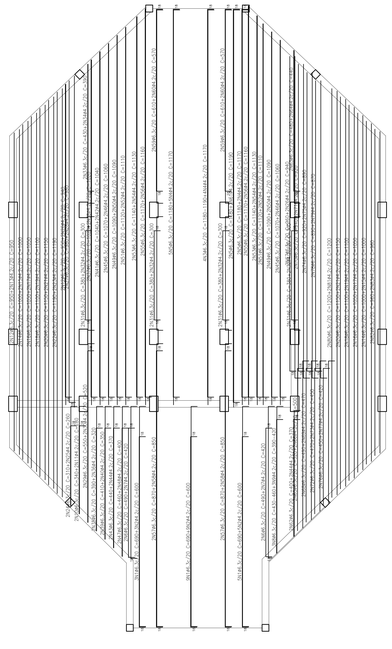
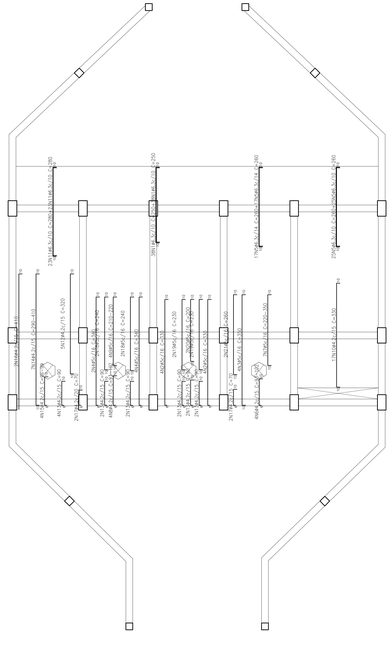
Térreo
Armadura transversal superior
Concreto: C25, usina rígor
CA-50-A e CA-60-B
Escala: 1:50



Elemento	Pos.	Diam.	Q	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
Armadura transversal superior	1	ø6.3	17	18	834	18	870	14790	29.0	
	2	ø4.2	17	18	564	18	600	10200		11.1
	3	ø6.3	4	18	VAR.		VAR.	4732	11.7	
	4	ø4.2	11	18	1134	18	1170	12870		14.0
	5	ø6.3	9	18	1142		1180	10620	26.3	
	6	ø6.3	4	18	454	18	490	1960	4.8	
	7	ø6.3	5	18	384	18	420	1680		1.8
	8	ø6.3	3	18	VAR.		VAR.	1315	3.3	
	9	ø6.2	3	18	VAR.		VAR.	1315		1.3
	10	ø6.3	2	18	322		340	680	1.7	
	11	ø4.2	2	18	262		280	560		0.6
	12	ø6.3	4		950		950	3800	9.4	
	13	ø4.2	2		950		950	1900		2.1
	14	ø6.3	4		1000		1000	4000	9.9	
	15	ø4.2	4		1000		1000	4000		4.4
	16	ø6.3	4		1050		1050	4200	10.4	
	17	ø4.2	4		1050		1050	4200		4.6
	18	ø6.3	4		1100		1100	4400	10.9	
	19	ø4.2	4		1100		1100	4400		4.8
	20	ø6.3	4		1150		1150	4600	11.4	
	21	ø4.2	4		1150		1150	4600		5.0
	22	ø6.3	2		1190		1190	2380	5.9	
	23	ø4.2	2		1190		1190	2380		2.6
	24	ø6.3	2	18	292		310	620	1.5	
	25	ø6.3	2	18	382		400	800		0.6
	26	ø4.2	4	18	922		940	3760		4.1
	27	ø6.3	2		980		980	1960	4.8	
	28	ø4.2	2	18	962		980	1960		2.1
	29	ø6.3	2	18	532		550	1100	2.7	
	30	ø4.2	2	18	502		520	1040		1.1
	31	ø6.3	8	18	344	18	580	3040	7.5	
	32	ø4.2	8	18	264	18	300	2400		2.6
	33	ø6.3	2	18	412		430	860	2.1	
	34	ø4.2	2	18	382		400	800		0.9
	35	ø6.3	2	18	372		390	780	1.9	
	36	ø4.2	2	18	302		320	640		0.7
	37	ø6.3	2		1020		1020	2040	5.0	
	38	ø4.2	2	18	1002		1020	2040		2.2
	39	ø6.3	2	18	392		410	820	2.0	
	40	ø4.2	2	18	332		350	700		0.8
	41	ø6.3	2		1040		1060	2080	5.1	
	42	ø4.2	2	18	1022		1040	2080		2.3
	43	ø6.3	2	18	422		440	880	2.2	
	44	ø4.2	4	18	352		370	1480		1.6
	45	ø6.3	4		1070		1070	4280	10.6	
	46	ø4.2	4	18	1042		1060	4240		4.6
	47	ø6.3	2	18	442		460	920	2.3	
	48	ø4.2	2	18	382		400	800		0.9
	49	ø6.3	4		1090		1090	4360	10.8	
	50	ø4.2	4	18	1062		1080	4320		4.8
	51	ø6.3	4		1122		1110	4440	11.1	
	52	ø4.2	4	18	1092		1110	4440		4.8
	53	ø6.3	4		1140		1140	4560	11.3	
	54	ø4.2	4	18	1112		1130	4520		4.9
	55	ø6.3	4		1170		1170	4680	11.6	
	56	ø4.2	4	18	1142		1160	4640		5.1
	57	ø6.3	4	18	834	18	870	3480	8.6	
	58	ø4.2	4	18	814	18	850	3400		3.7
	59	ø6.3	4	18	534	18	570	2280	6.0	
	60	ø4.2	4	18	534	18	570	2280		2.5
	61	ø4.2	2	18	1154	18	1190	2380		2.6
	62	ø6.3	2	18	382		400	800	2.0	
	63	ø6.3	2	18	462		480	960	2.4	
	64	ø4.2	2	18	422		440	880		1.0
	65	ø6.3	2	18	502		520	1040	2.6	
	66	ø4.2	2	18	482		500	1000		1.1
	67	ø6.3	2	18	942		960	1920	4.7	
	68	ø4.2	2	18	922		940	1880	2.4	
	69	ø4.2	2	18	452		470	940		1.0
	70	ø6.3	2	18	922		940	1880	4.6	
	71	ø4.2	2	18	902		920	1840		2.0
	72	ø6.3	2	18	452		470	940	2.3	
	73	ø4.2	2	18	432		450	900		1.0
	74	ø6.3	2	18	902		920	1840	4.5	
	75	ø4.2	2	18	872		890	1780		1.9
	76	ø6.3	2	18	432		450	900	2.2	
	77	ø4.2	2	18	412		430	860		0.9
	78	ø6.3	2	18	872		890	1780	4.4	
	79	ø4.2	2	18	852		870	1740		1.9
	80	ø6.3	2		1200		1200	2400	5.9	
	81	ø4.2	2		1200		1200	2400		2.6
	82	ø6.3	2		960		960	1920	4.7	
	83	ø4.2	2		960		960	1920		2.1
							Total+10%		313.0	132.8
							ø4.2:		0.0	132.8
							ø6.3:		313.0	0.0
							Total:		313.0	132.8

