BN Projetos

CEMITÉRIO PÁTIO OSSÁRIO

PRESIDENTE VENCESLAU - SP

PROJETO ESTRUTURAL COMERCIAL

BN Projetos

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2. .....ESTACAS

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4. ..... PILARES

5. ..... VIGAS

Projeto Estrutural
Resumo Geral da Obra

Obra: CONSTRUÇÃO COMERCIAL
Resp. Técnico: ENGº. FABRÍCIO BAGLI

QUANTITATIVOS DA OBRA:

1-RESUMO FUNDAÇÃO

Fundação – Estacas e Blocos de Fundação

Elemento	Formas (m²)	Volume (m³)	Barras (kg)
Estacas		*3.56	52
Blocos	5.84	0.68	71.1
Total	5.84	4.24	123.1

*Volume estimado de concreto

2-RESUMO PAVIMENTOS

Pavimento Piso 1 - Superfície total: 5.35 m2

Elemento	Formas (m2)	Volume (m3)	Barras (kg)
Vigas: fundo	4.85	1.68	103
Forma lateral	20.67		
Total	25.52	1.68	103
Índices (por m2)	4.77	0.314	19.25

Piso 2 - Superfície total: 50.41 m2

Elemento	Formas (m2)	Volume (m3)	Barras (kg)
Laje Pré-Moldada	45.27	3.19	31
Vigas: fundo	4.76	2.23	164
Forma lateral	23.49		
Pilares (Sup. Formas)	22.05	1.09	131
Total	95.57	6.51	326
Índices (por m2)	1.896	0.129	6.45

Piso 3 - Superfície total: 1.19 m2

Elemento	Formas (m2)	Volume (m3)	Barras (kg)
Vigas: fundo	1.02	0.38	20
Forma lateral	4.39		
Pilares (Sup. Formas)	4.40	0.20	24
Total	9.81	0.58	44
Índices (por m2)	8.244	0.487	36.97

3- Total obra - Superfície total: 56.95 m2

Elemento	Formas (m2)	Volume (m3)	Barras (kg)
Laje Pré-Moldada	45.27	3.19	31
Vigas: fundo	10.63	4.29	287
Forma lateral	48.55		
Pilares (Sup. Formas)	33.69	1.65	155
Total	138.14	9.13	473
Índices (por m2)	2.426	0.160	8.31

RESUMO GERAL DE AÇO
(Total + 10%)

209	5,0mm (kg)	6,3mm (kg)	8,0mm (kg)	10,0mm (kg)	12,5mm (kg)	16,0mm (kg)	20,0mm (kg)	25,0 mm (kg)	Total do Item
Estacas	9	-	43	-	-	-	-	-	**52**
Blocos	3	32	-	36	-	-	-	-	**71**
Pilares	43	-	-	112	-	-	-	-	**155**
Vigas	75	7	120	14	72	-	-	-	**288**
Lajes maciças	-	-	-	-	-	-	-	-	**-**
Lajes Pré	31	-	-	-	-	-	-	-	**31**
Escadas	-	-	-	-	-	-	-	-	**-**
Totais	**161**	**39**	**163**	**162**	**72**	**-**	**-**	**-**	**597**

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ESTACAS

DETALHES E ARMADURAS

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CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
DETALHAMENTO DAS ESTACAS DA FUNDAÇÃO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R.	20 MPa	CA-50	S/ESCALA	NOV/2025	EST-01/02

TABELA DE AÇO							
NUM.	QUANT.	BITOLA	COMP.	USO	TIPO	A	B
1	33	8,0mm	300	ESTACAS	RETO	0	0

TABELA DE AÇO							
NUM.	QUANT.	BITOLA	COMP.	USO	TIPO	A	B
2	99	5,0mm	55	ESTACAS	ESTR	15	15

CONSUMO GERAL DE AÇO			
BITOLA	COMPR(m)	kg/m	TOT(kg)+10%
4,2mm	0.00	0,109	0.0
5,0mm	54.45	0,154	9.2
6,3mm	0.00	0,245	0.0
8,0mm	99.00	0,395	43.0
10,0mm	0.00	0,617	0.0
12,5mm	0.00	0,963	0.0
16,0mm	0.00	1,578	0.0
20,0mm	0.00	2,466	0.0
25,0mm	0.00	3,853	0.0
32,0mm	0.00	6,313	0.0
40,0mm	0.00	9,865	0.0
TOTAL + 10% (kg)			52.2

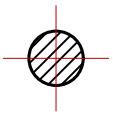
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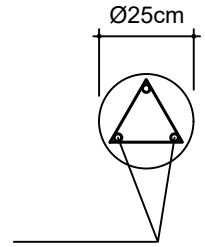
TÍTULO
DETALHAMENTO DAS ESTACAS DA FUNDAÇÃO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
LUANA R.	20 MPa	CA-50	S/ESCALA	NOV/2025	EST-02/02

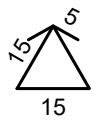
DETALHE DAS ESTACAS Ø25



11x

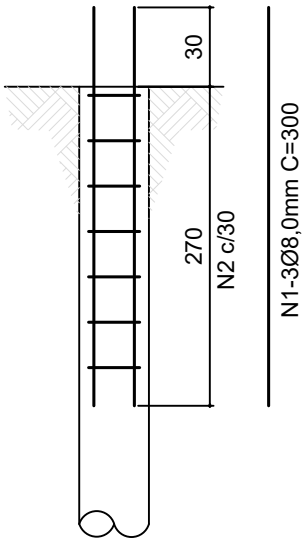


N1-3Ø8,0mm C=300



ESTRIBOS

N2-9Ø5,0mm c/30 C=55



ESTACA ESCAVADA MOLDADA "IN LOCO"
DIÂMETRO DE 25cm P/ 15Tf.

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BLOCOS DE FUNDAÇÃO

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TÍTULO
DETALHAMENTO DOS BLOCOS DE FUNDAÇÃO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	20 MPa	CA-50	1:25	NOV/2025	BLO-01/03

TABELA DE AÇO							
NUM.	QUANT.	BITOLA	COMP.	USO	TIPO	A	B
1	15	6,3mm	133	P1	ESTR	30	30
2	15	6,3mm	138	P1	ESTR	31	31
3	15	6,3mm	136	P1	ESTR	31	30
4	15	5,0mm	76	P1	ESTR	9	25
5	20	10,0mm	140	P1	'L'	30	0
6	9	6,3mm	193	P4	ESTR	45	45
7	12	6,3mm	166	P4	ESTR	46	30
8	12	6,3mm	168	P4	ESTR	46	31
9	9	5,0mm	76	P4	ESTR	35	7
10	18	10,0mm	140	P4	'L'	30	0

