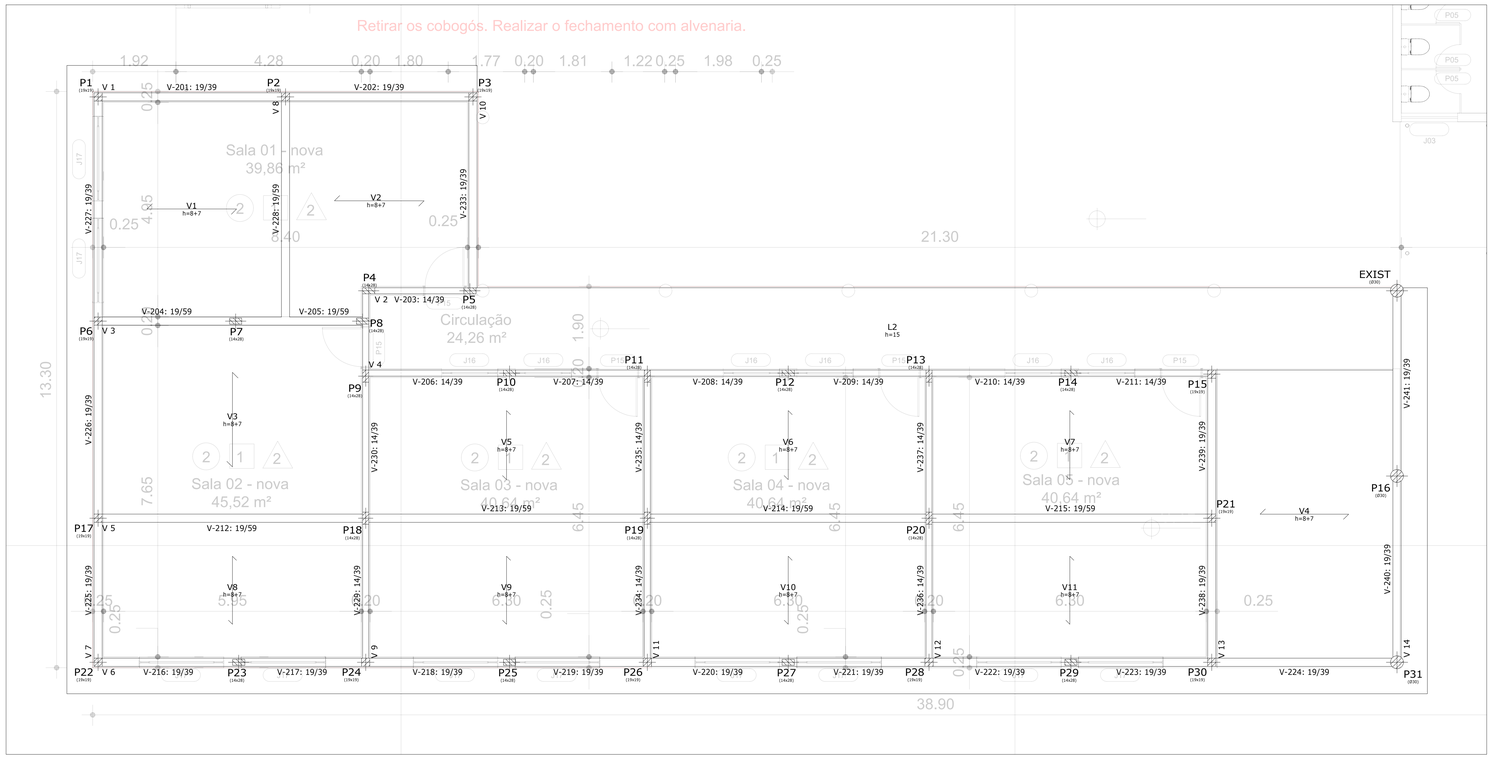


02 COBERTURA
Piso
Mf: Momento fletor de cálculo por metro de largura (kN x m/m)
V: Esforço cortante de cálculo por metro de largura (kN/m)
Escala: 1:50

