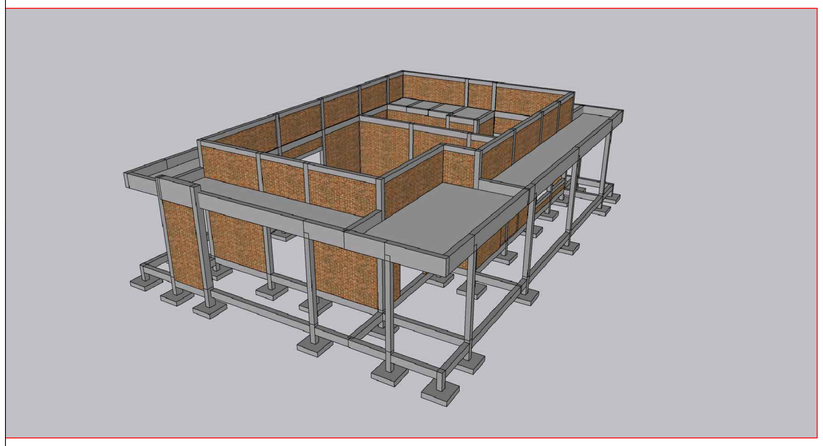

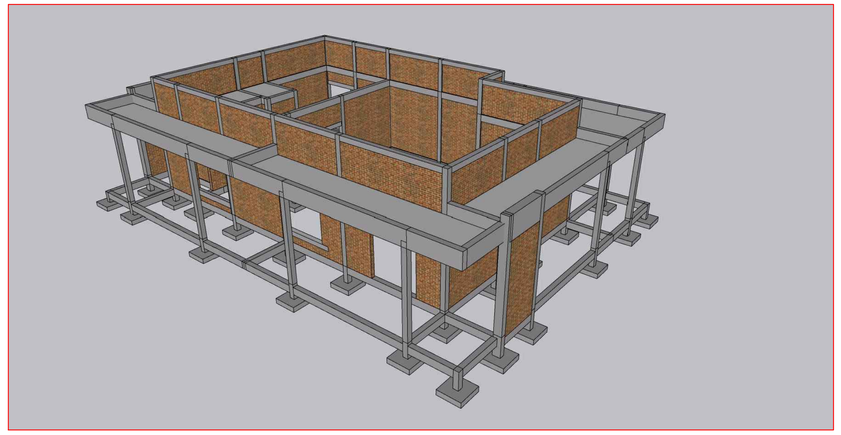

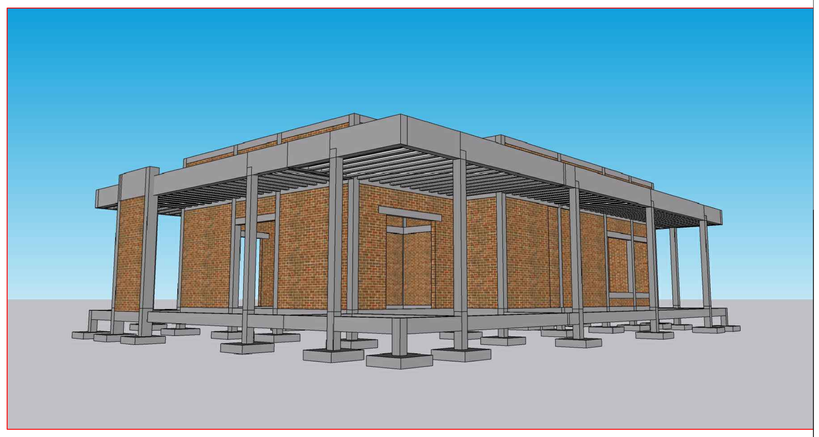

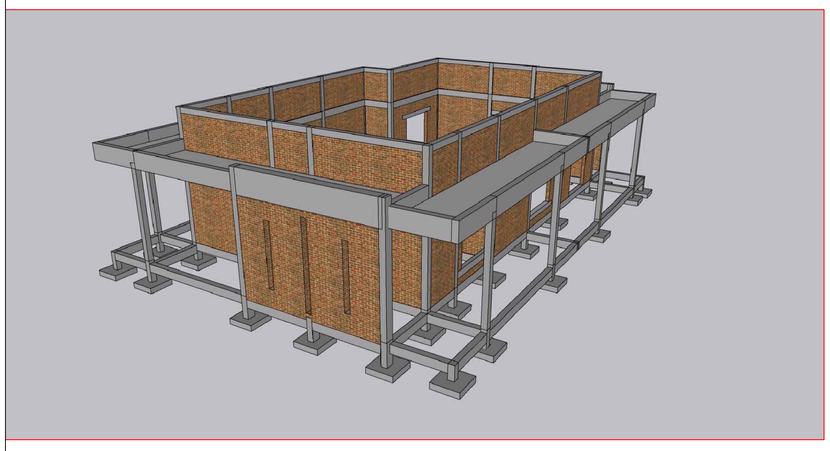

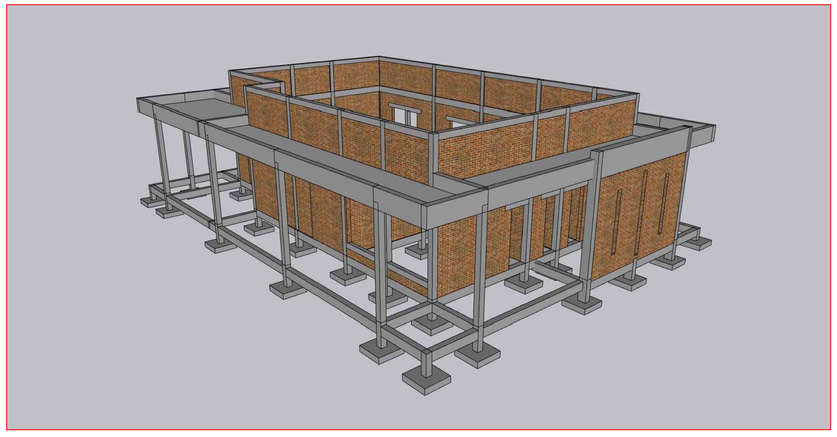



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CONVICÇÃO ENGENHARIA

Projeto estrutural - Cemitério municipal de Muçum

LOCAL: Estrada São Luiz, Cidade Alta, Muçum/RS

☐ AMPLIAÇÃO ☐ INTERIORES ☐ REFORMA ☐ REGULARIZAÇÃO ■ OBRA NOVA

