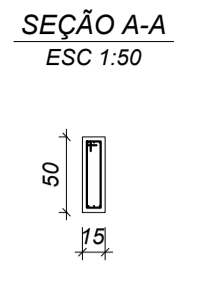
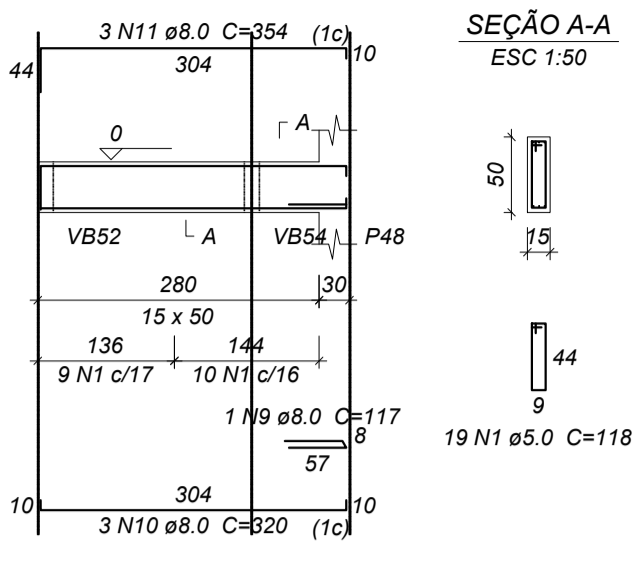
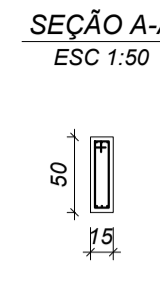
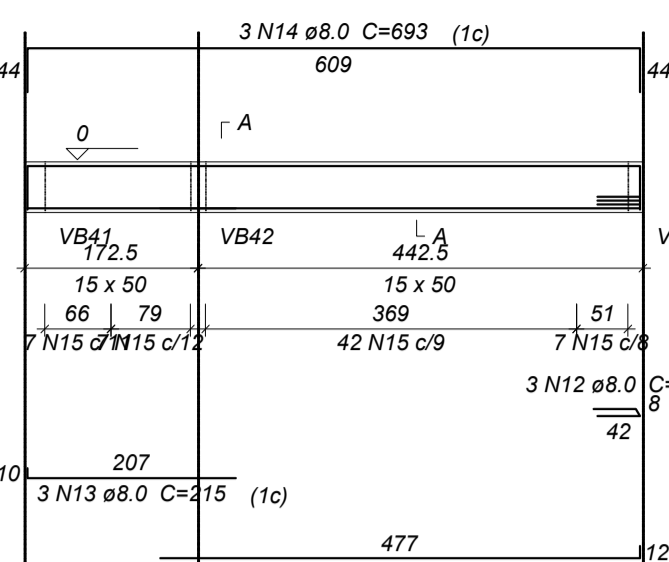


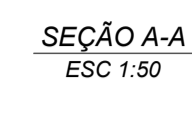
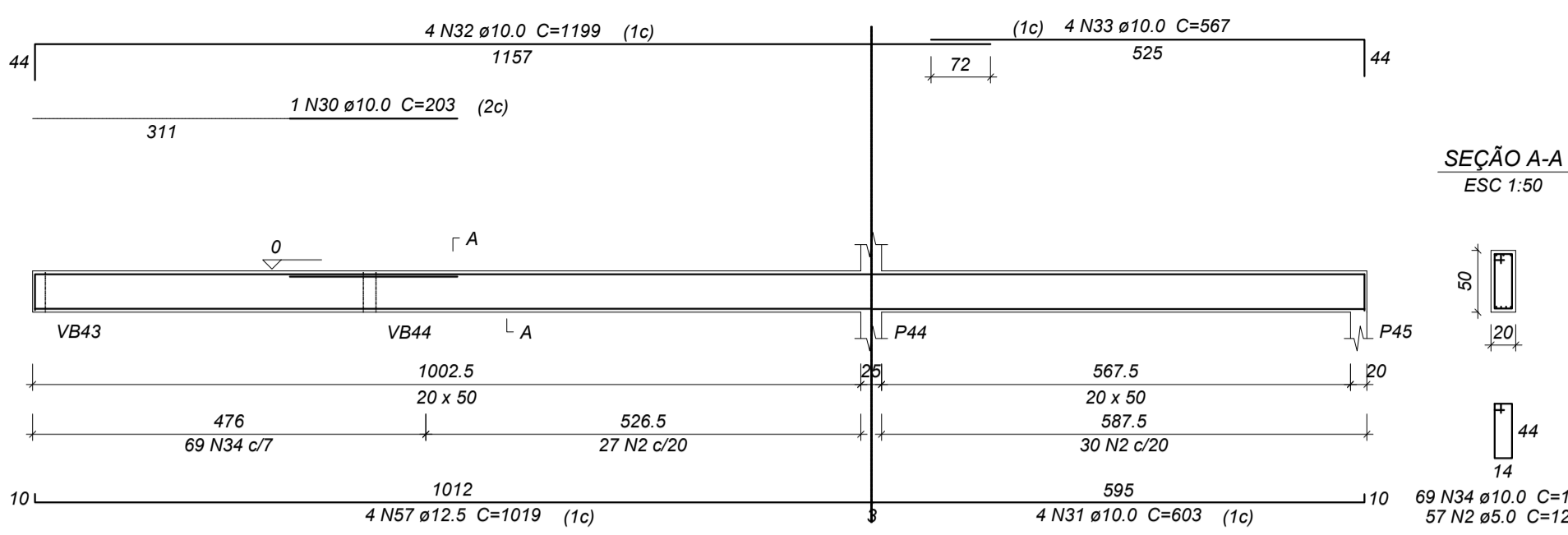
**VB12**  
ESC 1:75