02 COBERTURA
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:50
Escala aberturas 1:50

02 COBERTURA				
Elemento	Formas (m2)	Superfície (m2)	Volume (m3)	Barras (kg)
Lajes de vigotas	-	232.36	21.630	253
Lajes maciças	-	83.84	12.580	701
Vigas	97.50	25.30	12.020	825
Pilares	76.43	-	3.810	480
Total	-	341.50	50.040	2259
Índices (por m2)	-	-	0.146	6.59

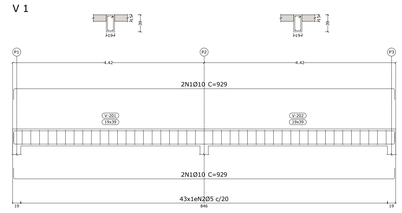
Superfície total: 342.81 m2

Tabela de características de lajes de vigotas (Grupo 2)
LAJE DE VIGOTAS DE CONCRETO
Altura do bloco/molde: 8 cm
Espessura camada de compressão: 7 cm
Entre-eixos: 42 cm
Bloco/Molde: Cerâmica
Largura da nervura: 9 cm
Volume de concreto: 0.093 m3/m2
Peso próprio: 2.48 kN/m2 (Simples), 2.69 kN/m2 (Duplo)
Nota: Consulte os detalhes referentes a unídes com lajes da estrutura principal e das zonas maciçadas.

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø8	157.8	69	
	Ø10	507.6	344	
	Ø12.5	253.4	268	681
CA-60	Ø5	833.8	144	144
Total				825

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	Ø10	4	10 / 875 / 15	929	3716	22.9	
	2	Ø5	43	25 / 5 / 14	104	4472		7.0
					Total+10%:		25.2	7.7
V 2	1	Ø10	4	10 / 257 / 15	307	1228	7.6	
	2	Ø5	11	25 / 5 / 14	94	1034		1.6
					Total+10%:		8.4	1.8
V 3	1	Ø12.5	4	10 / 625 / 15	679	2716	26.2	
	2	Ø8	4	620	629	2516	9.9	
	3	Ø5	30	25 / 5 / 14	144	4320		6.8
					Total+10%:		39.7	7.5
V 4	1	Ø10	4	10 / 1175 / 15	1200	4800	29.6	
	2	Ø10	4	913	940	3760	23.2	
	3	Ø5	97	25 / 5 / 14	94	9118		14.3
					Total+10%:		58.1	15.7
V 5	1	Ø12.5	4	10 / 1175 / 15	1200	4800	46.2	
	2	Ø12.5	4	1208	1200	4800	46.2	
	3	Ø12.5	4	530 / 15	555	2220	21.4	
	4	Ø12.5	5	400	400	2000	19.3	
	5	Ø12.5	2	10 / 629 / 15	654	1308	12.6	
	6	Ø12.5	1	684 / 15	689	689	6.6	
	7	Ø8	4	1175	1175	4700	18.6	
	8	Ø8	4	1200	1200	4800	19.0	
	9	Ø8	4	410	410	1640	6.5	
	10	Ø5	128	25 / 5 / 14	144	18432		28.9
					Total+10%:		216.0	31.8
V 7	1	Ø10	4	10 / 1175 / 15	1200	4800	29.6	
	2	Ø10	4	270 / 15	295	1180	7.3	
	3	Ø10	1	300	300	300	1.8	
	4	Ø10	1	532 / 15	557	557	3.4	
	5	Ø5	65	25 / 5 / 14	104	6760		10.6
					Total+10%:		46.3	11.7
V 8	1	Ø12.5	6	10 / 532 / 15	582	3492	33.6	
	2	Ø8	4	532	532	2128	8.4	
	3	Ø5	25	25 / 5 / 14	144	3600		5.7
					Total+10%:		46.2	6.3
V 9	1	Ø10	4	10 / 869 / 15	919	3676	22.7	
	2	Ø5	43	25 / 5 / 14	94	4042		6.3
					Total+10%:		25.0	6.9
V 10	1	Ø10	5	10 / 459 / 15	509	2545	15.7	
	2	Ø5	22	25 / 5 / 14	104	2288		3.6
					Total+10%:		17.3	4.0
V 11	1	Ø10	4	10 / 679 / 15	729	2916	18.0	
	2	Ø10	1	175 / 15	200	200	1.2	
	3	Ø5	32	25 / 5 / 14	94	3008		4.7
					Total+10%:		21.1	5.2
V 12	1	Ø10	4	10 / 679 / 15	729	2916	18.0	
	2	Ø10	2	175 / 15	200	400	2.5	
	3	Ø5	32	25 / 5 / 14	94	3008		4.7
					Total+10%:		22.6	5.2
V 6	1	Ø10	4	10 / 1175 / 15	1200	4800	29.6	
	2	Ø10	4	1208 / 15	1200	4800	29.6	
	3	Ø10	4	895 / 15	920	3680	22.7	
	4	Ø5	149	25 / 5 / 14	104	15496		24.3
					Total+10%:		90.1	26.7
V 13	1	Ø12.5	4	10 / 679 / 15	729	2916	28.1	
	2	Ø12.5	2	150 / 15	200	400	3.9	
	3	Ø5	33	25 / 5 / 14	104	3432		5.4
					Total+10%:		35.2	5.9
V 14	1	Ø10	4	10 / 883 / 15	933	3732	23.0	
	2	Ø10	1	300	300	300	1.8	
	3	Ø10	1	453	453	453	2.8	
	4	Ø5	42	25 / 5 / 14	104	4368		6.9
					Total+10%:		30.4	7.6
					Ø5:	0.0	144.0	
					Ø8:	68.6	0.0	
					Ø10:	344.5	0.0	
					Ø12.5:	268.5	0.0	
					Total:	681.6	144.0	

