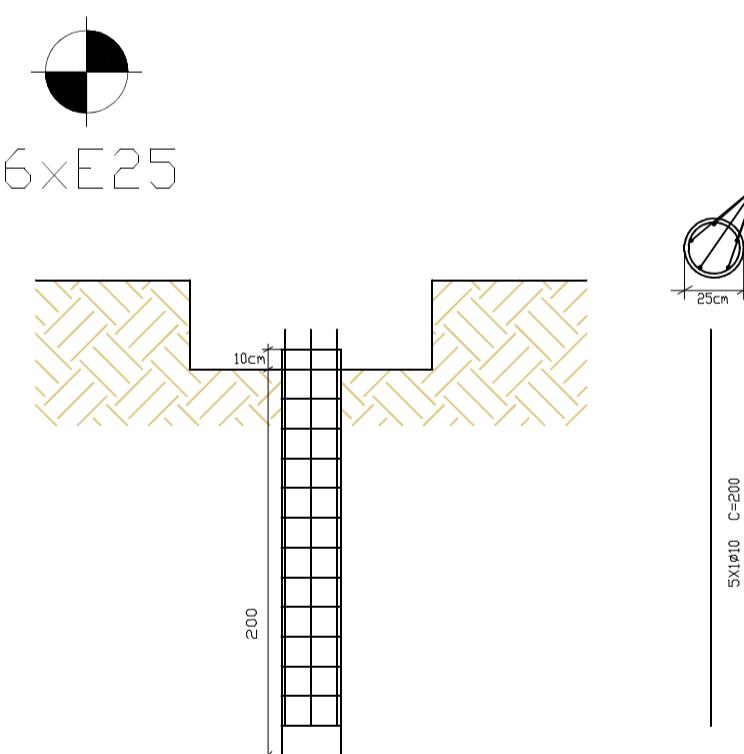
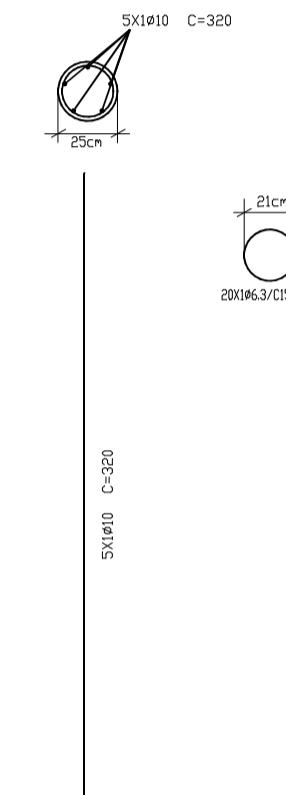
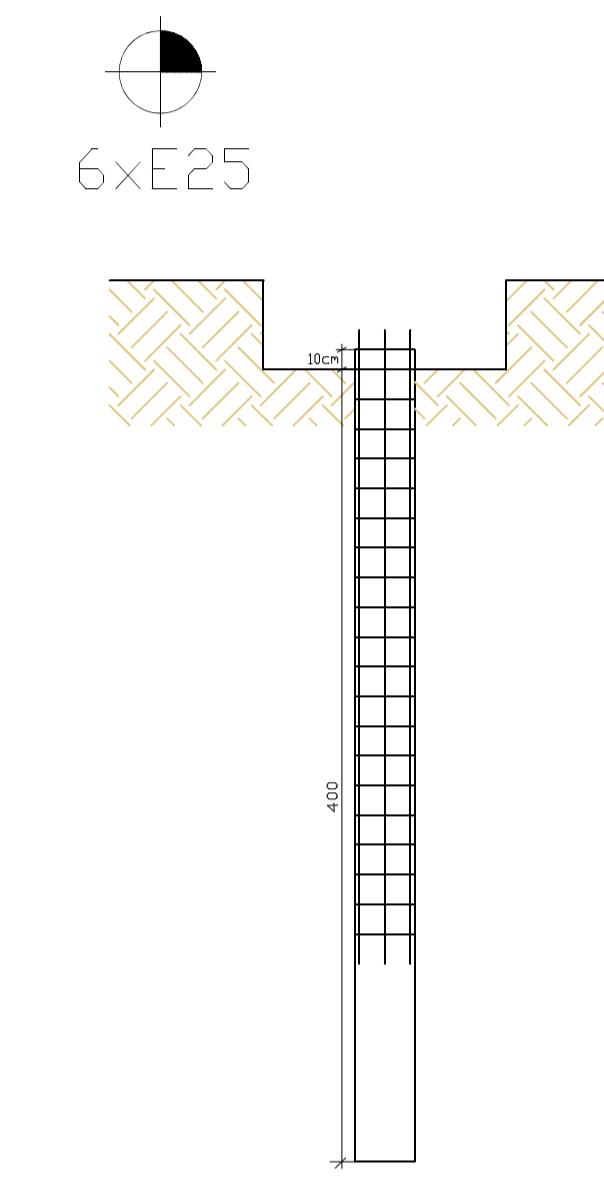
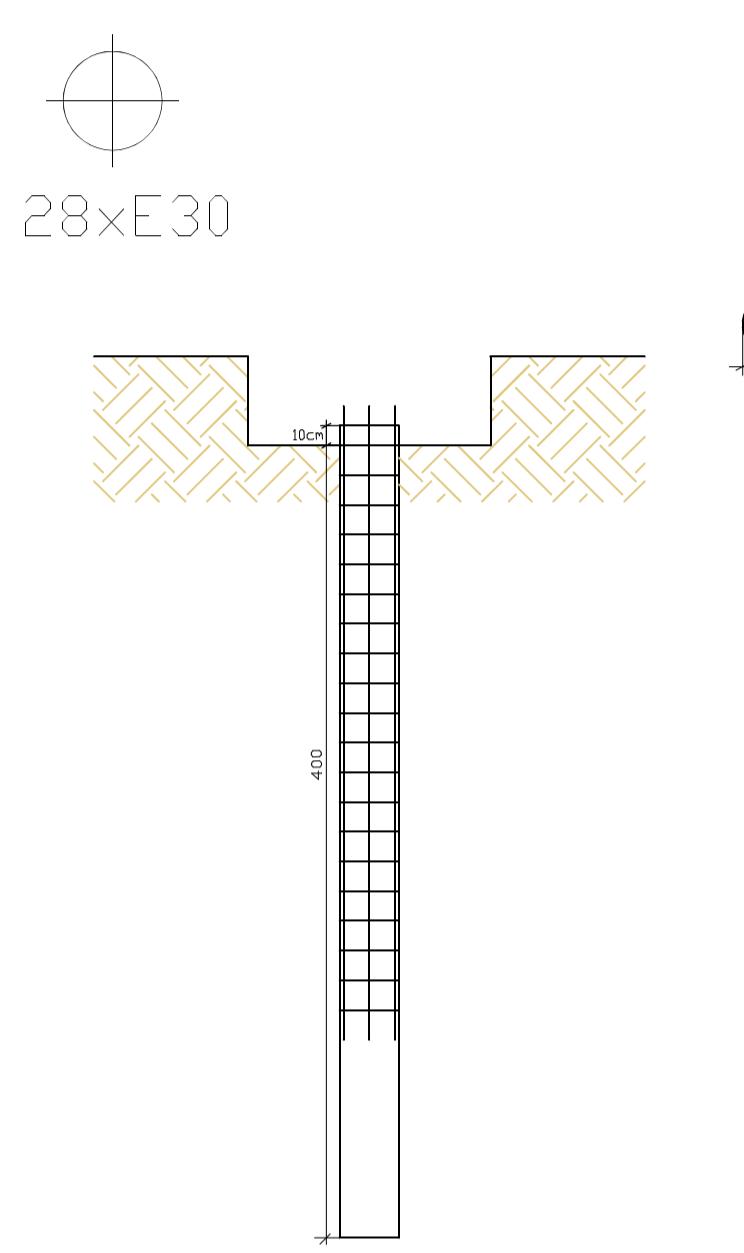
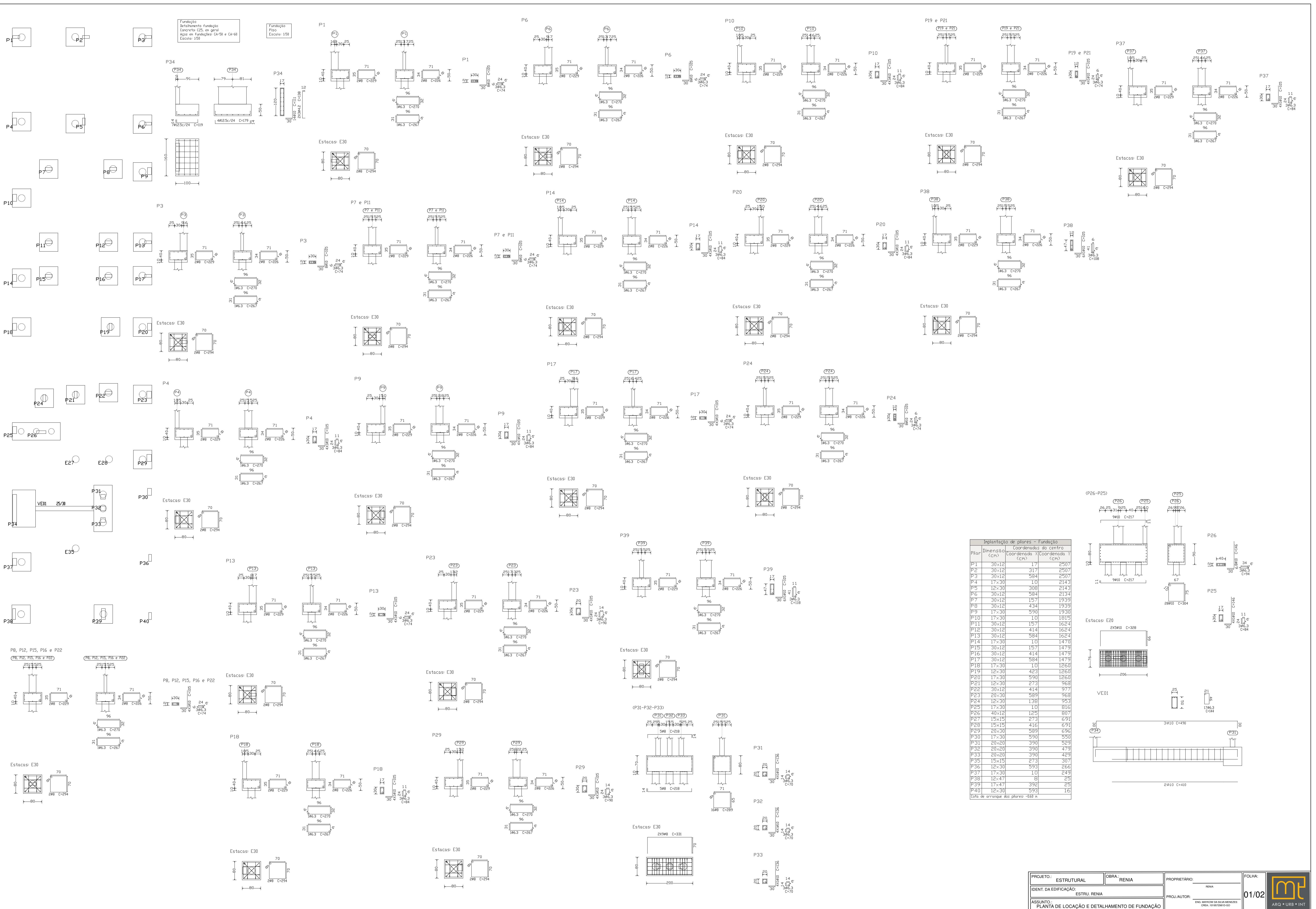
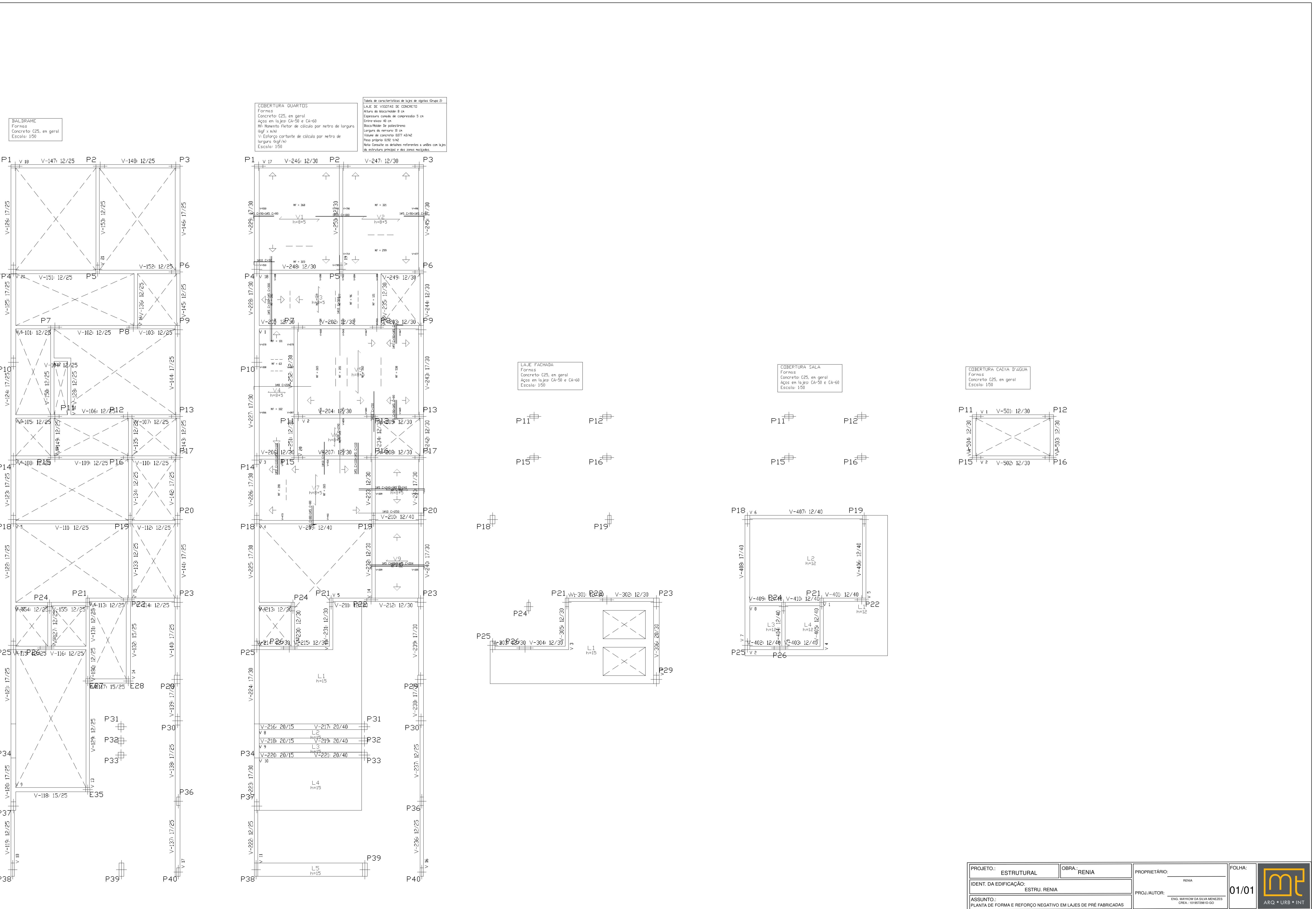
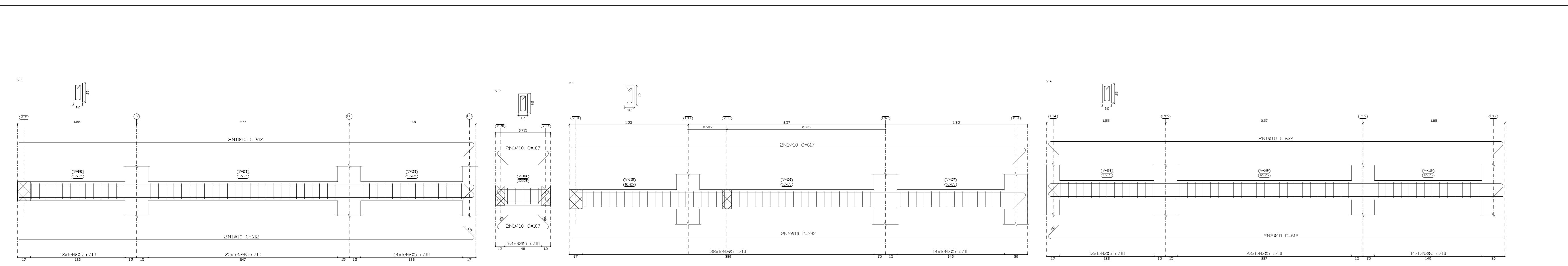