**VB13**  
ESC 1:75



**VB14**  
ESC 1:75



**Relação do aço**

CAÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
VB12	1	5.0	367	118	43306
VB15	2	5.0	269	128	34432
VB18	3	5.0	4	29	116
VB21	4	5.0	4	24	96
VB25	5	5.0	4	78	312
VB28	6	5.0	2	1347	2694
	7	5.0	4	24	96
	8	5.0	4	98	392
	9	8.0	1	117	117
	10	8.0	9	320	2880
	11	8.0	3	354	1062
	12	8.0	3	87	261
	13	8.0	3	215	645
	14	8.0	3	693	2079
	15	8.0	63	118	7434
	16	8.0	3	444	1332
	17	8.0	6	432	2592
	18	8.0	367	128	46976
	19	8.0	3	220	660
	20	8.0	3	450	1350
	21	8.0	3	366	1098
	22	8.0	3	486	1458
	23	8.0	1	102	102
	24	8.0	1	137	137
	25	8.0	1	459	459
	26	8.0	3	465	1395
	27	8.0	1	485	485
	28	8.0	3	491	1473
	29	10.0	3	487	1461
	30	10.0	1	203	203
	31	10.0	12	603	7236
	32	10.0	8	1199	9592
	33	10.0	4	567	2268
	34	10.0	69	129	8910
	35	10.0	2	510	1020
	36	10.0	2	466	932
	37	10.0	2	353	706
	38	10.0	3	1017	3051
	39	10.0	4	1020	4080
	40	10.0	4	1198	4792
	41	10.0	4	573	2292
	42	10.0	4	375	1500
	43	10.0	2	1102	2204
	44	10.0	4	571	2284
	45	10.0	2	457	914
	46	10.0	2	532	1064
	47	10.0	2	510	1020
	48	10.0	2	906	1812
	49	10.0	2	693	1386
	50	10.0	2	749	1498
	51	10.0	6	106	636
	52	10.0	4	159	636
	53	10.0	2	216	432
	54	10.0	3	255	765
	55	10.0	2	449	898
	56	10.0	2	514	1028
	57	12.5	8	1019	8152
	58	12.5	18	114	2052
	59	12.5	4	1197	4788
	60	12.5	4	515	2060
	61	12.5	2	609	1218
	62	12.5	2	224	448

**Resumo do aço**

CAÇO	DIAM	C.TOTAL (m)	PESO (kg)
CA50	8.0	740	292
CA50	10.0	646.2	398.4
CA50	12.5	187.2	180.3
CA50	5.0	814.5	125.5
<b>PESO TOTAL</b>			
CA50	870.6		
CA60	125.5		