PROPRIETÁRIO (a) - Prefeitura Municipal de Muçum

PROJETO E RESP. TÉCNICA - Eng. Egomar Antonio Grazziolla
CREA/RS – 223549

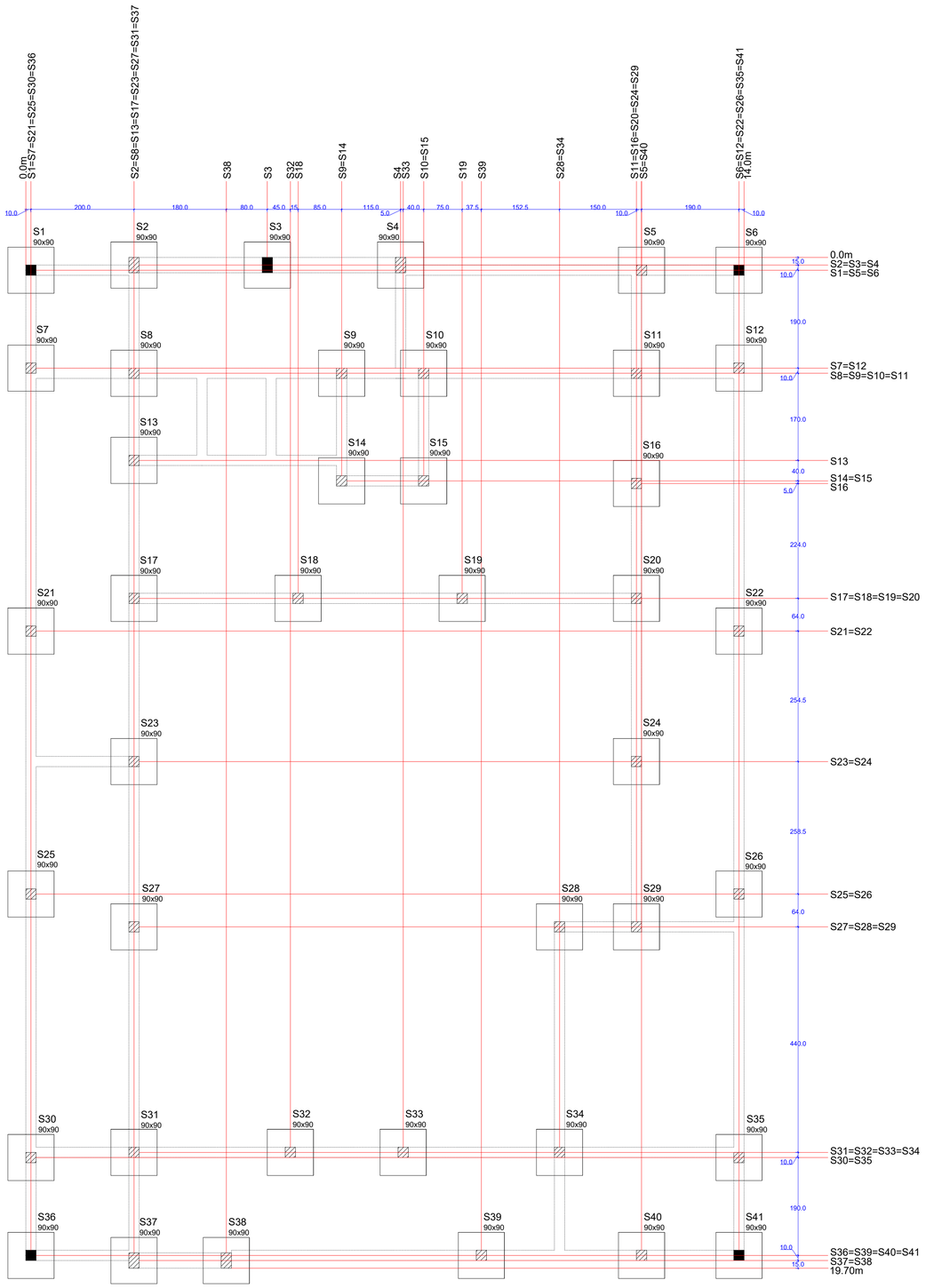
Ilustrações da estrutura da edificação

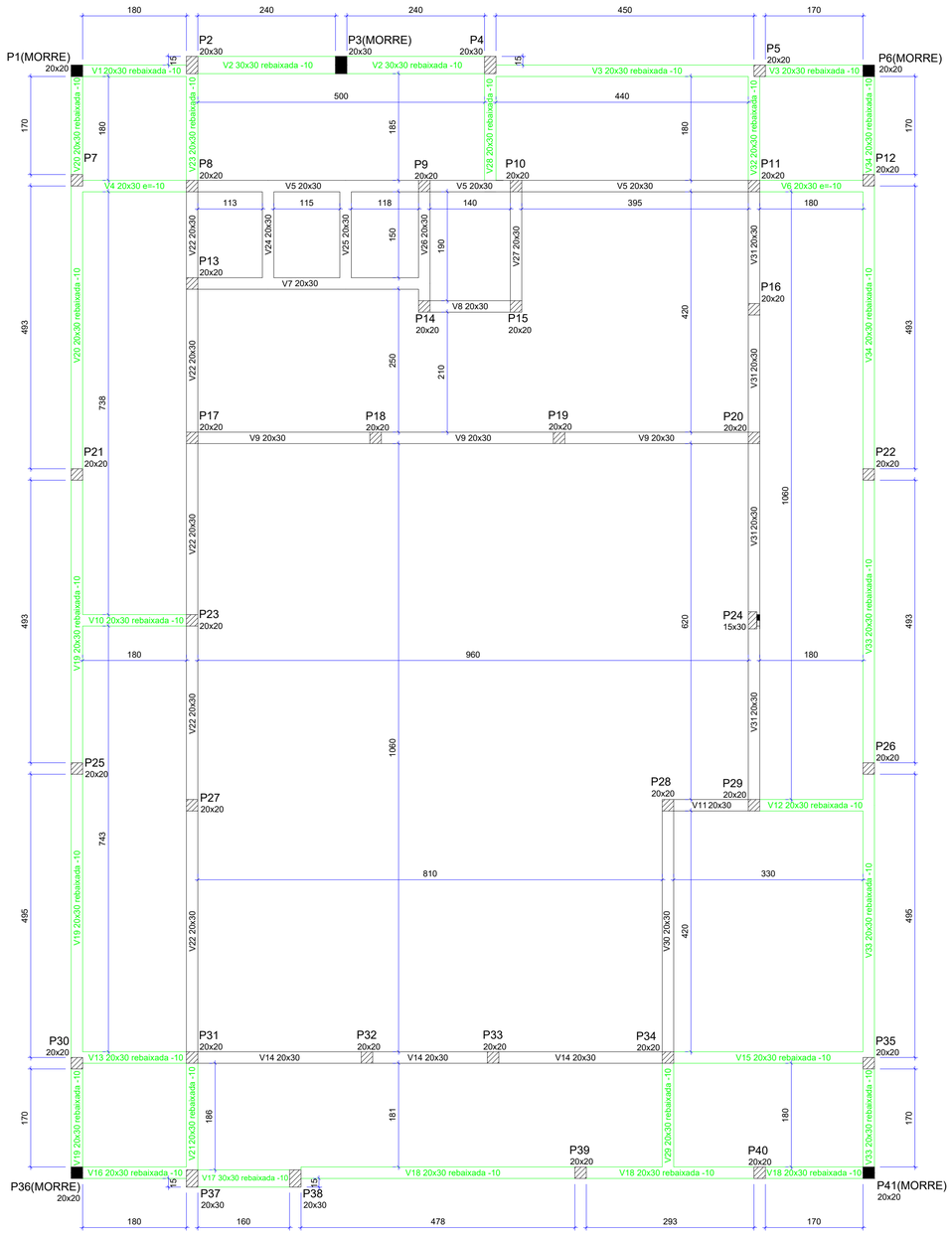
ÁREA TOTAL: 273,18m²

DATA - Dezembro de 2025

ESCALA - na prancha

PRANCHA Nº 01





Forma do pavimento Baldrame

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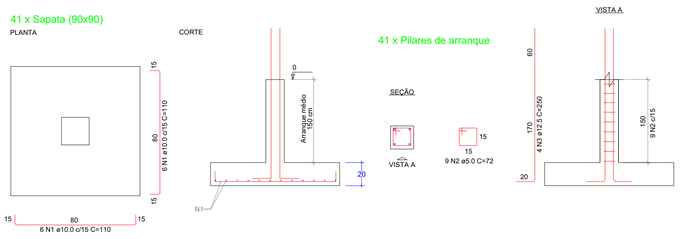


