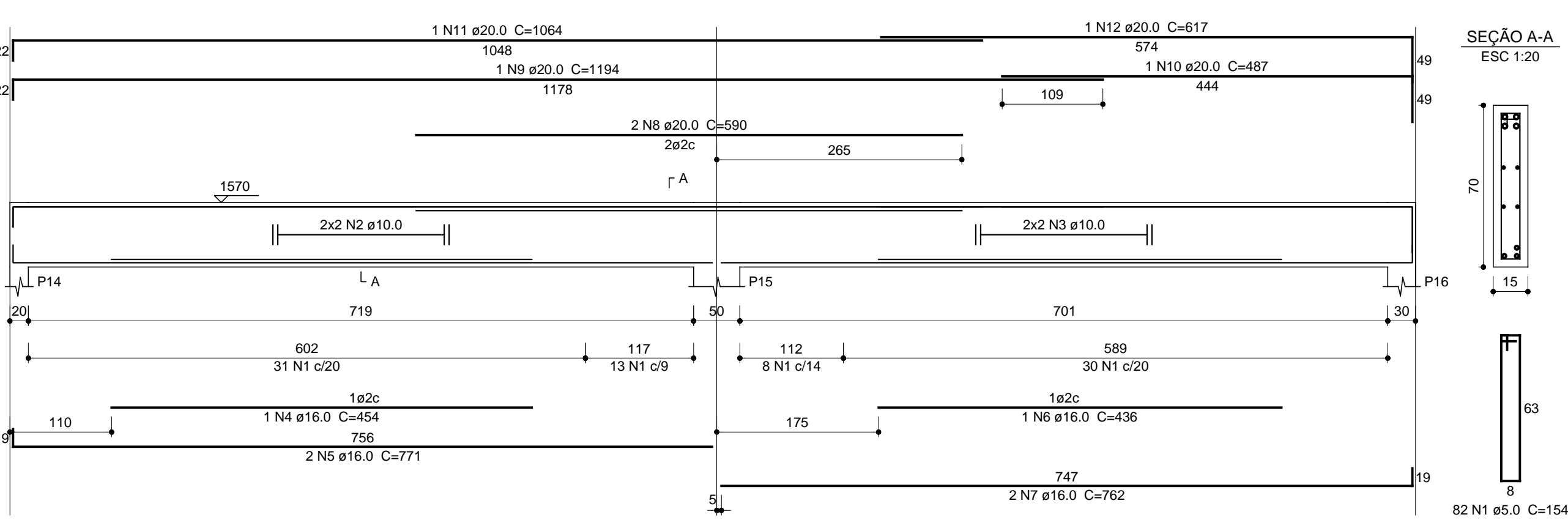
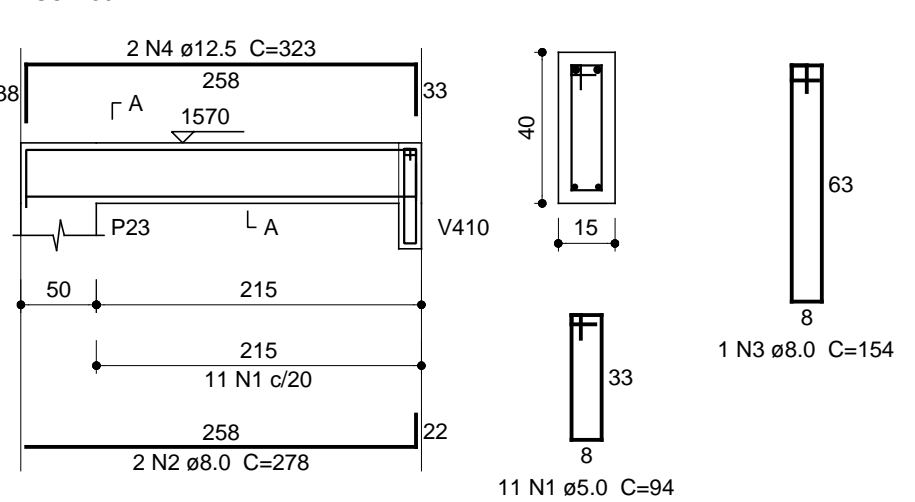


