

PLANTA LOCAÇÃO FUNDAÇÃO

PLANTA VIGAS TERREO

Identificação	Dimensão (cm)	Área (cm²)	Armadura (n.º)	Armadura (n.º)
P1	120x100	40	48	48
P2	140x140	40	48	48
P3	120x100	40	48	48
P4	140x140	40	48	48
P5	120x100	40	48	48
P6	140x140	40	48	48
P7	120x100	40	48	48
P8	140x140	40	48	48
P9	120x100	40	48	48
P10	140x140	40	48	48
P11	120x100	40	48	48
P12	140x140	40	48	48
P13	120x100	40	48	48
P14	140x140	40	48	48
P15	120x100	40	48	48
P16	140x140	40	48	48
P17	120x100	40	48	48
P18	140x140	40	48	48
P19	120x100	40	48	48
P20	140x140	40	48	48
P21	120x100	40	48	48
P22	140x140	40	48	48
P23	120x100	40	48	48
P24	140x140	40	48	48
P25	120x100	40	48	48
P26	140x140	40	48	48
P27	120x100	40	48	48
P28	140x140	40	48	48
P29	120x100	40	48	48
P30	140x140	40	48	48
P31	120x100	40	48	48
P32	140x140	40	48	48
P33	120x100	40	48	48
P34	140x140	40	48	48

Fundação
Concreto C30, em geral
Aço em fundações: CA-50 e CA-60
Escala: 1:50

Elemento	Superfície (m²)	Volumen (m³)	Peso (kg)
Vigas	115,00	33,75	12.870
Pilares	22,54	2,800	418
Total	-	33,75	13.288
Índice (kg/m²)	-	-	0,431
Superfície total	55,33 m²	-	-

PLANTA VIGAS PAV 1

PLANTA VIGAS COBERTURA

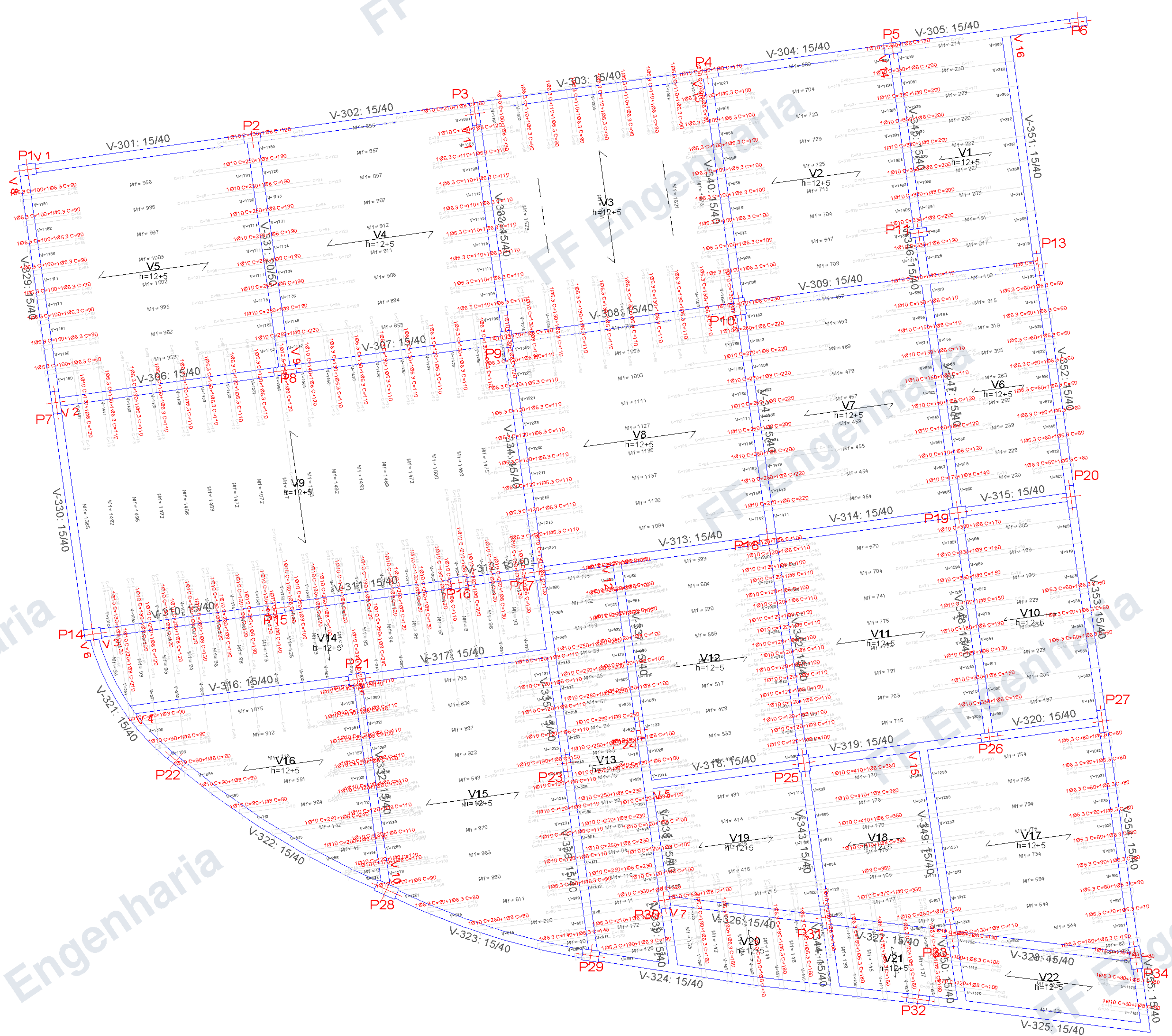
Elemento	Superfície (m²)	Volumen (m³)	Peso (kg)
Lajes de vigas	108,08	27,57	12.500
Pilares	127,85	1,610	235
Escadas	24,82	4,408	293
Total	-	28,48	12.828
Índice (kg/m²)	-	-	0,173
Superfície total	252,80 m²	-	-

Tab. de características de lajes de vigas (Diap. 2)
Laje de vigas de 12 cm de espessura
Laje de concreto C30, em geral
Aço em lajes: CA-50 e CA-60
Escala: 1:50

Elemento	Superfície (m²)	Volumen (m³)	Peso (kg)
Lajes de vigas	82,25	2,87	11.630
Pilares	106,36	6,080	644
Total	-	2,88	12.274
Índice (kg/m²)	-	-	0,144
Superfície total	270,88 m²	-	-

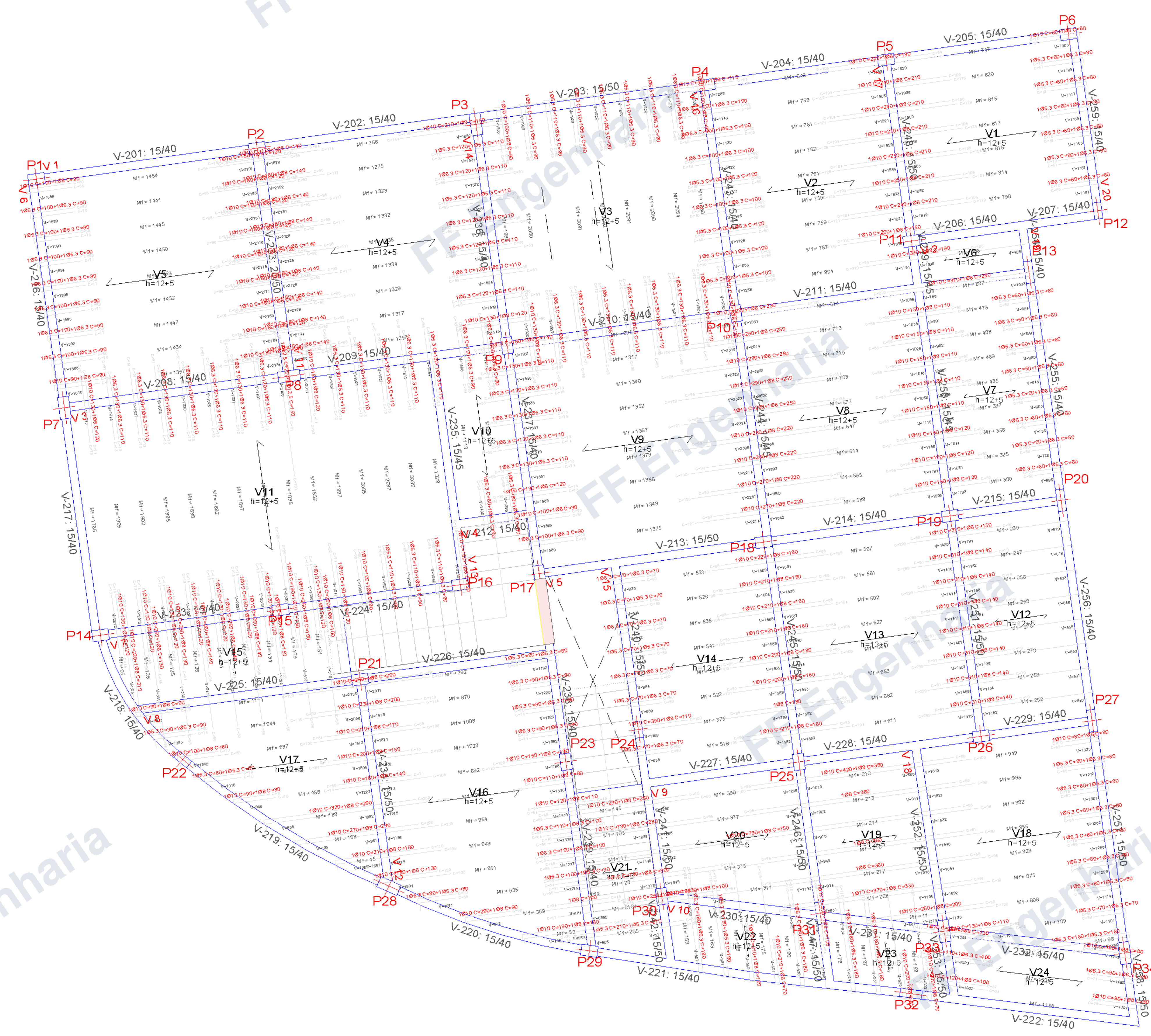
Tab. de características de lajes de vigas (Diap. 2)
Laje de vigas de 12 cm de espessura
Laje de concreto C30, em geral
Aço em lajes: CA-50 e CA-60
Escala: 1:50

PLANTA LAJE COBERTURA PLANTA LAJE PAVIMENTO 1



Cobertura
Fôrmas
Concreto: C25, em geral
Aços em lajes: CA-50 e CA-60
MT: Momento fletor de cálculo por metro de largura (kgf x mm)
V: Estorço cortante de cálculo por metro de largura (kgf/m)
Escala: 1:50

Tabela de características de lajes de vigotas (Grupo 3)
LAJE DE VIGOTAS DE CONCRETO
Altura do bloco/moldo: 12 cm
Espessura camada de compressão: 5 cm
Entre-eixos: 45 cm
Bloco/Moldo: De poliestireno
Largura da nervura: 12 cm
Volume de concreto: 0,088 m³/m²
Peso próprio: 0,23 tm/m² (Simplex), 0,29 tm/m² (Dupla)
Nota: Consulte os detalhes referentes a unidades com lajes de estrutura principal e das zonas marcadas.



Pavimento 1
Fôrmas
Concreto: C25, em geral
Aços em lajes: CA-50 e CA-60
MT: Momento fletor de cálculo por metro de largura (kgf x mm)
V: Estorço cortante de cálculo por metro de largura (kgf/m)
Escala: 1:50

Tabela de características de lajes de vigotas (Grupo 3)
LAJE DE VIGOTAS DE CONCRETO
Altura do bloco/moldo: 12 cm
Espessura camada de compressão: 5 cm
Entre-eixos: 45 cm
Bloco/Moldo: De poliestireno
Largura da nervura: 12 cm
Volume de concreto: 0,088 m³/m²
Peso próprio: 0,23 tm/m² (Simplex), 0,29 tm/m² (Dupla)
Nota: Consulte os detalhes referentes a unidades com lajes de estrutura principal e das zonas marcadas.