Tabela de estacas		
6xE25	Concreto circular: 4250 cm Capacidade de carga em combinações permanentes: 7,0 t Capacidade de carga em combinações acidentais: 7,8 t	
28xE30	Concreto circular: 4300 cm Capacidade de carga em combinações permanentes: 10,0 t Capacidade de carga em combinações acidentais: 10,0 t	
28xE30	Concreto circular: 4250 cm Capacidade de carga em combinações permanentes: 3,0 t Capacidade de carga em combinações acidentais: 3,0 t	





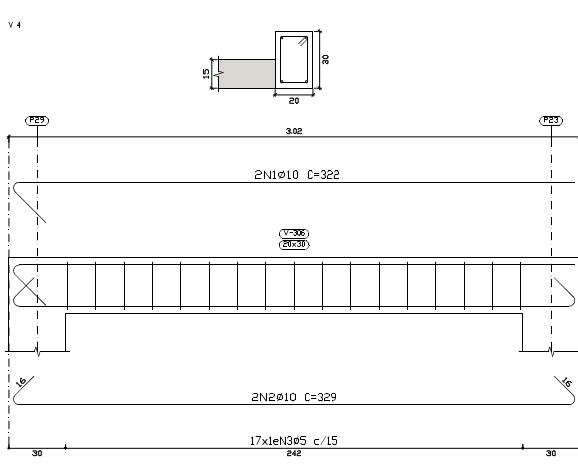
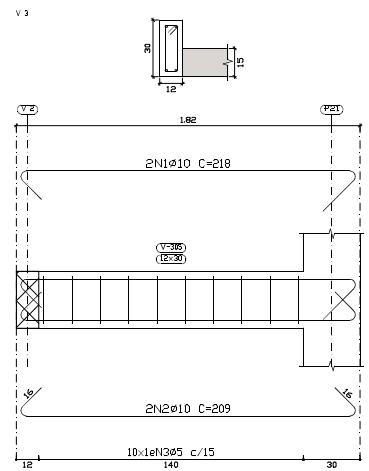
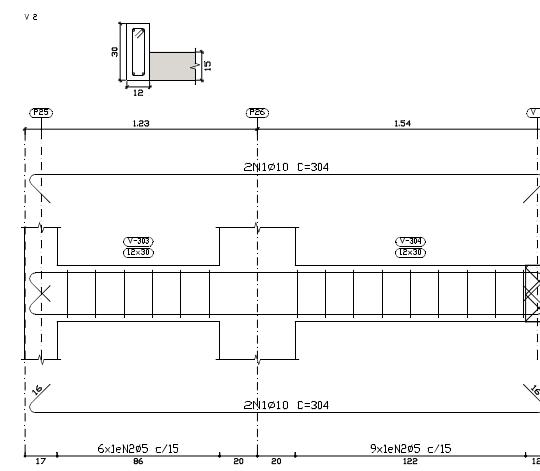
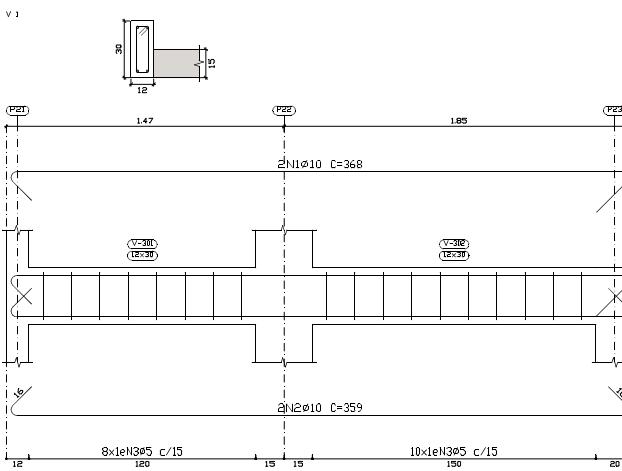