CONSUMO GERAL DE AÇO			
BITOLA	COMPR(m)	kg/m	TOT(kg)+10%
4,2mm	0.00	0,109	0.0
5,0mm	18.24	0,154	3.1
6,3mm	118.50	0,245	31.9
8,0mm	0.00	0,395	0.0
10,0mm	53.20	0,617	36.1
12,5mm	0.00	0,963	0.0
16,0mm	0.00	1,578	0.0
20,0mm	0.00	2,466	0.0
25,0mm	0.00	3,853	0.0
32,0mm	0.00	6,313	0.0
40,0mm	0.00	9,865	0.0
TOTAL + 10% (kg)			71.1

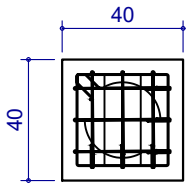
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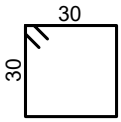
TÍTULO: DETALHAMENTO DOS BLOCOS DE FUNDAÇÃO- P1(x5)

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	20 MPa	CA-50	1:25	NOV/2025	BLO-02/03

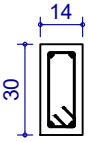
DETALHE DO BLOCO
P1, P2, P3, P5 e P6

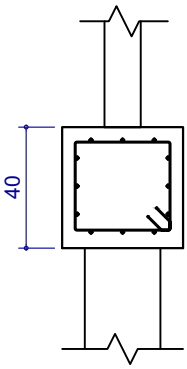


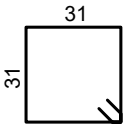
PLANTA DO BLOCO



N1-3Ø6,3mm C=133
ARMADURA DE PELE



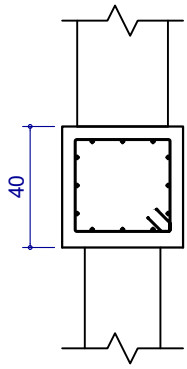


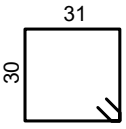


N2-3Ø6,3mm C=138

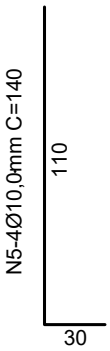


N4-3Ø5,0mm C=76
COLARINHO





N3-3Ø6,3mm C=136



ARRANQUES DO PILAR

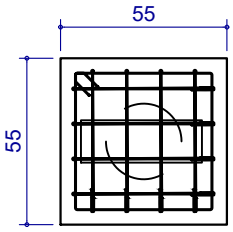
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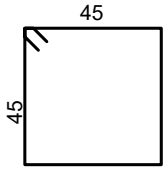
TÍTULO: DETALHAMENTO DOS BLOCOS DE FUNDAÇÃO- P1(x3)

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	20 MPa	CA-50	1:25	NOV/2025	BLO-03/03

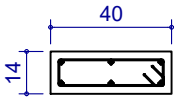
DETALHE DO BLOCO
P4, P7 e P8

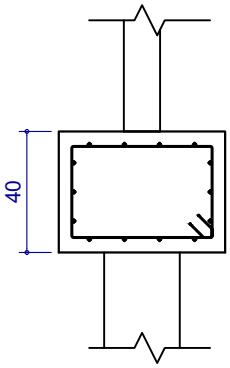


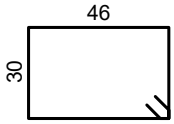
PLANTA DO BLOCO



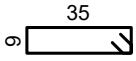
N6-3Ø6,3mm C=193
ARMADURA DE PELE



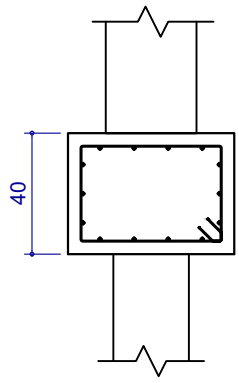


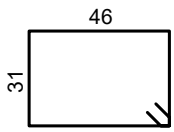


N7-4Ø6,3mm C=166

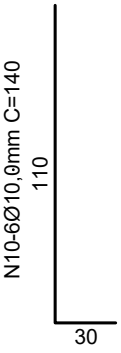


N9-3Ø5,0mm C=76
COLARINHO





N8-4Ø6,3mm C=168



ARRANQUES DO PILAR

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PILARES

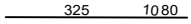
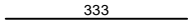
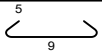
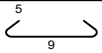
DETALHES E ARMADURAS

BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: PILARES QUE SUPORTAM O TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	25 MPa	CA-50	1:50/1:25	OUT/2025	PIL01-01/02

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1	1	Ø10	4		333	1332	8.2	
	2	Ø5	28		77	2156		3.4
						Total+10%:	9.0	3.7
P2=P5	3	Ø10	4		415	1660	10.2	
	4	Ø5	28		77	2156		3.4
						Total+10%: (x2):	11.2 22.4	3.7 7.4
P3	5	Ø10	4		415	1660	10.2	
	6	Ø5	28		77	2156		3.4
						Total+10%:	11.2	3.7
P4=P7	7	Ø10	6		333	1998	12.3	
	8	Ø5	28		97	2716		4.3
	9	Ø5	28		21	588		0.9
						Total+10%: (x2):	13.5 27.0	5.7 11.4
P6	10	Ø10	4		415	1660	10.2	
	11	Ø5	28		77	2156		3.4
						Total+10%:	11.2	3.7
P8	12	Ø10	6		333	1998	12.3	
	13	Ø5	28		97	2716		4.3
	14	Ø5	28		21	588		0.9
						Total+10%:	13.5	5.7
						Ø5: Ø10: Total:	0.0 94.3 94.3	35.6 0.0 35.6

Resumo Aço Pilares	Comp. total (m)	Peso+10% (kg)	Total
CA-50 Ø10	139.7	95	95
CA-60 Ø5	206.9	36	36
Total			131

