Locação no eixo X	
Coordenadas (cm)	Nome
7.50	B1, E1
315.00	B3
385.00	B2
392.70	B4

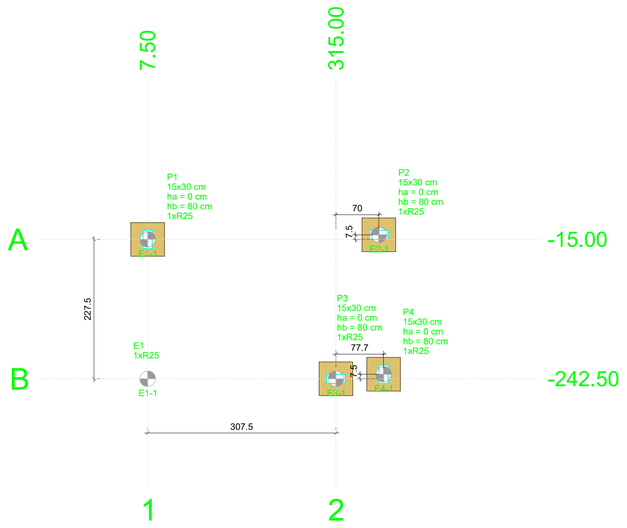
Locação no eixo Y	
Coordenadas (cm)	Nome
-7.50	B2
-15.00	B1
-235.00	B4
-242.50	E1, B3

LOCAÇÃO DAS ESTACAS											
Bloco	Nome	Tipo	Coordenada X (cm)	Coordenada Y (cm)	Carga máx. tf	Carga mín. tf	Momento máx. kgf.m	Momento mín. kgf.m	Força horiz. máx. tf	Força horiz. mín. tf	CA (cm)
B1	E1-1	R25	7.50	-15.00	3.28	3.21	1308.04	529.67	0.39	0.24	-65
B2	E2-1	R25	385.00	-7.50	2.65	2.35	399.83	16.14	0.20	0.05	-65
B3	E3-1	R25	315.00	-242.50	4.71	4.34	432.17	42.36	0.41	0.17	-65
B4	E4-1	R25	392.70	-235.00	20.01	19.63	897.88	265.72	0.50	0.12	-65
E1	E1-1	R25	7.50	-242.50	0.49	0.49	26.07	26.04	0.04	0.04	0

Pilar											Fundação				Bloco			
Nome	Seção (cm)	X (cm)	Y (cm)	Carga Máx. (tf)	Carga Mín. (tf)	Mx Máximo (kgf.m)		My Máximo (kgf.m)		Fx Máximo (tf)		Fy Máximo (tf)		Lado B (cm)	Lado H (cm)	h0 / ha (cm)	h1 / hb (cm)	ne	Estaca	ca (cm)	Base tub. (cm)
						Positivo	Negativo	Positivo	Negativo	Positivo	Negativo	Positivo	Negativo								
B1*	-	7.50	-15.00	2.7	2.7	1300	0	0	-500	0.0	-0.4	0.4	0.0	55	55	0	80	1	R25	-65	-
B2*	-	385.00	-7.50	2.1	1.8	300	-200	100	-500	0.2	0.0	0.2	-0.2	55	55	0	80	1	R25	-65	-
B3*	-	315.00	-242.50	4.2	3.8	200	-100	500	0	0.5	0.0	0.1	-0.2	55	55	0	80	1	R25	-65	-
B4*	-	392.70	-235.00	19.5	19.1	900	-300	0	-300	0.1	-0.2	0.2	-0.6	55	55	0	80	1	R25	-65	-
E1	-	7.50	-242.50	0.5	0.3	100	0	0	0	0.0	0.0	0.0	0.0	-	-	-	-	1	R25	0	-

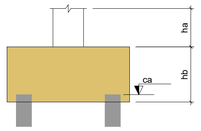
Os esforços indicados nesta tabela são os valores máximos obtidos pela envoltória de todas as combinações definidas para as fundações. Para análises complementares, deve-se consultar o relatório de esforços na fundação, que apresenta os valores calculados para cada combinação.
*Os esforços indicados são referentes ao centro da fundação.

Estacas			
Simbologia	Nome	d (cm)	Quantidade
	R25	25.00	5

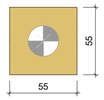


PLANTA DE LOCAÇÃO DAS ESTACAS

Escala 1:50



B1=B2=B3=B4 (1xR25)



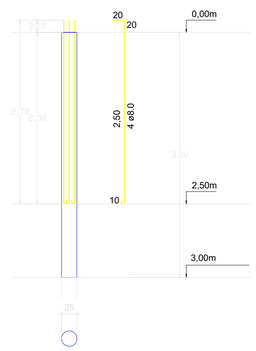
LEGENDA DOS BLOCOS

Escala 1:25

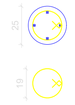
Estacas dos Blocos de Fundação

(1xR25)