Elemento	Pos.	Diam.	Q	Esquema	c(m)	Comp.	c(m)	Total	A-50E-A-60	(kg)
V.1	1	#10	4			62	2448	751		0.1
	2	#10	5			62	1656	56		
	3	#10	5			107	4198	26		
	4	#10	5			62	310	0.5		
V.2	1	#10	4			62	1294	9.6		
	2	#10	5			62	1294	7.6		
	3	#10	5			62	1294	7.5		
	4	#10	5			62	1294	5.1		
V.3	1	#10	2			62	1294	16.4		
	2	#10	2			62	1294	16.4		
	3	#10	2			62	1294	16.4		
	4	#10	2			62	1294	16.4		
V.4	1	#10	2			62	1294	7.8		
	2	#10	5			62	310	4.9		
	3	#10	5			62	1294	16.4		
	4	#10	5			62	1294	16.4		
V.5	1	#10	4			62	1294	17.2		
	2	#10	5			62	3472	55		
V.6	1	#10	2			62	754	4.3		
	2	#10	2			387	654	4.0		
	3	#10	2			62	164	0.6		
	4	#10	2			62	164	0.6		
V.7	1	#10	4			272	1088	6.7		
	2	#10	5			62	1674	2.6		
V.8	1	#10	4			292	1168	7.2		
	2	#10	5			62	930	1.5		
V.9	1	#10	4			294	1176	7.9		
	2	#10	5			62	1674	2.6		
V.10	1	#10	4			294	1176	7.8		
	2	#10	5			68	1700	2.7		
V.11	1	#10	2			247	988	6.1		
	2	#10	2			62	1176	1.8		
V.12	1	#10	4			247	988	6.1		
	2	#10	5			62	1176	1.8		
V.13	1	#10	2			247	988	6.1		
	2	#10	2			62	1176	1.8		
V.14	1	#10	2			247	988	6.1		
	2	#10	2			62	1176	1.8		
	3	#10	60			62	3844	6.0		
V.15	1	#10	4			62	2480	8.8		
	2	#10	5			62	3782	5.9		
V.16	1	#10	4			672	2480	8.5		
	2	#10	5			62	3782	5.9		
V.17	1	#10	4			48	3156	5.5		
	2	#10	5			48	3156	5.5		
V.18	1	#10	2			642	1284	5.1		
	2	#10	2			592	1184	7.3		
	3	#10	5			62	3162	5.0		
V.19	1	#10	2			642	1284	5.1		
	2	#10	2			592	1184	7.3		
	3	#10	5			62	3162	5.0		
V.20	1	#10	2			642	1284	5.1		
	2	#10	2			467	934	5.8		
	3	#10	45			62	2790	4.4		
V.21	1	#10	2			642	1284	5.1		
	2	#10	2			608	1516	7.7		
	3	#10	55			62	3410	5.4		
V.22	1	#10	2			430	860	5.9		
	2	#10	2			382	310	4.7		
	3	#10	55			62	2176	3.4		
	4	#10	55			62	2176	3.4		
	5	#10	55			62	2176	3.4		
	6	#10	55			62	2176	3.4		
	7	#10	55			62	2176	3.4		
	8	#10	55			62	2176	3.4		
	9	#10	55			62	2176	3.4		
	10	#10	55			62	2176	3.4		
	11	#10	55			62	2176	3.4		
	12	#10	55			62	2176	3.4		
	13	#10	55			62	2176	3.4		
	14	#10	55			62	2176	3.4		
	15	#10	55			62	2176	3.4		
	16	#10	55			62	2176	3.4		
	17	#10	55			62	2176	3.4		
	18	#10	55			62	2176	3.4		
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	38	#10	55			62	2176	3.4		
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	40	#10	55			62	2176	3.4		
	41	#10	55			62	2176	3.4		
	42	#10	55			62	2176	3.4		
	43	#10	55			62	2176	3.4		
	44	#10	55			62	2176	3.4		
	45	#10	55			62	2176	3.4		
	46	#10	55			62	2176	3.4		
	47	#10	55			62	2176	3.4		
	48	#10	55			62	2176	3.4		
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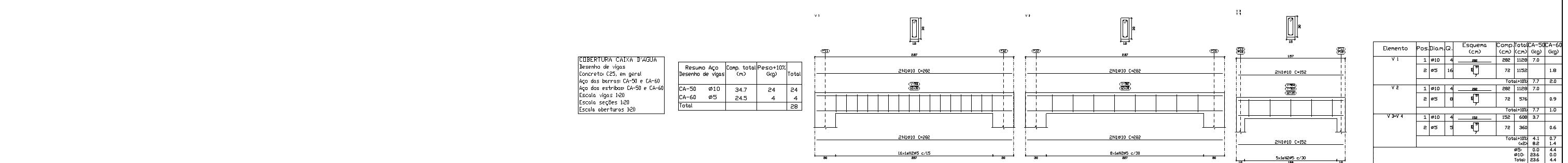
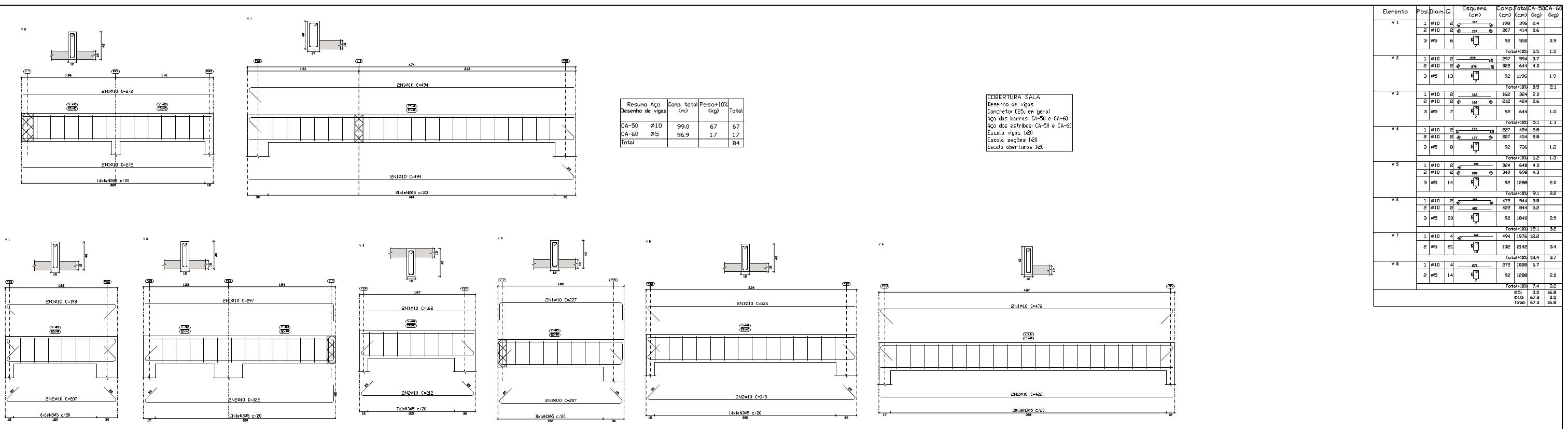
Elemento	Pos.	Dim.	Q	Esquema	Comp.	Total	CA-50	CA-60
				(cm)	(cm)	(kg)	(kg)	(kg)
V 1	1	ø10	4	—	592	2464	4.6	4.0
				—	477	1968	1.8	1.0
				—	72	1872	2.9	2.0
V 2	1	ø10	4	—	—	Totais	103.0	3.2
	2	ø5	26	—	—			
	3	ø5	35	—	—			
V 3	1	ø10	4	—	617	2468	5.2	4.0
	2	ø5	26	—	72	2576	1.7	1.0
	3	ø5	28	—	617	1534	7.6	4.0
V 4	1	ø10	2	—	477	1968	1.7	1.0
	2	ø10	2	—	617	2468	3.2	2.0
	3	ø5	28	—	72	2576	4.0	2.0
V 5	1	ø10	2	—	477	1968	1.7	1.0
	2	ø5	26	—	72	1872	2.9	2.0
	3	ø5	16	—	72	1996	0.9	0.5
V 6	1	ø10	4	—	169	676	4.2	3.2
	2	ø10	2	—	72	1872	1.7	1.0
	3	ø5	15	—	382	644	4.0	2.0
	4	ø5	46	—	72	1080	1.7	1.0
V 7	1	ø10	2	—	477	1968	1.7	1.0
	2	ø10	2	—	617	2468	3.2	2.0