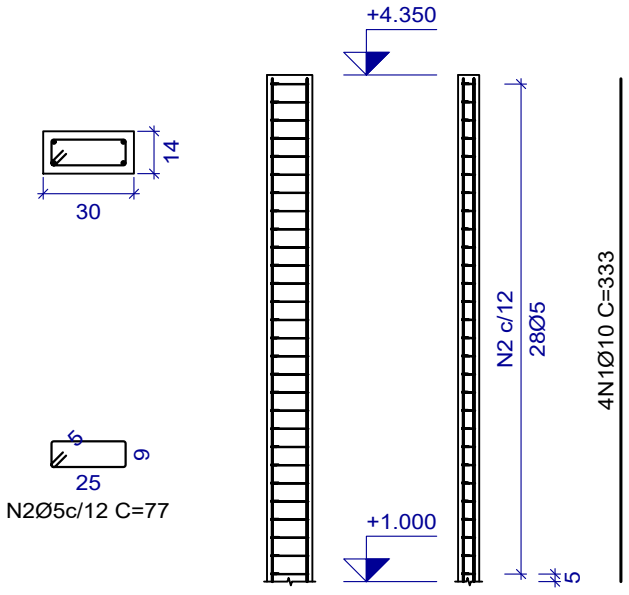
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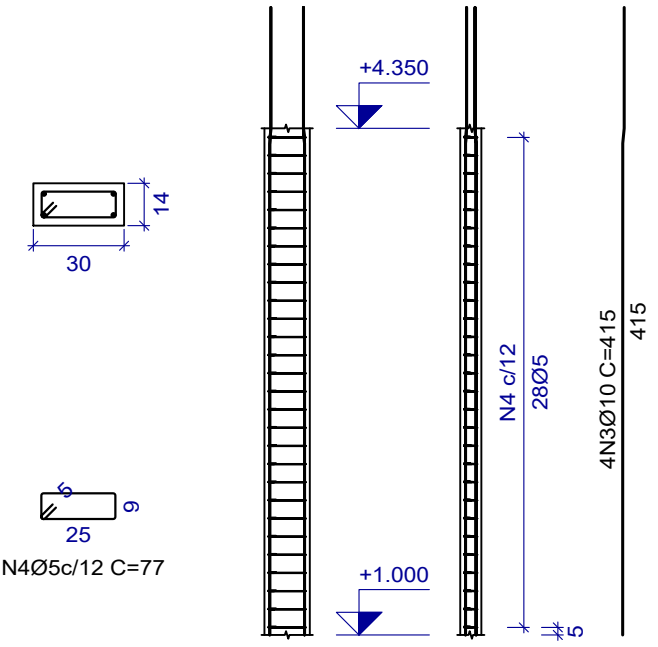
TÍTULO
PILARES QUE SUPORTAM O TETO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	25 MPa	CA-50	1:50/1:25	OUT/2025	PIL01-02/02

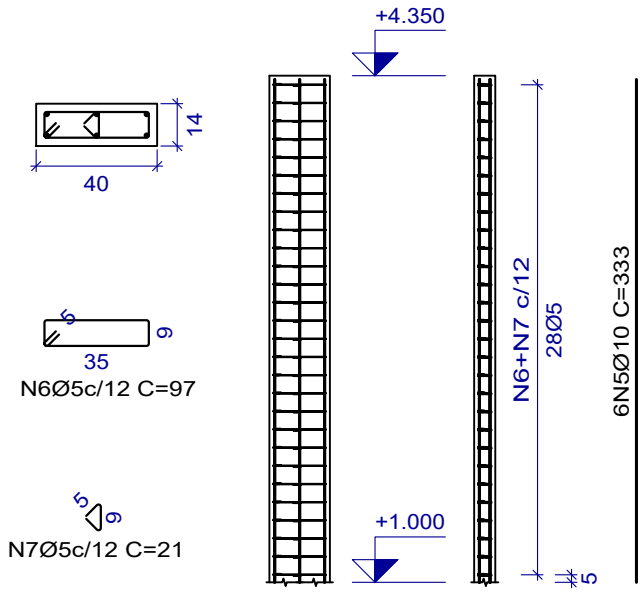
P1



P2, P3, P5 e P6



P4, P7 e P8



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CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
PILARES QUE SUPORTAM A TORRE TÉCNICA

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	25 MPa	CA-50	1:50/1:25	OUT/2025	PIL02-01/02

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P2=P5	1	Ø10	4	153	153	612	3.8	
	2	Ø5	13	6 / 5 / 25	77	1001		1.6
						Total+10%:	4.2	1.8
						(x2):	8.4	3.6
P3	3	Ø10	4	153	153	612	3.8	
	4	Ø5	13	6 / 5 / 25	77	1001		1.6
						Total+10%:	4.2	1.8
P6	5	Ø10	4	153	153	612	3.8	
	6	Ø5	13	6 / 5 / 25	77	1001		1.6
						Total+10%:	4.2	1.8
						Ø5:	0.0	7.2
						Ø10:	16.8	0.0
						Total:	16.8	7.2

Resumo Aço Pilares	Comp. total (m)	Peso+10% (kg)	Total
CA-50 Ø10	24.5	17	17
CA-60 Ø5	40.0	7	7
Total			24

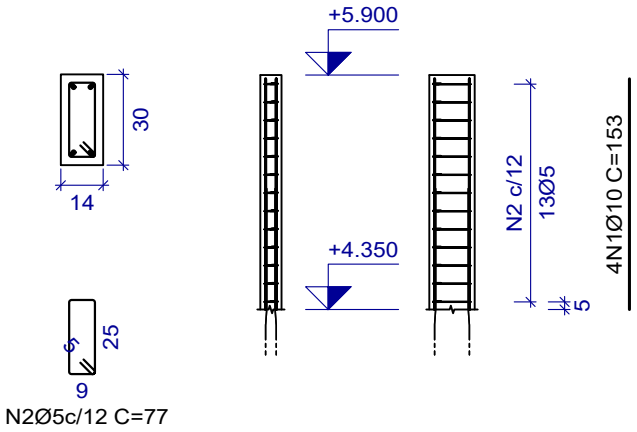
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TÍTULO
PILARES QUE SUPORTAM A TORRE TÉCNICA

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	25 MPa	CA-50	1:50/1:25	OUT/2025	PIL02-02/02

P2, P3, P5 e P6



N2Ø5c/12 C=77

BN Projetos

VIGAS

DETALHES E ARMADURAS

BN PROJETOS E ASSOCIADOS

OBRA
CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG01-01/05

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	Ø8	4	15 — 507 — 15	537	2148	8.5	
	2	Ø5	29	25 × 5 / 9	76	2204		3.5
						Total+10%:	9.4	3.9
V 2	3	Ø8	4	10 — 172 — 10	193	772	3.0	
	4	Ø5	10	25 × 5 / 9	76	760		1.2
						Total+10%:	3.3	1.3
V 3	5	Ø8	4	15 — 507 — 15	537	2148	8.5	
	6	Ø5	30	25 × 5 / 9	76	2280		3.6
						Total+10%:	9.4	4.0
V 4	7	Ø8	4	16 — 507 — 16	539	2156	8.5	
	8	Ø5	27	25 × 5 / 9	76	2052		3.2
						Total+10%:	9.4	3.5
V 5	9	Ø8	4	10 — 716 — 10	737	2948	11.6	
	10	Ø5	40	25 × 5 / 9	76	3040		4.8
						Total+10%:	12.8	5.3
V 6	11	Ø8	4	16 — 298 — 16	330	1320	5.2	
	12	Ø5	16	25 × 5 / 9	76	1216		1.9
						Total+10%:	5.7	2.1
V 7	13	Ø8	2	20 — 272 — 20	312	624	2.5	
	14	Ø8	2	10 — 272 — 10	293	586	2.3	
	15	Ø5	16	25 × 5 / 9	76	1216		1.9
						Total+10%:	5.3	2.1
V 8	16	Ø8	2	15 — 732 — 15	763	1526	6.0	
	17	Ø8	2	10 — 732 — 10	753	1506	5.9	
	18	Ø5	46	25 × 5 / 9	76	3496		5.5
						Total+10%:	13.1	6.1
V 9	19	Ø8	2	13 — 272 — 13	298	596	2.4	
	20	Ø8	2	10 — 272 — 10	293	586	2.3	
	21	Ø5	14	25 × 5 / 9	76	1064		1.7
						Total+10%:	5.2	1.9
						Ø5:	0.0	30.2
						Ø8:	73.6	0.0
						Total:	73.6	30.2

