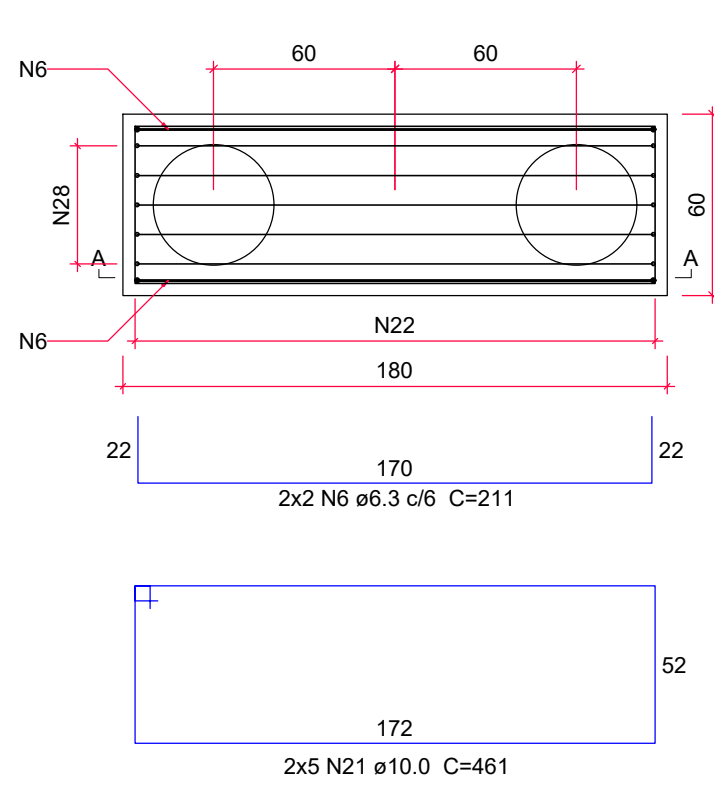
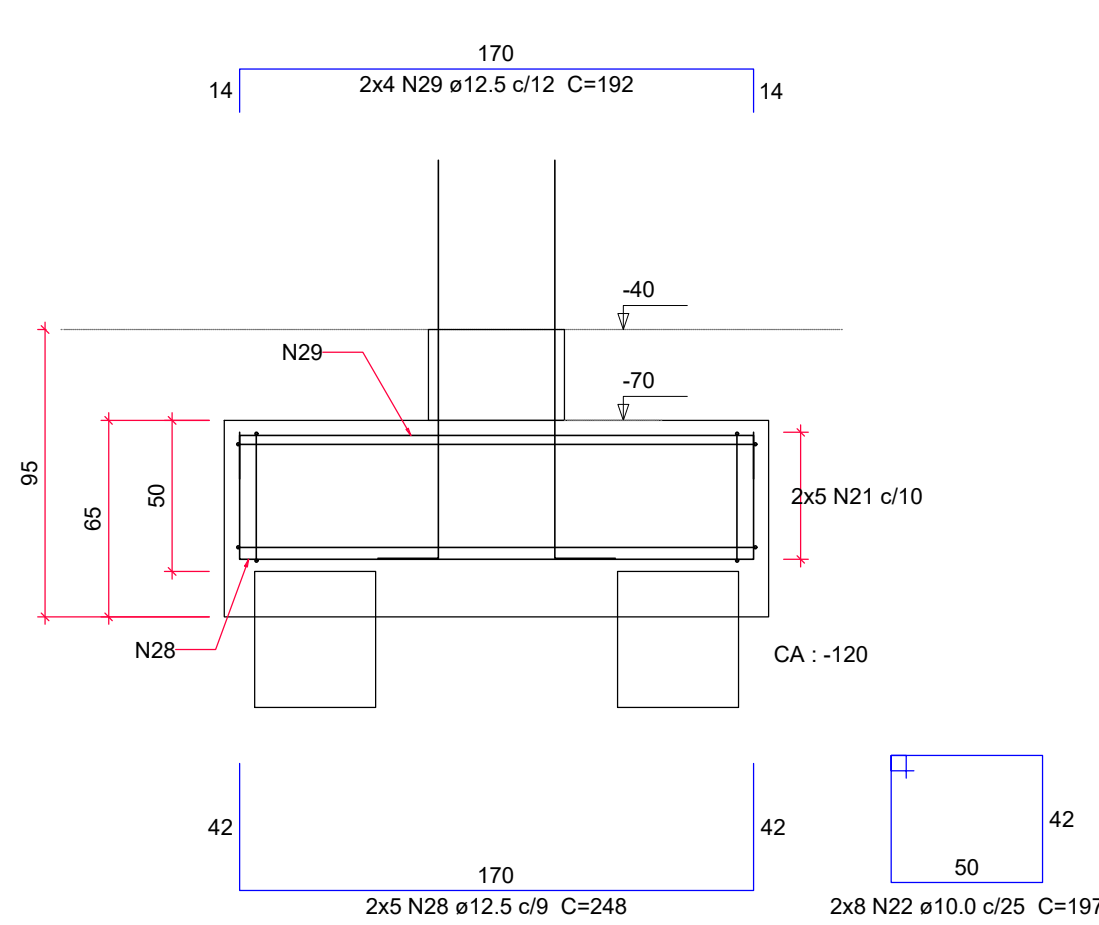


DETALHE FUNDAÇÕES

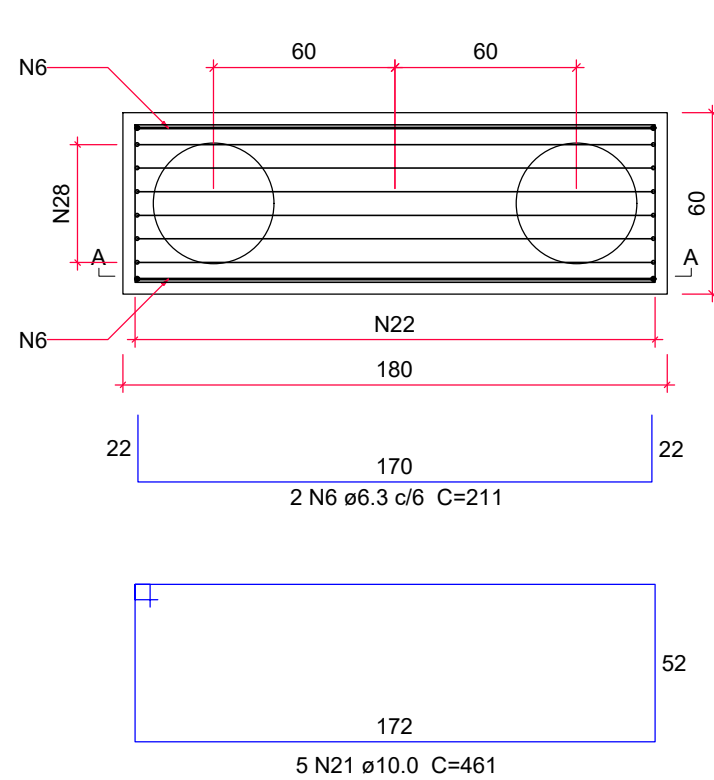
ESC 1:25
B44=B45
2xC40 H=10,0m
PLANTA
ESC 1:25



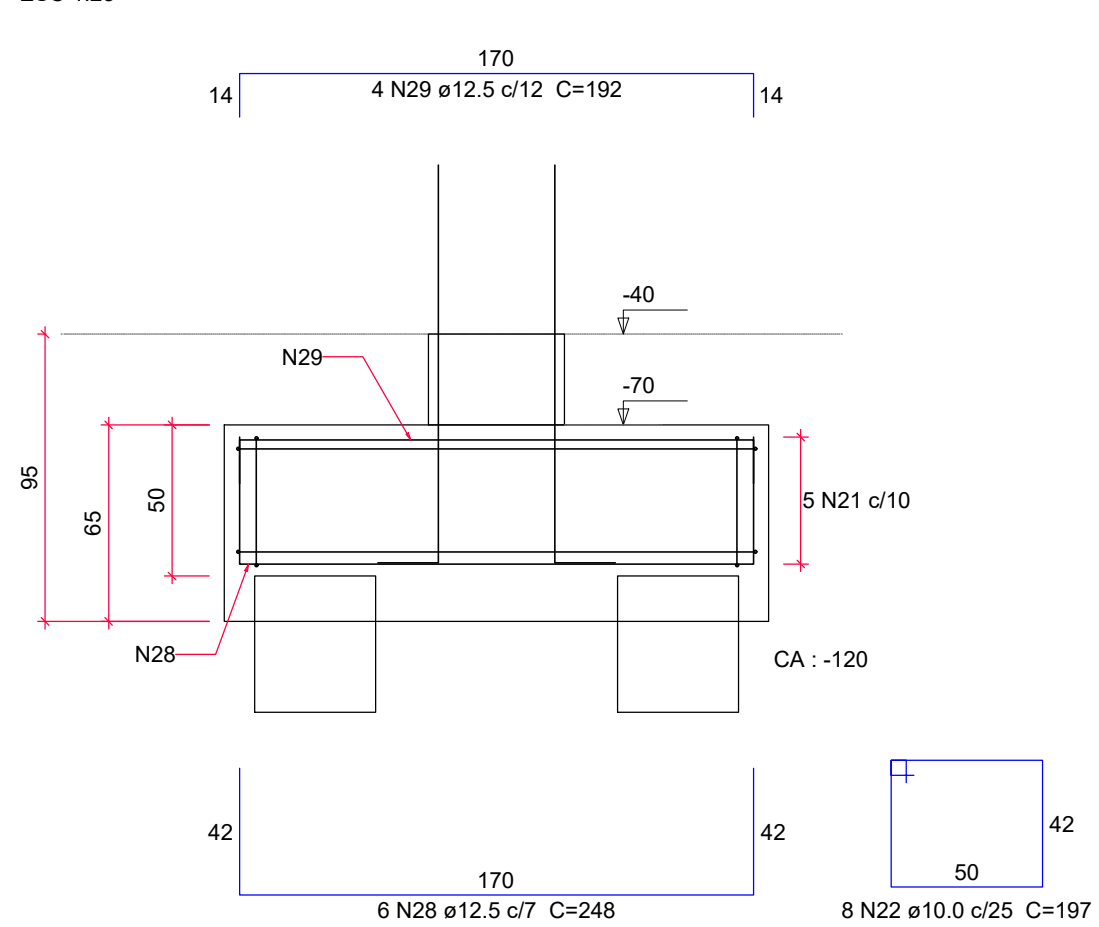
CORTE A-A
ESC 1:25



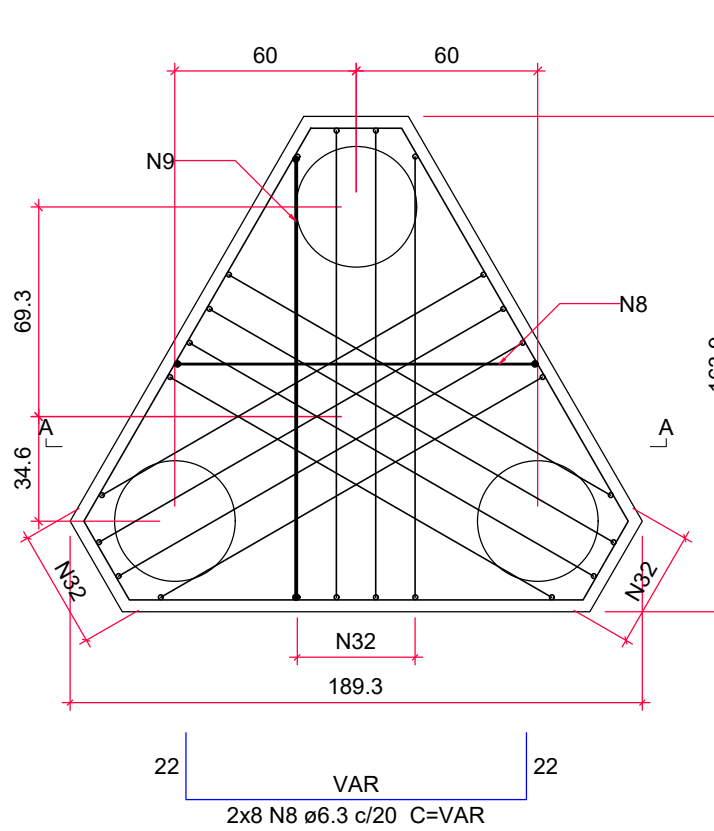
B65
2xC40 H=6,0m
PLANTA
ESC 1:25



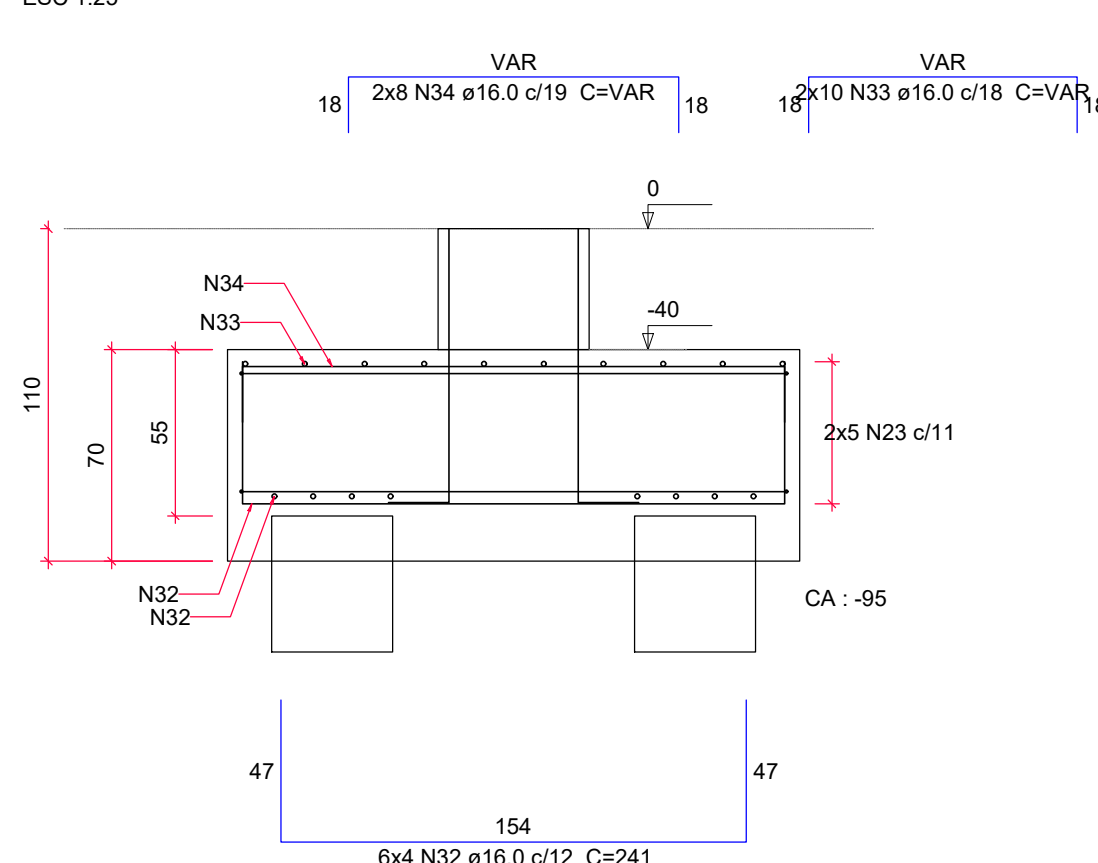
CORTE A-A
ESC 1:25



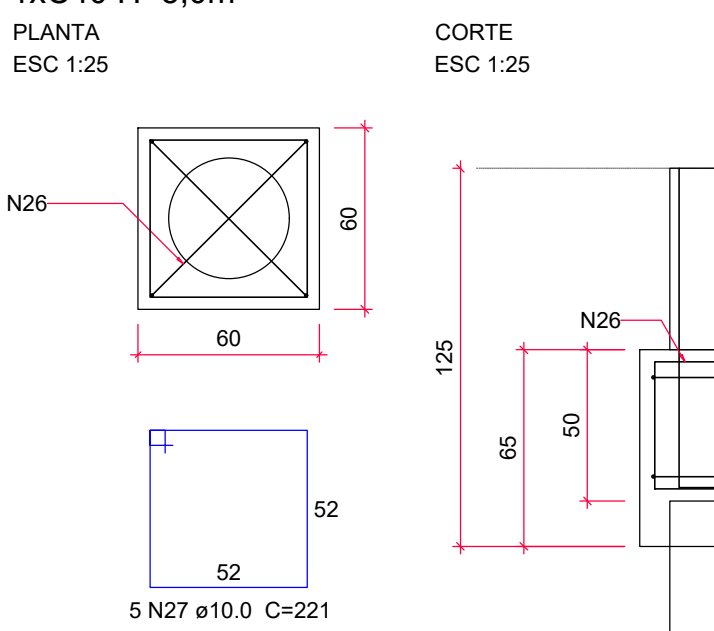
B80=B81
3xC40 H=6,0m
PLANTA
ESC 1:25



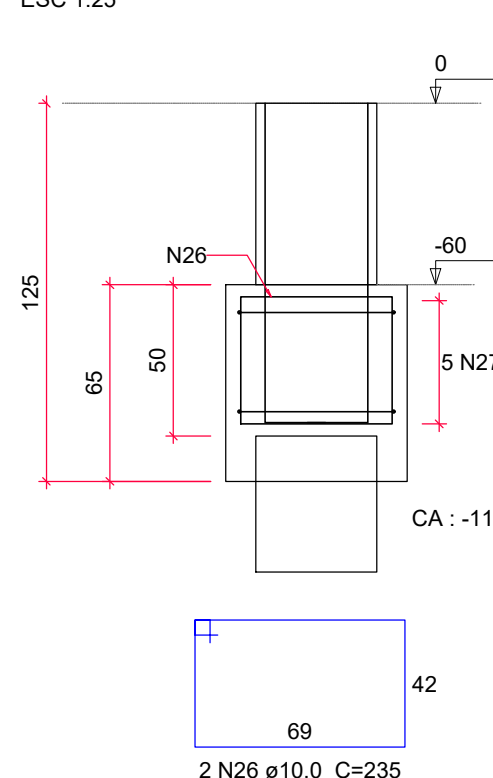
CORTE A-A
ESC 1:25



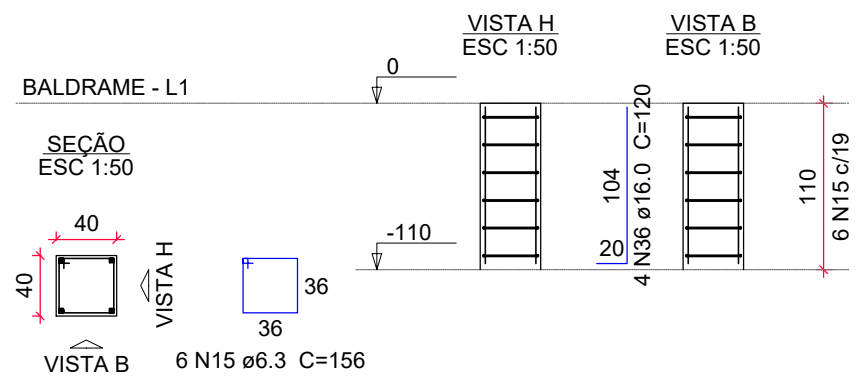
B88=B89=B90=B91=B92=B93
1xC40 H=5,0m
PLANTA
ESC 1:25



