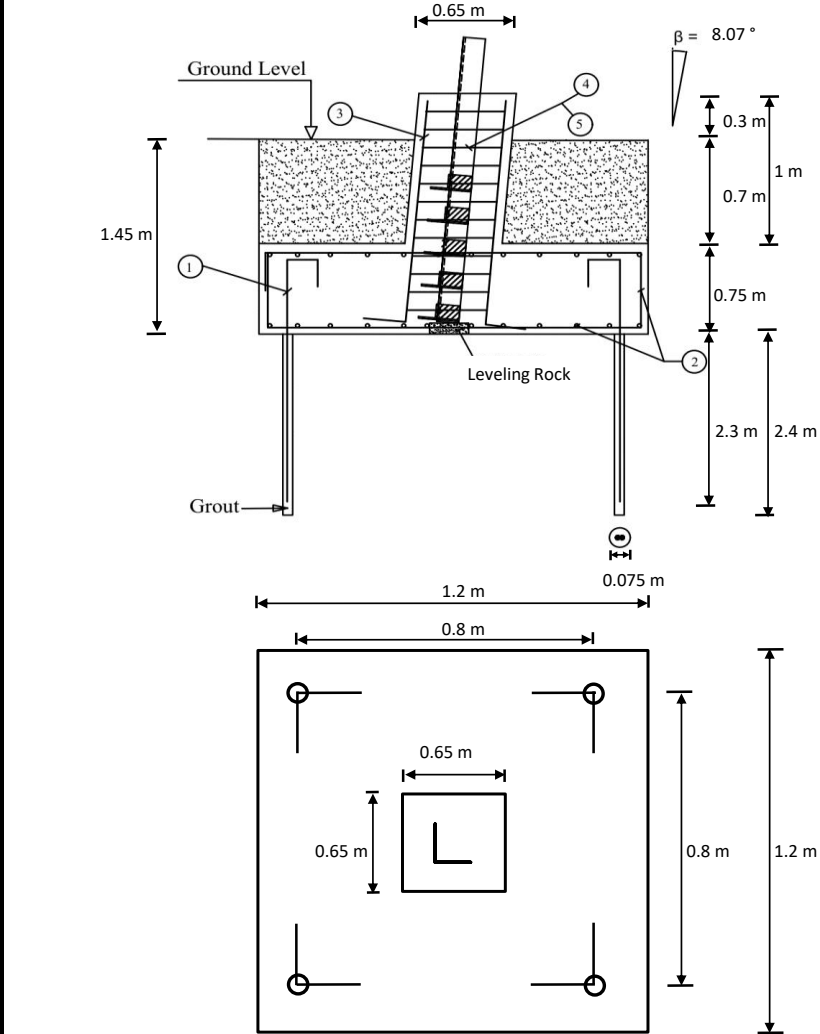


Construction of
220 kV Loop in Loop out Paliastomi- into Ozurgeti Substation and
110 kV Double Circuit (D/C) Overhead Line from Ozurgeti Substation to Zoti HPP

Foundation Drawings of Tower Type "12A-NS"
(for all soil types)

1	3/11/2022	Revised as per Consultant Comments	D. Nezamolmolki	H.O.Bulut	K. Karagoz
0	21/07/22	First Submission	D. Nezamolmolki	H.O.Bulut	K. Karagoz
Rev. No.	Date	Description	Designed by	Checked by	Approved by
Employer Logo and Business Name			Project Name		
 GEORGIAN STATE ELECTROSYSTEM 2 Baratashvili Street Tbilisi 0105 Georgia			Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286		
Engineer logo and business name			Contract Identification Number		
 Fichtner GmbH & Co. KG Sarweystrasse 3 70191 Stuttgart / Germany			KfW/DSI/OHL-TD-Lot 2		
Contractor logo and business name			Document Number		
 MITAS Energy & Metal Construction Inc. Eski Güvercinlik Yolu No: 113 Gazi 06560 Ankara / Turkey			7145A07-EG-FND-DWG-0606_01		
Document Title			Scale	Sheet of Sheets	
Foundation Drawings of Tower Type "12A-NS" (for all soil types)			n.a.	Page 1 of 10	

Soil Type:	Type 1-Sound Rock
Foundation Type:	Rock Anchor
Tower Type:	12A-NS



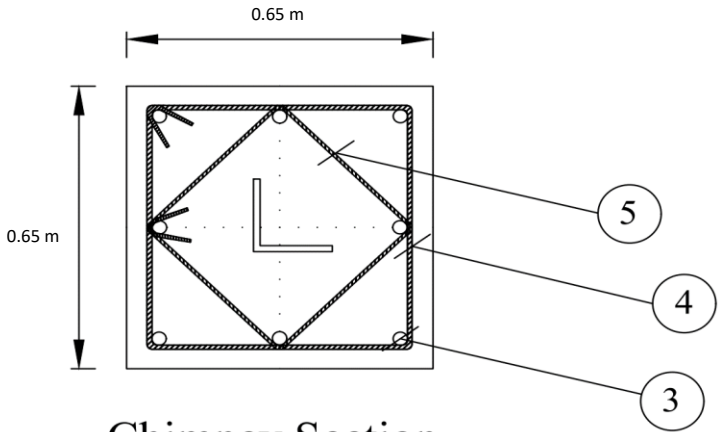
Dimensions (m)		
Width of Pad	bp =	1.20
Height of Pad	hp =	0.75
Width of Chimney	bc =	0.65
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	0.70
Total Height of Chimney	hc =	1.00
No. of Anchor Hole Rows	n =	2
No. of Anchor in one hole	m =	2
Total No. of Anchor Holes	i =	4
Distance of Anchor Rows	C =	0.800
Embedded Length of Anchors in Ground	L =	2.30
Anchor Hole Diameter (Minimum Value)	Dh =	0.075
Anchor Hole Length	Lh =	2.40
Depth of Pad	H =	1.45

Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	1.50	6.01
Excavation (Rock)	m3	2.09	8.35
Backfill	m3	0.59	2.34
Formwork	m2	2.60	10.40
Grout	m3	0.04	0.17
Drilling	m3	0.04	0.17
Reinforcement	kg	197	788

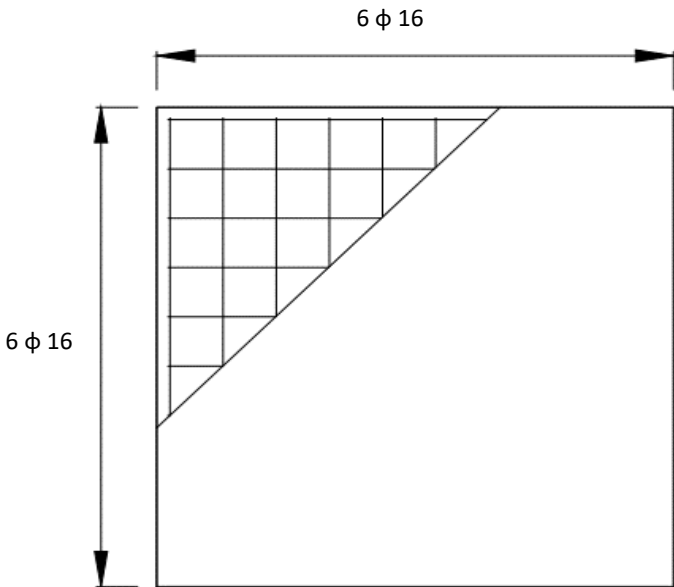
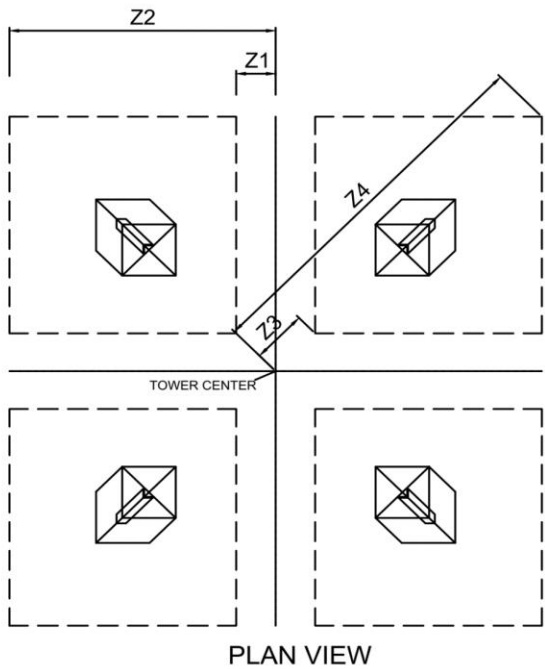
Material Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Grout and Steel Bond Stress	2.00	Mpa
Grout and Rock Bond Stress	0.90	Mpa
Concrete and Rebar Bond Stress	2.30	Mpa
Soil Density	2.55	ton/m3
Bearing Capacity of Soils	10.19	kg/cm2

- NOTES :
- 1- Concrete Class : C20/25
 - 2- Steel Reinforcement Class : S500
 - 3- Concrete Cover : 75 mm
 - 4- Soil Layer Shall Be Compacted To Maintain Soil Density.
 - 5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - 6- In case of high soil resistance, filling shall be done using soil with low resistance.
 - 7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions
 - 8- Expanding Grout to be used as per Technical Specification or Manufacturer Instruction.

Mark	Pattern	Length (cm)	Diameter (mm)	Unit Weight (kg)	QTY	Total Weight
1		345	20	8.52	8	68.2
2		365	16	5.77	12	69.2
3		200	20	4.94	8	39.5
4		231	8	0.91	13	11.6
5		168	8	0.66	13	8.4
SUM						196.9