V 1



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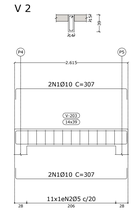

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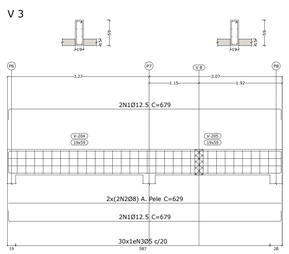

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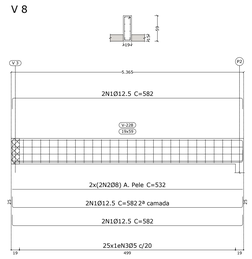

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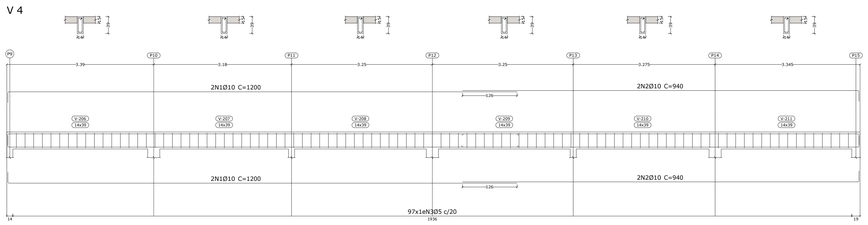

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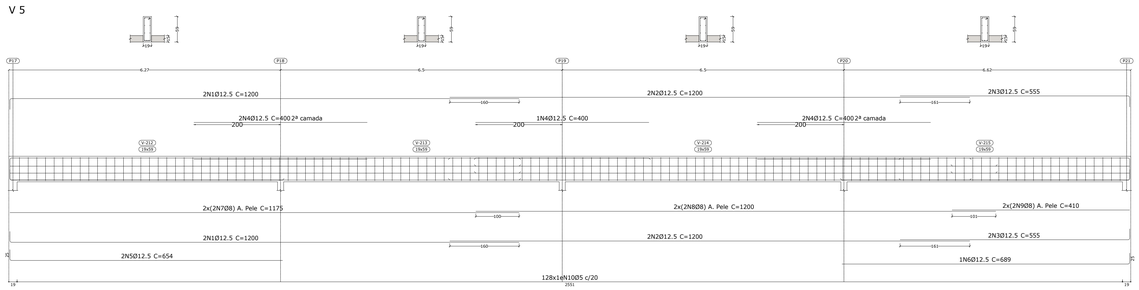