CORTE
ESC 1:25

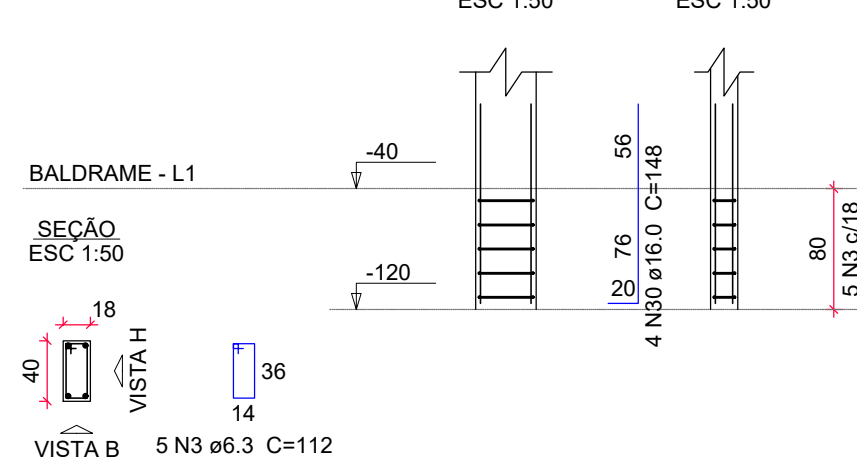


P88=P89=P90=P91=P92=P93

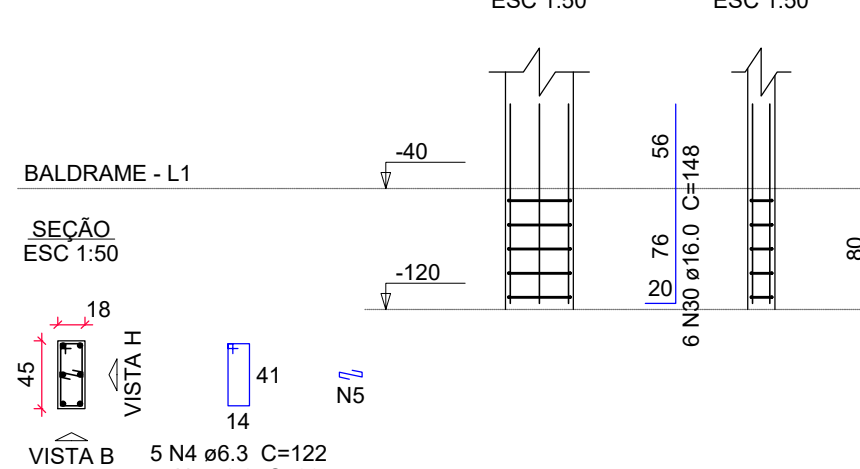


Obs: os detalhes da chapa metálica devem ser conferidos no projeto da estrutura metálica previamente à execução da concretagem.

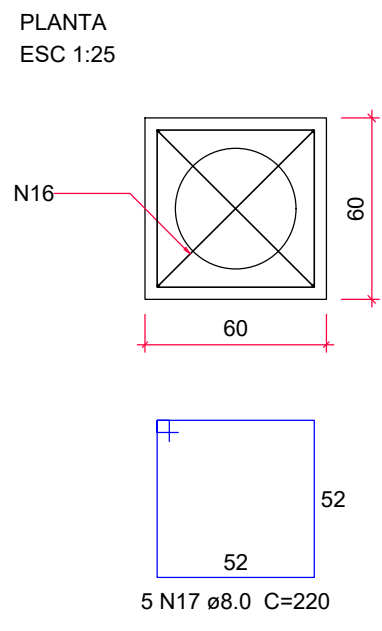
P44



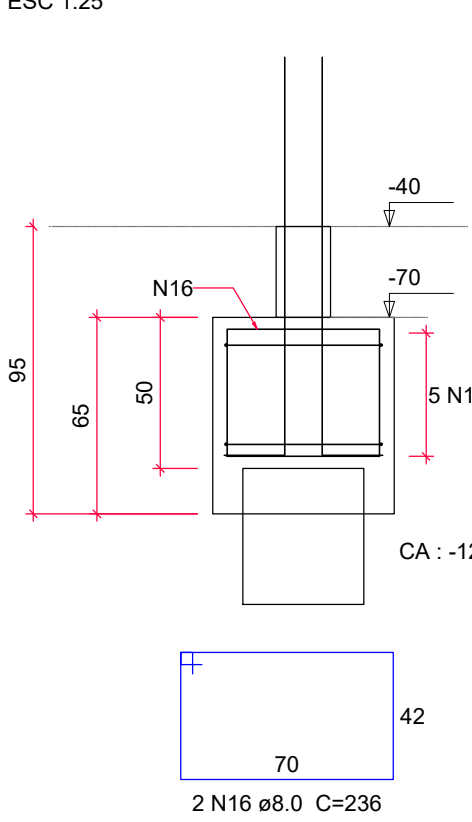
P45



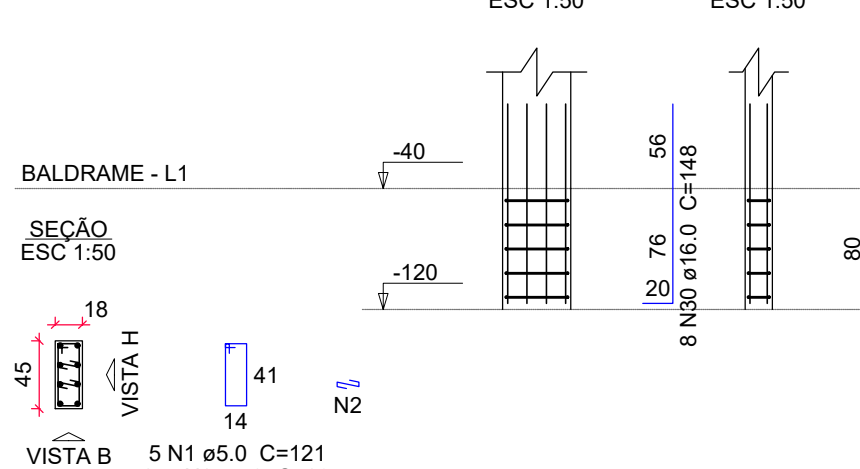
B64
1xC40 H=8,0m
PLANTA
ESC 1:25



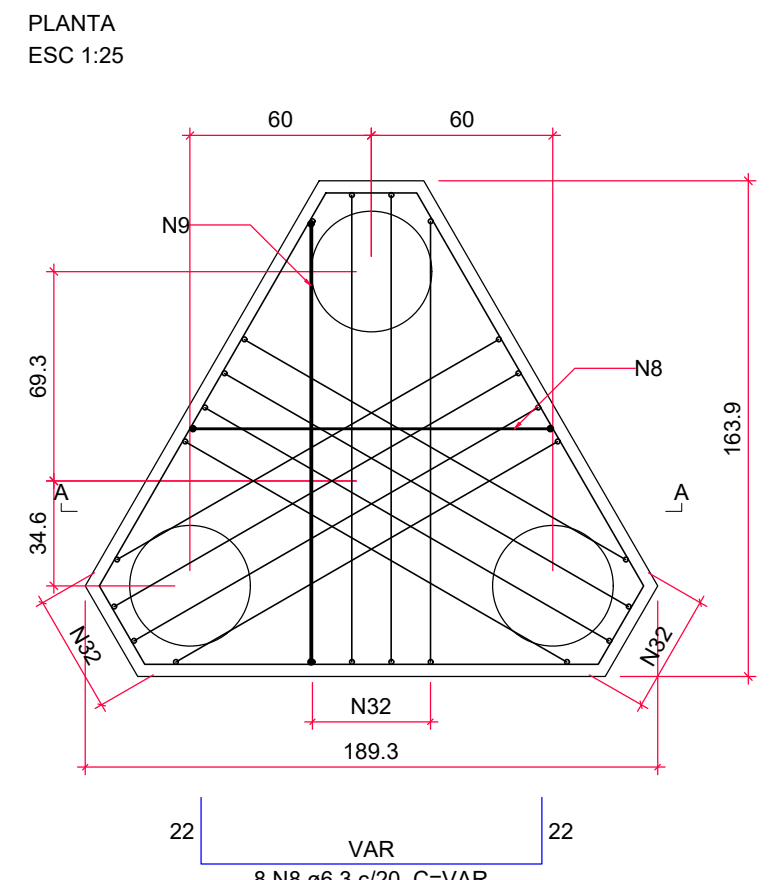
CORTE
ESC 1:25



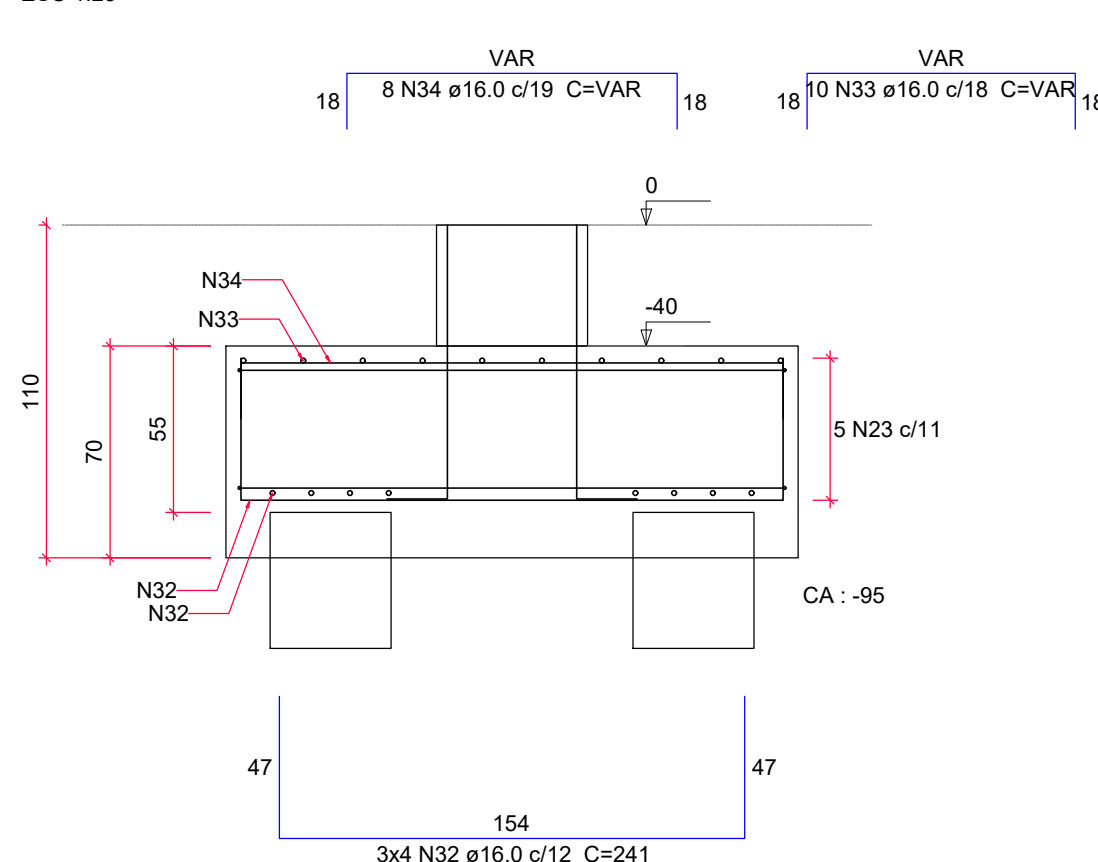
P64



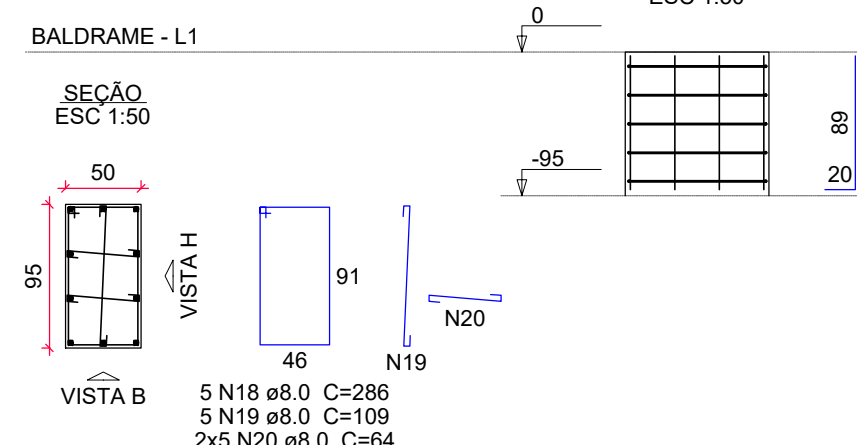
B79
3xC40 H=7,0m
PLANTA
ESC 1:25



CORTE A-A
ESC 1:25

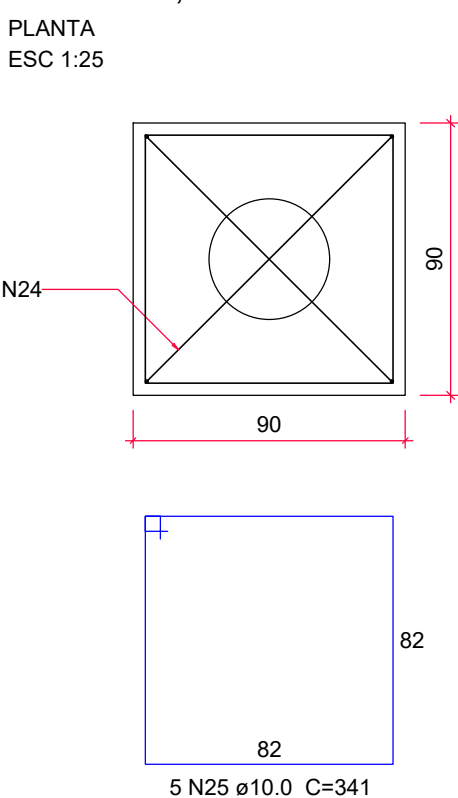


P79

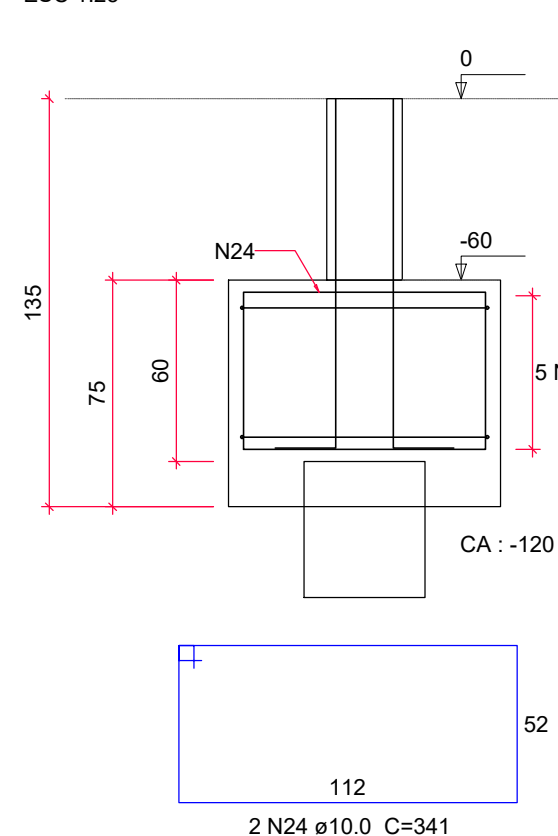


Obs: os detalhes da chapa metálica devem ser conferidos no projeto da estrutura metálica previamente à execução da concretagem.

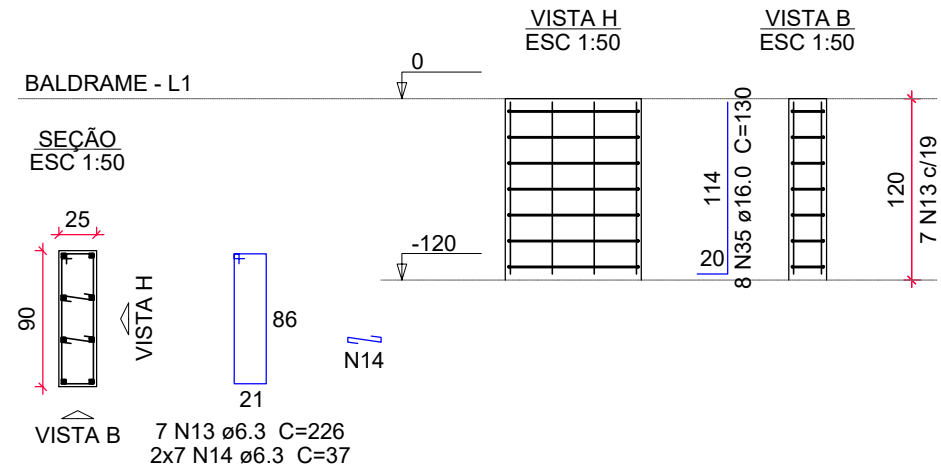
B82=B83=B84=B85=B86=B87
1xC40 H=5,0m
PLANTA
ESC 1:25



CORTE
ESC 1:25



P82=P83=P84=P85=P86=P87



Obs: os detalhes da chapa metálica devem ser conferidos no projeto da estrutura metálica previamente à execução da concretagem.