Chimney Section

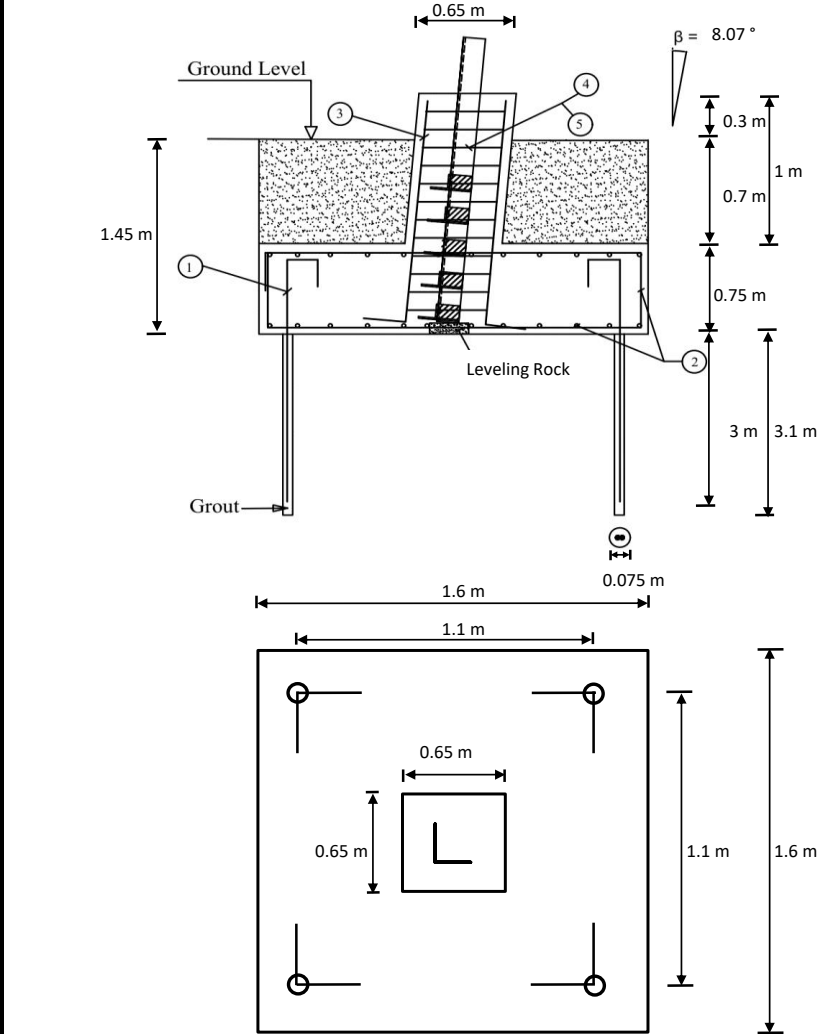


Pad Rebars

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2883	4083	4077	5774
	-1.5	3095	4295	4378	6075
	+0	3308	4508	4678	6375
	+1.5	3521	4721	4979	6676
	+3	3733	4933	5280	6977
	+4.5	3946	5146	5580	7277
BE+0	+6	4158	5358	5881	7578
	-3	3308	4508	4678	6375
	-1.5	3521	4721	4979	6676
	+0	3733	4933	5280	6977
	+1.5	3946	5146	5580	7277
	+3	4158	5358	5881	7578
BE+3	+4.5	4371	5571	6182	7879
	+6	4584	5784	6482	8179
	-3	3733	4933	5280	6977
	-1.5	3946	5146	5580	7277
	+0	4158	5358	5881	7578
	+1.5	4371	5571	6182	7879
BE+6	+3	4584	5784	6482	8179
	+4.5	4796	5996	6783	8480
	+6	5009	6209	7084	8781
	-3	4158	5358	5881	7578
	-1.5	4371	5571	6182	7879
	+0	4584	5784	6482	8179
BE+9	+1.5	4796	5996	6783	8480
	+3	5009	6209	7084	8781
	+4.5	5221	6421	7384	9081
	+6	5434	6634	7685	9382
	-3	4584	5784	6482	8179
	-1.5	4796	5996	6783	8480
BE+12	+0	5009	6209	7084	8781
	+1.5	5221	6421	7384	9081
	+3	5434	6634	7685	9382
	+4.5	5647	6847	7985	9683
	+6	5859	7059	8286	9983
	-3	5009	6209	7084	8781

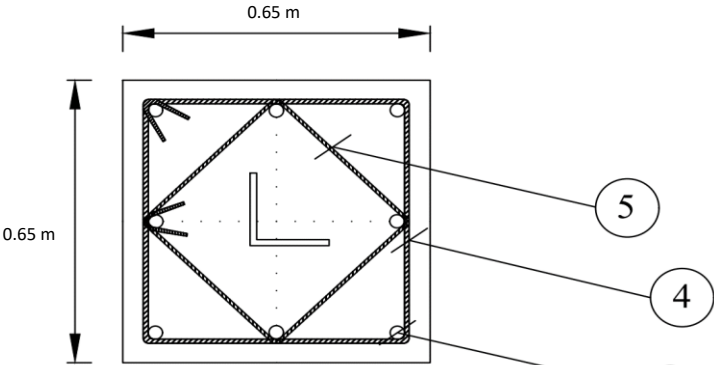
* All dimensions and quantities shall be checked prior to construction			
1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2 EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 			
ENGINEER / ინჟინერი: Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de			
CONTRACTOR / კონტრაქტორი: Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com			
APPROVAL AREA / მეთარსებულობა		STATUS / სტატუსი	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:		AP ☐	
DATE OF REVIEW / განხილვის თარიღი:		AC ☐	
APPROVED BY / დამტკიცებულია:		NA ☐	
CHECKED BY / მეორეხედილია:		K.KARAGOZ	Foundation Drawings of Tower Type " 12A-NS " Soil Type 1-Sound Rock Rock Anchor Foundation
DESIGNED BY / ავტორი:		D. Nezamolmolki	
DRAWN BY / მეშრულელებელი:		D. Nezamolmolki	
DATE OF ISSUE / გამოცემის თარიღი:		21.07.22	
SCALE/ მასშტაბი	DOC NO. / დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0606_01	1	2 of 10

Soil Type:	Type 2-Deleterious Rock
Foundation Type:	Rock Anchor
Tower Type:	12A-NS

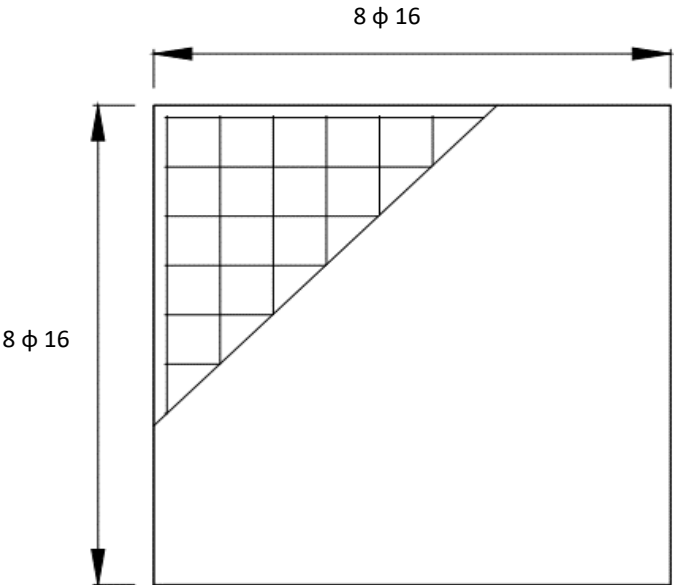


* The foundation is in direct contact with undisturbed soil.

Mark	Pattern	Length (cm)	Diameter (mm)	Unit Weight (kg)	QTY	Total Weight
1		415	20	10.25	8	82.0
2		445	16	7.03	16	112.5
3		200	20	4.94	8	39.5
4		231	8	0.91	13	11.6
5		168	8	0.66	13	8.4
SUM						254.0



Chimney Section



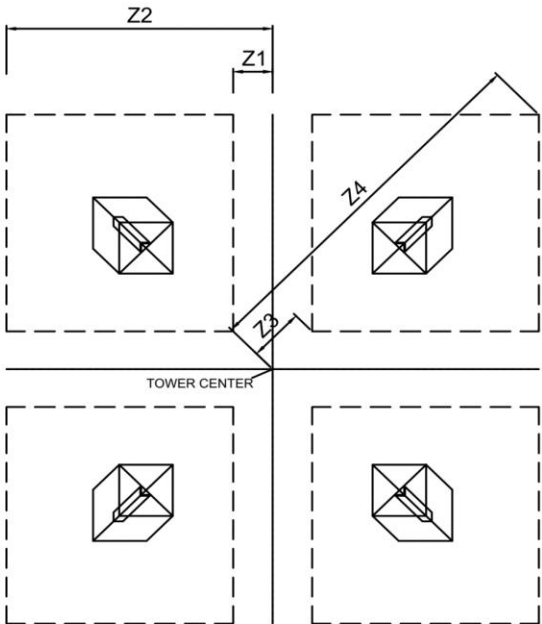
Pad Rebars

Dimensions (m)		
Width of Pad	bp =	1.60
Height of Pad	hp =	0.75
Width of Chimney	bc =	0.65
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	0.70
Total Height of Chimney	hc =	1.00
No. of Anchor Hole Rows	n =	2
No. of Anchor in one hole	m =	2
Total No. of Anchor Holes	i =	4
Distance of Anchor Rows	C =	1.100
Embedded Length of Anchors in Ground	L =	3.00
Anchor Hole Diameter (Minimum Value)	Dh =	0.075
Anchor Hole Length	Lh =	3.10
Depth of Pad	H =	1.45

Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	2.34	9.37
Excavation (Rock)	m3	3.71	14.85
Backfill	m3	1.37	5.48
Formwork	m2	2.60	10.40
Grout	m3	0.05	0.22
Drilling	m3	0.05	0.22
Reinforcement	kg	254	1016

Material Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Grout and Steel Bond Stress	2.00	Mpa
Grout and Rock Bond Stress	0.60	Mpa
Concrete and Rebar Bond Stress	2.30	Mpa
Soil Density	2.04	ton/m3
Bearing Capacity of Soils	5.10	kg/cm2

- NOTES :
- 1- Concrete Class : C20/25
 - 2- Steel Reinforcement Class : S500
 - 3- Concrete Cover : 75 mm
 - 4- Soil Layer Shall Be Compacted To Maintain Soil Density.
 - 5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - 6- In case of high soil resistance, filling shall be done using soil with low resistance.
 - 7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions
 - 8- Expanding Grout to be used as per Technical Specification or Manufacturer Instruction.



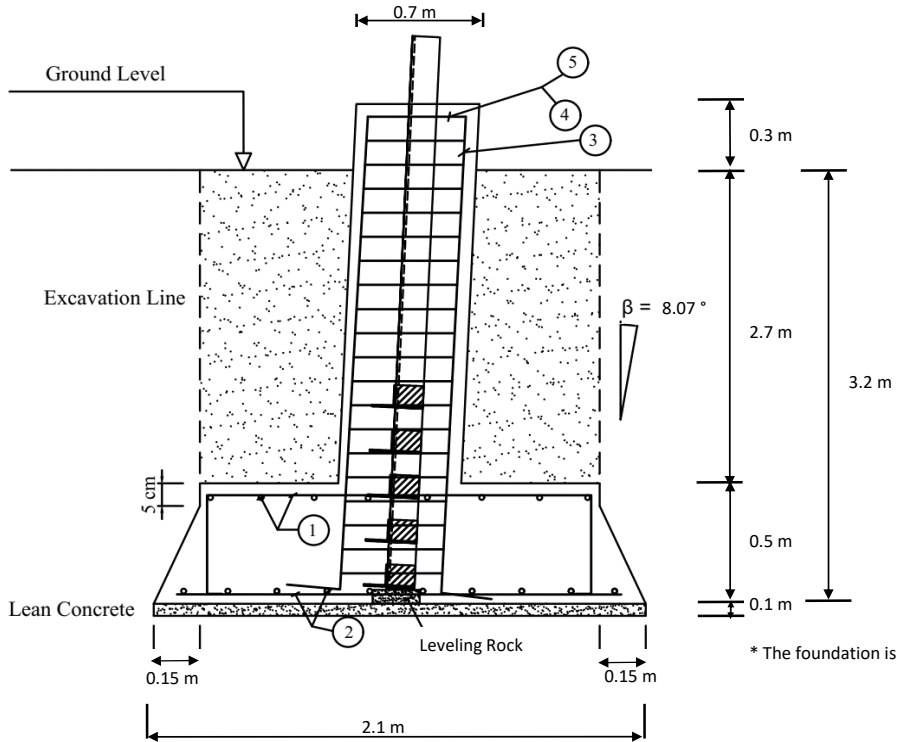
PLAN VIEW

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2683	4283	3794	6057
	-1.5	2895	4495	4095	6358
	+0	3108	4708	4395	6658
	+1.5	3321	4921	4696	6959
	+3	3533	5133	4997	7260
	+4.5	3746	5346	5297	7560
BE+0	+6	3958	5558	5598	7861
	-3	3108	4708	4395	6658
	-1.5	3321	4921	4696	6959
	+0	3533	5133	4997	7260
	+1.5	3746	5346	5297	7560
	+3	3958	5558	5598	7861
BE+3	+4.5	4171	5771	5899	8161
	+6	4384	5984	6199	8462
	-3	3533	5133	4997	7260
	-1.5	3746	5346	5297	7560
	+0	3958	5558	5598	7861
	+1.5	4171	5771	5899	8161
BE+6	+3	4384	5984	6199	8462
	+4.5	4596	6196	6500	8763
	+6	4809	6409	6801	9063
	-3	3958	5558	5598	7861
	-1.5	4171	5771	5899	8161
	+0	4384	5984	6199	8462
BE+9	+1.5	4596	6196	6500	8763
	+3	4809	6409	6801	9063
	+4.5	5021	6621	7101	9364
	+6	5234	6834	7402	9665
	-3	4384	5984	6199	8462
	-1.5	4596	6196	6500	8763
BE+12	+0	4809	6409	6801	9063
	+1.5	5021	6621	7101	9364
	+3	5234	6834	7402	9665
	+4.5	5447	7047	7703	9965
	+6	5659	7259	8003	10266
	-3	4809	6409	6801	9063

