

Características dos materiais

fck (kgf/cm <sup>2</sup> )	Ecs (kgf/cm <sup>2</sup> )
250	241500

Dimensão máxima do agregado = 19 mm

Pilares

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	25 x 40	0	660
P2	25 x 40	0	660
P3	25 x 40	0	660
P4	25 x 40	0	660
P5	25 x 40	0	660
P6	25 x 40	0	660
P7	25 x 40	0	660
P8	25 x 40	0	660

Vigas

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x30	0	660
V2	15x30	0	660
V3	15x30	0	660
V4	15x30	0	660
V5	15x30	0	660
V6	15x30	0	660
V7	15x30	0	660
V8	15x30	0	660
V9	15x30	0	660
V10	15x30	0	660

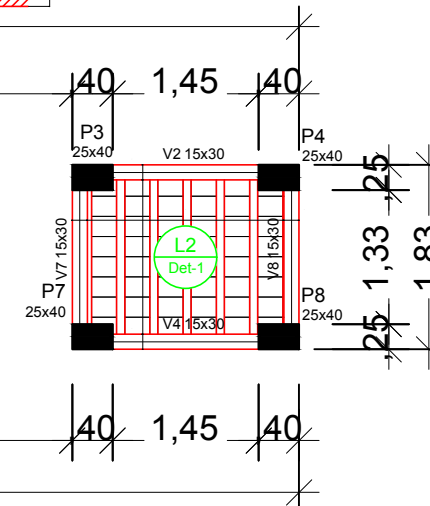
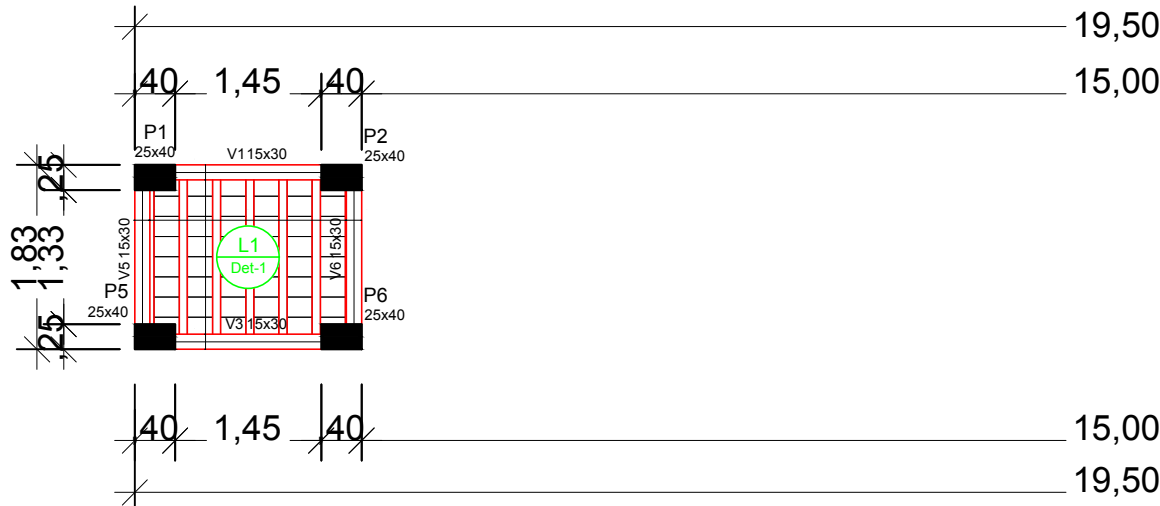
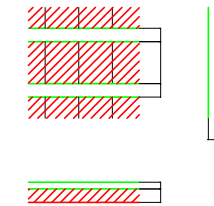
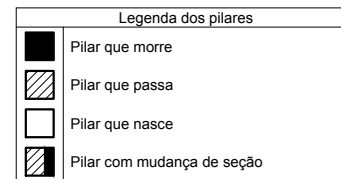
Lajes

Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m <sup>2</sup> )	Sobrecarga (kgf/m <sup>2</sup> )		
						Adicional	Acidental	Localizada
L1	Pré-moldada	12	0	660	258	100	100	-
L2	Pré-moldada	12	0	660	258	100	100	-

Blocos de enchimento

Detalhe	Tipo	Nome	Dimensões (cm)			Quantidade
			hb	bx	by	
1	Lajota cerâmica	B8/25/20	8	25	20	36

### Forma do pavimento Intermediaria2 (Nível 660)



Vigas

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x30	0	1000
V2	15x30	0	1000
V3	15x30	0	1000
V4	15x30	0	1000
V5	15x30	0	1000
V6	15x30	0	1000
V7	15x30	0	1000
V8	15x30	0	1000

Lajes

Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m <sup>2</sup> )	Sobrecarga (kgf/m <sup>2</sup> )		
						Adicional	Acidental	Localizada
L1	Pré-moldada	12	0	1000	258	100	100	-
L2	Pré-moldada	12	0	1000	258	100	100	-

### Forma do pavimento Respaldo (Nível 1000)

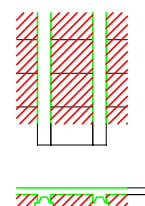
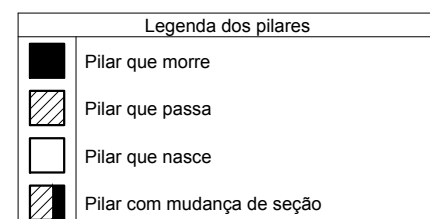
Características dos materiais

fck (kgf/cm <sup>2</sup> )	Ecs (kgf/cm <sup>2</sup> )
250	241500

Dimensão máxima do agregado = 19 mm

Blocos de enchimento

Detalhe	Tipo	Nome	Dimensões (cm)			Quantidade
			hb	bx	by	
1	Lajota cerâmica	B8/25/20	8	25	20	96



Pilares

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	25 x 40	0	1000
P2	25 x 40	0	1000
P3	25 x 40	0	1000
P4	25 x 40	0	1000
P5	25 x 40	0	1000
P6	25 x 40	0	1000
P7	25 x 40	0	1000
P8	25 x 40	0	1000

## PREFEITURA MUNICIPAL DE CAMPOS BORGES

Praça 13 de Abril, 302 - Cep: 99435-000 - Fone/Fax: (54) 3326-1110

OBRA: PÓRTICO DE ENTRADA DO MUNICÍPIO  
LOCALIDADE: VRS 817, Km 25,860 - Município de Campos Borges/RS

Descrição:

### PLANTA FORMAS

Data:

Janeiro/2022

Prancha:

Escala:

1/75

Área:

51,76 m<sup>2</sup>



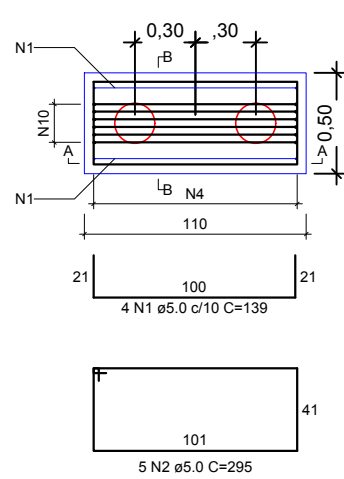
Proprietário:

Município de Campos Borges  
CNPJ 92.406.164/0001-31

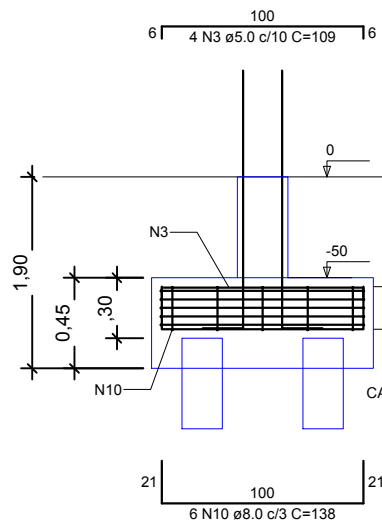
Projeto Estrutural:

Engenheiro Civil Phellipe Marion  
CREA RS 175765

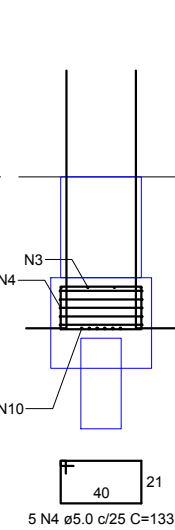
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2xR20  
PLANTA



CORTE A-A

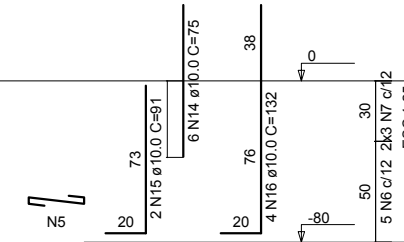
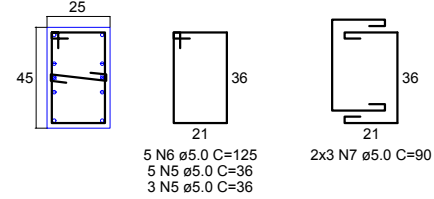


CORTE B-B

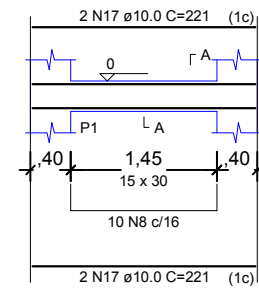


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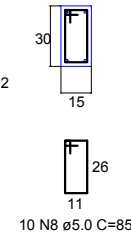
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ESC 1:20



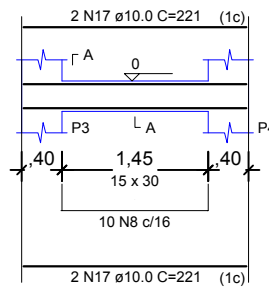
V1  
ESC 1:50



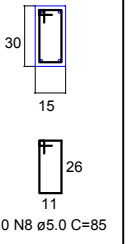
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ESC 1:25



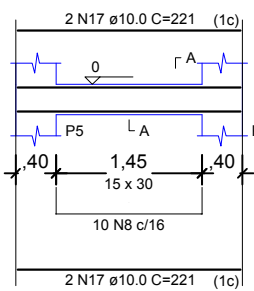
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ESC 1:50



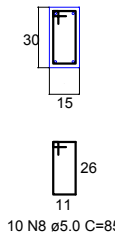
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ESC 1:25



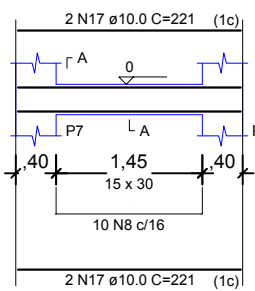
V3



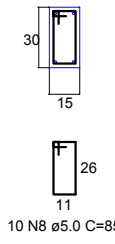
SEÇÃO A-A



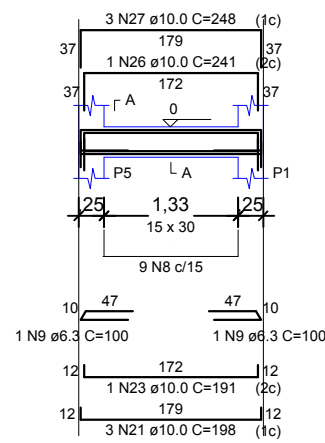
V4



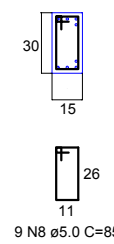
SEÇÃO A-A



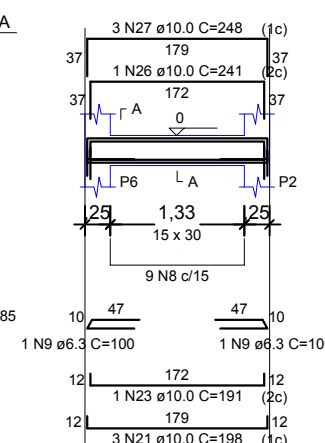
V5



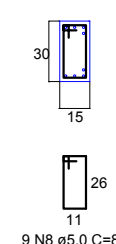
SEÇÃO A-A



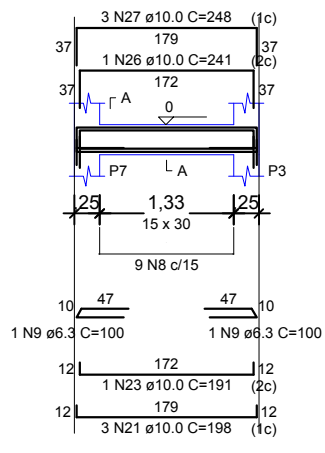
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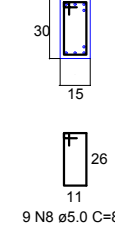
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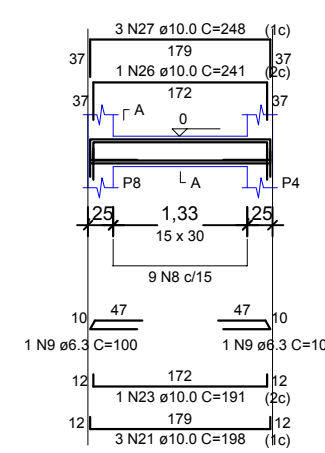
V7



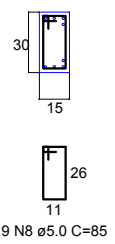
SEÇÃO A-A



V8

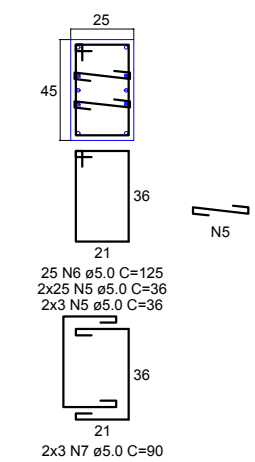


SEÇÃO A-A



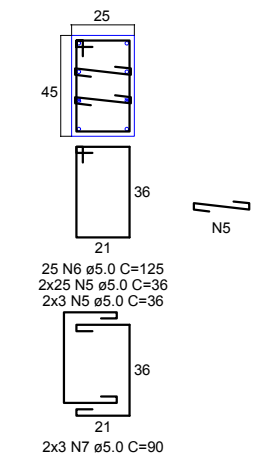
P1=P4=P5=P8

INTERMEDIARIA 1 - L2  
ESC 1:20



P2=P3=P6=P7

INTERMEDIARIA 1 - L2  
ESC 1:20



# PREFEITURA MUNICIPAL DE CAMPOS BORGES

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OBRA: PÓRTICO DE ENTRADA DO MUNICÍPIO  
LOCALIDADE: VRS 817, Km 25,860 - Município de Campos Borges/RS

Descrição:  
**PLANTA ARMADURAS**

Data:  
Janeiro/2022

Prancha:

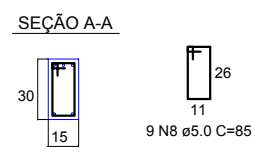
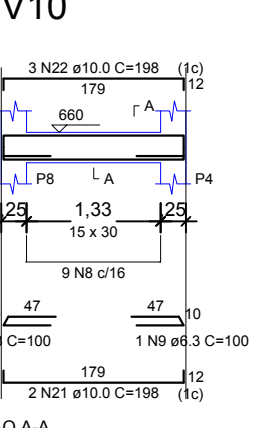
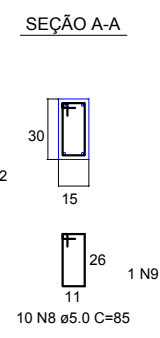
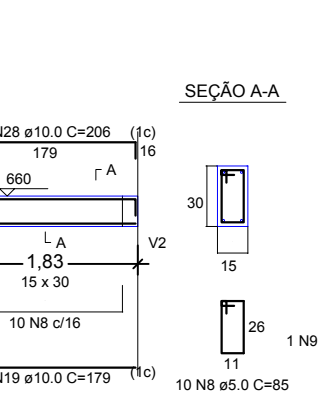
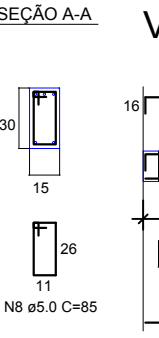
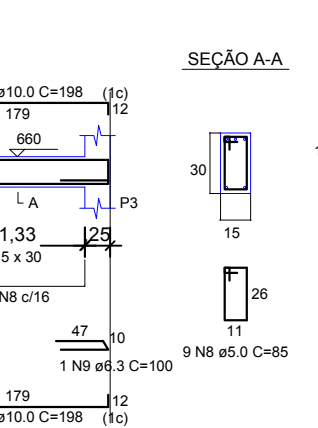
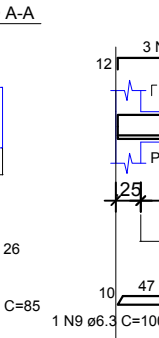
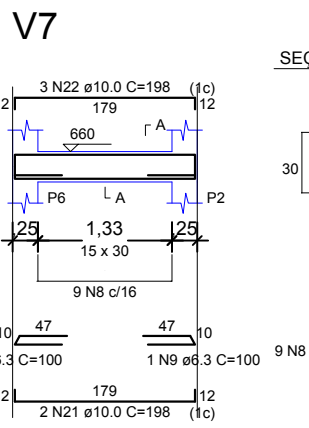
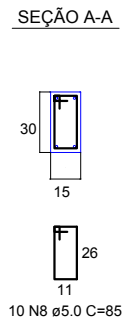
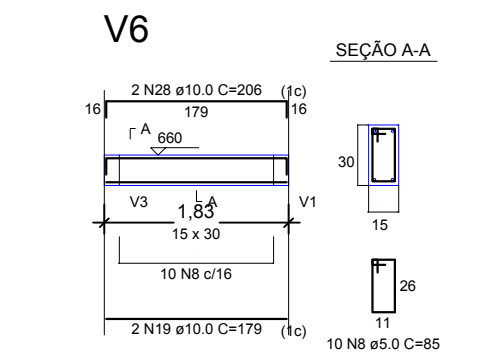
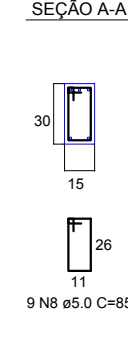
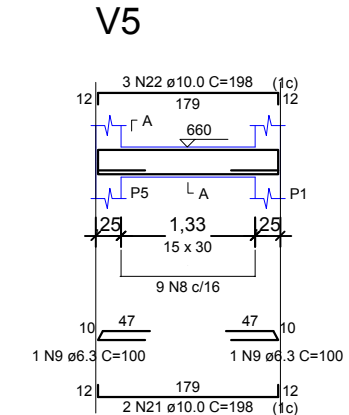
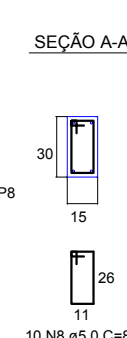
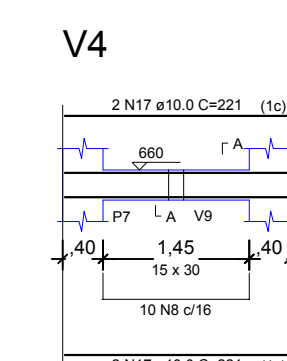
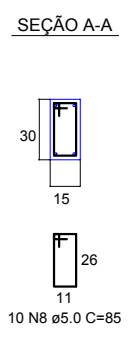
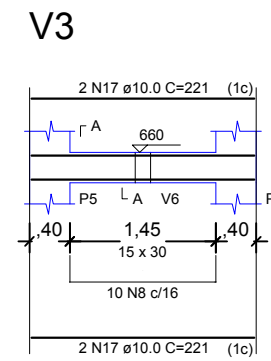
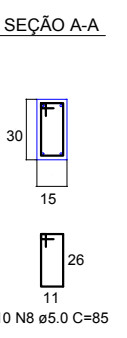
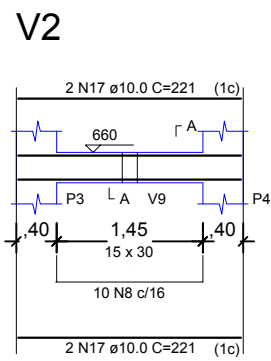
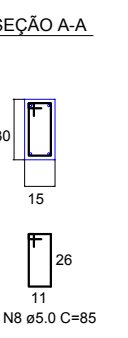
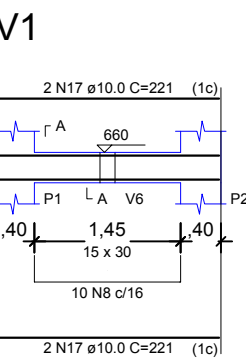
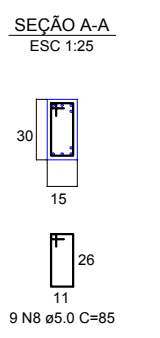