	3	ø5	15	—	72	1080	1.7	1.0
V 8	1	ø12.5	3	g	229	705	6.8	5.5
	2	ø12.5	3	g	16	295	0.5	0.3
	3	ø12.5	3	g	16	417	12.0	10.0
	4	ø5	46	—	44	2024	3.2	2.0
	5	ø5.3	16	—	110	1760	4.3	3.0
					Totais	1020	34.8	25.5
V 9	1	ø12.5	3	g	229	705	6.8	5.5
	2	ø12.5	3	g	16	295	0.5	0.3
	3	ø12.5	3	g	16	417	12.0	10.0
	4	ø5	46	—	44	2024	3.2	2.0
	5	ø5.3	16	—	110	1760	4.3	3.0
					Totais	1020	34.8	25.5
V 10	1	ø10	2	—	229	705	6.8	5.5
	2	ø10	2	—	177	354	2.2	1.5
	3	ø5	10	—	72	720	1.1	0.7
V 11	1	ø10	2	—	477	1968	1.7	1.0
	2	ø10	2	—	617	2468	3.2	2.0
	3	ø5	10	—	72	2998	4.6	3.0
V 12	1	ø10	4	—	202	808	5.0	4.0
	2	ø5	7	—	72	504	0.8	0.5
	3	ø5	10	—	72	1080	1.7	1.0
V 13	1	ø10	2	—	477	1968	1.7	1.0
	2	ø10	2	—	177	354	2.2	1.5
	3	ø5	10	—	72	720	1.1	0.7
V 14	1	ø10	2	—	477	1968	1.7	1.0
	2	ø10	2	—	617	2468	3.2	2.0
	3	ø5	4	—	72	2998	4.6	3.0
V 15	1	ø10	4	—	202	808	5.0	4.0
	2	ø5	7	—	72	504	0.8	0.5
	3	ø5	10	—	72	1080	1.7	1.0
V 16	1	ø10	4	—	477	1968	1.7	1.0
	2	ø10	2	—	617	2468	3.2	2.0
	3	ø5	14	—	72	2998	4.6	3.0
V 17	1	ø10	4	—	477	1968	1.7	1.0
	2	ø10	2	—	617	2468	3.2	2.0
	3	ø5	14	—	72	2998	4.6	3.0
V 18	1	ø10	2	—	229	705	6.8	5.5
	2	ø10	2	—	250	500	3.1	2.0
	3	ø5	14	—	72	1650	2.6	1.7
	4	ø5	28	—	72	2998	4.6	3.0
V 19	1	ø10	2	—	229	705	6.8	5.5
	2	ø10	2	—	250	500	3.1	2.0
	3	ø5	14	—	72	1650	2.6	1.7
	4	ø5	28	—	72	2998	4.6	3.0
V 20	1	ø10	2	—	477	1968	1.7	1.0
	2	ø10	2	—	617	2468	3.2	2.0
	3	ø5	30	—	72	2160	3.4	2.0
	4	ø5	31	—	72	2998	4.6	3.0
	5	ø5	32	—	72	3050	5.0	3.4
	6	ø5	33	—	72	3050	5.0	3.4
	7	ø5	34	—	72	3098	5.7	3.9
	8	ø5	35	—	72	3098	5.7	3.9
	9	ø5	36	—	72	3098	5.7	3.9
	10	ø5	37	—	72	3098	5.7	3.9
	11	ø5	38	—	72	3098	5.7	3.9
	12	ø5	39	—	72	3098	5.7	3.9
	13	ø5	40	—	72	3098	5.7	3.9
	14	ø5	41	—	72	3098	5.7	3.9
	15	ø5	42	—	72	3098	5.7	3.9
	16	ø5	43	—	72	3098	5.7	3.9
	17	ø5	44	—	72	3098	5.7	3.9
	18	ø5	45	—	72	3098	5.7	3.9
	19	ø5	46	—	72	3098	5.7	3.9
	20	ø5	47	—	72	3098	5.7	3.9
	21	ø5	48	—	72	3098	5.7	3.9
	22	ø5	49	—	72	3098	5.7	3.9
	23	ø5	50	—	72	3098	5.7	3.9
	24	ø5	51	—	72	3098	5.7	3.9
	25	ø5	52	—	72	3098	5.7	3.9
	26	ø5	53	—	72	3098	5.7	3.9
	27	ø5	54	—	72	3098	5.7	3.9
	28	ø5	55	—	72	3098	5.7	3.9
	29	ø5	56	—	72	3098	5.7	3.9
	30	ø5	57	—	72	3098	5.7	3.9
	31	ø5	58	—	72	3098	5.7	3.9
	32	ø5	59	—	72	3098	5.7	3.9
	33	ø5	60	—	72	3098	5.7	3.9
	34	ø5	61	—	72	3098	5.7	3.9
	35	ø5	62	—	72	3098	5.7	3.9
	36	ø5	63	—	72	3098	5.7	3.9
	37	ø5	64	—	72	3098	5.7	3.9
	38	ø5	65	—	72	3098	5.7	3.9
	39	ø5	66	—	72	3098	5.7	3.9
	40	ø5	67	—	72	3098	5.7	3.9
	41	ø5	68	—	72	3098	5.7	3.9
	42	ø5	69	—	72	3098	5.7	3.9
	43	ø5	70	—	72	3098	5.7	3.9
	44	ø5	71	—	72	3098	5.7	3.9
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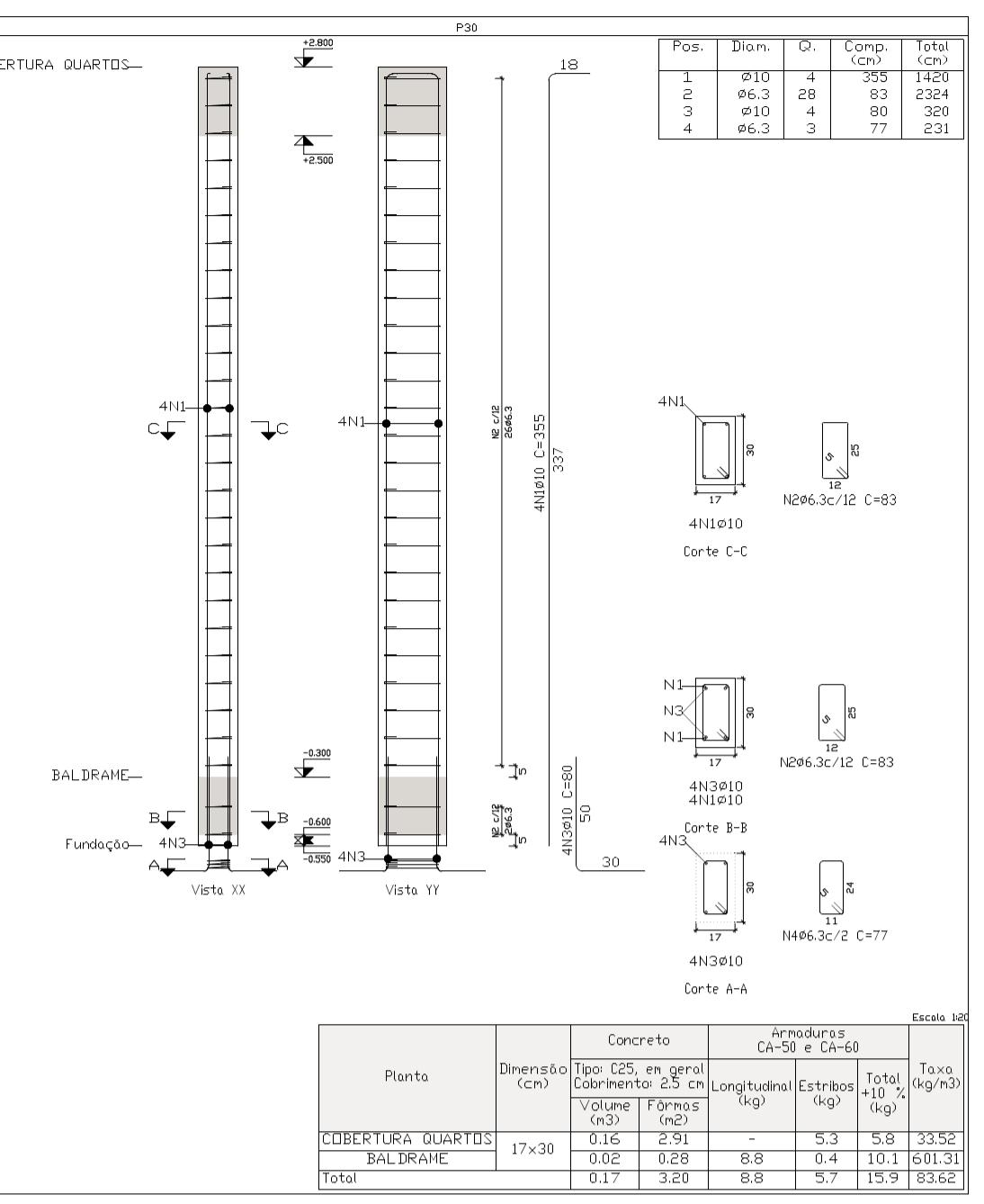
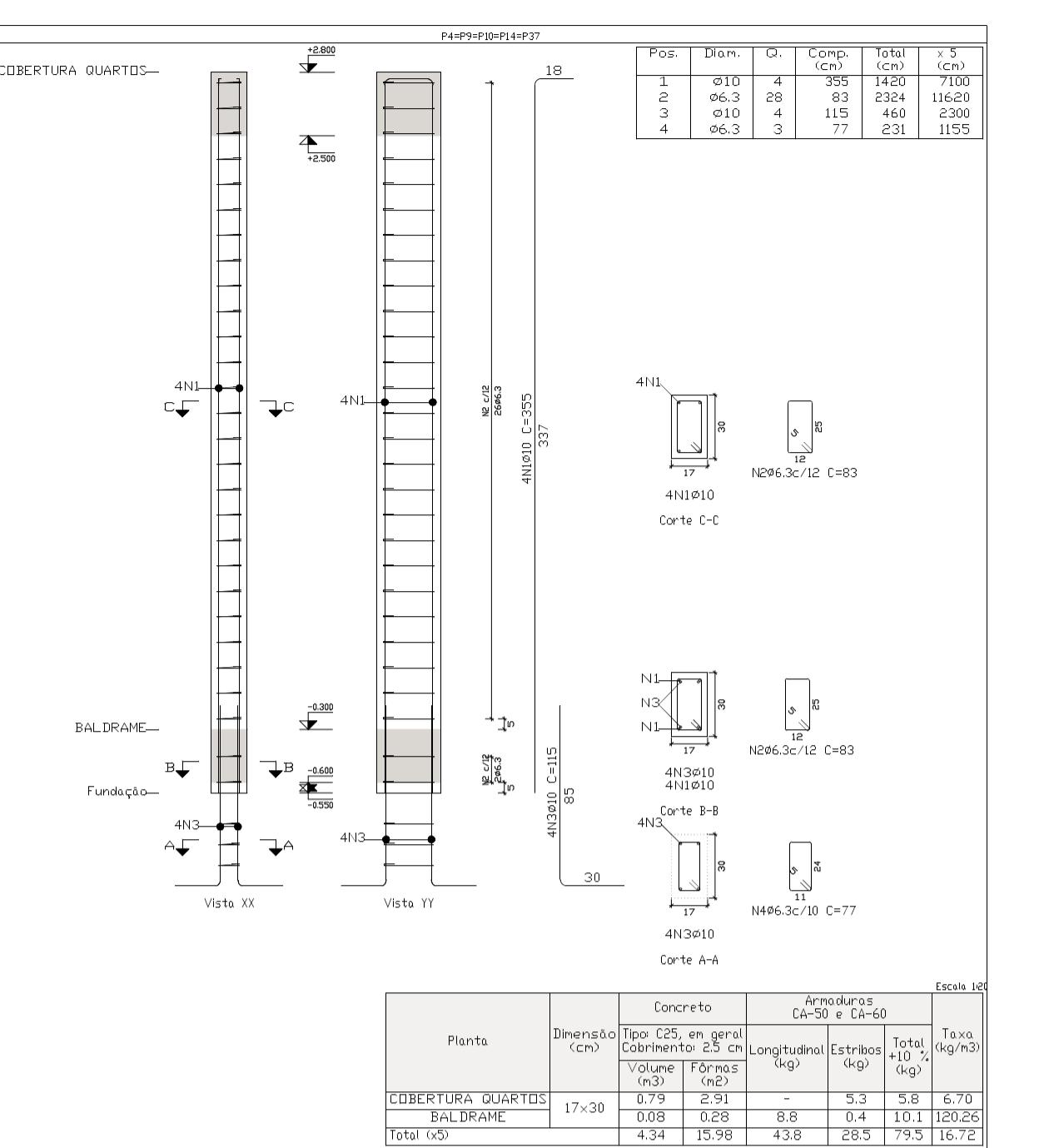
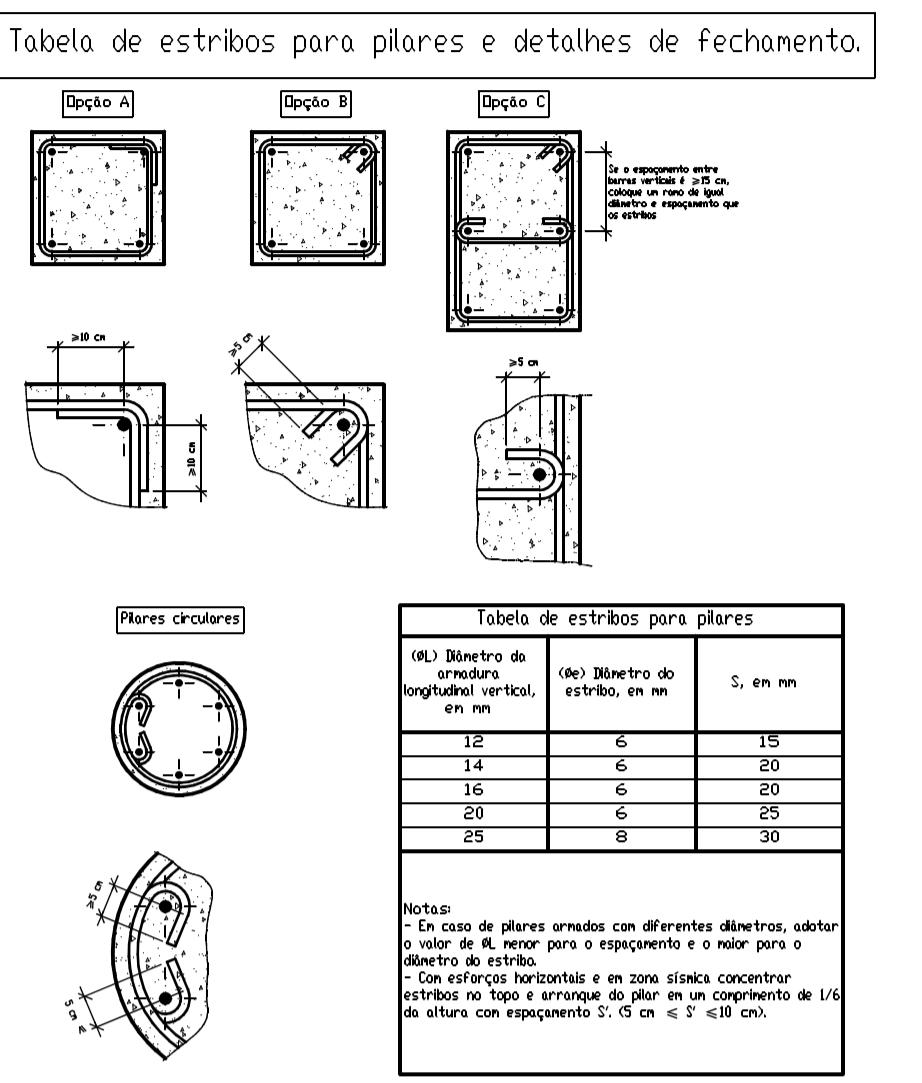
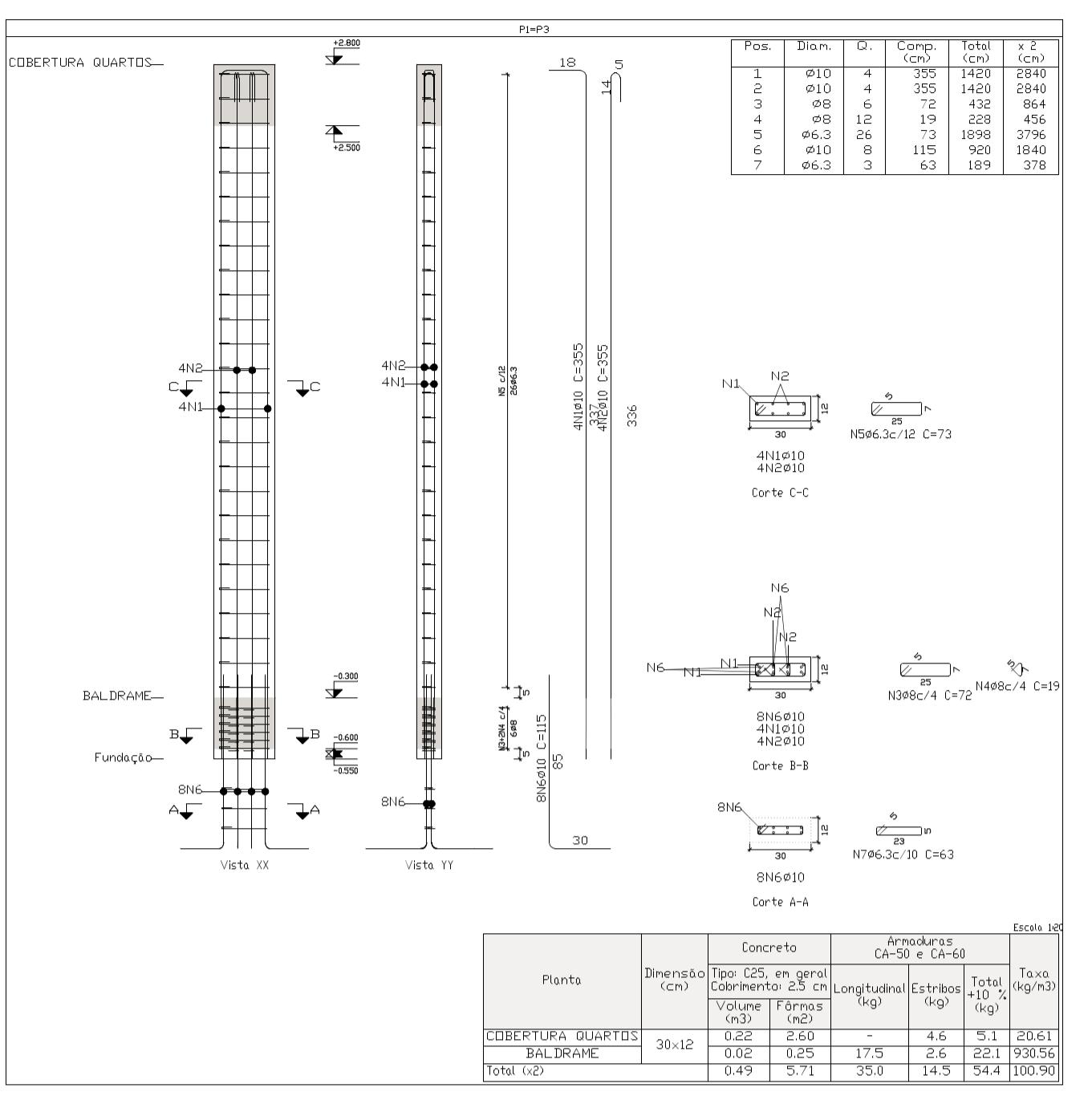
Elemento	Pos.	Diam.	Q.	Esquema	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	ø10	2		368	736	4.5	
	2	ø10	2		359	718	4.4	
	3	ø5	18		72	1296	2.0	
Total+10%							9.8	2.2
V 2	1	ø10	4		304	1216	7.5	
	2	ø5	15		72	1080	1.7	
Total+10%							8.3	1.9
V 3	1	ø10	2		218	436	2.7	
	2	ø10	2		209	418	2.6	
	3	ø5	10		72	720	1.1	
Total+10%							5.8	1.2
V 4	1	ø10	2		322	644	4.0	
	2	ø10	2		329	658	4.1	
	3	ø5	17		88	1496	2.3	
Total+10%							8.9	2.5
ø5: 0.0							7.8	
ø10: 32.8							0.0	
Total: 32.8							7.8	