RELAÇÃO DO AÇO PARA 41
SAPATAS E PILARES DE ARRANQUE

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA50	1	10.0	492	110	54120
	2	5.0	369	72	26568
	3	12.5	164	250	41000

RESUMO DO AÇO

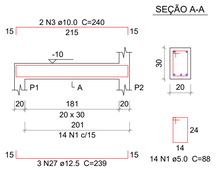
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA60	5.0	265.68	45.00
CA50	10.0	541.2	367.31
	12.5	410	434.31

Volume de concreto (C-30) = 9.1 m³
Área de forma = 78.72 m²

Locação das fundações

CONVICÇÃO ENGENHARIA	Projeto estrutural - Cemitério municipal de Muçum LOCAL: Estrada São Luiz, Cidade Alta, Muçum/RS
☐ AMPLIAÇÃO ☐ INTERIORES ☐ REFORMA ☐ REGULARIZAÇÃO ■ OBRA NOVA	
PROPRIETÁRIO (a) -	Prefeitura Municipal de Muçum
PROJETO E RESP. TÉCNICA -	Eng. Egomar Antonio Grazziolla CREA/RS – 223549
Forma e detalhamento das fundações e forma do vigamento baldrame	
ÁREA TOTAL: 273,18m²	DATA - Dezembro de 2025 ESCALA - na prancha
PRANCHA Nº	02

V1



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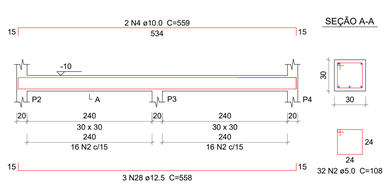

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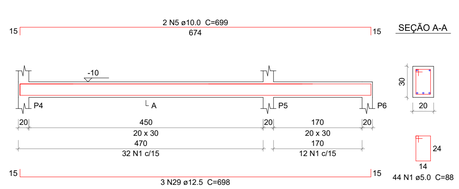

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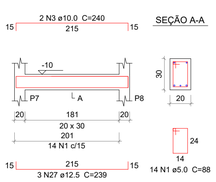

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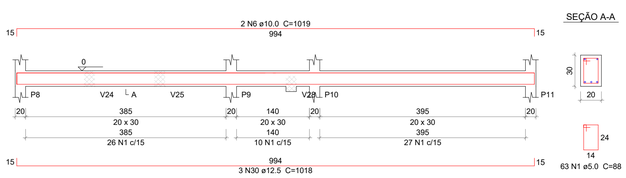

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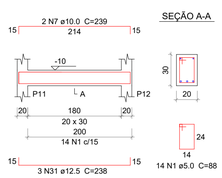
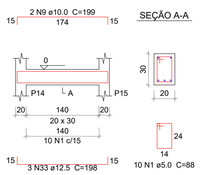


V7



V8



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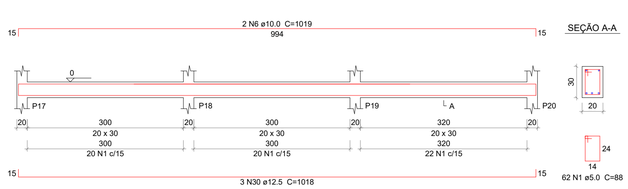

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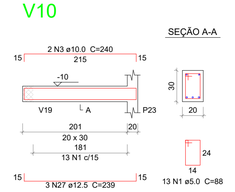

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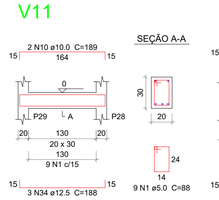

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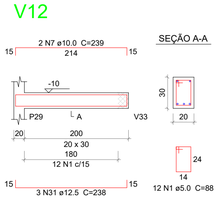

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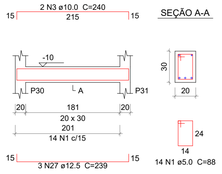

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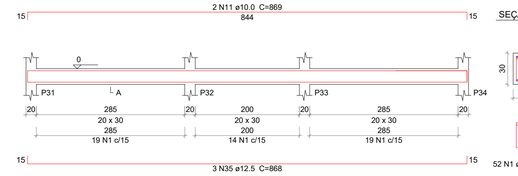

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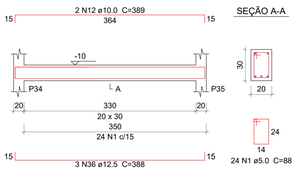

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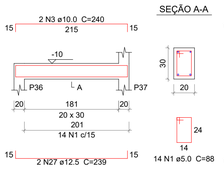

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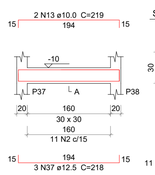

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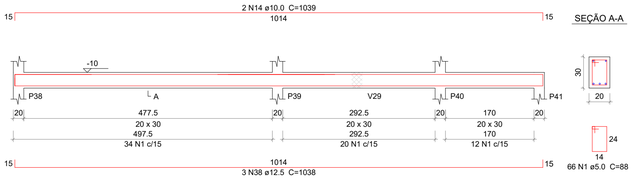

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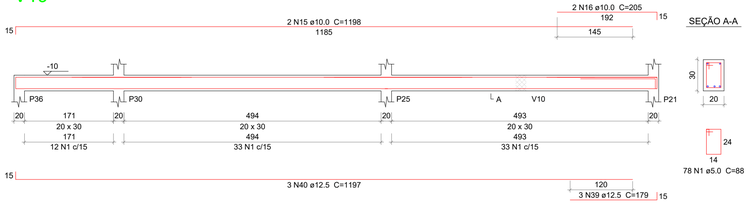

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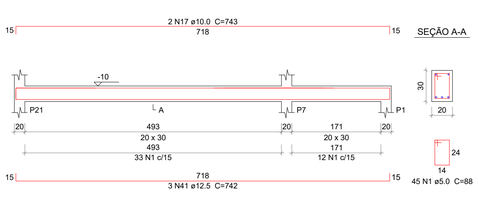

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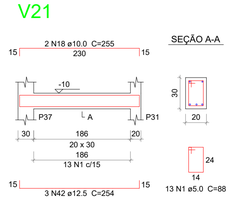

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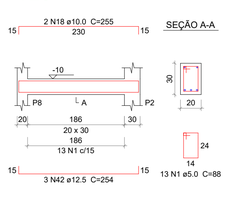

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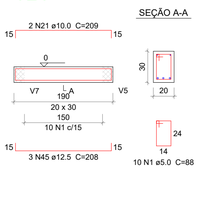