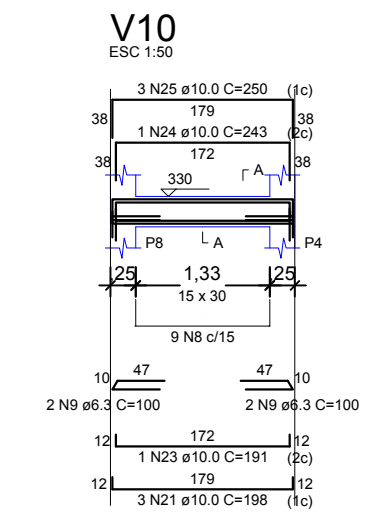
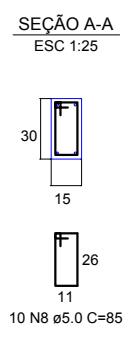
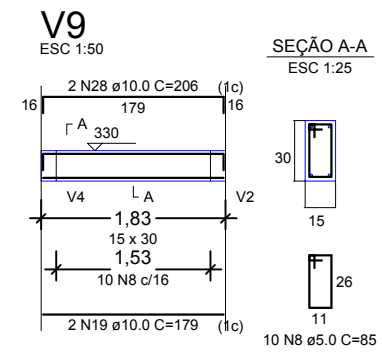
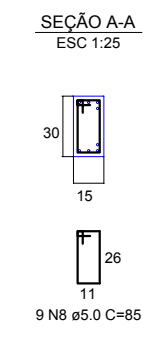
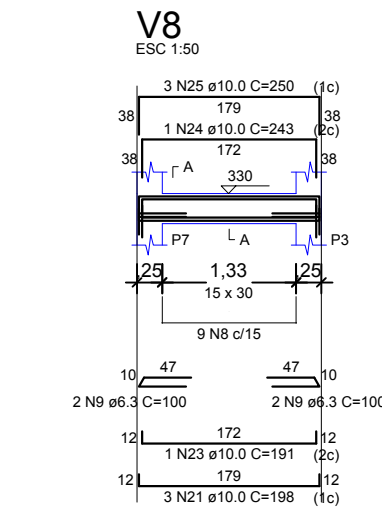
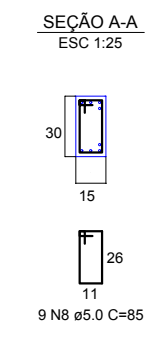
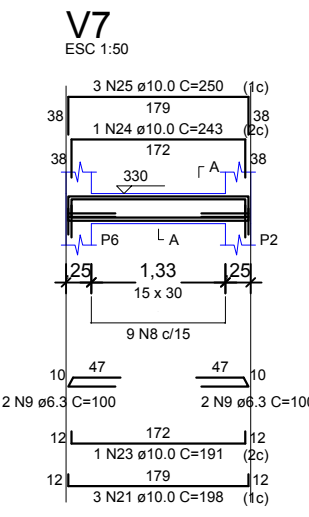
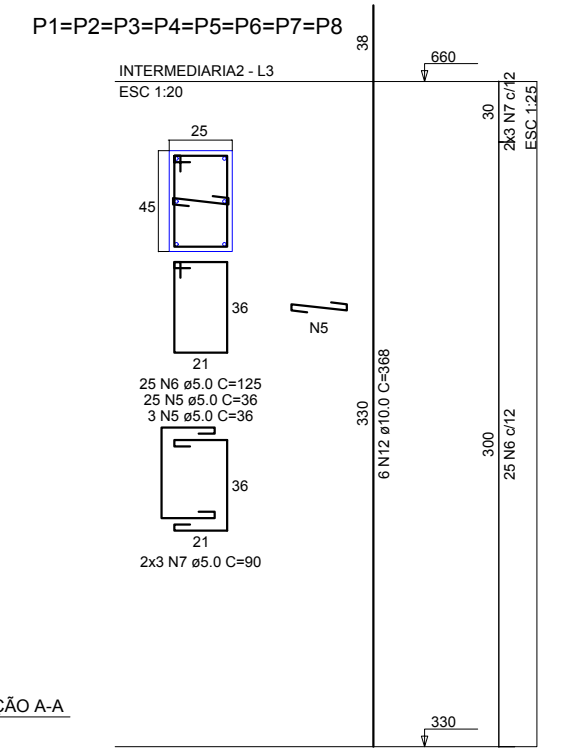
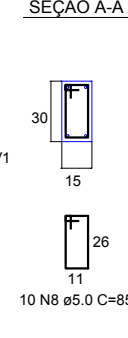
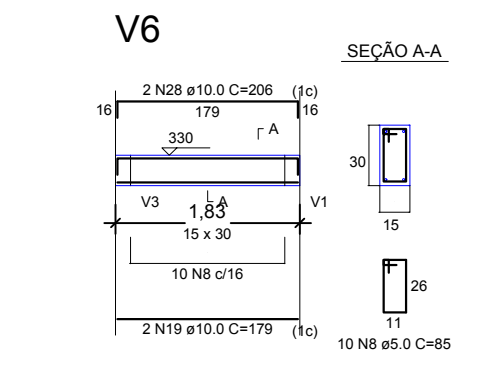
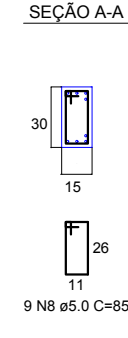
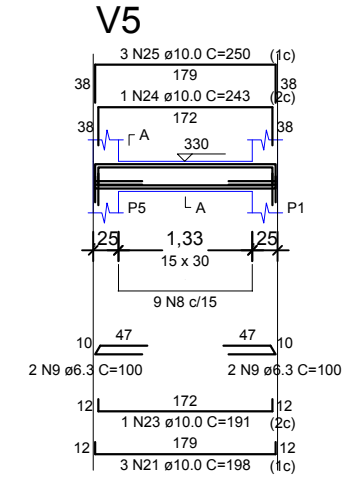
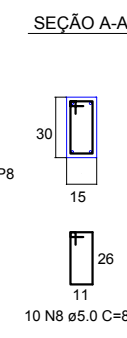
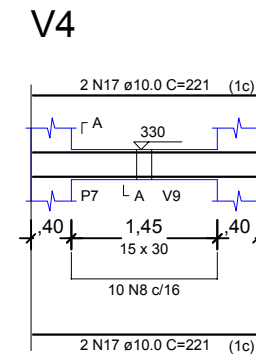
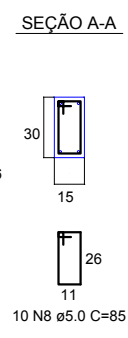
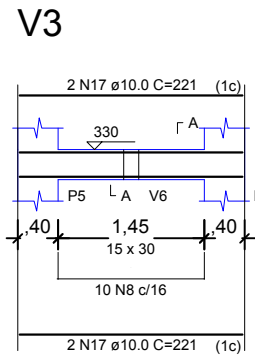
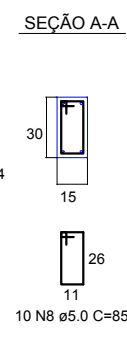
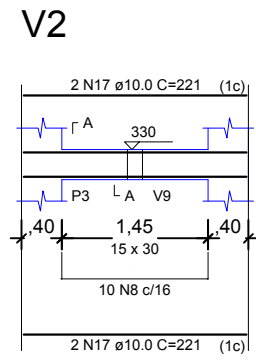
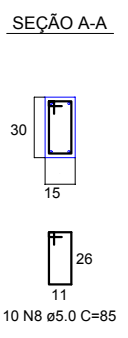
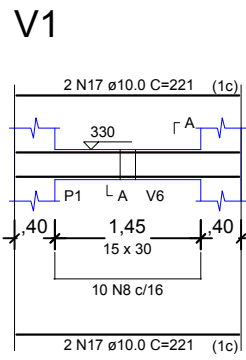
Proprietário:  
Município de Campos Borges  
CNPJ 92.406.164/0001-31

