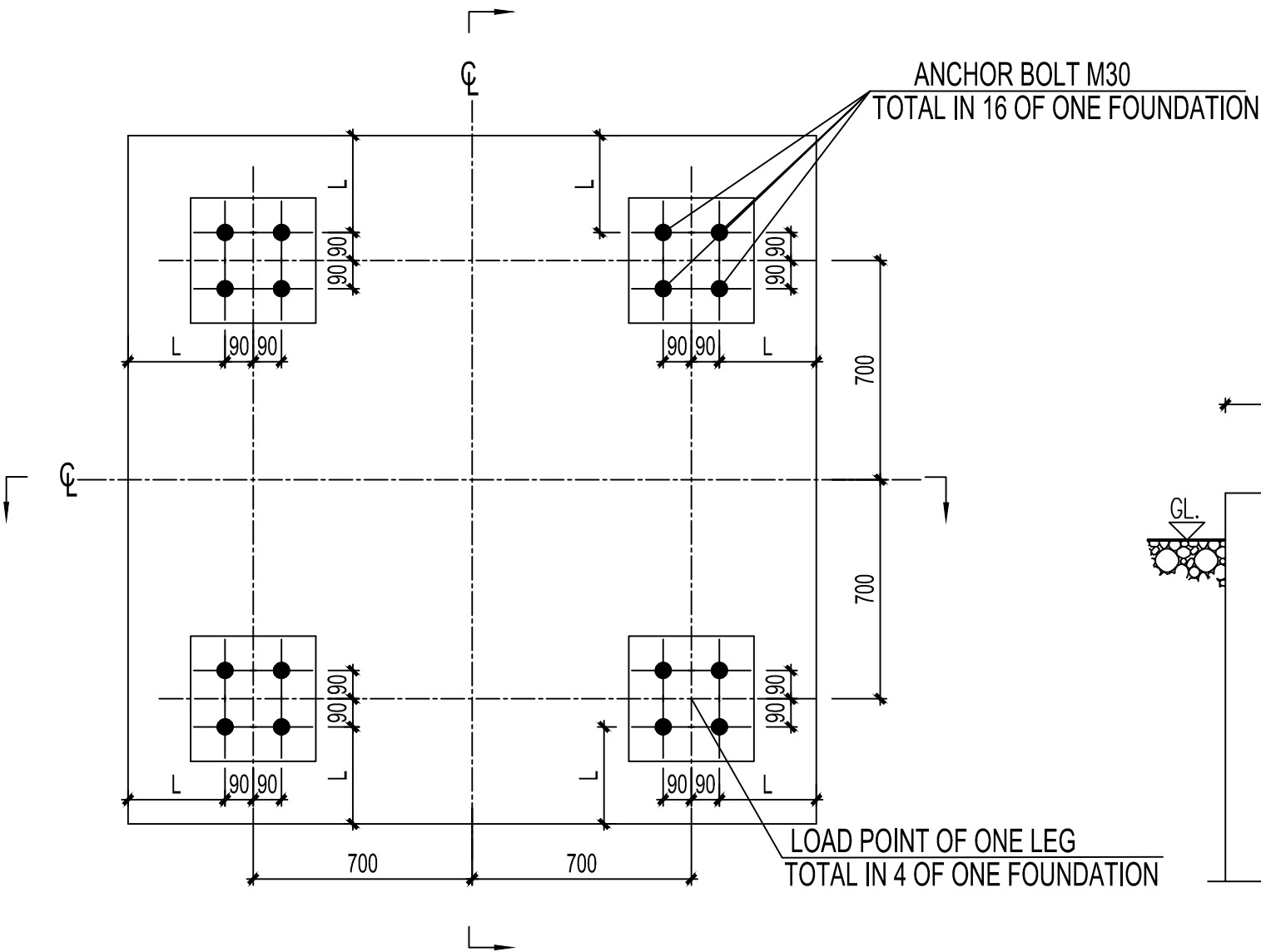
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS				CONTRACT NO.	KETRACO/PT/004(B)/2012
				PROJECT NO.	P-KE-FAO-004

BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 33KV NEUTRAL EARTH LINK	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	16/20	DOC. NO.	BMT-DD-CV-DS-3A10

	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

12345678

A
B
C
D
E
F



AS BUILT

NOTES:

1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.BMT-DD-CV-DS-3B74.
3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. BMT-DD-MS-CN-3610.