Resumo Aço Térreo Armadura transversal superior		Comp. total (m)	Peso+10% (kg)	Total
CA-50-A	ø6.3	1151.8	313	313
CA-60-B	ø4.2	1107.1	133	133
Total				446

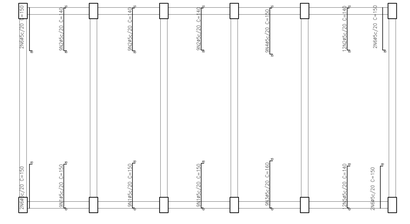
Piso 1
Armadura transversal superior
Concreto: C25, usina rígor
CA-50-A e CA-60-B
Escala: 1:50



Elemento	Pos.	Diam.	Q	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
Armadura transversal superior	1	ø6.3	78	10	330	10	350	19600	47.0	
	2	ø5	8	6	314	10	330	2640		4.1
	3	ø5	4	10	330	10	350	1400		2.2
	4	ø5	8	6	324	10	340	2040		3.2
	5	ø6.3	84	10	240	10	260	21840	54.0	
	6	ø4.2	4	6	VAR.	10	VAR.	392		0.4
	7	ø4.2	4	6	VAR.	10	VAR.	2010		2.2
	8	ø5	2	10	VAR.	10	VAR.	1315		0.8
	9	ø4.2	4	10	VAR.	10	VAR.	860		1.4
	10	ø4.2	17	10	330	10	350	5610		6.1
	11	ø6.3	46	10	260	10	280	12880	31.8	
	12	ø4.2	5	10	300	10	320	1600		1.7
	13	ø4.2	14	6	74	10	90	1260		1.4
	14	ø4.2	7	10	VAR.	10	VAR.	2450		2.7
	15	ø4.2	4	6	83	10	99	396		0.4
	16	ø4.2	4	6	54	10	70	296		0.3
	17	ø4.2	4	6	54	10	70	296		0.3
	18	ø5	4	10	220	10	240	960		1.5
	19	ø5	4	10	210	10	230	920		1.4
	20	ø5	2	10	180	10	200	400		0.6
	21	ø5	2	10	240	10	260	520		0.8
							Total+10%		146.1	36.0
							ø4.2:		0.0	11.8
							ø5:		0.0	20.2
							ø6.3:		146.1	0.0
							Total:		146.1	36.0

Resumo Aço Piso 1 Armadura transversal superior		Comp. total (m)	Peso+10% (kg)	Total
CA-50-A	ø6.3	537.2	146	146
CA-60-B	ø4.2	132.0	16	
	ø5	117.6	20	36
Total				182

Piso 2
Armadura transversal superior
Concreto: C25, usina rígor
CA-50-A e CA-60-B
Escala: 1:50



Elemento	Pos.	Diam.	Q	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
Armadura transversal superior	1	ø5	27	6	138	8	150	4860		8.4
	2	ø5	9	6	138	8	150	1440		2.5
	3	ø5	9	6	146	8	160	1440		2.5
	4	ø5	9	8	136	6	150	1350		2.1
	5	ø5	12	8	128	8	140	1680		2.6
	6	ø5	8	8	142		150	1200		1.9
							Total+10%			26.3
							ø5:		0.0	26.3
							Total:		0.0	26.3

Resumo Aço Piso 2 Armadura transversal superior		Comp. total (m)	Peso+10% (kg)
CA-60-B	ø5	151.8	26

PREFEITURA MUNICIPAL DO RIO GRANDE
UNIDADE GESTORA DE PROJETOS - UGP
RIO GRANDE 2010 UMA VISÃO DE FUTURO

OBRA/LOCAL:
PROJETO DE ESTRUTURAL DA CASA DE BOMBAS PADRÃO

CASA DE BOMBAS

RESP. PROJETO: Engº Mauro Limpert - CREA 37973
Engº Gilberto Barbosa Junior - CREA/RS 159864
Engº Atahualpa da Silva Agostino - CREA/RS 160757

DESENHO: GILBERTO A. JR. | ESCALA: 1/50 | DATA: AGOSTO/2010 | PRANCHA: 06/10

ESPECIFICAÇÃO: ARMAÇÃO DAS LAJES - TRANSVERSAL SUPERIOR