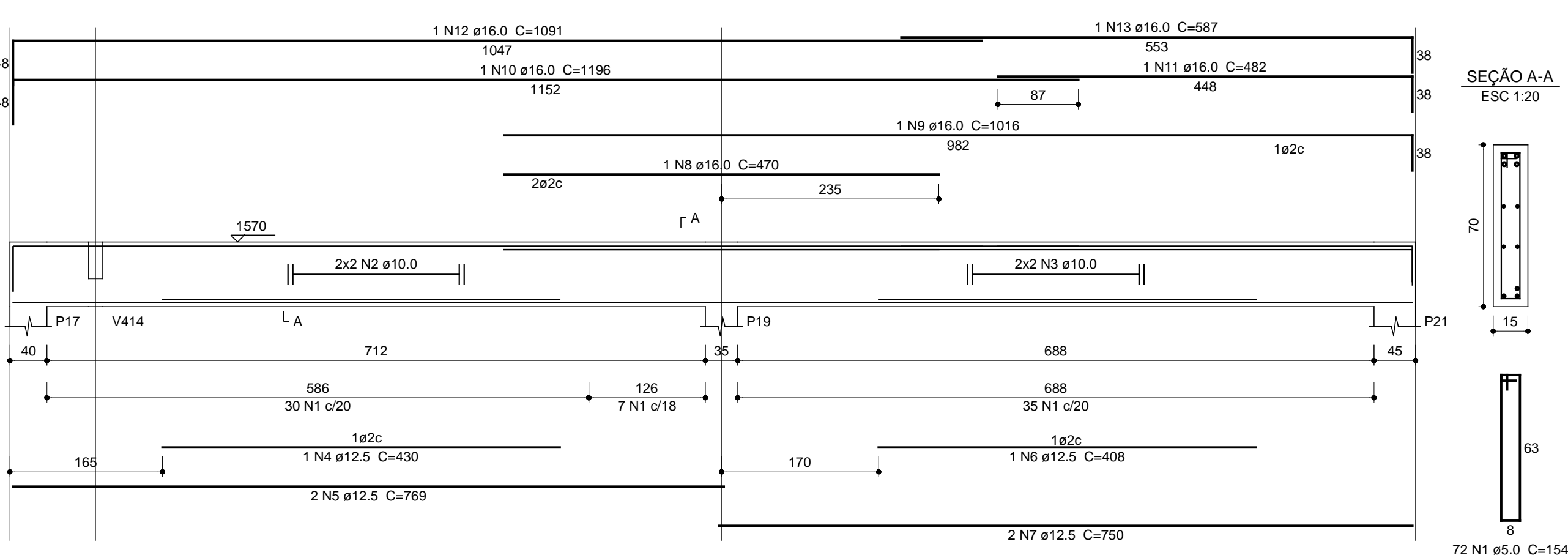
V409 (15 x 70)



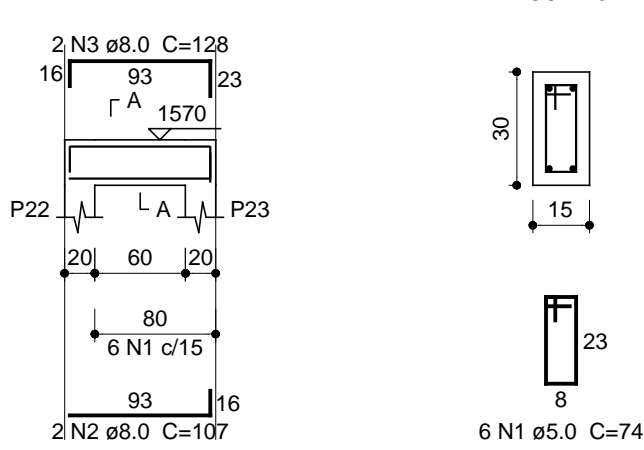
V414 (15 x 40)



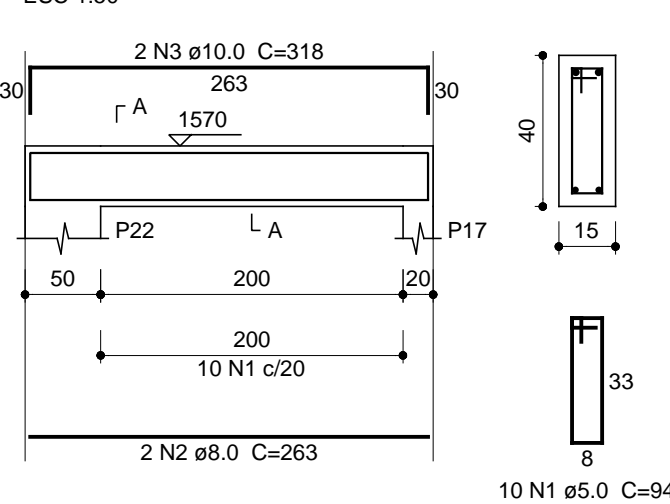
V410 (15 x 70)



