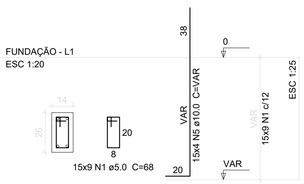
P1=P2=P3=P4=P5=P6=P7=P8=P9=P10=P11=P12
=P13=P14=P15



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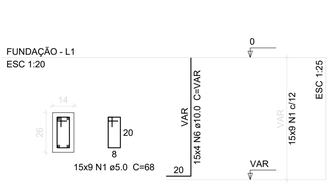
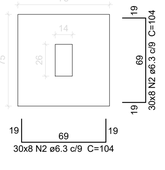
=P26=P27=P28=P29=P30

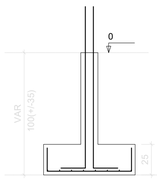


S16=S17=S18=S19=S20=S21
=S22=S23=S24=S25=S26=S27=S28=S29=S30

PLANTA
ESC 1:25

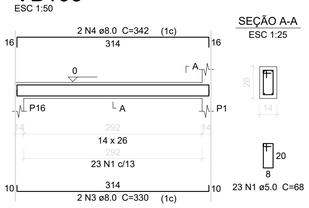


CORTE
ESC 1:25



Solo com capacidade de suporte > 2.00 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

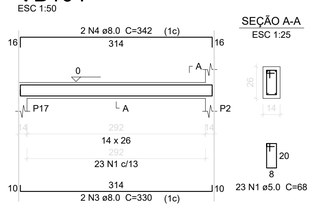
VB103
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

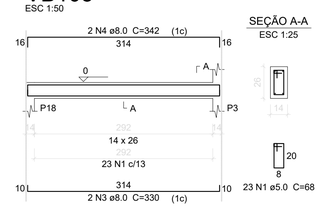
VB104
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

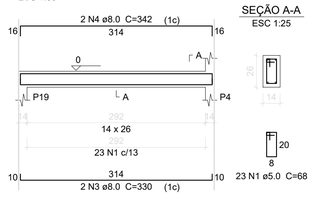
VB105
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

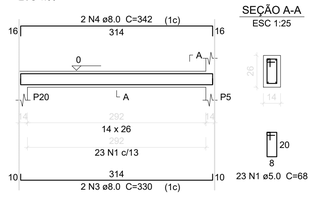
VB106
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

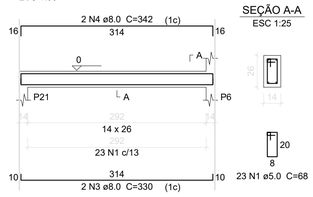
VB107
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

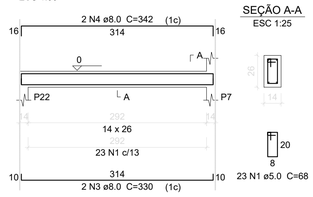
VB108
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

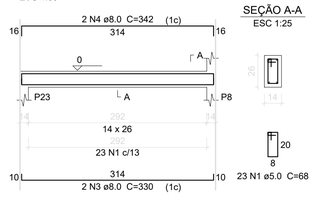
VB109
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

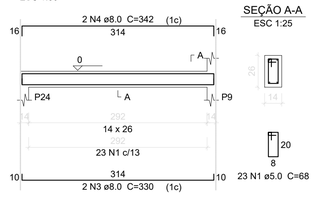
VB110
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

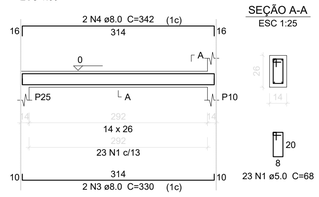
VB111
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

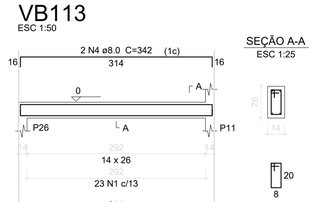
VB112
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

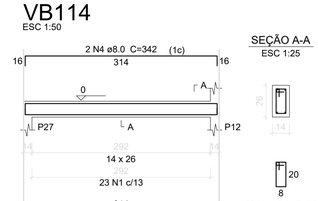
VB113
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

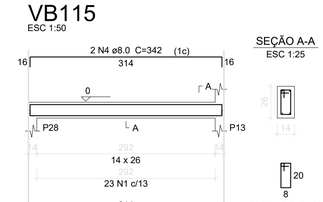
VB114
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

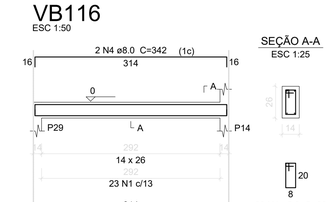
VB115
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

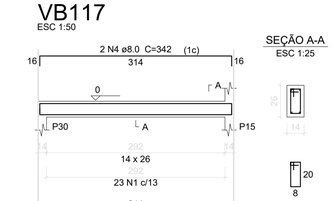
VB116
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

VB117
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=68

Relação do aço

FUNDAÇÃO:	S13	VB103	
	VB104	VB105	
	VB106	VB107	
	VB108	VB109	
	VB110	VB111	
	VB112	VB113	
	VB114	VB115	
	VB116	VB117	
NIVEL 1:	15xP1		
NIVEL 2:	15xP1		