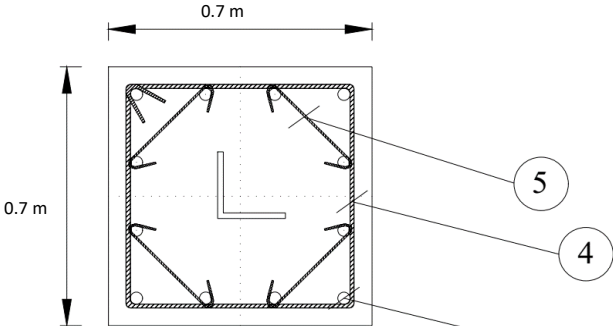
* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2 EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ	Foundation Drawings of Tower Type " 12A-NS " Soil Type 2-Deleterious Rock Rock Anchor Foundation	
CHECKED BY / შემოწმებულია:	H.O.BULUT		
DESIGNED BY / ავტორი:	D. Nezamolmolki		
DRAWN BY / შემსრულებელი:	D. Nezamolmolki		
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22		
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0606_01	1	3 of 10

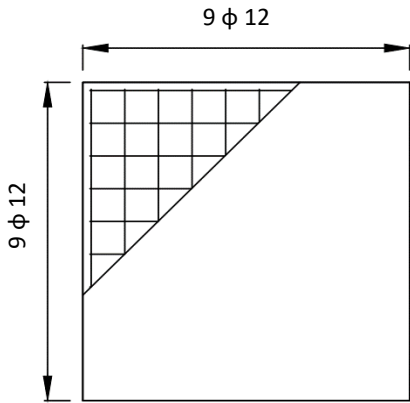
Soil Type:	Type 2-Deleterious Rock
Foundation Type:	Semi-Auger
Tower Type:	12A-NS



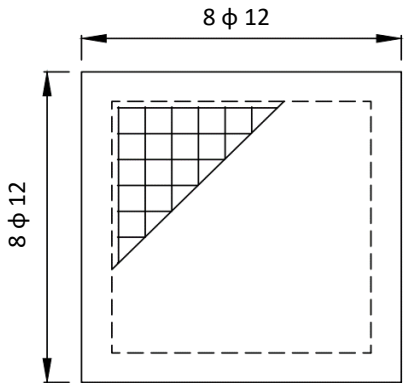
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1		265	12	2.35	16	37.7
2		195	12	1.73	18	31.2
3		395	20	9.76	12	117.1
4		251	8	0.99	24	23.8
5		42	8	0.17	96	15.9
SUM						225.6



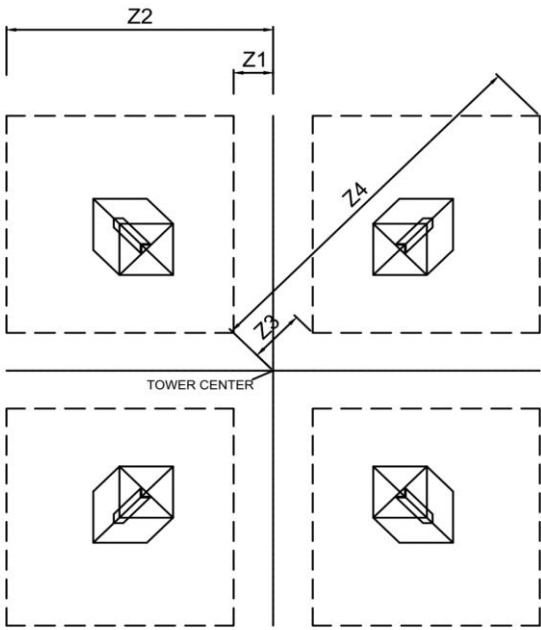
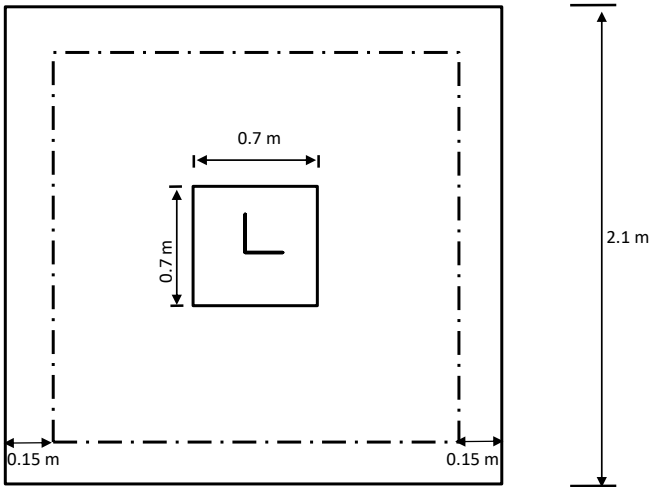
Chimney Section



Bottom of Pad



Top of Pad



PLAN VIEW

- NOTES :
- 1- Concrete Class : C20/25
 - 2- Steel Reinforcement Class : S500
 - 3- Concrete Cover : 75 mm
 - 4- Soil Layer Shall Be Compacted To Maintain Soil Density.
 - 5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - 6- In case of high soil resistance, filling shall be done using soil with low resistance.
 - 7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

Dimensions (m)		
Width of Pad	bp =	2.10
Height of Pad	hp =	0.50
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	2.70
Depth of Pad	H =	3.20

Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	3.4	13.5
Excavation	m3	10.7	42.8
Backfill	m3	7.3	29.3
Lean Concrete	m3	0.4	1.8
Formwork	m2	8.4	33.6
Reinforcement	kg	225.6	902.5

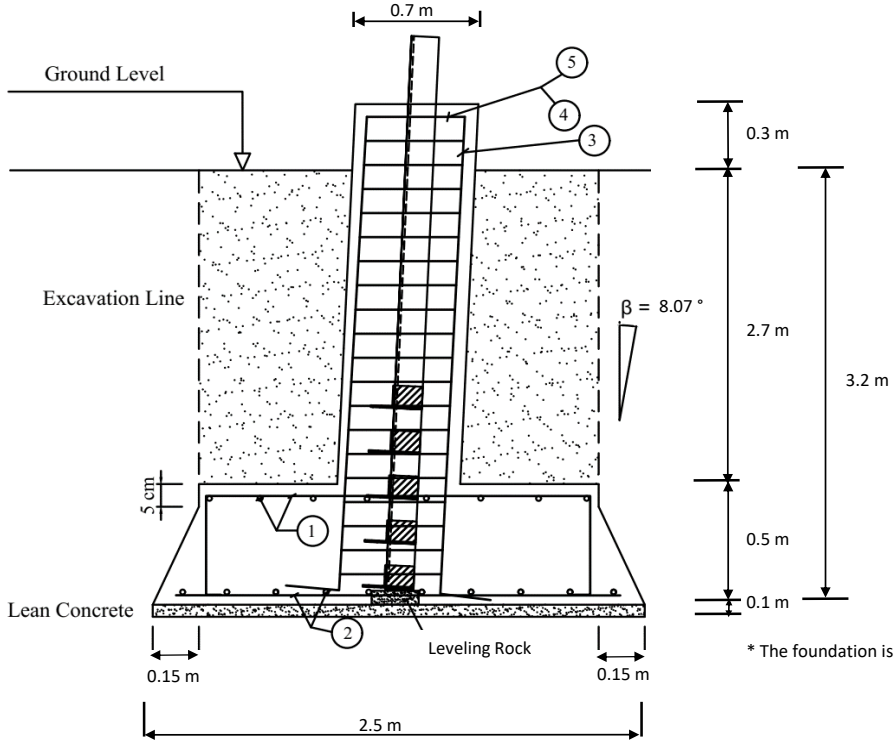
Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natural Soil Density	2.04	ton/m3
Backfill Density	2.04	ton/m3
Bearing Capacity of Soils	5.10	kg/cm2

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2831	4631	4003	6549
	-1.5	3043	4843	4304	6850
	+0	3256	5056	4605	7150
	+1.5	3469	5269	4905	7451
	+3	3681	5481	5206	7752
	+4.5	3894	5694	5507	8052
BE+0	+6	4106	5906	5807	8353
	-3	3256	5056	4605	7150
	-1.5	3469	5269	4905	7451
	+0	3681	5481	5206	7752
	+1.5	3894	5694	5507	8052
	+3	4106	5906	5807	8353
BE+3	+4.5	4319	6119	6108	8654
	+6	4532	6332	6409	8954
	-3	3681	5481	5206	7752
	-1.5	3894	5694	5507	8052
	+0	4106	5906	5807	8353
	+1.5	4319	6119	6108	8654
BE+6	+3	4532	6332	6409	8954
	+4.5	4744	6544	6709	9255
	+6	4957	6757	7010	9556
	-3	4106	5906	5807	8353
	-1.5	4319	6119	6108	8654
	+0	4532	6332	6409	8954
BE+9	+1.5	4744	6544	6709	9255
	+3	4957	6757	7010	9556
	+4.5	5169	6969	7311	9856
	+6	5382	7182	7611	10157
	-3	4532	6332	6409	8954
	-1.5	4744	6544	6709	9255
BE+12	+0	4957	6757	7010	9556
	+1.5	5169	6969	7311	9856
	+3	5382	7182	7611	10157
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	+6	5807	7607	8213	10758
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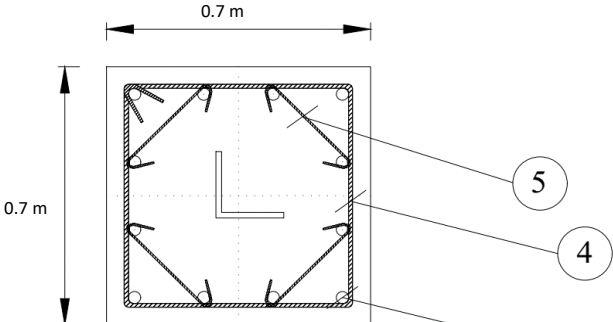
* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2			
EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge			
ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de		 FICHTNER	
CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:		Foundation Drawings of Tower Type " 12A-NS " Soil Type 2-Deleterious Rock Semi-Auger Foundation	
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT		
DESIGNED BY / ავტორი:	D. Nezamolmolki		
DRAWN BY / გამსრულებელი:	D. Nezamolmolki		
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22		
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0606_01	1	4 of 10

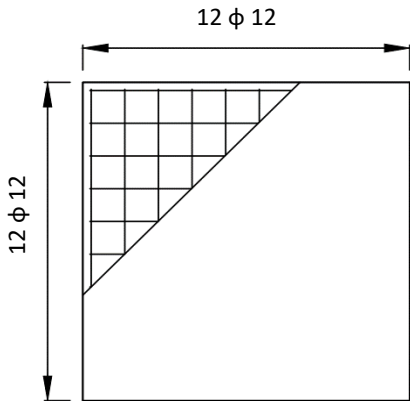
Soil Type:	Type 3-Good Soil
Foundation Type:	Semi-Auger
Tower Type:	12A-NS



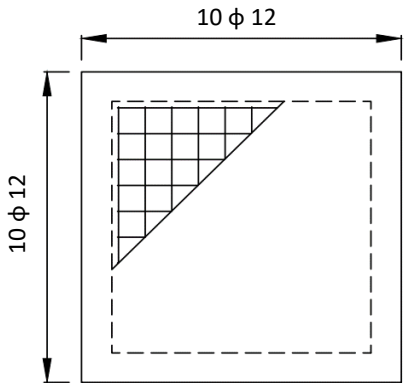
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1		305	12	2.71	20	54.2
2		235	12	2.09	24	50.1
3		395	20	9.76	12	117.1
4		251	8	0.99	24	23.8
5		42	8	0.17	96	15.9
SUM						261.1