Geometria



Resumo Aço Escada 4	Comp. total (m)	Peso+10% (kg)
CA-50 Ø10	426.1	289



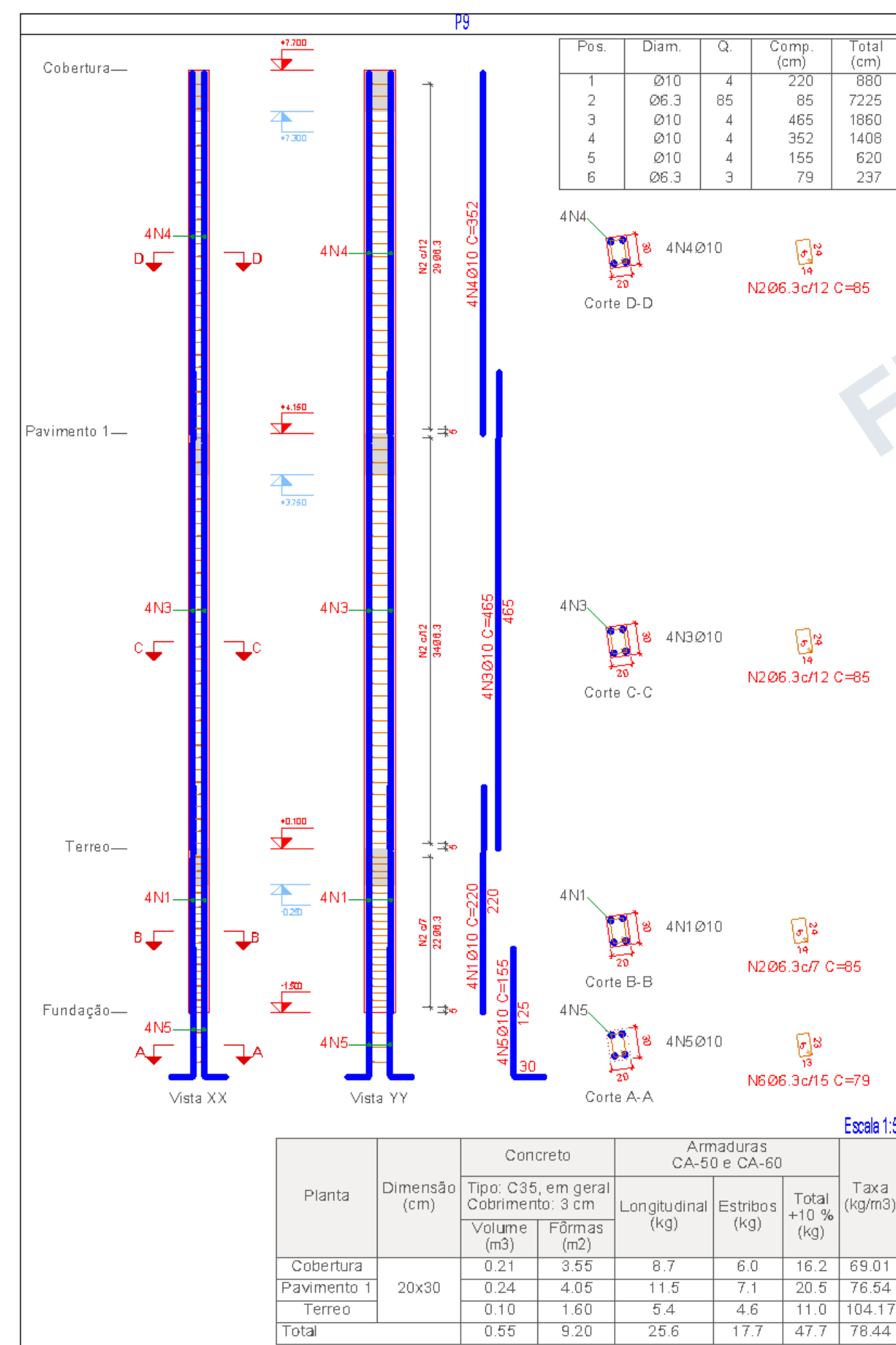
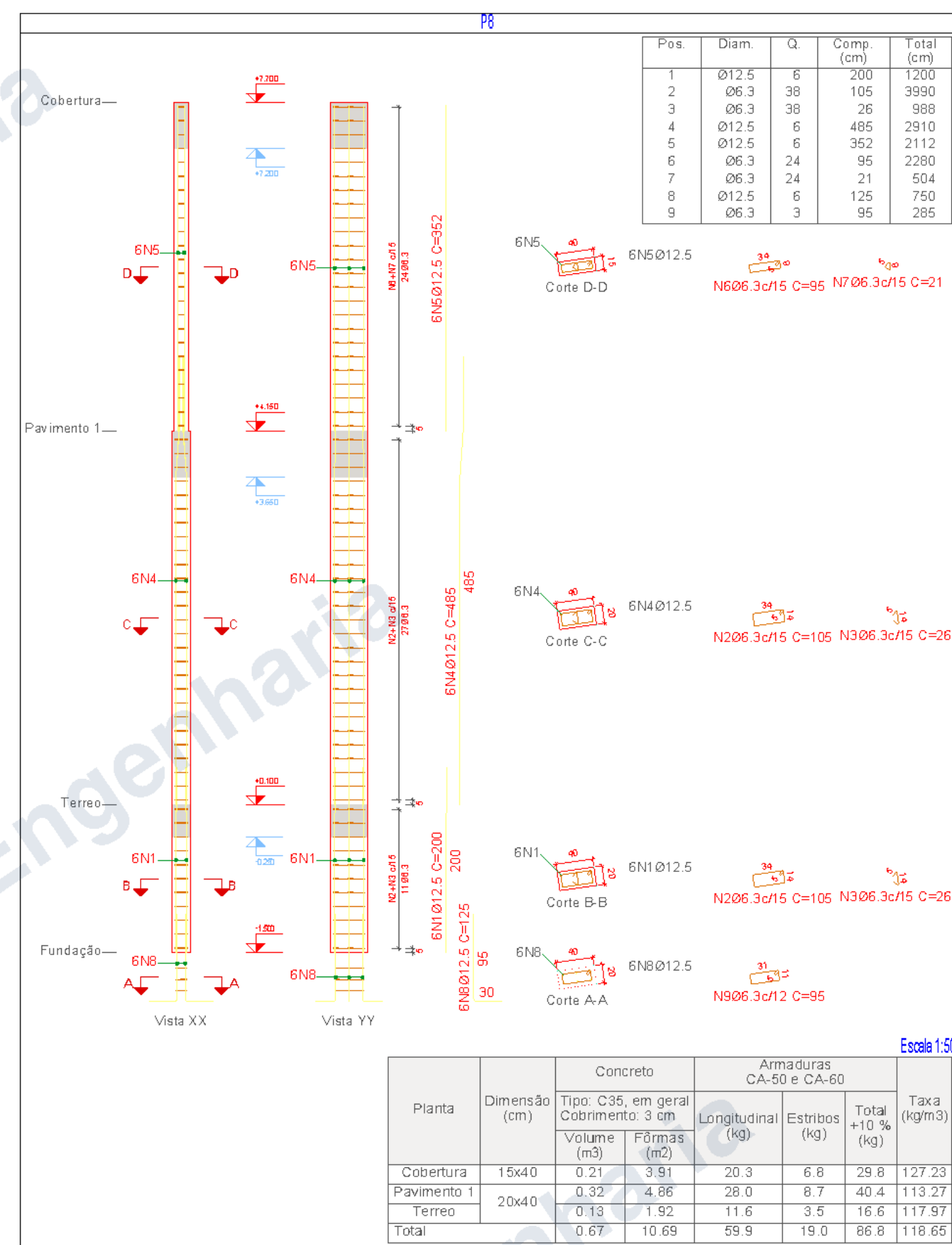
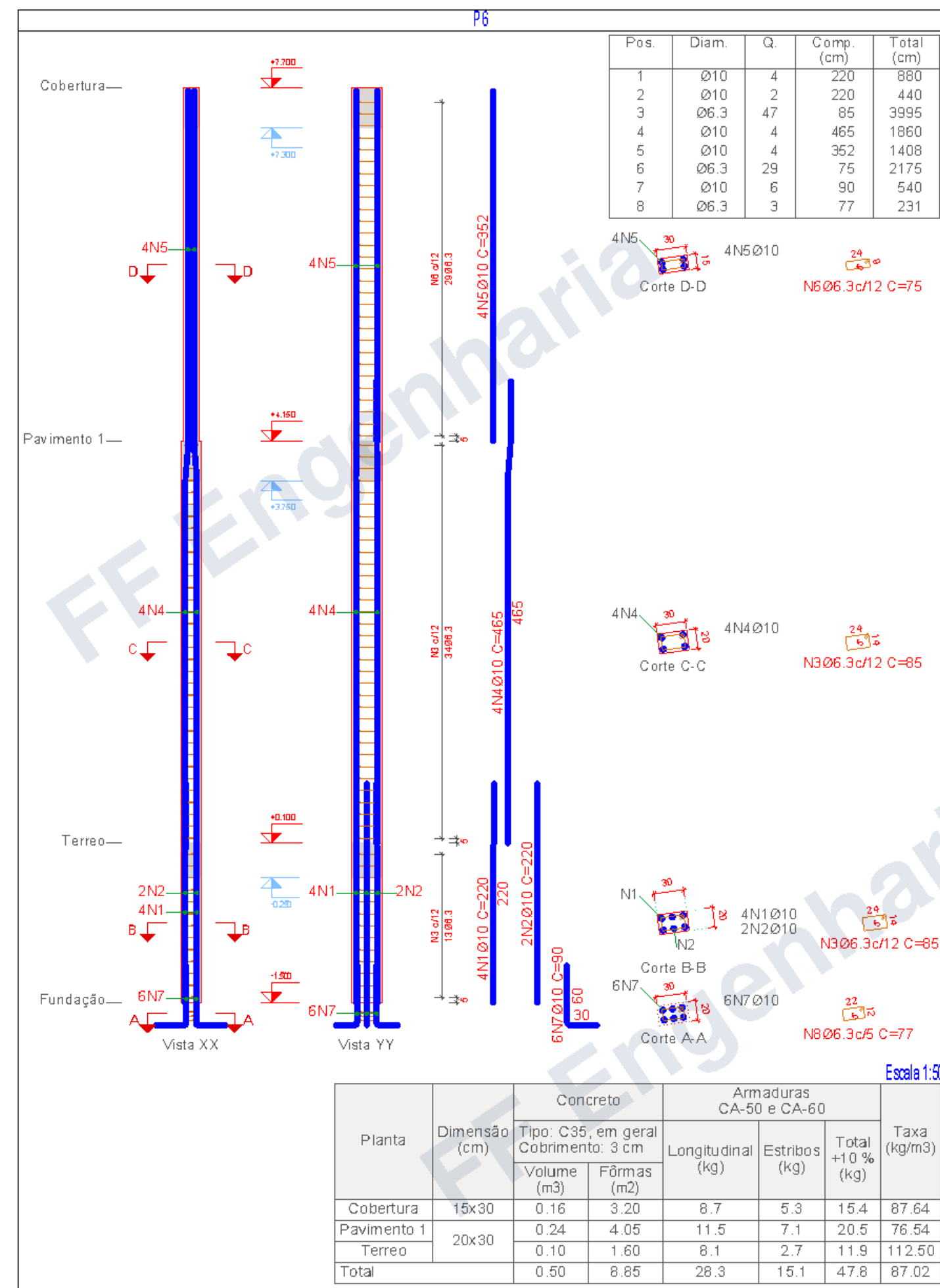
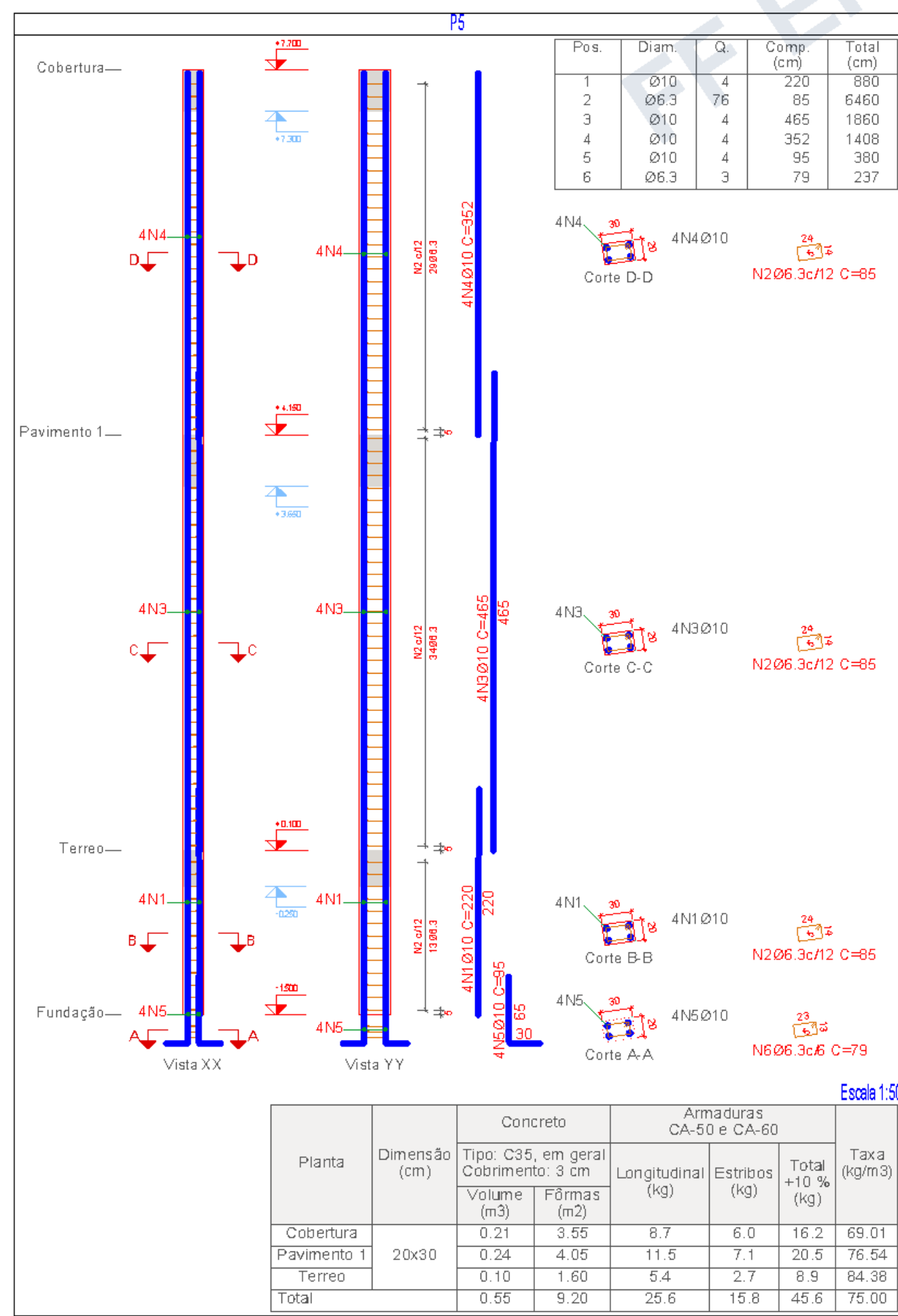
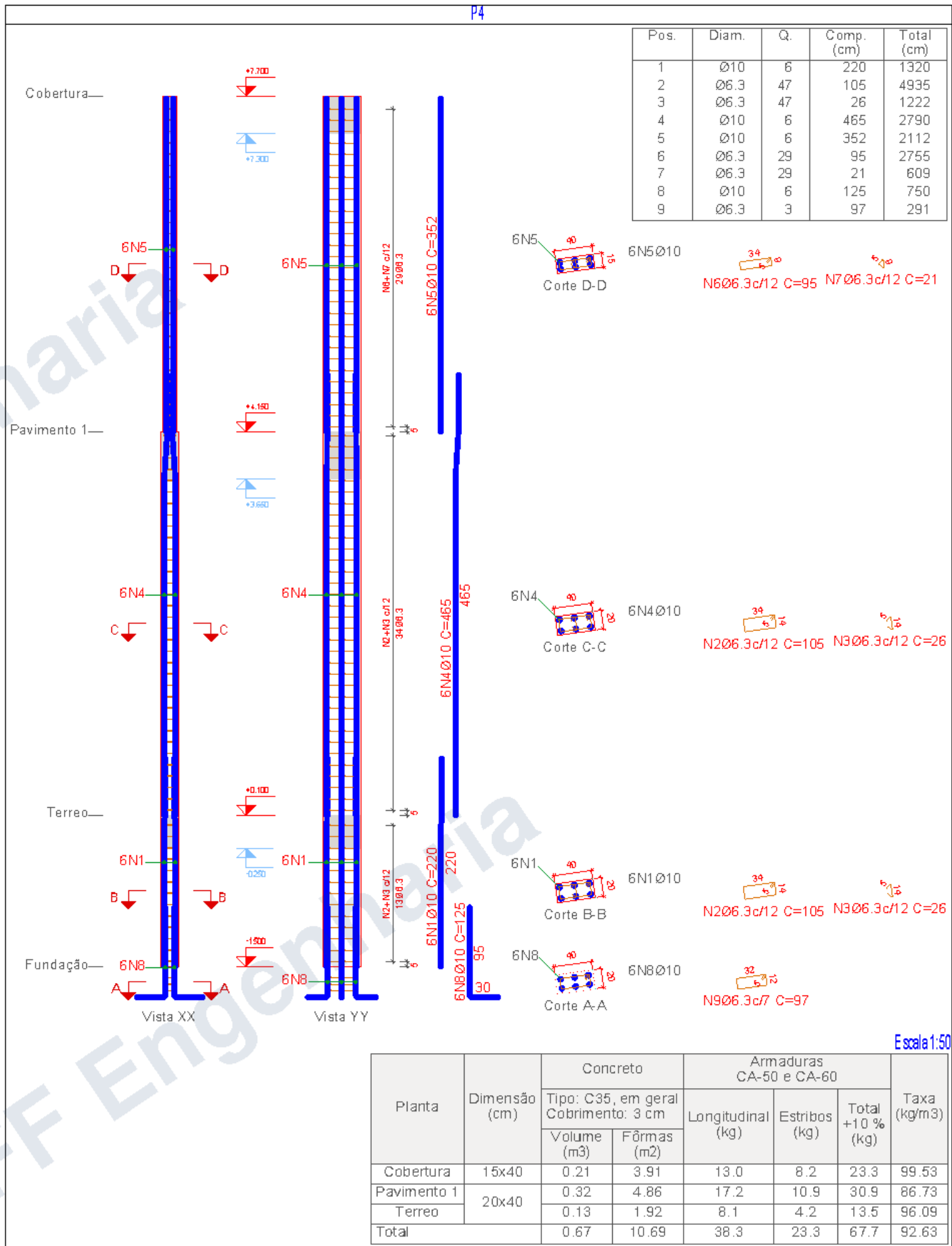
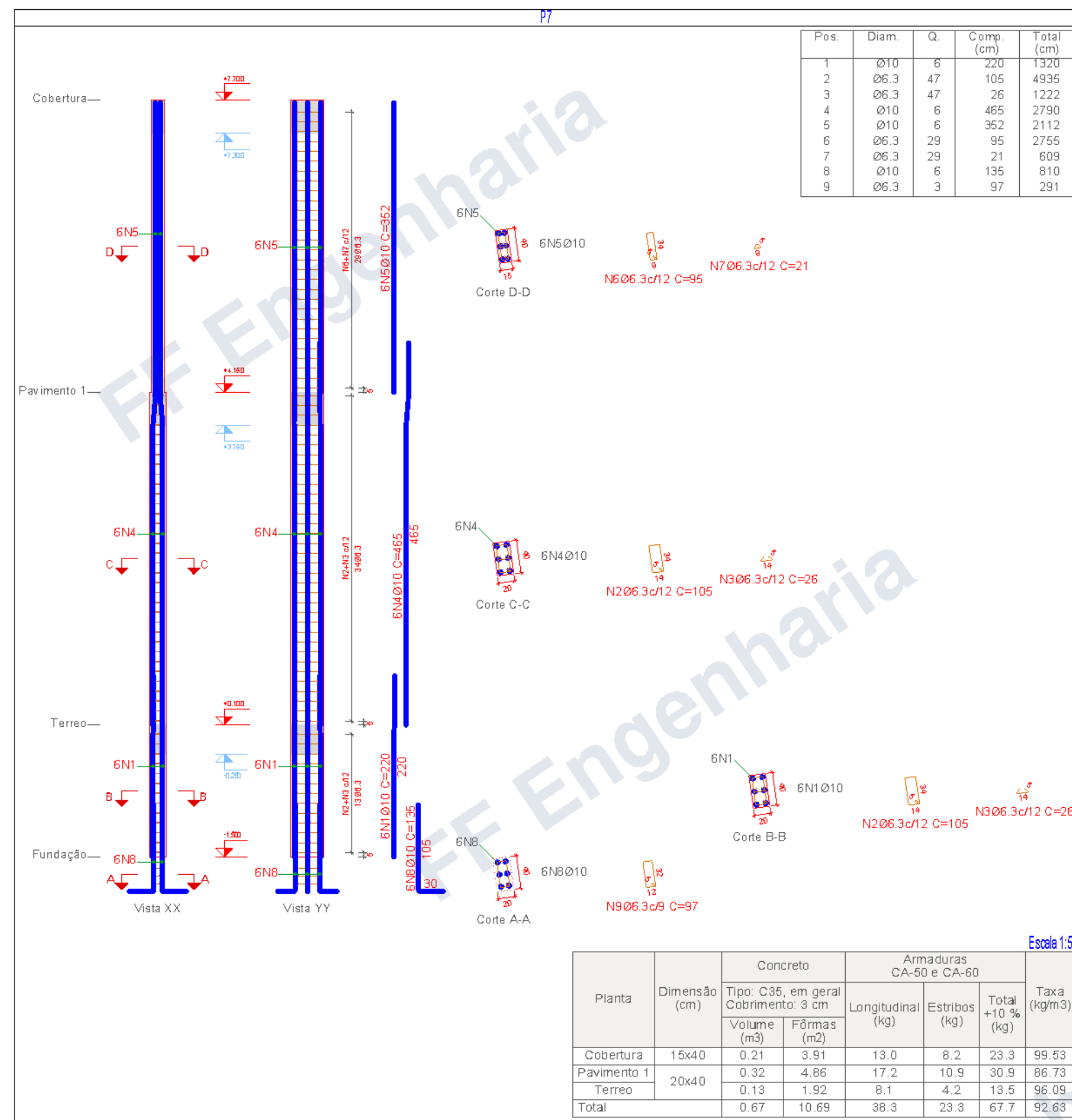
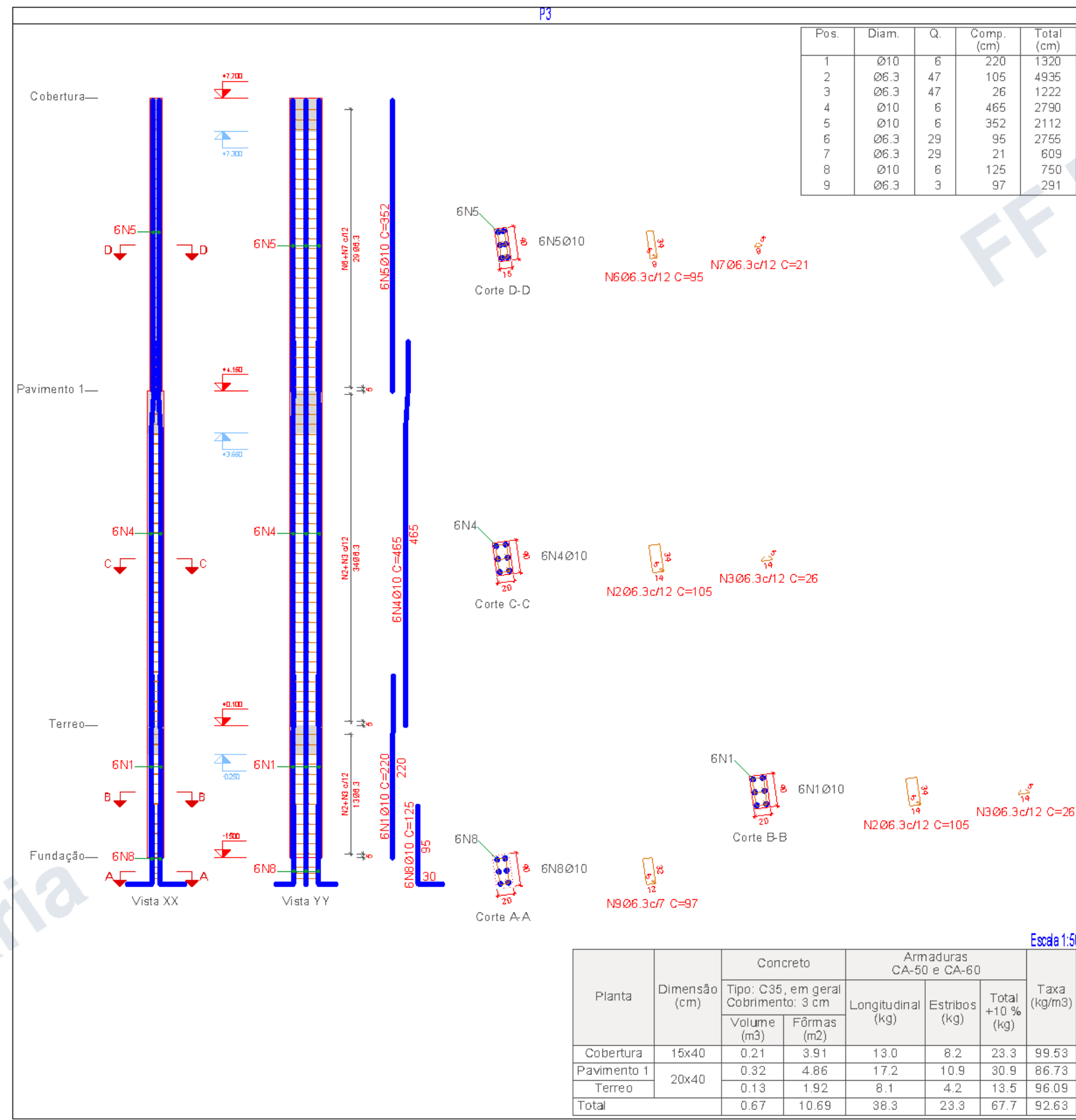
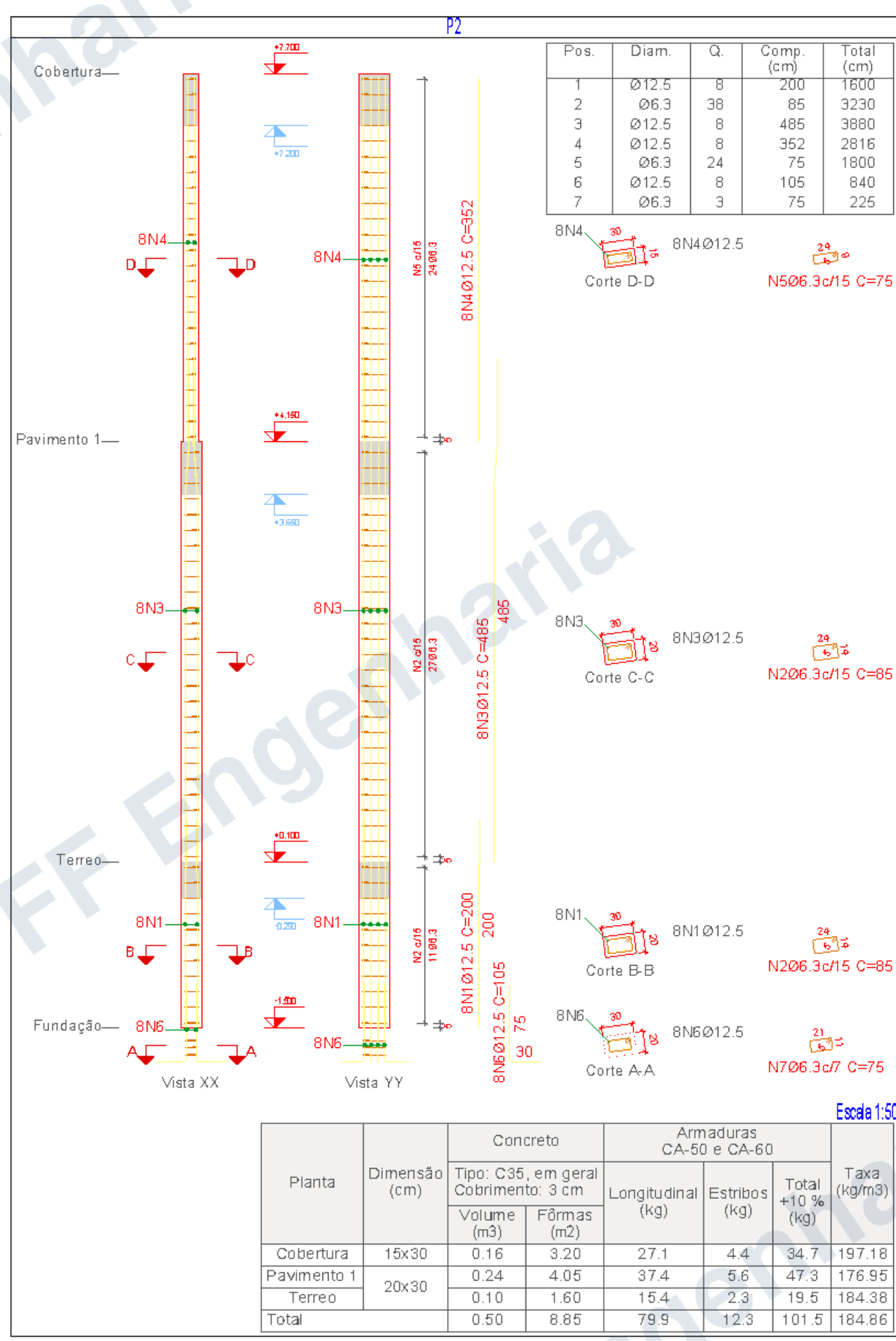
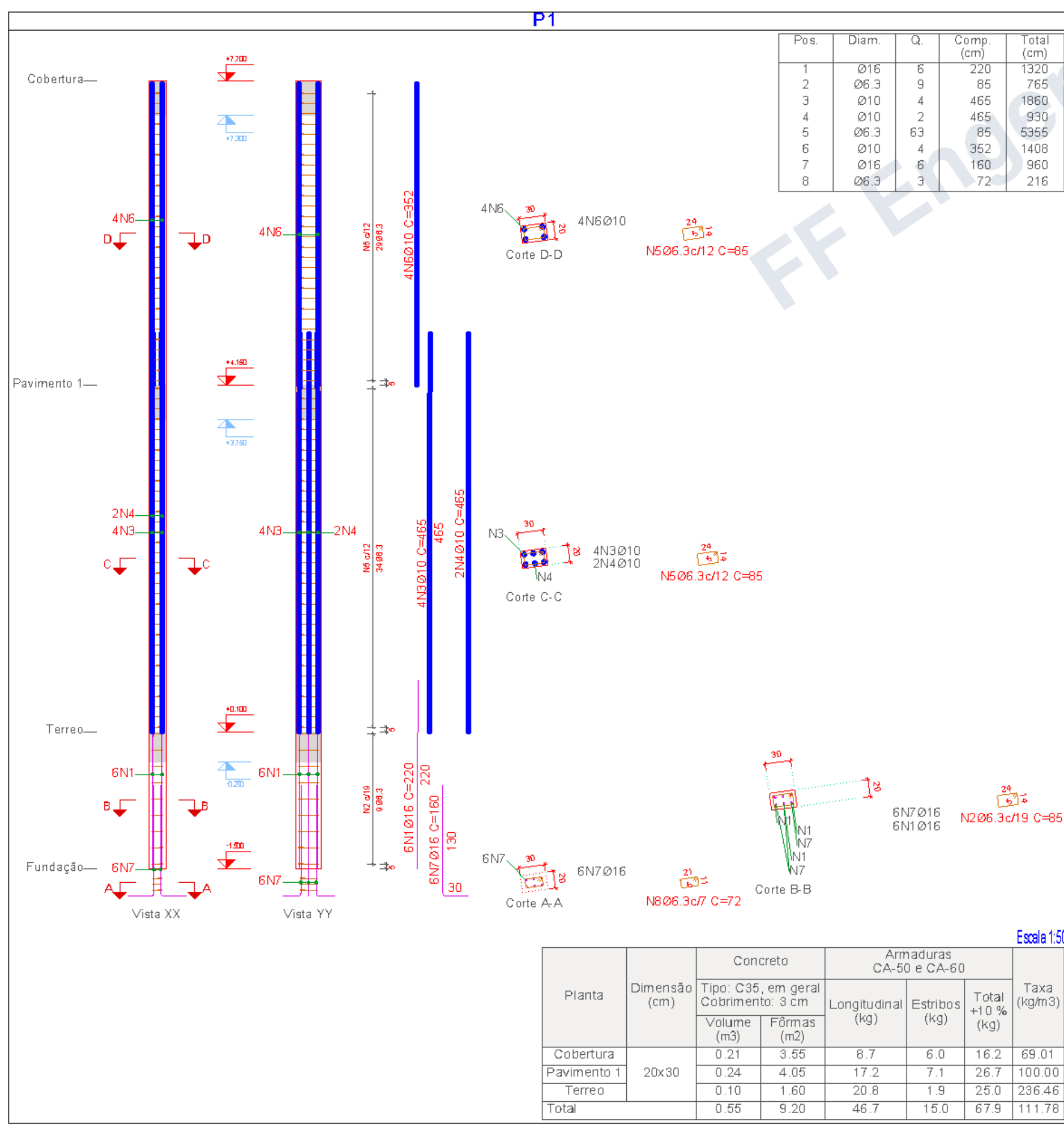
Escada Lojas

