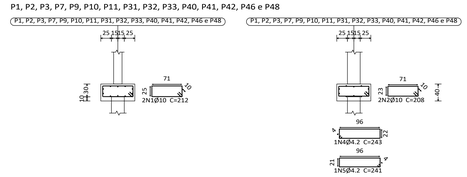
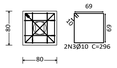
Fundação
Detalhamento fundação
Concreto: C25, em geral
Escala: 1:50

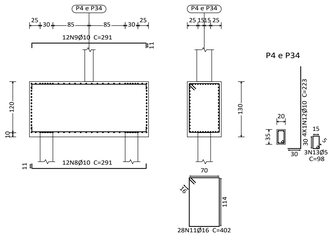
P1, P2, P3, P7, P9, P10, P11, P31, P32, P33, P40, P41, P42, P46 e P48



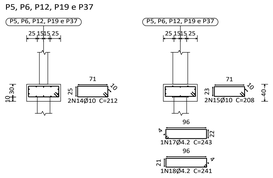
Estacas: Teste



P4 e P34

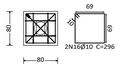


P5, P6, P12, P19 e P37

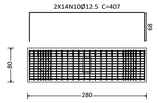


P5, P6, P12, P19 e P37

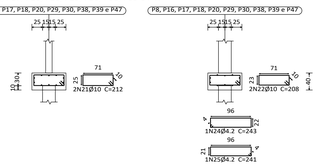
Estacas: Teste



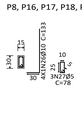
Estacas: Teste



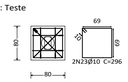
P8, P16, P17, P18, P20, P29, P30, P38, P39 e P47



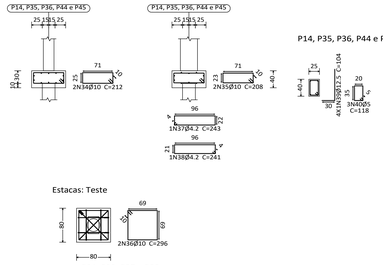
P8, P16, P17, P18, P20, P29, P30, P38, P39 e P47