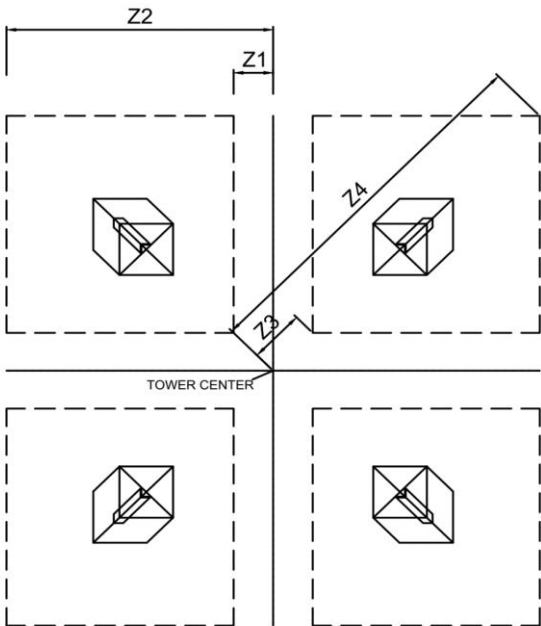
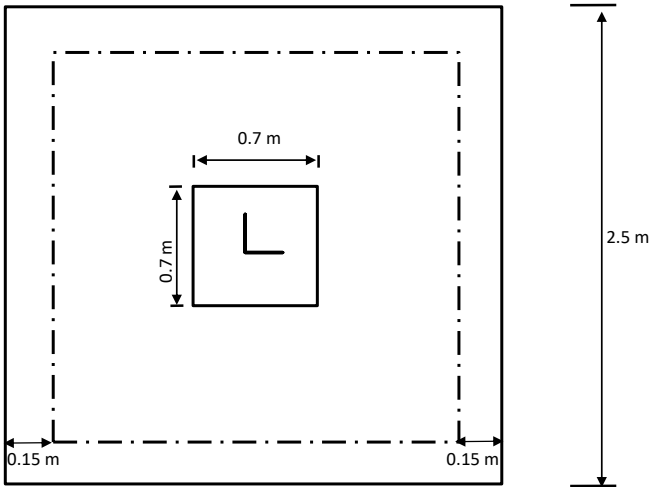
Chimney Section



Bottom of Pad



Top of Pad



PLAN VIEW

- NOTES :
- 1- Concrete Class : C20/25
 - 2- Steel Reinforcement Class : S500
 - 3- Concrete Cover : 75 mm
 - 4- Soil Layer Shall Be Compacted To Maintain Soil Density.
 - 5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - 6- In case of high soil resistance, filling shall be done using soil with low resistance.
 - 7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

Dimensions (m)		
Width of Pad	bp =	2.50
Height of Pad	hp =	0.50
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	2.70
Depth of Pad	H =	3.20

Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	4.2	16.9
Excavation	m3	16.0	63.9
Backfill	m3	11.7	47.0
Lean Concrete	m3	0.6	2.5
Formwork	m2	8.4	33.6
Reinforcement	kg	261.1	1044.2

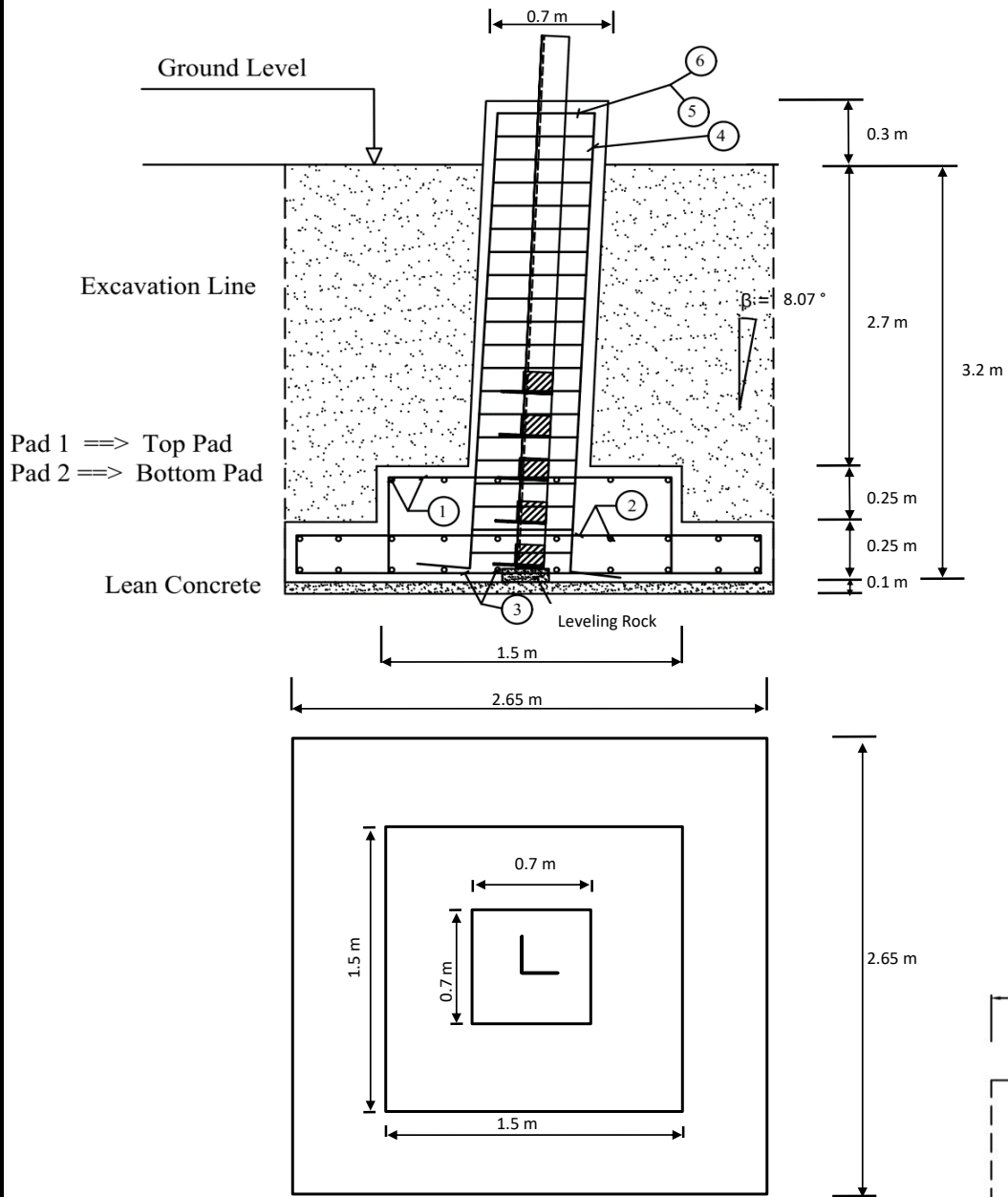
Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natural Soil Density	1.73	ton/m3
Backfill Density	1.73	ton/m3
Bearing Capacity of Soils	3.06	kg/cm2

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2631	4831	3721	6832
	-1.5	2843	5043	4021	7133
	+0	3056	5256	4322	7433
	+1.5	3269	5469	4623	7734
	+3	3481	5681	4923	8035
	+4.5	3694	5894	5224	8335
BE+0	+6	3906	6106	5525	8636
	-3	3056	5256	4322	7433
	-1.5	3269	5469	4623	7734
	+0	3481	5681	4923	8035
	+1.5	3694	5894	5224	8335
	+3	3906	6106	5525	8636
BE+3	+4.5	4119	6319	5825	8936
	+6	4332	6532	6126	9237
	-3	3481	5681	4923	8035
	-1.5	3694	5894	5224	8335
	+0	3906	6106	5525	8636
	+1.5	4119	6319	5825	8936
BE+6	+3	4332	6532	6126	9237
	+4.5	4544	6744	6426	9538
	+6	4757	6957	6727	9838
	-3	3906	6106	5525	8636
	-1.5	4119	6319	5825	8936
	+0	4332	6532	6126	9237
BE+9	+1.5	4544	6744	6426	9538
	+3	4757	6957	6727	9838
	+4.5	4969	7169	7028	10139
	+6	5182	7382	7328	10440
	-3	4332	6532	6126	9237
	-1.5	4544	6744	6426	9538
BE+12	+0	4757	6957	6727	9838
	+1.5	4969	7169	7028	10139
	+3	5182	7382	7328	10440
	+4.5	5395	7595	7629	10740
	+6	5607	7807	7930	11041
	-3	4757	6957	6727	9838

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2 EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge 			
ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de 			
CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com 			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:		K.KARAGOZ	
CHECKED BY / შემოწმებულია:		H.O.BULUT	Foundation Drawings of Tower Type
DESIGNED BY / ავტორი:		D. Nezamolmolki	" 12A-NS "
DRAWN BY / შემსრულებელი:		D. Nezamolmolki	Soil Type 3-Good Soil
DATE OF ISSUE / გამოცემის თარიღი:		21.07.22	Semi-Auger Foundation
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
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Soil Type:	Type 3-Good Soil
Foundation Type:	Pad & Chimney
Tower Type:	12A-NS



Dimensions (m)		
Width of Pad1	bp1 =	1.50
Width of Pad2	bp2 =	2.65
Height of Pad1	hp1 =	0.25
Height of Pad2	hp2 =	0.25
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	2.70
Depth of Pad	H =	3.20

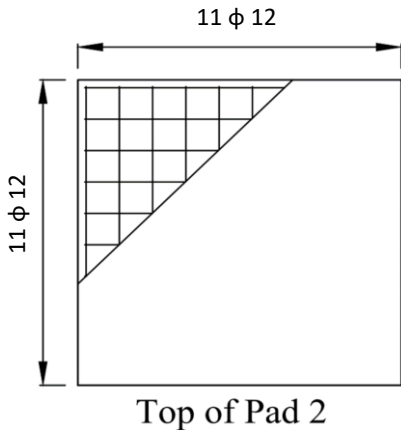
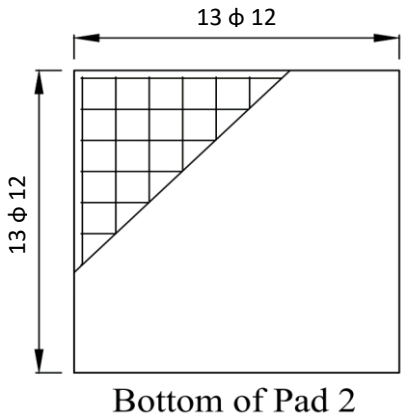
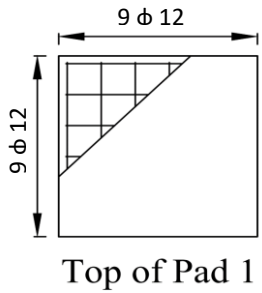
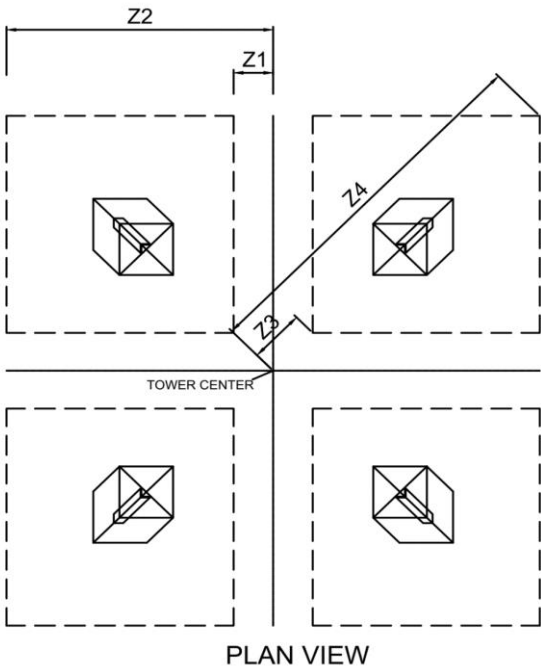
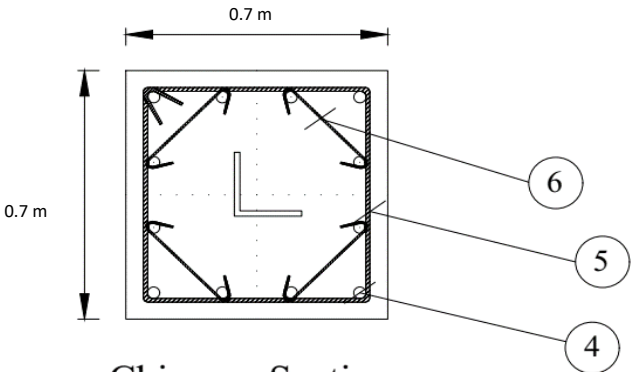
Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	3.8	15.2
Excavation	m3	23.2	92.7
Backfill	m3	19.4	77.5
Lean Concrete	m3	0.7	2.8
Formwork	m2	9.9	39.6
Reinforcement	kg	310.7	1242.8