Vol. de concreto total (C-25) = 12.13 m³  
Área de forma total = 157.52 m²

**NOTAS GERAIS**

- DIMENSÕES EM CENTÍMETRO. ELEVAÇÕES EM METRO E BITOLAS DOS FERROS EM MILÍMETROS EXCETO INDICAÇÃO CONTRÁRIA.
- TENSÃO PARA O CONCRETO:  
CONCRETO ESTRUTURAL fck=25 MPa  
CONCRETO MAGRO fck=10 MPa
- AÇO CA50, fyk=5000 kgf/cm²  
CA60, fyk=6000 kgf/cm²
- EXECUTAR PASSAGENS PARA TUBULAÇÕES DE ÁGUA, ESGOTO E ELETRICIDADE. NÃO SERÁ PERMITIDO NENHUMA TUBULAÇÃO DENTRO DOS ELEMENTOS ESTRUTURAIS, EXCETO AS PREVISTAS EM PROJETO.
- REALIZAR ENSAIOS DE COMPRESSÃO EM CORPO DE PROVA PARA ASSEGURAR A RESISTÊNCIA FINAL DO CONCRETO.
- DIMENSÃO MÁXIMA DO AGREGADO RECOMENDADA DE 19mm.
- DOSAGEM DO CONCRETO: PARA EVITAR SEGREGAÇÃO, DEVEM SER CONSIDERADAS AS PROPRIEDADES: ESTABILIDADE - EXSUDAÇÃO E SEGREGAÇÃO  
MOBILIDADE - VISCOSIDADE, COESÃO E ÂNGULO DE ATRITO INTERNO  
COMPACTIDADE - DENSIDADE  
NECESSITANDO, PORTANTO, DE UM ESTUDO EM FUNÇÃO DOS MATERIAIS A SEREM UTILIZADOS.
- CURA DO CONCRETO: FUNÇÃO DO TIPO DE CIMENTO UTILIZADO E DA EXPOSIÇÃO AOS INTEMPERISMOS. A CURA DEVE SER DE:  
7 DIAS PARA CONCRETO COM CIMENTO PORTLAND  
10 DIAS PARA CONCRETO COM CIMENTO ALTO FORNO  
28 DIAS PARA CONCRETO COM CIMENTO POZOLÂNICO  
CONSERVAR ÚMIDAS AS PARTES CONCRETADAS DURANTE O TEMPO DE CURA
- COBRIMENTO MÍNIMO DAS ARMADURAS:  
VIGAS e PILARES = 3,0cm  
LAJES = 2,5cm  
O RECOBRIMENTO DEVERÁ SER GARANTIDO COM O USO DE ESPAÇADORES
- FATOR ÁGUA/CIMENTO DO CONCRETO: AC ≤ 0,60
- CONFRONTAR AS MEDIDAS DO PROJETO ESTRUTURAL COM O PROJETO ARQUITETÔNICO.
- EM CASO DE DÚVIDAS CONSULTAR O CALCULISTA.

RAIO DE CURVATURA DAS BARRAS	CONCRETO ADOTADO
φ R (cm)	fck = 25 MPa
12.5 10	fcd = fck + 1,65 x { 4 MPa 5.5 MPa 7 MPa
16.0 12	
20.0 15	
25.0 19	
DE ACORDO COM O ITEM 8.3.1.2 DA NBR-6118	