Relação do aço

ACO	N	DIAM (mm)	QUANT	C UNIT (cm)	C TOTAL (cm)
CA50	1	5,0	5	121	605
	2	5,0	10	29	290
	3	6,3	5	112	560
	4	6,3	5	122	610
	5	6,3	5	30	150
	6	6,3	6	211	1266
	7	6,3	5	126	630
	8	6,3	24	VAR	VAR
	9	6,3	27	VAR	VAR
	10	6,3	5	286	1430
	11	6,3	5	107	535
	12	6,3	10	62	620
	13	6,3	42	226	9402
	14	6,3	84	37	3108
	15	6,3	36	156	5616
	16	8,0	2	236	472
	17	8,0	5	220	1100
	18	8,0	10	266	2660
	19	8,0	10	109	1090
	20	8,0	20	64	1280
	21	10,0	15	461	6915
	22	10,0	24	197	4728
	23	10,0	15	555	8325
	24	10,0	12	341	4092
	25	10,0	30	341	10230
	26	10,0	12	235	2820
	27	10,0	30	221	6630
	28	12,5	16	248	3968
	29	12,5	12	192	2304
	30	16,0	22	148	3256
	31	16,0	30	105	3150
	32	16,0	36	241	8676
	33	16,0	30	VAR	VAR
	34	16,0	24	VAR	VAR
	35	16,0	48	130	6240
	36	16,0	24	120	2880

Resumo do aço

ACO	DIAM (mm)	C TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6,3	314,7	29	84,7
	8,0	68,1	7	29,5
	10,0	437,4	41	296,6
	12,5	62,8	6	66,5
	16,0	310,6	29	539,2
	5,0	9	9	1,5
CA50		1016,5		
CA50		1,5		

Volume de concreto (C-30) = 13,15 m³
Área de forma = 67,42 m²

PROJETO ESTRUTURAL



MODELO 3D - ESTRUTURA
Obs: Necessário Internet

TERMINAL INTEGRADO RODOVIÁRIO E METROPOLITANO

JULHO/2025

SANTA TEREZINHA DE ITAPU - PR

303

87.802

ANTONIO LUIZ BENDO - PREFEITO MUNICIPAL

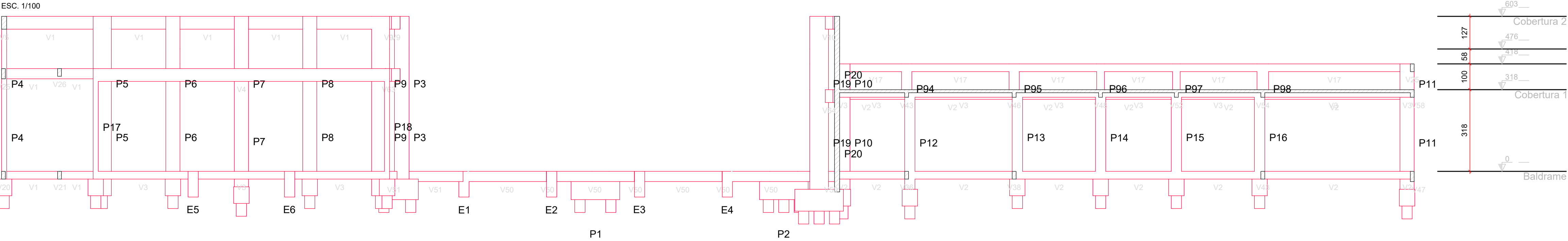
NATANAEL CARBOLIN DE LIMA CREA-PR: 2149620

NATANAEL CARBOLIN DE LIMA
CNPJ: 13.133.055/0001-05
Vei-Quem em: https://repositorio.gov.br

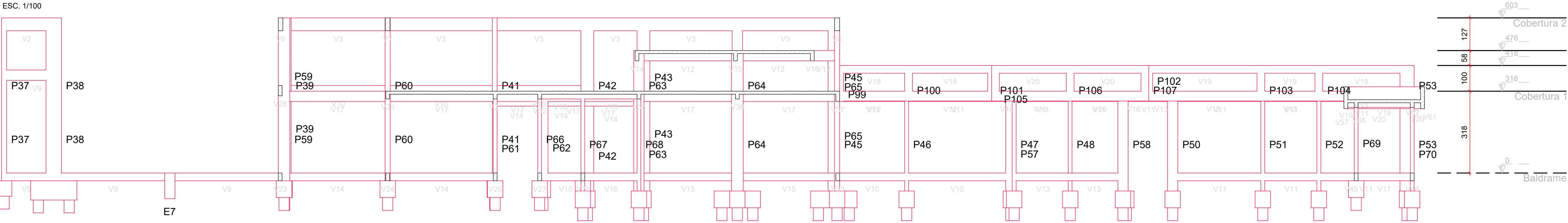
DETAHES FUNDAÇÕES

04/16

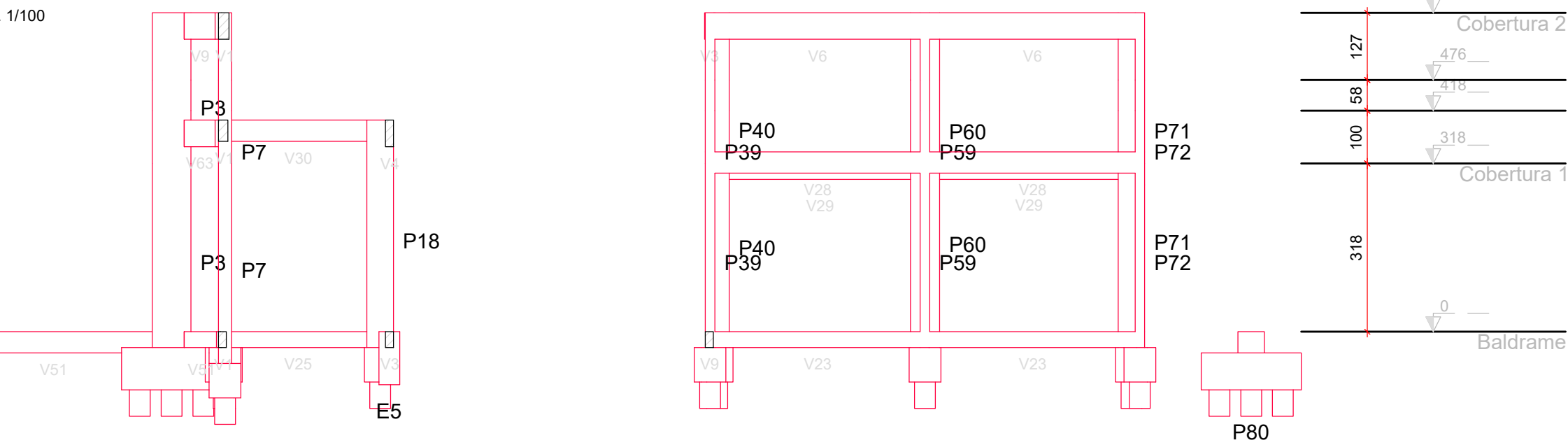
CORTE A-A (EST. DE CONC. ARMADO)



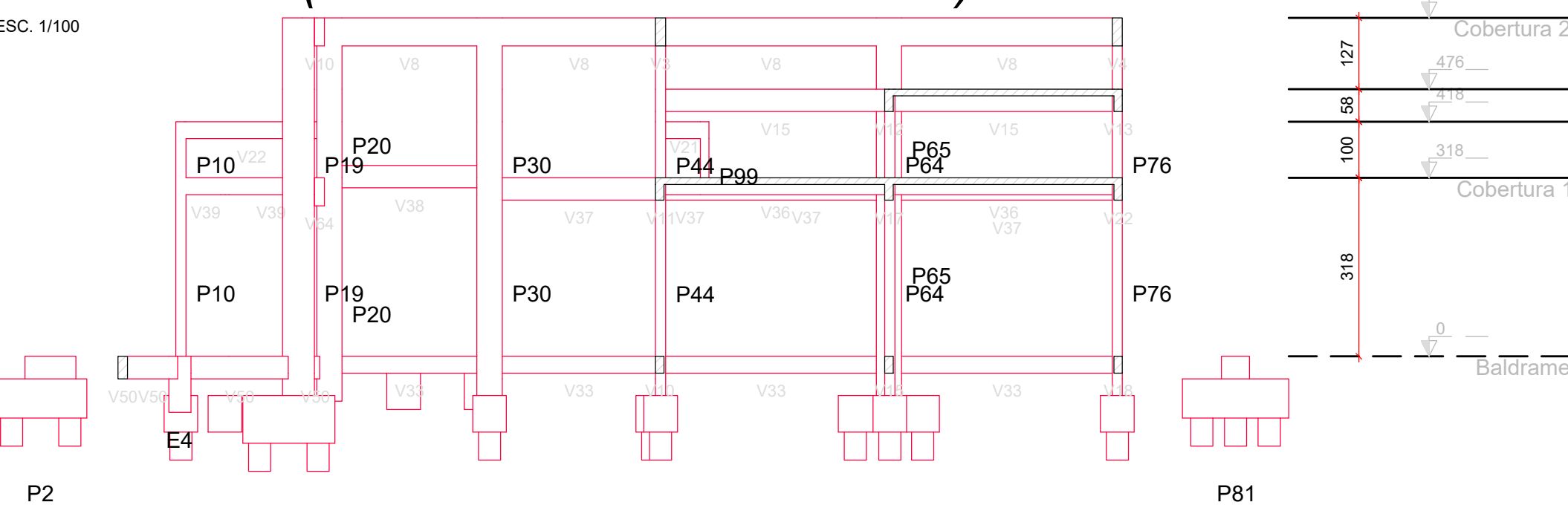
CORTE B-B (EST. DE CONC. ARMADO)



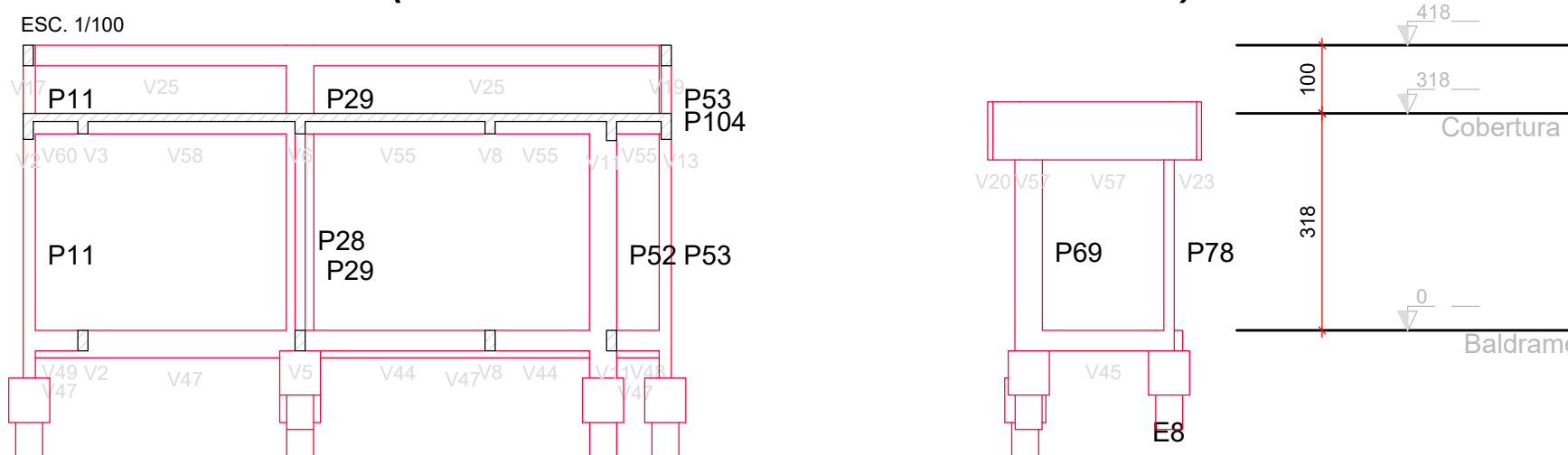
CORTE C-C (EST. DE CONC. ARMADO)



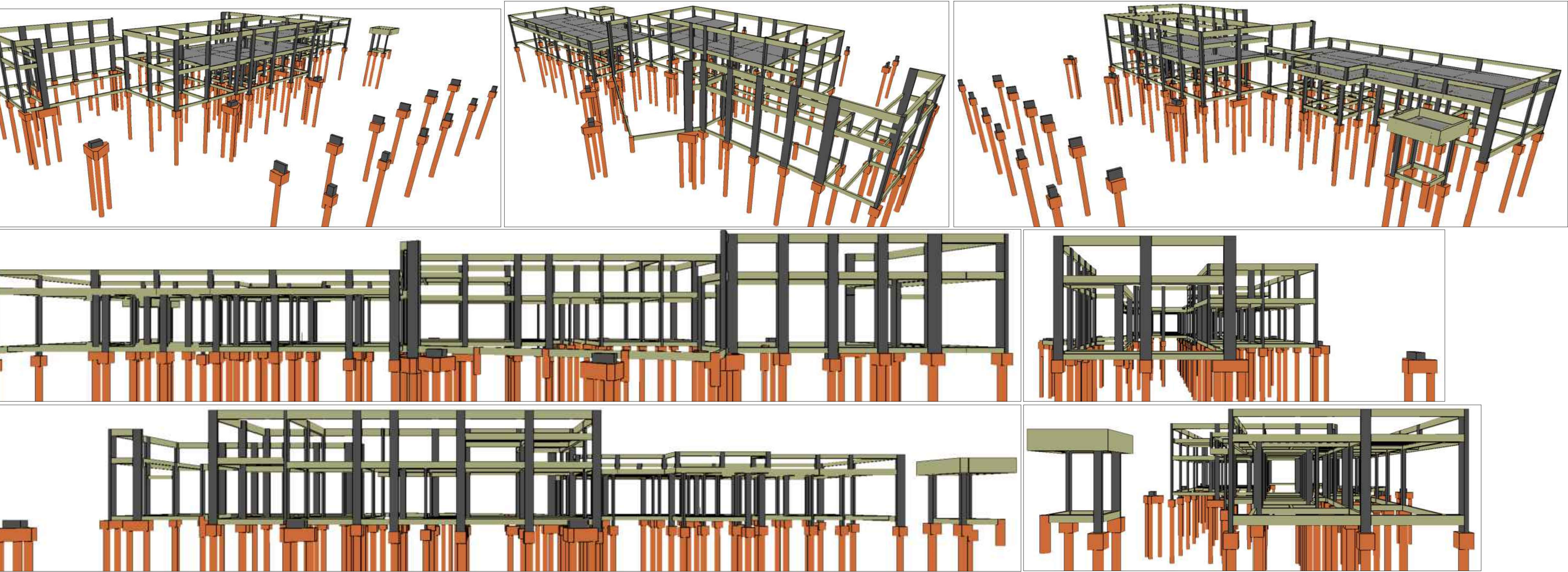
CORTE D-D (EST. DE CONC. ARMADO)



CORTE E-E (EST. DE CONC. ARMADO)



PÓRTICOS ESPACIAIS (EST. DE CONC. ARMADO)



PROJETO ESTRUTURAL



MODELO 3D - ESTRUTURA
Obs: Necessário Internet

OBRA: TERMINAL INTEGRADO RODOVIÁRIO E METROPOLITANO

DATA: JULHO/2025

LOCAL: CENTRO

CIDADE: SANTA TEREZINHA DE ITAIPU - PR 303 87.802

MUNICÍPIO: ANTONIO LUIZ BENDO - PREFEITO MUNICIPAL

PROJETISTA: NATANAEL CARBOLIN DE LIMA CREA-PR: 214962/D
Documento assinado digitalmente
NATANAEL CARBOLIN DE LIMA
Data: 12/13/2025 12:35:23-0300
Verifique em <http://validar.jt.gov.br>

CONTEÚDO:
• CORTE A-A;
• CORTE B-B;
• CORTE C-C;
• CORTE D-D;
• CORTE E-E;
• PÓRTICO ESPACIAL (ESTRUTURA DE CONCRETO ARMADO).

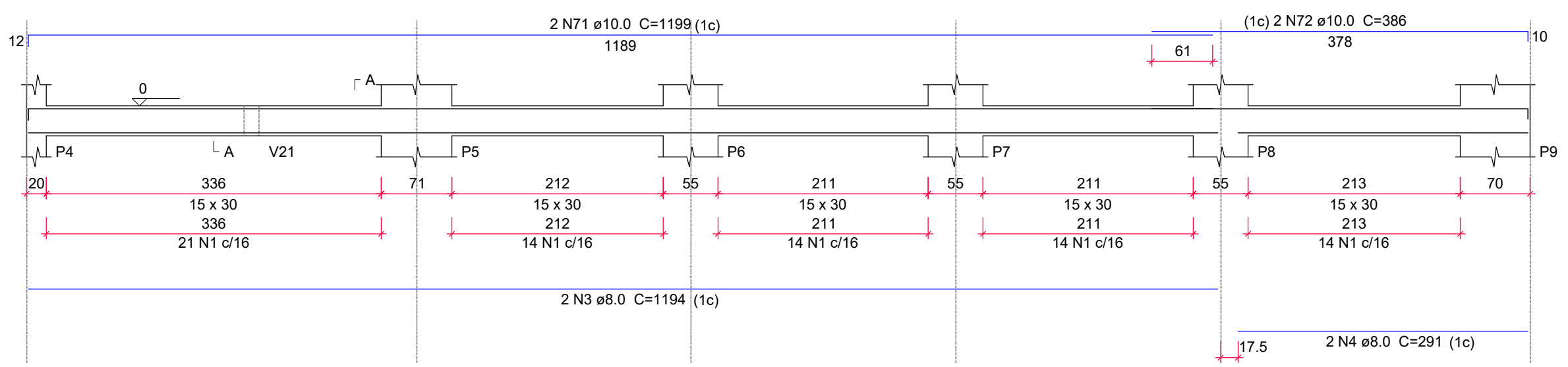
ESPECIFICAÇÃO: ESTRUTURAL REVISÃO: 01 FOLHA: 05/16