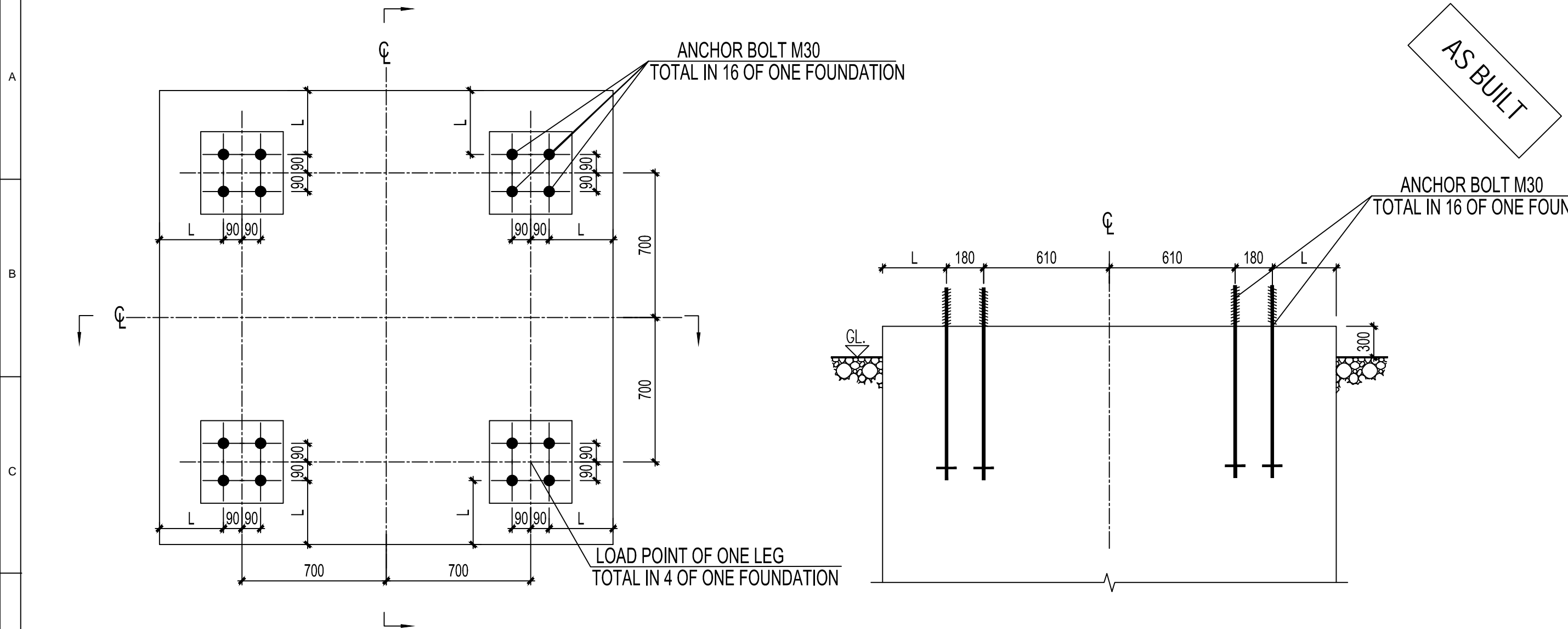
LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)										
Load condition		Horizontal load Fx (kN)		VERTICAL load Fy (kN)			Horizontal load Fz (kN)			
Ultimate Compression		1.24		-50.43			7.48			
Ultimate Tension		1.56		63.54			8.96			
CONSULTANT:		CLIENT:				CONTRACTOR:				
PROJECT:						CONTRACT NO.		KETRACO/PT/004(B)/2012		
KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS						PROJECT NO.		P-KE-FAO-004		
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV GANTRY G132-1 FOR BUS BAR					
DRAWN	TIAN YE	20/06/2014	SCALE	N/A						
DESIGNED	TIAN YE	20/06/2014	UNIT	MM						
CHECKED	JING XULONG	20/06/2014	PLOT	A3						
APPROVED	ZHOU LEI	28/06/2014	SHEET	17/20	DOC. NO.	BMT-DD-CV-DS-3A10				

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AS BUILT

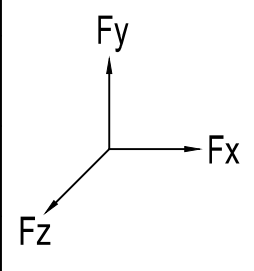
NOTES:




- 1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
- 2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING No.BMT-DD-CV-DS-3B74.
- 3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
- 4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. BMT-DD-MS-CN-3620.


LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

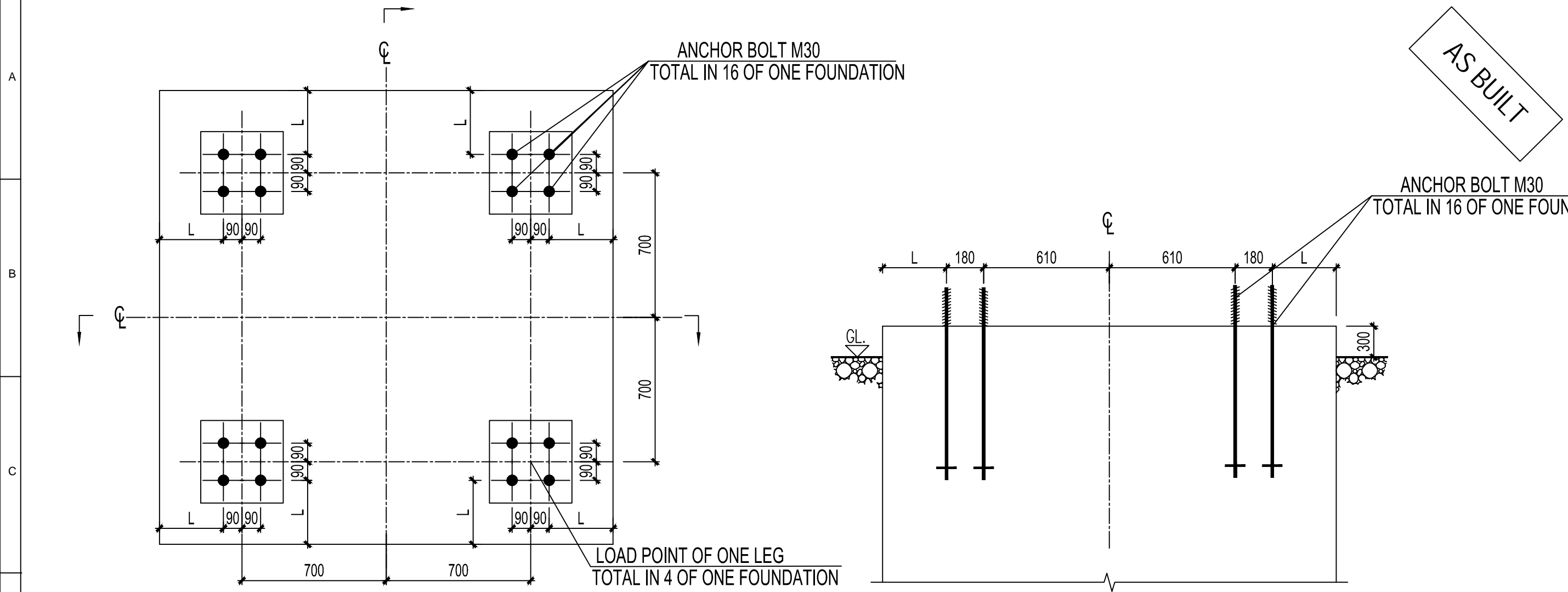
FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)			
Load condition	Horizontal load Fx (kN)	Vertical load Fy (kN)	Horizontal load Fz (kN)
Ultimate Compression	1.35	-55.75	8.55
Ultimate Tension	1.65	68.09	7.62



CONSULTANT:		CLIENT:				CONTRACTOR:	
							
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS						CONTRACT NO.	KETRACO/PT/004(B)/2012
						PROJECT NO.	P-KE-FAO-004
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV GANTRY G132-2 FOR BUS BAR		
DRAWN	TIAN YE	20/06/2014	SCALE	N/A			
DESIGNED	TIAN YE	20/06/2014	UNIT	MM			
CHECKED	JING XULONG	20/06/2014	PLOT	A3			
APPROVED	ZHOU LEI	28/06/2014	SHEET	18/20	DOC. NO.	BMT-DD-CV-DS-3A10	