Resumo Aço Desenho de vigas	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø10	48.3	33	33
CA-60 ø5	45.9	8	8
Total			41

LAJE FACHADA
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 1:20
Escala seções 1:20
Escala aberturas 1:20





Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 e CA-60 (kg)	ARQ (kg)
P1+P3	1	ø10	4	Conselho e desenho	355	1420	8.8	
	2	ø10	4	Conselho e desenho	355	1420	8.8	
	3	ø8	6		72	438	1.7	
	4	ø8	12		19	228	0.9	
	5	ø6.3	26		73	189	4.6	
	6	ø10	8		68	285	115	980
	7	ø6.3	3		63	189	0.5	
							Total 1002	34.1
							(x2)	682

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 e CA-60 (kg)	ARQ (kg)
P2+P8+P13+P17	1	ø10	4		355	1420	8.8	
	2	ø6.3	26		73	2044	5.0	
	3	ø10	4		115	460	2.8	
	4	ø6.3	3		67	201	0.5	
							Total 1002	18.8
							(x2)	37.6

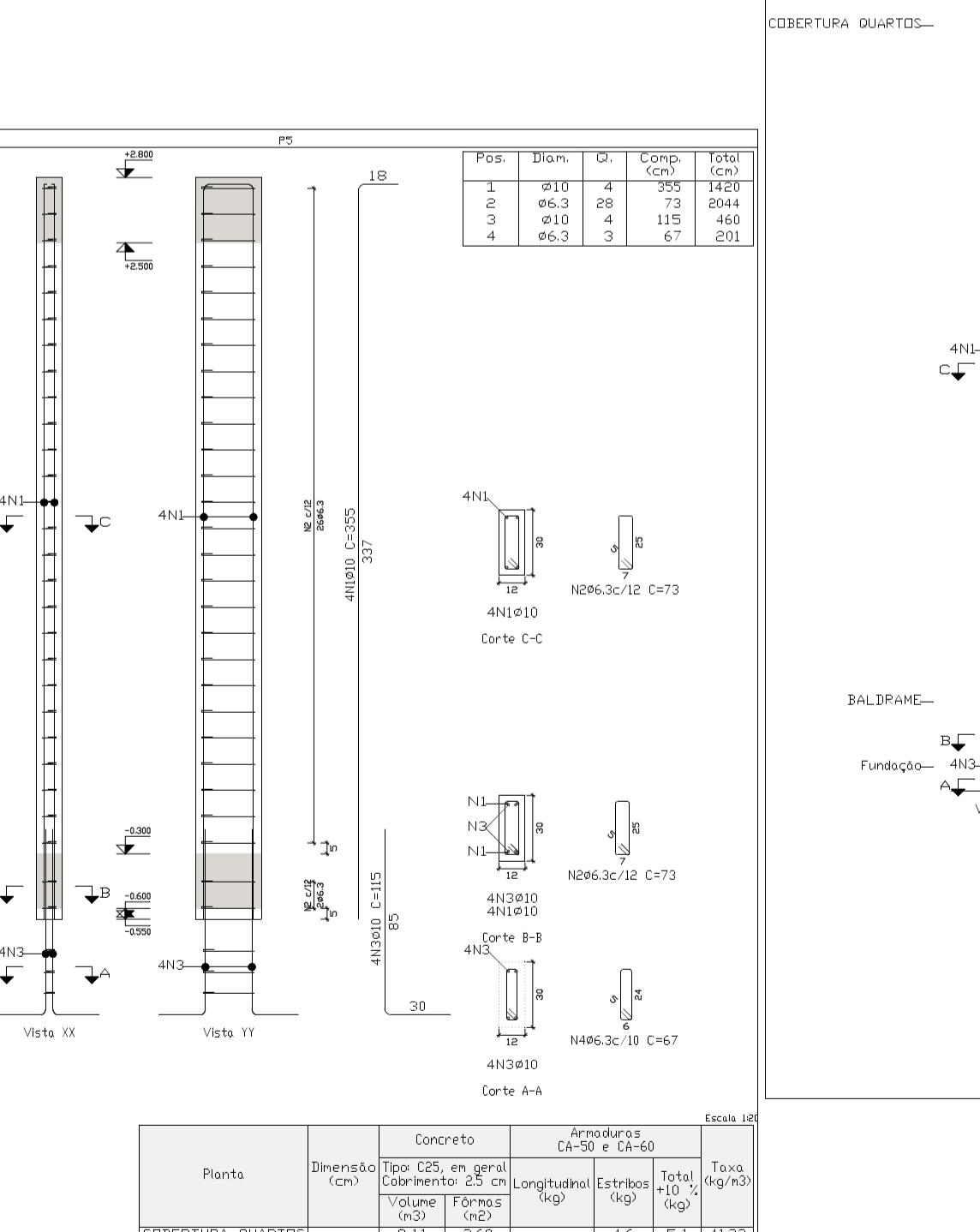
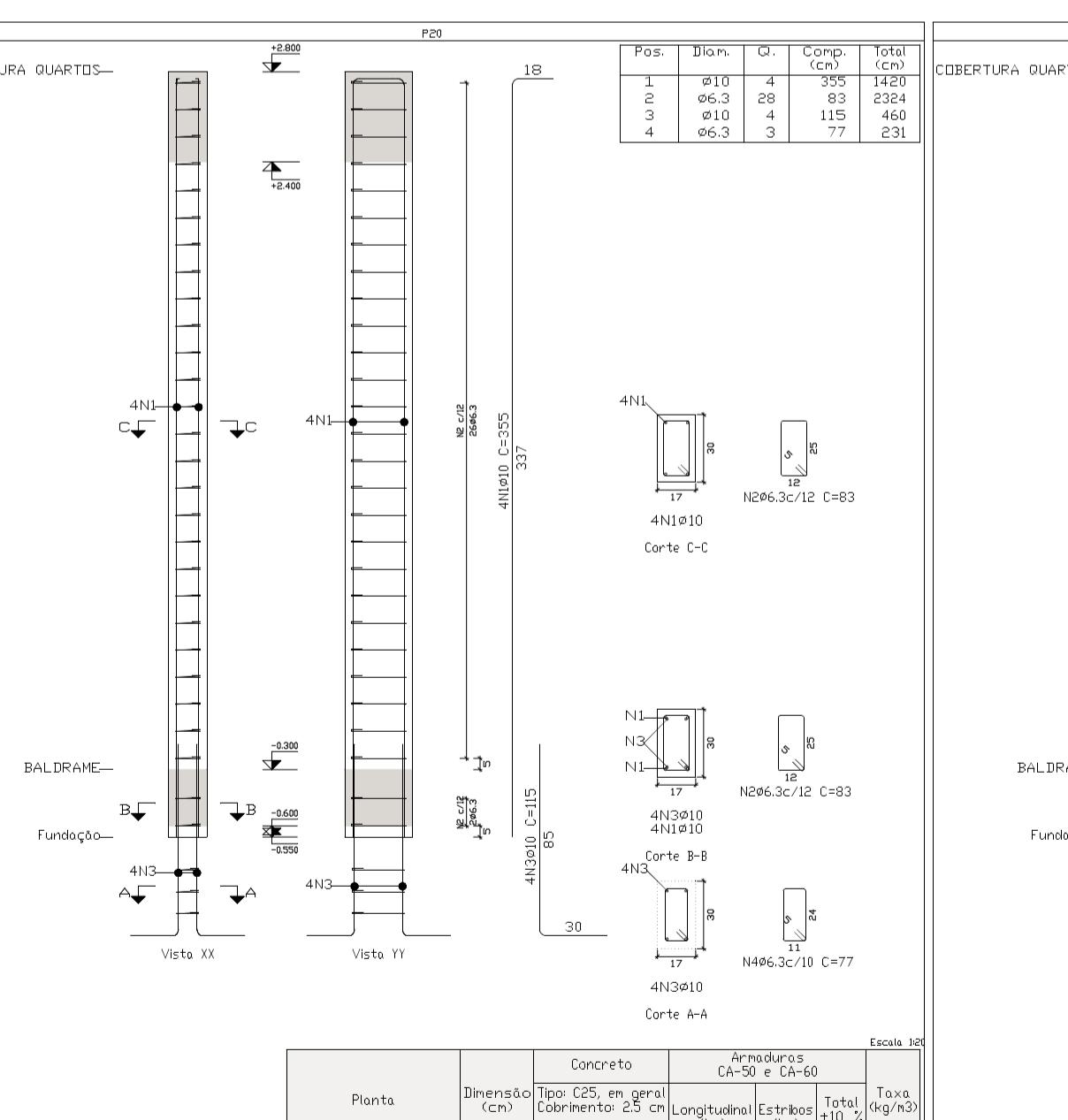
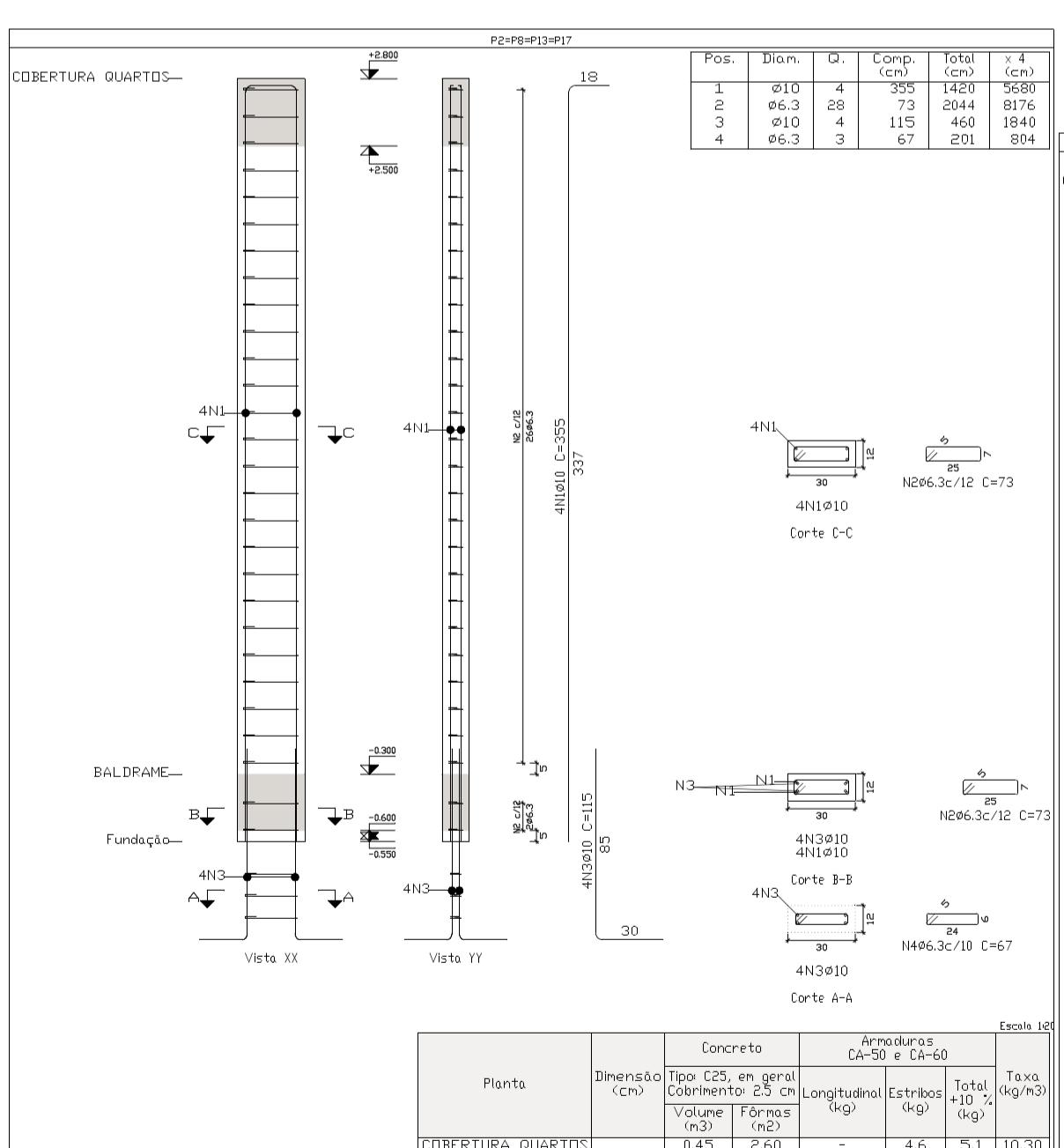
Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 e CA-60 (kg)	ARQ (kg)
P4+P9+P10+P14	1	ø10	4		355	1420	8.8	
	2	ø6.3	26		73	2324	5.7	
	3	ø10	4		115	460	2.8	
	4	ø6.3	3		77	231	0.6	
							Total 1002	19.7
							(x2)	39.5

