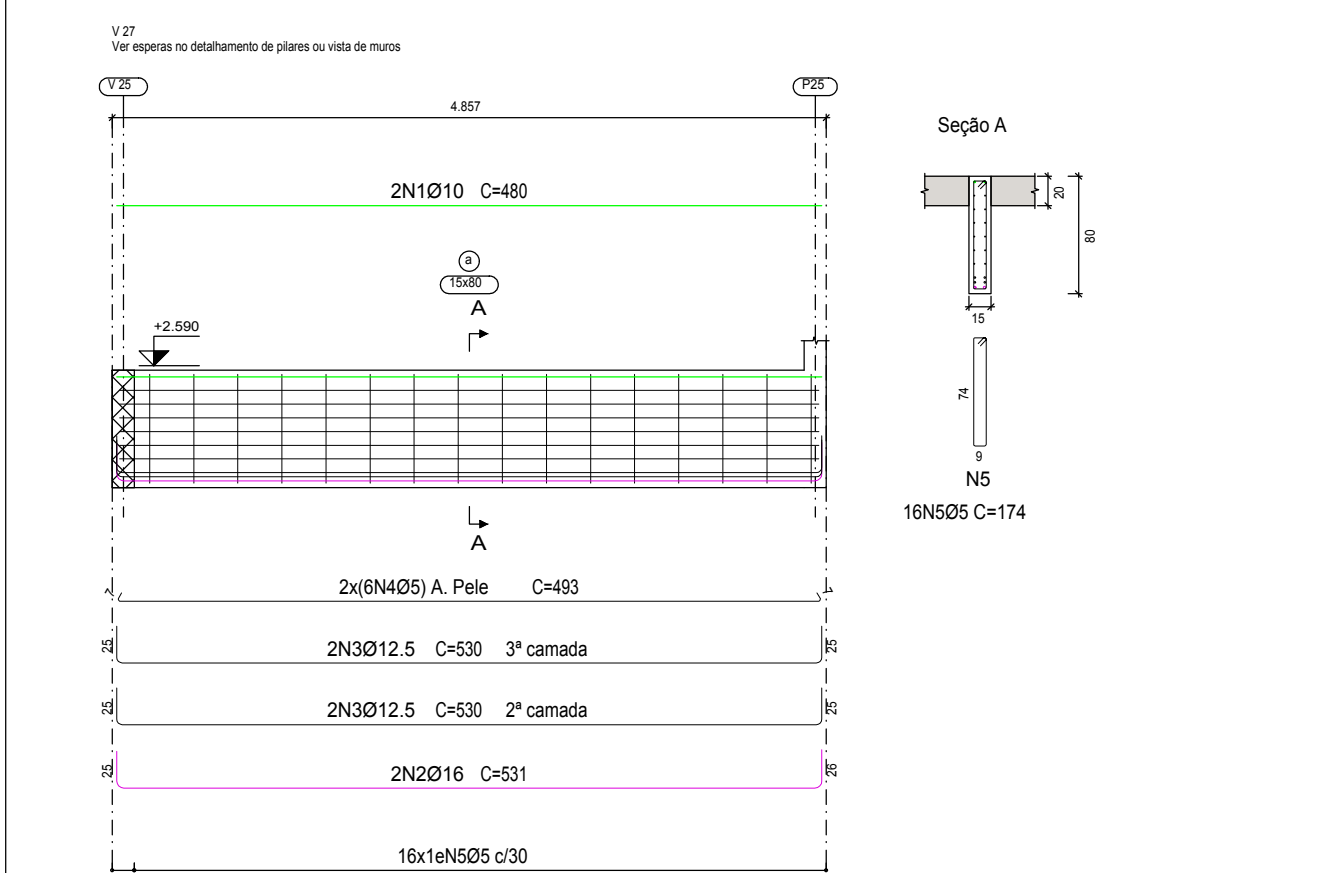
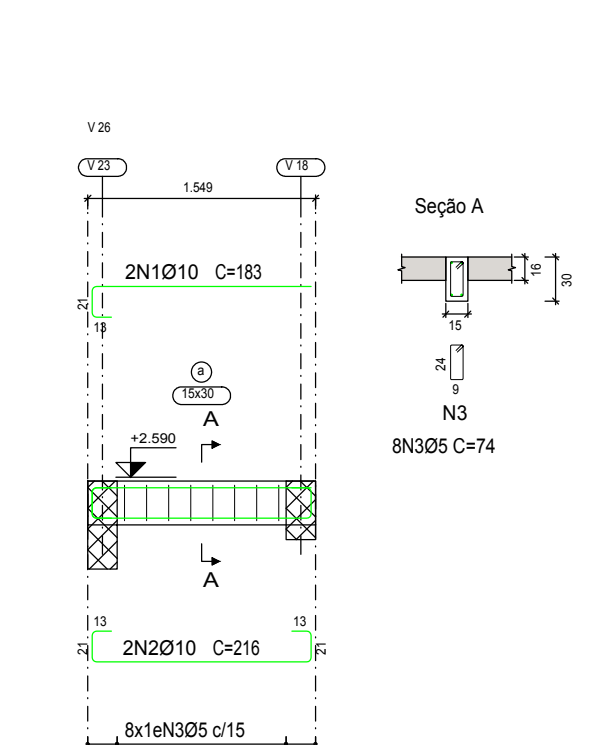
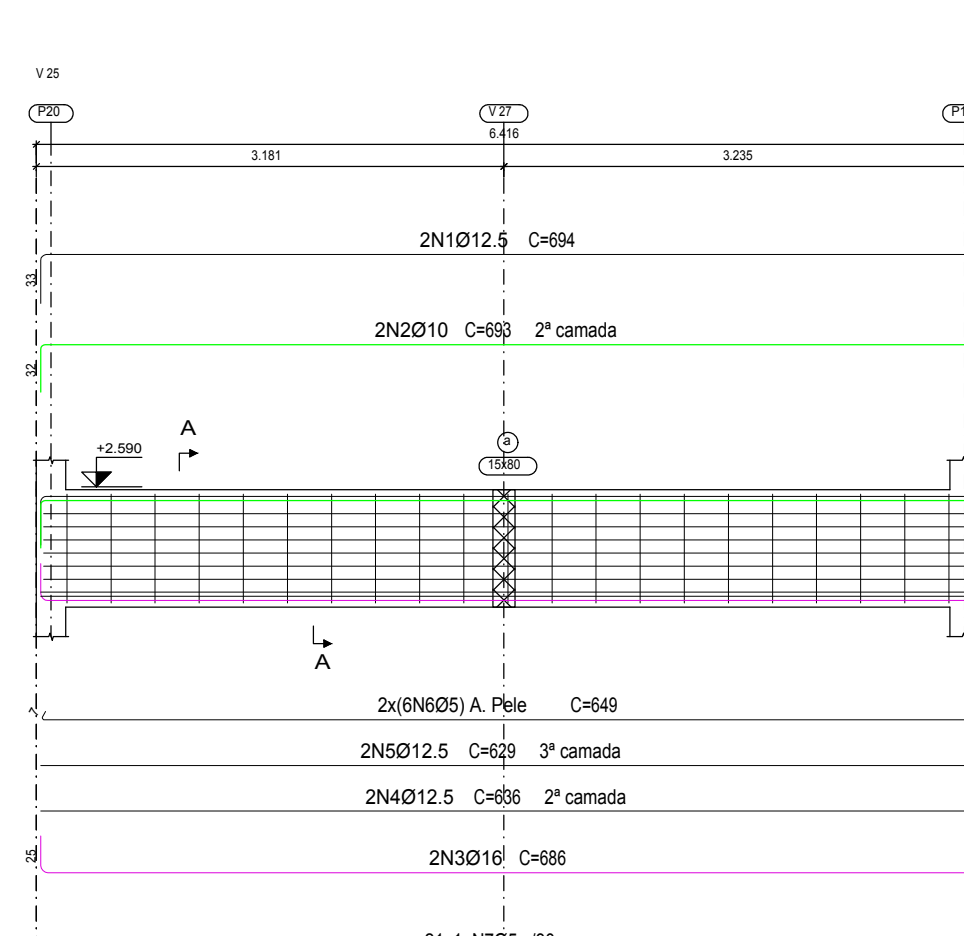
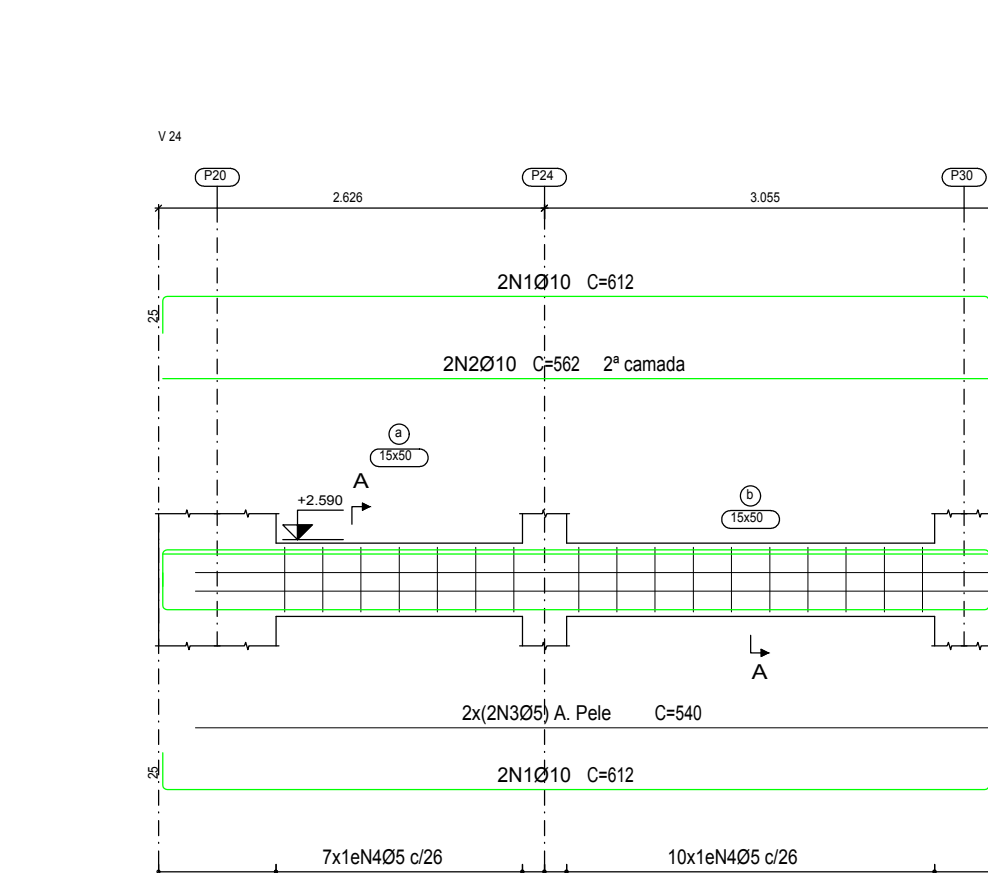
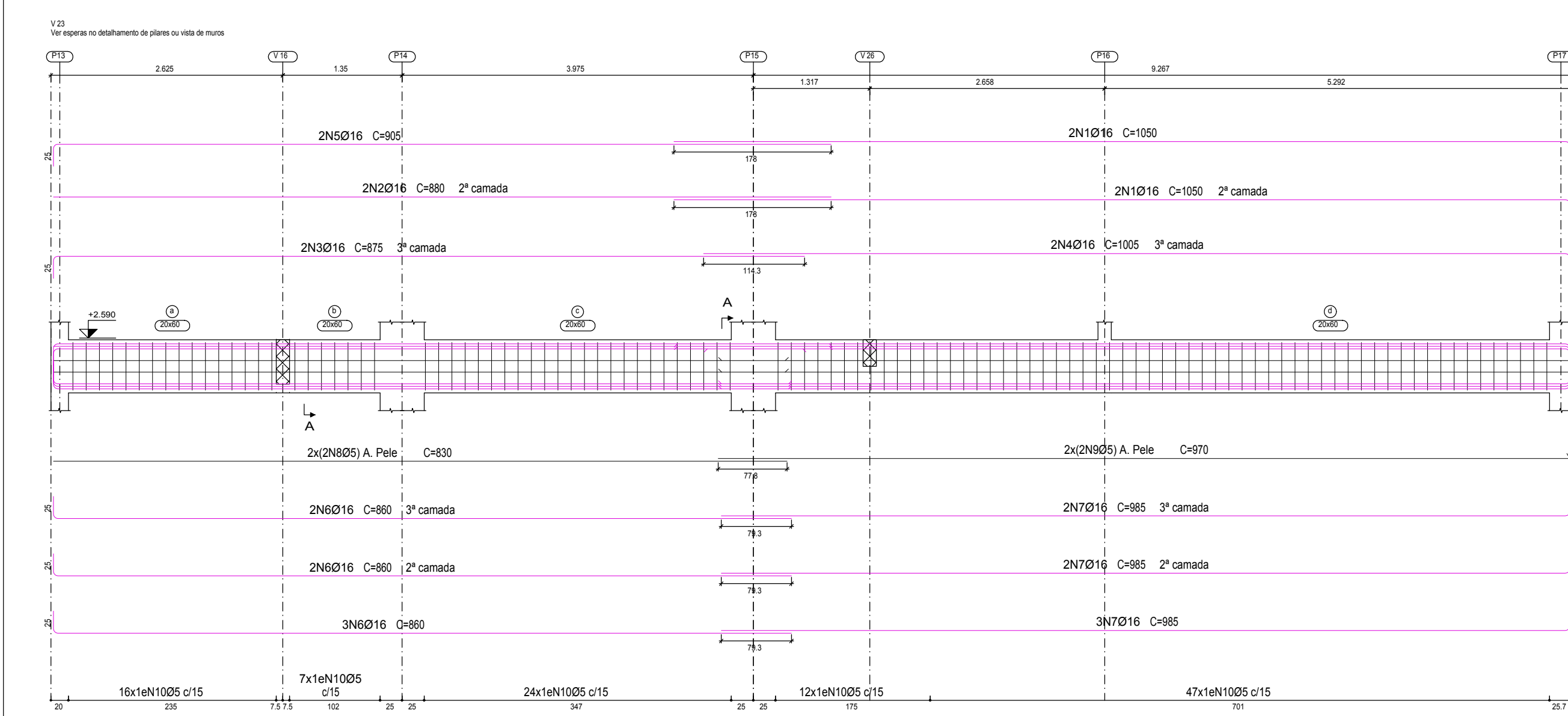
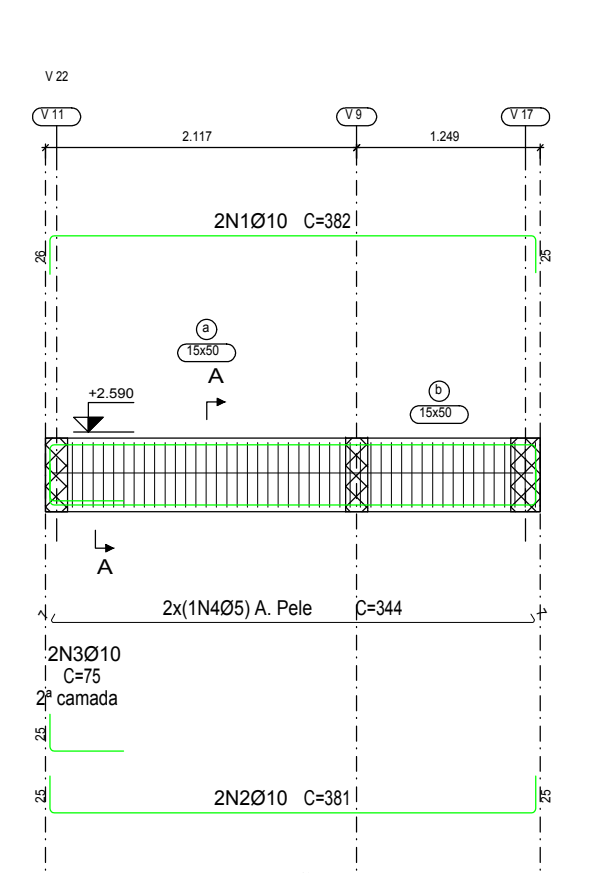
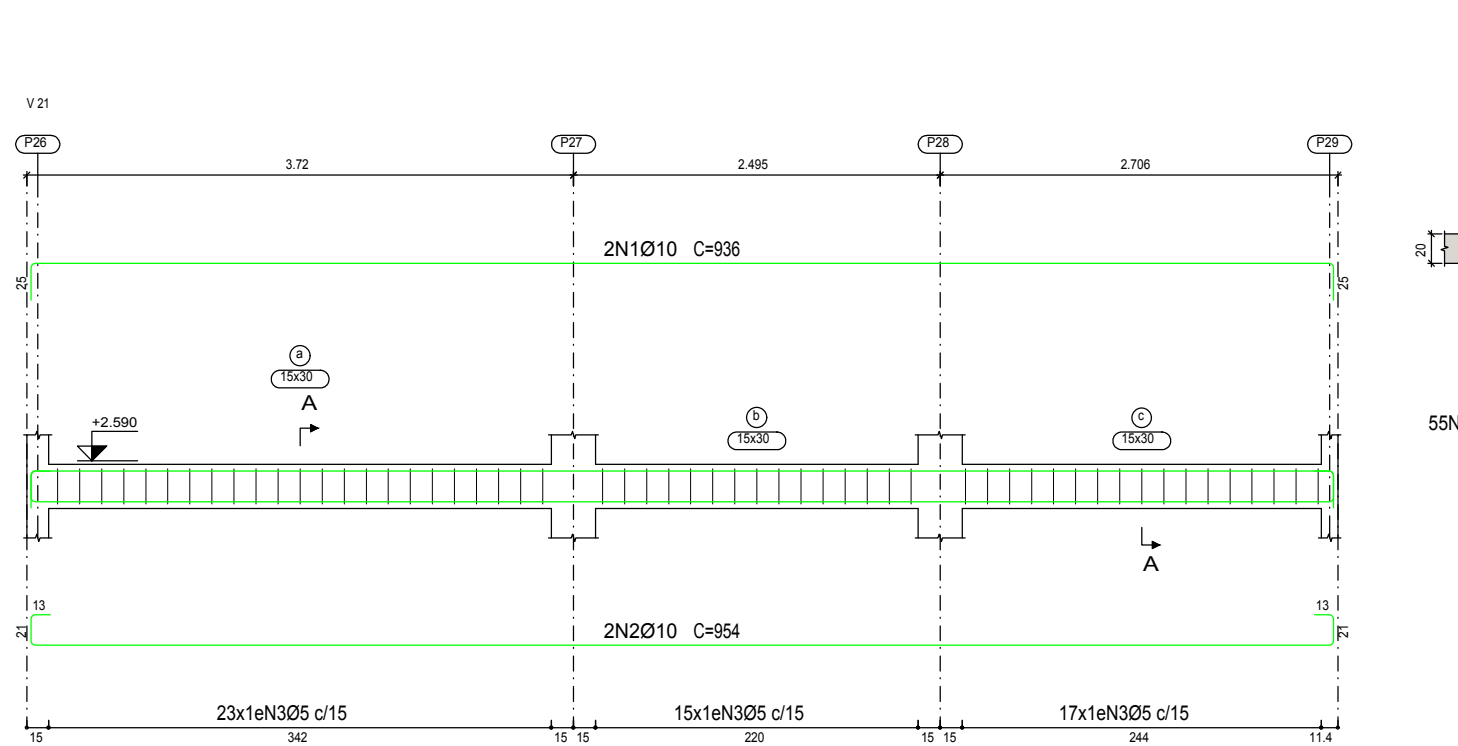
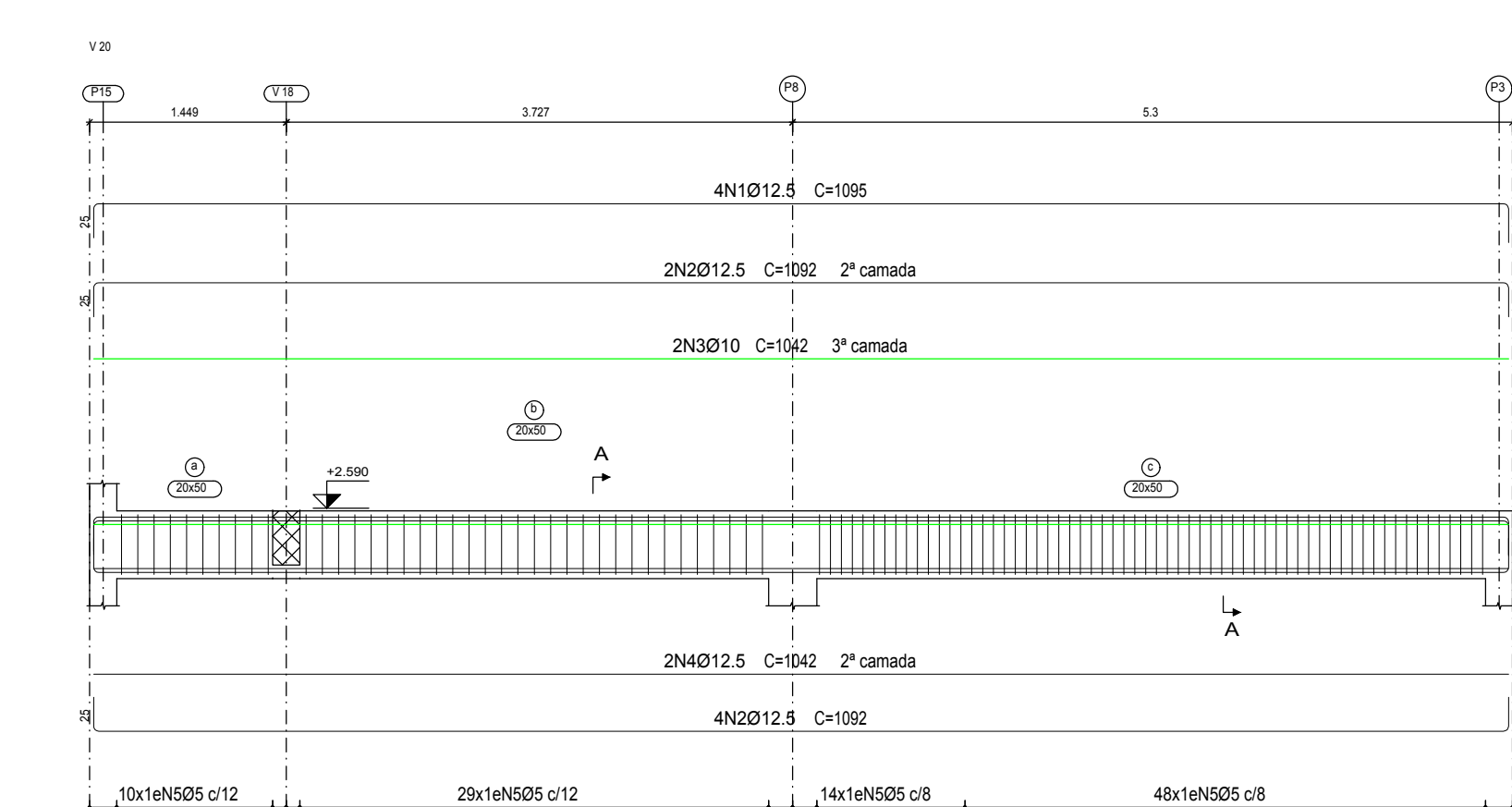
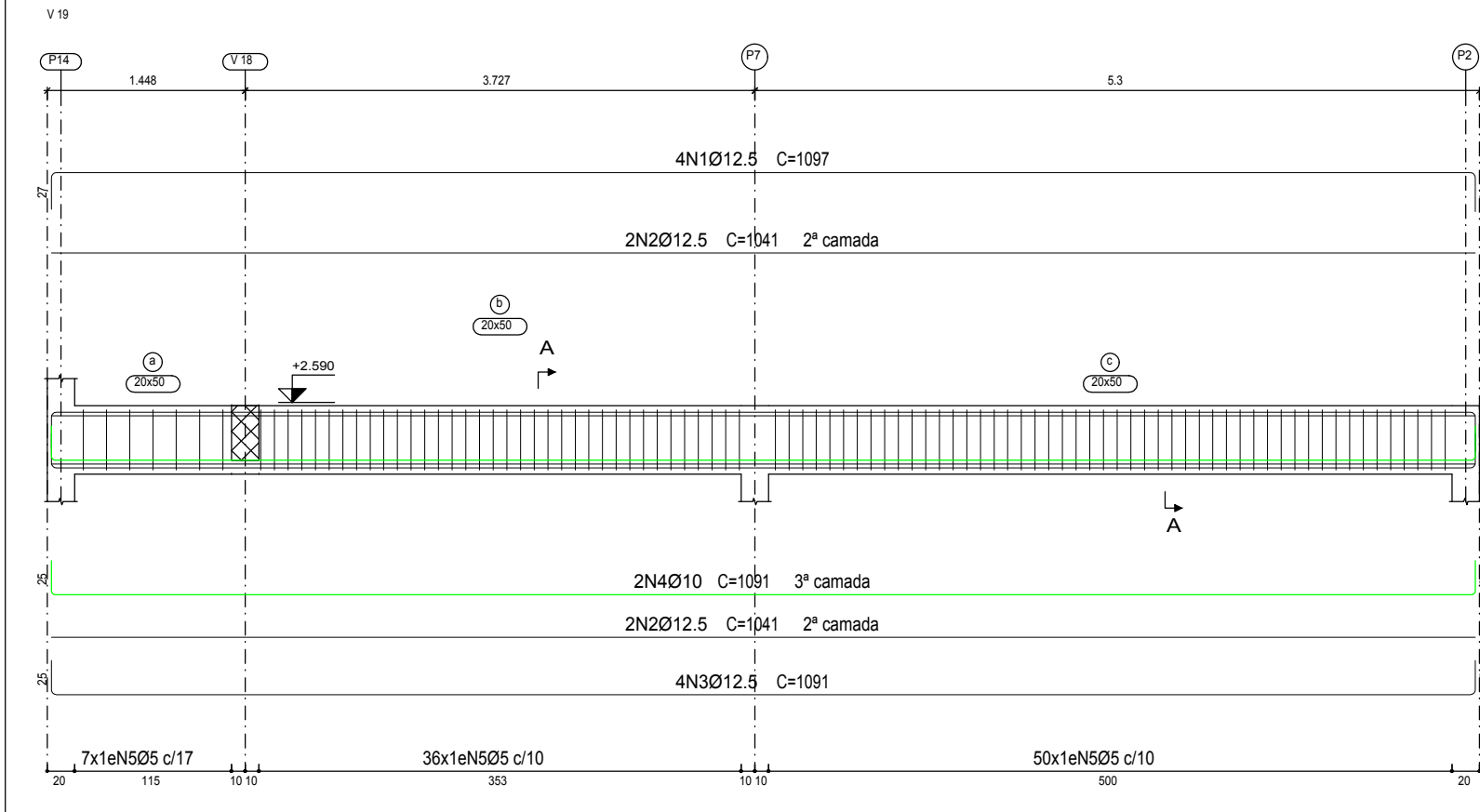
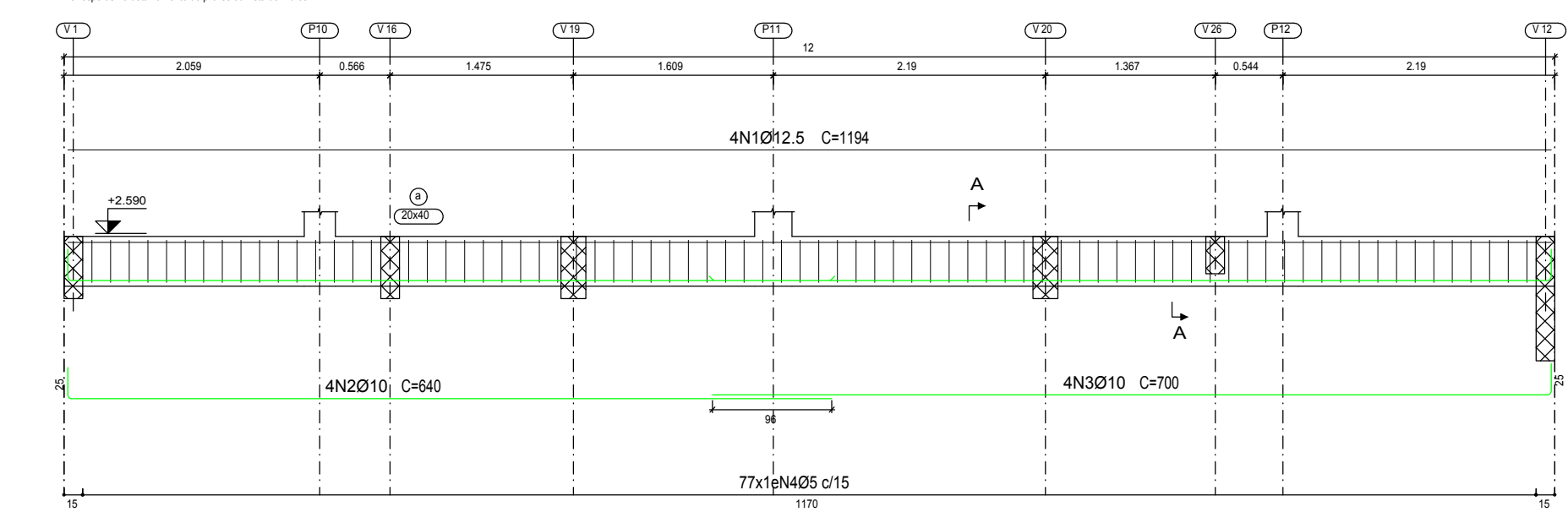
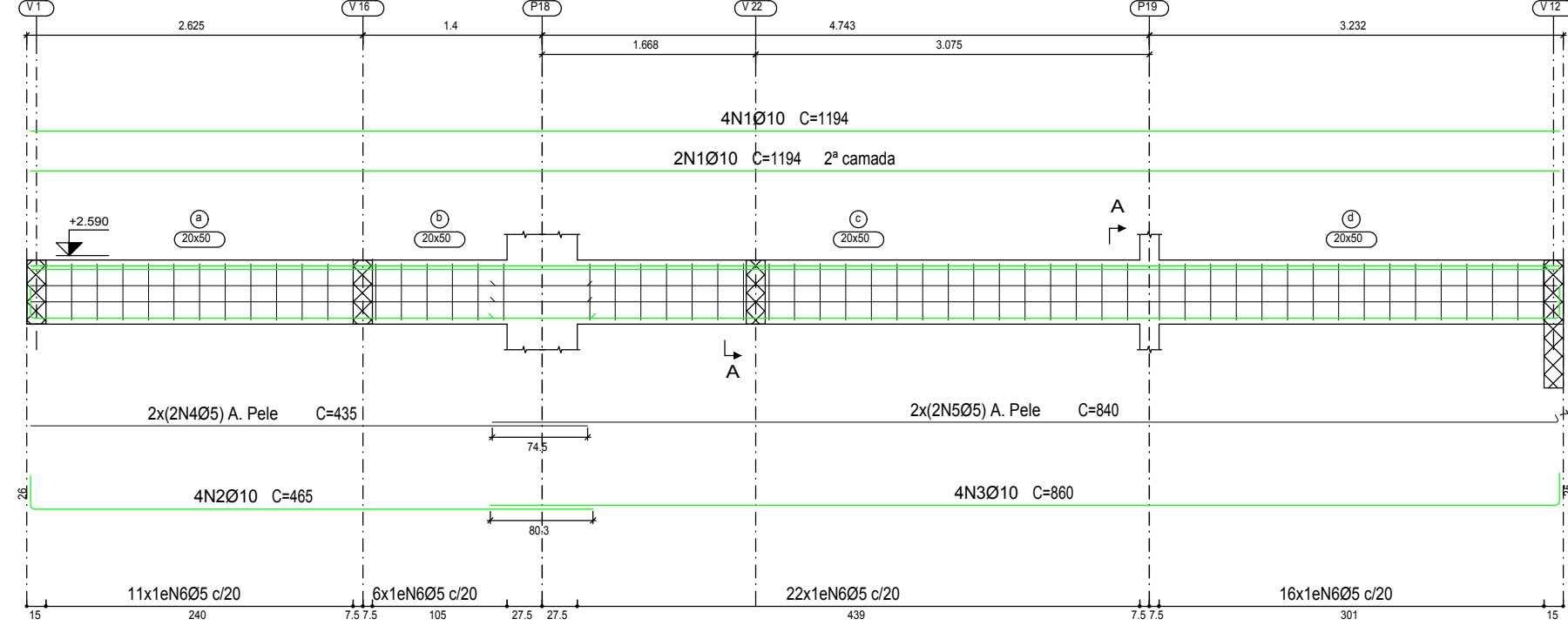
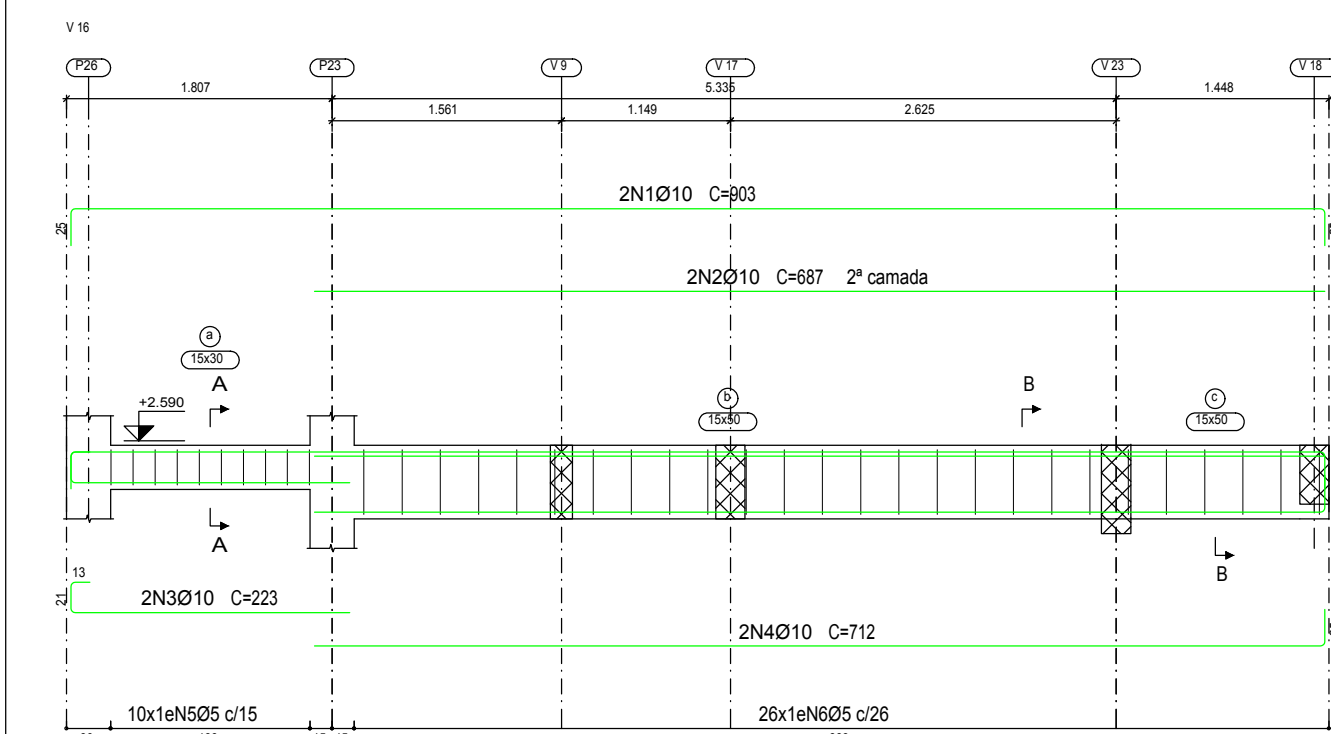
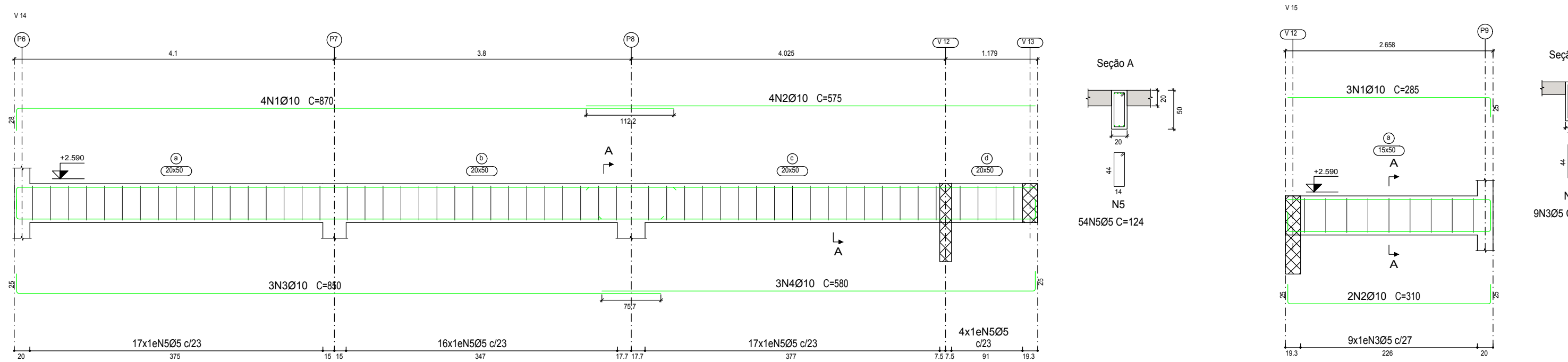
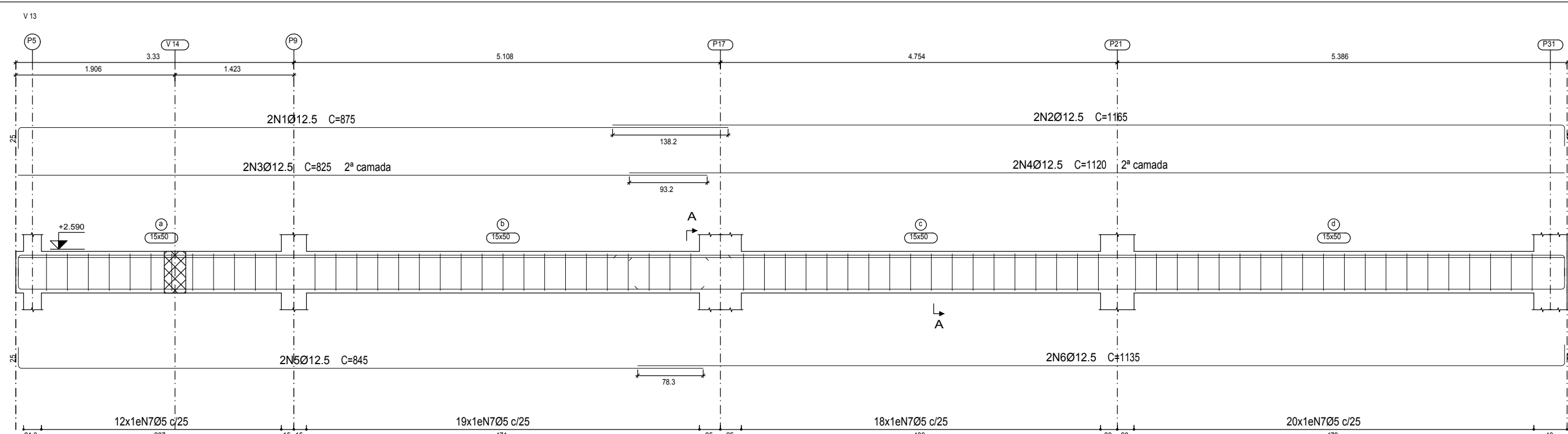
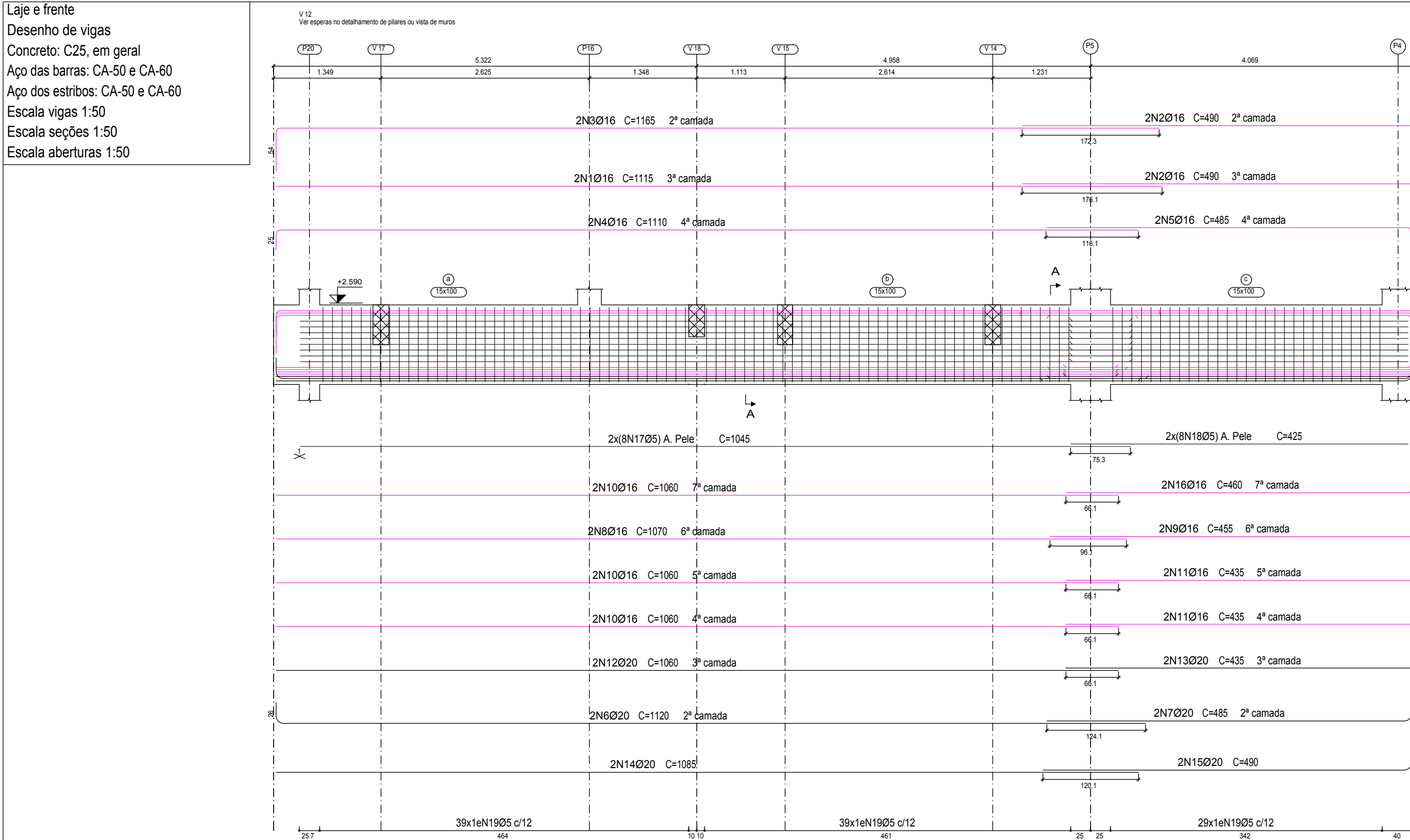


Laje e frente