V25



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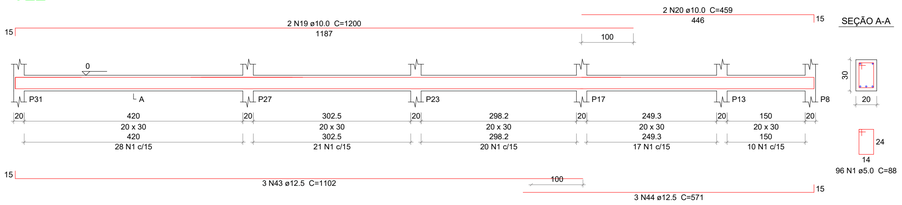

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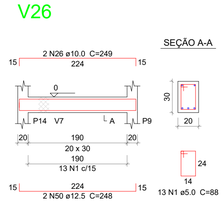

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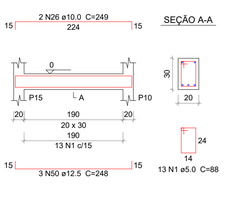

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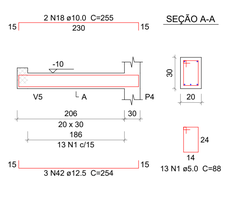

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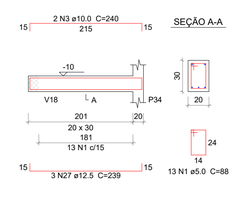

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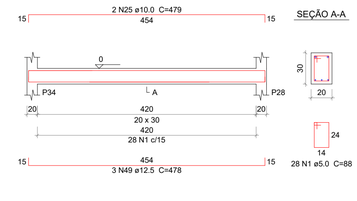

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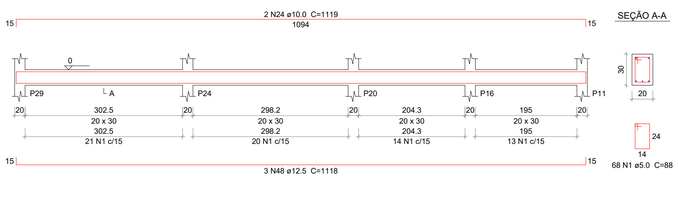

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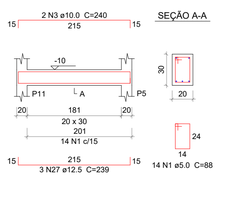

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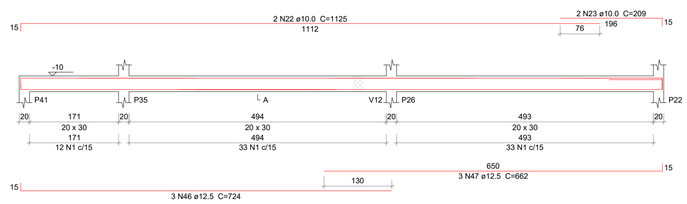

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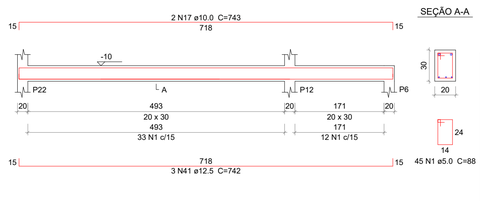

Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	1001	88	88088
	2	5.0	43	108	4644
CA50	3	10.0	14	240	3360
	4	10.0	2	559	1118
	5	10.0	2	699	1398
	6	10.0	4	1019	4076
	7	10.0	4	239	956
	8	10.0	2	444	888
	9	10.0	2	199	398
	10	10.0	2	189	378
	11	10.0	2	869	1738
	12	10.0	2	389	778
	13	10.0	2	219	438
	14	10.0	2	1039	2078
	15	10.0	2	1198	2396
	16	10.0	2	205	410
	17	10.0	4	743	2972
	18	10.0	6	255	1530
	19	10.0	2	1200	2400
	20	10.0	2	459	918
	21	10.0	4	209	836
	22	10.0	2	1125	2250
	23	10.0	2	209	418
	24	10.0	2	1119	2238
	25	10.0	2	479	958
	26	10.0	4	249	996
	27	12.5	20	239	4780
	28	12.5	3	558	1674
	29	12.5	3	698	2094
	30	12.5	6	1018	6108
	31	12.5	6	238	1428
	32	12.5	3	443	1329
	33	12.5	3	198	594
	34	12.5	3	188	564
	35	12.5	3	868	2604
	36	12.5	3	388	1164
	37	12.5	3	218	654
	38	12.5	3	1038	3114
	39	12.5	2	179	358
	40	12.5	3	1197	3591
	41	12.5	6	742	4452
	42	12.5	9	254	2286
	43	12.5	3	1102	3306
	44	12.5	3	571	1713
	45	12.5	6	208	1248
	46	12.5	3	724	2172
	47	12.5	3	662	1986
	48	12.5	3	1118	3354
	49	12.5	3	478	1434
	50	12.5	5	248	1240

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA60	5.0	927.4	157.2
CA50	10.0	359.3	243.6
	12.5	532.5	564.2
PESO TOTAL (kg)			
CA50	807.9		
CA60	157.2		

Volume de concreto (C-30) = 9.33 m³
Área de forma = 136.69 m²

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CONVICÇÃO ENGENHARIA

Projeto estrutural - Cemitério municipal de Muçum

LOCAL: Estrada São Luiz, Cidade Alta, Muçum/RS

AMPLIAÇÃO | INTERIORES | REFORMA | REGULARIZAÇÃO | OBRA NOVA

PROPRIETÁRIO (a) - Prefeitura Municipal de Muçum

PROJETO E RESP. TÉCNICA - Eng. Egomar Antonio Grazziolla
CREA/RS – 223548

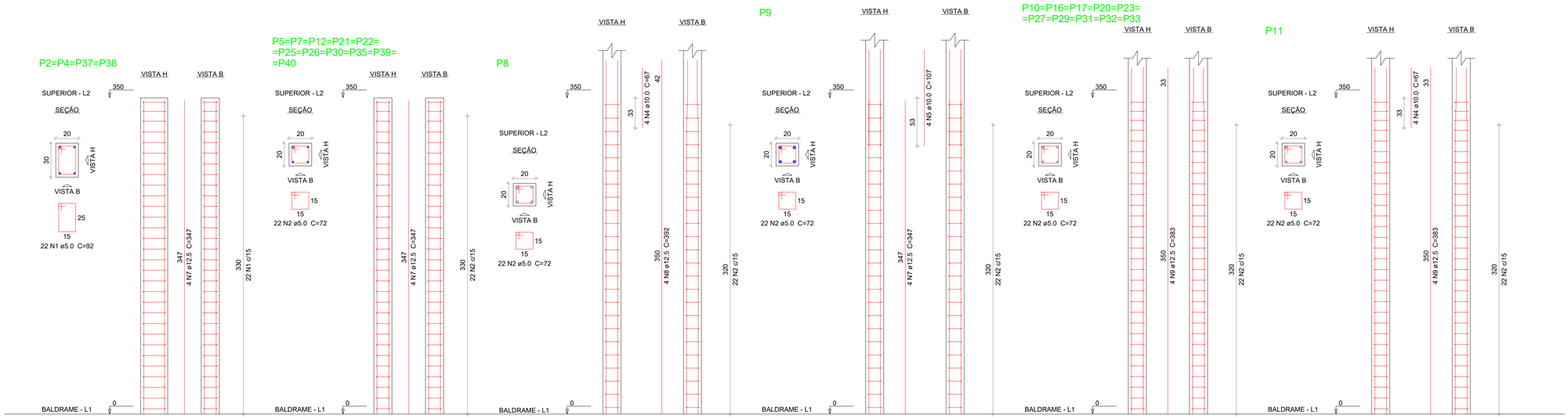
Detalhamento das vigas baldrame

AREA TOTAL: 273,18m²

DATA - Dezembro de 2025

ESCALA - na prancha

PRANCHA Nº 03



Relação do aço

4xP2	11xP5	P8
P9	10xP10	P11
P13	2xP14	2xP18
P24	P28	P34

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	88	92	8096
	2	5.0	682	72	49104
	3	5.0	22	82	1804
CA50	4	10.0	16	67	1072
	5	10.0	4	107	428
	6	10.0	4	83	332
	7	12.5	84	347	29148
	8	12.5	8	392	3136
	9	12.5	48	383	18384
	10	12.5	4	403	1612