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natural Soil Density	1.73	ton/m3
Backfill Density	1.73	ton/m3
Bearing Capacity of Soils	3.06	kg/cm2

- NOTES :
- Concrete Class : C20/25
 - Steel Reinforcement Class : S500
 - Concrete Cover : 75 mm
 - Soil Layer Shall Be Compacted To Maintain Soil Density.
 - Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - In case of high soil resistance, filling shall be done using soil with low resistance.
 - Concrete surface shall be covered with bitumen in case of aggressive soil conditions

Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1		235	12	2.09	18	37.6
2		300	12	2.66	22	58.6
3		250	12	2.22	26	57.7
4		395	20	9.76	12	117.1
5		251	8	0.99	24	23.8
6		42	8	0.17	96	15.9
SUM						310.7

* The foundation is in direct contact with undisturbed soil.

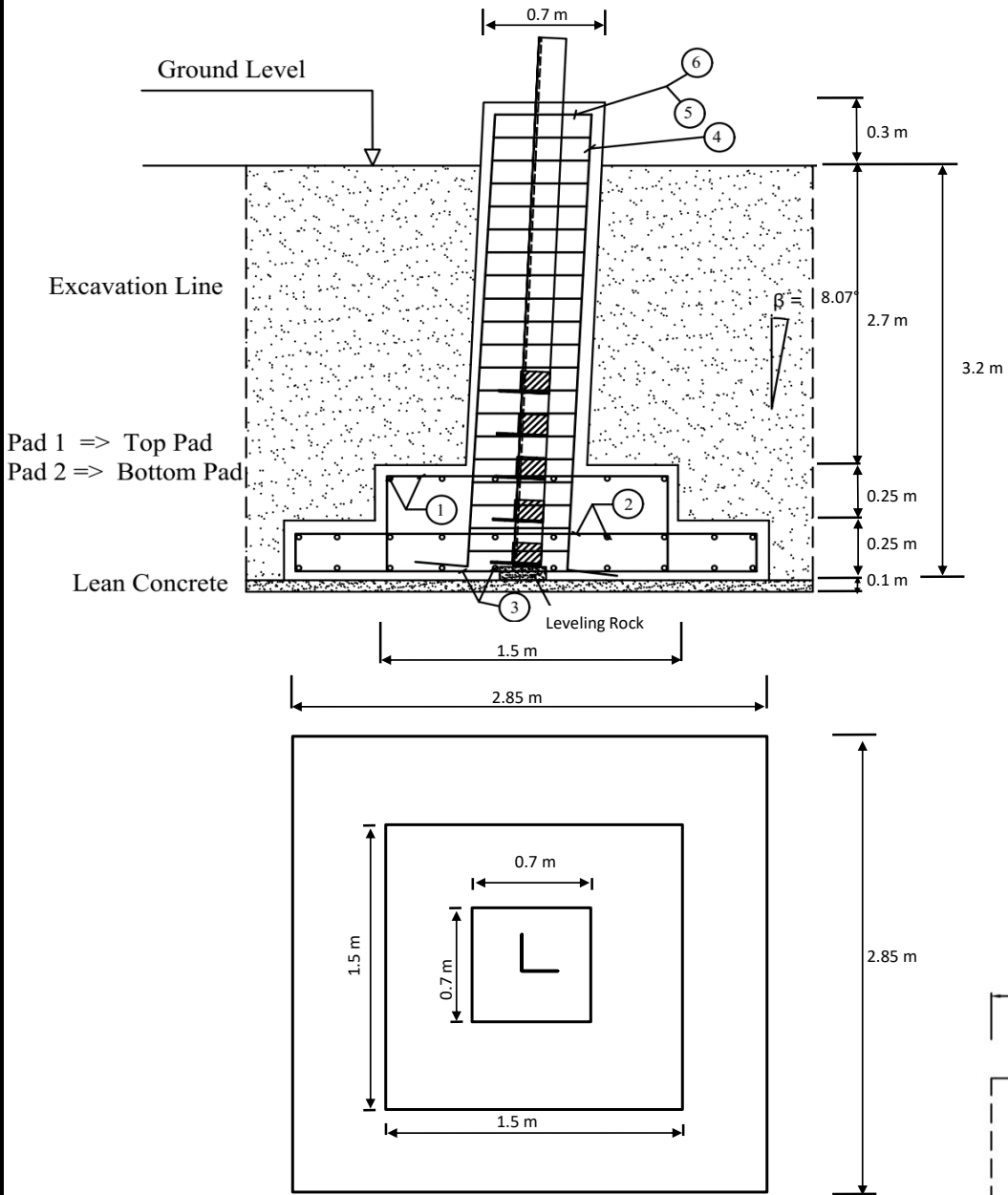


BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2406	5056	3402	7150
	-1.5	2618	5268	3703	7451
	+0	2831	5481	4004	7751
	+1.5	3044	5694	4304	8052
	+3	3256	5906	4605	8353
	+4.5	3469	6119	4906	8653
BE+0	+6	3681	6331	5206	8954
	-3	2831	5481	4004	7751
	-1.5	3044	5694	4304	8052
	+0	3256	5906	4605	8353
	+1.5	3469	6119	4906	8653
	+3	3681	6331	5206	8954
BE+3	+4.5	3894	6544	5507	9255
	+6	4107	6757	5808	9555
	-3	3256	5906	4605	8353
	-1.5	3469	6119	4906	8653
	+0	3681	6331	5206	8954
	+1.5	3894	6544	5507	9255
BE+6	+3	4107	6757	5808	9555
	+4.5	4319	6969	6108	9856
	+6	4532	7182	6409	10157
	-3	3681	6331	5206	8954
	-1.5	3894	6544	5507	9255
	+0	4107	6757	5808	9555
BE+9	+1.5	4319	6969	6108	9856
	+3	4532	7182	6409	10157
	+4.5	4744	7394	6710	10457
	+6	4957	7607	7010	10758
	-3	4107	6757	5808	9555
	-1.5	4319	6969	6108	9856
BE+12	+0	4532	7182	6409	10157
	+1.5	4744	7394	6710	10457
	+3	4957	7607	7010	10758
	+4.5	5170	7820	7311	11059
	+6	5382	8032	7612	11359
	+8	5595	8245	7912	11660
BE+15	+10	5807	8457	8213	11961

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2			
EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge			
ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de			
CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:		AP ☐ AC ☐ NA ☐	
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	" 12A-NS "	
DRAWN BY / გამსრულებელი:	D. Nezamolmolki	Soil Type 3-Good Soil	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Pad & Chimney Foundation	
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0606_01	1	6 of 10

Soil Type:	Type 4-Normal Soil-Dry
Foundation Type:	Pad & Chimney
Tower Type:	12A-NS



Dimensions (m)		
Width of Pad1	bp1 =	1.50
Width of Pad2	bp2 =	2.85
Height of Pad1	hp1 =	0.25
Height of Pad2	hp2 =	0.25
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	2.70
Depth of Pad	H =	3.20

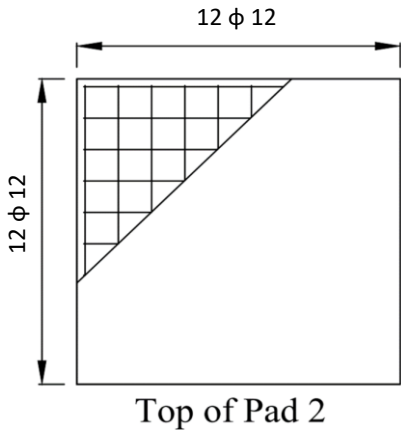
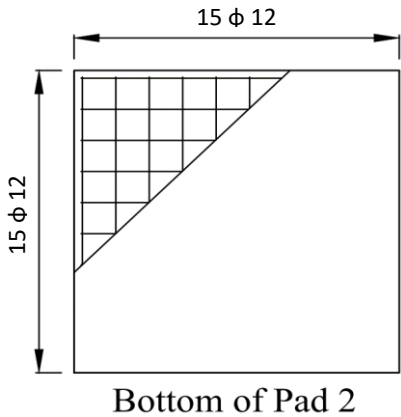
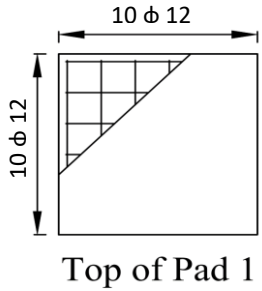
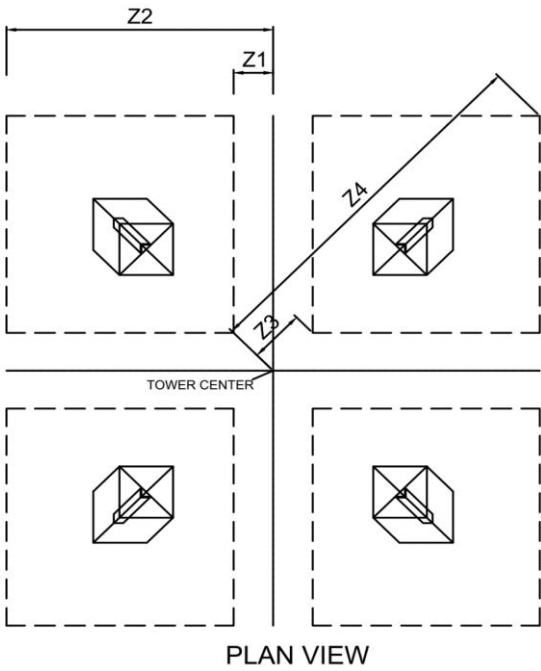
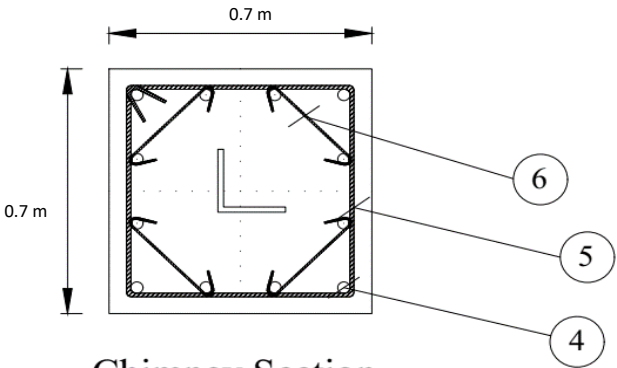
Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	4.1	16.3
Excavation	m3	48.9	195.7
Backfill	m3	44.9	179.4
Lean Concrete	m3	1.2	4.8
Formwork	m2	12.8	51.0
Reinforcement	kg	338.7	1354.7

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natural Soil Density	1.83	ton/m3
Backfill Density	1.83	ton/m3
Bearing Capacity of Soils	2.04	kg/cm2

- NOTES :
- Concrete Class : C20/25
 - Steel Reinforcement Class : S500
 - Concrete Cover : 75 mm
 - Soil Layer Shall Be Compacted To Maintain Soil Density.
 - Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - In case of high soil resistance, filling shall be done using soil with low resistance.
 - Concrete surface shall be covered with bitumen in case of aggressive soil conditions

Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1		235	12	2.09	20	41.7
2		320	12	2.84	24	68.2
3		270	12	2.40	30	71.9
4		395	20	9.76	12	117.1
5		251	8	0.99	24	23.8
6		42	8	0.17	96	15.9
SUM						338.7

* The foundation is cast inside formwork.