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala seções 1:50
Escala aberturas 1:50



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)	
V 12	1	Ø18	2		1118	1115	2230	35.2	
	2	Ø16	4		980	490	1960	30.9	
	3	Ø16	2		1185	1185	2370	36.8	
	4	Ø16	2		1115	1115	2220	35.0	
	5	Ø16	2		480	480	960	15.3	
	6	Ø20	2		1120	1120	2240	55.2	
	7	Ø20	2		490	490	980	23.9	
	8	Ø16	2		1070	1070	2140	33.5	
	9	Ø16	2		485	485	970	14.4	
	10	Ø16	6		1060	1060	6360	100.4	
	11	Ø16	4		435	435	1740	27.5	
	12	Ø20	2		1050	1050	2100	52.3	
	13	Ø20	2		435	435	870	21.5	
	14	Ø20	2		1085	1085	2170	53.5	
	15	Ø20	2		490	490	980	24.2	
	16	Ø16	2		480	480	960	15.3	
	17	Ø5	16		1045	1045	16720		26.3
	18	Ø5	16		425	425	6800		10.7
	19	Ø5	107		214	22898		35.9	
Total=107%:							631.8	80.2	
V 13	1	Ø12.5	2		875	1750	16.9		
	2	Ø12.5	2		1165	2330	22.4		
	3	Ø12.5	2		825	1650	15.9		
	4	Ø12.5	2		1120	2240	21.6		
	5	Ø12.5	2		845	1690	16.3		
	6	Ø12.5	2		1135	2270	21.9		
	7	Ø5	69		114	7665		12.3	
Total=107%:							126.5	13.5	
V 14	1	Ø10	4		870	3480	21.4		
	2	Ø10	4		575	2300	14.2		
	3	Ø10	3		850	2550	15.7		
	4	Ø10	3		590	1740	10.7		
	5	Ø5	54		124	6696		10.5	
Total=107%:							68.2	11.6	
V 15	1	Ø10	3		285	855	5.3		
	2	Ø10	2		310	620	3.8		
	3	Ø5	9		114	1026		1.4	
Total=107%:							10.0	1.8	
V 16	1	Ø10	2		920	1840	11.1		