BN PROJETOS E ASSOCIADOS

OBRA
CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG01-02/05

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø8	169.2	73	73
CA-60	Ø5	173.3	30	30
Total				103

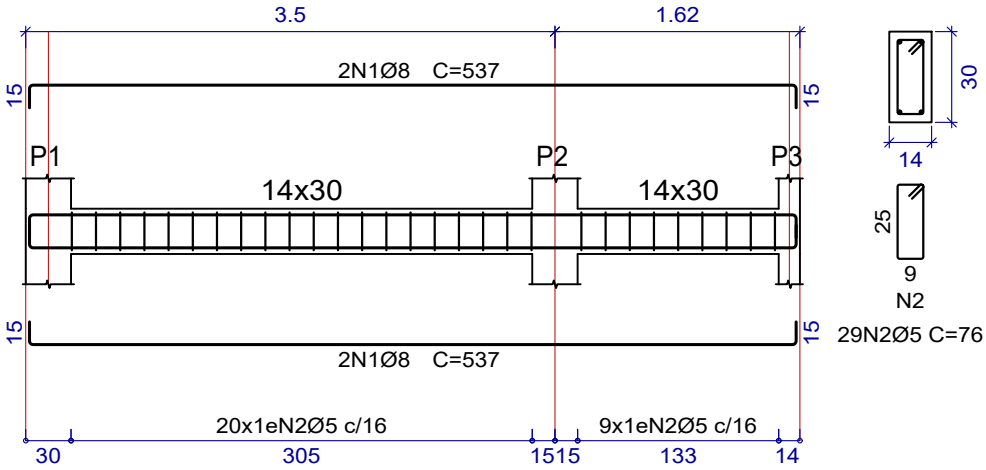
BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

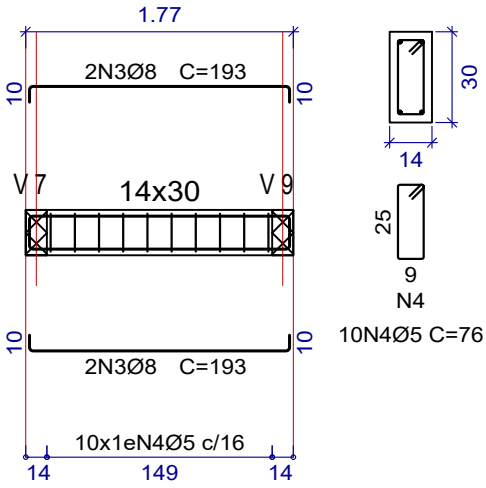
TÍTULO: VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG01-03/05

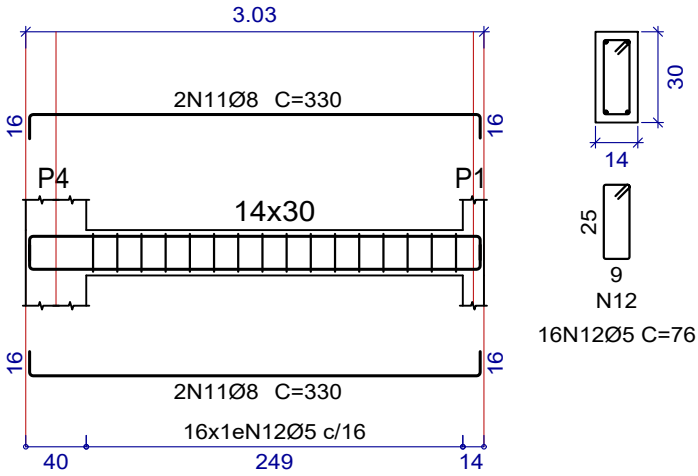
V1



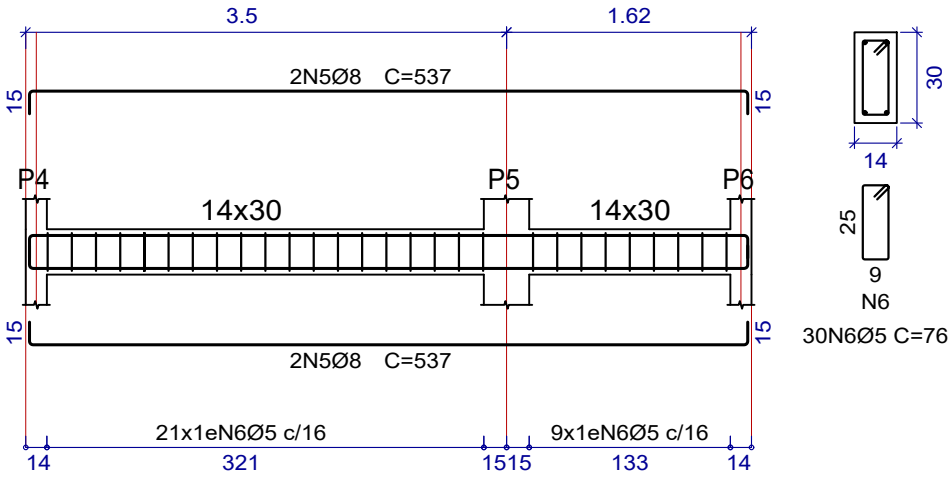
V2



V6



V3



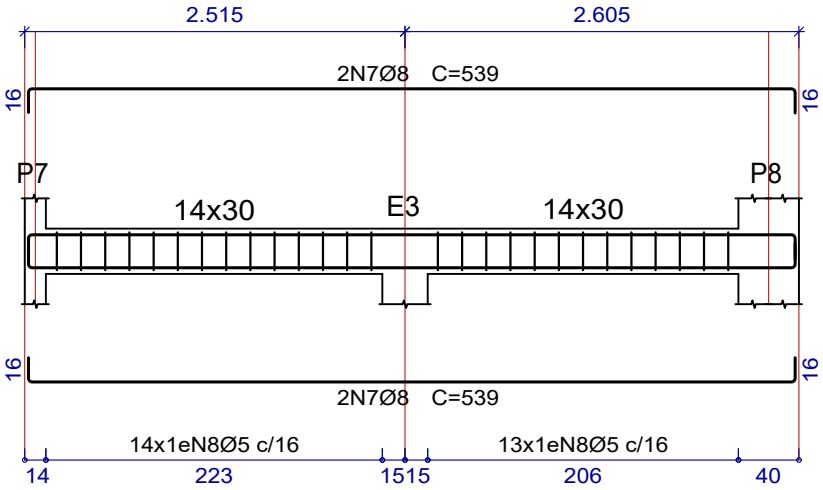
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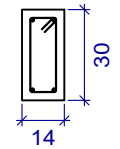
OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG01-04/05