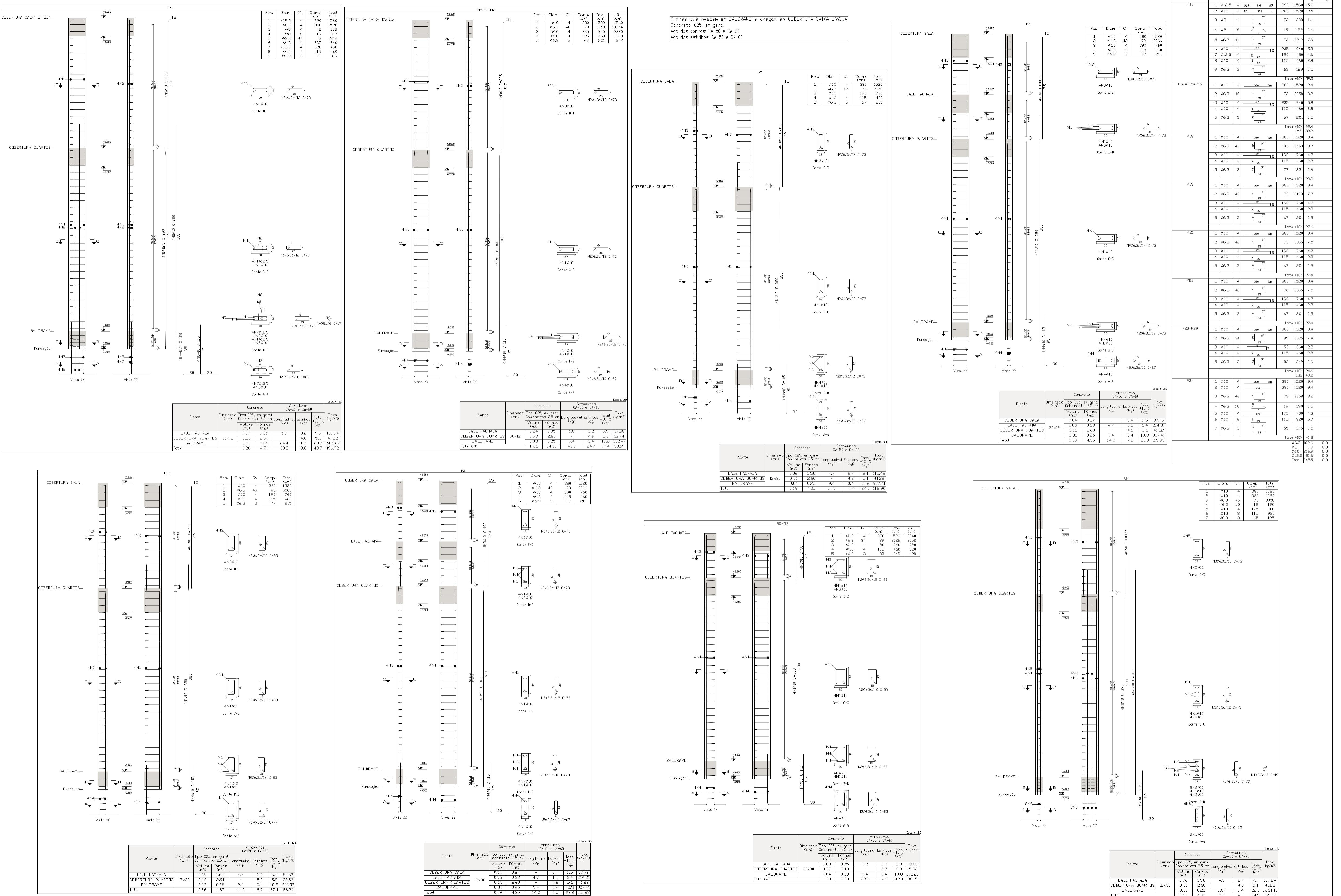
Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 e CA-60 (kg)	ARQ (kg)
P20	1	ø10	4		355	1420	8.8	
	2	ø6.3	26		83	2324	5.7	
	3	ø10	4		115	460	2.8	
	4	ø6.3	3		77	231	0.6	
							Total 1002	19.7
							(x2)	39.5

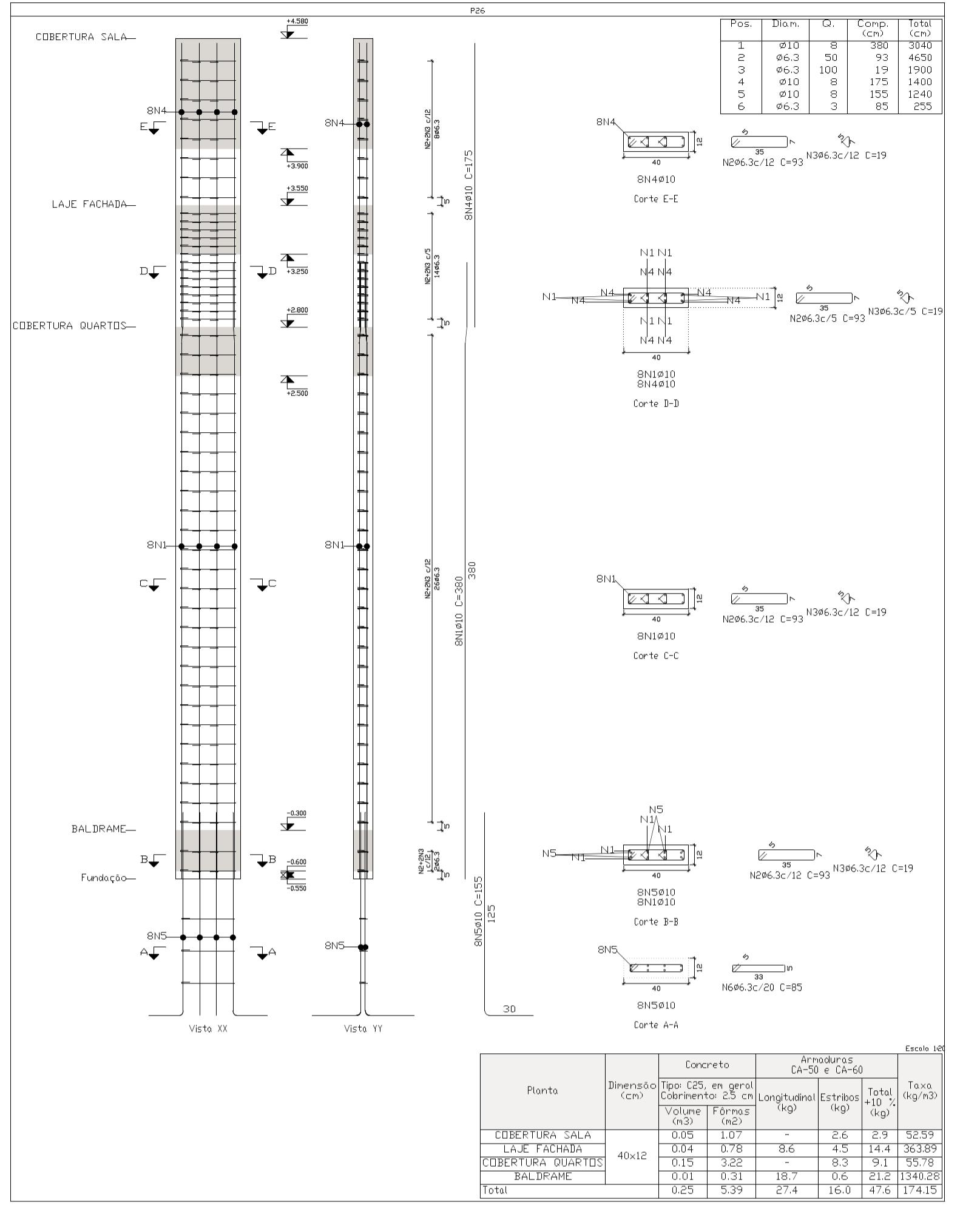
Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 e CA-60 (kg)	ARQ (kg)
P30	1	ø10	4		355	1420	8.8	
	2	ø6.3	26		73	2044	5.0	
	3	ø10	4		115	460	2.8	
	4	ø6.3	3		67	201	0.5	
							Total 1002	18.8
							(x2)	37.6

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 e CA-60 (kg)	ARQ (kg)
P5	1	ø10	4		355	1420	8.8	
	2	ø6.3	26		73	2044	5.0	
	3	ø10	4		115	460	2.8	
	4	ø6.3	3		67	201	0.5	
							Total 1002	18.8
							(x2)	37.6

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 e CA-60 (kg)	ARQ (kg)
P36+P40	1	ø10	4		355	1420	8.8	
	2	ø6.3	26		73	2044	5.0	
	3	ø10	4		115	460	2.8	
	4	ø10	4		100	600	4.7	
	5	ø6.3	3		77	231	0.6	
							Total 1002	29.7
							(x2)	59.4

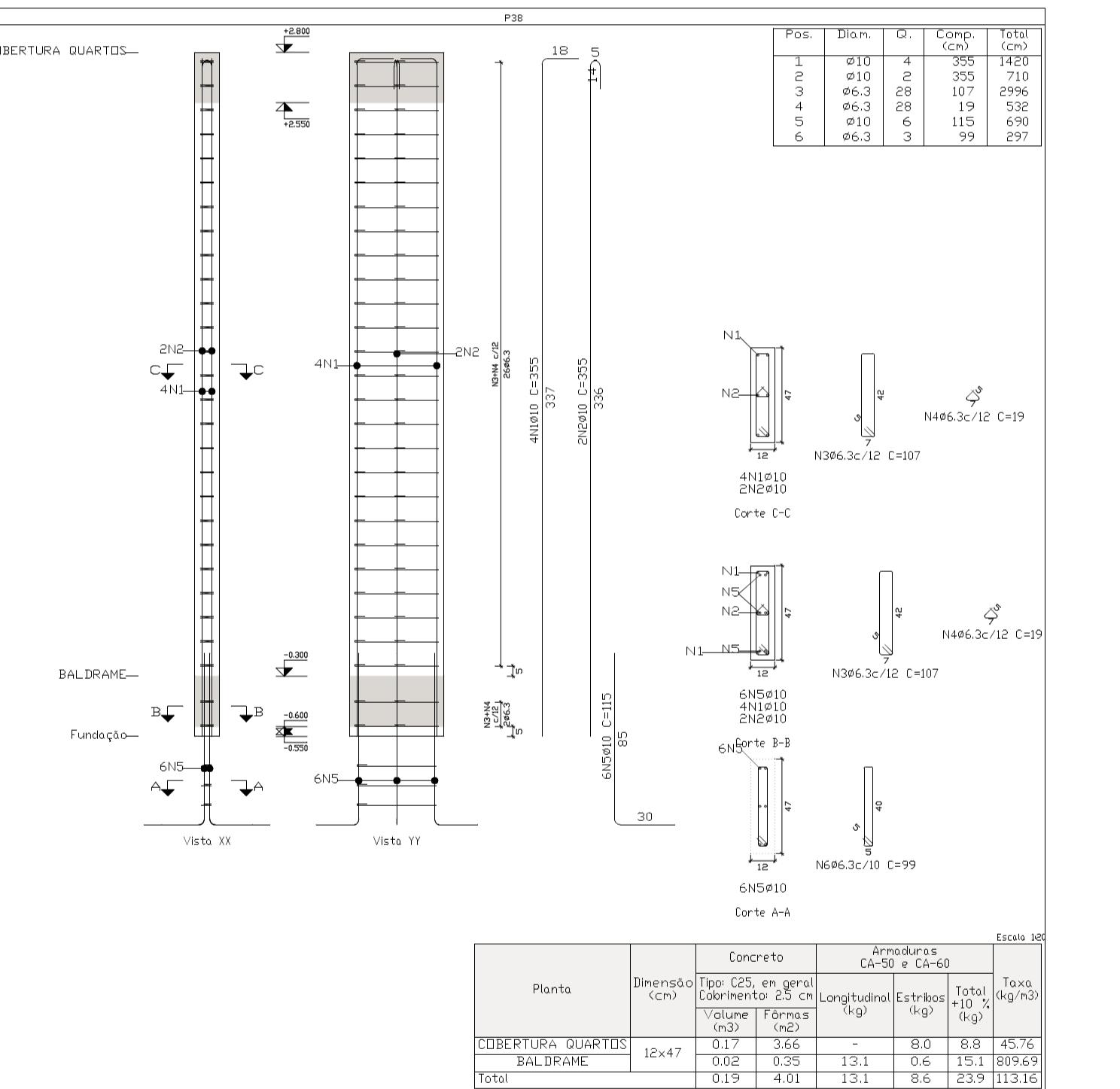
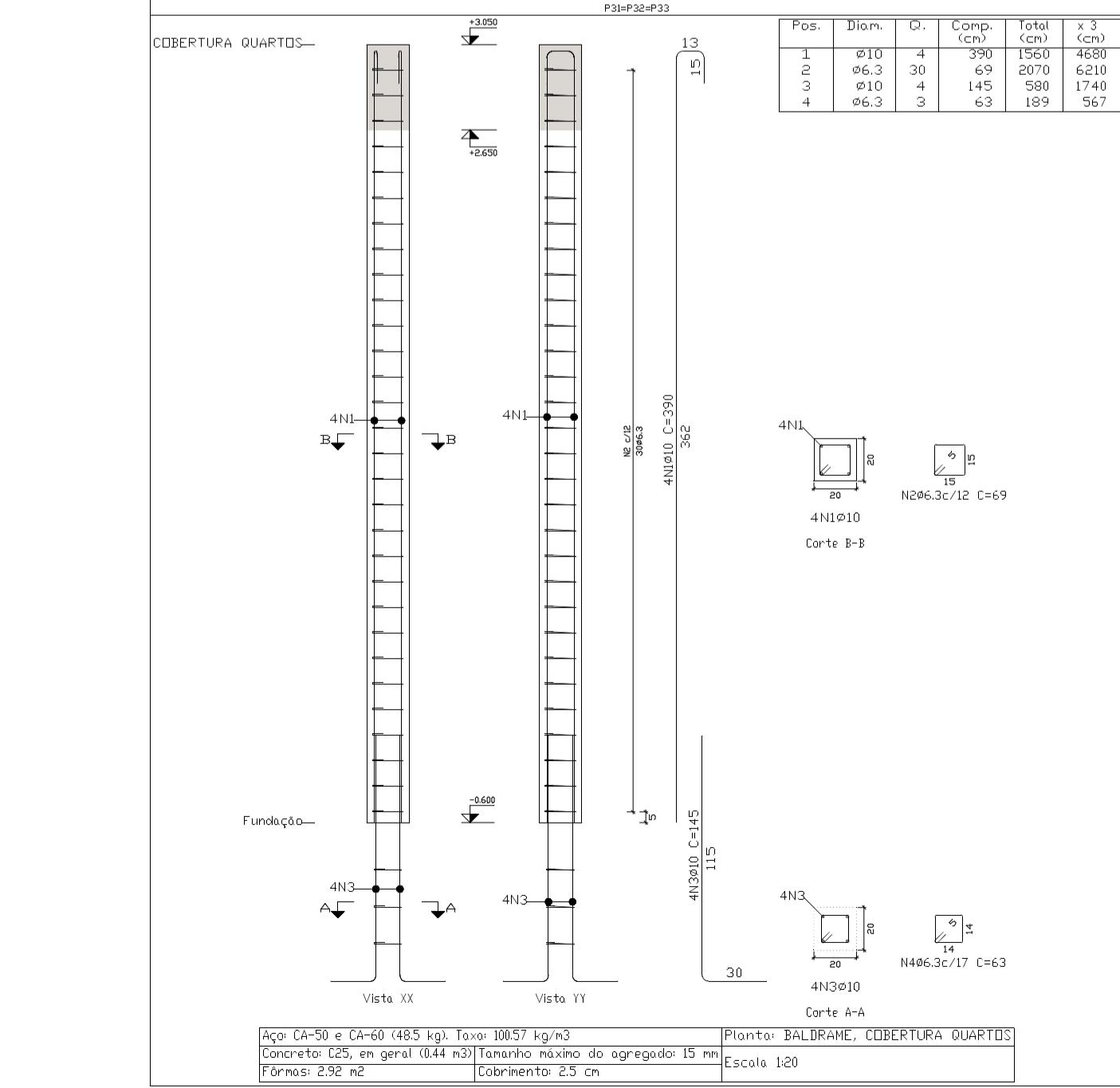