ATUALIZAÇÃO:			
05			
04			
03			
02			
01			
Nº.	DESCRIÇÃO	RESP.	DATA

ASSINATURA DO PROPRIETÁRIO DO PROJETO \_\_\_\_\_ ASSINATURA DO AUTOR DO PROJETO \_\_\_\_\_

CARIMBOS P.M.P.B. SECRETARIA DE PLANEJAMENTO URBANO E SAÚDE PÚBLICA

OBRA: TEATRO MUNICIPAL NAURA RIGON

ESPECIFICAÇÃO: ESTRUTURAL

ÁREA TOTAL: 12.164,95 m² ESCALA: Indizada

DATA: 04/05/2019

DESENHO: 17/61

MUNICÍPIO DE PATO BRANCO  
Secretaria de Planejamento Urbano

ALTO DO PROJETO ARQUITETO E URBANISTA  
ESTERNE POLTRIN DE SOUZA  
CAU 1132463-2

ALTO DO PROJETO ARQUITETO E URBANISTA  
DESO LOPES OLIVEIRA  
CAU 1132680

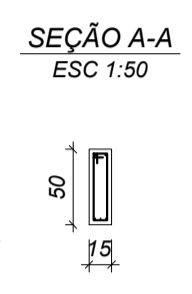
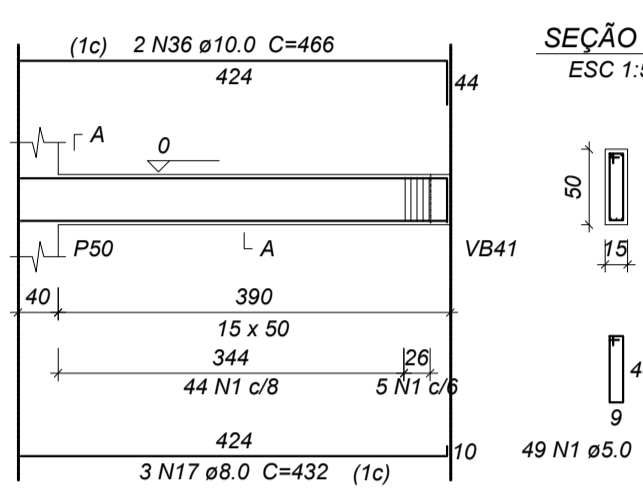
PROPRIETÁRIO:  
Município de Pato Branco  
CNPJ: 16.995.448/000194

COZINHA: 191 TOME: 03 e 14

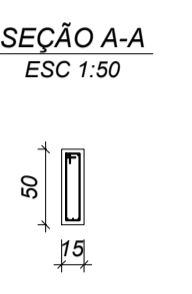
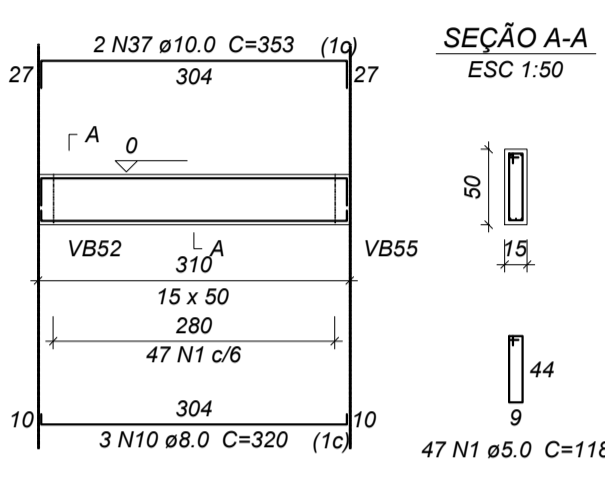
ENDEREÇO DA OBRA:  
Jacaré, 400, Bairro Paraisópolis, Pato Branco - PR

VERBA: ALIENAÇÃO

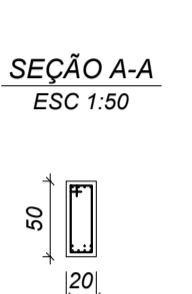
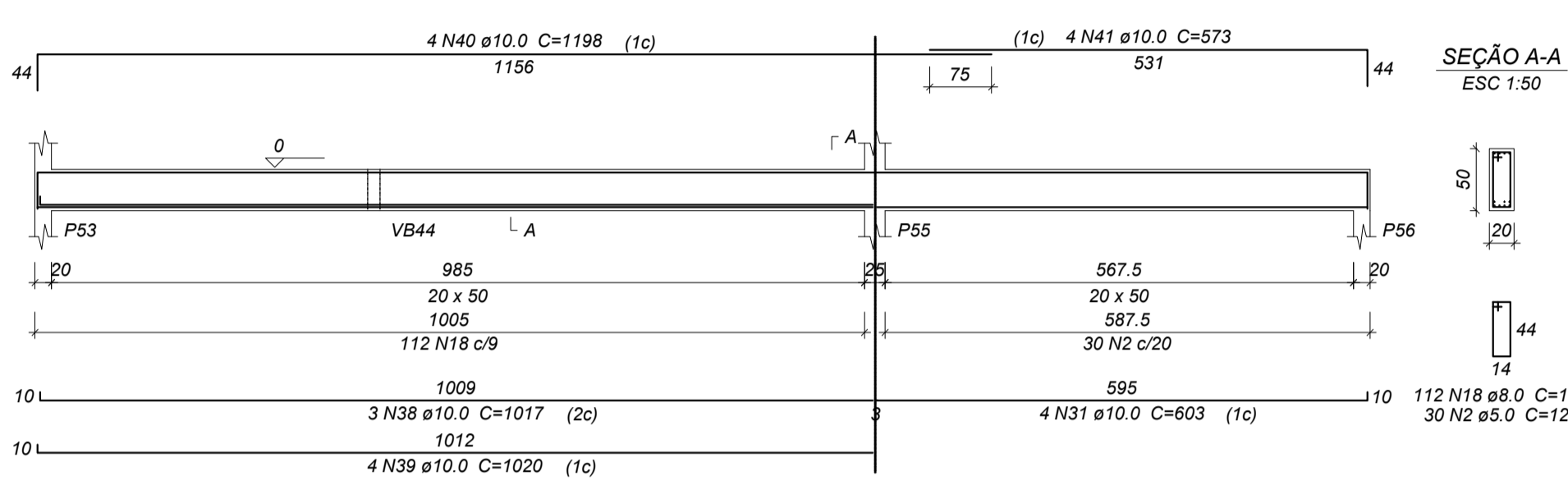
**VB16**  
ESC 1:75