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	1065	68	72420
CA50	2	6.3	480	104	49920
	3	8.0	30	330	9900
	4	8.0	30	342	10260
	5	10.0	60	VAR	VAR
	6	10.0	60	VAR	VAR
	7	10.0	60	238	14280
	8	10.0	60	147	8820

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	499.2	134.4
	8.0	201.6	87.5
	10.0	393.6	266.9
CA60	5.0	724.2	122.8
PESO TOTAL			
CA50	488.8		
CA60	122.8		

Vol. de concreto total (C-25) = 8.97 m³
Área de forma total = 120.18 m²

Relação do aço

VB101

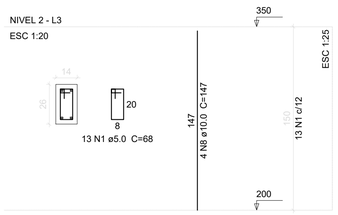
AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	271	68	18428
CA50	2	8.0	2	1127	2254
	3	8.0	4	1114	4456
	4	8.0	2	478	956
	5	8.0	6	1200	7200
	6	8.0	2	317	634

Resumo do aço

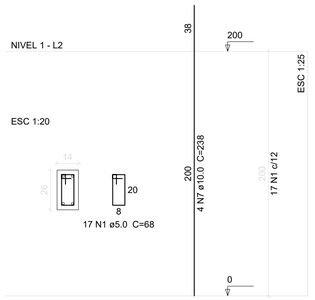
AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	155	67.3
CA60	5.0	184.3	31.2
PESO TOTAL			
CA50	67.3		
CA60	31.2		

Vol. de concreto total (C-25) = 1.39 m³
Área de forma total = 25.24 m²

P1=P2=P3=P4=P5=P6=P7=P8=P9=P10=P11=P12
=P13=P14=P15

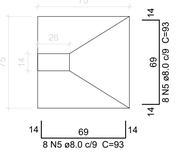


P1=P2=P3=P4=P5=P6=P7=P8=P9=P10=P11=P12
=P13=P14=P15

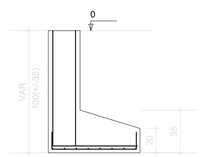


S1=S2=S3=S4=S5=S6=S7=S8=S9=S10=S11=S12
=S13=S14=S15

PLANTA
ESC 1:25

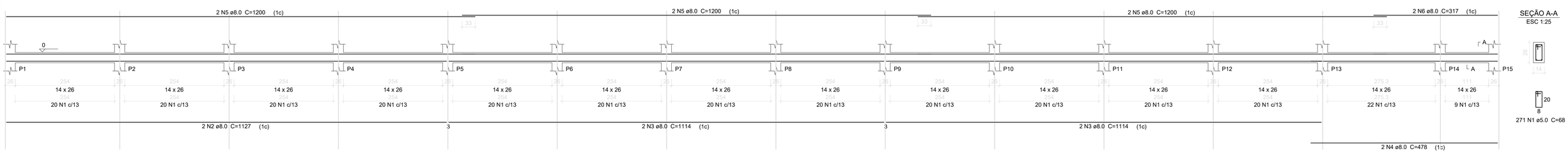


CORTE
ESC 1:25



Solo com capacidade de suporte > 2.00 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

VB101
ESC 1:50



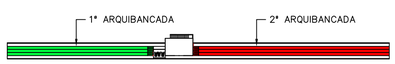
SEÇÃO A-A
ESC 1:25

271 N1 ø5.0 C=68

NOTAS

1 – Medidas em centímetros.

LEGENDA



MAPA-CHAVE

ATUALIZAÇÃO

REV.	DESCRIÇÃO	DATA	EXEC.	VERIF.	APROV.
0	EMISSÃO INICIAL	16/09/21	S.S.R.	G.V.M.	G.V.M.

CONTRATADA: CARVALHO AMARAL ENGENHARIA
CNPJ Nº: 16.783.066/0001–35
Avenida Mestra Fininha, nº 726, 1º andar
Centro, Montes Claros/MG.
CEP: 39401–074

RESP. TÉC. LWAN MATHEUS COSTA SOUZA
REG. CREA: 255.542/D

CONTRATANTE: PREFEITURA MUNICIPAL DE JOSENÓPOLIS/MG
CNPJ Nº: 01.612.503/0001–80
Rua Santos Pestana, s/n
Centro, Josenópolis/MG.
CEP: 39.575–000

MUNICÍPIO/ÁREA: MUNICÍPIO DE JOSENÓPOLIS/MG
RESPONSÁVEL CONTRATANTE: PREF. MUNICIPAL DE JOSENÓPOLIS

TÍTULO: PROJETO ESTRUTURAL
CONSTRUÇÃO DE ESTÁDIO (1ª ARQUIBANCADA)
VIGAS, PILARES E QUADRO DE AÇOS

ENDEREÇO DA OBRA: AV. GUMERCINO JOSÉ PESTANA, S/Nº, PERIFÉRICO

DATA: 16/09/2021
ESCALA: INDICADA
PRANCHA: 03/05
ARQUIVO: DE–2021.1701–MG.JOS–EST–EXE.001=0