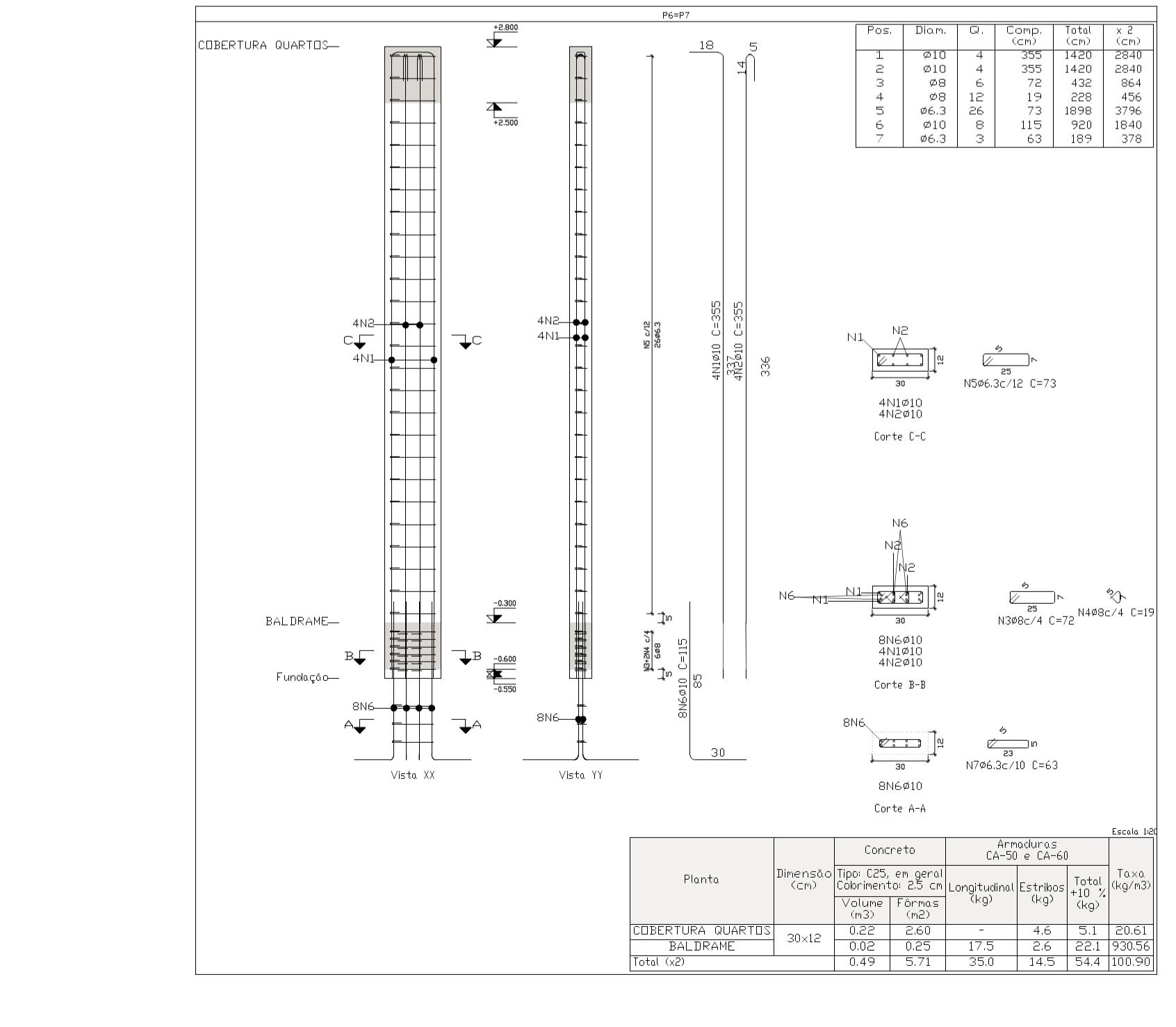
Pilares que nascem em BALDRAME e chegam em COBERTURA CAIXA D'ÁGUA
Concreto C25, em geral
Aço das barros: CA-50 e CA-60
Aço das estribos: CA-50 e CA-60

Elemento	Pos.	Diam. (cm)	Q. (cm)	Esquema	Comp. (cm)	Total (kg)	CA-50 (kg)	CA-60 (kg)
P26	1	ø10	8	300 180	380	3040	18.7	
	2	ø6.3	50	25		93	4650	11.4
	3	ø6.3	100	25		19	1900	4.7
	4	ø10	8	175		175	1400	8.6
	5	ø10	8	15		155	1240	7.6
	6	ø6.3	3	33		85	255	0.6
Total P26								
Total P27-P28+P29								
P27+P28+P29	1	ø10	4	15		50	200	1.2
	2	ø6.3	2	15		49	98	0.2
	3	ø10	4	15		80	320	2.0
	4	ø6.3	3	15		43	129	0.3
Total P27+P28+P29								
Total P31+P32+P33								
P31+P32+P33	1	ø10	4	15		390	1560	9.6
	2	ø6.3	30	15		69	2070	5.1
	3	ø10	4	15		145	580	3.6
	4	ø6.3	3	15		63	189	0.5
Total P31+P32+P33								
Total P38								
P38	1	ø10	4	15		355	1420	8.8
	2	ø10	2	15		355	710	4.4
	3	ø6.3	28	15		107	2996	7.3
	4	ø6.3	28	15		19	532	1.3
	5	ø10	6	15		115	690	4.3
	6	ø6.3	3	15		99	297	0.7
Total P38								
Total P39								
P39	1	ø10	4	37		365	1460	9.0
	2	ø10	2	37		365	730	4.5
	3	ø6.3	28	42		117	3276	8.0
	4	ø6.3	28	42		19	678	1.6
	5	ø10	6	42		115	690	4.3
	6	ø6.3	3	42		109	327	0.8
Total P39								
Total P6+P7								
P6+P7	1	ø10	4	Construtor e armador		355	1420	8.8
	2	ø10	4	Construtor e armador		355	1420	8.8
	3	ø8	6	15		72	432	1.7
	4	ø8	12	15		19	228	0.9
	5	ø6.3	26	25		73	1988	4.6
	6	ø10	6	25		115	920	5.7
	7	ø6.3	3	25		63	189	0.5
Total P6+P7								
Total P6+P7+P8								
Total P6+P7+P8+P9								
Total P6+P7+P8+P9+P10								



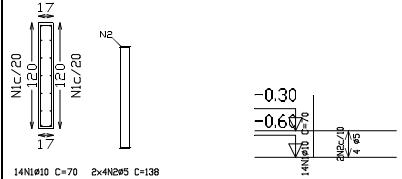
Resumo Aço Pilares	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø6.3	1060.7	286	
ø8 30.8	13		
ø10 951.8	645		
ø12.5 20.4	22	966	

Aço: CA-50 e CA-60 (485 kg) Teto: 10857 kg/m²
Concreto: C25, em geral (0.44 m³) Tonelada máxima do agregado: 15 mm
Fórmulas: 2.92 m² Cobertura: 25 cm



P34

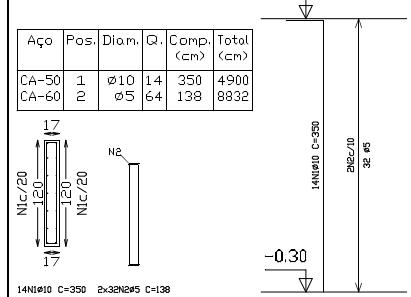
Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
CA-50	1	Ø10	14	70	980
CA-60	2	Ø5	8	138	1104



Pilares que terminam em
BALDRAME
Concreto: C25, em geral
Aço: CA-50 e CA-60
Escala: 1:50

Resumo Aço BALDRAME Pilares-paredes	Comp. total (m)	Peso+10% (kg)	Total
CA-50 Ø10	9.8	7	7
CA-60 Ø5	11.0	2	2
Total			9

P34



Pilares que terminam em
COBERTURA QUARTOS
Concreto: C25, em geral
Aço: CA-50 e CA-60
Escala: 1:50