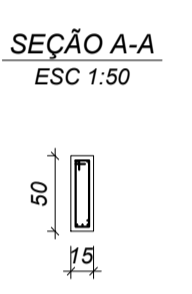
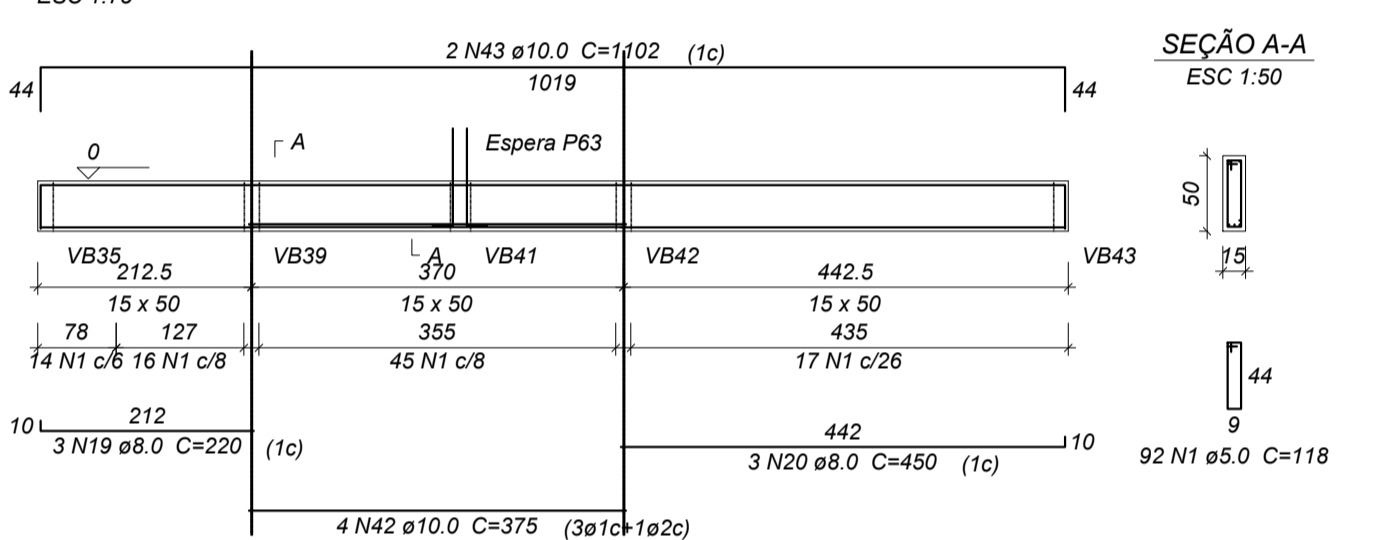
**VB17**  
ESC 1:75



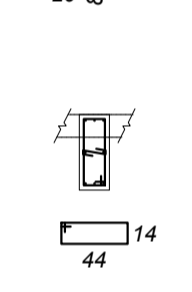
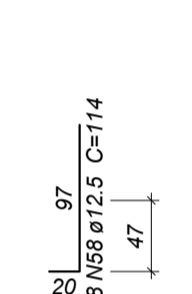
**VB18**  
ESC 1:75