Projeto Estrutural:  
Engenheiro Civil Phellipe Marion  
CREA RS 175765

Escala:  
1/75

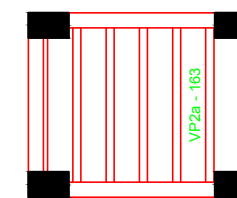
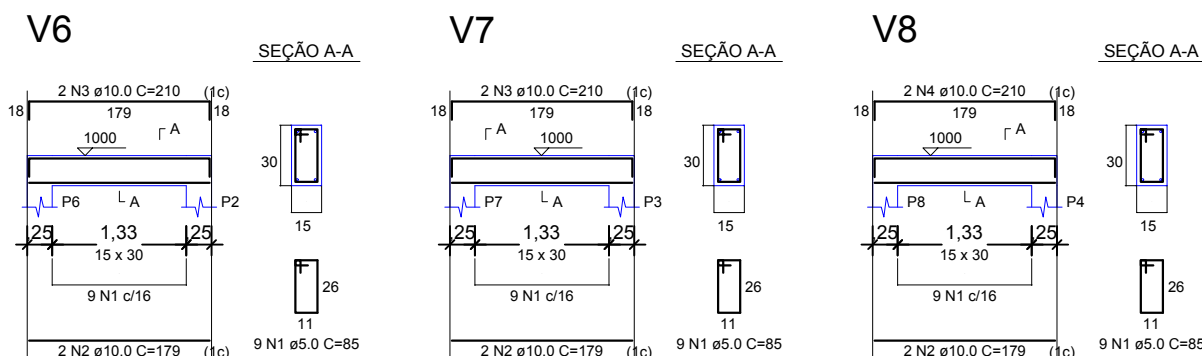
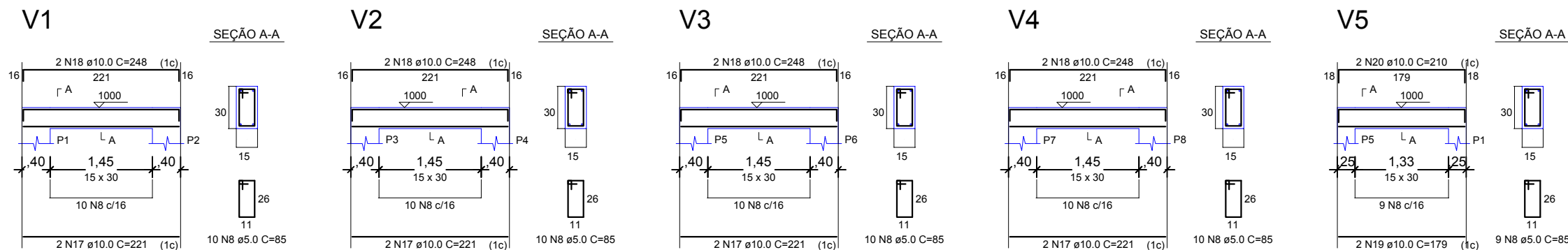
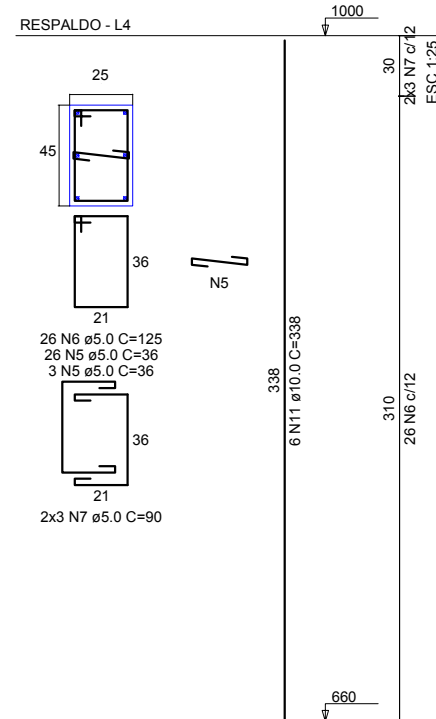
Área:  
51,76 m<sup>2</sup>

**4**



<b>PREFEITURA MUNICIPAL DE CAMPOS BORGES</b>		
Praça 13 de Abril, 302 - Cep: 99435-000 - Fone/Fax: (54) 3326-1110		
OBRA: PÓRTICO DE ENTRADA DO MUNICÍPIO		Data: Janeiro/2022
LOCALIDADE: VRS 817, Km 25,860 - Município de Campos Borges/RS		
Proprietário: Município de Campos Borges CNPJ 92.406.164/0001-31		Prancha: <b>5</b>
		Projeto Estrutural: Engenheiro Civil Phellipe Marion CREA RS 175765
Descrição: <b>PLANTA ARMADURAS</b>		Escala: 1/75
		Área: 51,76 m <sup>2</sup>

P1=P2=P3=P4=P5=P6=P7=P8



RELAÇÃO DO AÇO

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	27	85	2295
CA50	2	10.0	6	179	1074
	3	10.0	4	210	840
	4	10.0	2	210	420

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	10.0	23.3	15.8
CA60	5.0	22.9	3.9
PESO TOTAL (kg)			
CA50	15.8		
CA60	3.9		

Volume de concreto (C-25) = 0.49 m³  
Área de forma = 4.12 m²

RELAÇÃO DO AÇO

8xB8-L1	8xP1-L4	8xP1-L3
4xP1-L2	8xP1-L1	4xP2-L2
V1-L4	V1-L3	V1-L2
V1-L1	V2-L4	V2-L3
V2-L2	V2-L1	V3-L4
V3-L3	V3-L2	V3-L1
V4-L4	V4-L3	V4-L2
V4-L1	V5-L4	V5-L3
V5-L2	V5-L1	V6-L3
V6-L2	V6-L1	V7-L3
V7-L2	V7-L1	V8-L3
V8-L2	V8-L1	V9-L3
V9-L2	V10-L3	V10-L2

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)	
CA60	1	5.0	32	139	4448	
	2	5.0	40	295	11800	
	3	5.0	32	109	3488	
	4	5.0	40	133	5320	
	5	5.0	968	36	34848	
	6	5.0	648	125	81000	
	7	5.0	192	90	17280	
	8	5.0	317	85	26945	
	CA50	9	6.3	32	100	3200
		10	8.0	48	138	6624
11		10.0	48	338	16224	
12		10.0	88	368	32384	
13		10.0	24	328	7872	
14		10.0	40	75	3000	
15		10.0	16	91	1456	
16		10.0	32	132	4224	
17		10.0	56	221	12376	
18		10.0	8	248	1984	
19		10.0	10	179	1790	
20		10.0	2	210	420	
21		10.0	32	198	6336	
22		10.0	12	198	2376	
23		10.0	8	191	1528	
24		10.0	4	243	972	
25		10.0	12	250	3000	
26		10.0	4	241	964	
27	10.0	12	248	2976		
28	10.0	8	206	1648		

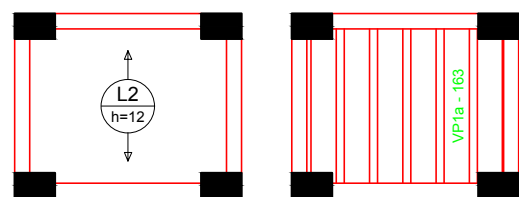
RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	32	8.6
	8.0	66.2	28.8
	10.0	1015.3	688.6
CA60	5.0	1851.3	313.9
PESO TOTAL (kg)			
CA50	725.9		
CA60	313.9		

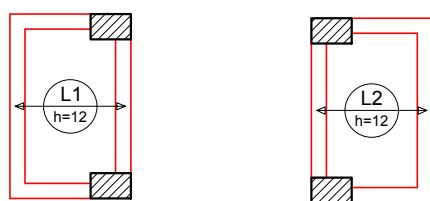
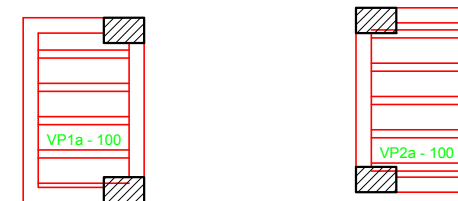
Volume de concreto (C-25) = 13.79 m³  
Área de forma = 174.17 m²