V4



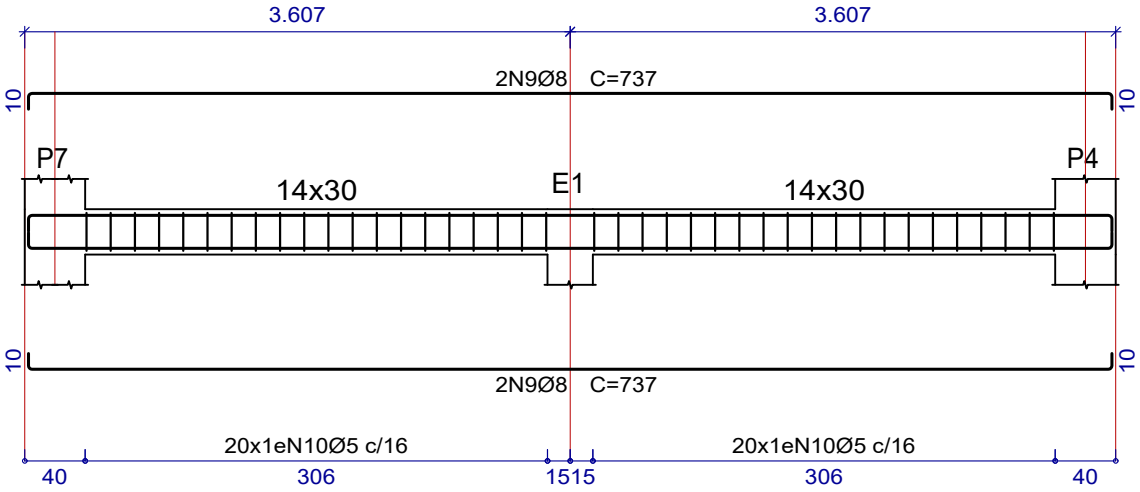


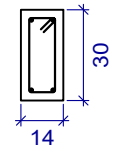


N8

27N8Ø5 C=76

V5



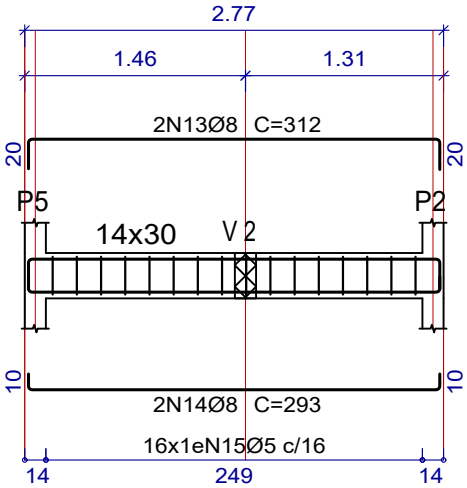


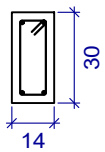


N10

40N10Ø5 C=76

V7







N15

16N15Ø5 C=76

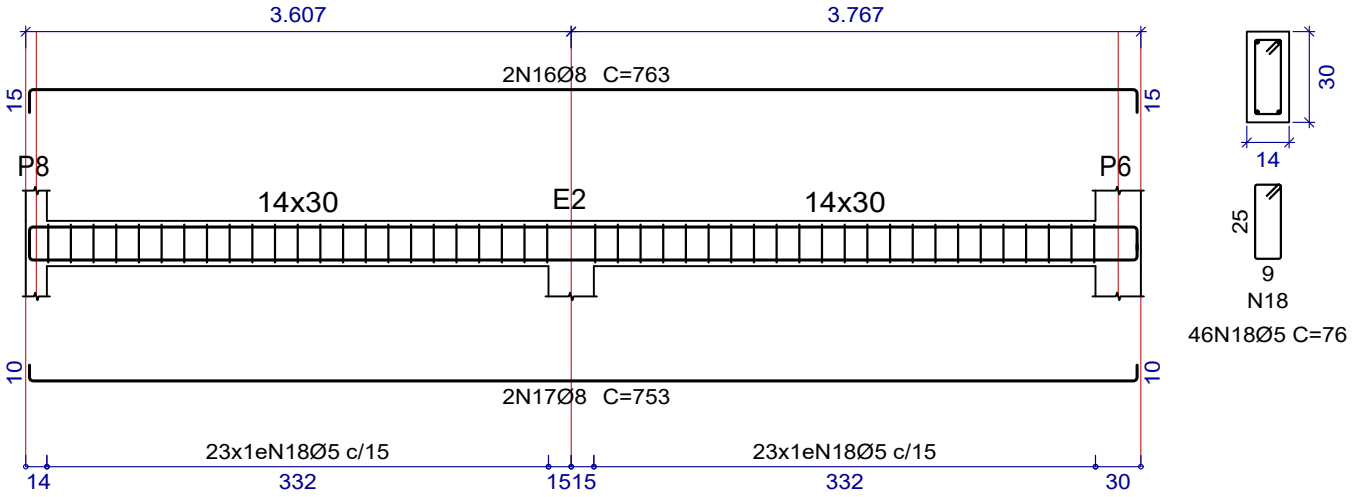
BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

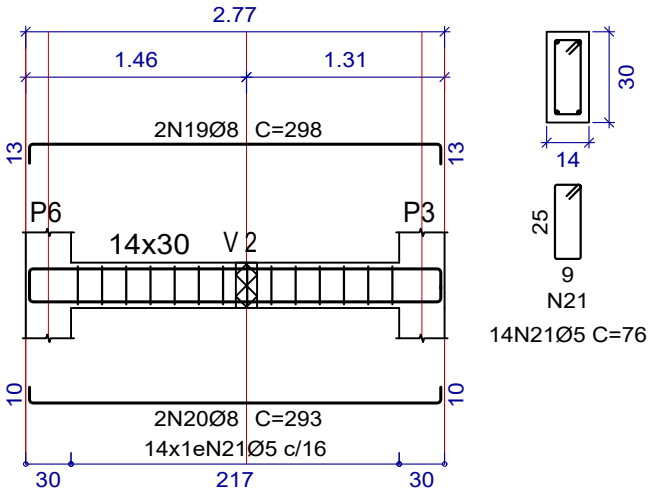
TÍTULO: VIGAS DO PAVIMENTO TÉRREO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG01-05/05

V8



V9



BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DO TETO BAIXO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG02-01/05