ESC. 1/50



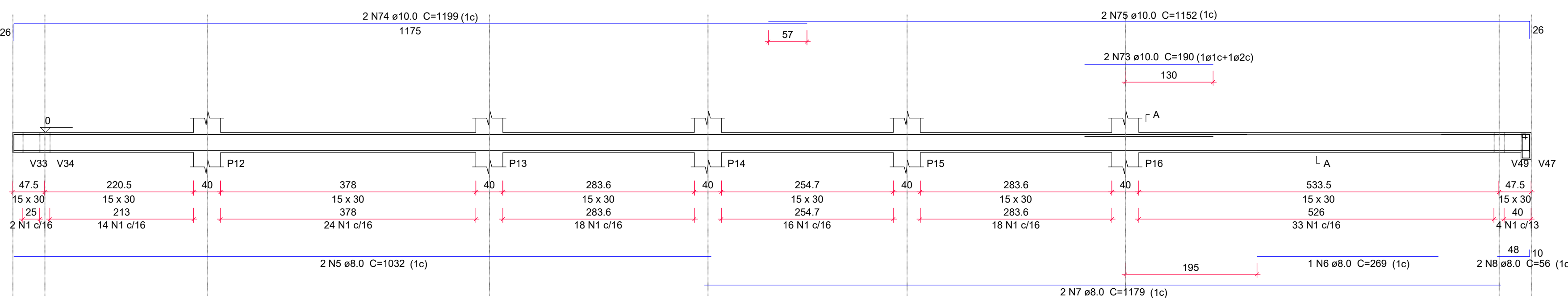
VIGAS BALDRAME

ESC 1:50
V1
ESC 1:50



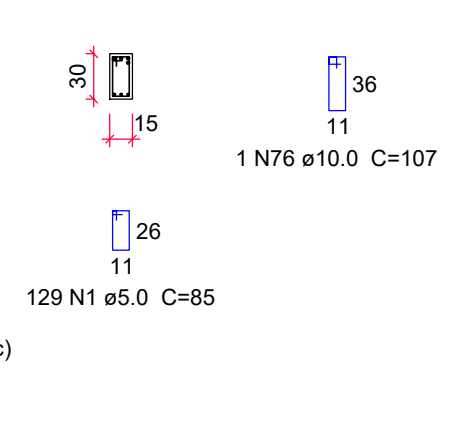
V2

ESC 1:50



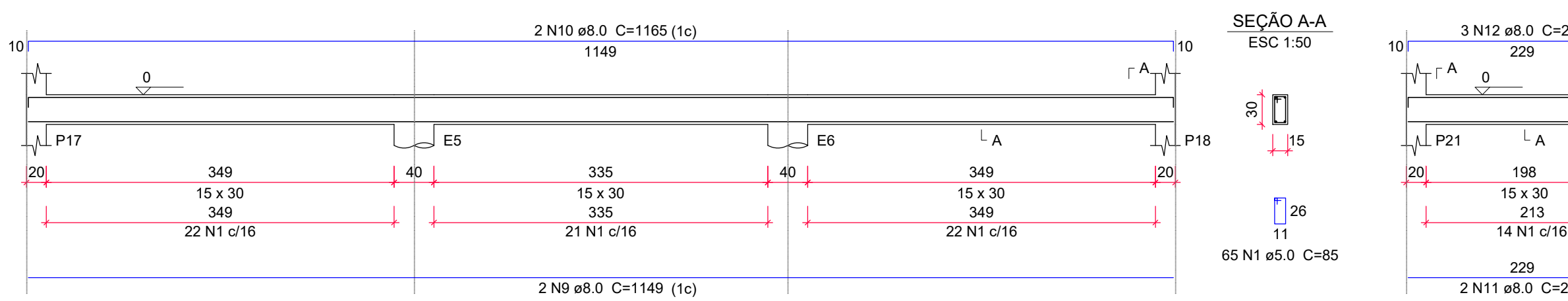
SEÇÃO A-A

ESC 1:50



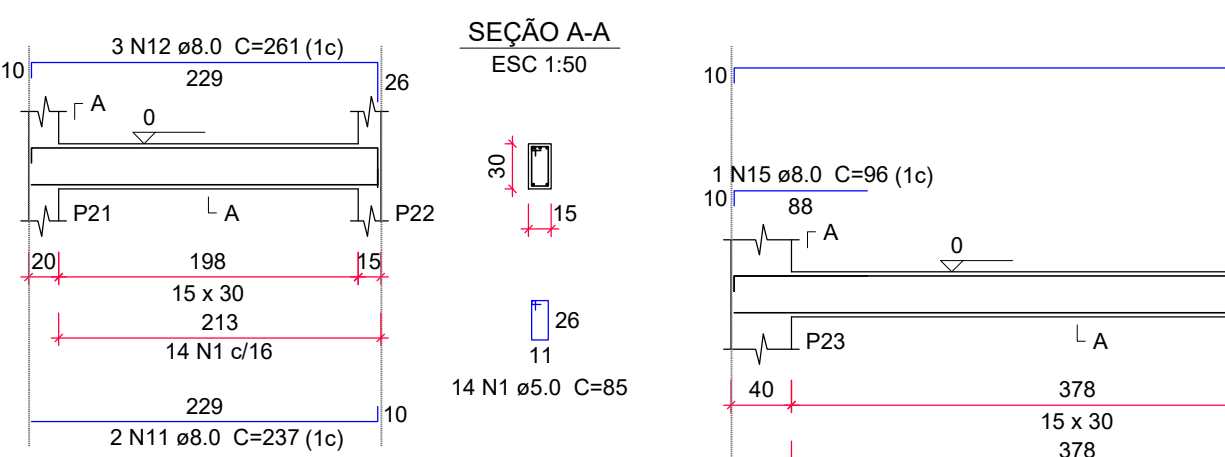
V3

ESC 1:50



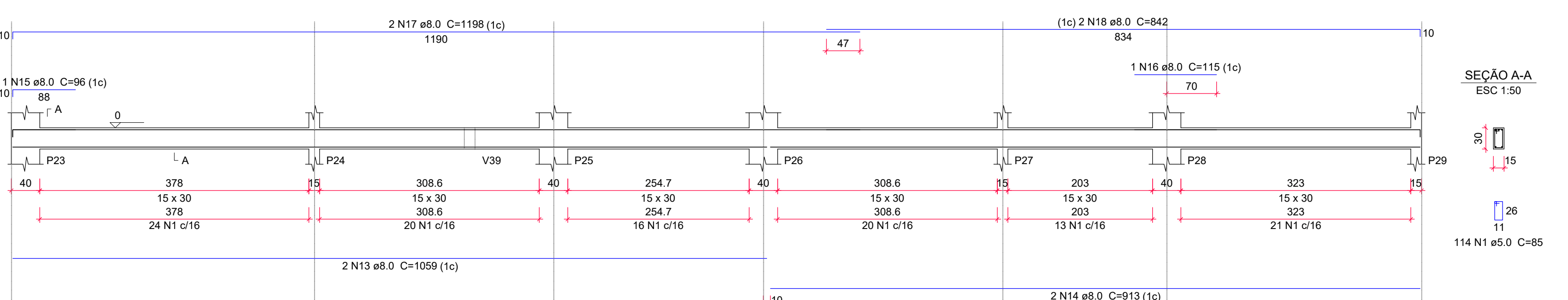
V4

ESC 1:50



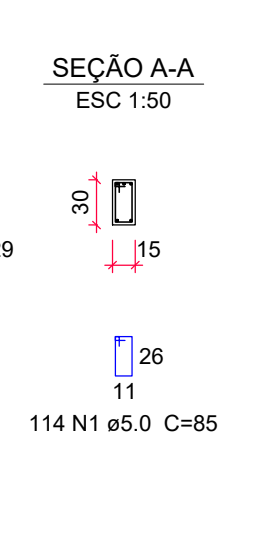
V5

ESC 1:50



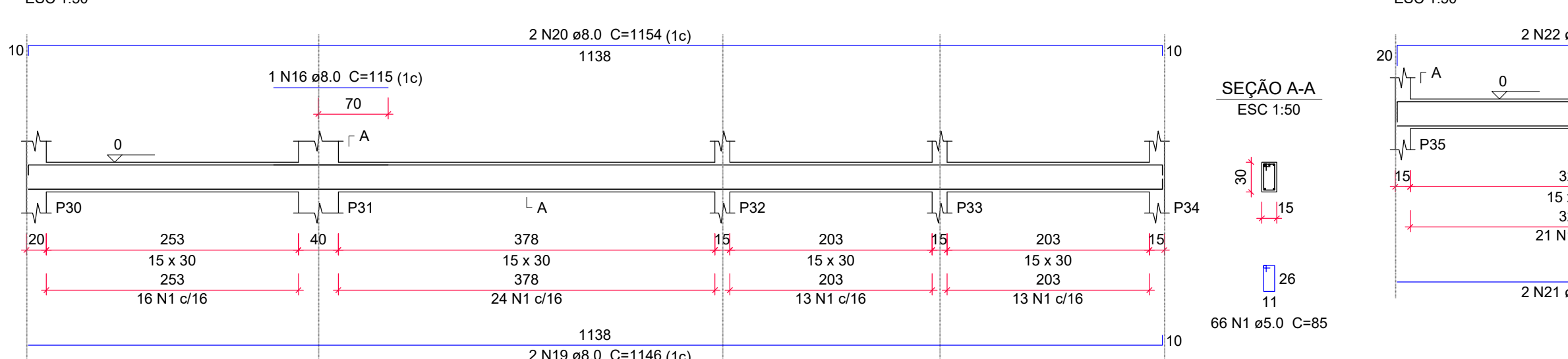
SEÇÃO A-A

ESC 1:50



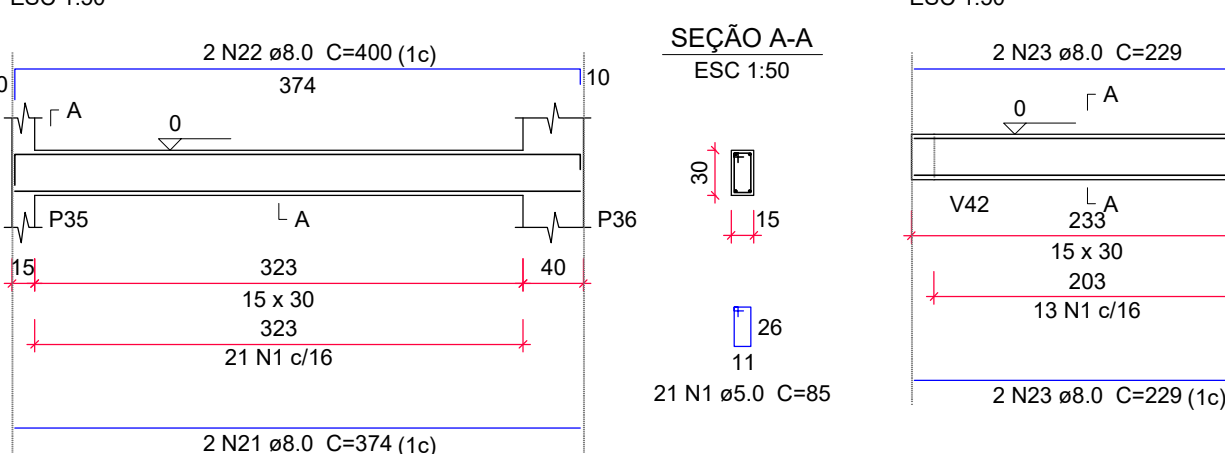
V6

ESC 1:50



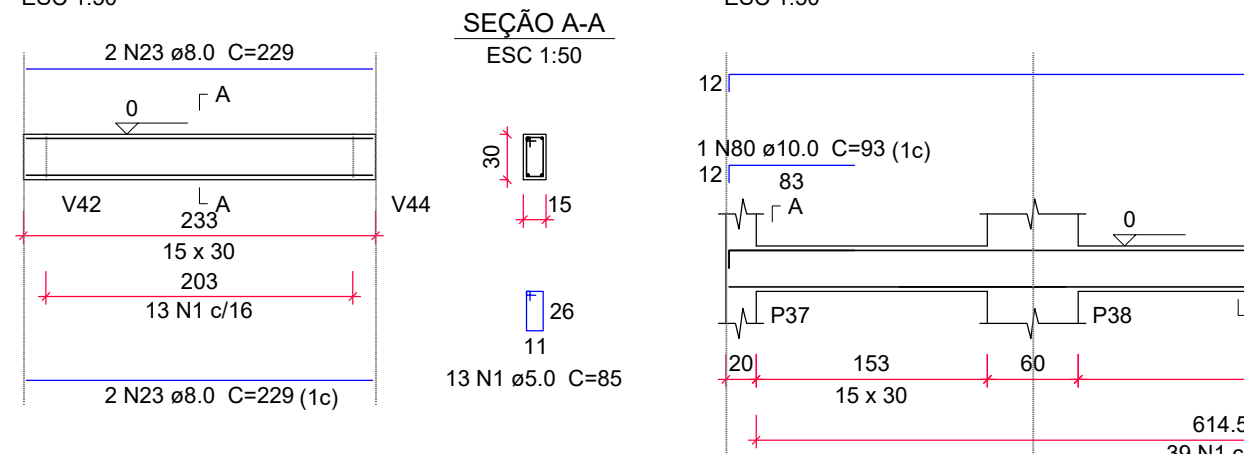
V7

ESC 1:50



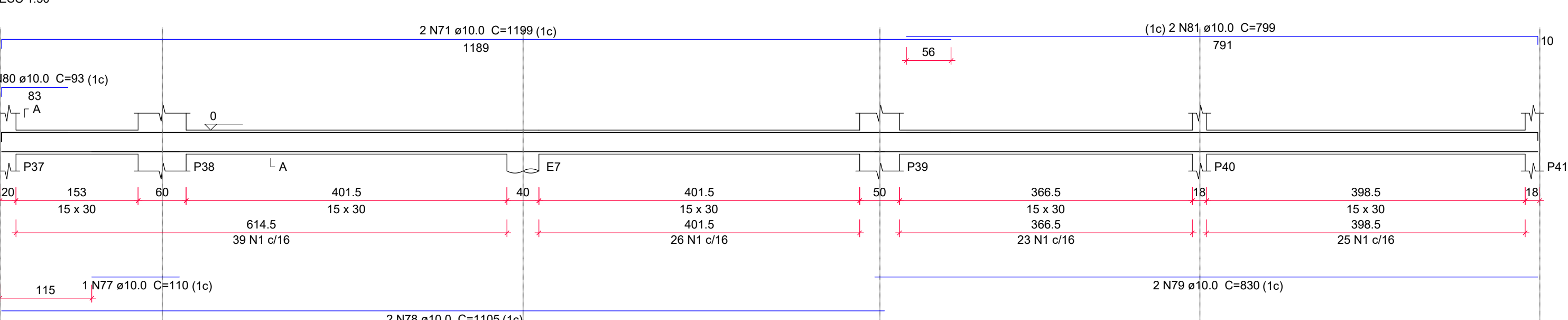
V8

ESC 1:50



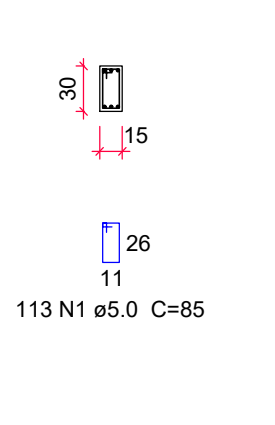
V9

ESC 1:50



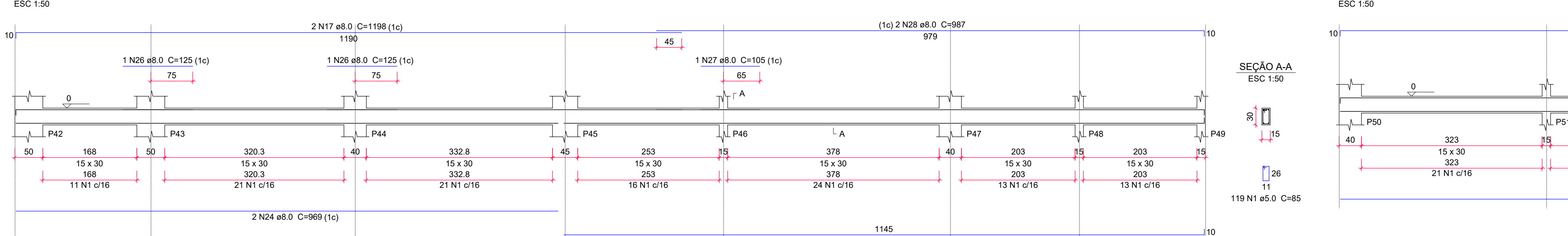
SEÇÃO A-A

ESC 1:50



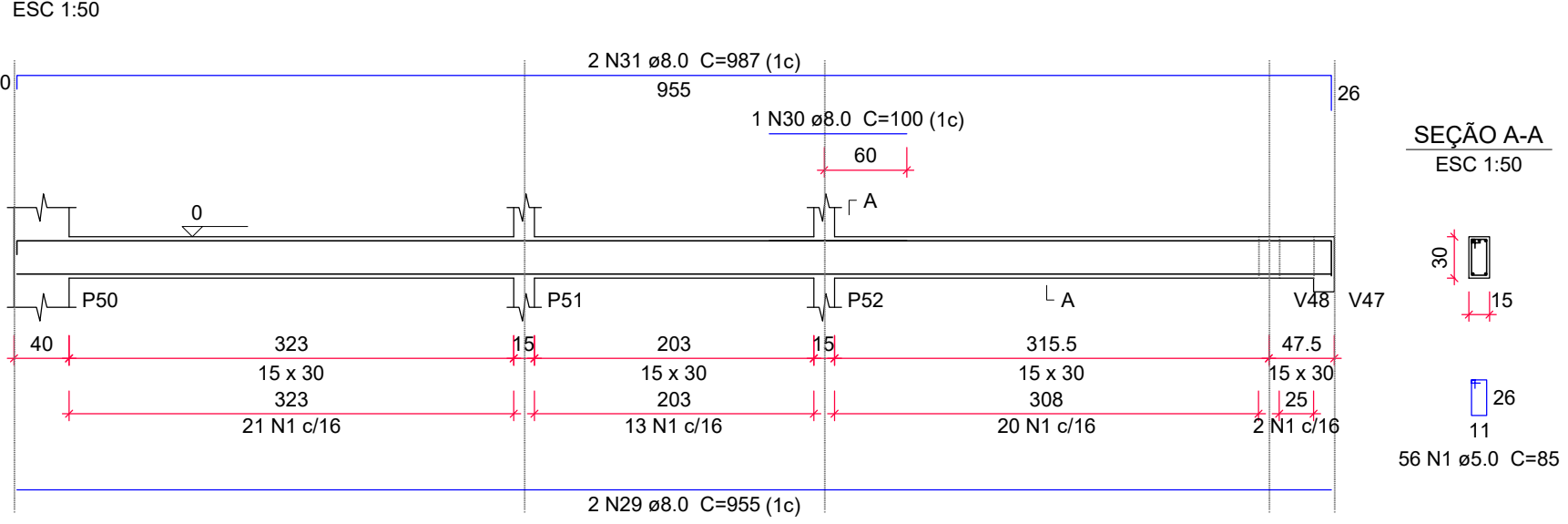
V10

ESC 1:50



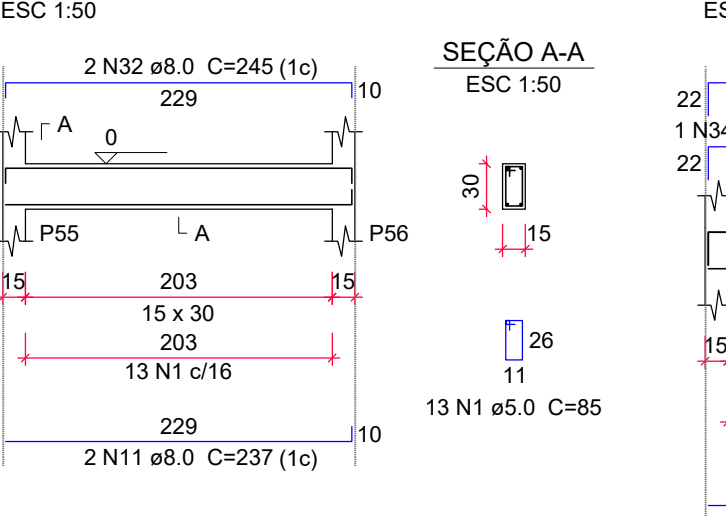
V11

ESC 1:50



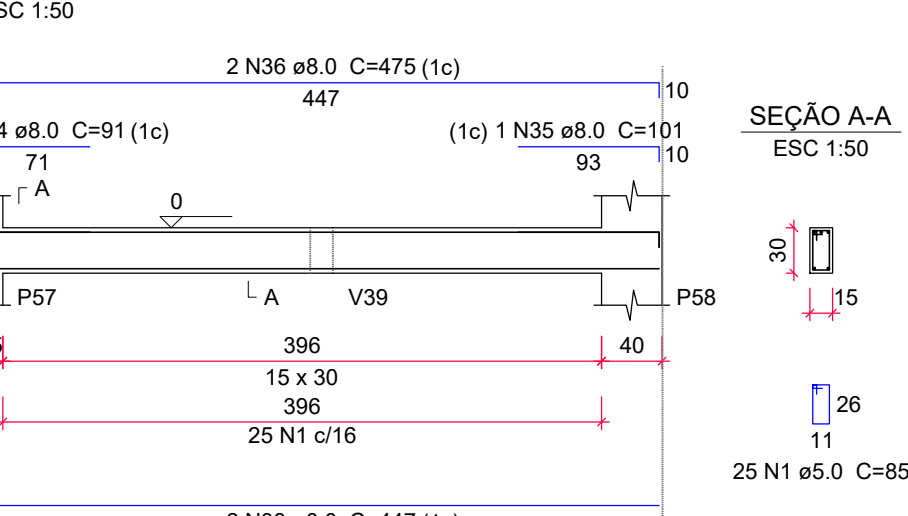
V12

ESC 1:50



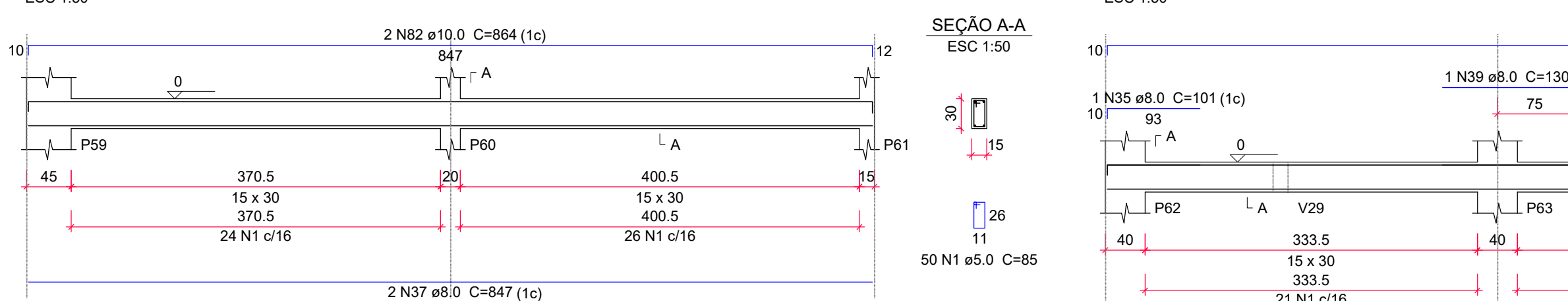
V13

ESC 1:50



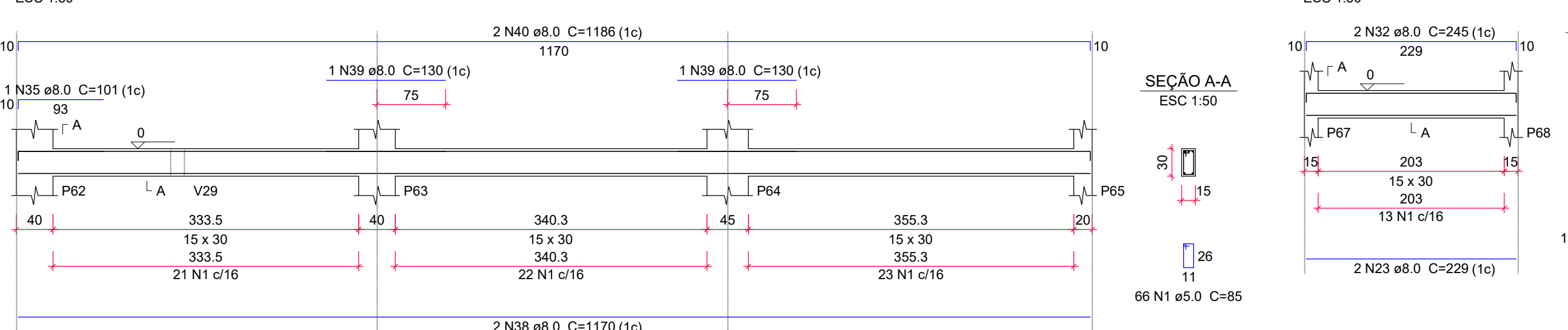
V14

ESC 1:50



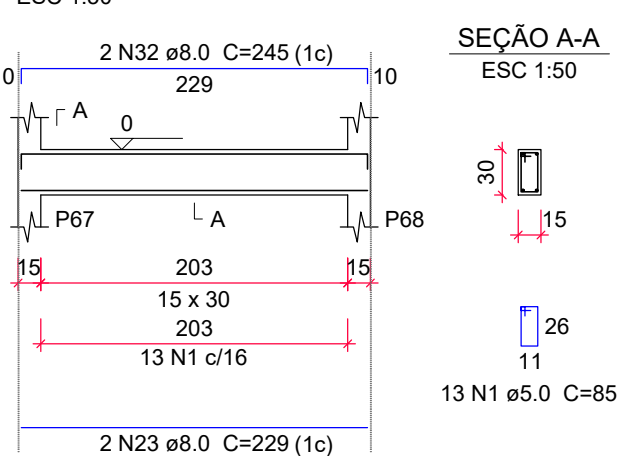
V15

ESC 1:50



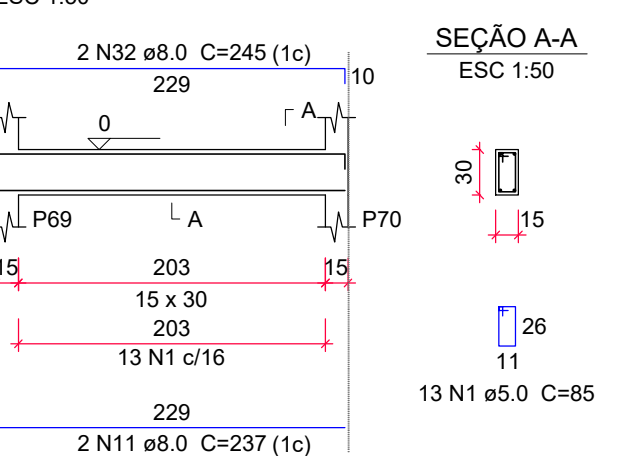
V16

ESC 1:50



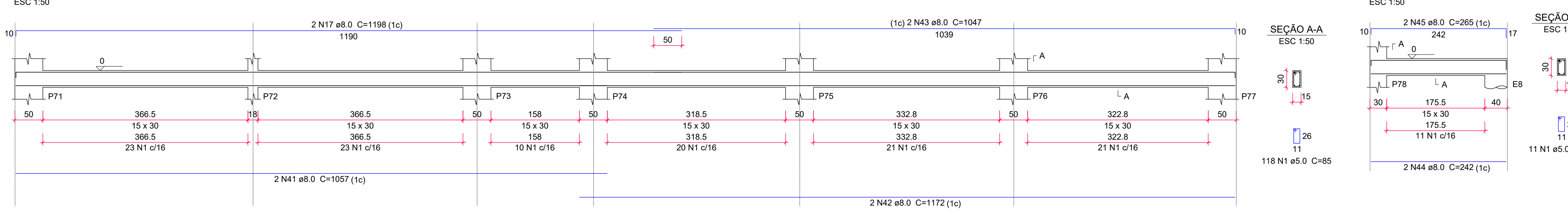
V17

ESC 1:50



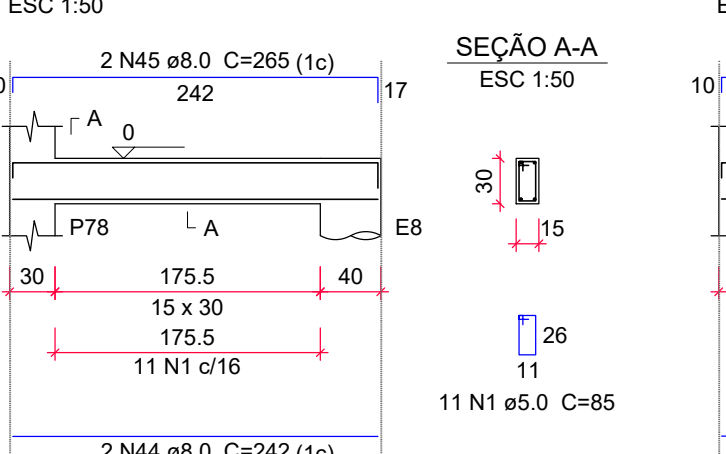
V18

ESC 1:50



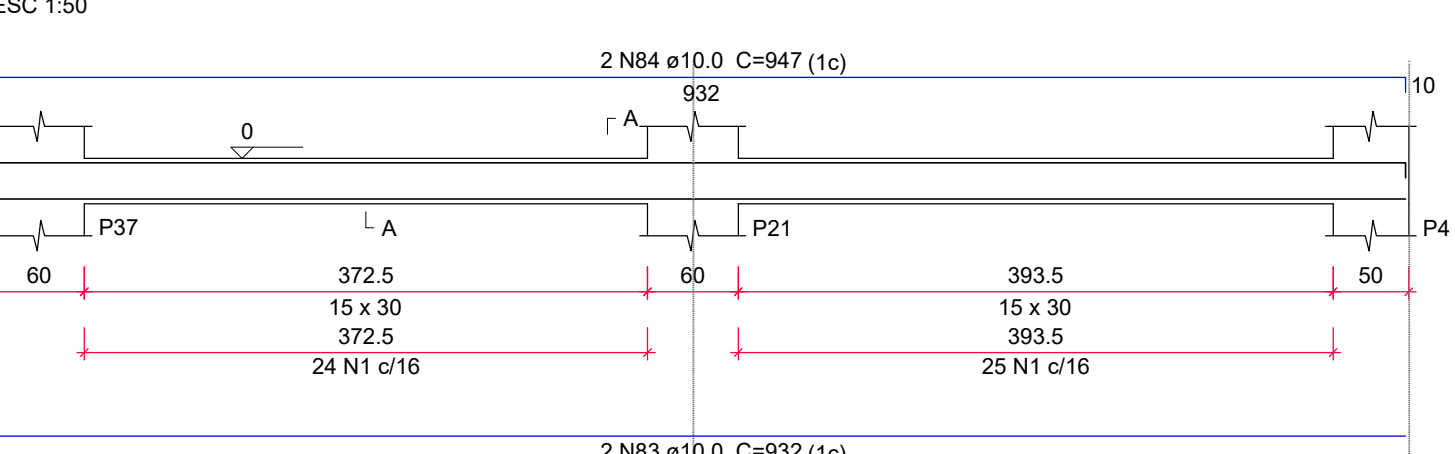
V19

ESC 1:50



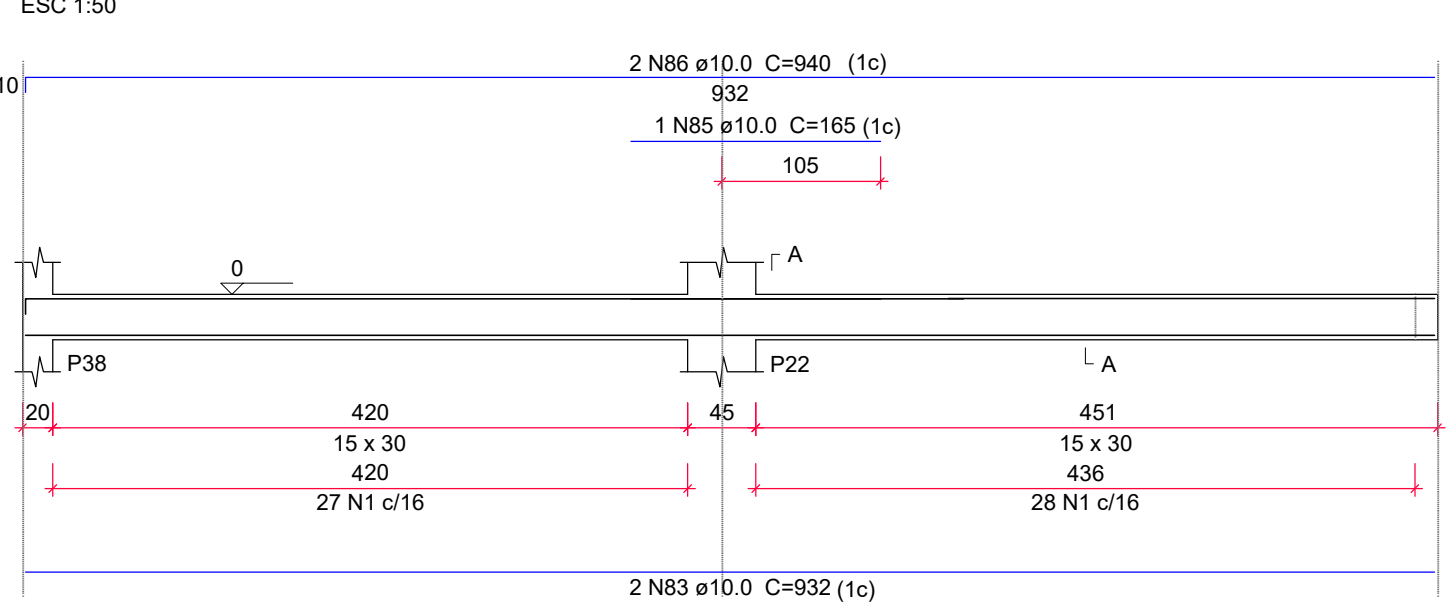
V20

ESC 1:50



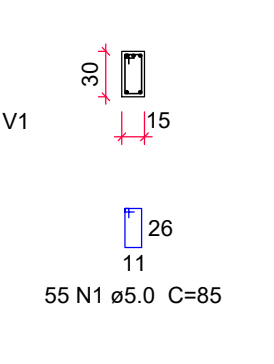
V21

ESC 1:50



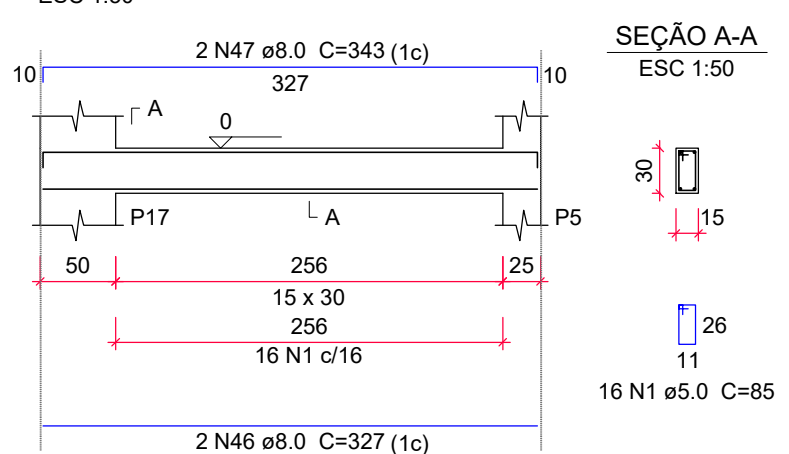
SEÇÃO A-A