Geometria

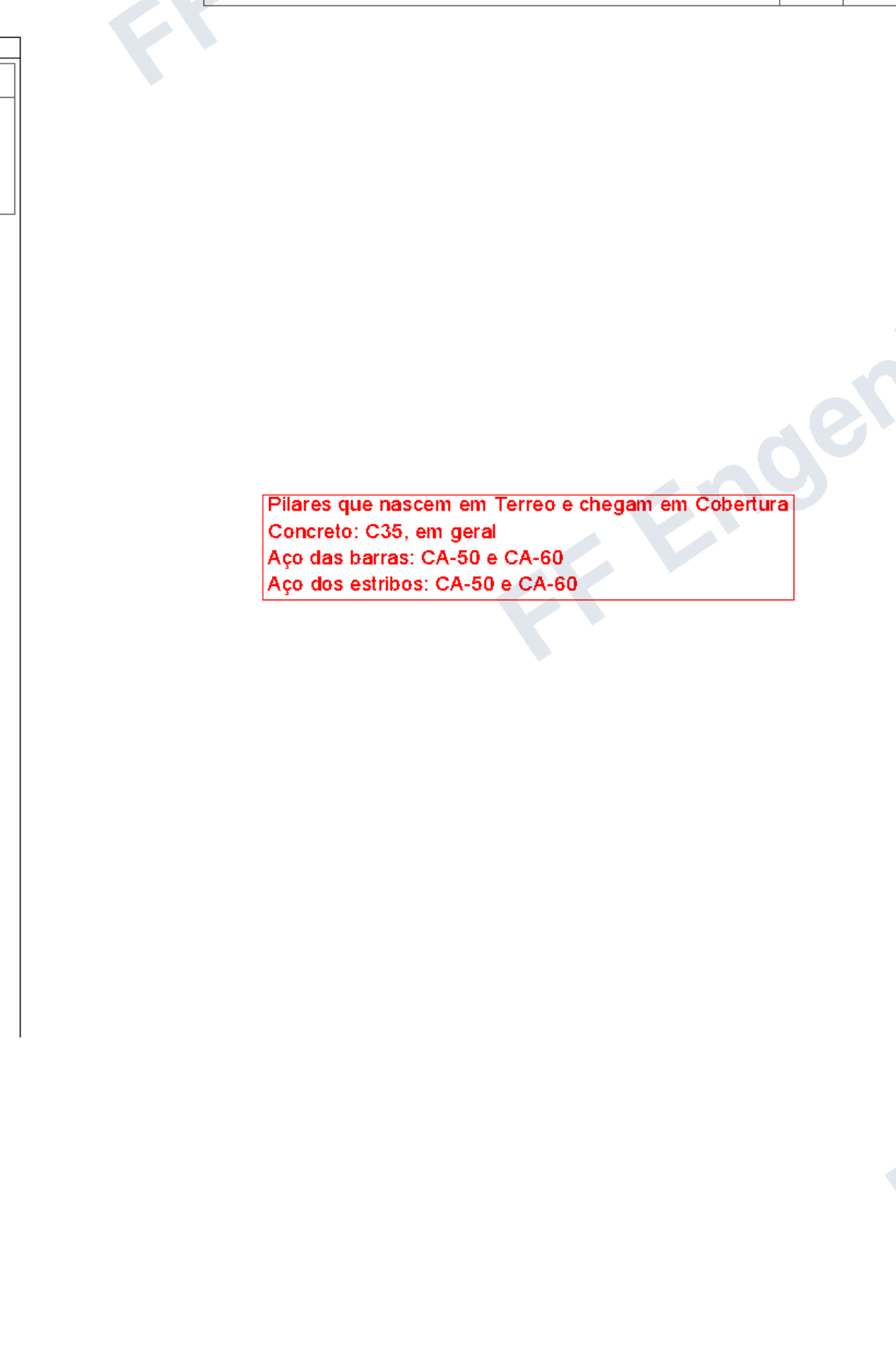
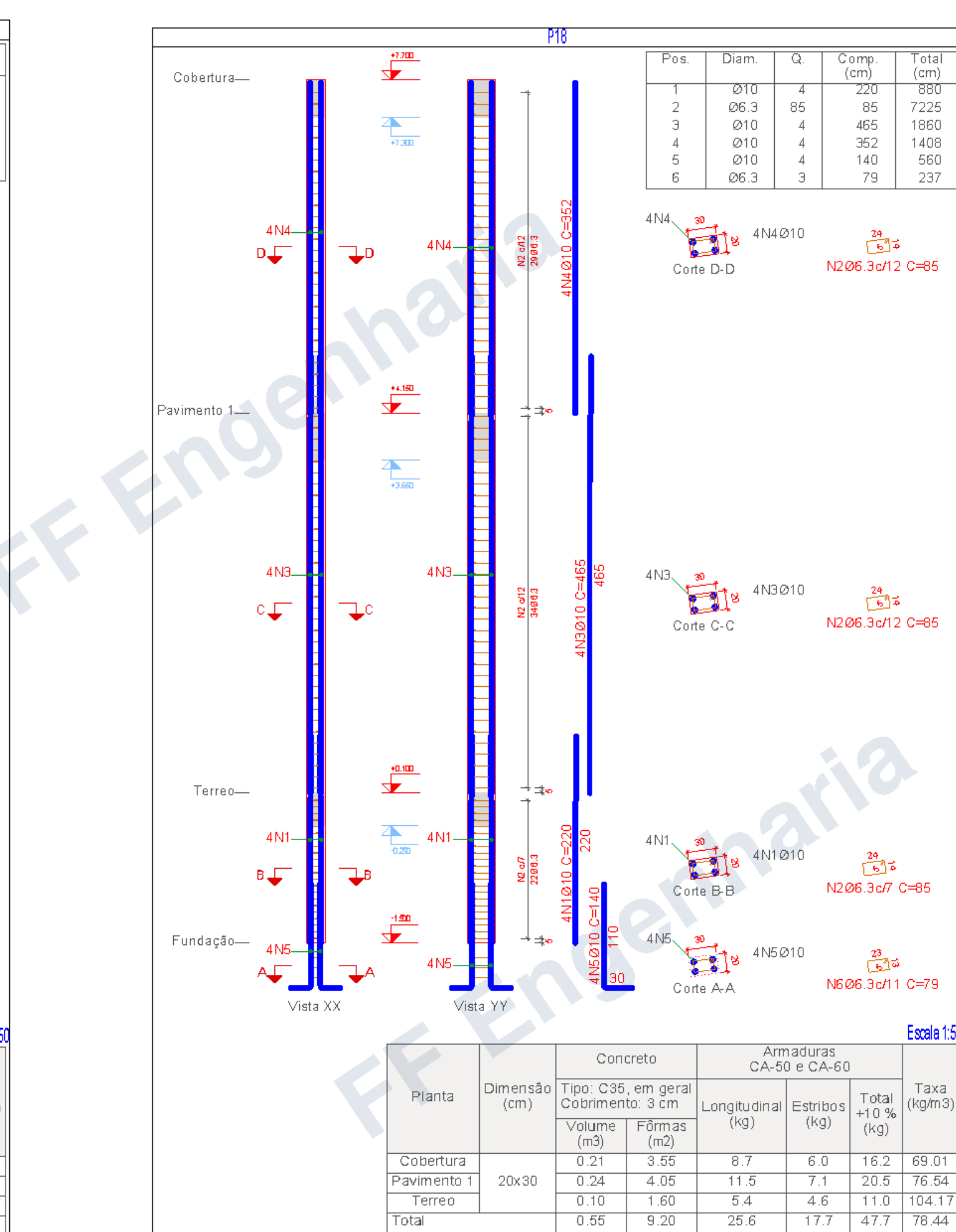
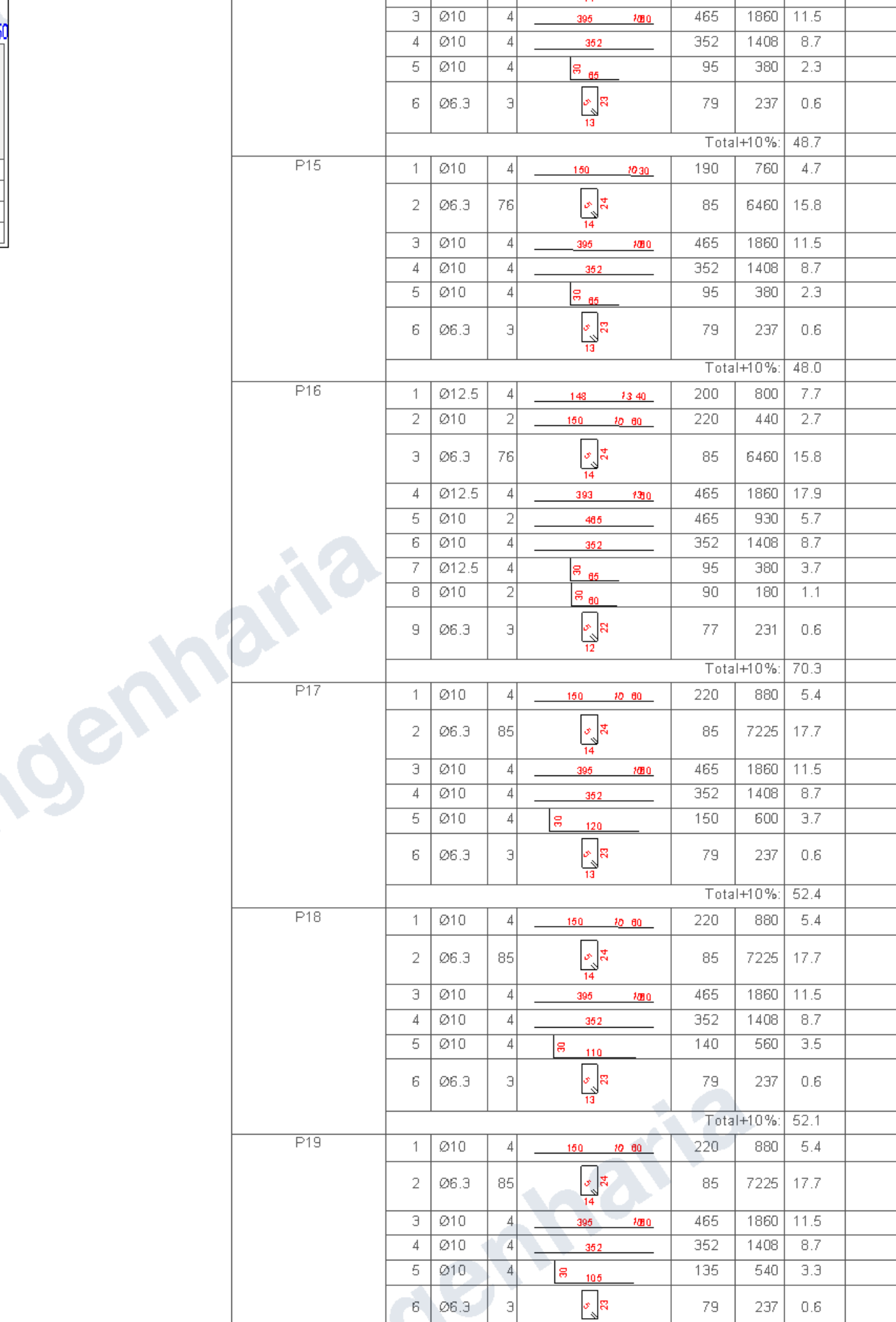
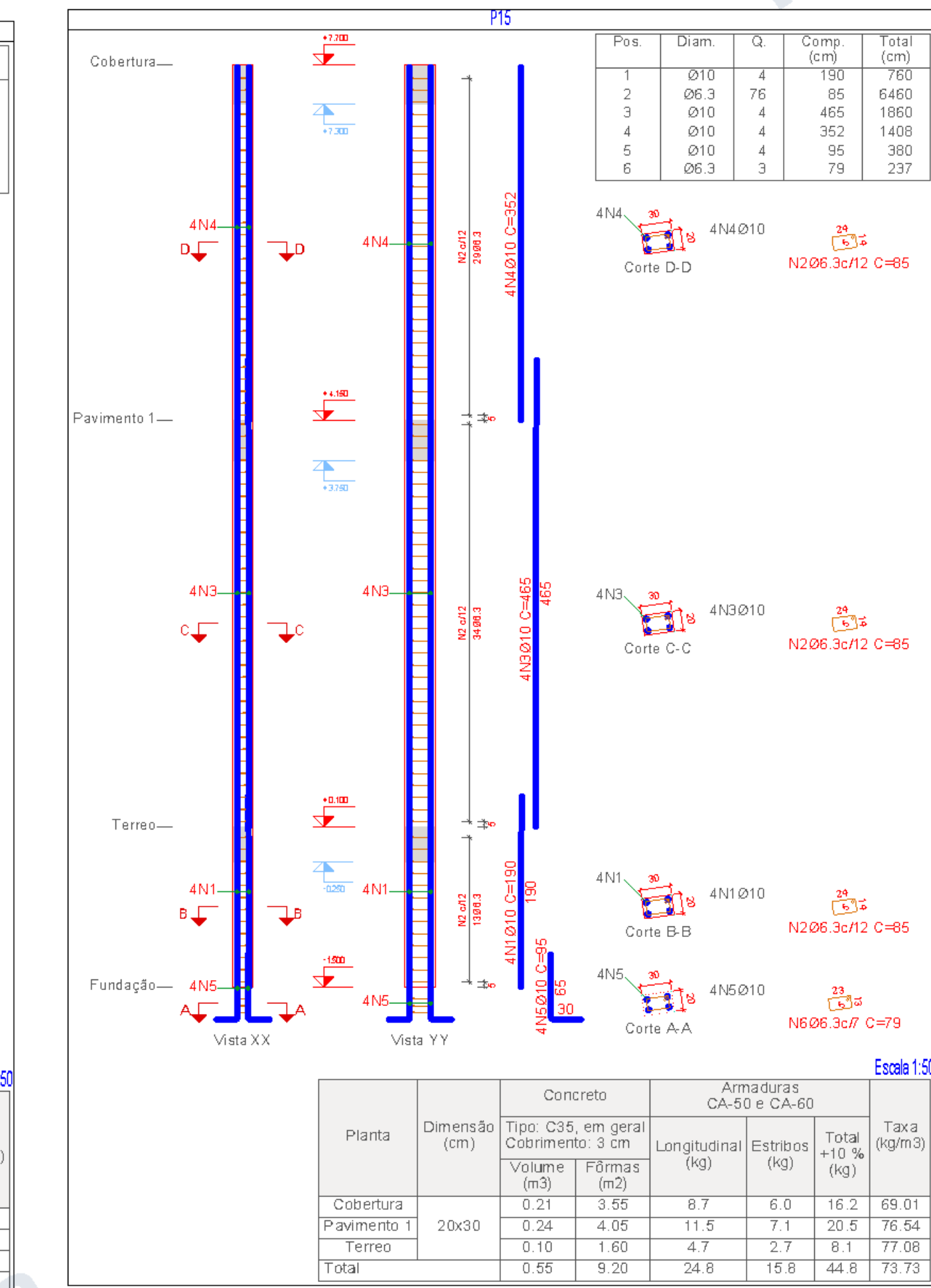
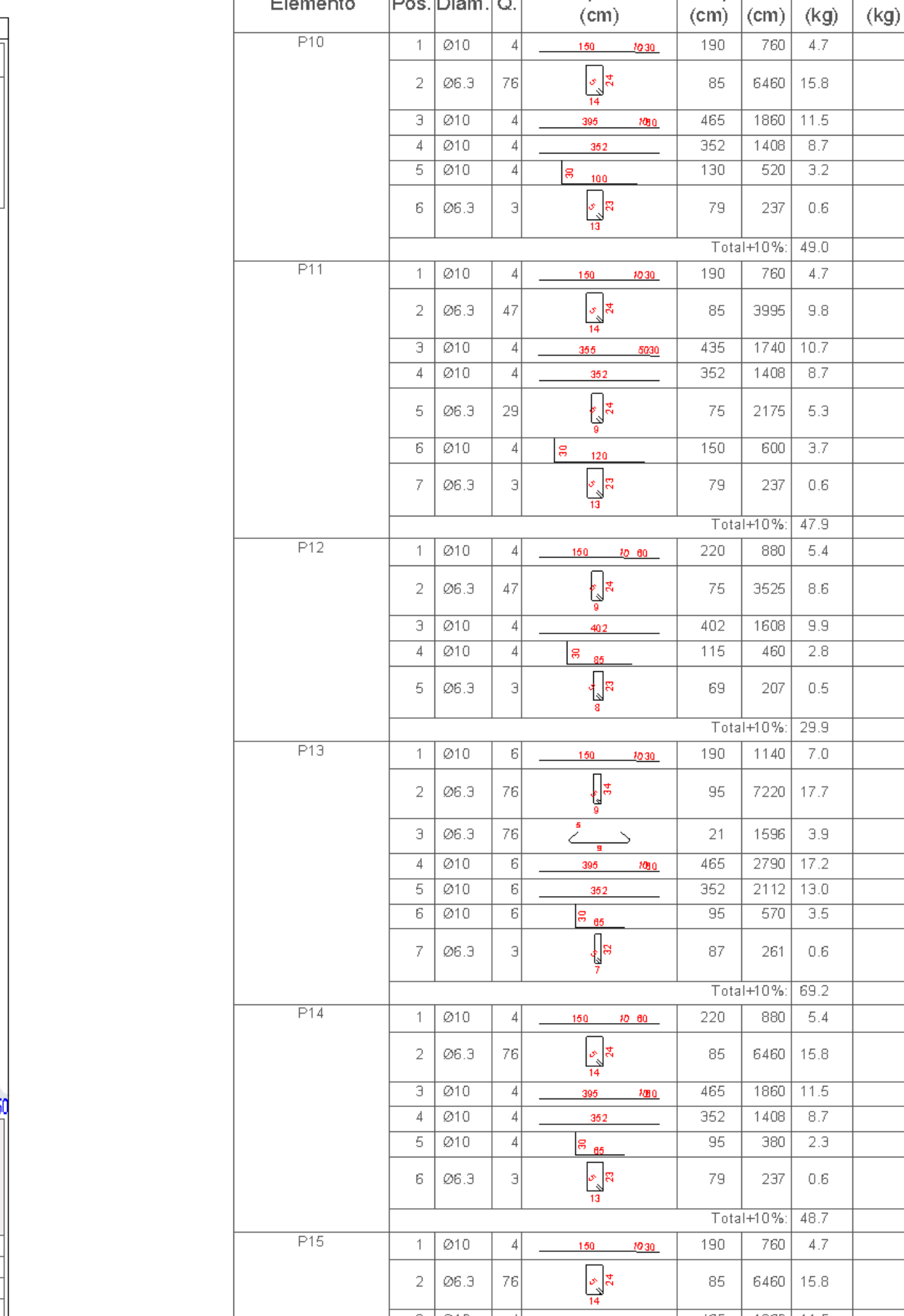
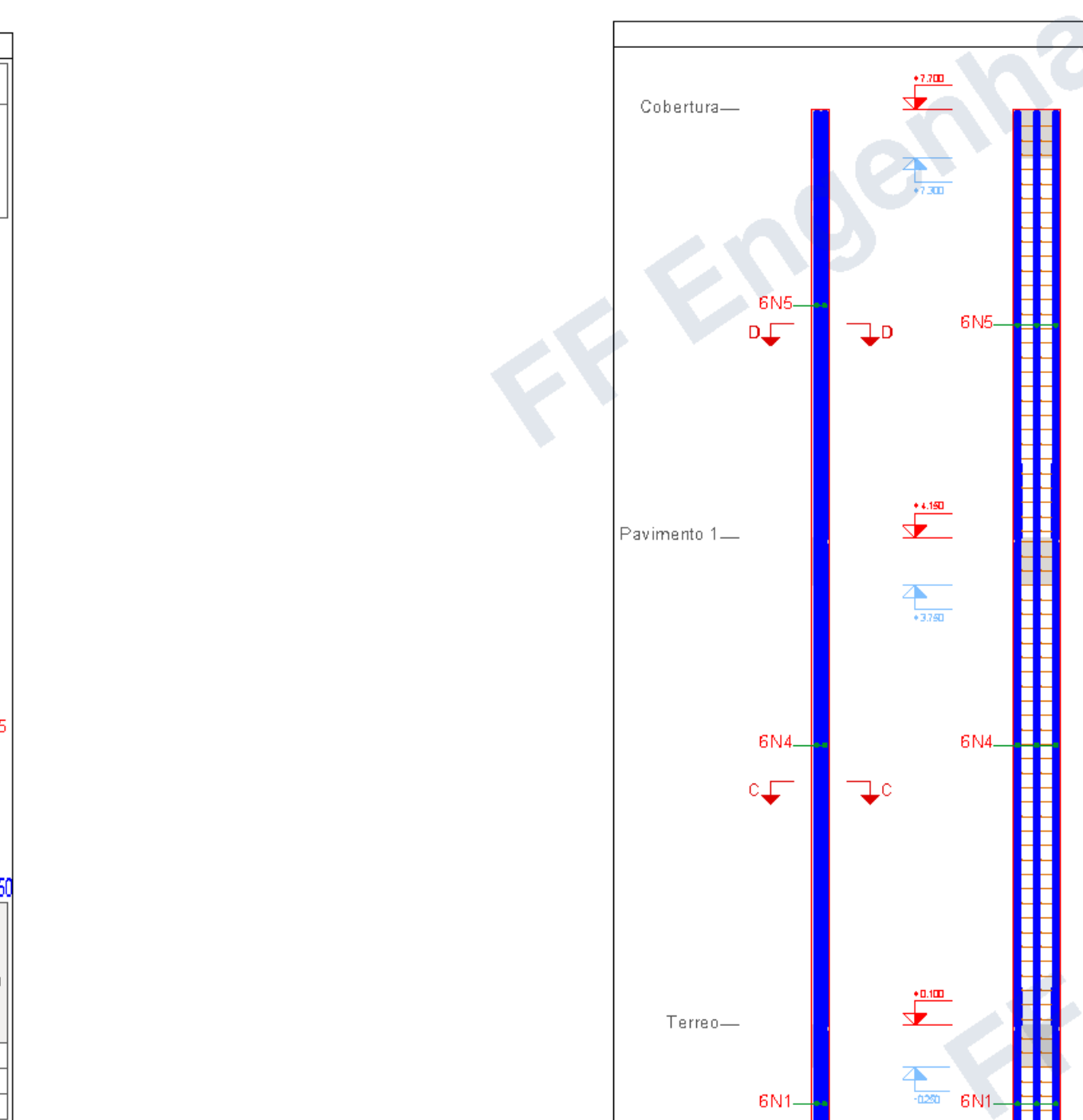
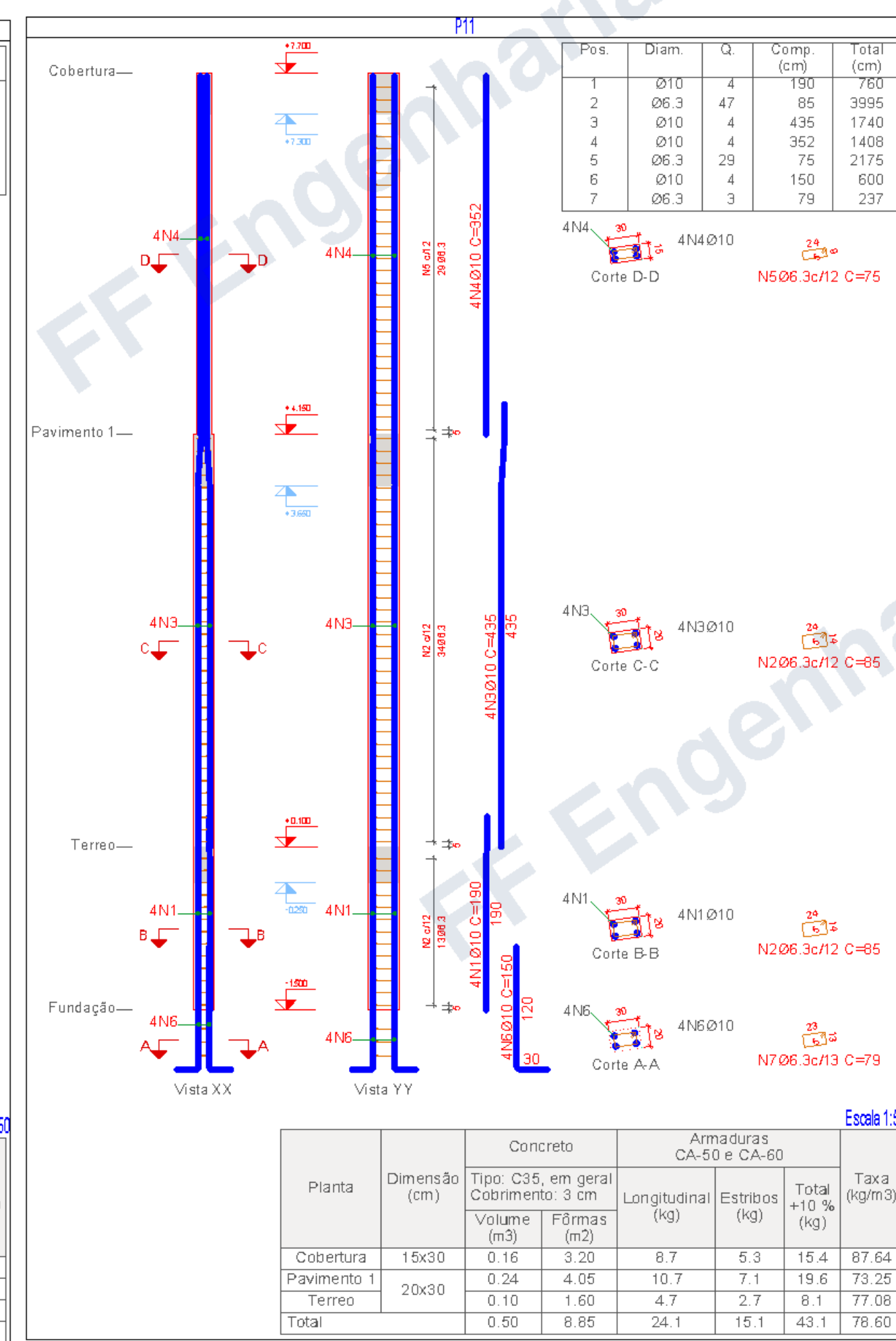