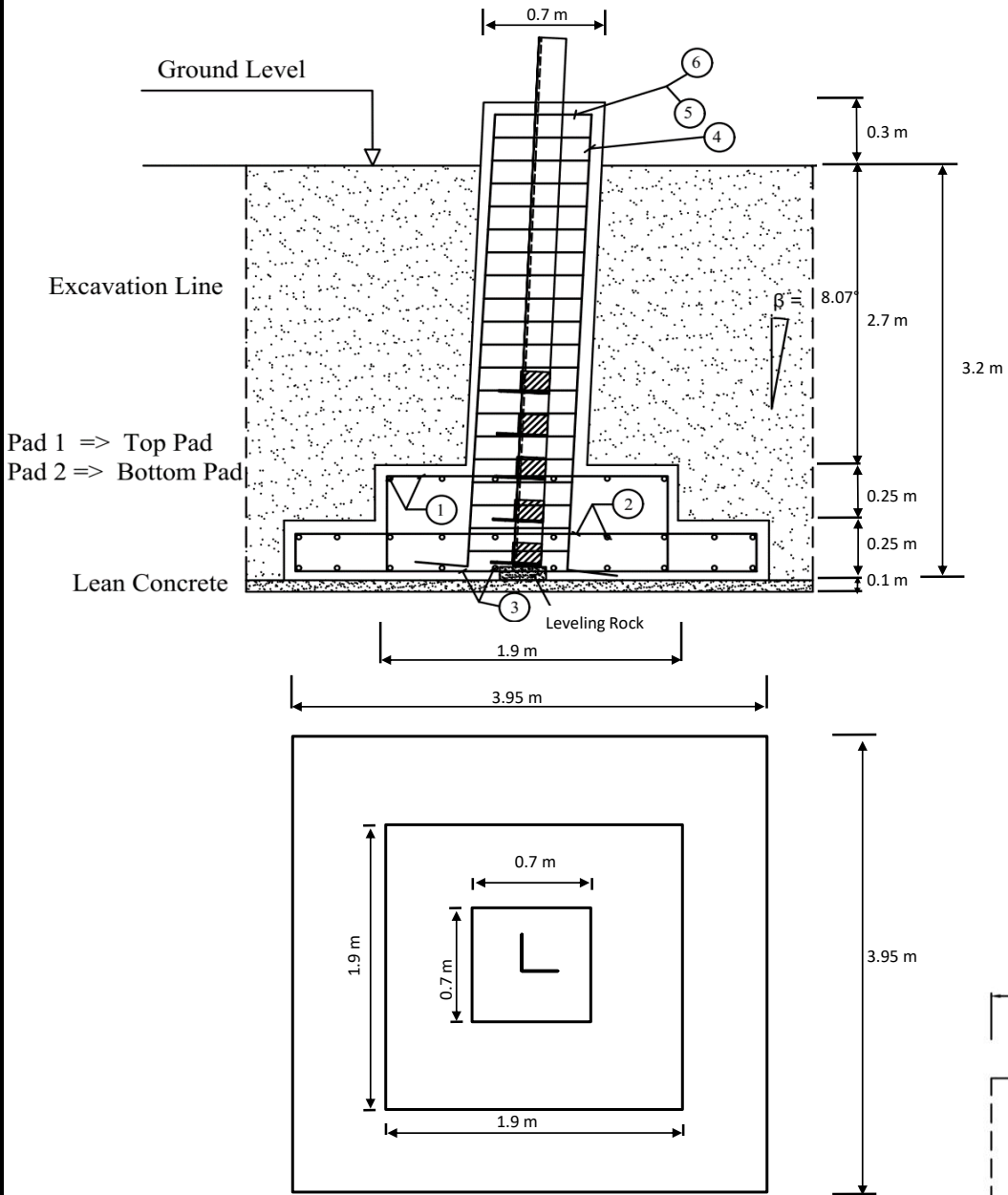


BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2306	5156	3261	7292
	-1.5	2518	5368	3562	7592
	+0	2731	5581	3862	7893
	+1.5	2944	5794	4163	8194
	+3	3156	6006	4464	8494
	+4.5	3369	6219	4764	8795
BE+0	+6	3581	6431	5065	9095
	-3	2731	5581	3862	7893
	-1.5	2944	5794	4163	8194
	+0	3156	6006	4464	8494
	+1.5	3369	6219	4764	8795
	+3	3581	6431	5065	9095
BE+3	+4.5	3794	6644	5366	9396
	+6	4007	6857	5666	9697
	-3	3156	6006	4464	8494
	-1.5	3369	6219	4764	8795
	+0	3581	6431	5065	9095
	+1.5	3794	6644	5366	9396
BE+6	+3	4007	6857	5666	9697
	+4.5	4219	7069	5967	9997
	+6	4432	7282	6268	10298
	-3	3581	6431	5065	9095
	-1.5	3794	6644	5366	9396
	+0	4007	6857	5666	9697
BE+9	+1.5	4219	7069	5967	9997
	+3	4432	7282	6268	10298
	+4.5	4644	7494	6568	10599
	+6	4857	7707	6869	10899
	-3	4007	6857	5666	9697
	-1.5	4219	7069	5967	9997
BE+12	+0	4432	7282	6268	10298
	+1.5	4644	7494	6568	10599
	+3	4857	7707	6869	10899
	+4.5	5070	7920	7169	11200
	+6	5282	8132	7470	11501
	+8	5495	8345	7771	11801

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2 EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge 			
ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de 			
CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com 			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:		K.KARAGOZ	
CHECKED BY / შემოწმებულია:		H.O.BULUT	Foundation Drawings of Tower Type
DESIGNED BY / ავტორი:		D. Nezamolmolki	" 12A-NS "
DRAWN BY / გამსრულებელი:		D. Nezamolmolki	Soil Type 4-Normal Soil-Dry
DATE OF ISSUE / გამოცემის თარიღი:		21.07.22	Pad & Chimney Foundation
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
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Soil Type:	Type 4-Normal Soil-Submerge
Foundation Type:	Pad & Chimney
Tower Type:	12A-NS



Dimensions (m)		
Width of Pad1	bp1 =	1.90
Width of Pad2	bp2 =	3.95
Height of Pad1	hp1 =	0.25
Height of Pad2	hp2 =	0.25
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	2.70
Depth of Pad	H =	3.20

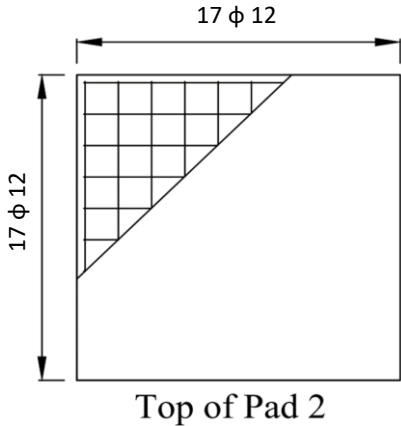
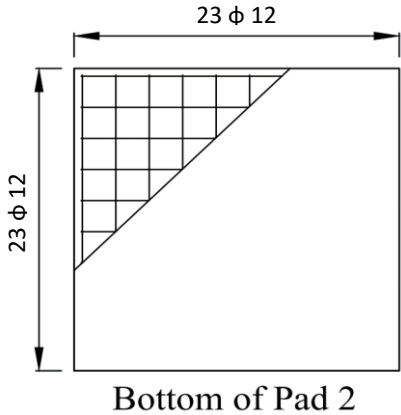
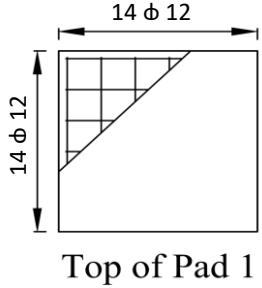
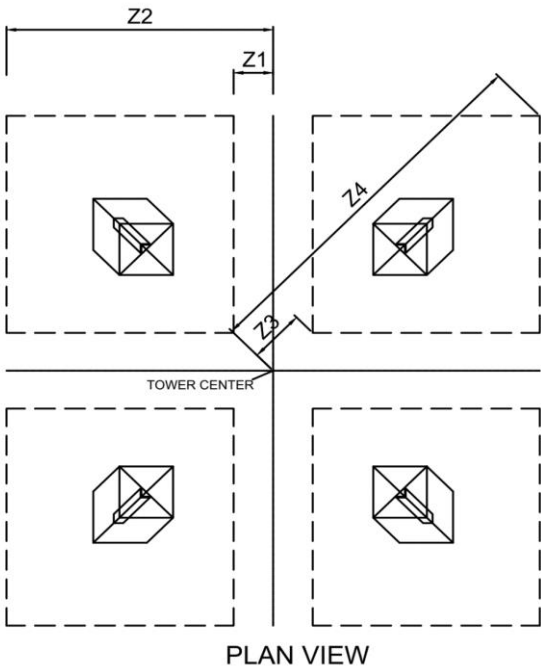
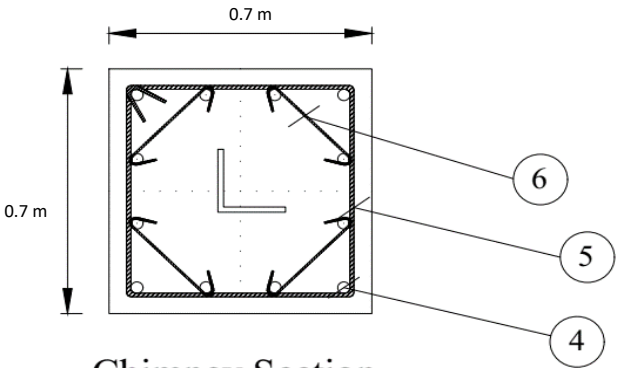
Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	6.3	25.1
Excavation	m3	80.9	323.4
Backfill	m3	74.6	298.3
Lean Concrete	m3	2.1	8.3
Formwork	m2	14.3	57.0
Reinforcement	kg	510.2	2040.9

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natural Soil Density	1.02	ton/m3
Backfill Density	1.02	ton/m3
Bearing Capacity of Soils	2.04	kg/cm2

- NOTES :
- Concrete Class : C20/25
 - Steel Reinforcement Class : S500
 - Concrete Cover : 75 mm
 - Soil Layer Shall Be Compacted To Maintain Soil Density.
 - Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - In case of high soil resistance, filling shall be done using soil with low resistance.
 - Concrete surface shall be covered with bitumen in case of aggressive soil conditions

Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1		275	12	2.44	28	68.4
2		430	12	3.82	34	129.8
3		380	12	3.37	46	155.2
4		395	20	9.76	12	117.1
5		251	8	0.99	24	23.8
6		42	8	0.17	96	15.9
SUM						510.2

* The foundation is cast inside formwork.