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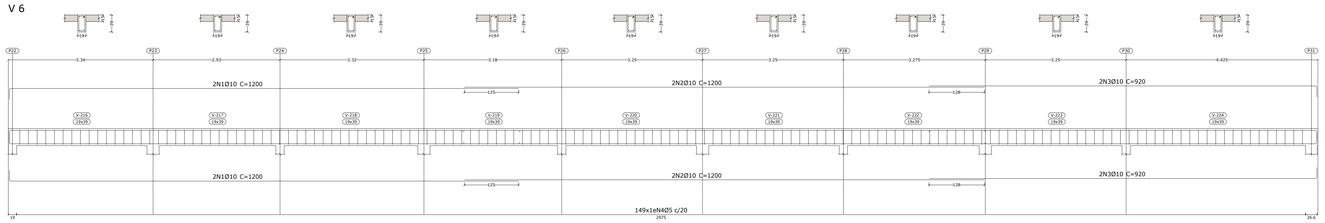

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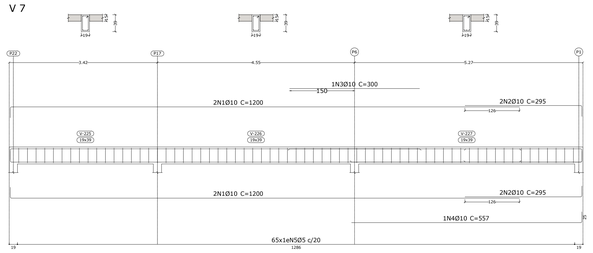

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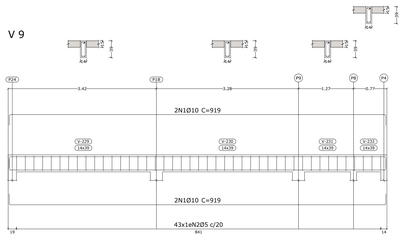

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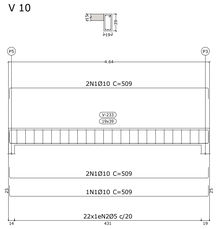

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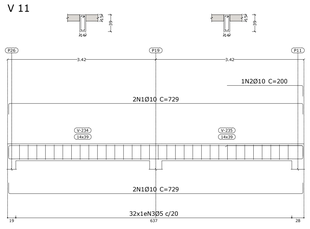

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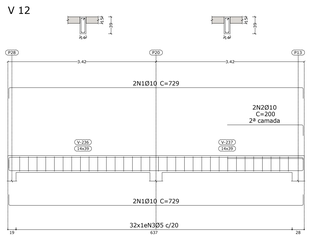

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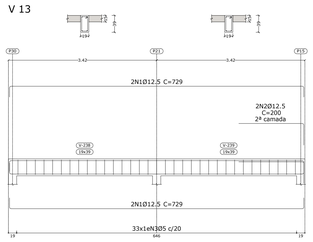

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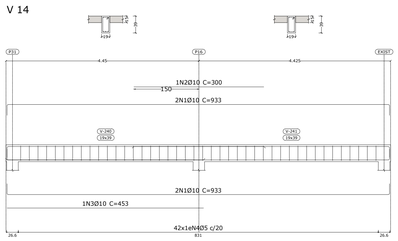

secretaria de planejamento

PREFEITURA MUNICIPAL DE CAMPO BOM

obra: EMEF MORADA DO SOL
local: AV MUNICIPAL, 250 | JARDIM DO SOL | CAMPO BOM/RS

proprietário: PREFEITURA MUNIC. CAMPO BOM
responsável técnico / projeto: WILLIAM MATEUS MULLER
projeto

prancha: E.03

FORMAS E VIGAS COBERTURA

desenho	data	escala	projeto nº
MATEUS	ABRIL/2026	1/50	