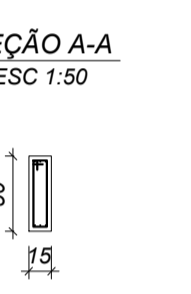
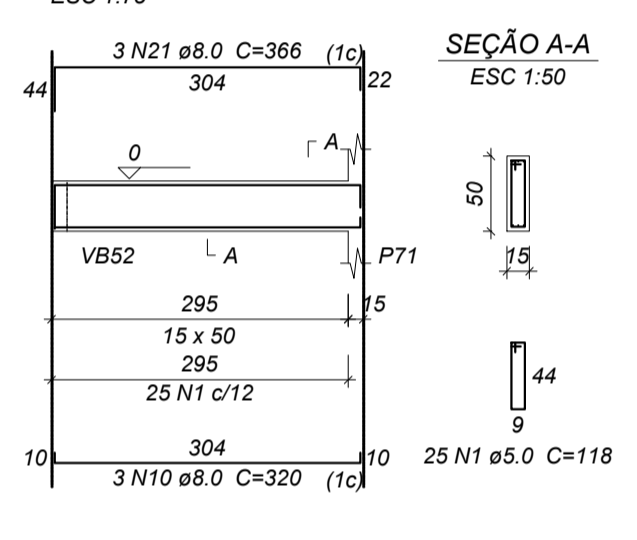
**VB19**  
ESC 1:75



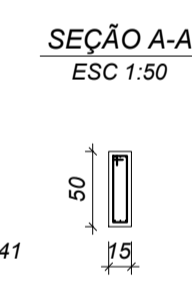
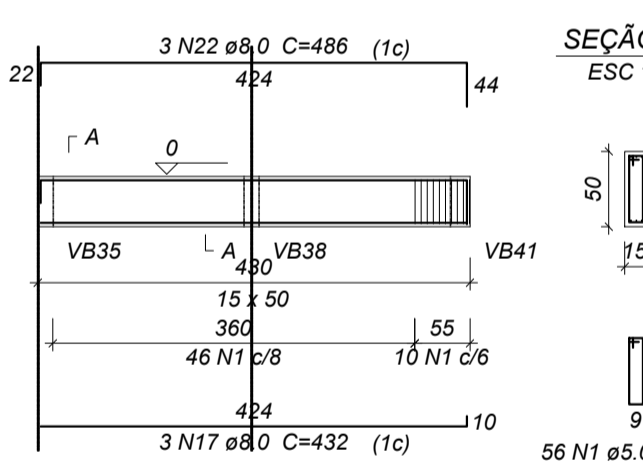
**ESPERA P63**  
ESC 1:50



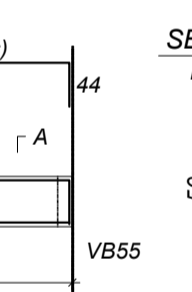
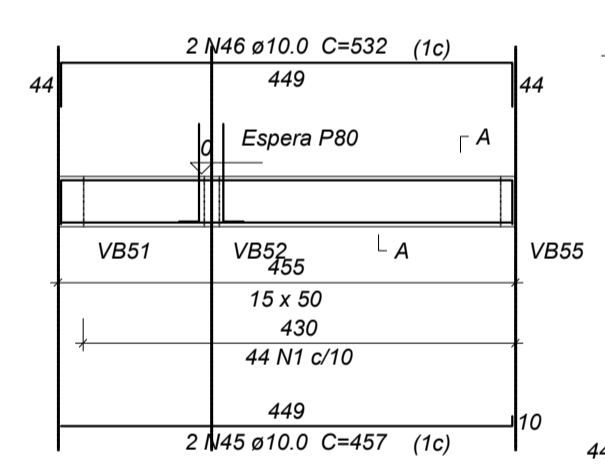
**VB20**  
ESC 1:75



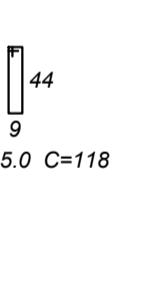
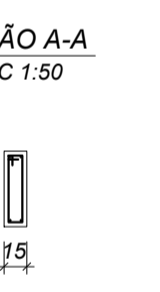
**VB23**  
ESC 1:75