CORTE
ESC 1:50



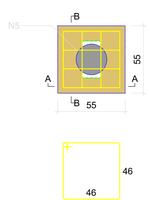
SEÇÃO
ESC 1:20



17 ø5.0 C=70

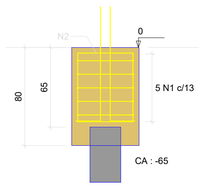
LEGENDA:
Estaca Escavada

B1
1xR25
PLANTA
ESC 1:25

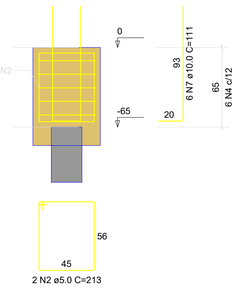


5 N1 ø5.0 C=195

CORTE A-A
ESC 1:25

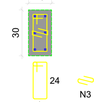


CORTE B-B
ESC 1:25



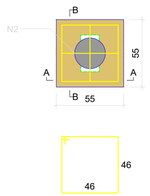
2 N2 ø5.0 C=213

DETALHE DO PILAR
ESC 1:20



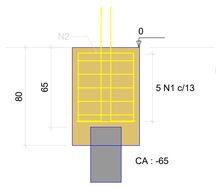
6 N4 ø5.0 C=77
6 N3 ø5.0 C=24

B2
1xR25
PLANTA
ESC 1:25

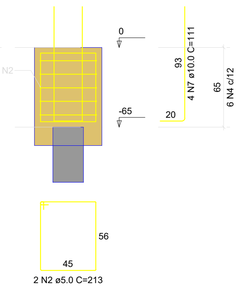


5 N1 ø5.0 C=195

CORTE A-A
ESC 1:25

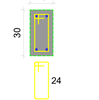


CORTE B-B
ESC 1:25



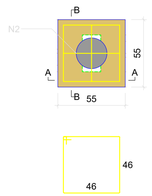
2 N2 ø5.0 C=213

DETALHE DO PILAR
ESC 1:20



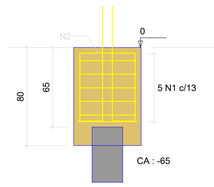
6 N4 ø5.0 C=77

B3
1xR25
PLANTA
ESC 1:25

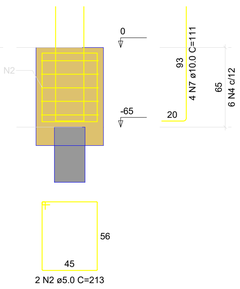


5 N1 ø5.0 C=195

CORTE A-A
ESC 1:25

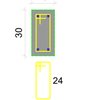


CORTE B-B
ESC 1:25



2 N2 ø5.0 C=213

DETALHE DO PILAR
ESC 1:20

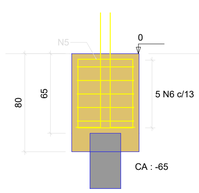


6 N4 ø5.0 C=77

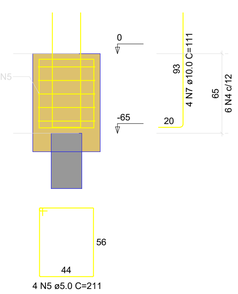
B4
1xR25
PLANTA
ESC 1:25

5 N6 ø6.3 C=196

CORTE A-A
ESC 1:25

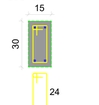


CORTE B-B
ESC 1:25



4 N5 ø5.0 C=211

DETALHE DO PILAR
ESC 1:20



6 N4 ø5.0 C=77

RELAÇÃO DO AÇO

B1
B4

B2

B3

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	15	195	2925
	2	5.0	6	213	1278
	3	5.0	6	24	144
	4	5.0	24	77	1848
	5	5.0	4	211	844
CA50	6	6.3	5	196	980
	7	10.0	18	111	1998

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 0% (kg)
CA50	6.3	9.8	2.4
	10.0	20	12.3
CA60	5.0	70.4	10.8

PESO TOTAL (kg)	
CA50	14.7
CA60	10.8

Volume de concreto (C-30) = 0.94 m³
Área de forma = 7.04 m²

PREFEITURA MUNICIPAL DE BITURUNA - PR
MINI BIBLIOTECA URBANA

Projeto:
ESTRUTURAL

Cidade: **Bituruna**
Estado: **Paraná**
Desenho: **ENG.FRANCIELE GONÇALVES**
Escala: **INDICADA**
Data: **Setembro/2026**

Referencia:
PLANTA DE LOCAÇÃO DE ESTACAS, E BLOCOS DE FUNDAÇÃO

Folha: 01 / 02

Responsável Técnico:
MAURO RIZZONI SILVEIRA:30988878852
Assinado de forma digital por MAURO RIZZONI SILVEIRA:30988878852 Dados: 2026.09.11 09:35:32 -03'00'
MAURO RIZZONI SILVEIRA
Engº Civil CREA 145769/D - PR