ESC 1:50



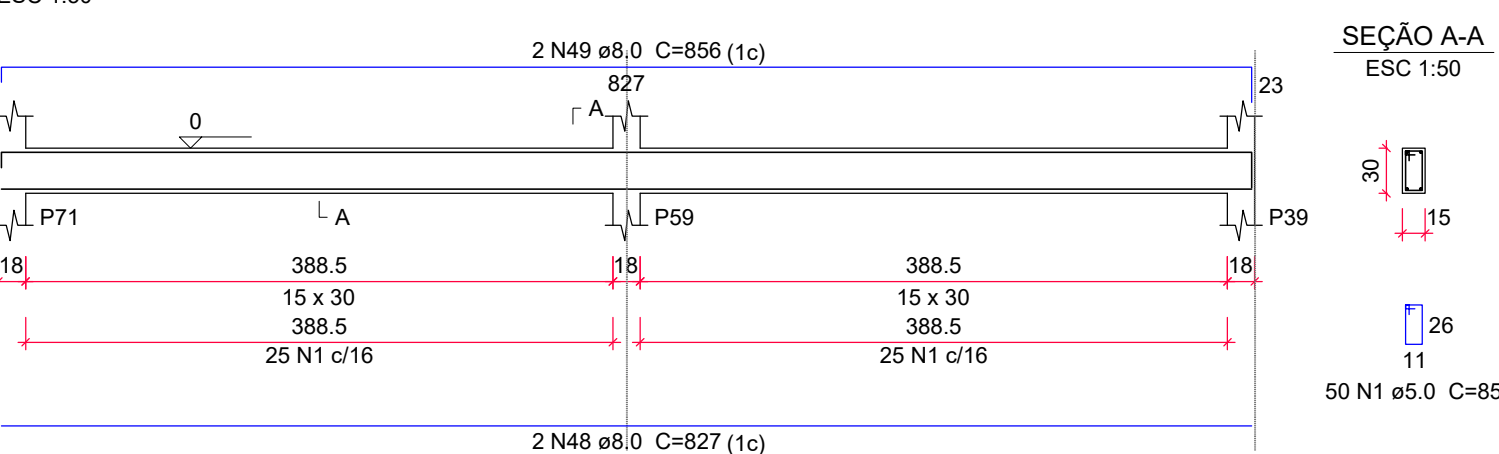
V22

ESC 1:50



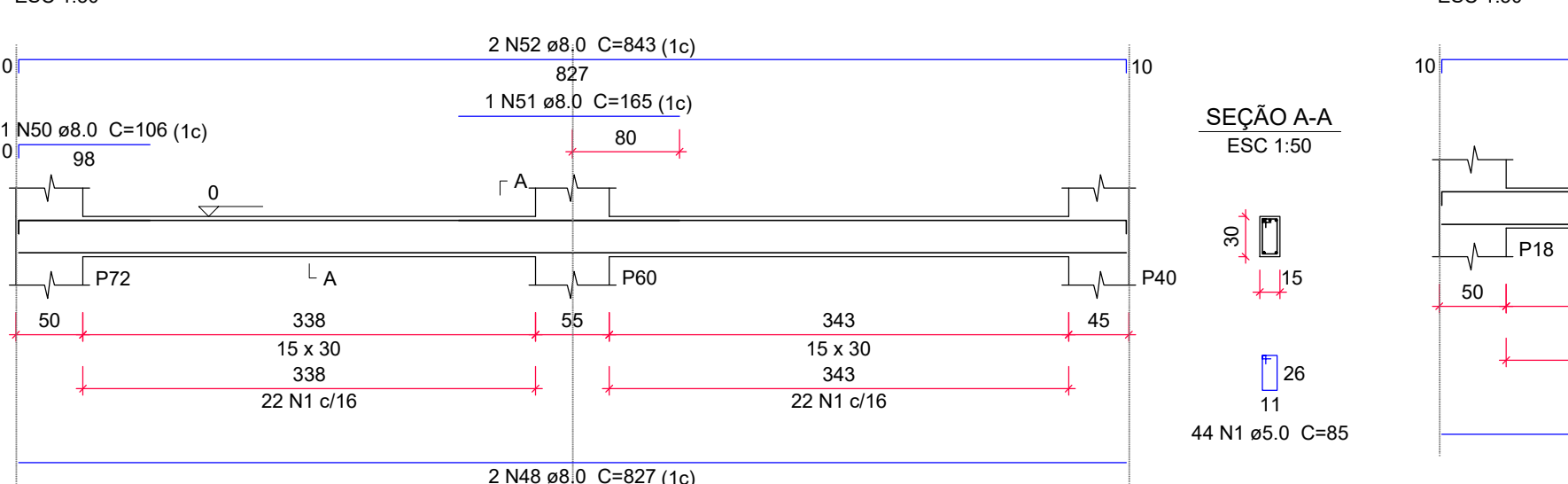
V23

ESC 1:50



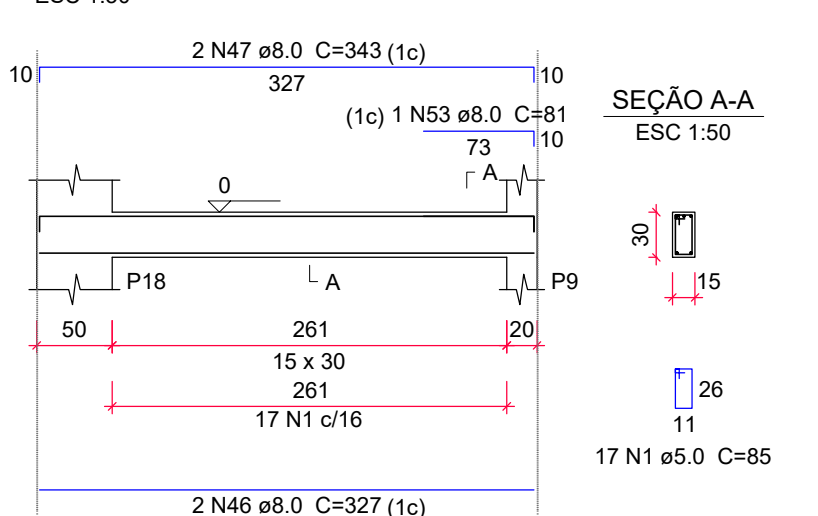
V24

ESC 1:50



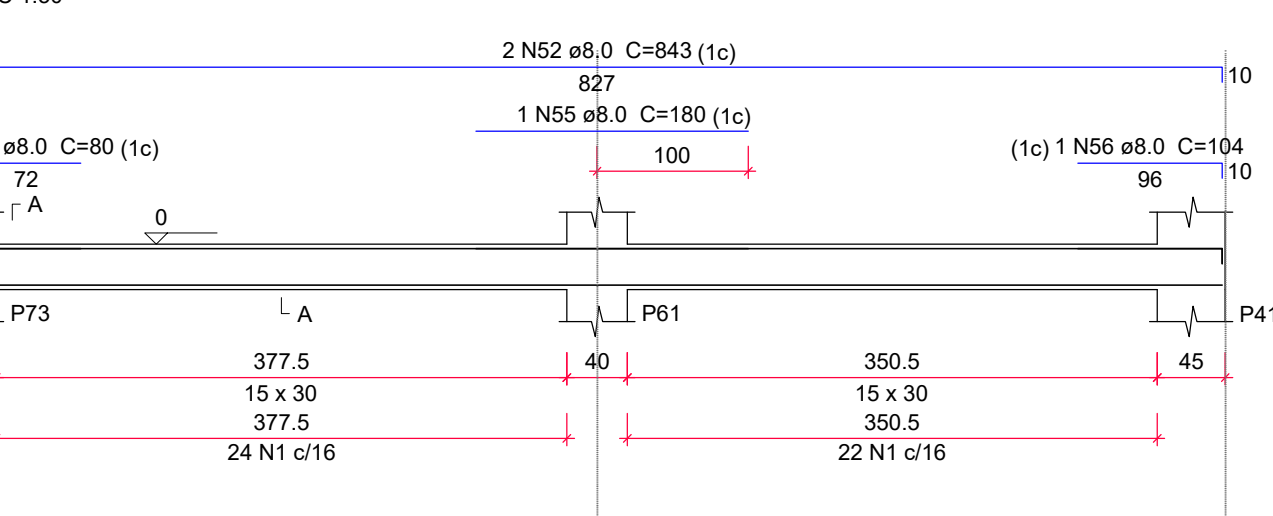
V25

ESC 1:50



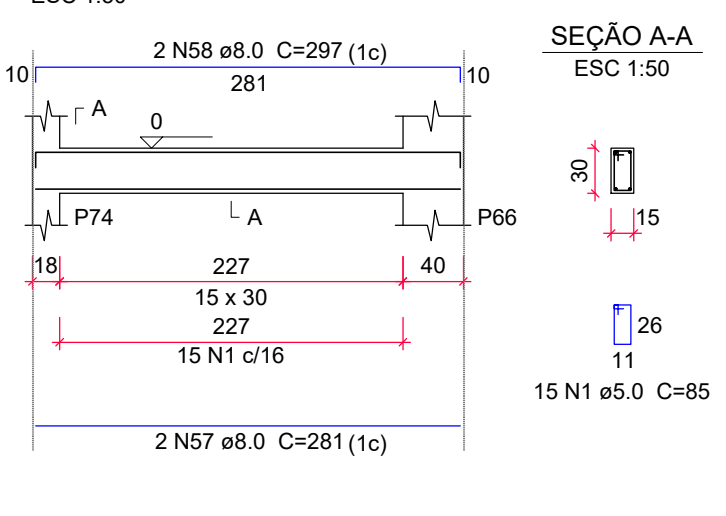
V26

ESC 1:50



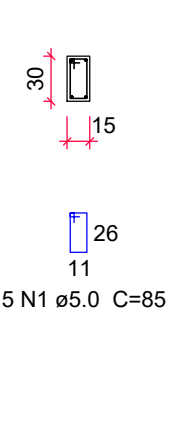
V27

ESC 1:50



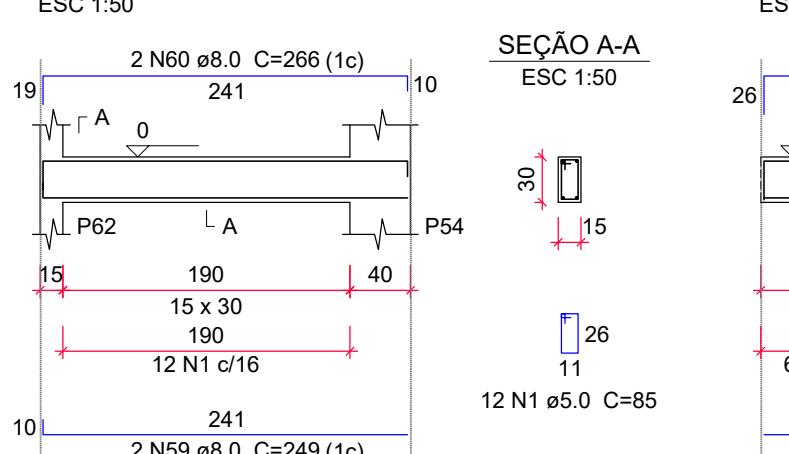
SEÇÃO A-A

ESC 1:50



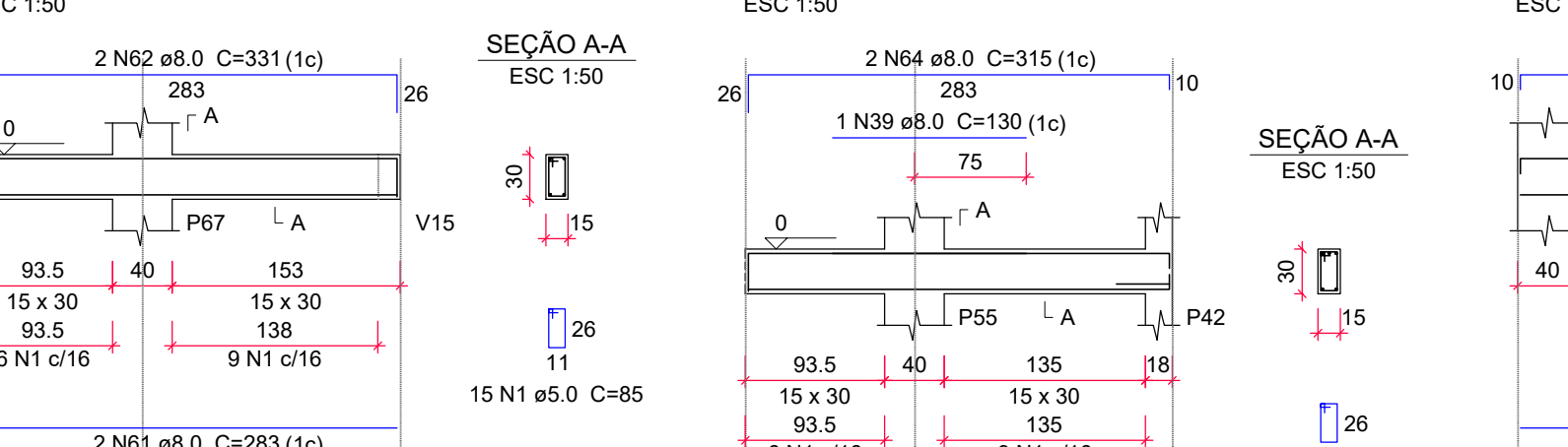
V28

ESC 1:50



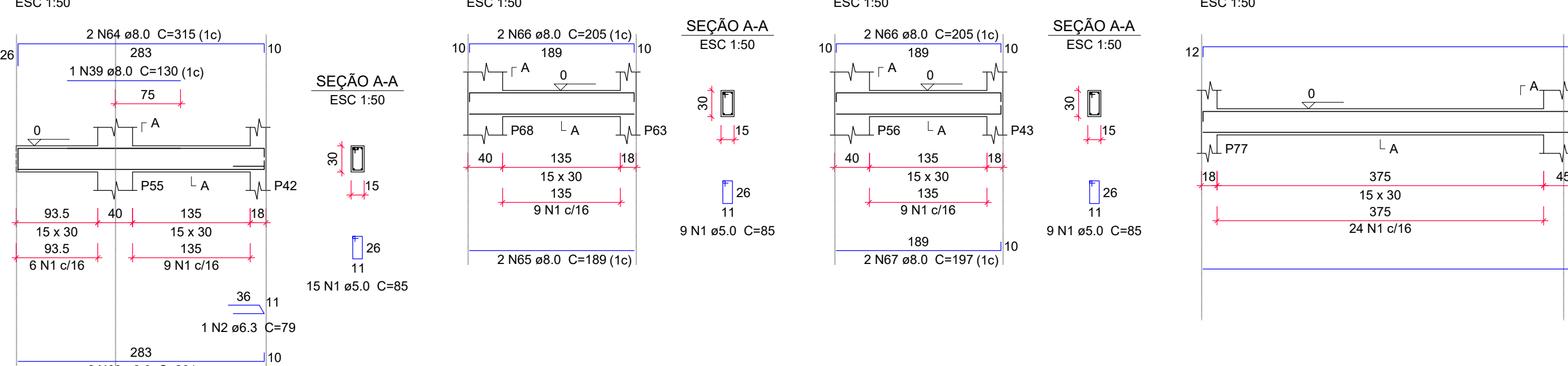
V29

ESC 1:50



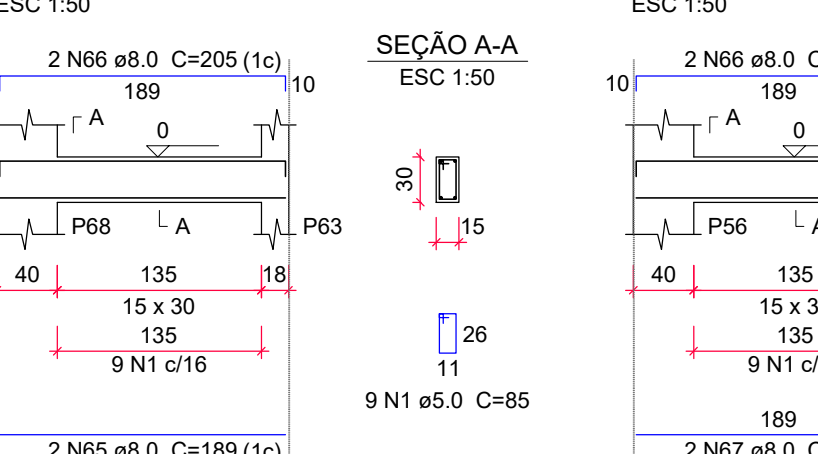
V30

ESC 1:50



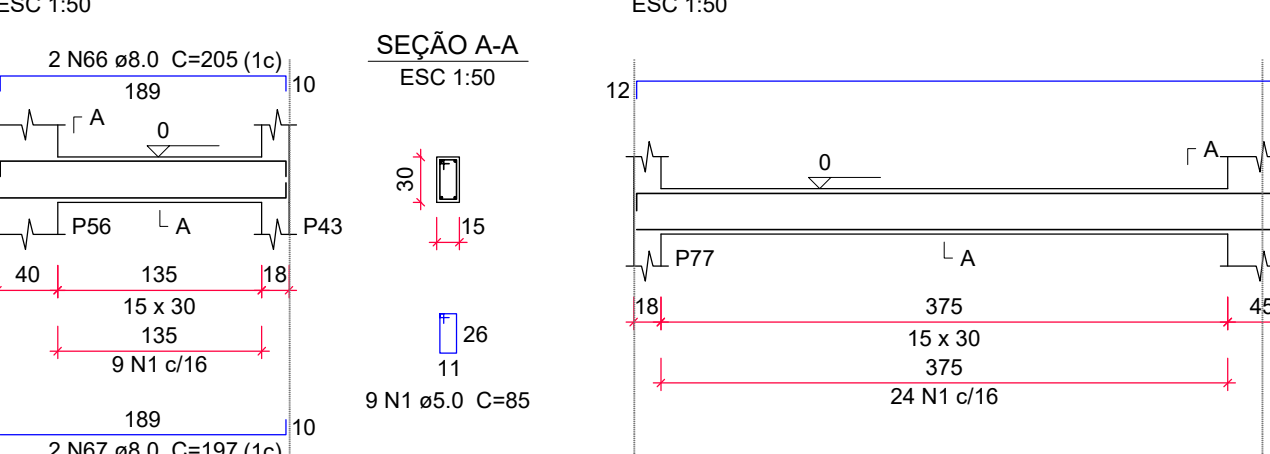
V31

ESC 1:50



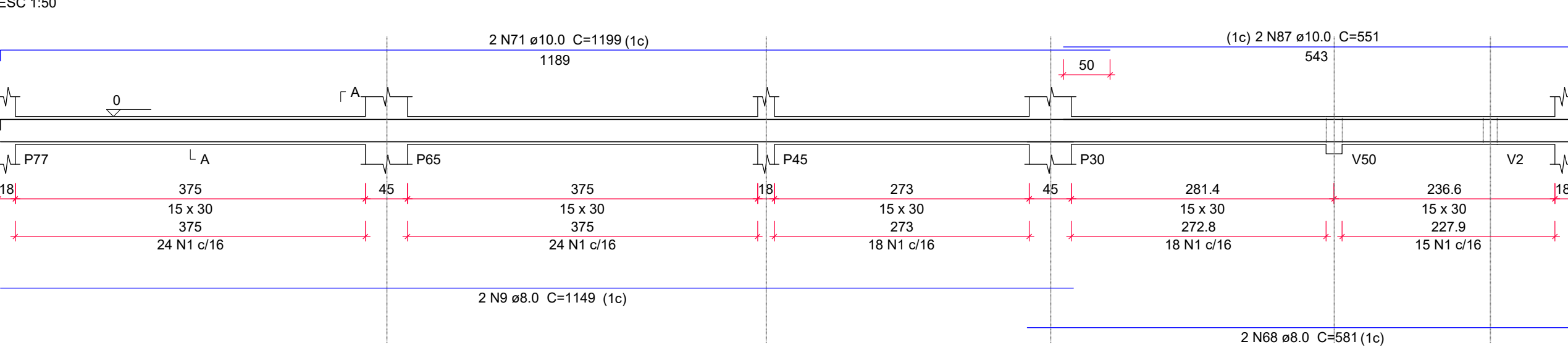
V32

ESC 1:50



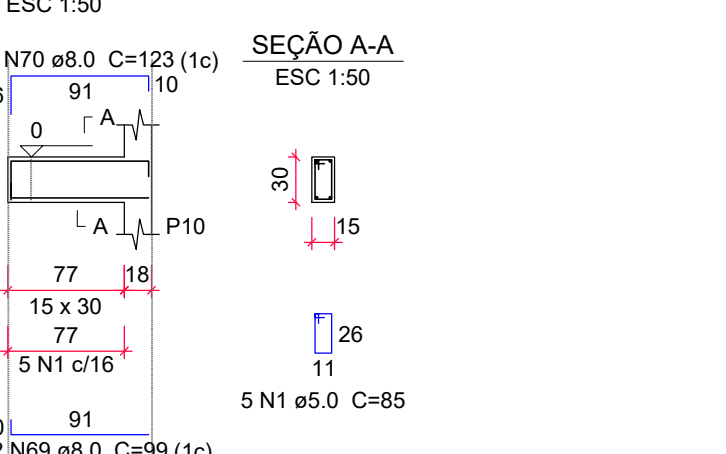
V33

ESC 1:50



V34

ESC 1:50



Relação do aço					
CAO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
V1	1	5.0	1502	85	131920
V2	2	6.3	79	79	79
V3	3	8.0	2	1194	2388
V4	4	8.0	2	291	582
V5	5	8.0	2	1032	2064
V6	6	8.0	1	209	209
V7	7	8.0	2	1179	2358
V8	8	8.0	2	56	112
V9	9	8.0	4	1149	4596
V10	10	8.0	2	1165	2330
V11	11	8.0	2	237	474
V12	12	8.0	3	261	783
V13	13	8.0	2	1059	2118
V14	14	8.0	2	913	1826
V15	15	8.0	1	96	96
V16	16	8.0	2	115	230
V17	17	8.0	6	1198	7188
V18	18	8.0	2	842	1684
V19	19	8.0	2	1146	2292
V20	20	8.0	2	1154	2308
V21	21	8.0	4	374	1496
V22	22	8.0	2	400	800
V23	23	8.0	2	229	458
V24	24	8.0	2	969	1938
V25	25	8.0	2	1153	2306
V26	26	8.0	2	125	250
V27	27	8.0	1	105	105
V28	28	8.0	2	867	1734
V29	29	8.0	2	855	1710