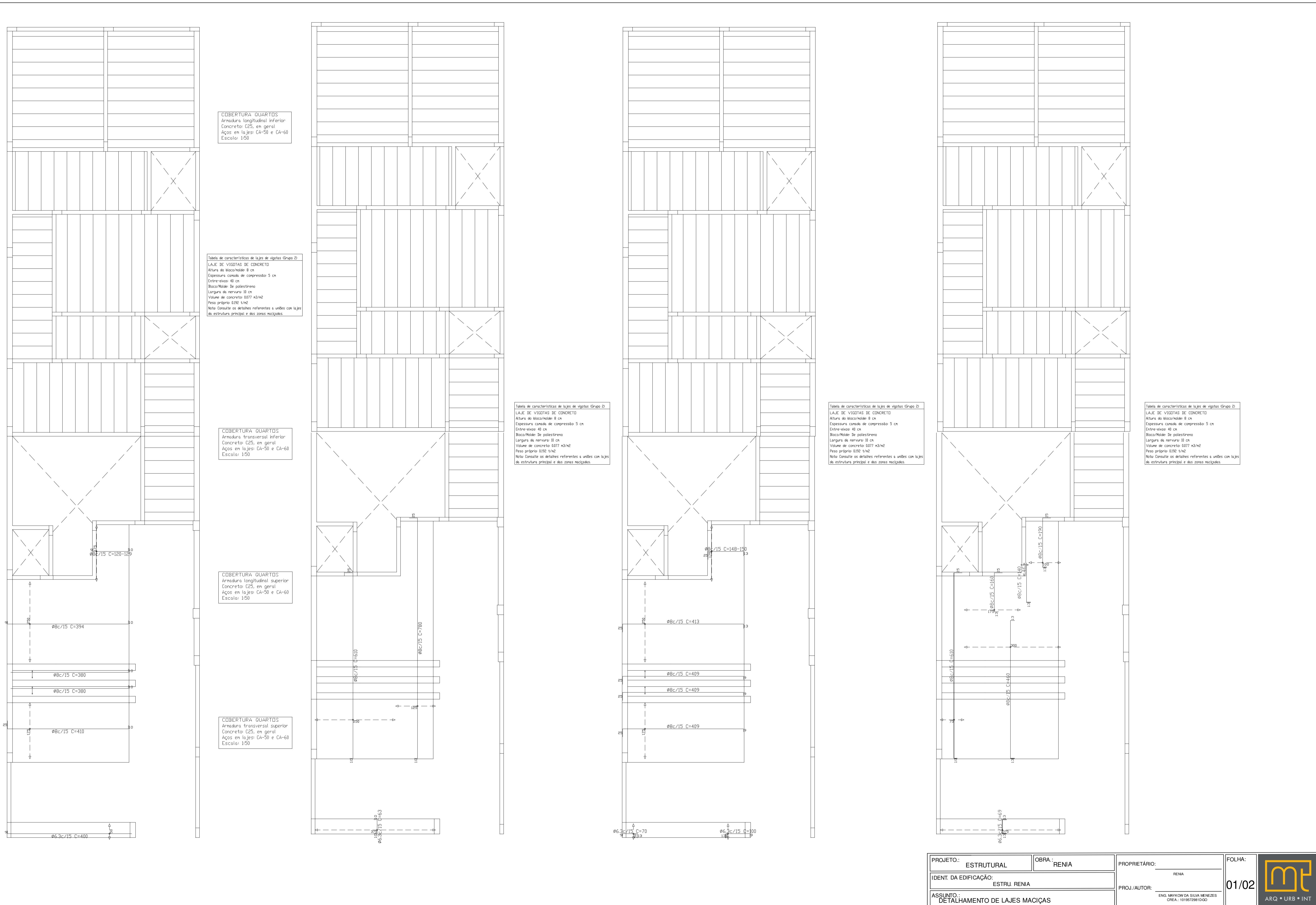
Resumo Aço COBERTURA QUARTOS Pilares-paredes	Comp. total (m)	Peso+10% (kg)	Total
CA-50 Ø10	49.0	33	33
CA-60 Ø5	87.7	15	15
Total			48

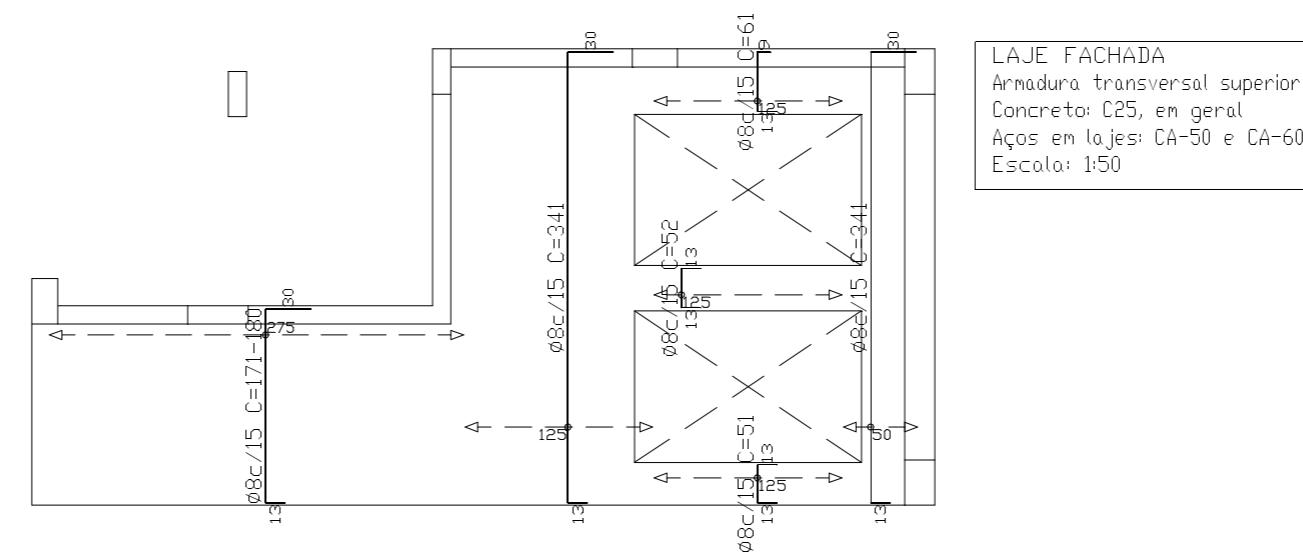
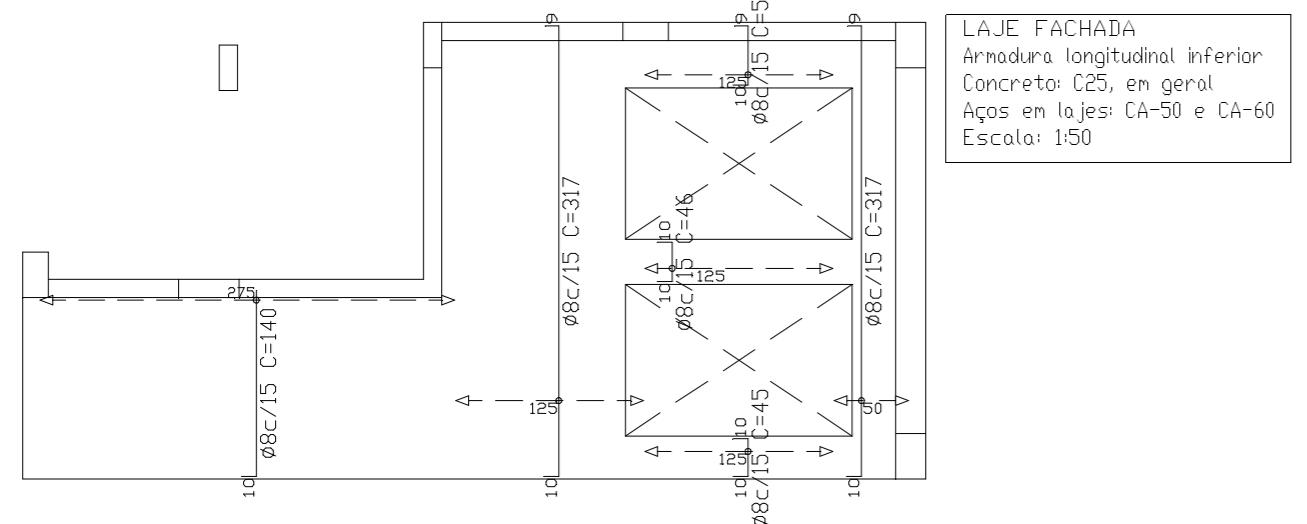
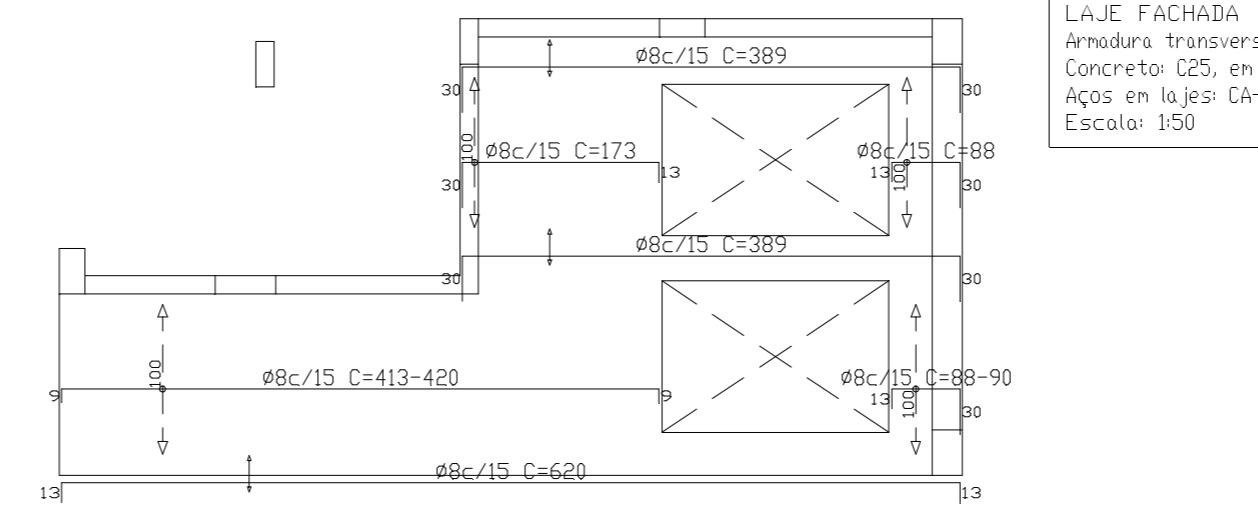
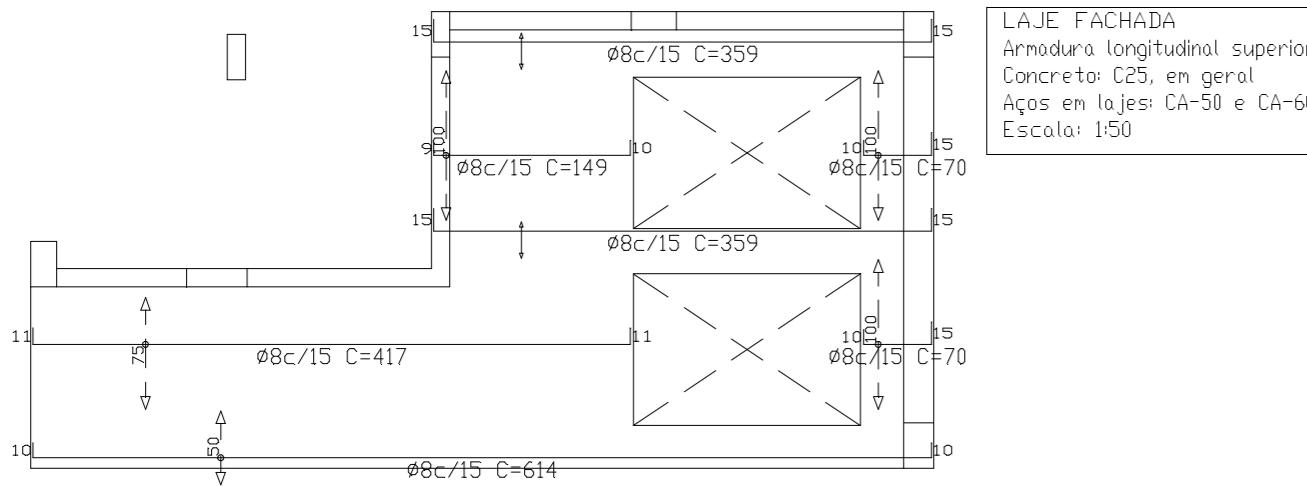
PROJETO.: ESTRUTURAL OBRA.: RENIA
IDENT. DA EDIFICAÇÃO:
ESTRU. RENIA
ASSUNTO.: DETALHAMENTO DE PILARES

PROPRIETÁRIO: _____
RENIA
PROJ./AUTOR: _____
ENG. MAYKOW DA SILVA MENEZES
CREA: 10195729810-GO

FOLHA:
04/04







PROJETO.: ESTRUTURAL	OBRA.: RENTIA
IDENT. DA EDIFICAÇÃO: ESTRU. RENIA	
ASSUNTO.: DETALHAMENTO DE LAJES MACÍCAS	

PROPRIETÁRIO: RENTIA
PROJ./AUTOR: ENG. MAYKOW DA SILVA MENEZES CREA.: 1019572981-DGO

FOLHA: 02/02
ARQ • URB • INT