	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014	
REV.	DATE	BY	DESCRIPTION	

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AS BUILT

SCALE 1:20

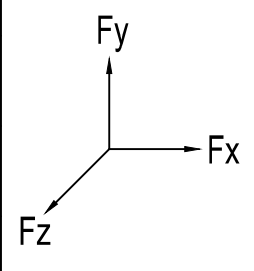
NOTES:




- 1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
- 2. THE DESIGN DRAWING OF FOUNDATION SHALL BE VERIFIED BY REFERRING TO DRAWING BMT-DD-CV-DS-3B74.
- 3. ANCHOL BOLTS SHALL BE VERIFIED BY REFERRING TO DRAWING No. COM-DD-MS-CN-1701.
- 4. THE FOUNDATION FORCES SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. BMT-DD-MS-CN-3630.


LEGEND:

CL - CENTER LINE
GL- GROUND LEVER

FOUNDATION FORCES OF ONE LEG: (WITHOUT SAFE FACTOR)			
Load condition	Horizontal load Fx (kN)	Vertical load Fy (kN)	Horizontal load Fz (kN)
Ultimate Compression	1.33	-64.92	8.74
Ultimate Tension	1.70	81.98	8.27



CONSULTANT: 			CLIENT: 			CONTRACTOR: 		
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS						CONTRACT NO.	KETRACO/PT/004(B)/2012	
						PROJECT NO.	P-KE-FAO-004	
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION OF FOUNDATION - 132KV GANTRY G132-2 FOR LINE FEEDER			
DRAWN	TIAN YE	20/06/2014	SCALE	N/A				
DESIGNED	TIAN YE	20/06/2014	UNIT	MM				
CHECKED	JING XULONG	20/06/2014	PLOT	A3				
APPROVED	ZHOU LEI	28/06/2014	SHEET	19/20	DOC. NO.	BMT-DD-CV-DS-3A10		

	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

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AS BUILT

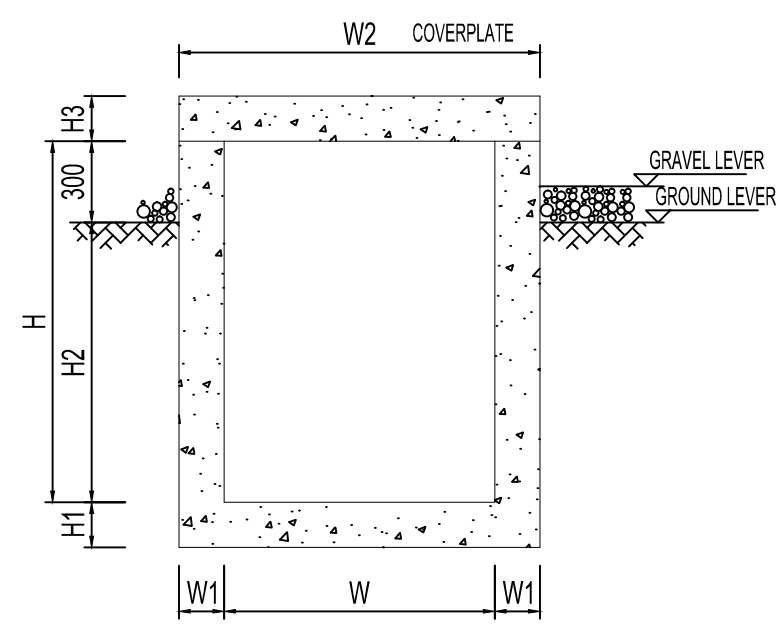
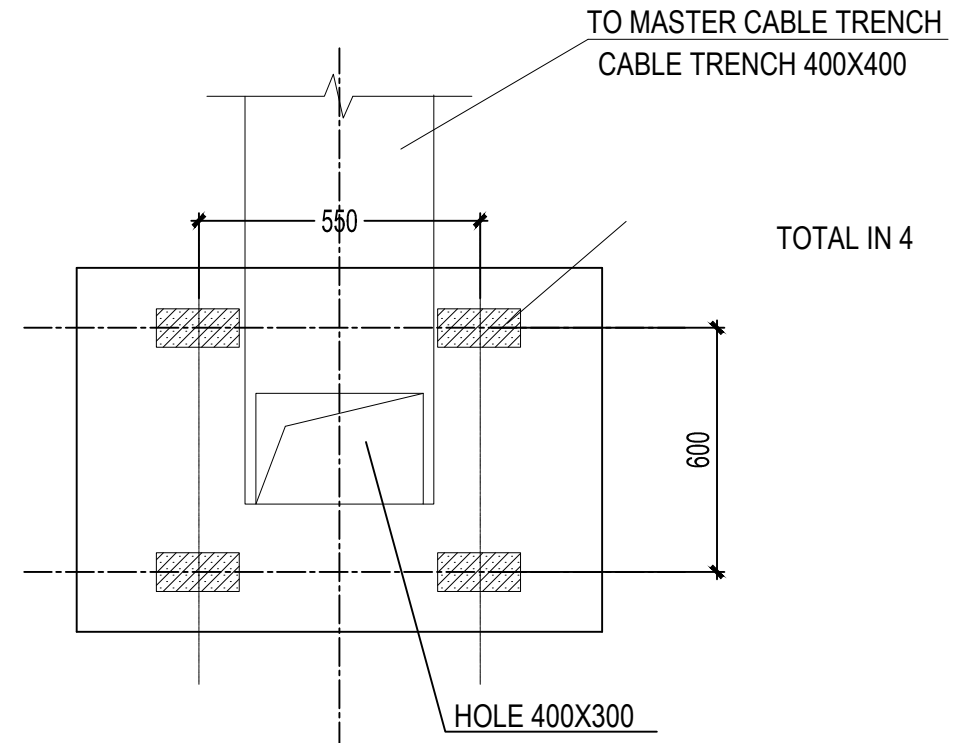