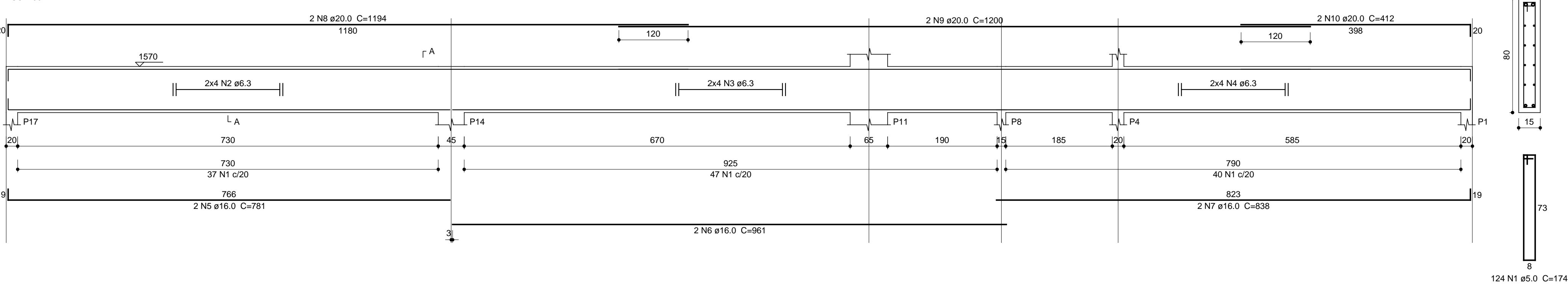
V411 (15 x 30)



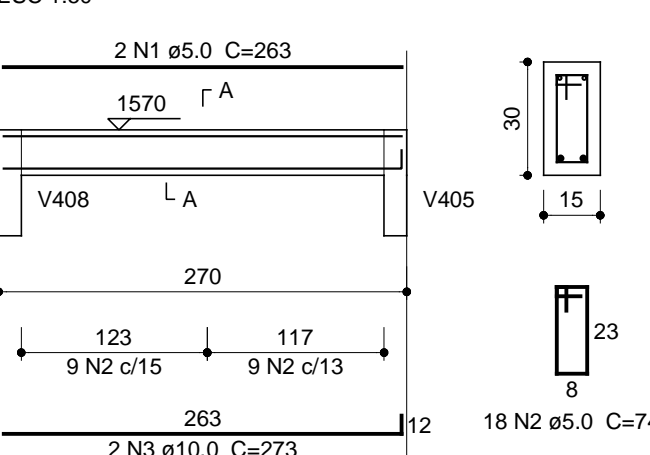
V412 (15 x 40)



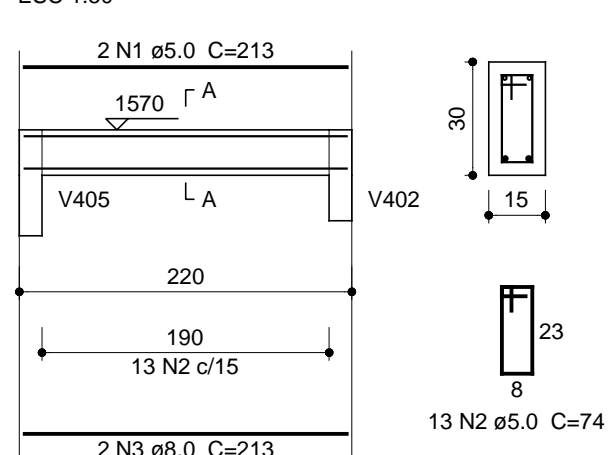
V413 (15 x 80)



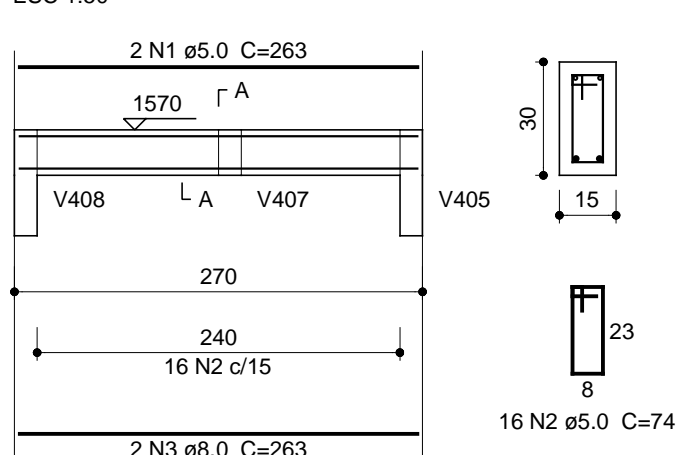
V415 (15 x 30)