Estacas: Teste



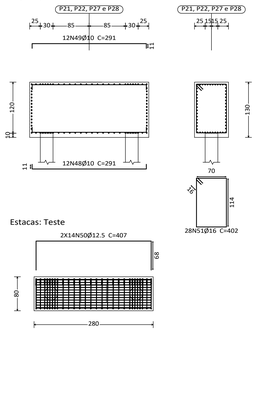
P14, P35, P36, P44 e P45



P14, P35, P36, P44 e P45

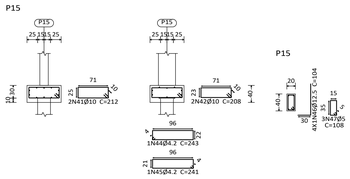
Estacas: Teste

P21, P22, P27 e P28



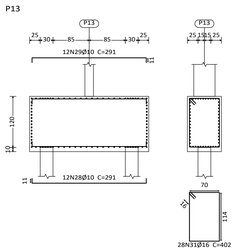
Estacas: Teste

P15

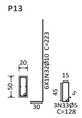


P15

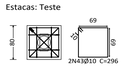
P13



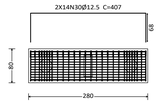
P13



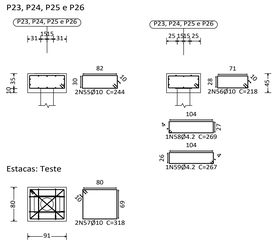
Estacas: Teste



Estacas: Teste



P23, P24, P25 e P26



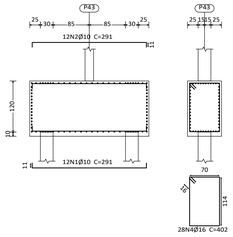
Estacas: Teste

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1=P2=P3=P7=P9 P10=P11=P31=P32 P33=P40=P41=P42 P46=P48	1	Ø10	2		212		212	424	2.6	
	2	Ø10	2		208		208	416	2.6	
	3	Ø10	2		296		296	592	3.6	
	4	Ø4.2	1		243		243	243		0.3
	5	Ø4.2	1		241		241	241		0.3
	6	Ø10	4	30	103		133	532	3.3	
	7	Ø5	3		88		88	264		0.4
							Total+10%:	3633	13.3	1.1
							(x15):	54495	199.5	16.5
P4=P34	8	Ø10	12	11	269	11	291	3492	21.5	
	9	Ø10	12	11	269	11	291	3492	21.5	
	10	Ø12.5	28		407		407	11396	109.8	
	11	Ø16	28		402		402	11256	177.7	
	12	Ø10	4	30	193		223	892	5.5	
	13	Ø5	3		98		98	294		0.5
							Total+10%:	36966	369.6	0.6
							(x2):	73932	739.2	1.2
P5=P6=P12=P19 P37	14	Ø10	2		212		212	424	2.6	
	15	Ø10	2		208		208	416	2.6	
	16	Ø10	2		296		296	592	3.6	
	17	Ø4.2	1		243		243	243		0.3
	18	Ø4.2	1		241		241	241		0.3
	19	Ø10	4	30	103		133	532	3.3	
	20	Ø5	3		98		98	294		0.5
							Total+10%:	3663	13.3	1.2
							(x5):	18315	66.5	6.0
P8=P16=P17=P18 P20=P29=P30=P38 P39=P47	21	Ø10	2		212		212	424	2.6	
	22	Ø10	2		208		208	416	2.6	
	23	Ø10	2		296		296	592	3.6	
	24	Ø4.2	1		243		243	243		0.3
	25	Ø4.2	1		241		241	241		0.3
	26	Ø10	4	30	103		133	532	3.3	
	27	Ø5	3		78		78	234		0.4
							Total+10%:	3663	13.3	1.1
							(x10):	36630	133.0	11.0
P13	28	Ø10	12	11	269	11	291	3492	21.5	
	29	Ø10	12	11	269	11	291	3492	21.5	
	30	Ø12.5	28		407		407	11396	109.8	
	31	Ø16	28		402		402	11256	177.7	
	32	Ø10	6	30	193		223	1338	8.2	
	33	Ø5	3		128		128	384		0.6
							Total+10%:	37246	372.6	0.7
P14=P35=P36=P44 P45	34	Ø10	2		212		212	424	2.6	
	35	Ø10	2		208		208	416	2.6	
	36	Ø10	2		296		296	592	3.6	
	37	Ø4.2	1		243		243	243		0.3
	38	Ø4.2	1		241		241	241		0.3
	39	Ø12.5	4	30	74		104	416	4.0	
	40	Ø5	3		118		118	354		0.6
							Total+10%:	3542	14.1	1.3
							(x5):	17710	70.5	6.5
P15	41	Ø10	2		212		212	424	2.6	
	42	Ø10	2		208		208	416	2.6	
	43	Ø10	2		296		296	592	3.6	
	44	Ø4.2	1		243		243	243		0.3
	45	Ø4.2	1		241		241	241		0.3
	46	Ø12.5	4	30	74		104	416	4.0	
	47	Ø5	3		108		108	324		0.5
							Total+10%:	3542	14.1	1.2
P21=P22=P27=P28	48	Ø10	12	11	269	11	291	3492	21.5	
	49	Ø10	12	11	269	11	291	3492	21.5	
	50	Ø12.5	28		407		407	11396	109.8	
	51	Ø16	28		402		402	11256	177.7	
							Total+10%:	3636	363.6	0.0
							(x4):	14544	1454.4	0.0
P23=P24=P25=P26	55	Ø10	2		244		244	488	3.0	
	56	Ø10	2		218		218	436	2.7	
	57	Ø10	2		318		318	636	3.9	
	58	Ø4.2	1		269		269	269		0.3
	59	Ø4.2	1		267		267	267		0.3
							Total+10%:	2304	10.6	0.7
							(x4):	9216	42.4	2.8
							Ø4.2:	0.0		28.0
							Ø5:	0.0		17.9
							Ø10:	851.5		0.0
							Ø12.5:	871.8		0.0
							Ø16:	1368.5		0.0
							Total:	3235.8		53.9

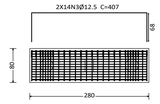
Resumo Aço Fundação Detalhamento fundação		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø10	1365.3	925	
	Ø12.5	936.6	992	
	Ø16	972.2	1688	3605
CA-60	Ø4.2	195.7	23	
	Ø5	156.1	27	50
Total				3655

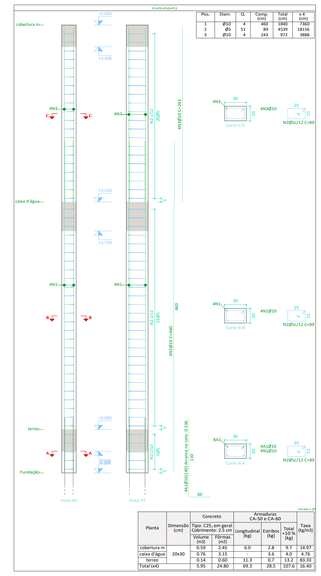
Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P43	1	Ø10	12	11	269	11	291	3492	21.5	
	2	Ø10	12	11	269	11	291	3492	21.5	
	3	Ø12.5	28		407		407	11396	109.8	
	4	Ø16	28		402		402	11256	177.7	
	5	Ø10	4	30	193		223	892	5.5	
	6	Ø5	3		88		88	264		0.4
							Total+10%:	36969	369.6	0.4
							Ø5:	0.0	0.4	
							Ø10:	53.4	0.0	
							Ø12.5:	120.7	0.0	
							Ø16:	195.5	0.0	
							Total:	369.6	0.4	