Resumo Aço Escada 6	Comp. total (m)	Peso+10% (kg)	Total
CA-50 Ø8	178.2	77	
Ø20	83.3	226	303



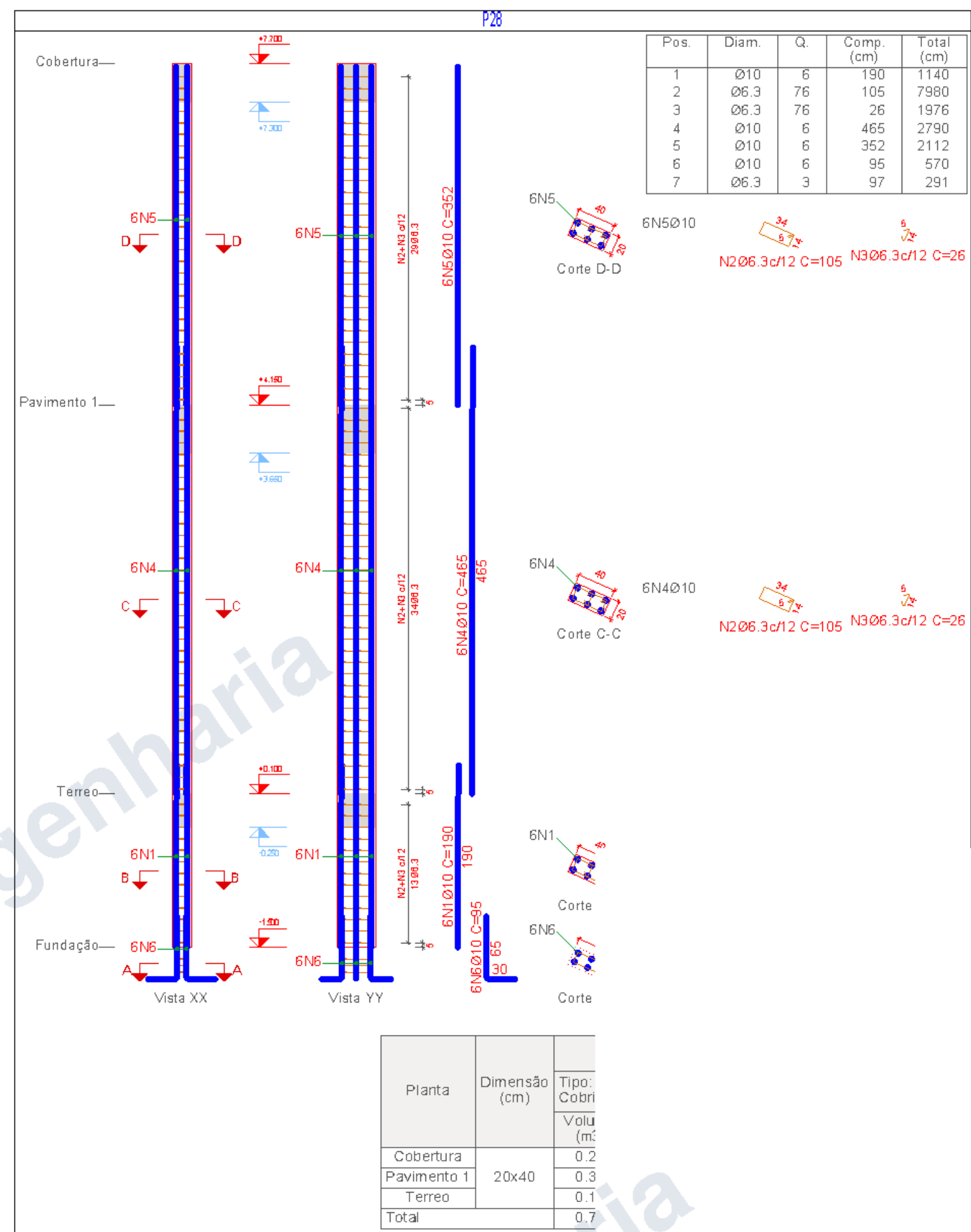
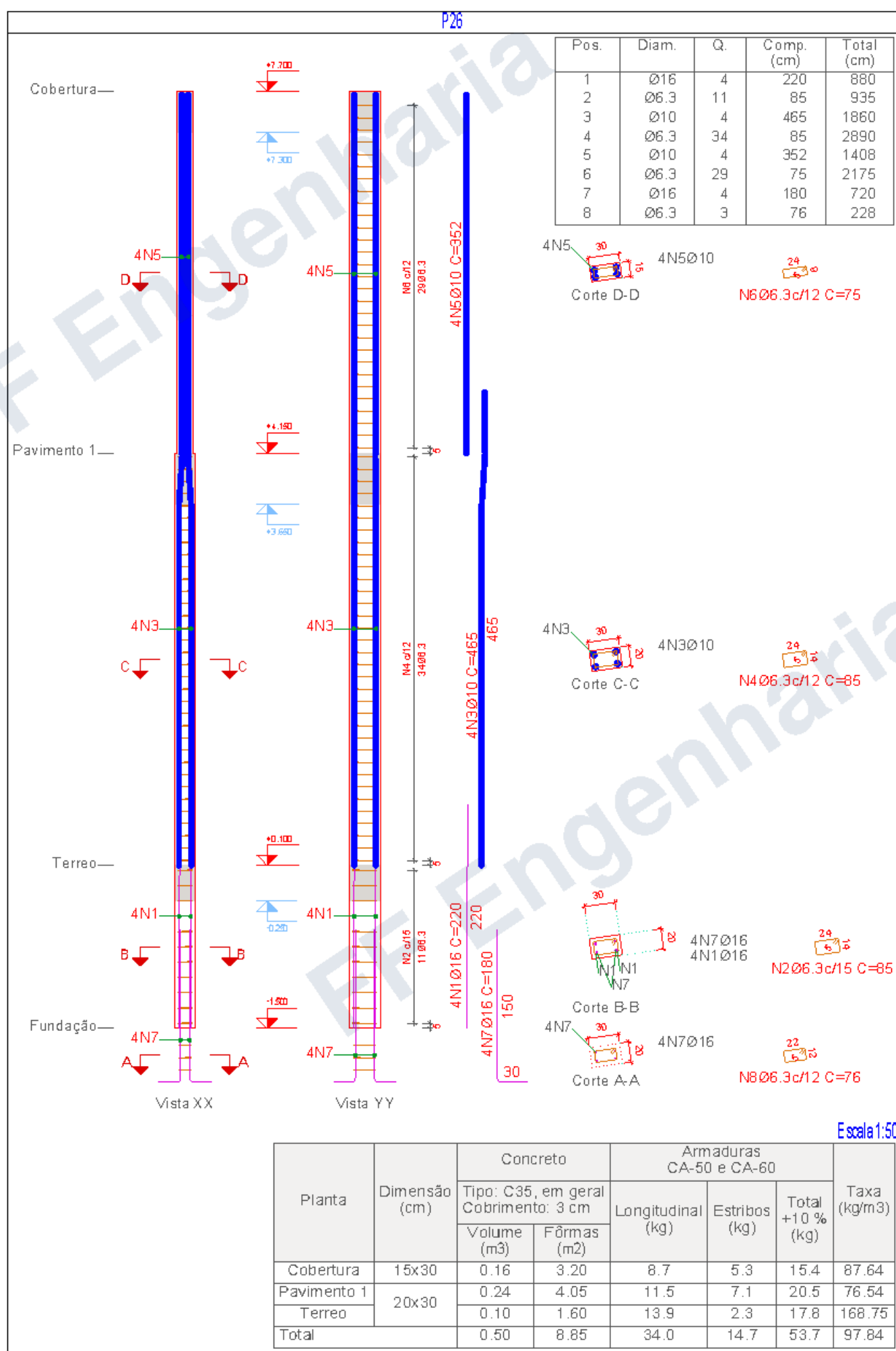
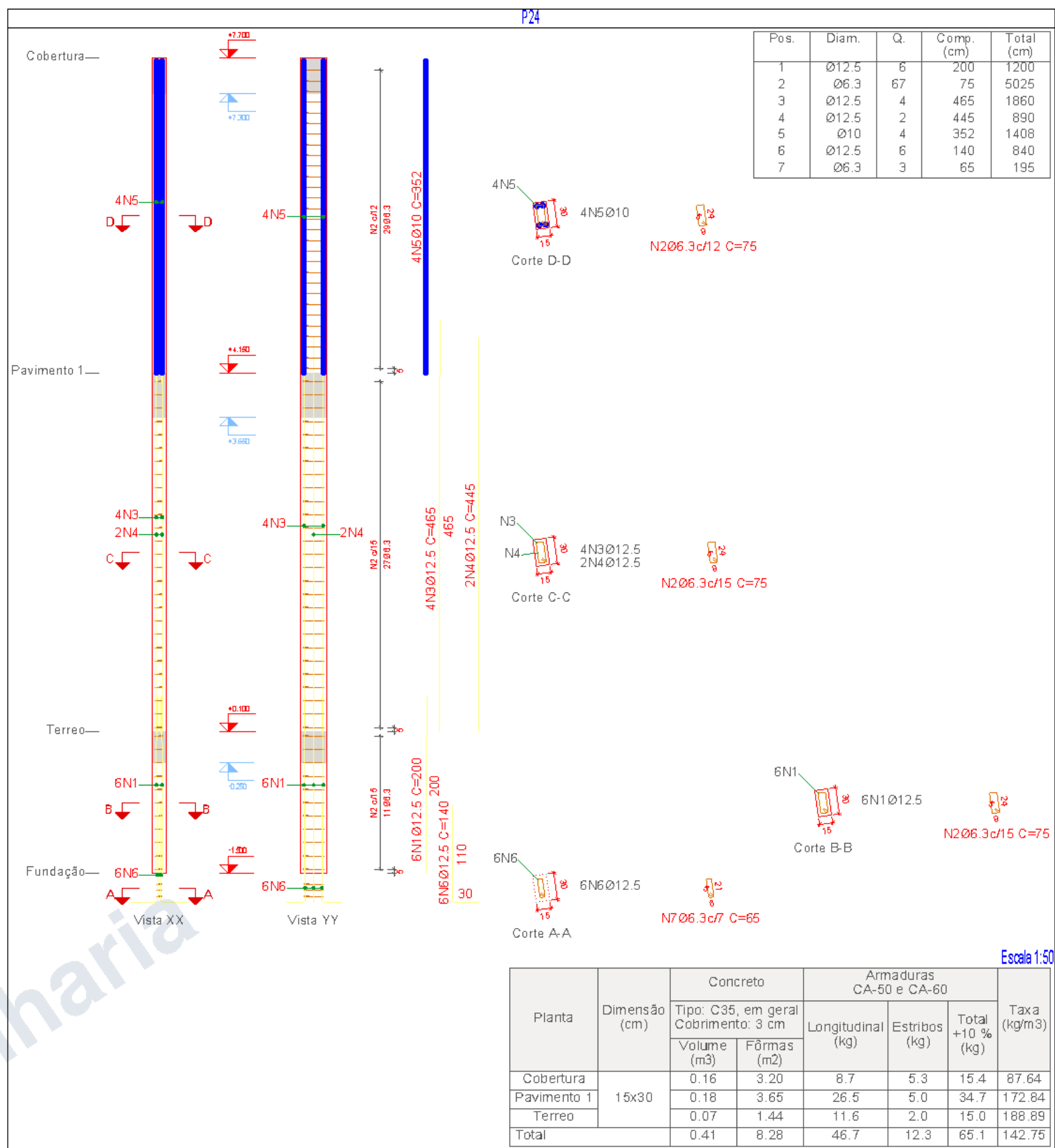
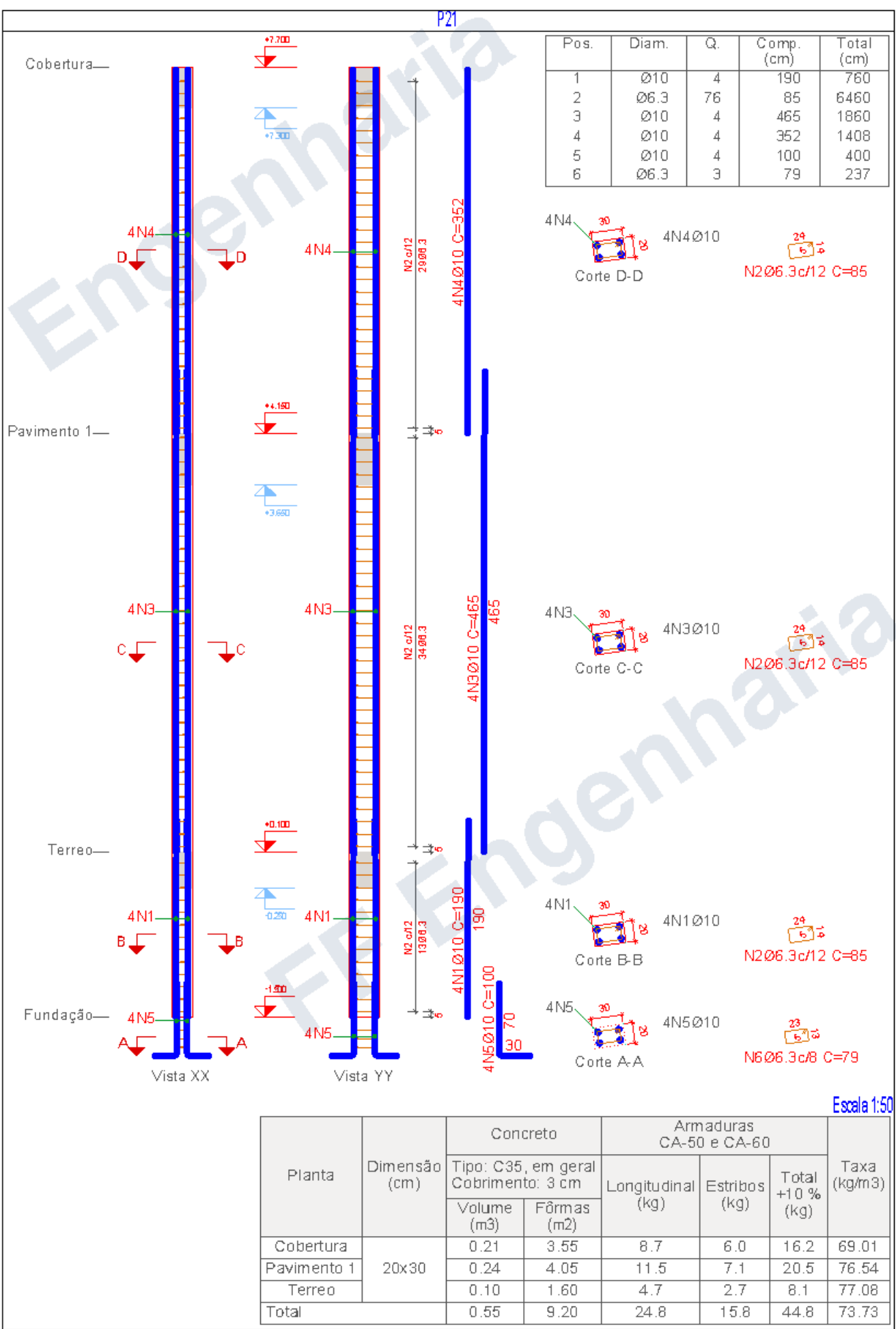
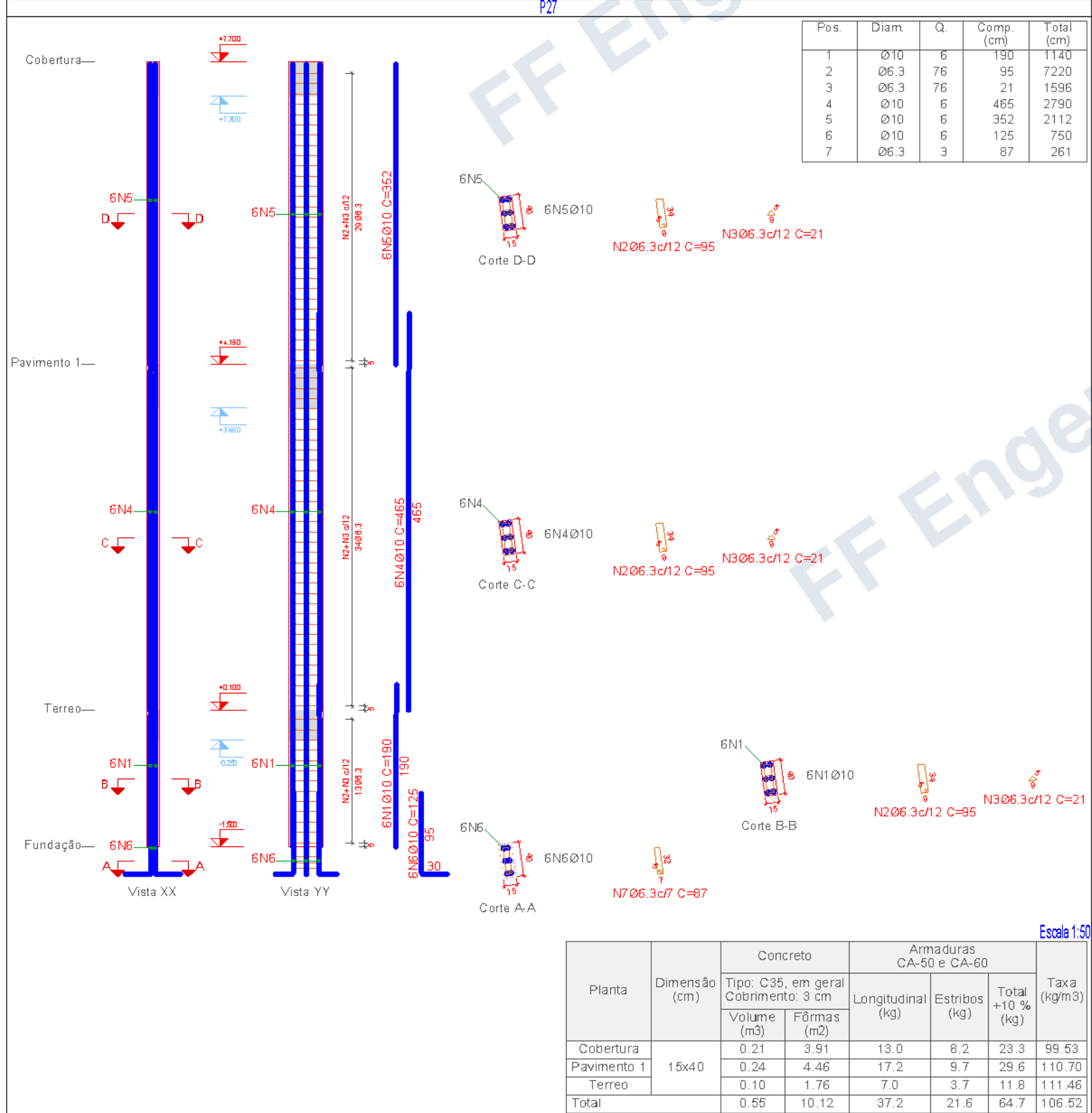
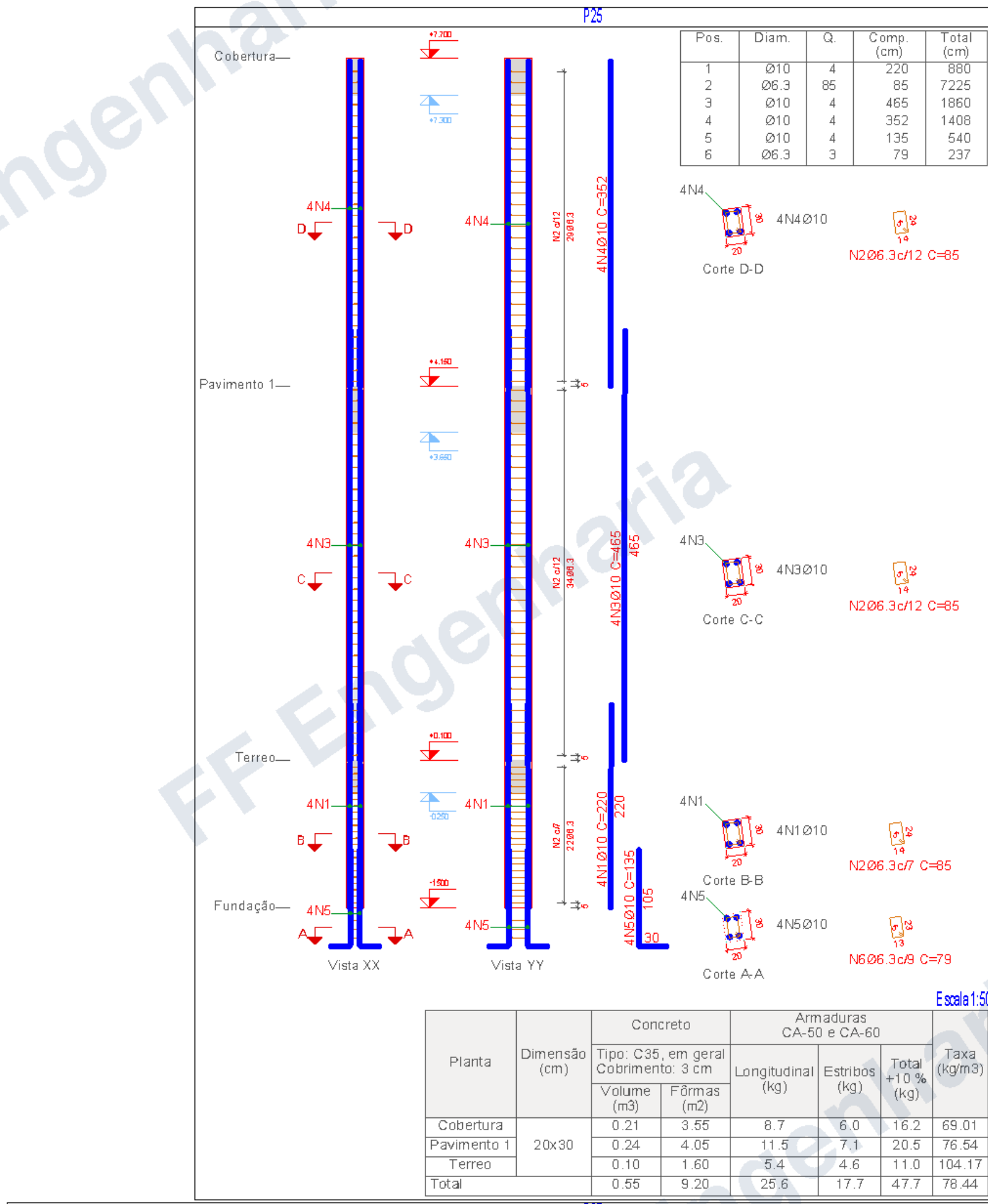
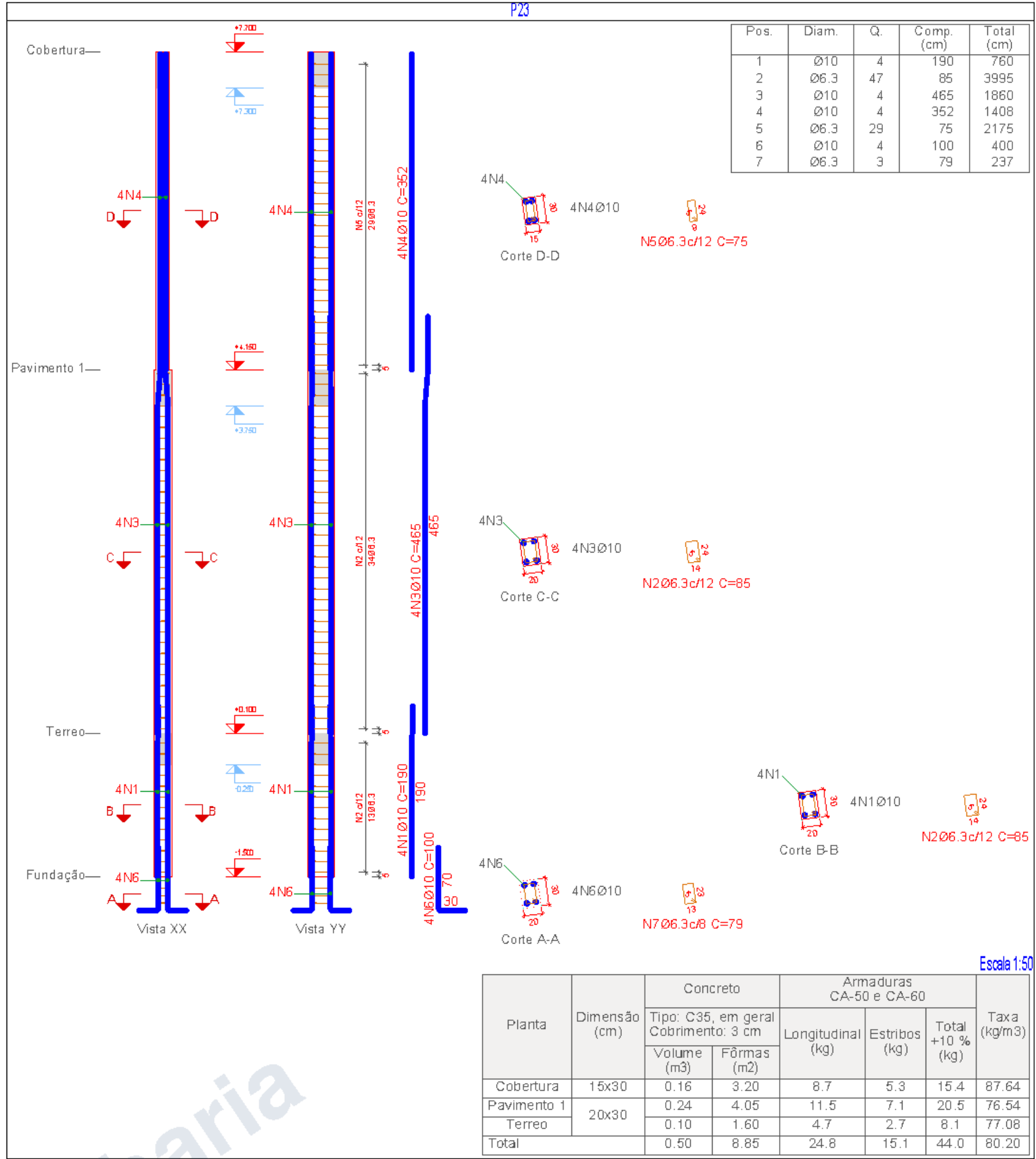
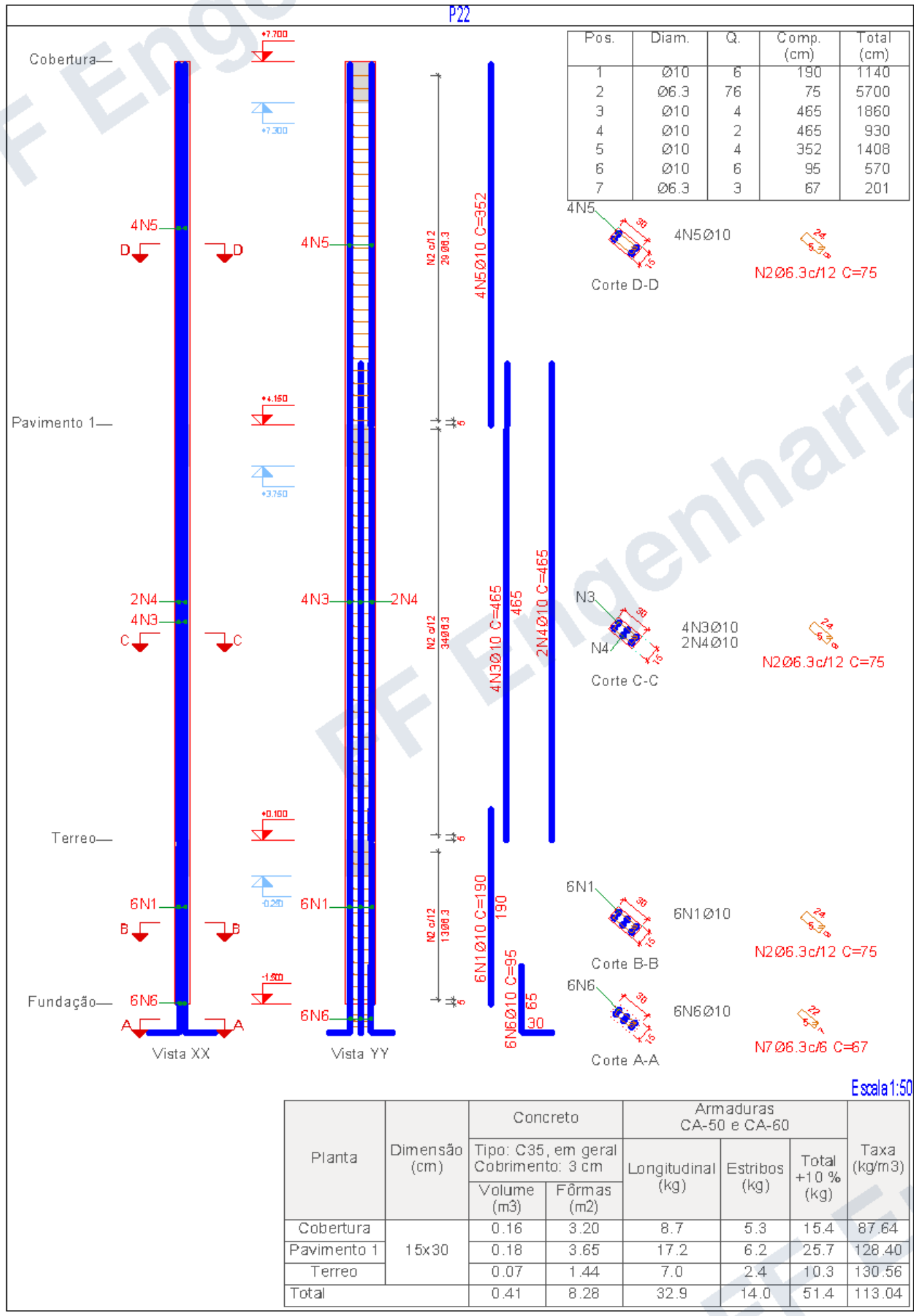
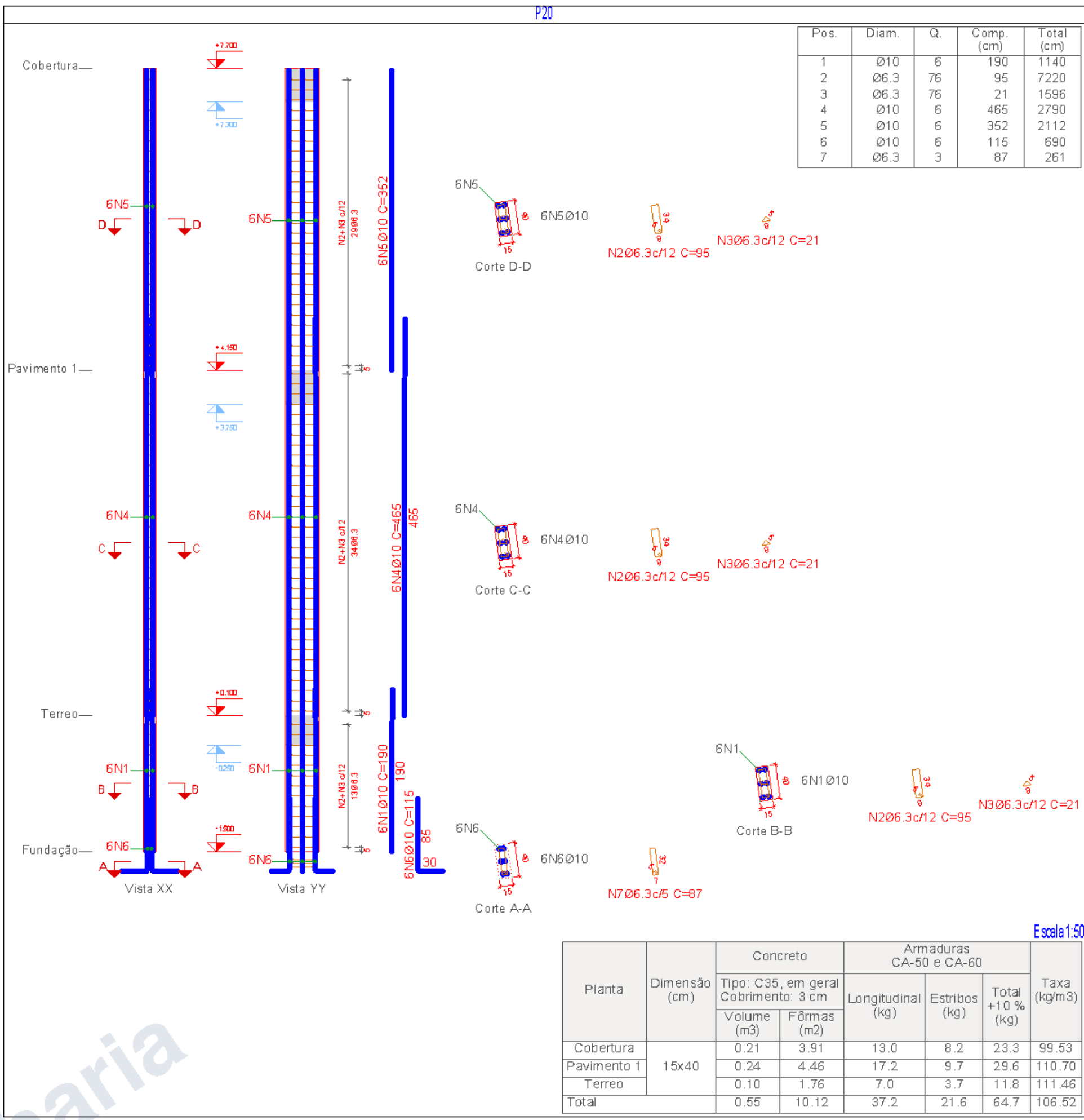