TABLE OF CABLE TRENCH								
CABLE TRENCH	DIMENSIONS(mm)							
TYPE(WXH)(m)	W	W1	W2	W3	H	H1	H2	H3
400x400	400	DESIGN	400+2*W1	DESIGN	400	DESIGN	50	DESIGN
600x600	600	DESIGN	600+2*W1	DESIGN	600	DESIGN	300	DESIGN
800x800	800	DESIGN	800+2*W1	DESIGN	800	DESIGN	500	DESIGN
1200x1000	1200	DESIGN	1200+2*W1	DESIGN	1000	DESIGN	700	DESIGN



WEIGHT OF TERMINAL BOX = 200kg

- NOTES:**
1. ALL DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED.
 2. LOCATION OF CABLE TRENCH AND TERMINAL BOX SHALL BE VERIFIED BY REFERRING TO DRAWING No. BMT-DD-EP-DS-3271.
 3. THE DETAIL DESIGN OF CABLE TRENCH SHALL BE VERIFIED BY REFERRING TO DOCUMENT No. BMT-DD-CV-CN-3B15 & BMT-DD-CV-DS-3B75 .

△	28/06/2014	JING XULONG	RESPONSE TO 5083020-050.3A-189 DATED 29.05.2014
REV.	DATE	BY	DESCRIPTION

CONSULTANT: 		CLIENT: 			CONTRACTOR: 	
PROJECT: KENYA POWER TRANSMISSION SYSTEM IMPROVEMENT PROJECT LOT3B DESIGN, SUPPLY & INSTALLATION OF SUBSTATIONS & LINE BAY EXTENSIONS					CONTRACT NO.	KETRACO/PT/004(B)/2012
					PROJECT NO.	P-KE-FAO-004
BY	NAME	DATE	REV.	1	TITLE: OUTDOOR CIVIL WORK INTERFACE DRAWING - DESIGN CONDITION - CABLE TRENCH	
DRAWN	TIAN YE	20/06/2014	SCALE	N/A		
DESIGNED	TIAN YE	20/06/2014	UNIT	MM		
CHECKED	JING XULONG	20/06/2014	PLOT	A3		
APPROVED	ZHOU LEI	28/06/2014	SHEET	20/20	DOC. NO.	BMT-DD-CV-DS-3A10