V30	30	8.0	1	100	100
V31	31	8.0	2	587	1174
V32	32	8.0	6	245	1470
V33	33	8.0	2	447	894
V34	34	8.0	1	81	81
V35	35	8.0	2	101	202
V36	36	8.0	2	475	950
V37	37	8.0	2	847	1694
V38	38	8.0	2	1170	2340
V39	39	8.0	3	130	390
V40	40	8.0	2	1198	2372
V41	41	8.0	2	1057	2114
V42	42	8.0	2	1172	2344
V43	43	8.0	2	1047	2094
V44	44	8.0	2	684	1368
V45	45	8.0	2	255	510
V46	46	8.0	4	327	1308
V47	47	8.0	4	343	1372
V48	48	8.0	6	827	4962
V49	49	8.0	2	656	1312
V50	50	8.0	1	106	106
V51	51	8.0	1	165	165
V52	52	8.0	4	843	3372
V53	53	8.0	1	81	81
V54	54	8.0	2	327	654
V55	55	8.0	1	180	180
V56	56	8.0	1	104	104
V57	57	8.0	2	291	582
V58	58	8.0	2	297	594
V59	59	8.0	2	249	498
V60	60	8.0	2	266	532
V61	61	8.0	2	283	566
V62	62	8.0	2	331	662
V63	63	8.0	2	291	582
V64	64	8.0	2	315	630
V65	65	8.0	2	199	398
V66	66	8.0	4	205	820
V67	67	8.0	2	197	394
V68	68	8.0	2	581	1162
V69	69	8.0	2	99	198
V70	70	8.0	2	123	246
V71	71	10.0	6	1199	7194
V72	72	10.0	2	386	772
V73	73	10.0	2	190	380
V74	74	10.0	2	1189	2378
V75	75	10.0	2	1152	2304
V76	76	10.0	1	107	107
V77	77	10.0	1	110	110
V78	78	10.0	2	1105	2210
V79	79	10.0	2	830	1660
V80	80	10.0	1	93	93
V81	81	10.0	2	799	1598
V82	82	10.0	2	864	1728
V83	83	10.0	4	932	3728
V84	84	10.0	2	947	1894
V85	85	10.0	1	165	165
V86	86	10.0	2	940	1880
V87	87	10.0	2	551	1102

Resumo do aço					
CAO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 %	PESO + 10 %	
CASO	6.3	0.8	1	0.2	
CASO	8.0	873.6	81	379.2	
CASO	10.0	290.3	27	198.9	
CASO	5.0	1319.2	-	223.7	
PESO TOTAL					
CASO	578.3				
CASO	223.7				