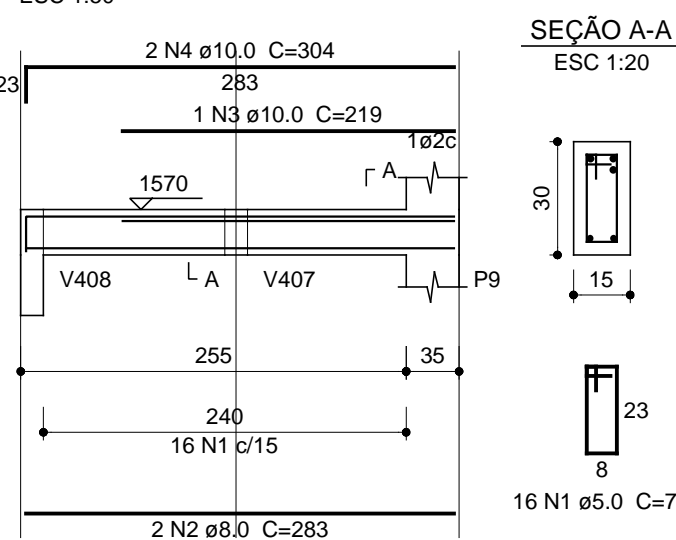
V416 (15 x 30)



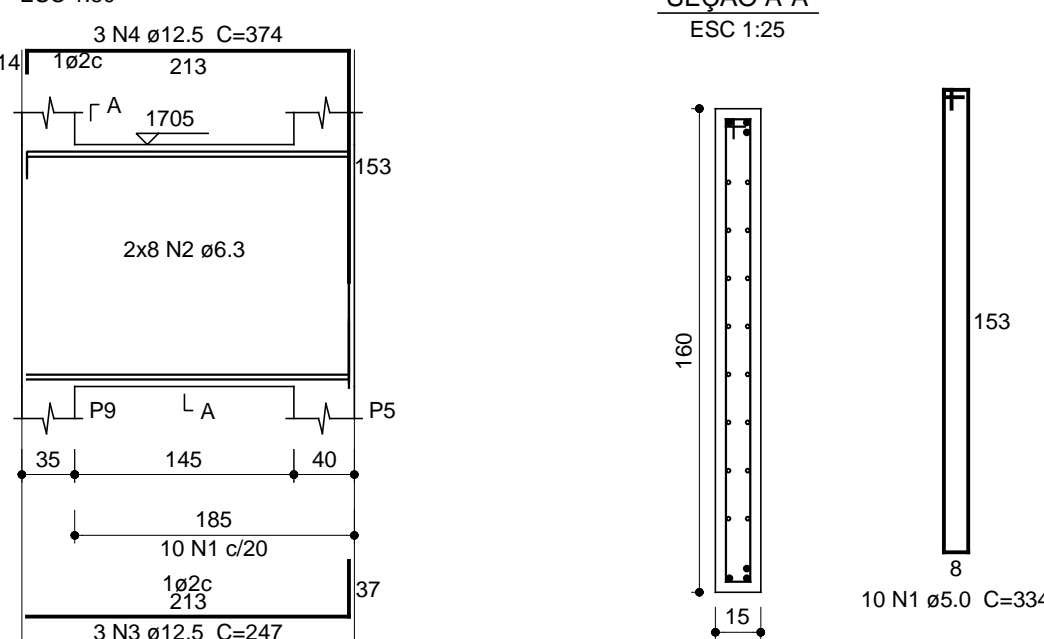
V417 (15 x 30)



V418 (15 x 30)



V419 (15 x 160)



Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
V409	CA60	1	5.0	82	154	12628
	CA50	2	10.0	4	CORR	3128
	CA50	3	10.0	4	CORR	3096
	CA50	4	16.0	1	454	454
	CA50	5	16.0	2	771	1542
	CA50	6	16.0	1	436	436
	CA50	7	16.0	2	762	1524
	CA50	8	20.0	2	590	1180
	CA50	9	20.0	1	1194	1194
	CA50	10	20.0	1	487	487
	CA50	11	20.0	1	1064	1064
	CA50	12	20.0	1	617	617
V410	CA60	1	5.0	72	154	11088
	CA50	2	10.0	4	CORR	3120
	CA50	3	10.0	4	CORR	3044
	CA50	4	12.5	1	430	430
	CA50	5	12.5	2	769	1538
	CA50	6	12.5	1	408	408
	CA50	7	12.5	2	750	1500
	CA50	8	16.0	1	470	470
	CA50	9	16.0	1	1016	1016
	CA50	10	16.0	1	1196	1196
	CA50	11	16.0	1	482	482
	CA50	12	16.0	1	1091	1091
V411	CA60	1	5.0	6	74	444
	CA50	2	8.0	2	107	214
	CA50	3	8.0	2	128	256
V412	CA60	1	5.0	10	94	940
	CA50	2	8.0	2	263	526
	CA50	3	10.0	2	318	636
V413	CA60	1	5.0	124	174	21576
	CA50	2	6.3	8	CORR	6304
	CA50	3	6.3	8	CORR	7824
	CA50	4	6.3	8	CORR	6544
	CA50	5	16.0	2	781	1562
	CA50	6	16.0	2	961	1922
	CA50	7	16.0	2	838	1676
	CA50	8	20.0	2	1194	2388
	CA50	9	20.0	2	1200	2400
	CA50	10	20.0	2	412	824
	CA60	1	5.0	11	94	1034
	CA50	2	8.0	2	278	556
V414	CA50	3	8.0	1	154	154
	CA50	4	12.5	2	323	646
V415	CA60	1	5.0	2	263	526
	CA60	2	5.0	18	74	1332
	CA50	3	10.0	2	273	546
V416	CA60	1	5.0	2	213	426
	CA60	2	5.0	13	74	962
	CA50	3	8.0	2	213	426
V417	CA60	1	5.0	2	263	526
	CA60	2	5.0	16	74	1184
	CA50	3	8.0	2	263	526
V418	CA60	1	5.0	16	74	1184
	CA50	2	8.0	2	283	566
	CA50	3	10.0	1	219	219
V419	CA50	4	10.0	2	304	608
	CA60	1	5.0	10	334	3340
	CA50	2	6.3	16	CORR	3408
	CA50	3	12.5	3	247	741
	CA50	4	12.5	3	374	1122

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO (kg)
CA50	6.3	240.8	58.9
	8.0	32.3	12.7
	10.0	144	38.8
	12.5	63.9	61.5
	16.0	139.6	220.3
	20.0	101.6	250.4
CA60	5.0	571.9	88.1
PESO TOTAL (kg)			
CA50	692.6		
CA60	88.1		

Volume de concreto (C35) = 7.61 m³
Área de forma = 112.73 m²

V409	V410	V411	V412	V413	V414	V415	V416
V417	V418	V419					

00	EMISSÃO INICIAL					31/10/2016	
Nº	REVISÃO					DATA	

ESTEL ENGENHARIA Rua José Quirino, 147 - São João - CEP 86305-060 - Itajaí-SC Tel: (047) 3046-2001 Fax: (047) 3046-2004 estel@estelengenharia.com.br - www.estelengenharia.com.br		PROJETO Nº	1280/16
		PROJETO	ESTRUTURAL
MUNICÍPIO DE PARANAGUÁ PREDIO ADM. DA PREFEITURA DE PARANAGUÁ ARMAÇÃO DAS VIGAS DA CASA DE MAQUINAS			
PRANCHAS Nº	RESPONSÁVEL TÉCNICO	PROPRIETÁRIO	
59/75	SÉRGIO LUIZ DO AMARAL LOZOVEY CREA/SC 13708-0	PREFEITURA DE PARANAGUÁ UNIDADE DE GERENCIAMENTO DE PROGRAMAS	
AUTOR DO PROJETO	CAD	DATA	REVISÃO
SÉRGIO LOZOVEY	ARLINE DEPINÉ	03/2016	00
ÁREA	VERIFICAÇÃO	ESCALA	ARQUIVO
1.850,00 m²	RENATO REIS	IND.	1280-EST-59-R0

PENAS	
RED	0.1mm BLACK
YELLOW	0.2mm BLACK
GREEN	0.3mm BLACK
CYAN	0.4mm BLACK
BLUE	0.5mm BLACK
MAGENTA	0.6mm BLACK
10	0.1mm 10
40	0.1mm 40
80	0.1mm 80
160	0.1mm 160
254	0.1mm 254