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	Ø8	4	10 — 507 — 10	528	2112	8.3	
	2	Ø5	29	25 × 5 / 9	76	2204		3.5
						Total+10%:	9.1	3.9
V 2	3	Ø8	2	10 — 507 — 10	528	1056	4.2	
	4	Ø8	2	15 — 507 — 15	537	1074	4.2	
	5	Ø5	30	25 × 5 / 9	76	2280		3.6
						Total+10%:	9.2	4.0
V 3	6	Ø8	4	10 — 507 — 10	528	2112	8.3	
	7	Ø5	29	25 × 5 / 9	76	2204		3.5
						Total+10%:	9.1	3.9
V 4	8	Ø10	2	15 — 716 — 15	747	1494	9.2	
	9	Ø12.5	3	16 — 716 — 16	749	2247	21.6	
	10	Ø5	4	716	716	2864		4.5
	11	Ø5	22	55 × 5 / 9	136	2992		4.7
						Total+10%:	33.9	10.1
V 5	12	Ø12.5	1	20 — 160	180	180	1.7	
	13	Ø8	2	12 — 298 — 12	322	644	2.5	
	14	Ø8	2	10 — 298 — 10	319	638	2.5	
	15	Ø5	17	25 × 5 / 9	76	1292		2.0
						Total+10%:	7.4	2.2
V 6	16	Ø8	2	24 — 272 — 24	320	640	2.5	
	17	Ø10	2	14 — 272 — 14	300	600	3.7	
	18	Ø5	17	25 × 5 / 9	76	1292		2.0
						Total+10%:	6.8	2.2
V 7	19	Ø12.5	2	31 — 732 — 31	795	1590	15.3	
	20	Ø12.5	3	21 — 732 — 21	775	2325	22.4	
	21	Ø5	4	732	732	2928		4.6
	22	Ø5	24	55 × 5 / 9	136	3264		5.1
						Total+10%:	41.5	10.7
V 8	23	Ø12.5	2	35 — 185	220	440	4.2	
	24	Ø6.3	2	115 — 10	125	250	0.6	
	25	Ø6.3	3	16 — 272 — 16	304	912	2.2	
	26	Ø5	15	25 × 5 / 9	76	1140		1.8
						Total+10%:	7.7	2.0
						Ø5:	0.0	39.0
						Ø6.3:	3.1	0.0
						Ø8:	35.7	0.0
						Ø10:	14.1	0.0
						Ø12.5:	71.8	0.0
						Total:	124.7	39.0

BN PROJETOS E ASSOCIADOS

OBRA
CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
VIGAS DO TETO BAIXO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG02-02/05

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø6.3	11.6	3	
	Ø8	82.8	36	
	Ø10	20.9	14	
	Ø12.5	67.8	72	125
CA-60	Ø5	224.6	39	39
Total				164

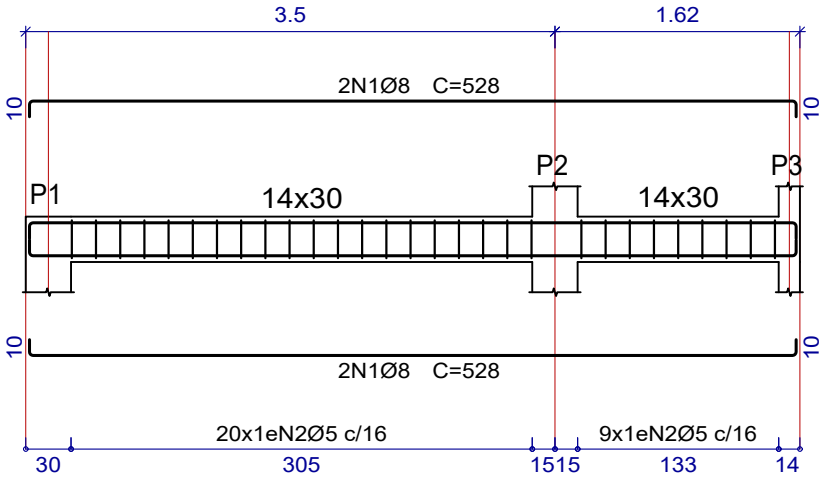
BN PROJETOS E ASSOCIADOS

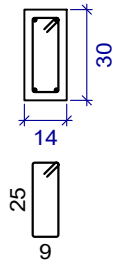
OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DO TETO BAIXO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG02-03/05