Elemento	Pos.	Diam	Q	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
P1	1	Ø16	6		220	1320	20,8	
	2	Ø6,3	9		85	765	1,9	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	2		465	930	5,7	
	5	Ø6,3	63		85	5355	13,1	
	6	Ø10	4		352	1408	8,7	
	7	Ø16	6		160	960	15,2	
	8	Ø6,3	3		72	216	0,5	
	Total=10%						65,1	
P2	1	Ø12,5	8		200	1600	15,4	
	2	Ø6,3	30		85	2550	7,9	
	3	Ø12,5	8		485	3680	37,4	
	4	Ø12,5	8		352	2816	27,1	
	5	Ø6,3	24		75	1800	4,4	
	6	Ø12,5	8		105	840	8,1	
	7	Ø6,3	3		75	225	0,6	
	Total=10%						11,0	
P3	1	Ø10	6		220	1320	8,1	
	2	Ø6,3	47		105	4935	12,1	
	3	Ø6,3	47		26	1222	3,0	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø6,3	29		95	2755	6,7	
	7	Ø6,3	29		21	609	1,5	
	8	Ø10	6		125	750	4,6	
	9	Ø6,3	3		97	291	0,7	
	Total=10%						73,6	
P4	1	Ø10	6		220	1320	8,1	
	2	Ø6,3	47		105	4935	12,1	
	3	Ø6,3	47		26	1222	3,0	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø6,3	29		95	2755	6,7	
	7	Ø6,3	29		21	609	1,5	
	8	Ø10	6		125	750	4,6	
	9	Ø6,3	3		97	291	0,7	
	Total=10%						73,6	
P5	1	Ø10	4		220	880	5,4	
	2	Ø6,3	76		85	6460	16,8	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	4		465	1860	11,5	
	5	Ø10	4		352	1408	8,7	
	6	Ø6,3	29		75	2175	5,3	
	7	Ø10	6		90	540	3,3	
	8	Ø6,3	3		77	231	0,6	
	Total=10%						48,7	
P6	1	Ø10	4		220	880	5,4	
	2	Ø10	2		220	440	2,7	
	3	Ø6,3	47		85	3995	9,8	
	4	Ø10	4		465	1860	11,5	
	5	Ø10	4		352	1408	8,7	
	6	Ø6,3	29		75	2175	5,3	
	7	Ø10	6		90	540	3,3	
	8	Ø6,3	3		77	231	0,6	
	Total=10%						52,0	
P7	1	Ø10	6		220	1320	11,6	
	2	Ø6,3	47		105	4935	12,1	