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA60	5.0	590.1	100
CA50	10.0	18.4	12.4
	12.5	522.8	554

PESO TOTAL (kg)	
CA50	566.4
CA60	100

Volume de concreto (C-25) = 5.34 m³
Área de forma = 103.95 m²

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CONVICÇÃO ENGENHARIA

Projeto estrutural - Cemitério municipal de Muçum

LOCAL: Estrada São Luiz, Cidade Alta, Muçum/RS

☐ AMPLIAÇÃO ☐ INTERIORES ☐ REFORMA ☐ REGULARIZAÇÃO ■ OBRA NOVA

PROPRIETÁRIO (a) - Prefeitura Municipal de Muçum

PROJETO E RESP. TÉCNICA - Eng. Egomar Antonio Grazziolla
CREA/RS – 223549

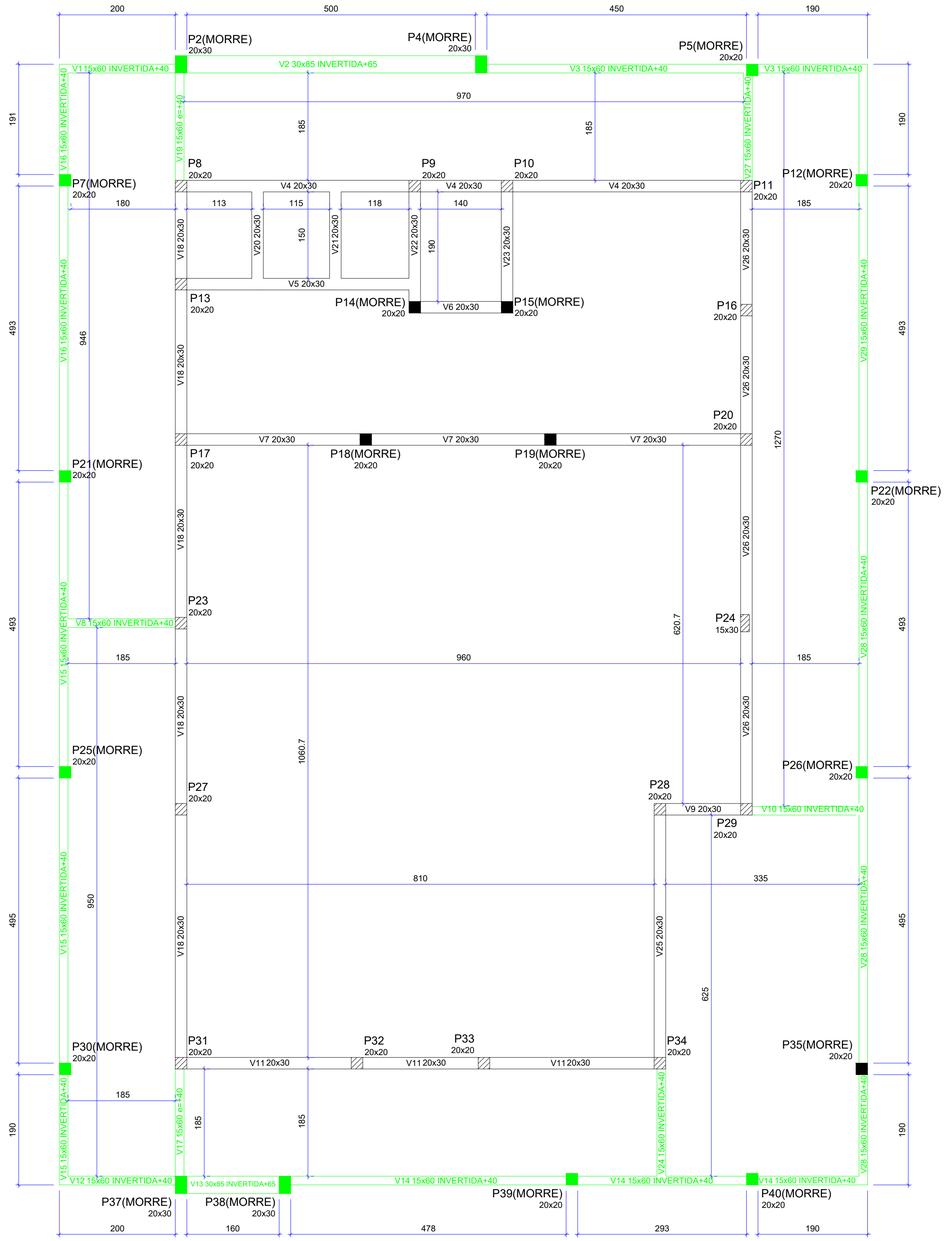
Detalhamento dos pilares do baldrame

ÁREA TOTAL: 273.18m²

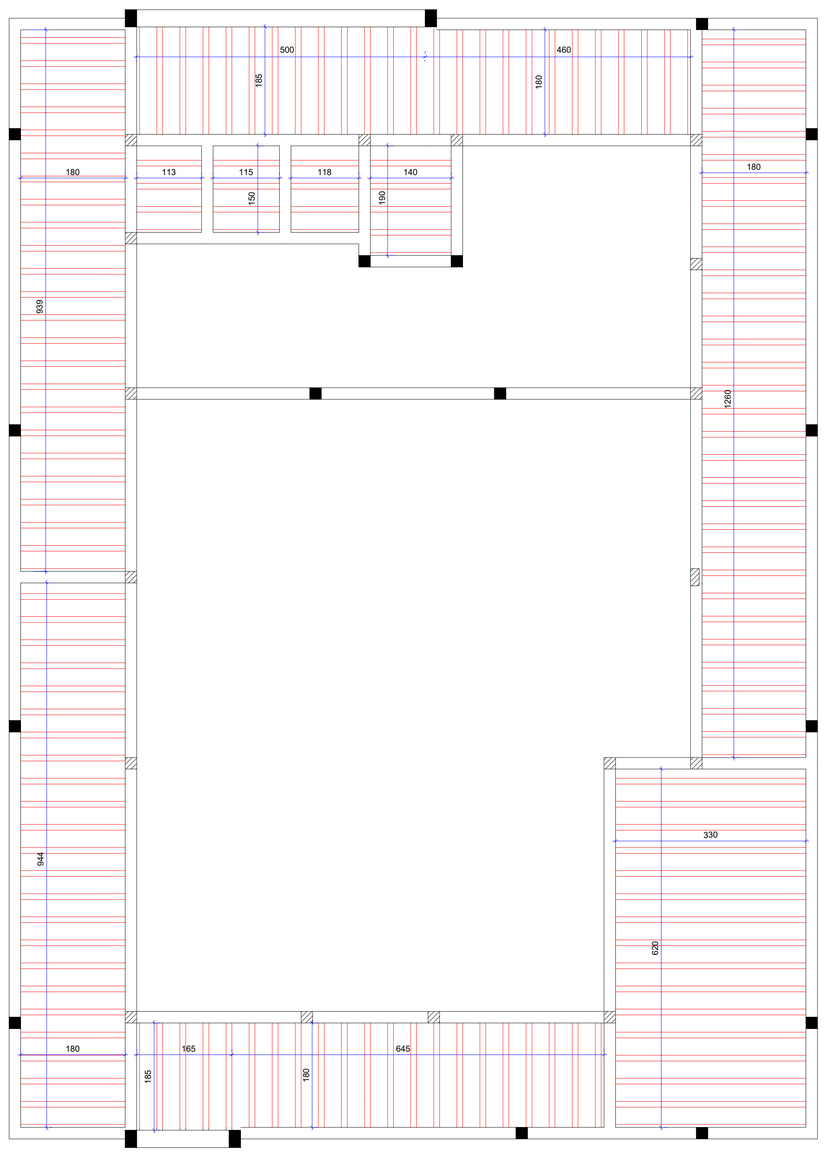
DATA - Dezembro de 2025

ESCALA - na prancha

PRANCHA Nº 04



Forma do pavimento Superior (Nível 350)



Forma do pre moldado (Nível 350)

AS MEDIDAS CONSIDERADAS NO PROJETO SÃO APENAS DOS VÃOS, DEVE-SE CONFERIR NA OBRA E ACRESCER MEDIDAS PARA APOIO

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CONVICÇÃO ENGENHARIA

Projeto estrutural - Cemitério municipal de Muçum

LOCAL: Estrada São Luiz, Cidade Alta, Muçum/RS

☐ AMPLIAÇÃO ☐ INTERIORES ☐ REFORMA ☐ REGULARIZAÇÃO ■ OBRA NOVA

PROPRIETÁRIO (a) - Prefeitura Municipal de Muçum

PROJETO E RESP. TÉCNICA - Eng. Egomar Antonio Grazziolla
CREA/RS – 223549

Forma do vigamento superior

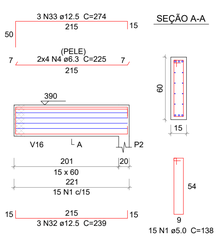
