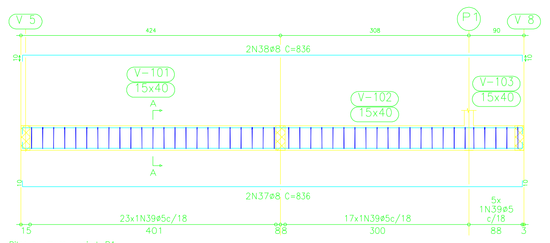
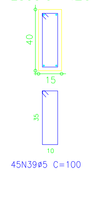
V 1
Escala 1:50



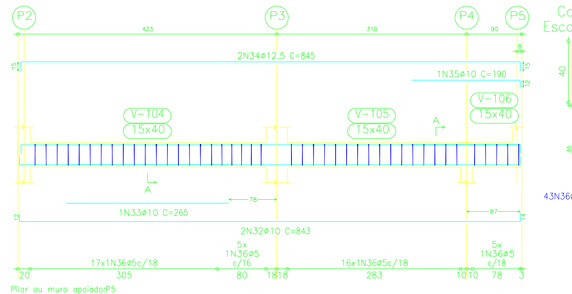
Pilar ou muro apoiadoP1

Ver esperas no detalhamento de pilares ou vista de muros

Corte A
Escala 1:20



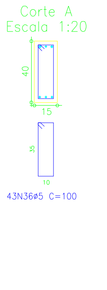
V 2
Escala 1:50



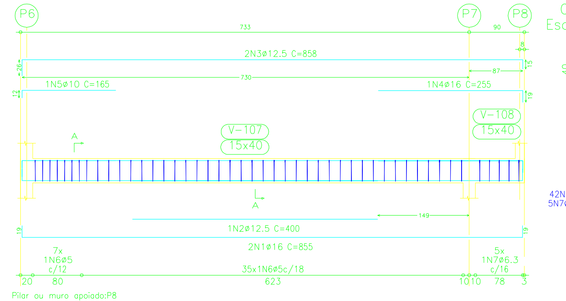
Pilar ou muro apoiadoP5

Ver esperas no detalhamento de pilares ou vista de muros

Corte A
Escala 1:20



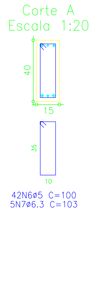
V 3
Escala 1:50



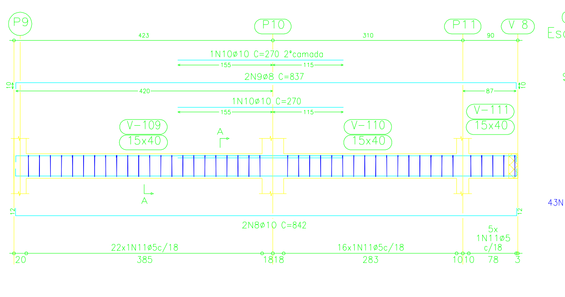
Pilar ou muro apoiadoP8

Ver esperas no detalhamento de pilares ou vista de muros

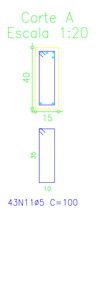
Corte A
Escala 1:20



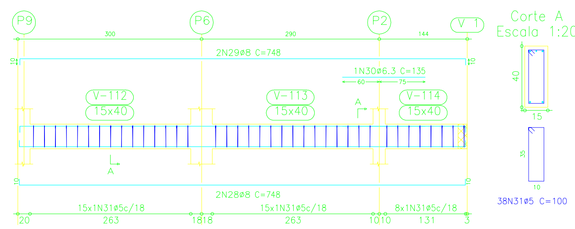
V 4
Escala 1:50



Corte A
Escala 1:20

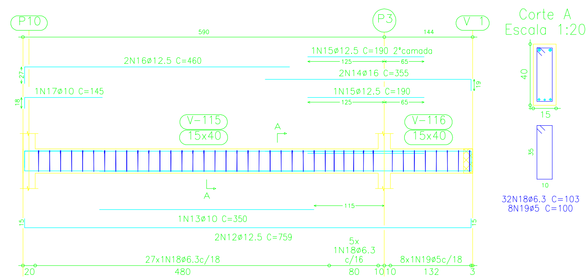


V 5
Escala 1:50



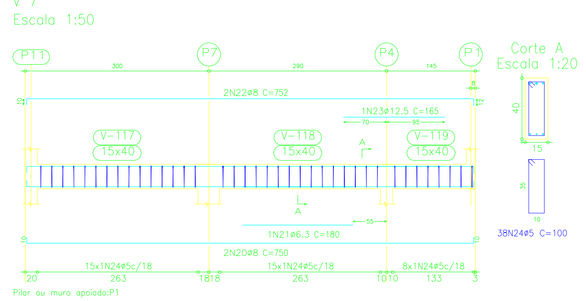
Corte A
Escala 1:20

V 6
Escala 1:50



Corte A
Escala 1:20

V 7
Escala 1:50

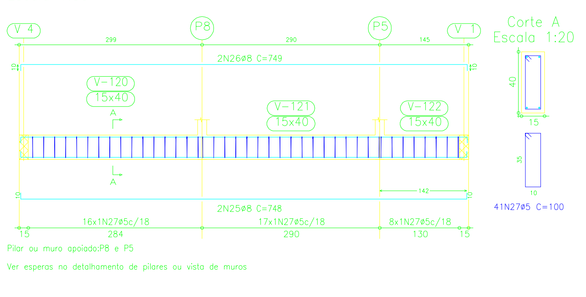


Pilar ou muro apoiadoP1

Ver esperas no detalhamento de pilares ou vista de muros

Corte A
Escala 1:20

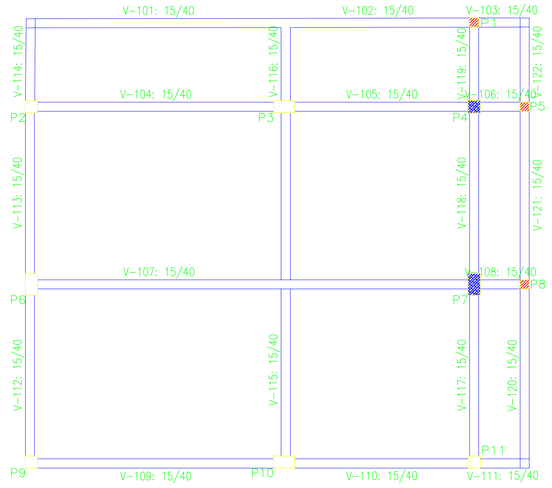
V 8
Escala 1:50



Pilar ou muro apoiadoP8 e P5

Ver esperas no detalhamento de pilares ou vista de muros

Corte A
Escala 1:20



PILARES QUE INICIAM NESTE PISO

PILARES QUE MORREM NESTE PISO

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
V 3	1	ø16	2	19	817	19	855	1710	26.8	
	2	ø12.5	1		400		400	400	3.9	
	3	ø12.5	2	26	817	15	858	1716	16.8	
	4	ø16	1		236	19	255	255	4.0	
	5	ø10	1	12	153		165	165	1.0	
	6	ø5	42				100	4200		6.6
	7	ø6.3	5				101	515	1.3	
								Total+10%	59.2	7.3
V 4	8	ø10	2	12	818	12	842	1684	10.6	
	9	ø8	2	10	817	10	837	1674	6.6	
	10	ø10	2		270		270	540	3.4	
	11	ø5	43					4300		6.8
								Total+10%	22.7	7.5
V 6	12	ø12.5	2	15	729	15	759	1518	14.9	
	13	ø10	1		350		350	350	2.2	
	14	ø16	2		336	19	355	710	11.1	
	15	ø12.5	2		190		190	380	3.7	
	16	ø12.5	2	27	433		460	920	9.0	