### Planta de vigotas pré-moldadas

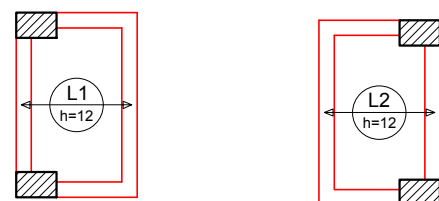
escala 1:50



Armação positiva das lajes do pavimento Respaldo (Eixo Y)



Armação positiva das lajes do pavimento Intermediaria 1 (Eixo X)



Armação positiva das lajes do pavimento Intermediaria 2 (Eixo X)

### Planta de vigotas pré-moldadas

### Planta de vigotas pré-moldadas

## PREFEITURA MUNICIPAL DE CAMPOS BORGES

Praça 13 de Abril, 302 - Cep: 99435-000 - Fone/Fax: (54) 3326-1110

OBRA: PÓRTICO DE ENTRADA DO MUNICÍPIO  
LOCALIDADE: VRS 817, Km 25,860 - Município de Campos Borges/RS

Descrição:  
**PLANTA ARMADURAS**

Proprietário:  
Município de Campos Borges  
CNPJ 92.406.164/0001-31

Projeto Estrutural:  
Engenheiro Civil Phellipe Marion  
CREA RS 175765

Data:  
Janeiro/2022

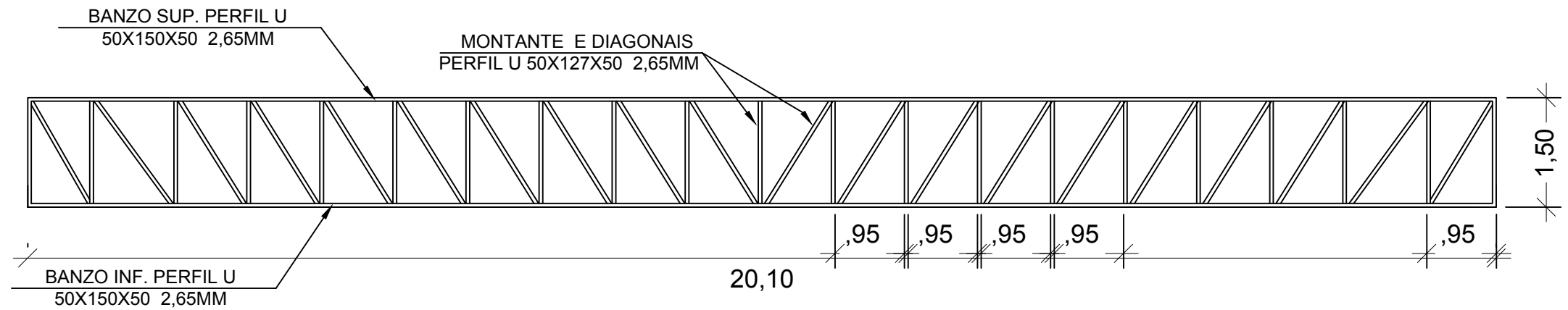
Escala:  
1/75

Área:  
51,76 m²

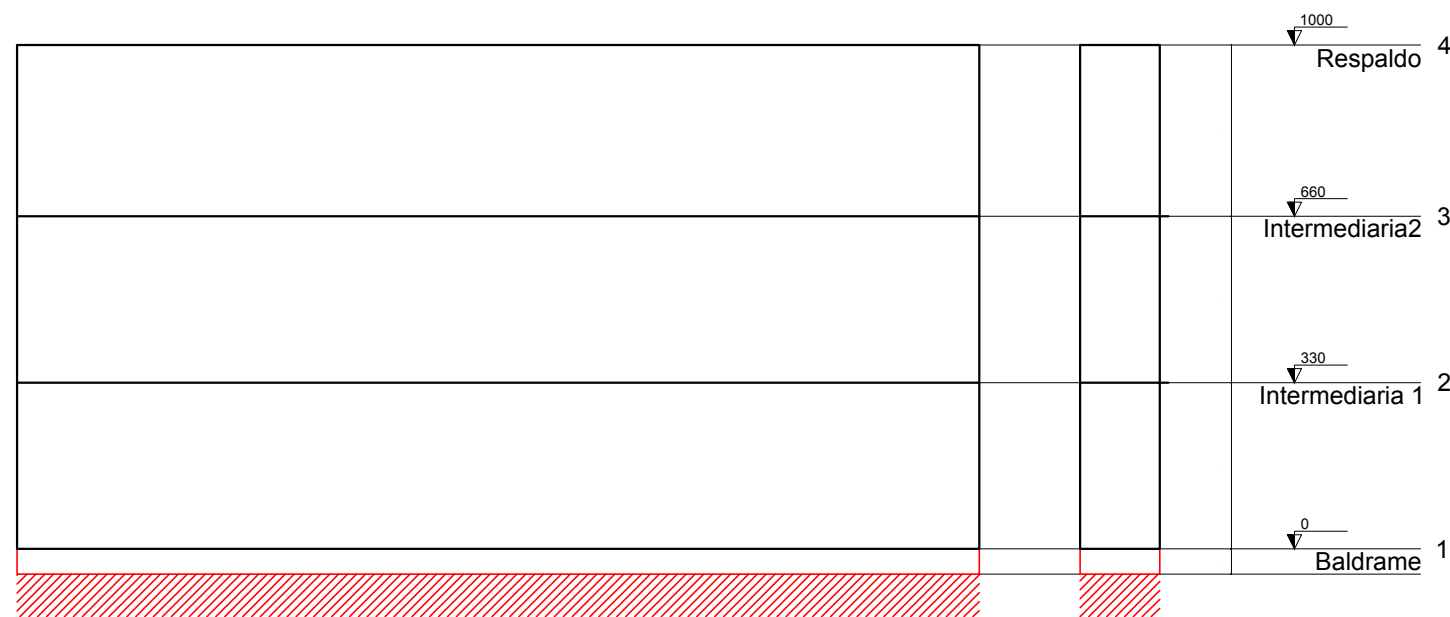
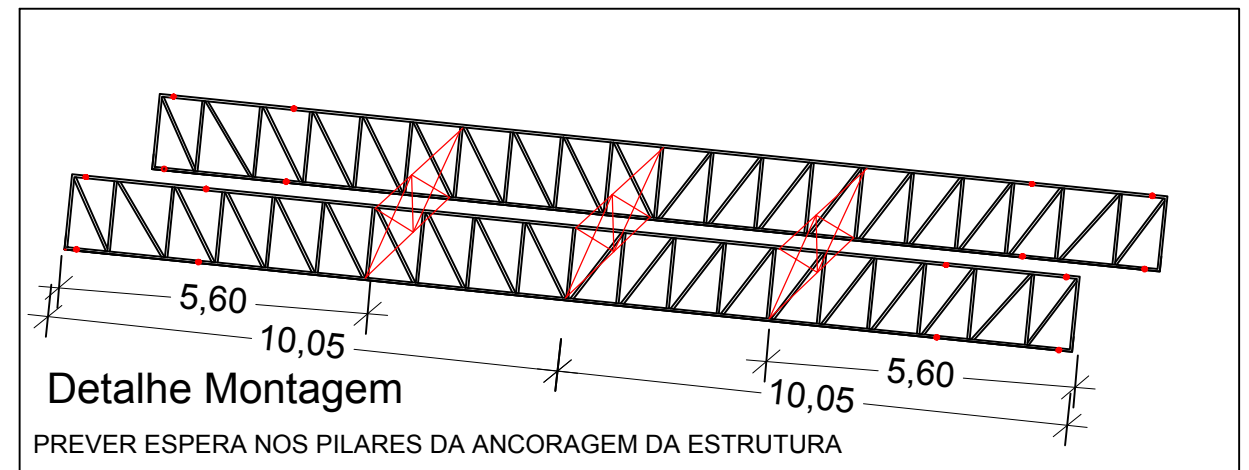
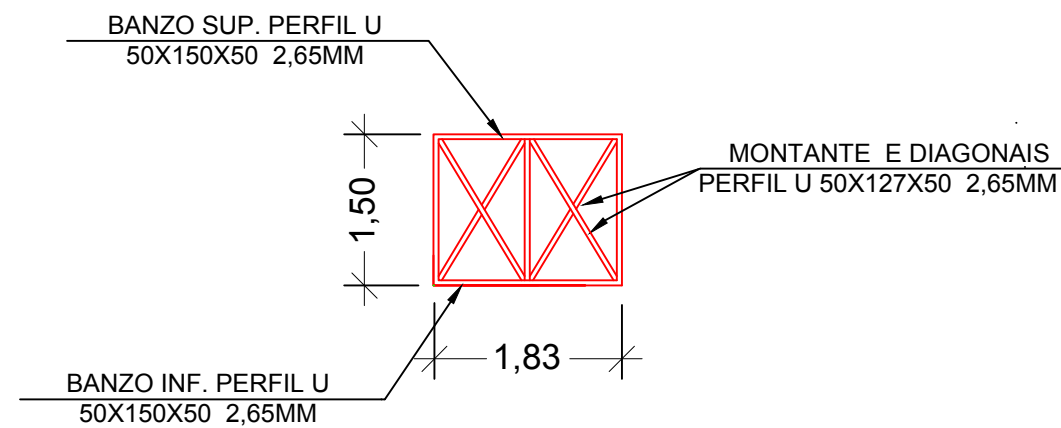
Prancha:

**6**

## 2 TESOURA TRELIÇA METÁLICA



## 3 TRELIÇA METÁLICA



Corte X-X

### PREFEITURA MUNICIPAL DE CAMPOS BORGES

Praça 13 de Abril, 302 - Cep: 99435-000 - Fone/Fax: (54) 3326-1110

OBRA: PÓRTICO DE ENTRADA DO MUNICÍPIO  
LOCALIDADE: VRS 817, Km 25,860 - Município de Campos Borges/RS

Descrição:

PLANTA ESTRUTURA METÁLICA E CORTE

Data:

Janeiro/2022

Prancha:

Escala:

1/75

Área:

51,76 m<sup>2</sup>

Proprietário:

Município de Campos Borges  
CNPJ 92.406.164/0001-31

Projeto Estrutural:

Engenheiro Civil Phellipe Marion  
CREA RS 175765



# Planta de locação

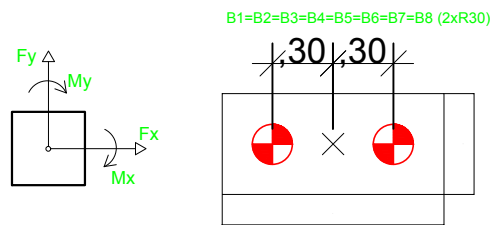


Nome	Seção (cm)	X (cm)	Y (cm)	Carga Máx. (tf)	Carga Min. (tf)	Pilar				Fundação				Bloco						
						Mx Máximo (kgf.m)		My Máximo (kgf.m)		Fx Máximo (tf)		Fy Máximo (tf)		Lado B (cm)	Lado H (cm)	h0 / ha (cm)	n1 / hb (cm)	ne	Estaca	ca (cm)
						Positivo	Negativo	Positivo	Negativo	Positivo	Negativo	Positivo	Negativo							
P1	25x40	3819.20	679.70	16.4	0.0	0	0	0	0	0.2	-0.6	1.1	-0.8	110	50	50	45	2	R30	-80
P2	25x40	4004.20	679.70	16.4	0.0	0	0	0	0	0.5	-0.3	1.1	-0.8	110	50	50	45	2	R30	-80
P3	25x40	5544.20	679.70	16.4	0.0	0	0	0	0	0.2	-0.6	1.1	-0.8	110	50	50	45	2	R30	-80
P4	25x40	5729.20	679.70	16.4	0.0	0	0	0	0	0.5	-0.3	1.1	-0.8	110	50	50	45	2	R30	-80
P5	25x40	3819.20	521.70	16.4	0.0	0	0	0	0	0.2	-0.6	0.9	-1.2	110	50	50	45	2	R30	-80
P6	25x40	4004.20	521.70	16.5	0.0	0	0	0	0	0.5	-0.3	0.9	-1.2	110	50	50	45	2	R30	-80
P7	25x40	5544.20	521.70	16.4	0.0	0	0	0	0	0.2	-0.6	0.9	-1.2	110	50	50	45	2	R30	-80
P8	25x40	5729.20	521.70	16.5	0.0	0	0	0	0	0.5	-0.3	0.9	-1.2	110	50	50	45	2	R30	-80

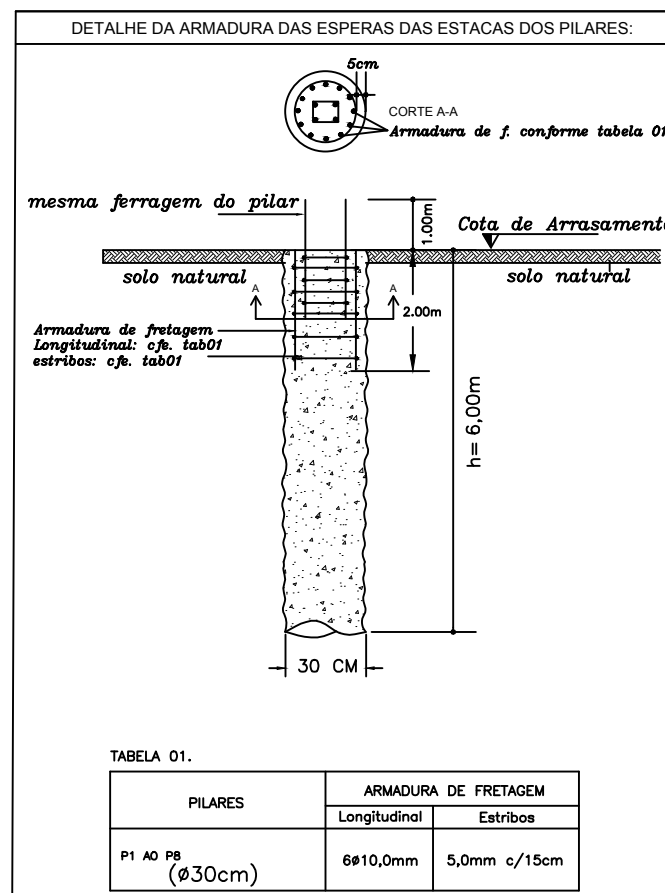
Os esforços indicados nesta tabela são os valores máximos obtidos pela envoltória de todas as combinações definidas para as fundações. Para análises complementares, deve-se consultar o relatório de esforços na fundação, que apresenta os valores calculados para cada combinação.