ÁREA TOTAL: 273,18m²

DATA - Dezembro de 2025

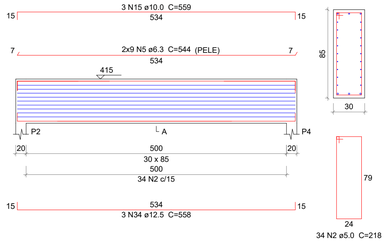
ESCALA - na prancha

PRANCHA Nº 05

V1



V2



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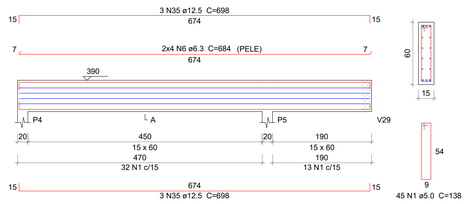

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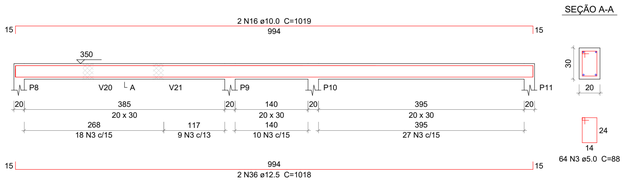
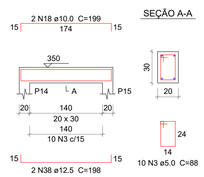


V5

V6



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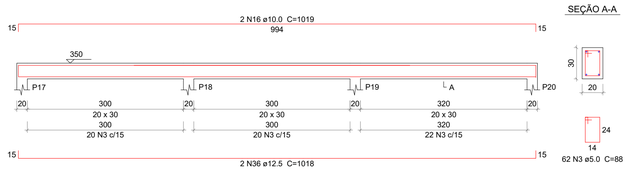

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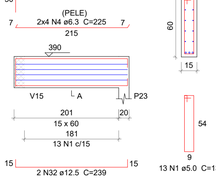

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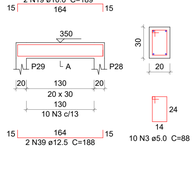

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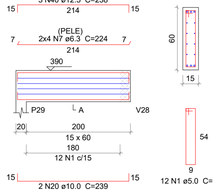

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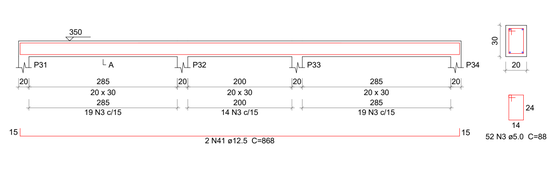

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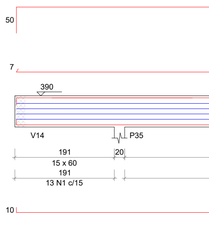

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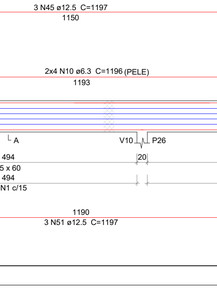

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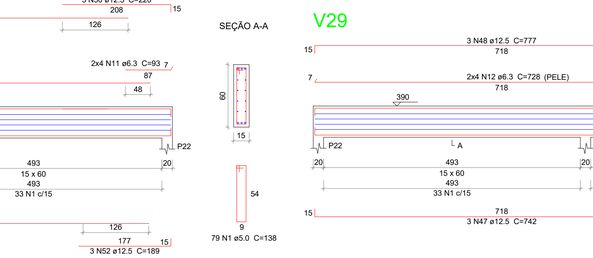
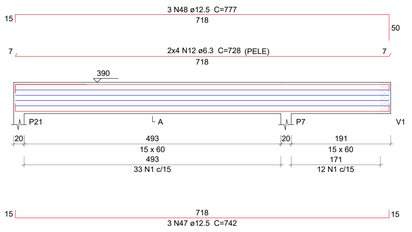


V15



V16



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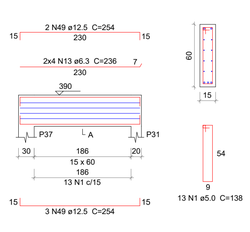

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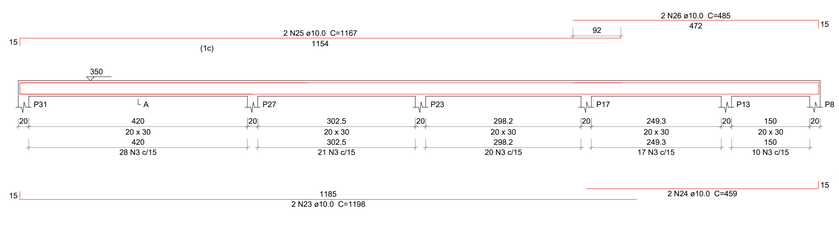