Volume de concreto (C-30) = 10.94 m³
Área de forma = 182.5 m²

PROJETO ESTRUTURAL



MODELO 3D - ESTRUTURA

Obs: Necessário Internet

OPERA: TERMINAL INTEGRADO RODOVIÁRIO E METROPOLITANO

LOCAL: CENTRO

MUNICÍPIO: ANTONIO LUIZ BENDO - PREFEITO MUNICIPAL

CONTEÚDO: VIGAS BALDRAME

DATA: JULHO/2025

DESENHO: SANTA TEREZINHA DE ITAPUI - PR

PROJETO: NATANIEL CARBOLIN DE LIMA

REVISÃO: 01

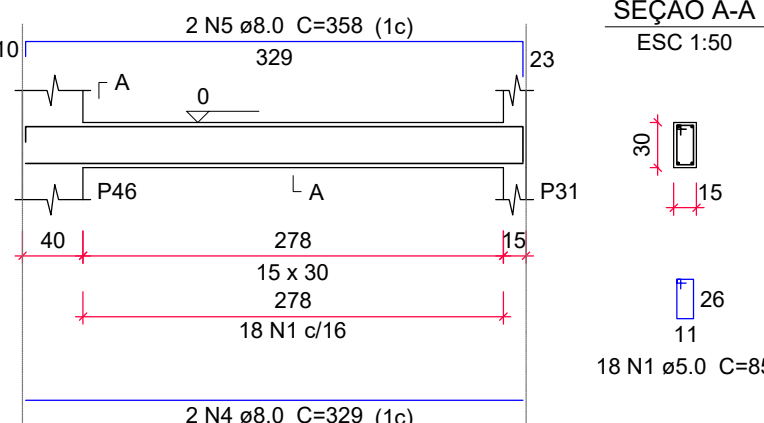
FOLHA: 07/16

VIGAS BALDRAME

ESC. 1/50

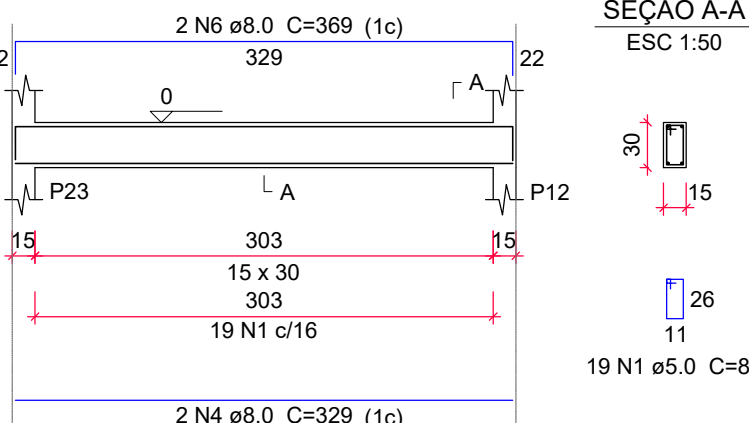
V35

ESC. 1:50



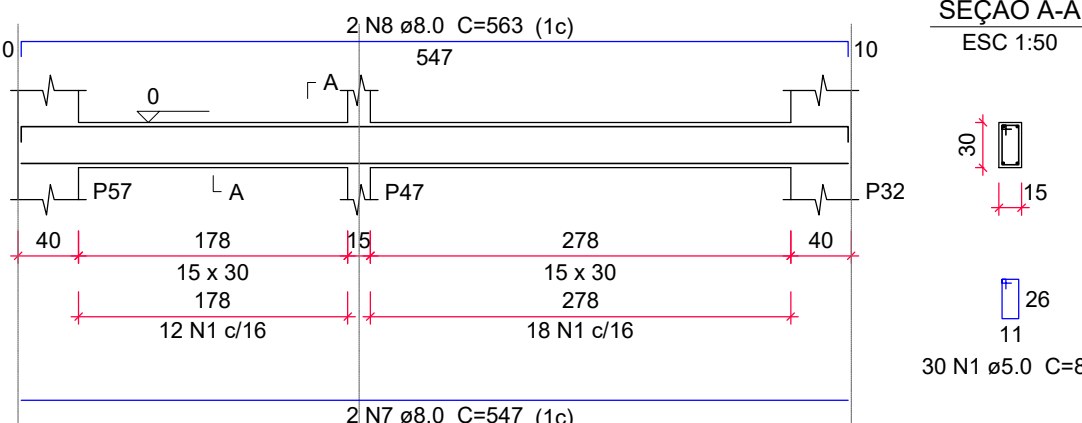
V36

ESC. 1:50



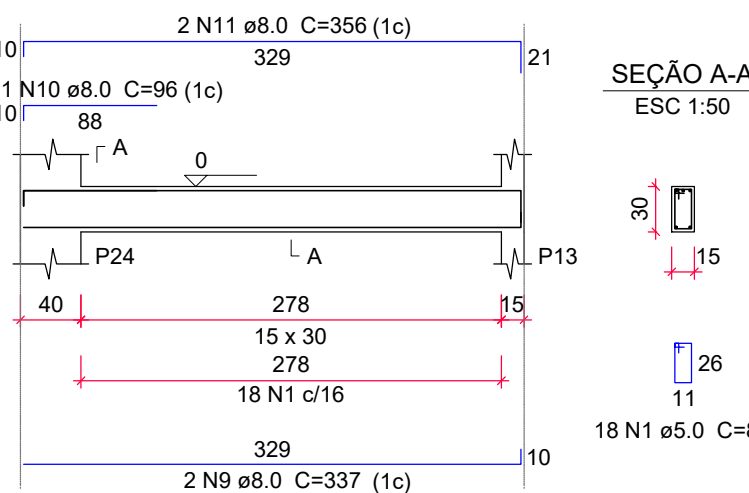
V37

ESC. 1:50



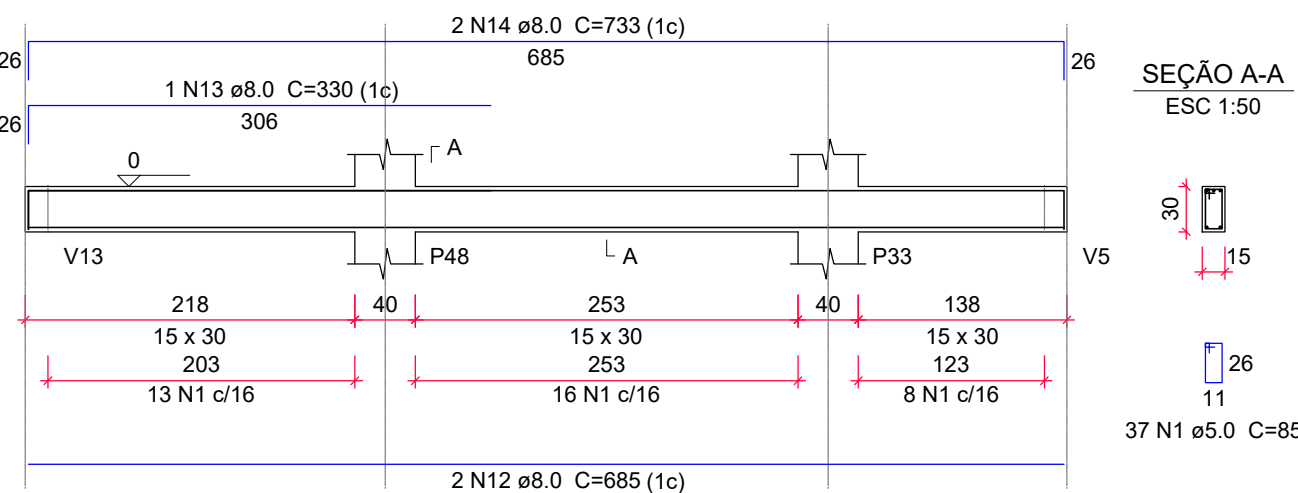
V38

ESC. 1:50



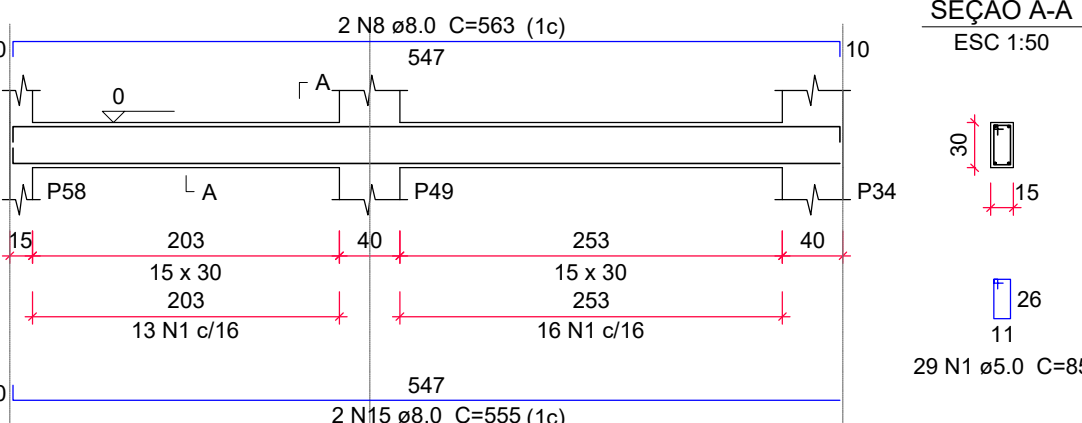
V39

ESC. 1:50



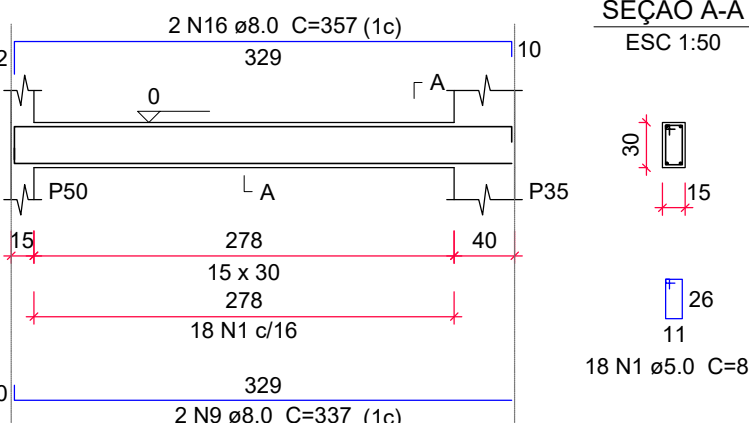
V40

ESC. 1:50



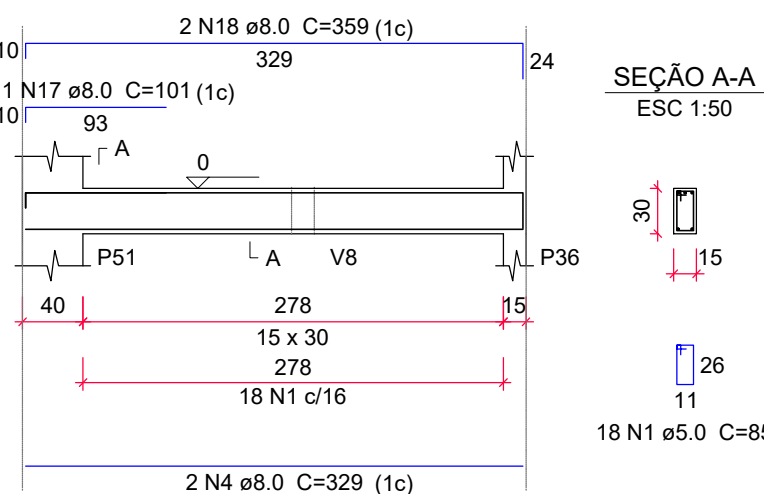
V41

ESC. 1:50



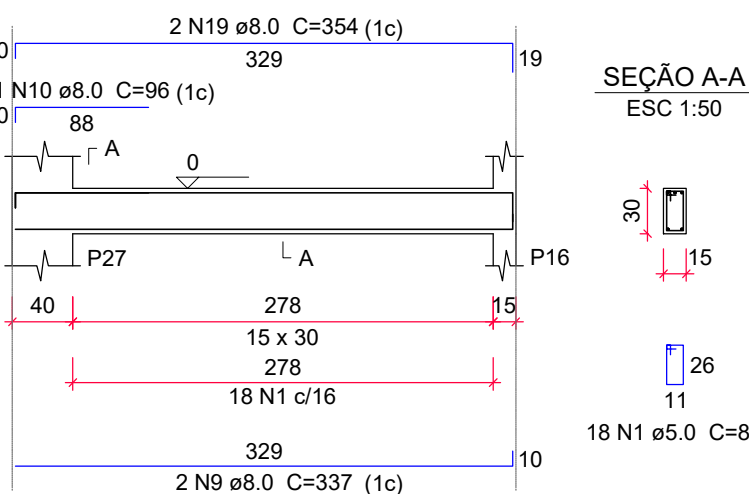
V42

ESC. 1:50



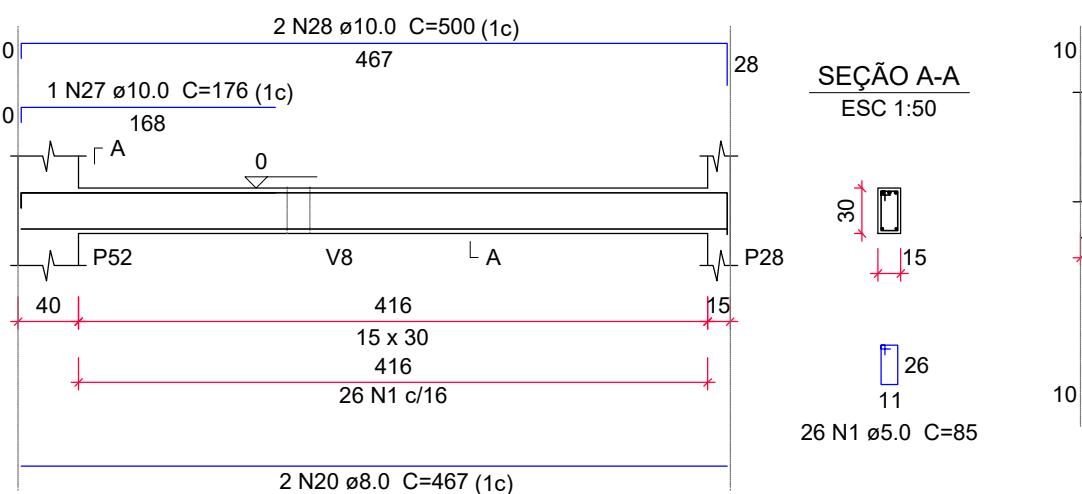
V43

ESC. 1:50



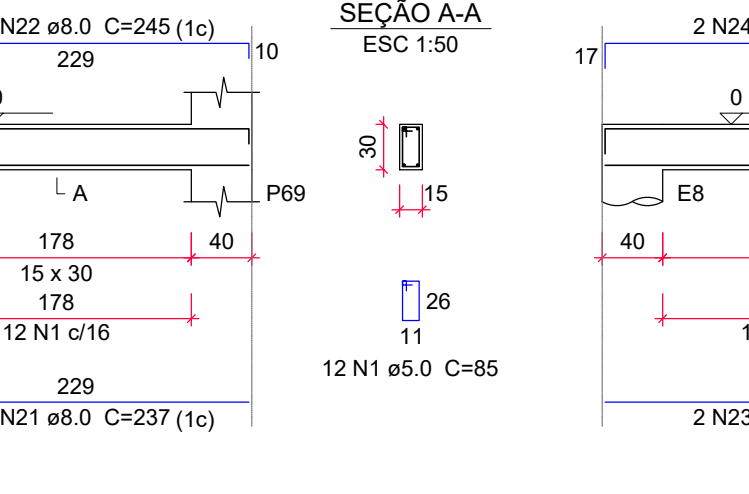
V44

ESC. 1:50



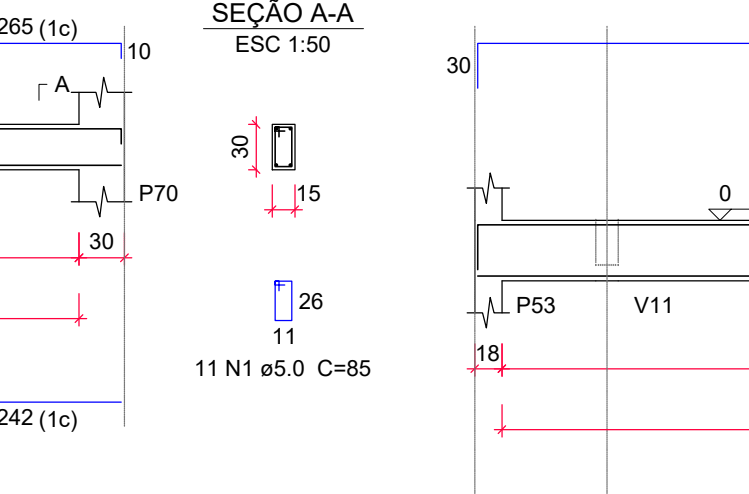
V45

ESC. 1:50



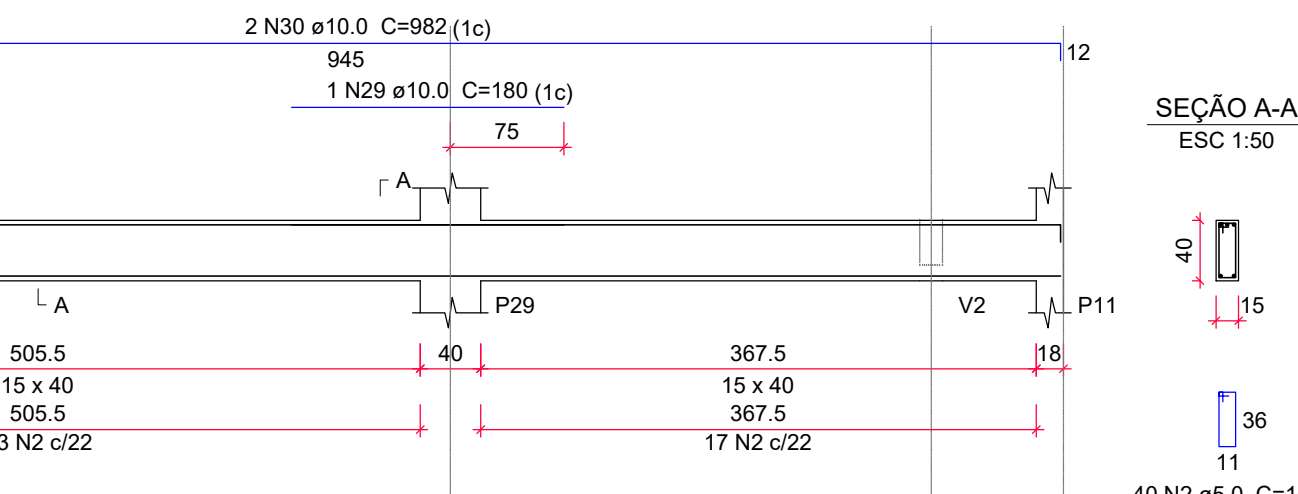
V46

ESC. 1:50



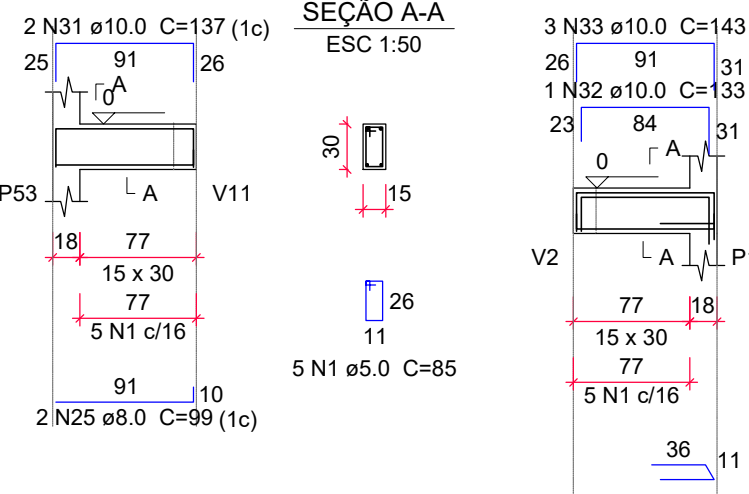
V47

ESC. 1:50



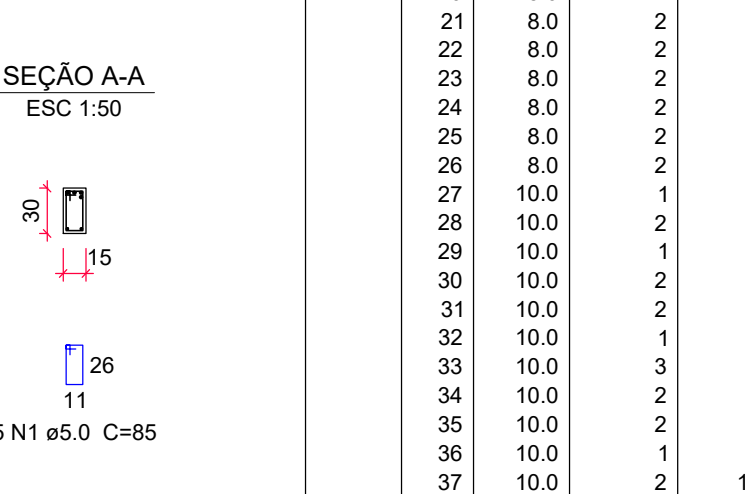
V48

ESC. 1:50



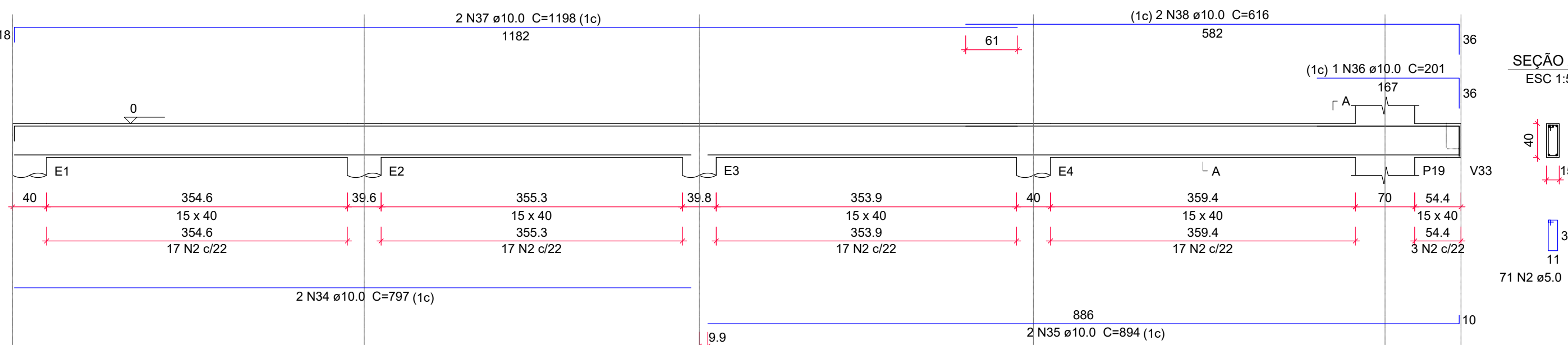
V49

ESC. 1:50



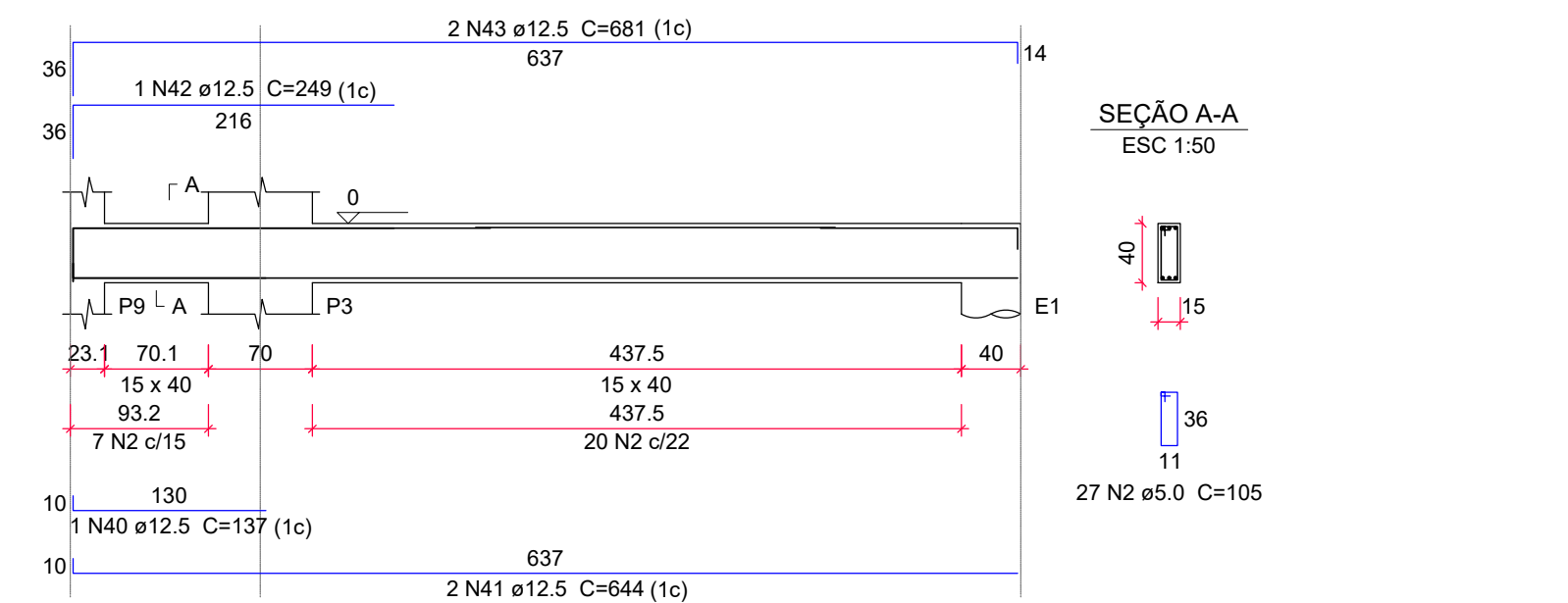
V50

ESC. 1:50



V51

ESC. 1:50



Relação do aço

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C-TOTAL (cm)
V35	V36	V37			
V38	V39	V40			
V41	V42	V43			
V44	V45	V46			
V47	V48	V49			
V50	V51				
CA60	1	5.0	264	85	22440
CA50	2	5.0	138	105	14490
	3	6.3	1	79	79
	4	8.0	6	329	1974