Coordenadas (cm)	Nome
3819.20	P1, P5
4004.20	P2, P6
5544.20	P3, P7
5729.20	P4, P8

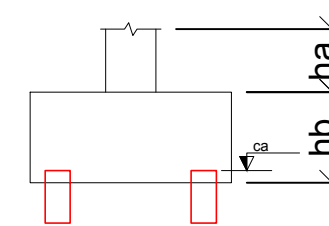
Coordenadas (cm)	Nome
679.70	P1, P2, P3, P4
521.70	P5, P6, P7, P8



Legenda dos blocos



Simbologia	Nome	d (cm)	Quantidade
⊗	R30	30.00	16



PREFEITURA MUNICIPAL DE CAMPOS BORGES

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OBRA: PÓRTICO DE ENTRADA DO MUNICÍPIO  
LOCALIDADE: VRS 817, Km 25,860 - Município de Campos Borges/RS

Descrição:  
**PLANTA LOCAÇÃO E FUNDAÇÃO**

Data:  
Janeiro/2022

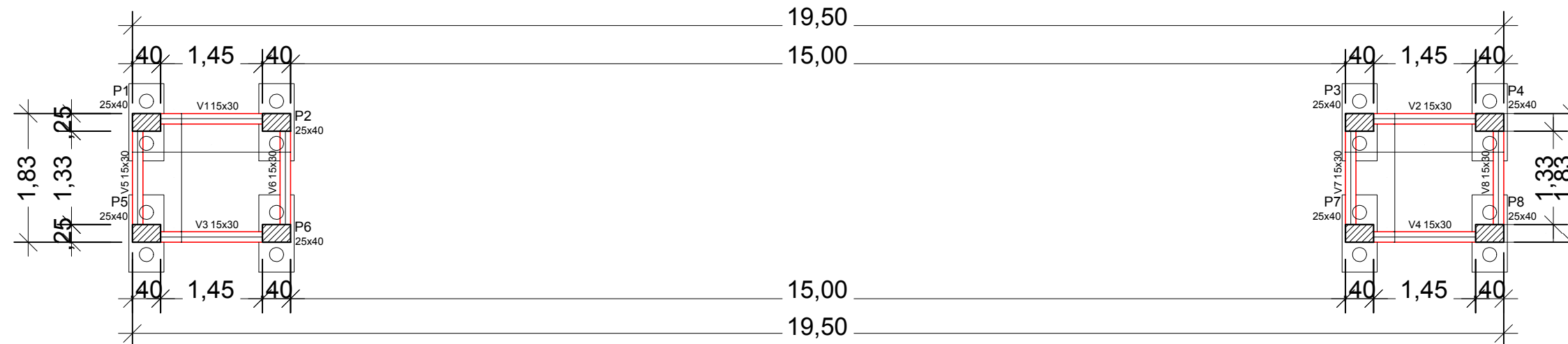
Prancha:

Escala: 1/75  
Área: 51,76 m<sup>2</sup>

1

Proprietário:  
Município de Campos Borges  
CNPJ 92.406.164/0001-31

Projeto Estrutural:  
Engenheiro Civil Phellipe Marion  
CREA RS 175765



**Legenda dos pilares**

- Pilar que morre
- Pilar que passa
- Pilar que nasce
- Pilar com mudança de seção

**Características dos materiais**

fck (kgf/cm²)	Ecs (kgf/cm²)
250	241500

Dimensão máxima do agregado = 19 mm

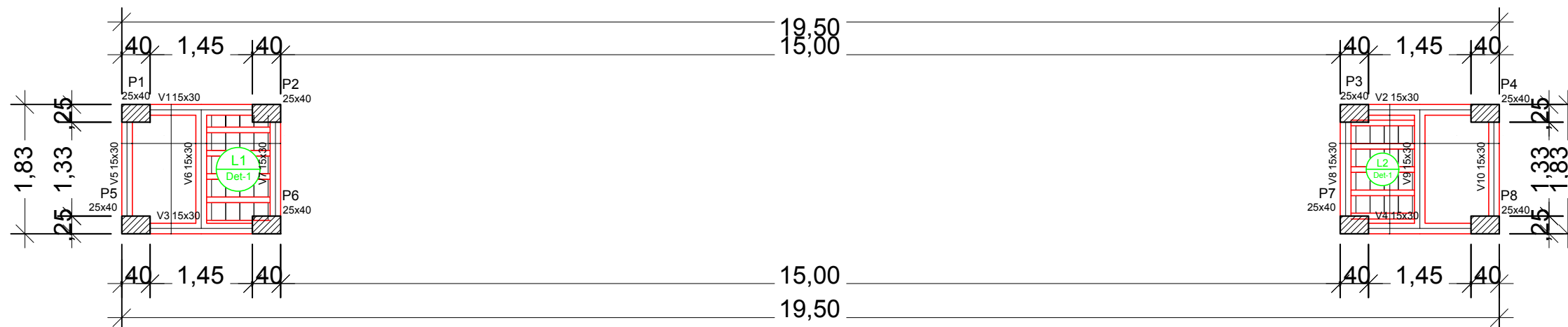
**Vigas**

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x30	0	0
V2	15x30	0	0
V3	15x30	0	0
V4	15x30	0	0
V5	15x30	0	0
V6	15x30	0	0
V7	15x30	0	0
V8	15x30	0	0

**Pilares**

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	25 x 40	0	0
P2	25 x 40	0	0
P3	25 x 40	0	0
P4	25 x 40	0	0
P5	25 x 40	0	0
P6	25 x 40	0	0
P7	25 x 40	0	0
P8	25 x 40	0	0

**Forma do pavimento Baldrame (Nível 0)**



**Legenda dos pilares**

- Pilar que morre
- Pilar que passa
- Pilar que nasce
- Pilar com mudança de seção

**Lajes**

Nome	Tipo	Dados			Sobrecarga (kgf/m²)		
		Altura (cm)	Elevação (cm)	Nível (cm)	Adicional	Acidental	Localizada
L1	Pré-moldada	12	0	330	100	100	-
L2	Pré-moldada	12	0	330	100	100	-

**Características dos materiais**

fck (kgf/cm²)	Ecs (kgf/cm²)
250	241500

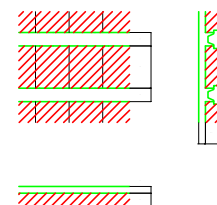
Dimensão máxima do agregado = 19 mm

**Blocos de enchimento**

Detalhe	Tipo	Nome	Dimensões (cm)			Quantidade
			hb	bx	by	
1	Lajota cerâmica	B8/25/20	8	25	20	36

**Pilares**

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	25 x 40	0	330
P2	25 x 40	0	330
P3	25 x 40	0	330
P4	25 x 40	0	330
P5	25 x 40	0	330
P6	25 x 40	0	330
P7	25 x 40	0	330
P8	25 x 40	0	330



**Vigas**

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	15x30	0	330
V2	15x30	0	330
V3	15x30	0	330
V4	15x30	0	330
V5	15x30	0	330
V6	15x30	0	330
V7	15x30	0	330
V8	15x30	0	330
V9	15x30	0	330
V10	15x30	0	330

**Forma do pavimento Intermediaria 1 (Nível 330)**

**PREFEITURA MUNICIPAL DE CAMPOS BORGES**  
Praça 13 de Abril, 302 - Cep: 99435-000 - Fone/Fax: (54) 3326-1110

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**OBRA:** PÓRTICO DE ENTRADA DO MUNICÍPIO  
**LOCALIDADE:** VRS 817, Km 25,860 - Município de Campos Borges/RS

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**PLANTA FORMAS**

Proprietário:	Projeto Estrutural:	Data:	Prancha:
Município de Campos Borges CNPJ 92.406.164/0001-31	Engenheiro Civil Phellipe Marion CREA RS 175765	Janeiro/2022	<b>2</b>
		Escala: 1/75	