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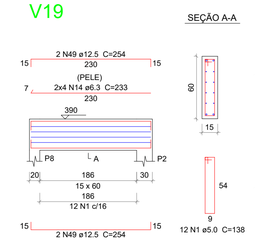

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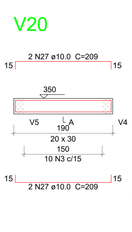

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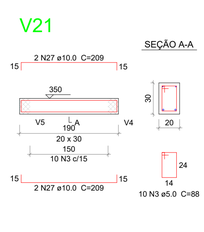

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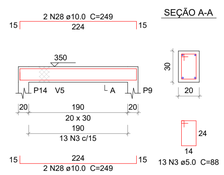

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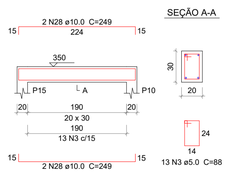

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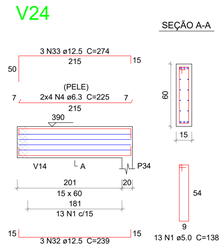

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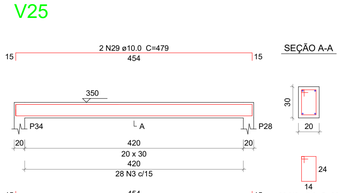

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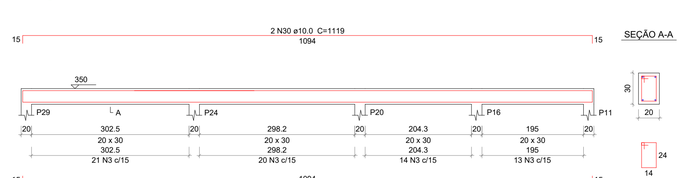
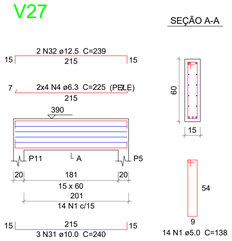


V27



V28

V29

Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	467	138	64446
	2	5.0	47	218	10246
	3	5.0	463	88	40744
CA50	4	6.3	40	225	9000
	5	6.3	18	544	9792
	6	6.3	8	684	5472
	7	6.3	8	224	1792
	8	6.3	18	204	3672
	9	6.3	8	1024	8192
	10	6.3	16	1196	19136
	11	6.3	16	93	1488
	12	6.3	16	728	11648
	13	6.3	8	236	1888
	14	6.3	8	233	1864
	15	10.0	3	559	1677
	16	10.0	4	1019	4076
	17	10.0	2	444	888
	18	10.0	2	199	398
	19	10.0	2	189	378
	20	10.0	2	239	478
	21	10.0	2	869	1738
	22	10.0	3	219	657
	23	10.0	2	1198	2396
	24	10.0	2	459	918
	25	10.0	2	1167	2334
	26	10.0	2	485	970
	27	10.0	8	209	1672
	28	10.0	8	249	1992
	29	10.0	4	479	1916
	30	10.0	4	1119	4476
	31	10.0	3	240	720
	32	12.5	13	239	3107
	33	12.5	9	274	2466
	34	12.5	3	558	1674
	35	12.5	6	698	4188
	36	12.5	4	1018	4072
	37	12.5	2	443	886
	38	12.5	2	198	396
	39	12.5	2	188	376
	40	12.5	3	238	714
	41	12.5	2	868	1736
	42	12.5	3	218	654
	43	12.5	6	1038	6228
	44	12.5	3	535	1605
	45	12.5	6	1197	7182
	46	12.5	3	1197	3591
	47	12.5	6	742	4452
	48	12.5	6	777	4662
	49	12.5	9	254	2286
	50	12.5	3	220	660
	51	12.5	3	1197	3591
	52	12.5	3	189	567

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA60	5.0	1154.36	195.55
CA50	6.3	739.5	199.29
	10.0	276.9	187.93
	12.5	550.93	583.60

PESO TOTAL (kg)	
CA50	970.82
CA60	195.55

Volume de concreto (C-25) = 12.12 m³
Área de forma = 179.21 m²
Área de pré-moldado = 134.70 m²

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CONVICÇÃO ENGENHARIA

Projeto estrutural - Cemitério municipal de Muçum

LOCAL: Estrada São Luiz, Cidade Alta, Muçum/RS

AMPLIAÇÃO | INTERIORES | REFORMA | REGULARIZAÇÃO | OBRA NOVA

PROPRIETÁRIO (a) - Prefeitura Municipal de Muçum

PROJETO E RESP. TÉCNICA - Eng. Egomar Antonio Grazziolla
CREA/RS – 223549

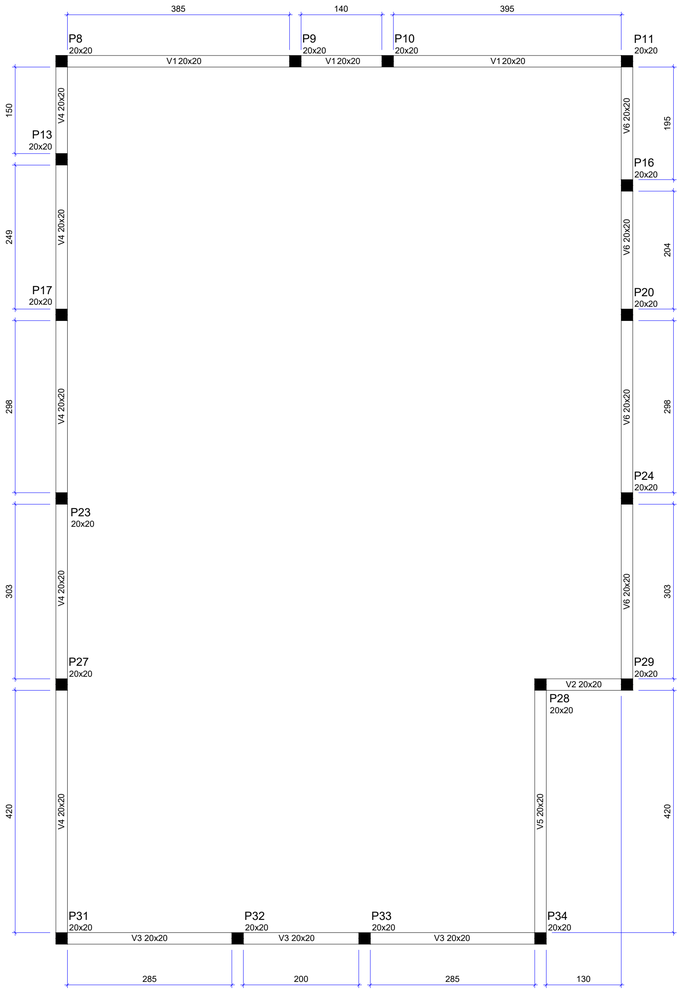
Detalhamento das vigas superiores

AREA TOTAL: 273,18m²

DATA - Dezembro de 2025

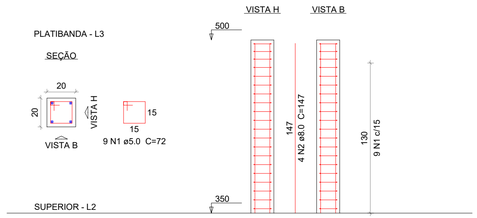
ESCALA - na prancha

PRANCHA Nº 06



Forma do pavimento Platibanda

P8=P9=P10=P11=P13=P16=P17=P20=P23=
P24=P27=P28=P29=P31=P32=P33=P34



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	153	72	11016
CA50	2	8.0	72	147	10584