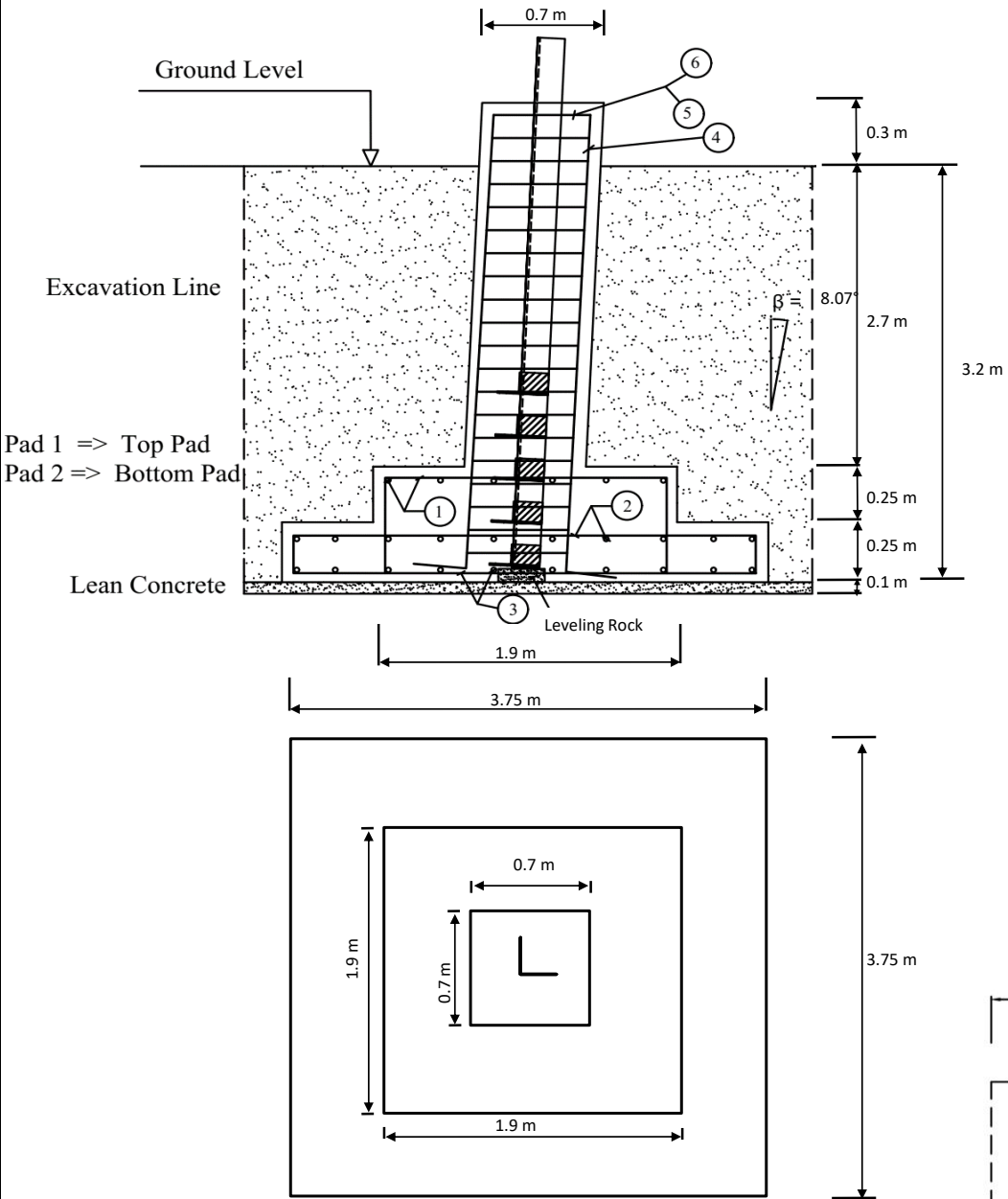


BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	1756	5706	2483	8069
	-1.5	1968	5918	2784	8370
	+0	2181	6131	3084	8671
	+1.5	2394	6344	3385	8971
	+3	2606	6556	3686	9272
	+4.5	2819	6769	3986	9573
BE+0	+6	3031	6981	4287	9873
	-3	2181	6131	3084	8671
	-1.5	2394	6344	3385	8971
	+0	2606	6556	3686	9272
	+1.5	2819	6769	3986	9573
	+3	3031	6981	4287	9873
BE+3	+4.5	3244	7194	4588	10174
	+6	3457	7407	4888	10475
	-3	2606	6556	3686	9272
	-1.5	2819	6769	3986	9573
	+0	3031	6981	4287	9873
	+1.5	3244	7194	4588	10174
BE+6	+3	3457	7407	4888	10475
	+4.5	3669	7619	5189	10775
	+6	3882	7832	5490	11076
	-3	3031	6981	4287	9873
	-1.5	3244	7194	4588	10174
	+0	3457	7407	4888	10475
BE+9	+1.5	3669	7619	5189	10775
	+3	3882	7832	5490	11076
	+4.5	4094	8044	5790	11377
	+6	4307	8257	6091	11677
	-3	3457	7407	4888	10475
	-1.5	3669	7619	5189	10775
BE+12	+0	3882	7832	5490	11076
	+1.5	4094	8044	5790	11377
	+3	4307	8257	6091	11677
	+4.5	4520	8470	6392	11978
	+6	4732	8682	6692	12278
	-3	3882	7832	5490	11076

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2			
EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge			
ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de			
CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:		Foundation Drawings of Tower Type " 12A-NS "	
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Soil Type 4-Normal Soil-Submerge Pad & Chimney Foundation	
DESIGNED BY / ავტორი:	D. Nezamolmolki		
DRAWN BY / გამსრულებელი:	D. Nezamolmolki		
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22		
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0606_01	1	8 of 10

Soil Type:	Type 5-Poor Soil-Dry
Foundation Type:	Pad & Chimney
Tower Type:	12A-NS



Dimensions (m)		
Width of Pad1	bp1 =	1.90
Width of Pad2	bp2 =	3.75
Height of Pad1	hp1 =	0.25
Height of Pad2	hp2 =	0.25
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	2.70
Depth of Pad	H =	3.20

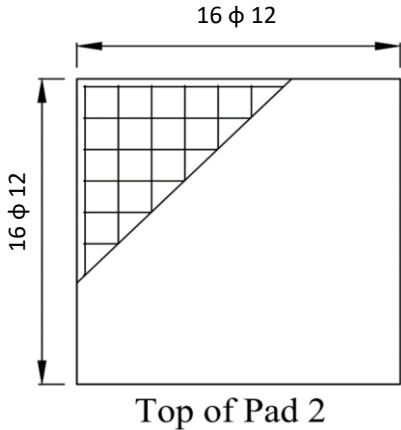
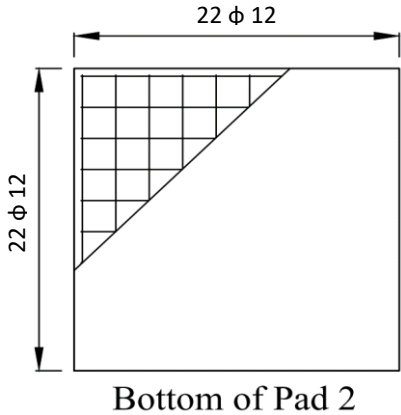
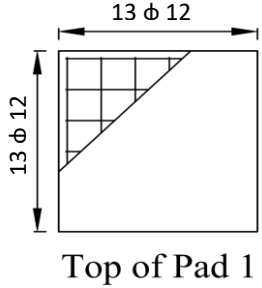
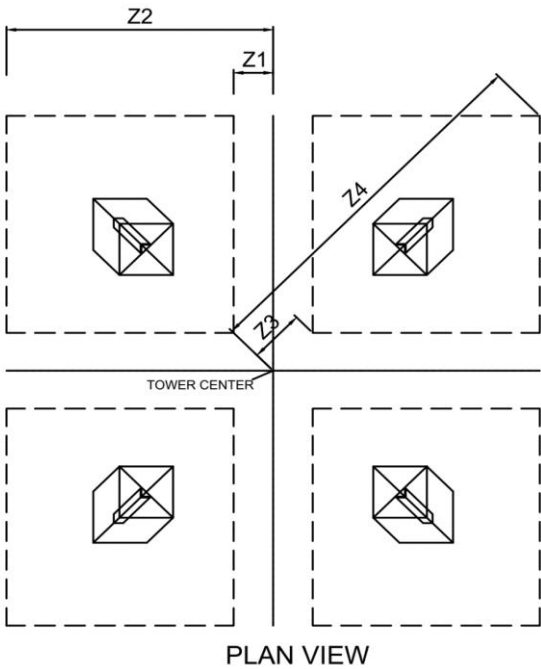
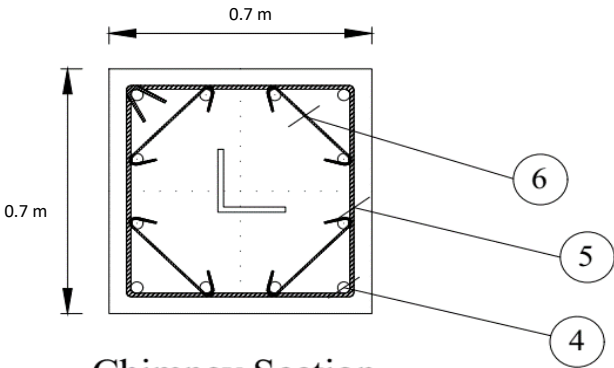
Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	5.9	23.6
Excavation	m3	74.5	297.8
Backfill	m3	68.6	274.3
Lean Concrete	m3	1.9	7.6
Formwork	m2	14.1	56.2
Reinforcement	kg	477.5	1909.9

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natural Soil Density	1.63	ton/m3
Backfill Density	1.63	ton/m3
Bearing Capacity of Soils	1.53	kg/cm2

- NOTES :
- Concrete Class : C20/25
 - Steel Reinforcement Class : S500
 - Concrete Cover : 75 mm
 - Soil Layer Shall Be Compacted To Maintain Soil Density.
 - Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - In case of high soil resistance, filling shall be done using soil with low resistance.
 - Concrete surface shall be covered with bitumen in case of aggressive soil conditions

Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1		275	12	2.44	26	63.5
2		410	12	3.64	32	116.5
3		360	12	3.20	44	140.7
4		395	20	9.76	12	117.1
5		251	8	0.99	24	23.8
6		42	8	0.17	96	15.9
SUM						477.5

* The foundation is cast inside formwork.