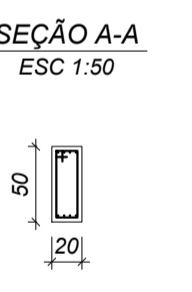
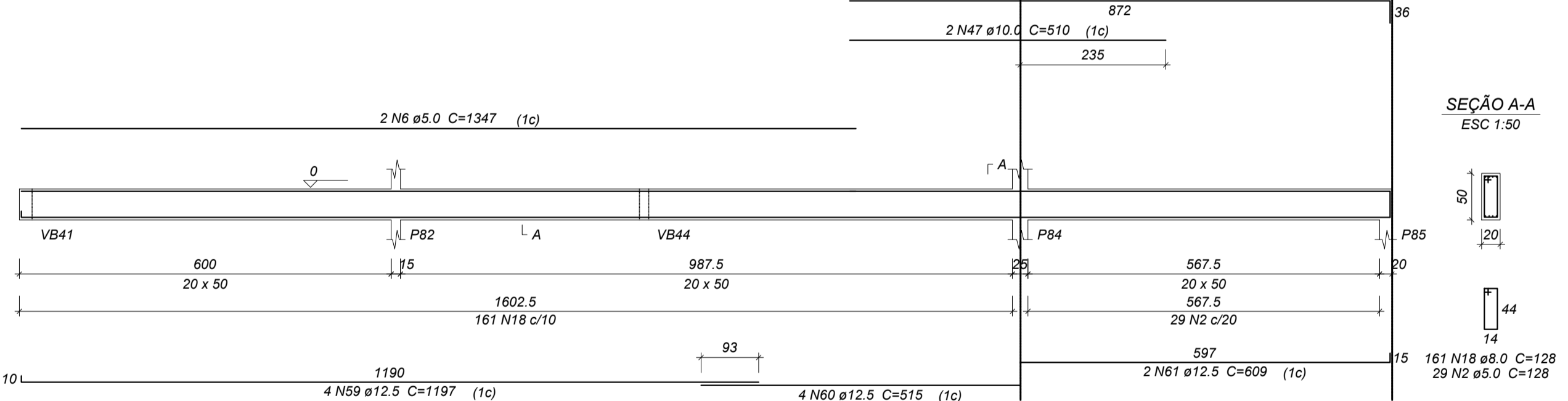
**VB24**  
ESC 1:75



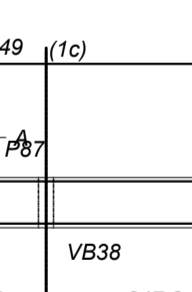
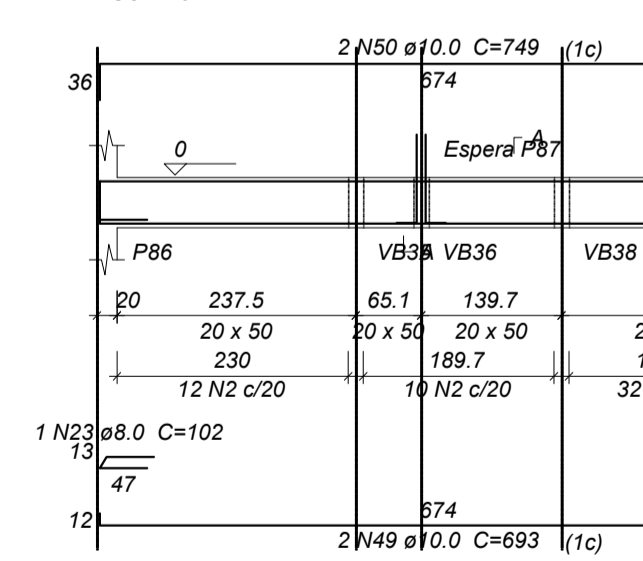
**ESPERA P80**  
ESC 1:50



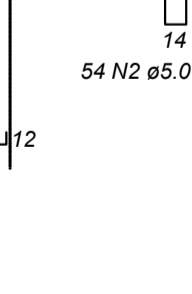
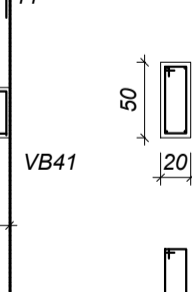
**VB25**  
ESC 1:75



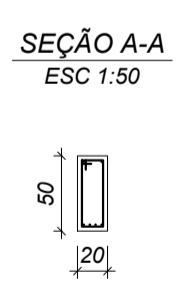
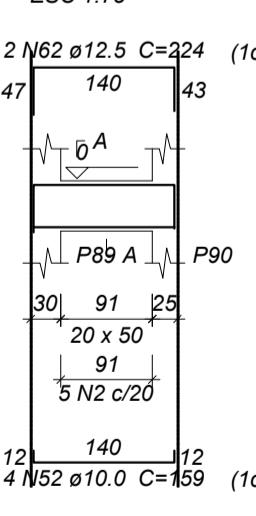
**VB26**  
ESC 1:75