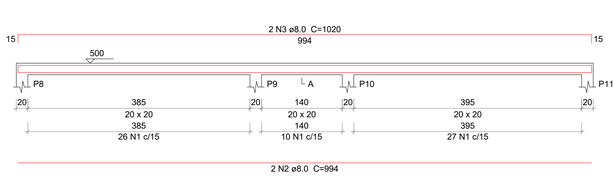
Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA60	5.0	110.2	18.7
CA50	8.0	105.9	45.9

PESO TOTAL (kg)	
CA50	45.9
CA60	18.7

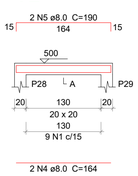
Volume de concreto (C-25) = 1.02 m³
Área de forma = 20.4 m²

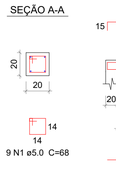
V1





V2





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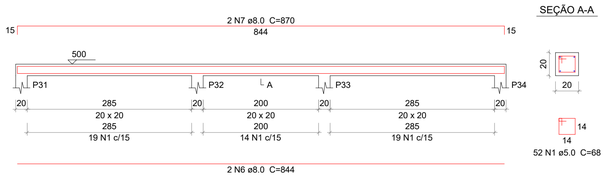
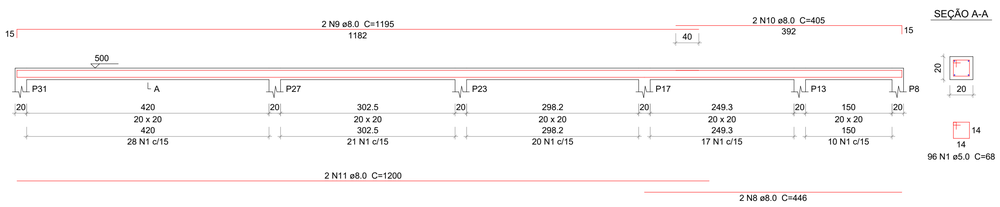
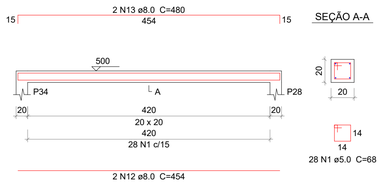


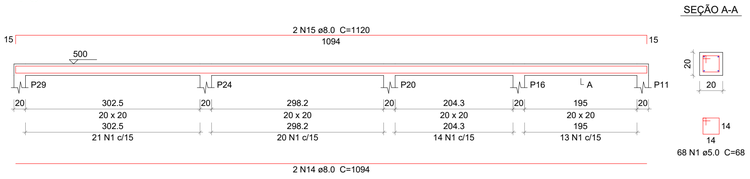
V4



V5



V6



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Relação do aço

V1 V2 V3
V4 V5 V6

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	316	68	21488
CA50	2	8.0	2	994	1988
	3	8.0	2	1020	2040
	4	8.0	2	164	328
	5	8.0	2	190	380
	6	8.0	2	844	1688
	7	8.0	2	870	1740
	8	8.0	2	446	892
	9	8.0	2	1195	2390
	10	8.0	2	405	810
	11	8.0	2	1200	2400
	12	8.0	2	454	908
	13	8.0	2	480	960
	14	8.0	2	1094	2188
	15	8.0	2	1120	2240

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	5.0	214.9	36.4
CA60	8.0	209.6	90.9

PESO TOTAL (kg)	
CA50	90.9
CA60	36.4

Volume de concreto (C-25) = 1.86 m³
Área de forma = 30.72 m²

CONVICÇÃO ENGENHARIA

Projeto estrutural - Cemitério municipal de Muçum

LOCAL: Estrada São Luiz, Cidade Alta, Muçum/RS

☐ AMPLIAÇÃO ☐ INTERIORES ☐ REFORMA ☐ REGULARIZAÇÃO ■ OBRA NOVA

PROPRIETÁRIO (a) - Prefeitura Municipal de Muçum

PROJETO E RESP. TÉCNICA - Eng. Egomar Antonio Grazziolla
CREA/RS – 223549

Forma do vigamento da platibanda e detalhamento das vigas e pilares da platibanda

ÁREA TOTAL: 273,18m²

DATA - Dezembro de 2025

ESCALA - na prancha

PRANCHA Nº 07

Anotação de Responsabilidade Técnica - ART
Lei nº 6.496, de 7 de dezembro de 1977
Conselho Regional de Engenharia e Agronomia do Rio Grande do Sul

CREA-RS
Conselho Regional de Engenharia e Agronomia do Rio Grande do Sul

ART Número
14159593

Tipo: OBRA OU SERVIÇO
Participação Técnica: INDIVIDUAL/PRINCIPAL
Convênio: NÃO É CONVÊNIO
Motivo: NORMAL

Contratado

Carteira: RS197666 **Profissional:** EGOMAR ANTONIO GRAZZIOLLA **E-mail:** egrazziolla@gmail.com
RNP: 2212419686 **Título:** Engenheiro Civil
Empresa: C & F SERVIÇOS DE ENGENHARIA E ARQUITETURA **Nr.Reg.:** 253042

Contratante

Nome: PREFEITURA MUNICIPAL DE MUÇUM **E-mail:**
Endereço: AVENIDA BORGES DE MEDEIROS 50 **Telefone:** **CPF/CNPJ:** 88224712000135
Cidade: MUÇUM **Bairro:** CENTRO **CEP:** 95970000 **UF:** RS

Identificação da Obra/Serviço

Proprietário: PREFEITURA MUNICIPAL DE MUÇUM
Endereço da Obra/Serviço: Estrada SÃO LUIZ **CPF/CNPJ:** 88224712000135
Cidade: MUÇUM **Bairro:** CIDADE ALTA **CEP:** 95970000 **UF:** RS
Finalidade: PÚBLICO **Vlr Contrato(R$):** 7.125,00 **Honorários(R$):** 7.125,00
Data Início: 10/12/2025 **Prev.Fim:** 10/05/2026 **Ent.Classe:** ASEAVALE

Atividade Técnica	Descrição da Obra/Serviço	Quantidade	Unid.
Projeto	Fundações Superficiais	273,18	M²
Projeto	Estruturas - Concreto Armado	273,18	M²

ART registrada (paga) no CREA-RS em 10/12/2025

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Local e Data	Declaro serem verdadeiras as informações acima EGOMAR ANTONIO GRAZZIOLLA Profissional	De acordo PREFEITURA MUNICIPAL DE MUÇUM Contratante

A AUTENTICIDADE DESTA ART PODE SER CONFIRMADA NO SITE DO CREA-RS, LINK SOCIEDADE - ART CONSULTA.