	2	Ø10	2		967	1934	8.5		
	3	Ø10	2		223	446	2.7		
	4	Ø10	2		712	1424	8.8		
	5	Ø5	10		74	740		1.2	
V 17	1	Ø10	2		114	2284		4.7	
	2	Ø10	6		1154	1734		34.2	6.5
	3	Ø10	4		880	3520	11.5		
	4	Ø5	4		435	1740		2.7	
	5	Ø5	4		640	2560		5.3	
Total=107%:							124	8620	10.7
V 18	1	Ø12.5	4		1154	4776	46.0		
	2	Ø10	4		640	2560	15.5		
	3	Ø10	4		700	2800	17.3		
	4	Ø5	77		104	8008		12.6	
Total=107%:							87.0	13.9	
V 19	1	Ø12.5	4		1087	4388	42.5		
	2	Ø12.5	4		1041	4164	40.1		
	3	Ø12.5	4		1091	4364	42.0		
	4	Ø10	2		1091	2182	13.4		
	5	Ø5	80		124	11532		16.1	
Total=107%:							151.6	19.9	
V 20	1	Ø12.5	4		1095	4380	42.2		
	2	Ø12.5	4		1092	4368	42.1		
	3	Ø10	2		1042	2084	12.8		
	4	Ø12.5	2		1042	2084	20.1		
	5	Ø5	101		124	12524		16.7	
Total=107%:							152.0	21.7	
V 21	1	Ø10	2		936	1872	11.5		
	2	Ø10	2		654	1308	11.6		
	3	Ø5	55		74	4070		6.4	
Total=107%:							25.6	7.0	
V 22	1	Ø10	2		382	764	4.7		
	2	Ø10	2		381	762	4.7		
	3	Ø10	2		75	150	0.9		
	4	Ø5	2		114	524		1.1	
Total=107%:							11.3	10.2	
							Ø5:	0.0	206.9
							Ø10:	0.0	261.0
							Ø12.5:	0.0	112.0
							Ø16:	0.0	138.2
							Ø20:	0.0	258.0
							Total:	0.0	766.0

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V1	1	Ø10	5		1135	5675	35.0	
	2	Ø10	5		910	4550	18.8	
	3	Ø10	3		1120	3360	20.7	