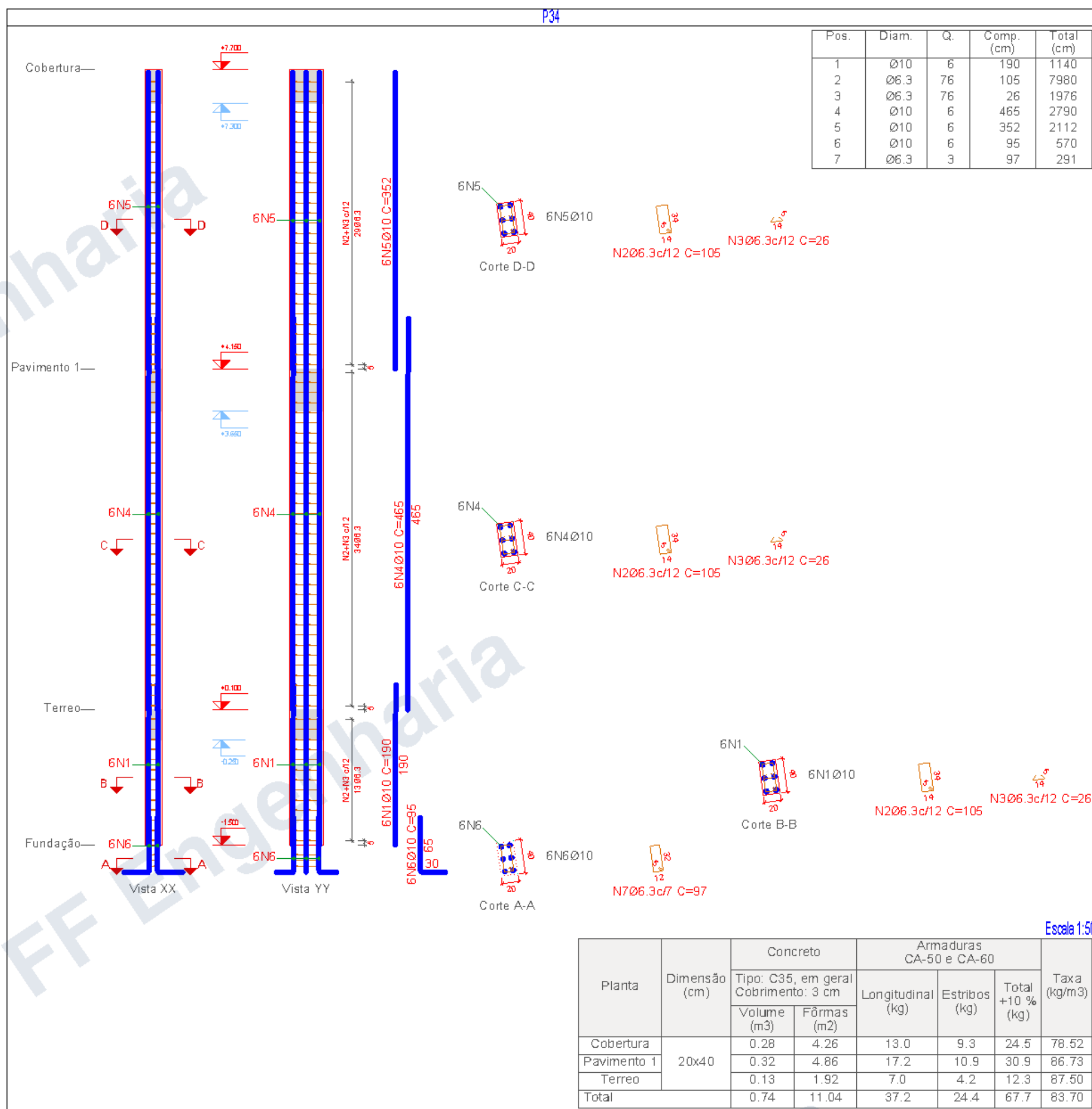
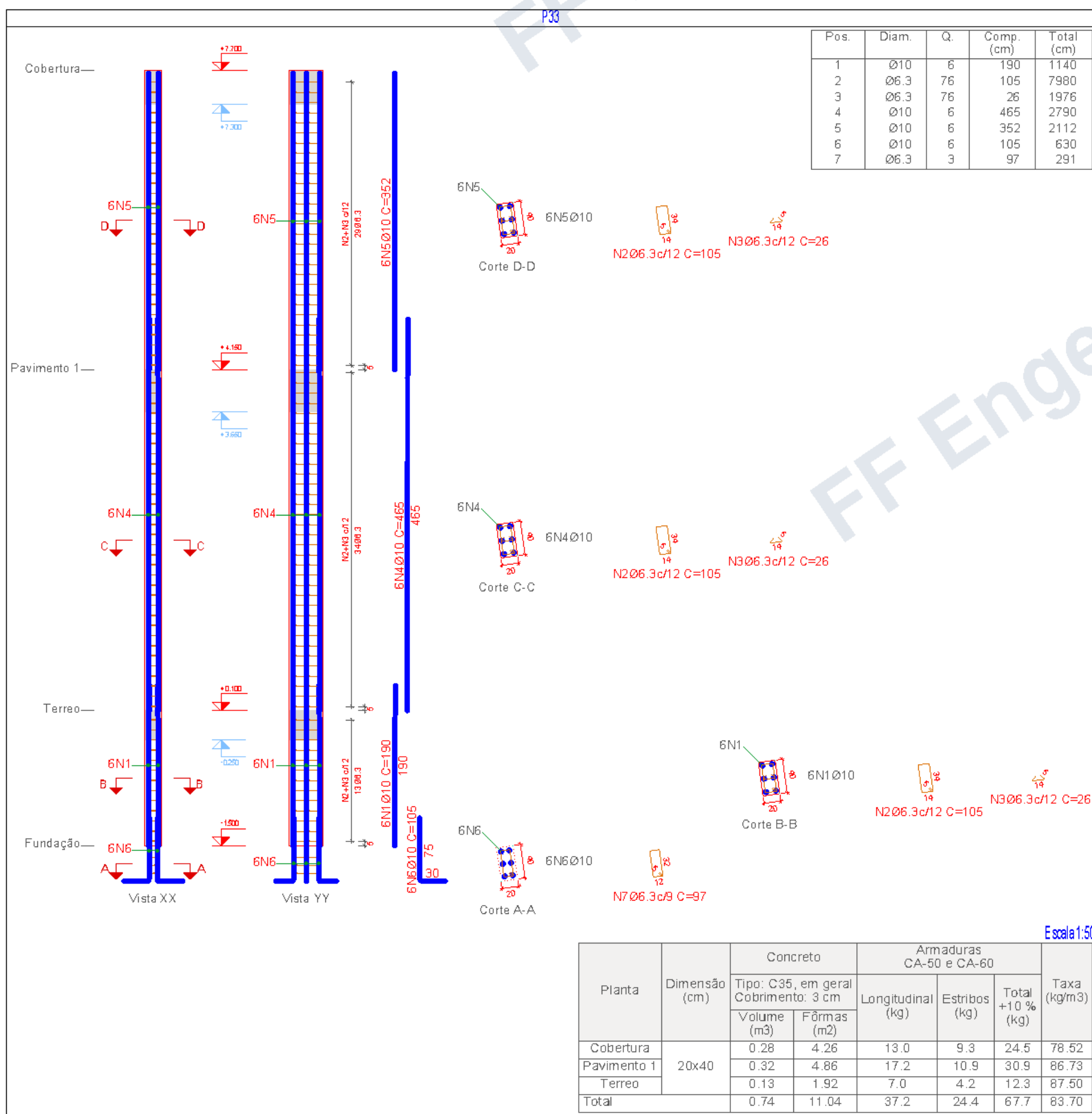
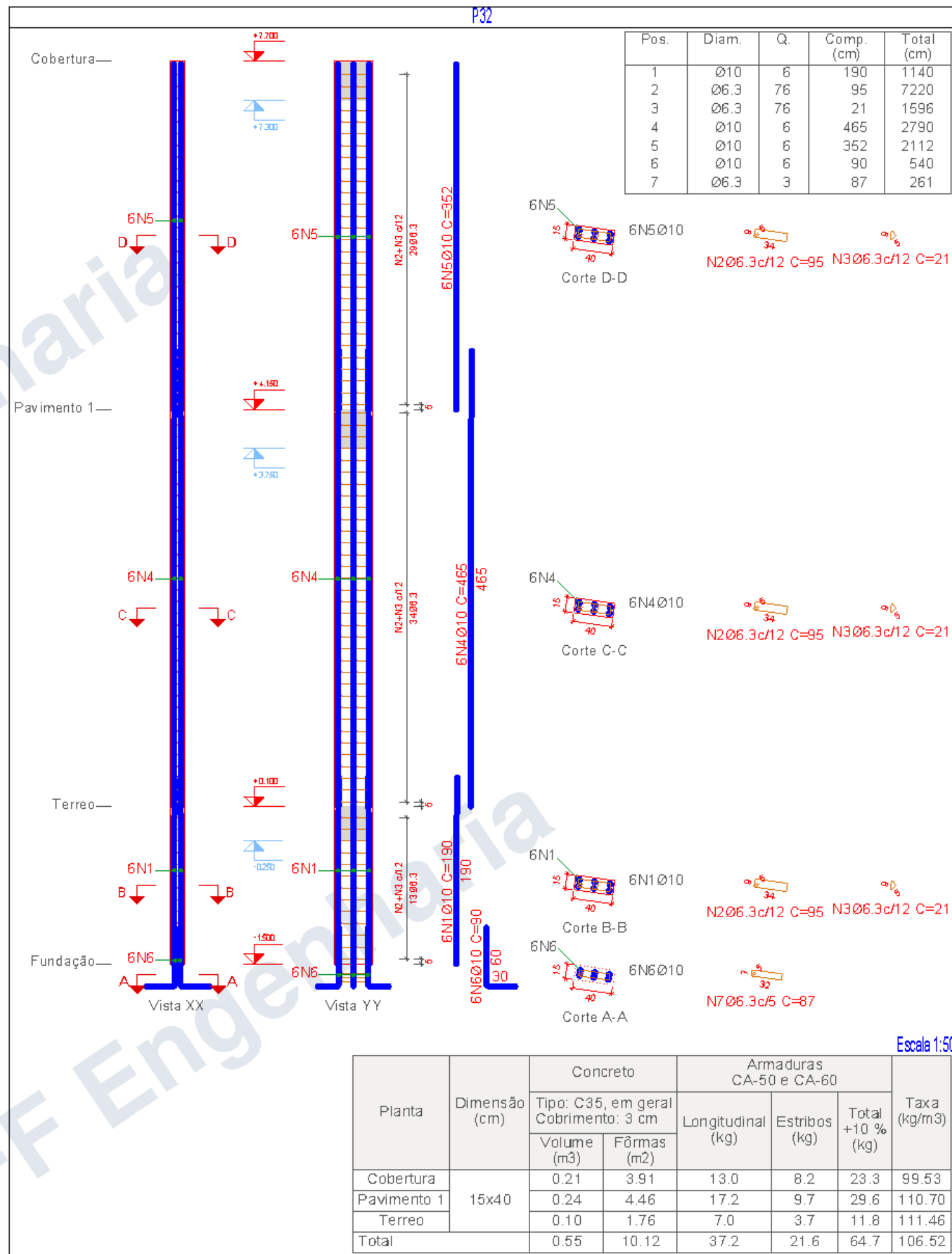
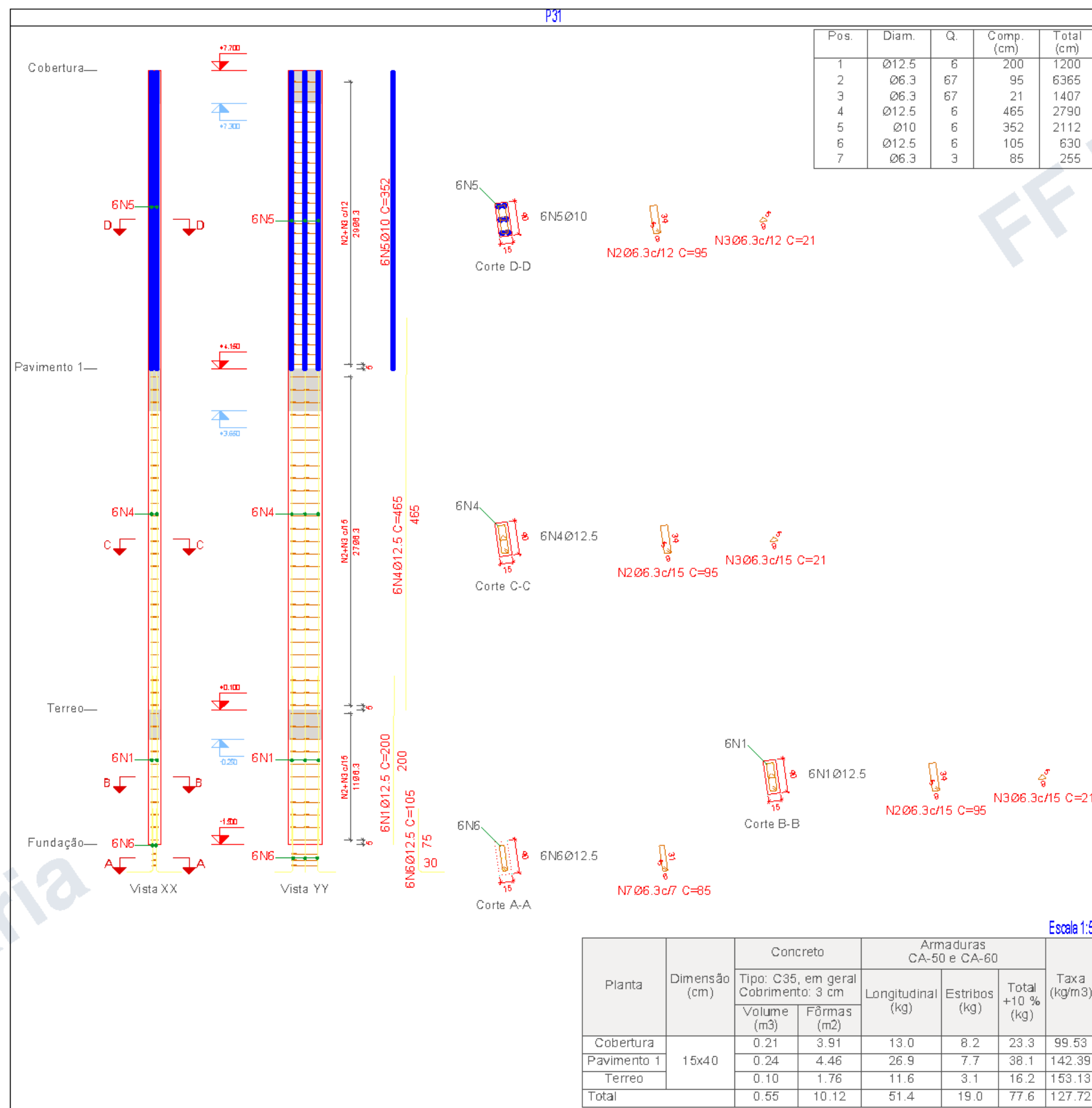
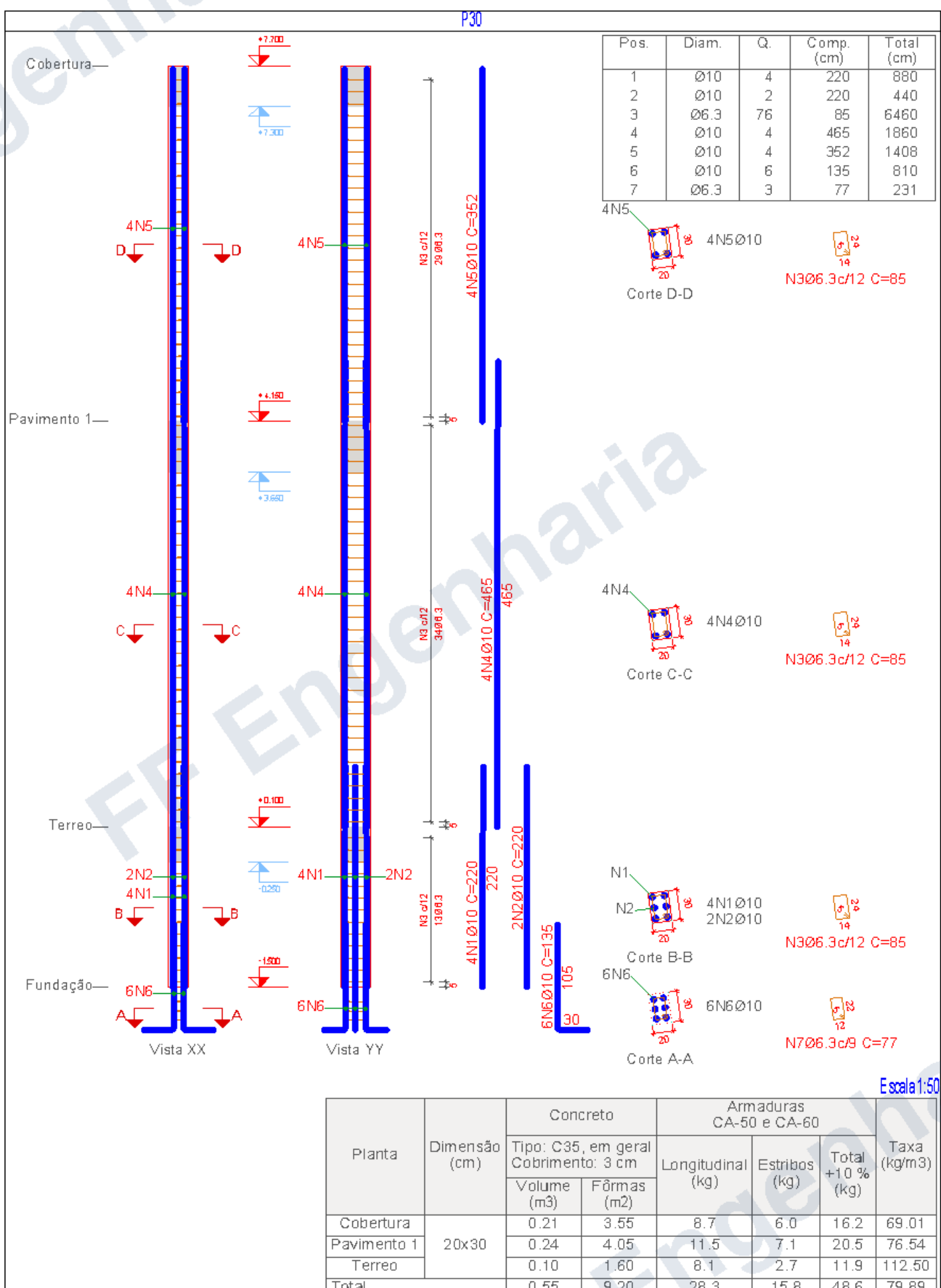
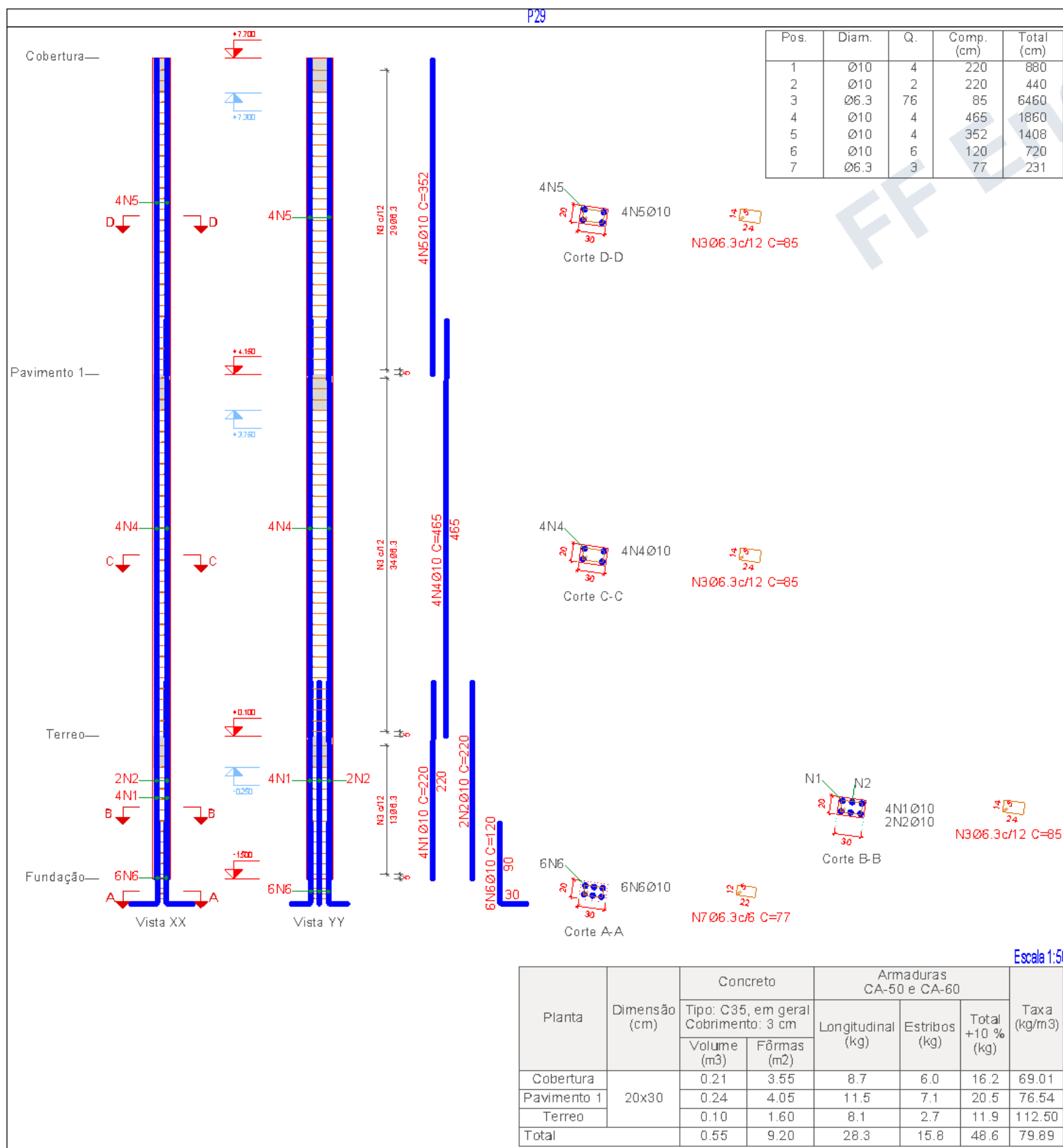


Documento demonstrativo sanitizado

Plataformas nascem em Terreno e chegam em Cobertura
Concreto: C35, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60



Elemento	Pos.	Diam. Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
P20	1	Ø10	6		190	1140	7,0	
	2	Ø6,3	76		85	7220	17,7	
	3	Ø6,3	76		21	1596	3,9	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø10	6		115	690	4,3	
	7	Ø6,3	3		87	261	0,6	
Total=10%					70,1			
P21	1	Ø10	4		190	760	4,7	
	2	Ø6,3	76		85	6460	16,8	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	4		352	1408	8,7	
	5	Ø10	4		100	400	2,5	
	6	Ø6,3	3		79	237	0,6	
Total=10%					48,2			
P22	1	Ø10	6		190	1140	7,0	
	2	Ø6,3	76		75	5700	14,0	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	4		465	930	5,7	
	5	Ø10	4		352	1408	8,7	
	6	Ø10	6		95	570	3,5	
	7	Ø6,3	3		87	201	0,5	
Total=10%					56,0			
P23	1	Ø10	4		190	760	4,7	
	2	Ø6,3	47		85	3995	9,8	
	3	Ø10	4		465	1860	11,5	
	4	Ø10	4		352	1408	8,7	
	5	Ø6,3	29		75	2175	5,3	
	6	Ø10	4		100	400	2,5	
	7	Ø6,3	3		79	237	0,6	
Total=10%					47,4			
P24	1	Ø12,5	6		200	1200	11,6	
	2	Ø6,3	67		75	5025	12,3	
	3	Ø12,5	4		465	1860	17,9	
	4	Ø12,5	2		445	890	8,6	
	5	Ø10	4		352	1408	8,7	
	6	Ø12,5	6		140	840	8,1	
	7	Ø6,3	3		65	195	0,5	
Total=10%					74,5			
P25	1	Ø10	4		220	880	5,4	
	2	Ø6,3	85		85	7225	17,7	
	3	Ø6,3	76		21	1596		
	4	Ø10	4		352	1408	8,7	
	5	Ø10	6		135	540	3,3	
	6	Ø6,3	3		79	237	0,6	
Total=10%					51,9			
P26	1	Ø16	4		220	880	11,6	
	2	Ø6,3	11		85	935	2,3	
	3	Ø10	4		465	1860	11,5	
	4	Ø6,3	34		85	2990	7,1	
	5	Ø10	4		352	1408	8,7	
	6	Ø6,3	29		75	2175	5,3	
	7	Ø16	4		180	720	11,4	
	8	Ø6,3	3		76	228	0,6	
Total=10%					66,9			
P27	1	Ø10	6		190	1140	7,0	
	2	Ø6,3	76		85	7220	17,7	
	3	Ø6,3	76		21	1596	3,9	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø10	6		125	750	4,6	
	7	Ø6,3	3		87	261	0,6	
Total=10%					70,4			
P28	1	Ø10	6		190	1140	7,0	
	2	Ø6,3	76		105	7980	19,5	
	3	Ø6,3	76		26	1976	4,8	
	4	Ø10	6		465	2790	17,2	
	5	Ø10	6		352	2112	13,0	
	6	Ø10	6		95	570	3,5	
	7	Ø6,3	3		97	291	0,7	
Total=10%					72,3			
						Ø6,3	72,3	0,0
						Ø10	380,3	0,0
						Ø12,5	50,8	0,0
						Ø16	27,9	0,0
						Total	557,7	0,0