P43



Estacas: Teste

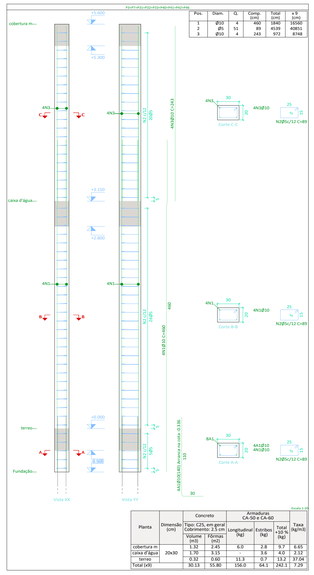




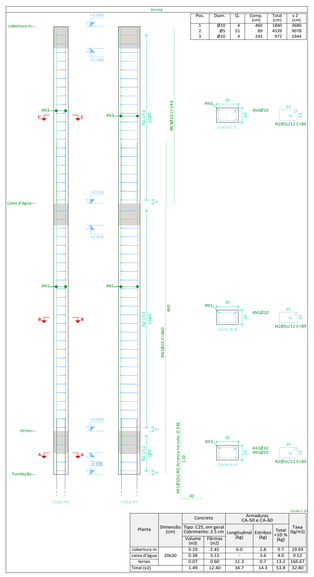
Planta	Dimensão (cm)	Concreto Tipo: C25, em geral Cobrimento: 3.5 cm Volume (m3)	Fôrmas (m2)	Armaduras CA-50 e CA-60 Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	Taxa (kg/m3)
cobertura m	20x30	0.58	2.45	4.0	2.8	9.7	16.97
caixa d'água		0.76	3.15		3.6	4.0	4.76
terreo		5.14	0.60	11.3	0.7	13.2	80.33
Total (x4)		5.95	24.80	69.3	28.5	107.6	16.40

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1=P2=P3=P7	1	Ø10	4		480		480	1920	11.9	
	2	Ø5	51		89		4539		7.1	
	3	Ø10	4		243		972			6.0
							Total+10%:		19.0	7.8
							(x8):		152.0	31.2
P9=P10=P11=P32 P33=P40=P41=P42 P46	1	Ø10	4		480		480	1920	11.9	
	2	Ø5	51		89		4539		7.1	
	3	Ø10	4		243		972			6.0
							Total+10%:		19.0	7.8
							(x8):		152.0	31.2
P31=P48	1	Ø10	4		480		480	1920	11.9	
	2	Ø5	51		89		4539		7.1	
	3	Ø10	4		243		972			6.0
							Total+10%:		19.0	7.8
							(x2):		38.0	15.6
							Ø5:		0.0	317.0
							Ø10:		285.0	0.0
							Total:		285.0	317.0

Pilares que nascem em terreo e chegam em cobertura m
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60



Planta	Dimensão (cm)	Concreto Tipo: C25, em geral Cobrimento: 3.5 cm Volume (m3)	Fôrmas (m2)	Armaduras CA-50 e CA-60 Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	Taxa (kg/m3)
cobertura m	20x30	1.32	2.45	6.0	2.8	9.7	6.65
caixa d'água		1.70	3.15		3.6	4.0	2.12
terreo		0.32	0.60	11.3	0.7	13.2	37.04
Total (x8)		30.13	55.80	356.0	64.1	242.1	7.29



Planta	Dimensão (cm)	Concreto Tipo: C25, em geral Cobrimento: 3.5 cm Volume (m3)	Fôrmas (m2)	Armaduras CA-50 e CA-60 Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	Taxa (kg/m3)
cobertura m	20x30	0.29	2.45	6.0	2.8	9.7	29.93
caixa d'água		0.38	3.15		3.6	4.0	9.52
terreo		0.07	0.60	11.3	0.7	13.2	188.67
Total (x2)		1.40	12.40	34.7	14.3	53.8	32.80

MAX HENRIQUE VELOSO DA SILVA:12718420685
Assinado de forma digital por MAX HENRIQUE VELOSO DA SILVA:12718420685
Dados: 2023.04.18 15:59:03 -03'00'

REV.	DESCRIÇÃO	DATA	EXEC.	VERIF.	APROV.
0	EMISSÃO INICIAL				

ATUALIZAÇÃO

CONTRATADA: CARVALHO AMARAL ENGENHARIA
(NFJ Nº: 16.783.066/0001-35
Avenida Mestre Fininha, nº 726, 1º andar
Centro, Governador Valadares/MG.
CEP: 35400-074)

RESP. TEC: MAX HENRIQUE VELOSO DA SILVA
REG. CREA: MG 248.998/D

CONTRATANTE: PREF. MUNICIPAL CLARO DOS POÇÕES/MG
(NFJ Nº: 18.300.126/0001-10
CACHOEIRA DE SANTANTÔNIO
CLARO DOS POÇÕES-MG
CEP: 39300-000)

MUNICIPIO/ÁREA: CLARO DOS POÇÕES/MG

RESPONSÁVEL CONTRATANTE: PREF. MUNICIPAL DE CLARO DOS POÇÕES /MG

TÍTULO: MERCADO MUNICIPAL DE CLARO DOS POÇÕES
PROJETO ESTRUTURAL
DETALHES DAS FUNDAÇÕES E PILARES; QUADROS

ENDEREÇO DA OBRA: AV. TANCREDO NEVES

DATA: 04/04/2023
ESCALA: INDICADA
PRANCHA: 02/13
ARQUIVO: DE-2022.2079-MG.CLA.-EST-EXE.001=0