	4	Ø10	3		590	1770	10.9	
	5	Ø5	57		114	6468		10.2
Total=107%:							93.9	11.2
V2	1	Ø10	4		895	2740	16.9	
	2	Ø16	2		685	1370	21.6	
	3	Ø12.5	4		635	2540	24.5	
	4	Ø5	12		648	7776		12.2
	5	Ø5	21		174	3654		5.7
Total=107%:							69.3	19.7
V3	1	Ø10	2		865	1730	10.7	
	2	Ø10	2		485	970	6.0	
	3	Ø10	1		200	200	1.2	
	4	Ø10	1		195	195	1.2	
	5	Ø10	2		829	1658	10.2	
	6	Ø10	2		440	880	5.5	
	7	Ø5	53		114	6042		9.5
Total=107%:							38.3	10.5
V4	1	Ø10	4		314	1256	7.7	
	2	Ø5	12		94	1128		1.8
Total=107%:							8.5	2.0
V5	1	Ø12.5	2		196	392	3.8	
	2	Ø12.5	2		176	352	1.4	
	3	Ø10	2		176	352	2.2	
	4	Ø5	6		114	684		1.1
	Total=107%:							12.0
V6	1	Ø12.5	6		508	3036	29.2	
	2	Ø12.5	2		458	912	8.8	
	3	Ø5	2		460	920		1.4
	4	Ø5	37		114	4218		6.6
Total=107%:							41.6	8.6
V7	1	Ø10	2		328	656	4.0	
	2	Ø10	2		344	688	4.2	
	3	Ø5	16		74	1184		1.9
Total=107%:							9.0	2.1
V8	1	Ø10	2		413	826	5.1	
	2	Ø12.5	2		420	840	8.1	
	3	Ø12.5	2		407	814	7.8	
	4	Ø12.5	2		413	826	8.0	
	5	Ø5	30		94	2820		4.4
Total=107%:							31.9	4.8
V9	1	Ø10	2		648	1296	8.0	
	2	Ø16	2		673	1346	21.2	
	3	Ø16	2		637	1274	19.7	
	4	Ø10	2		623	1246	7.7	
	5	Ø5	30		114	3420		5.4
Total=107%:							62.3	5.9
V10	1	Ø10	4		384	1536	4.5	
	2	Ø10	2		199	398	2.0	
	3	Ø5	2		147	294		0.5
	4	Ø5	6		114	684		1.1
Total=107%:							7.2	1.8
V11	1	Ø10	4		109	436	2.7	
	2	Ø10	2		99	198	0.7	
	3	Ø5	2		99	198		0.2
	4	Ø5	2		114	228		0.4
Total=107%:							3.7	0.7
V23	1	Ø16	4		1050	4200	46.3	
	2	Ø16	2		1700	3400	74.5	
	3	Ø16	2		875	1750	27.6	
	4	Ø16	2		1005	2010	31.7	
	5	Ø16	2		900	1800	26.8	
	6	Ø16	7		900	6300	68.6	
	7	Ø16	7		900	6300	68.6	
	8	Ø5	4		830	3320	5.2	
	9	Ø5	4		562	2248	3.0	
	10	Ø5	108		144	15264		24.0
Total=107%:							424.4	38.8
V24	1	Ø10	2		612	1224	15.1	
	2	Ø10	2		562	1124	6.9	
	3	Ø5	4		540	2160		3.4
	4	Ø5	17		114	1938		3.0
Total=107%:							24.2	7.0
V25	1	Ø5	1		98	98	0.1	
	2	Ø5	1		98	196	0.1	
	3	Ø5	1		912	1824	0.0	
	4	Ø5	1		912	1824	0.0	
	5	Ø5	1		912	1824	0.0	