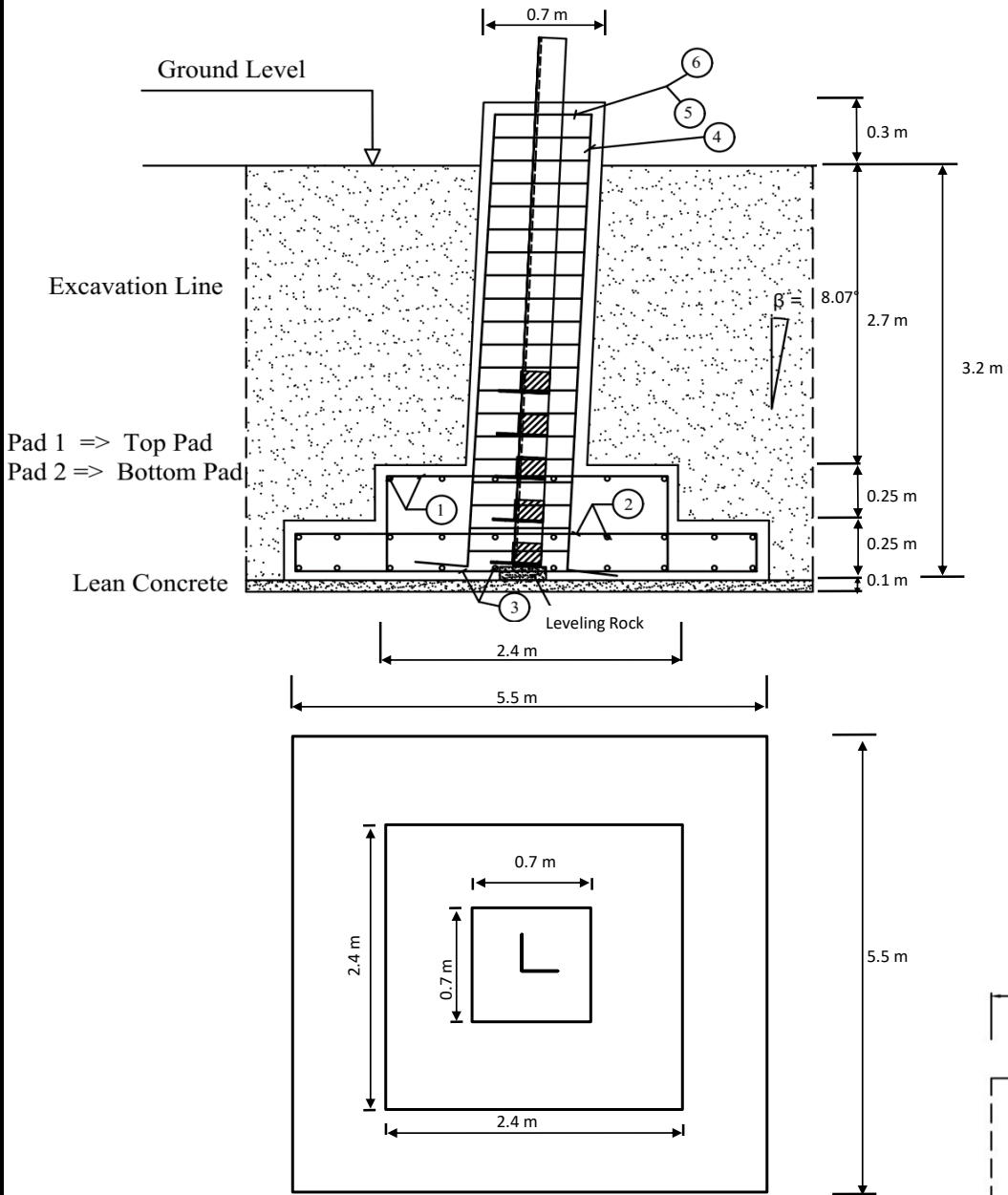


BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	1856	5606	2625	7928
	-1.5	2068	5818	2925	8229
	+0	2281	6031	3226	8529
	+1.5	2494	6244	3527	8830
	+3	2706	6456	3827	9131
	+4.5	2919	6669	4128	9431
BE+0	+6	3131	6881	4429	9732
	-3	2281	6031	3226	8529
	-1.5	2494	6244	3527	8830
	+0	2706	6456	3827	9131
	+1.5	2919	6669	4128	9431
	+3	3131	6881	4429	9732
BE+3	+4.5	3344	7094	4729	10033
	+6	3557	7307	5030	10333
	-3	2706	6456	3827	9131
	-1.5	2919	6669	4128	9431
	+0	3131	6881	4429	9732
	+1.5	3344	7094	4729	10033
BE+6	+3	3557	7307	5030	10333
	+4.5	3769	7519	5330	10634
	+6	3982	7732	5631	10934
	-3	3131	6881	4429	9732
	-1.5	3344	7094	4729	10033
	+0	3557	7307	5030	10333
BE+9	+1.5	3769	7519	5330	10634
	+3	3982	7732	5631	10934
	+4.5	4194	7944	5932	11235
	+6	4407	8157	6232	11536
	-3	3557	7307	5030	10333
	-1.5	3769	7519	5330	10634
BE+12	+0	3982	7732	5631	10934
	+1.5	4194	7944	5932	11235
	+3	4407	8157	6232	11536
	+4.5	4620	8370	6533	11836
	+6	4832	8582	6834	12137
	-3	3982	7732	5631	10934

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2			
EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge 			
ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de			
CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com 			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:		Foundation Drawings of Tower Type " 12A-NS "	
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Soil Type 5-Poor Soil-Dry Pad & Chimney Foundation	
DESIGNED BY / ავტორი:	D. Nezamolmolki		
DRAWN BY / გამსწრულებელი:	D. Nezamolmolki		
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22		
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
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Soil Type:	Type 5-Poor Soil-Submerge
Foundation Type:	Pad & Chimney
Tower Type:	12A-NS



Dimensions (m)		
Width of Pad1	bp1 =	2.40
Width of Pad2	bp2 =	5.50
Height of Pad1	hp1 =	0.25
Height of Pad2	hp2 =	0.25
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	2.70
Depth of Pad	H =	3.20

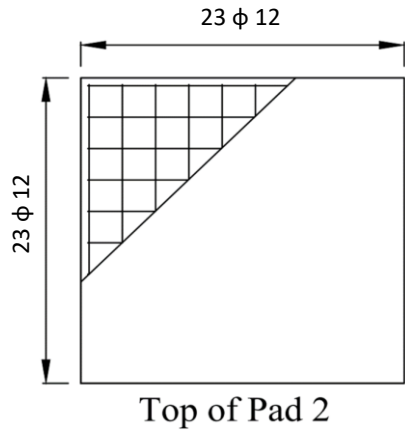
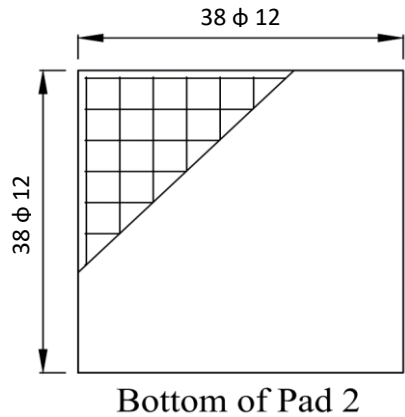
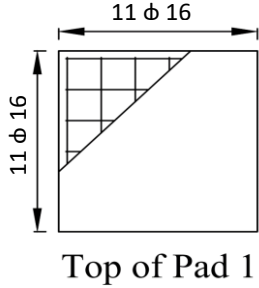
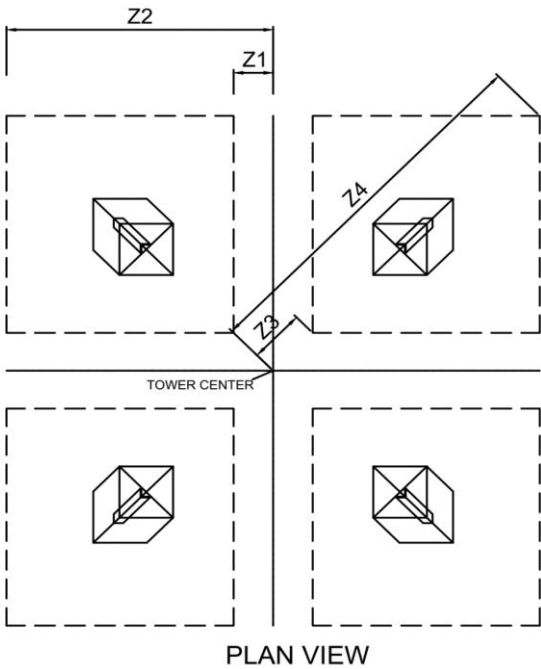
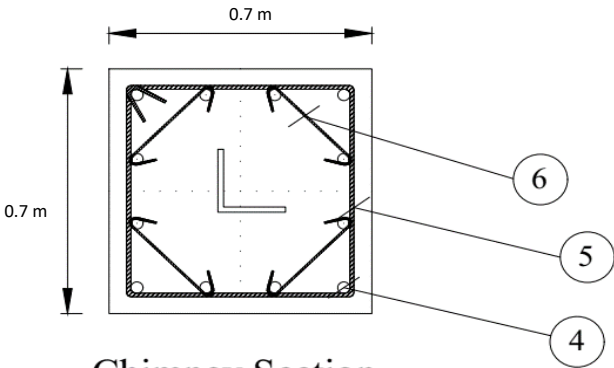
Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	10.5	41.9
Excavation	m3	139.4	557.7
Backfill	m3	129.0	515.8
Lean Concrete	m3	3.7	14.9
Formwork	m2	16.3	65.2
Reinforcement	kg	869.8	3479.2

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natural Soil Density	0.82	ton/m3
Backfill Density	0.82	ton/m3
Bearing Capacity of Soils	0.82	kg/cm2

- NOTES :
- Concrete Class : C20/25
 - Steel Reinforcement Class : S500
 - Concrete Cover : 75 mm
 - Soil Layer Shall Be Compacted To Maintain Soil Density.
 - Sulphate resistant concrete shall be used in case of aggressive soil conditions.
 - In case of high soil resistance, filling shall be done using soil with low resistance.
 - Concrete surface shall be covered with bitumen in case of aggressive soil conditions

Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1		325	16	5.14	22	113.0
2		585	12	5.19	46	239.0
3		535	12	4.75	76	361.1
4		395	20	9.76	12	117.1
5		251	8	0.99	24	23.8
6		42	8	0.17	96	15.9
SUM						869.8

* The foundation is cast inside formwork.



BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	981	6481	1387	9165
	-1.5	1193	6693	1688	9466
	+0	1406	6906	1988	9767
	+1.5	1619	7119	2289	10067
	+3	1831	7331	2590	10368
	+4.5	2044	7544	2890	10669
BE+0	+6	2256	7756	3191	10969
	-3	1406	6906	1988	9767
	-1.5	1619	7119	2289	10067
	+0	1831	7331	2590	10368
	+1.5	2044	7544	2890	10669
	+3	2256	7756	3191	10969
BE+3	+4.5	2469	7969	3492	11270
	+6	2682	8182	3792	11571
	-3	1831	7331	2590	10368
	-1.5	2044	7544	2890	10669
	+0	2256	7756	3191	10969
	+1.5	2469	7969	3492	11270
BE+6	+3	2682	8182	3792	11571
	+4.5	2894	8394	4093	11871
	+6	3107	8607	4394	12172
	-3	2256	7756	3191	10969
	-1.5	2469	7969	3492	11270
	+0	2682	8182	3792	11571
BE+9	+1.5	2894	8394	4093	11871
	+3	3107	8607	4394	12172
	+4.5	3319	8819	4694	12473
	+6	3532	9032	4995	12773
	-3	2682	8182	3792	11571
	-1.5	2894	8394	4093	11871
BE+12	+0	3107	8607	4394	12172
	+1.5	3319	8819	4694	12473
	+3	3532	9032	4995	12773
	+4.5	3745	9245	5296	13074
	+6	3957	9457	5596	13375
	-3	3107	8607	4394	12172

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	03.11.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
PROJECT NAME / პროექტის დასახელება: Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286 Contract Identification No. KfW/DSI/OHL-TD-Lot 2			
EMPLOYER / დამკვეთი: JSC Georgian State Electrosystem (GSE) Baratashvili Street, Tbilisi, Georgia, 0105 info@gse.com.ge			
ENGINEER / ინჟინერი : Fichtner GmbH & Co. KG Sarweystrasse 370191 Stuttgart / Germany info@fichtner.de			
CONTRACTOR / კონტრაქტორი : Mitas Energy and Metal Constuction Inc. Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey info@mitastower.com			
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:		AP ☐	
		AC ☐	
		NA ☐	
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	" 12A-NS "	
DRAWN BY / გამსრულებელი:	D. Nezamolmolki	Soil Type 5-Poor Soil-Submerge	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Pad & Chimney Foundation	
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
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