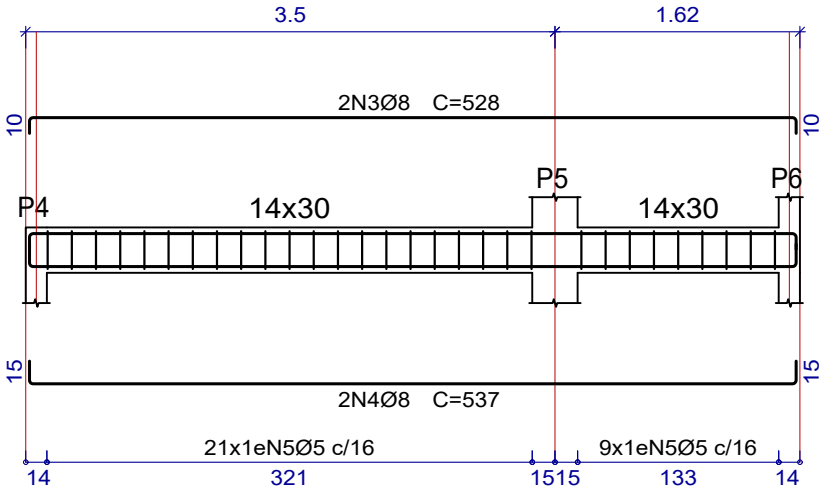
V1

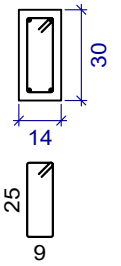




29N2Ø5 C=76

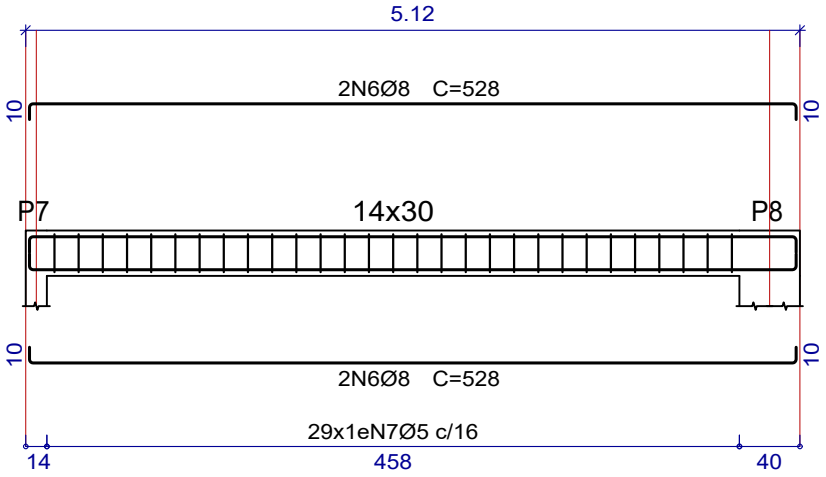
V2

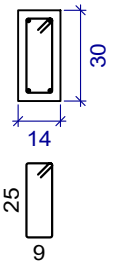




30N5Ø5 C=76

V3





29N7Ø5 C=76

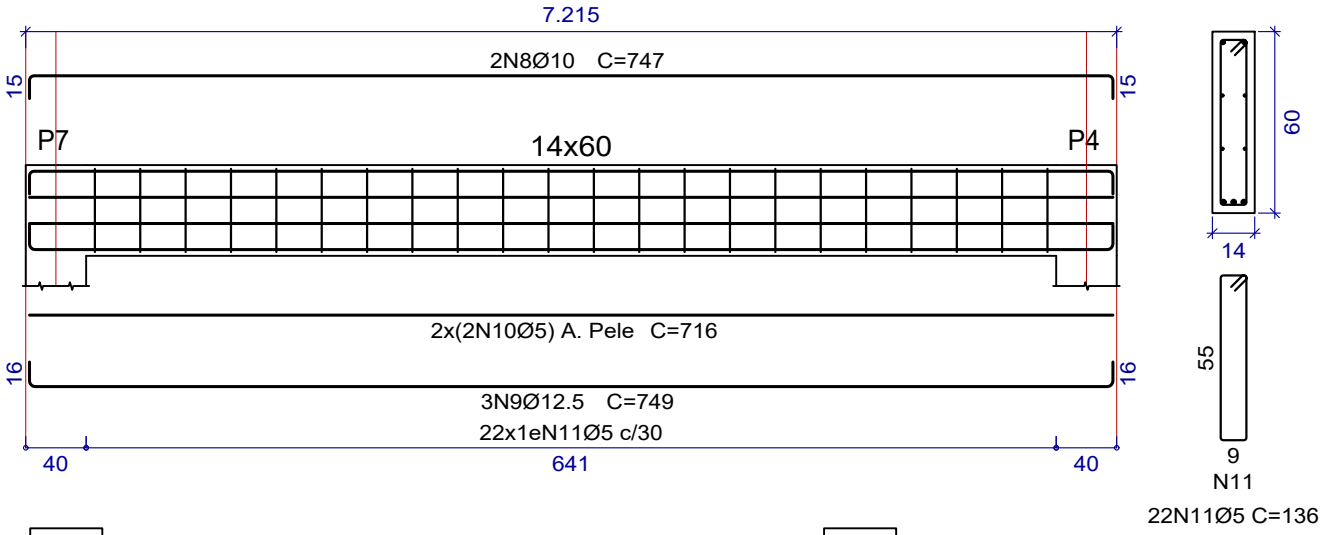
BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DO TETO BAIXO

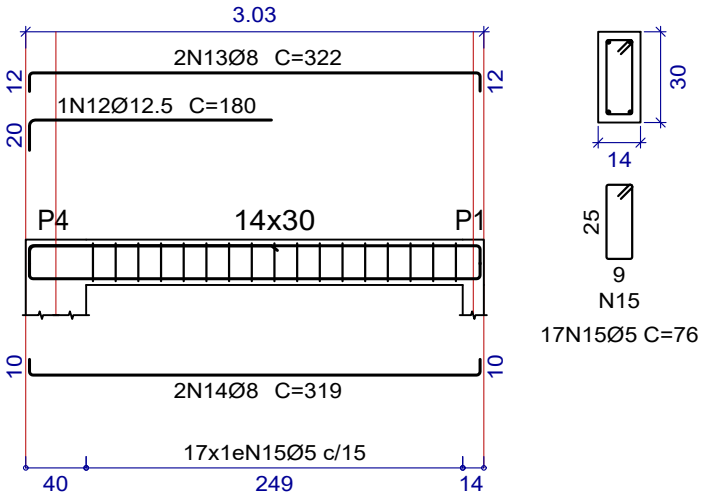
PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG02-04/05

V4



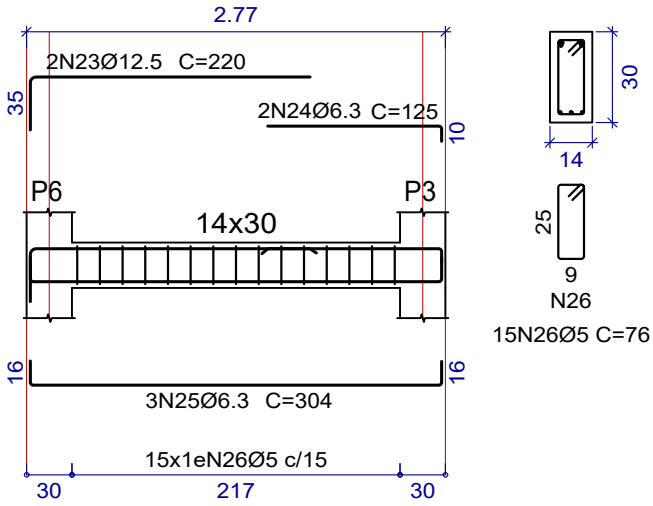
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V5