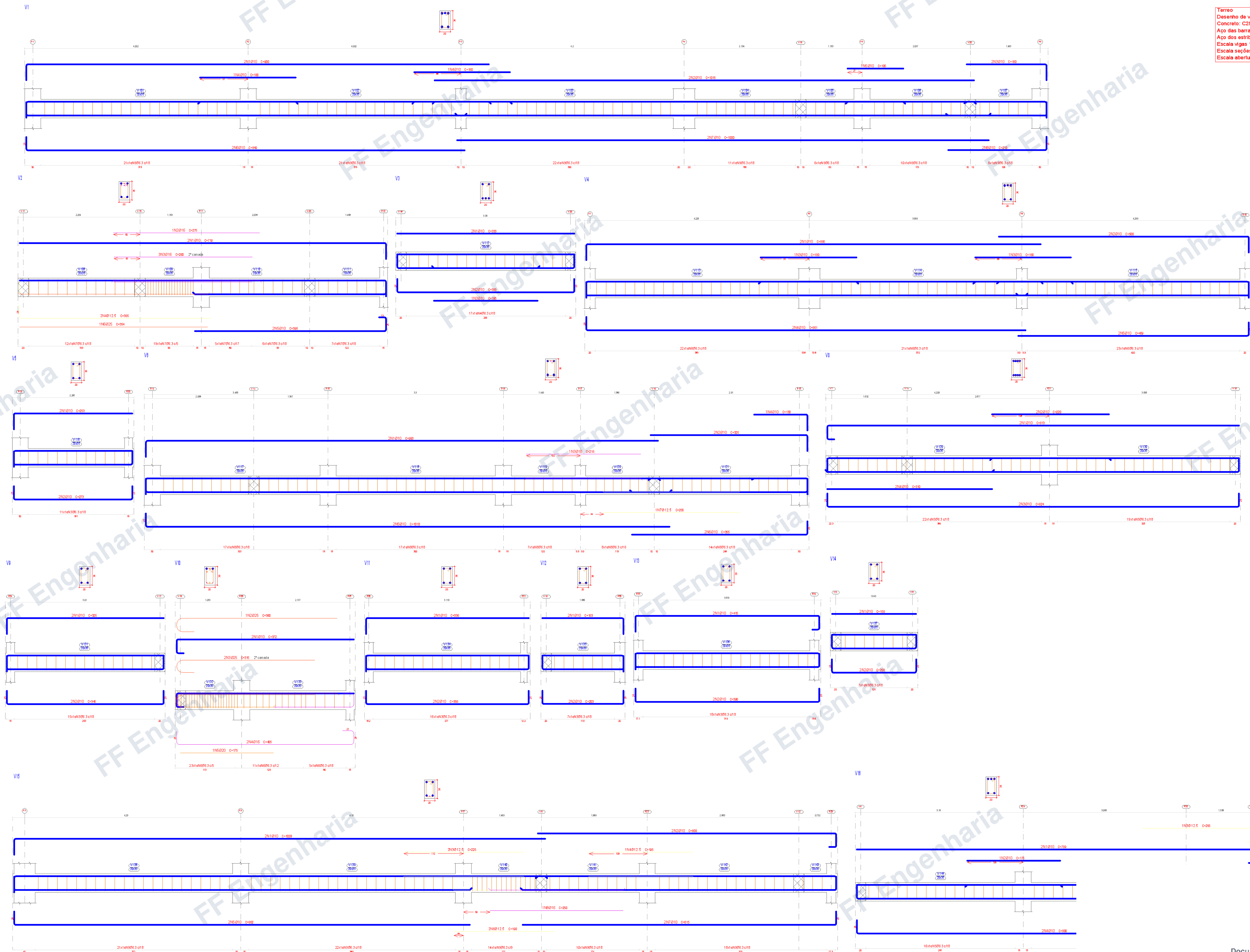


Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. Total (cm)	CA-50 (kg)	CA-60 (kg)
P29	1	Ø10	4		220	880	5.4
	2	Ø10	2		220	440	2.7
	3	Ø6.3	76		85	6460	15.8
	4	Ø10	4		465	1860	11.5
	5	Ø10	4		352	1408	8.7
	6	Ø10	6		135	810	4.4
	7	Ø6.3	3		77	231	0.6
Total+10%							54.0
P30	1	Ø10	4		220	880	5.4
	2	Ø10	2		220	440	2.7
	3	Ø6.3	76		85	6460	15.8
	4	Ø10	4		465	1860	11.5
	5	Ø10	4		352	1408	8.7
	6	Ø10	6		135	810	5.0
	7	Ø6.3	3		77	231	0.6
Total+10%							54.7
P31	1	Ø12.5	6		200	1200	11.6
	2	Ø6.3	67		95	6365	15.6
	3	Ø6.3	67		21	1407	3.4
	4	Ø12.5	6		465	2790	26.9
	5	Ø10	6		352	2112	13.0
	6	Ø12.5	6		105	630	6.1
	7	Ø6.3	3		85	255	0.6
Total+10%							84.9
P32	1	Ø10	6		190	1140	7.0
	2	Ø6.3	76		95	7220	17.7
	3	Ø6.3	76		21	1596	3.9
	4	Ø10	6		465	2790	17.2
	5	Ø10	6		352	2112	13.0
	6	Ø10	6		90	540	3.3
	7	Ø6.3	3		87	261	0.6
Total+10%							68.6
P33	1	Ø10	6		190	1140	7.0
	2	Ø6.3	76		105	7980	19.5
	3	Ø6.3	76		26	1976	4.8
	4	Ø10	6		465	2790	17.2
	5	Ø10	6		352	2112	13.0
	6	Ø10	6		105	630	3.3
	7	Ø6.3	3		97	291	0.7
Total+10%							72.7
P34	1	Ø10	6		190	1140	7.0
	2	Ø6.3	76		105	7980	19.5
	3	Ø6.3	76		26	1976	4.8
	4	Ø10	6		465	2790	17.2
	5	Ø10	6		352	2112	13.0
	6	Ø10	6		95	570	3.5
	7	Ø6.3	3		97	291	0.7
Total+10%							72.3
							Ø6.3 137.6 0.0
							Ø10 221.5 0.0
							Ø12.5 49.1 0.0
							Total 407.6 0.0

Resumo Aço Pilares	Comp. total (m)	Peso+10% (kg)	Total
CA-50 Ø6.3	2553.1	688	
Ø10	1612.0	1093	
Ø12.5	285.6	303	
Ø16	38.8	67	2151

Pilares que nascem em Terreno e chegam em Cobertura
Concreto: C35, em geral
Aço das barras: CA-50 e CA-60

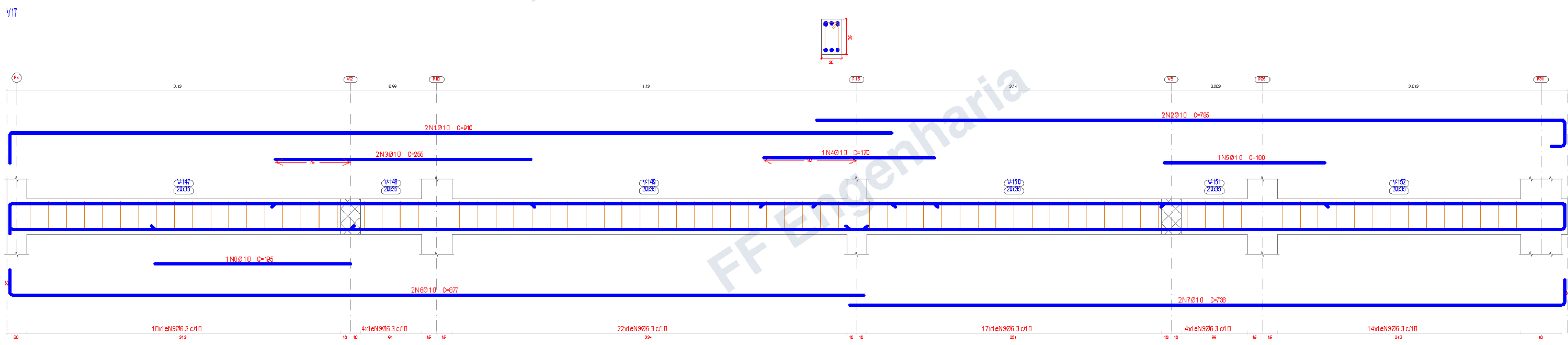
VIGAS TERREO F01



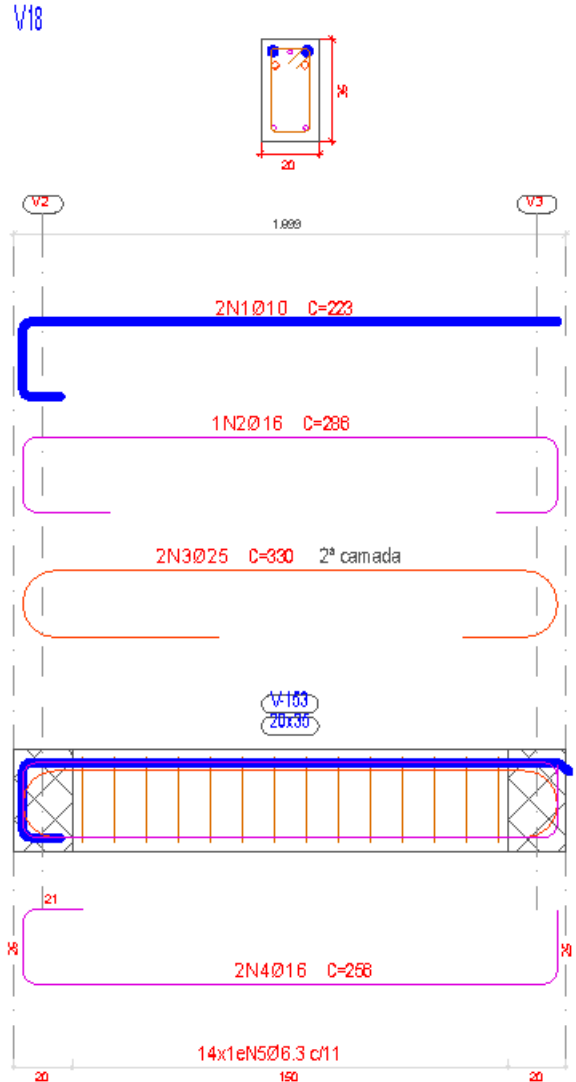
Terreo						CA-50 CA-60	
Desenho de vigas							
Concreto: C25, em geral							
Aço das barras: CA-50 e CA-60							
Escala vigas 1:25							
Escala seções 1:25							
Escala aberturas 1:25							
Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)
V1	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V2	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V3	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V4	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V5	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V6	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V7	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V8	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V9	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V10	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V11	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V12	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V13	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V14	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V15	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
V16	1	Ø10	2	180	360	1800	11.1
	2	Ø10	2	180	360	1800	11.1
	3	Ø10	2	180	360	1800	11.1
	4	Ø10	2	180	360	1800	11.1
	5	Ø10	2	180	360	1800	11.1
	6	Ø10	2	180	360	1800	11.1
	7	Ø10	2	180	360	1800	11.1
	8	Ø10	2	180	360	1800	11.1
	9	Ø10	2	180	360	1800	11.1
Total						18000	111.1

VIGAS TERREO F02

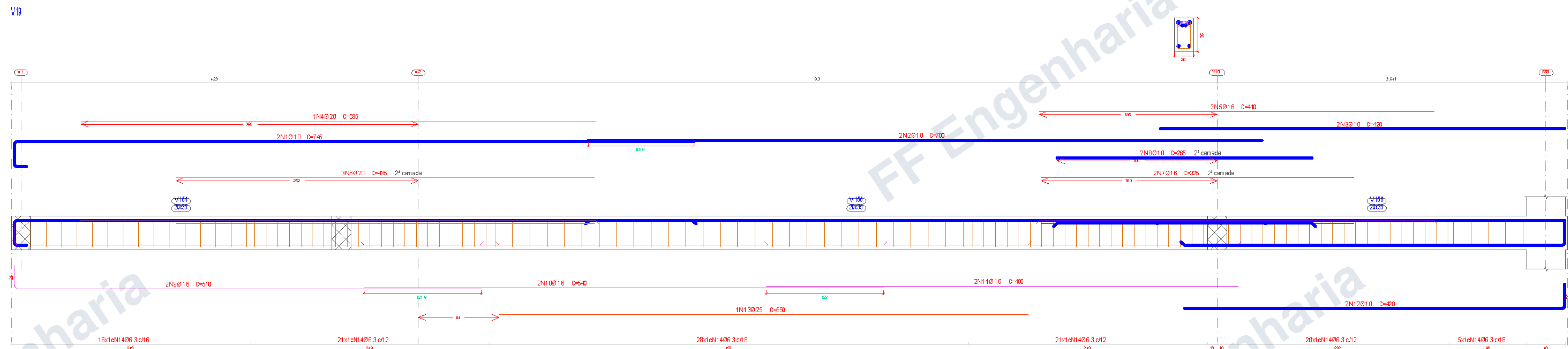
V17



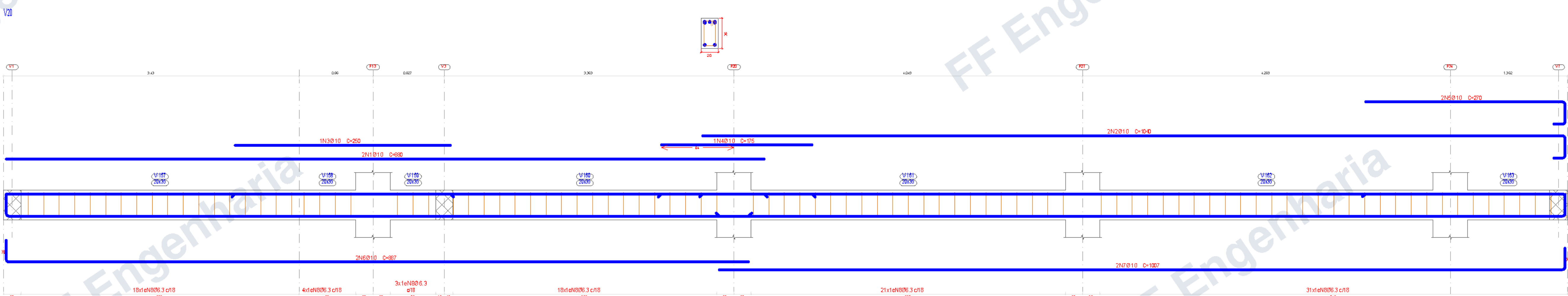
V18



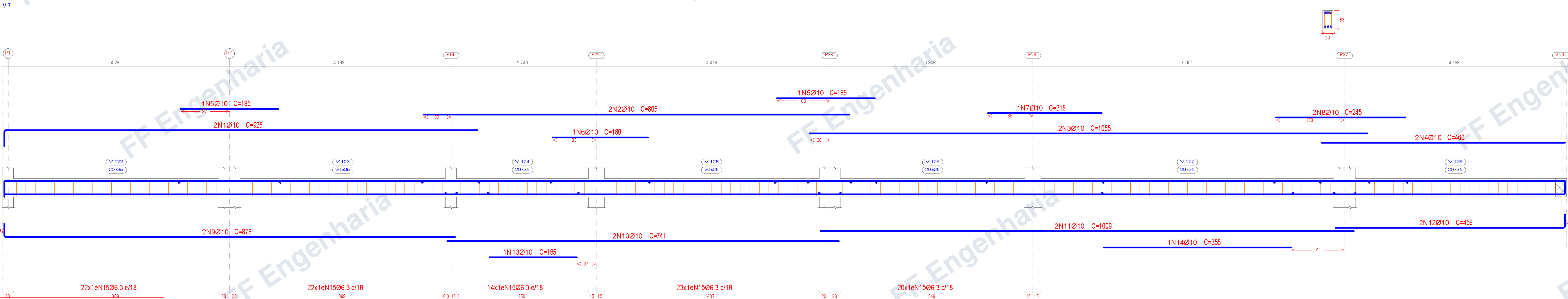
V19



V20



V7

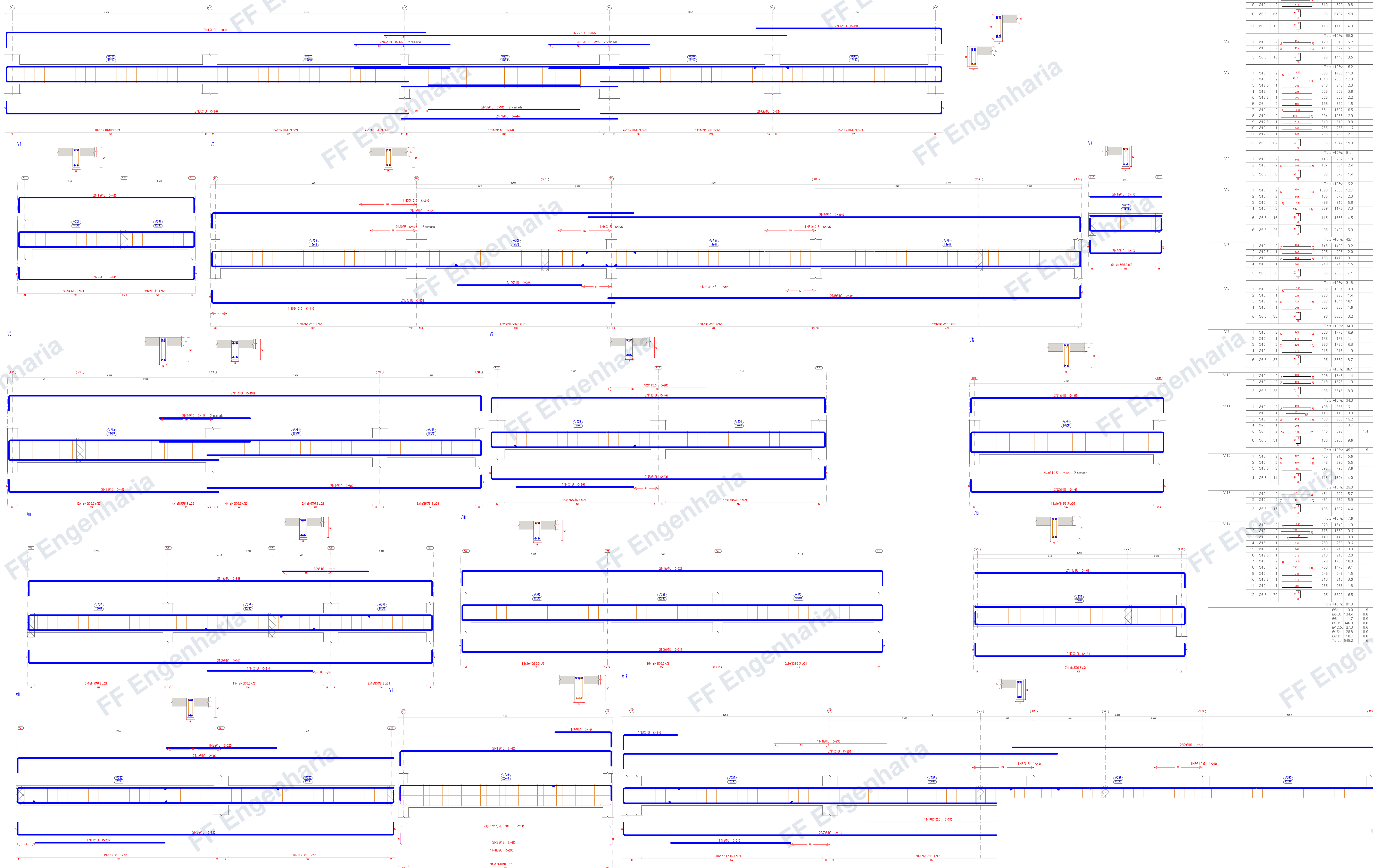


Ferrea
Desenho de vigas
Concreto: C25, em geral
Apo das barras: CA-50 e CA-60
Apo das estacas: CA-50 e CA-60
Escala vigas 1:25
Escala seções 1:25
Escala aberturas 1:25

Elemento	Pos	Diam	Q	Esquema (cm)	Comp (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V17	1	Ø10	2	895	910	1820	11.2	
	2	Ø10	2	805	785	1570	9.7	
	3	Ø10	2	1055	265	1320	3.1	
	4	Ø10	1	245	170	315	1.0	
	5	Ø10	1	165	160	325	1.0	
	6	Ø10	2	878	877	1754	10.8	
	7	Ø10	2	741	738	1478	9.1	
	8	Ø10	1	245	195	440	1.2	
	9	Ø6.3	79	96	96	7584	10.6	
V18	1	Ø10	2	895	220	1115	7.3	
	2	Ø16	1	266	266	532	4.5	
	3	Ø25	2	330	330	660	26.4	
	4	Ø16	2	256	256	512	8.1	
	5	Ø6.3	14	96	96	1344	3.3	
V19	1	Ø10	2	895	745	1640	10.2	
	2	Ø10	2	805	700	1505	9.6	
	3	Ø10	2	1055	420	1475	5.2	
	4	Ø20	1	535	535	1070	13.2	
	5	Ø16	2	410	410	820	12.9	
	6	Ø20	3	435	435	1305	32.2	
	7	Ø16	2	325	325	650	10.3	
	8	Ø10	2	265	265	530	3.3	
	9	Ø16	2	510	510	1020	16.1	
	10	Ø16	2	540	540	1080	17.0	
	11	Ø16	2	480	480	960	15.5	
	12	Ø10	2	420	420	840	5.2	
	13	Ø25	1	550	550	1100	21.2	
	14	Ø6.3	111	96	96	10656	26.1	
V20	1	Ø10	2	895	880	1780	10.8	
	2	Ø10	2	805	1040	1845	12.8	
	3	Ø10	1	260	260	520	1.6	
	4	Ø10	1	175	175	350	1.1	
	5	Ø10	2	270	270	540	3.3	
	6	Ø10	2	887	887	1774	10.9	
	7	Ø10	2	1007	1007	2014	12.4	
	8	Ø6.3	95	96	96	9120	22.3	
	9	Ø6.3	95	96	96	9120	22.3	
Total+10%:							137.6	
Ø6.3:							39.8	0.0
Ø10:							97.8	0.0
Total:							137.6	0.0