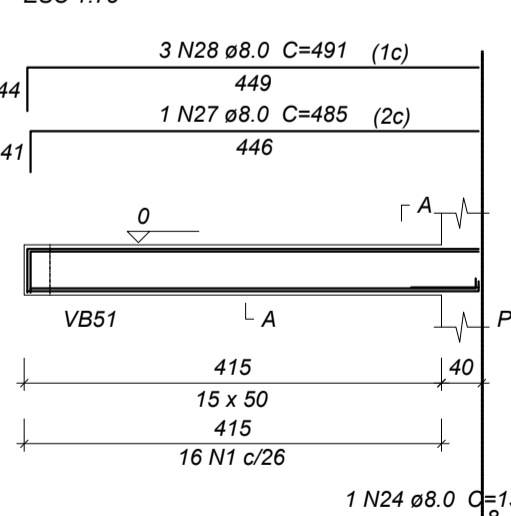
**ESPERA P87**  
ESC 1:50



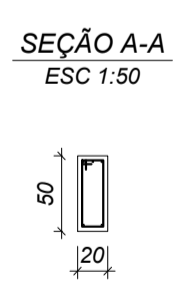
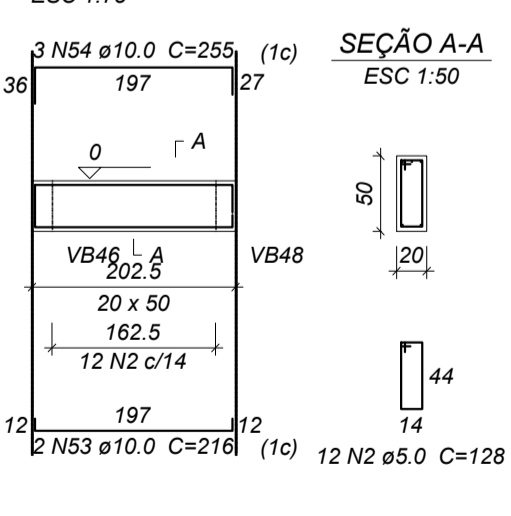
**VB27**  
ESC 1:75



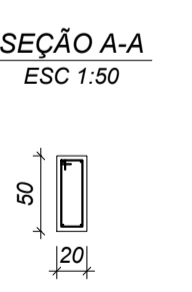
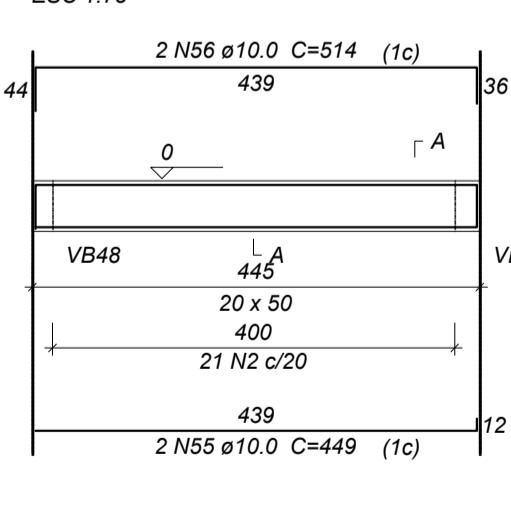
**VB28**  
ESC 1:75



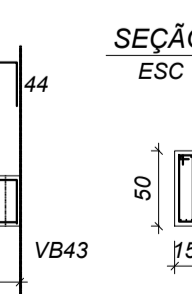
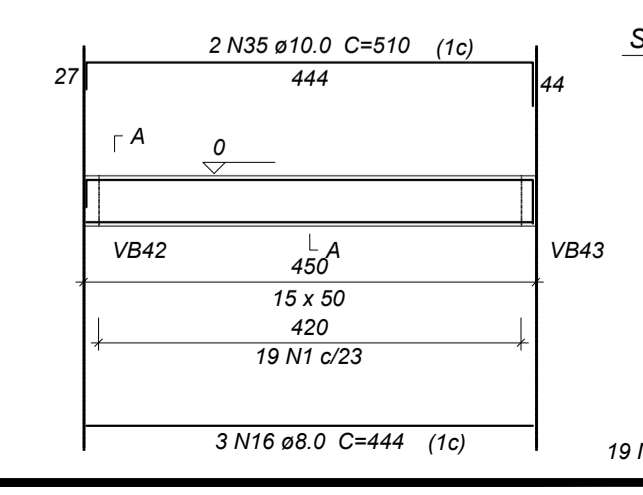
**VB29**  
ESC 1:75



**VB30**  
ESC 1:75



**VB15**  
ESC 1:75



**VB21**  
ESC 1:75