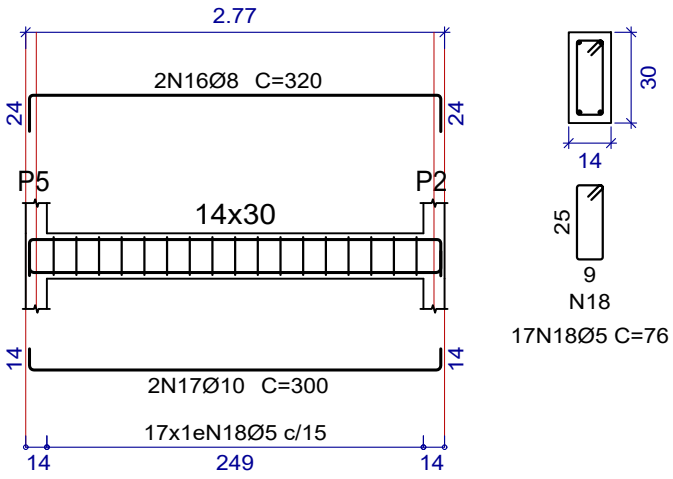
17N15Ø5 C=76

V8



15N26Ø5 C=76

V6



17N18Ø5 C=76

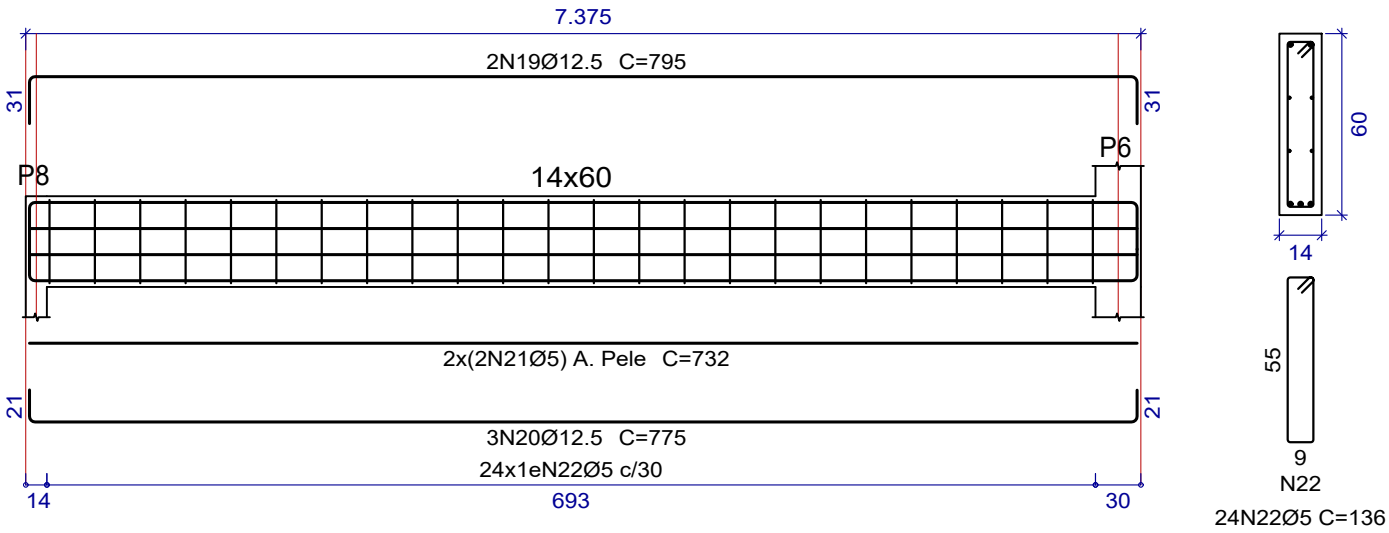
BN PROJETOS E ASSOCIADOS

OBRA
CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO
VIGAS DO TETO BAIXO

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG02-05/05

V7

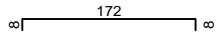
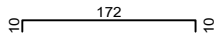
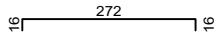
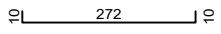
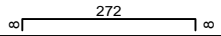
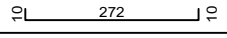


BN PROJETOS E ASSOCIADOS

OBRA: CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

TÍTULO: VIGAS DA TORRE TÉCNICA

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG03-01/02

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	Ø6.3	4		188	752	1.8	
	2	Ø5	5		76	380		0.6
						Total+10%:	2.0	0.7
V 2	3	Ø8	4		193	772	3.0	
	4	Ø5	9		76	684		1.1
						Total+10%:	3.3	1.2
V 3	5	Ø8	2		304	608	2.4	
	6	Ø8	2		293	586	2.3	
	7	Ø5	16		76	1216		1.9
						Total+10%:	5.2	2.1
V 4	8	Ø6.3	2		288	576	1.4	
	9	Ø8	2		293	586	2.3	
	10	Ø5	14		76	1064		1.7
						Total+10%:	4.1	1.9
						Ø5:	0.0	5.9
						Ø6.3:	3.5	0.0
						Ø8:	11.1	0.0
						Total:	14.6	5.9

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø6.3	13.3	4	
	Ø8	25.5	11	15
CA-60	Ø5	33.4	6	6
Total				21

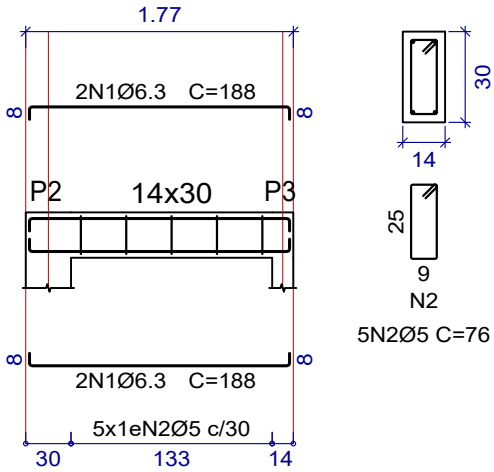
BN PROJETOS E ASSOCIADOS

OBRA
CONSTRUÇÃO DE CEMITÉRIO MUNICIPAL

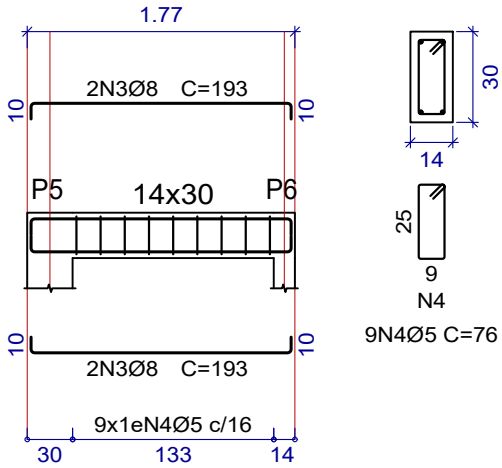
TÍTULO
VIGAS DA TORRE TÉCNICA

PROJ.	FCK	AÇO	ESCALA	DATA	FOLHA
CAIO BAGLI	30 MPa	CA-50	1:50/1:25	SET/2025	VIG03-02/02

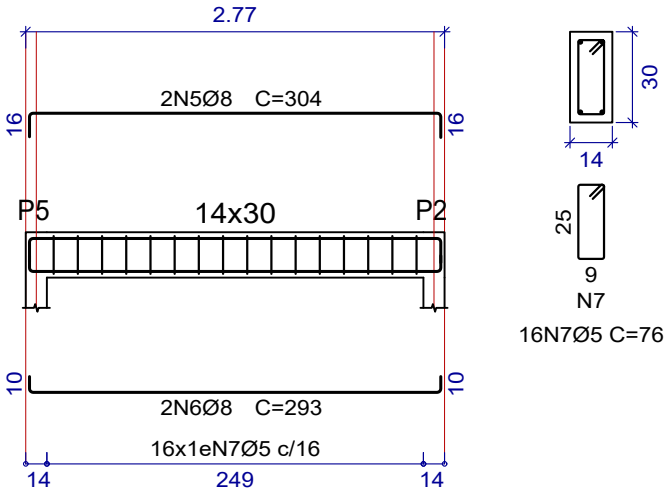
V1



V2



V3



V4