Elemento	Pos	Diam	Q	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 7	1	Ø10	2	895	925	1850	11.4	
	2	Ø10	2	805	805	1610	9.9	
	3	Ø10	2	1055	1055	2110	13.0	
	4	Ø10	2	480	480	920	5.7	
	5	Ø10	2	185	185	370	2.3	
	6	Ø10	1	180	180	360	1.1	
	7	Ø10	1	215	215	430	1.3	
	8	Ø10	2	245	245	490	3.0	
	9	Ø10	2	853	878	1756	10.8	
	10	Ø10	2	741	741	1482	9.1	
	11	Ø10	2	1009	1009	2018	12.4	
	12	Ø10	2	434	459	918	5.7	
	13	Ø10	1	165	165	330	1.0	
	14	Ø10	1	355	355	710	2.2	
	15	Ø6.3	154	96	96	14784	36.2	
Total+10%:							137.6	
Ø6.3:							39.8	0.0
Ø10:							97.8	0.0
Total:							137.6	0.0

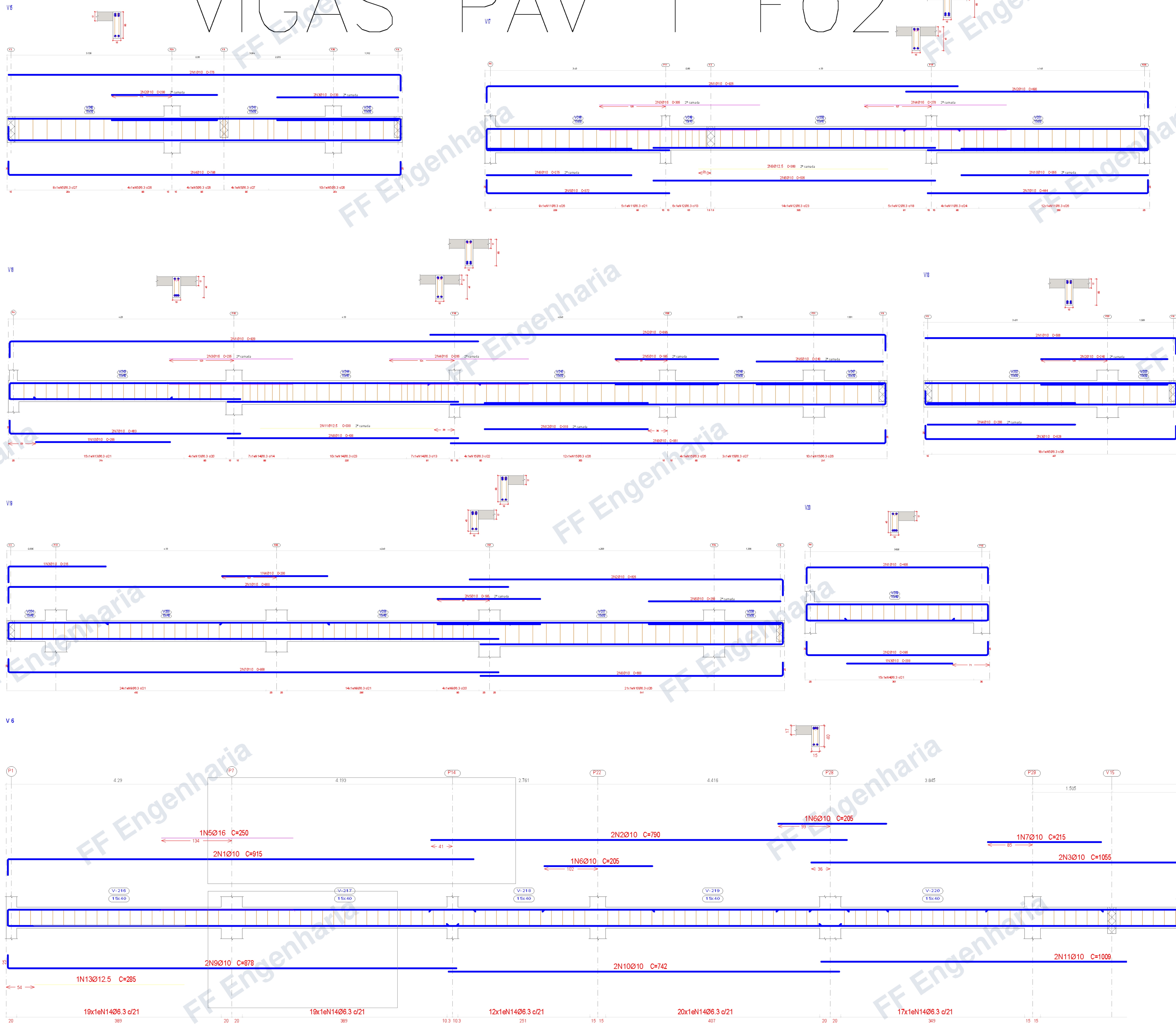
VIGAS PAV 1 F01



Pavimento 1
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Escala vigas 1:25
Escala seções 1:25
Escala aberturas 1:25

Elemento	Pos.	Diam. O.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
V1	1	Ø10	2		180	890	1780	11.0
	2	Ø10	2		120	825	1650	10.2
	3	Ø10	2		180	410	820	5.1
	4	Ø10	2		180	195	390	2.4
	5	Ø10	2		180	205	410	2.5
	6	Ø10	2		180	849	1698	10.5
	7	Ø10	2		180	444	888	5.5
	8	Ø10	2		180	724	1448	8.9
	9	Ø10	2		180	310	620	3.8
	10	Ø6.3	67		67	96	6432	15.8
	11	Ø6.3	15		15	116	1740	4.3
Total+10%						880		
V2	1	Ø10	2		180	420	840	5.2
	2	Ø10	2		180	411	822	5.1
	3	Ø6.3	15		15	96	1440	3.5
Total+10%						152		
V3	1	Ø10	2		180	895	1790	11.0
	2	Ø10	2		180	1040	2080	12.8
	3	Ø12.5	1		180	240	240	2.3
	4	Ø16	1		180	225	225	3.6
	5	Ø12.5	1		180	225	225	2.2
	6	Ø8	2		180	195	390	1.5
	7	Ø10	2		180	851	1702	10.5
	8	Ø10	2		180	994	1988	12.3
	9	Ø12.5	1		180	310	310	3.0
	10	Ø10	1		180	255	255	1.6
	11	Ø12.5	1		180	285	285	2.7
	12	Ø6.3	82		82	96	7872	19.3
Total+10%						81.1		
V4	1	Ø10	2		180	146	292	1.8
	2	Ø10	2		180	197	394	2.4
	3	Ø6.3	6		6	96	576	1.4
Total+10%						8.2		
V5	1	Ø10	2		180	1029	2058	12.7
	2	Ø10	2		180	185	370	2.3
	3	Ø10	2		180	456	912	5.6
	4	Ø10	2		180	569	1138	7.3
	5	Ø6.3	16		16	116	1856	4.5
	6	Ø6.3	25		25	96	2400	5.9
Total+10%						42.1		
V7	1	Ø10	2		180	745	1490	9.2
	2	Ø12.5	1		180	205	205	2.0
	3	Ø10	2		180	735	1470	9.1
	4	Ø10	1		180	240	240	1.5
	5	Ø6.3	30		30	96	2880	7.1
Total+10%						31.8		
V8	1	Ø10	2		180	802	1604	9.9
	2	Ø10	1		180	225	225	1.4
	3	Ø10	2		180	822	1644	10.1
	4	Ø10	1		180	265	265	1.6
	5	Ø6.3	35		35	96	3360	8.2
Total+10%						34.3		
V9	1	Ø10	2		180	888	1776	10.9
	2	Ø10	1		180	175	175	1.1
	3	Ø10	2		180	880	1760	10.6
	4	Ø10	1		180	215	215	1.3
	5	Ø6.3	37		37	96	3552	8.7
Total+10%						36.1		
V10	1	Ø10	2		180	953	1906	11.4
	2	Ø10	2		180	913	1826	11.3
	3	Ø6.3	30		30	96	3648	8.9
Total+10%						34.8		
V11	1	Ø10	2		180	453	906	6.1
	2	Ø10	2		180	145	145	0.9
	3	Ø16	2		180	483	966	15.2
	4	Ø20	1		180	395	395	9.7
	5	Ø5	2		180	445	892	1.4
	6	Ø6.3	31		31	126	3906	9.6
Total+10%						45.7	1.5	
V12	1	Ø10	2		180	455	910	6.6
	2	Ø10	2		180	445	890	5.5
	3	Ø12.5	2		180	395	790	7.6
	4	Ø6.3	14		14	116	1624	4.0
Total+10%						25.0		
V13	1	Ø10	2		180	461	922	6.7
	2	Ø10	2		180	481	962	5.9
	3	Ø6.3	17		17	105	1802	4.4
Total+10%						17.6		
V14	1	Ø10	2		180	920	1840	11.3
	2	Ø10	2		180	775	1550	9.6
	3	Ø10	1		180	145	145	0.9
	4	Ø16	1		180	230	230	3.6
	5	Ø16	1		180	240	240	3.8
	6	Ø12.5	1		180	210	210	2.0
	7	Ø10	2		180	879	1758	10.8
	8	Ø10	2		180	730	1460	9.1
	9	Ø10	1		180	245	245	1.5
	10	Ø12.5	1		180	310	310	3.0
	11	Ø10	1		180	285	285	1.8
	12	Ø6.3	70		70	96	6720	16.5
Total+10%						81.3		
V15	Ø6	3	134	0	0	1.5		
	Ø6	3	134	0	0	1.0		
	Ø12	5	273	0	0	34.3	0.0	
	Ø16	20	8	0	0	208	0.0	
	Ø20	10	208	0	0	5492	1.0	

VIGAS PAV 1 F02



Pavimento 1
Desenho de vigas
Concreto: C25, em geral
Apoios: barras CA-50 e CA-60
Aço das estribos: CA-50 e CA-60
Escala seções 1:25
Escala aberturas 1:25

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 15	1	Ø10	2	100	775	1550	9.6	
	2	Ø10	2	200	200	400	2.5	
	3	Ø10	2	200	330	660	3.8	
	4	Ø10	2	100	798	1596	9.8	
	5	Ø6.3	30	116	3480	6.5		
Total+10%							36.5	
V 16	1	Ø10	2	100	920	1840	11.3	
	2	Ø10	2	100	895	1790	11.0	
	3	Ø10	2	100	235	470	2.4	
	4	Ø10	2	100	255	510	2.4	
	5	Ø10	2	100	195	390	2.4	
	6	Ø10	2	100	240	480	3.0	
	7	Ø10	2	100	443	886	5.7	
	8	Ø10	2	100	438	876	5.4	
	9	Ø10	2	100	851	1702	10.5	
	10	Ø10	1	100	255	255	1.9	
	11	Ø12.5	2	100	330	660	6.4	
	12	Ø10	2	100	310	620	3.8	
	13	Ø6.3	19	96	1824	4.5		
	14	Ø6.3	24	108	2544	6.2		
	15	Ø6.3	31	116	3828	9.4		
Total+10%							106.7	
V 17	1	Ø10	2	100	925	1850	11.4	
	2	Ø10	2	100	400	800	6.0	
	3	Ø10	2	100	610	1220	7.4	
	4	Ø10	2	100	270	540	3.5	
	5	Ø10	2	100	272	544	3.6	
	6	Ø10	2	100	535	1070	6.8	
	7	Ø10	2	100	444	888	5.5	
	8	Ø10	2	100	275	550	3.4	
	9	Ø12.5	2	100	360	720	6.9	
	10	Ø10	2	100	355	710	4.4	
	11	Ø6.3	30	116	3480	6.5		
	12	Ø6.3	25	108	2650	6.5		
Total+10%							90.1	
V 18	1	Ø10	2	100	605	1210	6.2	
	2	Ø10	2	100	240	480	3.0	
	3	Ø10	2	100	535	1070	6.5	
	4	Ø10	2	100	260	520	3.5	
	5	Ø6.3	19	116	2088	5.1		
Total+10%							28.7	
V 19	1	Ø10	2	100	980	1960	12.1	
	2	Ø10	2	100	625	1250	7.7	
	3	Ø10	1	100	215	215	1.3	
	4	Ø10	1	100	200	200	1.2	
	5	Ø10	2	100	195	390	2.4	
	6	Ø10	2	100	240	480	3.1	
	7	Ø10	2	100	190	380	2.4	
	8	Ø10	2	100	500	1000	7.4	
	9	Ø6.3	42	96	4032	9.9		
	10	Ø6.3	21	116	2436	6.0		
Total+10%							69.2	
V 20	1	Ø10	2	100	455	910	5.0	
	2	Ø10	2	100	390	780	4.5	
	3	Ø10	1	100	200	200	1.2	
	4	Ø6.3	15	96	1440	3.5		
Total+10%							16.1	
							Ø6.3	74.9
							Ø10	218.6
							Ø12.5	14.6
							Ø16	4.3
							Total	345.3

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 6	1	Ø10	2	100	915	1830	11.3	
	2	Ø10	2	100	790	1580	9.7	
	3	Ø10	2	100	1055	2110	13.0	
	4	Ø10	2	100	460	920	5.7	
	5	Ø16	1	250	250	250	3.9	
	6	Ø10	2	100	205	410	2.5	
	7	Ø10	1	215	215	215	1.3	
	8	Ø10	1	255	255	255	1.6	
	9	Ø10	2	100	878	1756	10.8	
	10	Ø10	2	100	742	1484	9.1	
	11	Ø10	2	100	1009	2018	12.4	
	12	Ø10	2	100	456	912	5.6	
	13	Ø12.5	1	285	285	285	2.7	
	14	Ø6.3	133	96	12768	31.3		
Total+10%							133.0	
							Ø6.3:	34.4
							Ø10:	91.3
							Ø12.5:	3.0
							Ø16:	4.3
							Total:	133.0
								0.0
								0.0
								0.0
								0.0

VIGAS COBERTURA F01

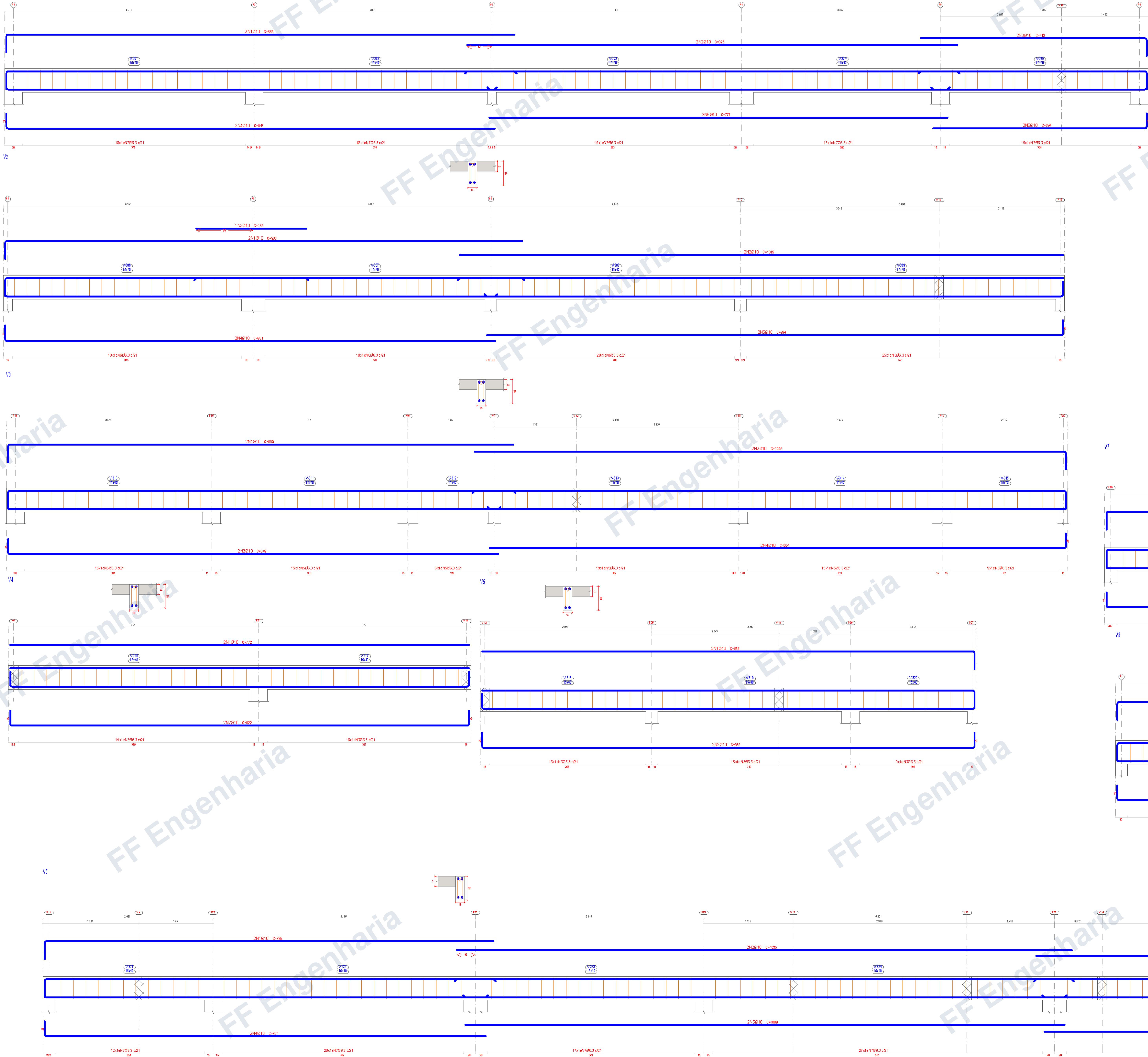


Cobertura
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Escala vigas 1:25
Escala seções 1:25
Escala aberturas 1:25

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
V10	1	Ø10	2		455	910	5.6		
	2	Ø10	2		445	890	5.5		
	3	Ø10	1		290	290	1.8		
	4	Ø6.3	18		96	1728	4.2		
Total+10%							18.8		
V11	1	Ø10	2		910	1820	11.2		
	2	Ø10	2		770	1540	9.5		
	3	Ø10	2		879	1758	10.8		
	4	Ø10	2		738	1476	9.1		
	5	Ø6.3	69		96	6624	16.2		
Total+10%							62.5		
V12	1	Ø10	2		775	1550	9.6		
	2	Ø10	2		796	1592	9.8		
	3	Ø6.3	35		96	3360	8.2		
Total+10%							30.4		
V13	1	Ø10	2		895	1790	11.0		
	2	Ø10	2		925	1850	11.2		
	3	Ø12.5	1		201	200	1.9		
	4	Ø12.5	1		215	215	2.1		
	5	Ø10	2		876	1752	10.8		
	6	Ø10	2		851	1702	10.5		
	7	Ø12.5	1		255	255	2.7		
	8	Ø6.3	77		96	7392	18.1		
Total+10%							75.1		
V14	1	Ø10	2		930	1860	11.5		
	2	Ø10	2		491	980	6.1		
	3	Ø10	1		261	265	2.6		
	4	Ø12.5	1		215	215	2.1		
	5	Ø10	2		877	1754	10.8		
	6	Ø10	2		443	886	5.5		
	7	Ø10	1		255	255	1.6		
	8	Ø10	1		285	285	1.8		
	9	Ø6.3	59		96	5664	13.9		
Total+10%							65.4		
V15	1	Ø10	2		505	1012	6.2		
	2	Ø10	2		526	1052	6.5		
	3	Ø6.3	23		96	2208	5.4		
Total+10%							19.9		
V16	1	Ø10	2		870	1740	10.7		
	2	Ø10	2		1025	2050	12.6		
	3	Ø10	2		885	1770	10.9		
	4	Ø10	2		1054	2108	12.4		
	5	Ø6.3	82		96	7872	19.3		
Total+10%							72.5		
							Ø6.3	93.8	0.0
							Ø10	236.2	0.0
							Ø12.5	9.6	0.0
							Total	325.6	0.0

Resumo Aço		Comp. total	Peso+10%	Total
Desenho de vigas		(m)	(kg)	
CA-50	Ø6.3	836.8	225	811
	Ø10	830.8	563	
	Ø12.5	9.2	10	
	Ø20	4.8	13	

VIGAS COBERTURA F02



Cobertura
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos eixos: CA-50 e CA-60
Escala vigas 1:25
Escala seções 1:25
Escala aberturas 1:25

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V1	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø10	2	84	116	1020	5.1	
	4	Ø10	2	84	825	1650	10.2	
	5	Ø10	2	84	116	1020	5.1	
	6	Ø10	2	84	825	1650	10.2	
	7	Ø8.3	85	84	888	888	1770	10.9
Total+10%							77.9	
V2	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø10	2	84	116	1020	5.1	
	4	Ø10	2	84	825	1650	10.2	
	5	Ø10	2	84	116	1020	5.1	
	6	Ø8.3	82	84	888	888	1770	10.9
Total+10%							73.5	
V3	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø10	2	84	116	1020	5.1	
	4	Ø10	2	84	825	1650	10.2	
	5	Ø8.3	79	84	888	888	1770	10.9
Total+10%							71.3	
V4	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø8.3	35	84	888	888	1770	10.9
Total+10%							35.6	
V5	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø8.3	37	84	888	888	1770	10.9
Total+10%							33.1	
V6	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø10	2	84	116	1020	5.1	
	4	Ø10	2	84	825	1650	10.2	
	5	Ø10	2	84	116	1020	5.1	
	6	Ø10	2	84	825	1650	10.2	
	7	Ø8.3	95	84	888	888	1770	10.9
Total+10%							85.6	
V7	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø8.3	38	84	888	888	1770	10.9
Total+10%							34.9	
V8	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø8.3	38	84	888	888	1770	10.9
Total+10%							34.9	
V9	1	Ø10	2	84	888	888	1770	10.9
	2	Ø10	2	84	825	1650	10.2	
	3	Ø20	1	84	888	888	1770	10.9
	4	Ø8.3	15	84	888	888	1770	10.9
Total+10%							31.1	
							86.3	131.4
							819	107.3
							820	13.0
							Total	471.7