	17	ø10	1	18	127		145	145	0.9	
	18	ø6.3	32				103	3296	8.2	
	19	ø5	8				100	800		1.3
								Total+10%	55.0	1.4
V 7	20	ø8	2	10	730	10	750	1500	5.9	
	21	ø6.3	1		180		180	180	0.4	
	22	ø8	2	10	730	12	752	1504	5.9	
	23	ø12.5	1		165		165	165	1.6	
	24	ø5	38				100	3800		6.0
								Total+10%	15.2	6.6
V 8	25	ø8	2	10	728	10	748	1496	5.9	
	26	ø8	2	10	729	10	749	1498	5.9	
	27	ø5	41				100	4100		6.4
								Total+10%	13.0	7.0
V 5	28	ø8	2	10	728	10	748	1496	5.9	
	29	ø8	2	10	728	10	748	1496	5.9	
	30	ø6.3	1		135		135	135	0.3	
	31	ø5	38				100	3800		6.0
								Total+10%	13.3	6.6
V 2	32	ø10	2	12	817	14	843	1686	10.6	
	33	ø10	1		265		265	265	1.7	
	34	ø12.5	2	15	815	15	845	1690	16.6	
	35	ø10	1		178	12	190	190	1.2	
	36	ø5	43				100	4300		6.8
								Total+10%	33.1	7.5
V 1	37	ø8	2	10	816	10	836	1672	6.6	
	38	ø8	2	10	816	10	836	1672	6.6	
	39	ø5	45				100	4500		7.1
								Total+10%	14.5	7.8
								ø5:	0.0	51.7
								ø6.3:	11.1	0.0
								ø8:	60.8	0.0
								ø10:	34.8	0.0
								ø12.5:	73.2	0.0
								ø16:	46.1	0.0
								Total:	226.0	51.7

Resumo Aço Piso 1 Vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50-A	ø6.3	41.3	11	
	ø8	140.1	60	
	ø10	50.3	35	
	ø12.5	67.9	73	
	ø16	26.8	46	225
CA-60-B	ø5	298.0	51	51
Total				276

Piso 1
Desenho de vigas
Concreto: C20, em geral
Aço: CA-50-A e CA-60-B
Escala vigas: 1:50
Escala seções: 1:20

Piso 1
Fundação
Concreto: C20, em geral
Escala: 1:50

CLP ENGENHARIA E PROJETOS LTDA

CLP ENGENHARIA E PROJETOS LTDA.
CNPJ 16.504/0001-28
RUA ESPIRITO SANTO, 70 - CHARQUEADAS-RS
RESP. TÉC.:
ENGENHEIRO JOÃO BATISTA DURGANTE COLPO - CREA 42.629-RS
clpengenharia@gmail.com

MODIFICAÇÃO DE PROJETO:
PROJETO DE AMPLIAÇÃO - EMEF BARÃO DE RIO BRANCO

ENDEREÇO:
AVENIDA DOS BANDEIRANTES, Nº 78 - VILA BRÁS

PREFEITO MUNICIPAL: FABIO DE OLIVEIRA BRANCO

RESP. TÉCNICO: ENGENHEIRO JOÃO BATISTA DURGANTE COLPO-CREA 42.629-RS

DATA: 20/12/2011

ESCALA: 1/50

DESENHO: JOÃO

PROJETO ESTRUTURAL

PRANCHA: 02/06

PLANTA DE VIGAS 1º PISO