	5	8.0	2	358	716
	6	8.0	2	369	738
	7	8.0	2	547	1094
	8	8.0	4	563	2252
	9	8.0	6	337	2022
	10	8.0	2	96	192
	11	8.0	2	356	712
	12	8.0	2	685	1370
	13	8.0	1	330	330
	14	8.0	2	733	1466
	15	8.0	2	555	1110
	16	8.0	2	357	714
	17	8.0	1	101	101
	18	8.0	2	359	718
	19	8.0	2	354	708
	20	8.0	2	467	934
	21	8.0	2	237	474
	22	8.0	2	245	490
	23	8.0	2	242	484
	24	8.0	2	265	530
	25	8.0	2	99	198
	26	8.0	2	107	214
	27	10.0	1	176	176
	28	10.0	2	500	1000
	29	10.0	1	180	180
	30	10.0	2	982	1964
	31	10.0	2	137	274
	32	10.0	1	133	133
	33	10.0	3	143	429
	34	10.0	2	797	1594
	35	10.0	2	894	1788
	36	10.0	1	201	201
	37	10.0	2	1198	2396
	38	10.0	2	616	1232
	39	12.5	2	945	1890
	40	12.5	1	137	137
	41	12.5	2	644	1288
	42	12.5	1	249	249
	43	12.5	2	681	1362

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	0.8	1	0.2
	8.0	195.5	18	84.8
	10.0	113.7	11	77.1
	12.5	49.3	5	52.2
CA60	5.0	369.3	-	62.6
PESO TOTAL (kg)				
CA50		214.3		
CA60		62.6		

Volume de concreto (C-30) = 3.64 m³
Área de forma = 59.24 m²

PROJETO ESTRUTURAL



MODELO 3D - ESTRUTURA
Obs: Necessário Internet

OBRA: TERMINAL INTEGRADO RODOVIÁRIO E METROPOLITANO

DATA: JULHO/2025

LOCAL: CENTRO

CIDADE: SANTA TEREZINHA DE ITAIPU - PR

303

87.802

MUNICÍPIO: ANTONIO LUIZ BENDO - PREFEITO MUNICIPAL

PROJETA: NATANAEL CARBOLIN DE LIMA CREA-PR: 214962/D

Documento assinado digitalmente
NATANAEL CARBOLIN DE LIMA
Data: 10/11/2025 22:37:53 -0500
Verifique em https://validar.jf.gov.br

CONTEÚDO:

• VIGAS BALDRAME.

ESPECIFICAÇÃO: ESTRUTURAL

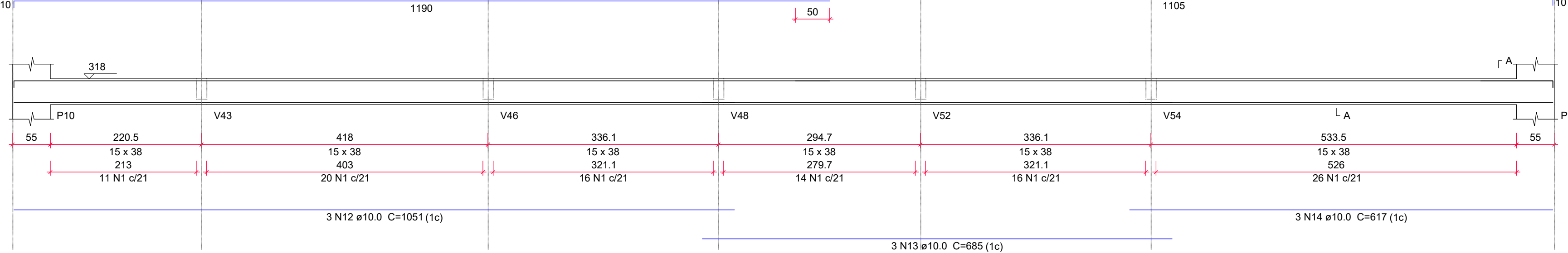
REVISÃO: 01

FOLHA: 08/16

VIGAS COBERTURA 1

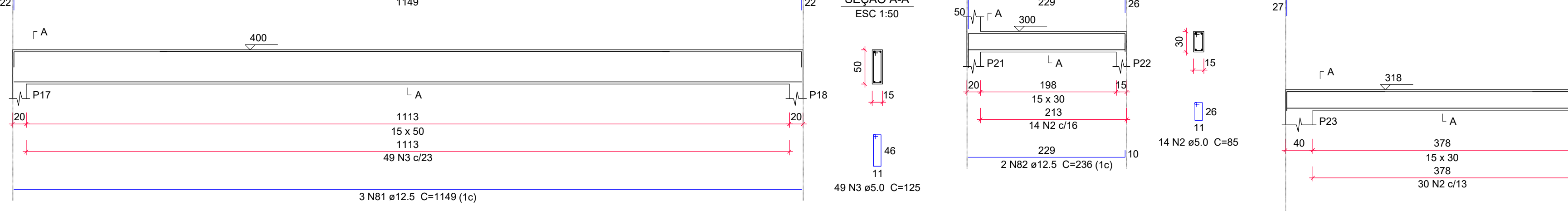
V2

ESC 1:50



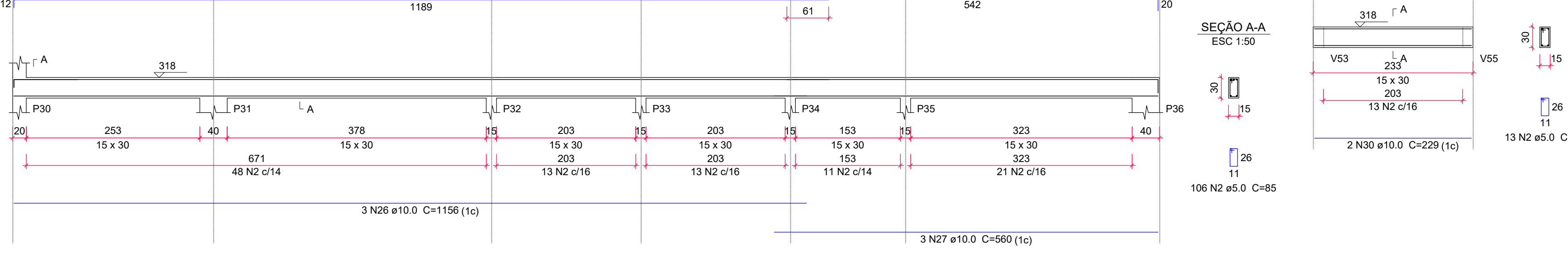
V4

ESC 1:50



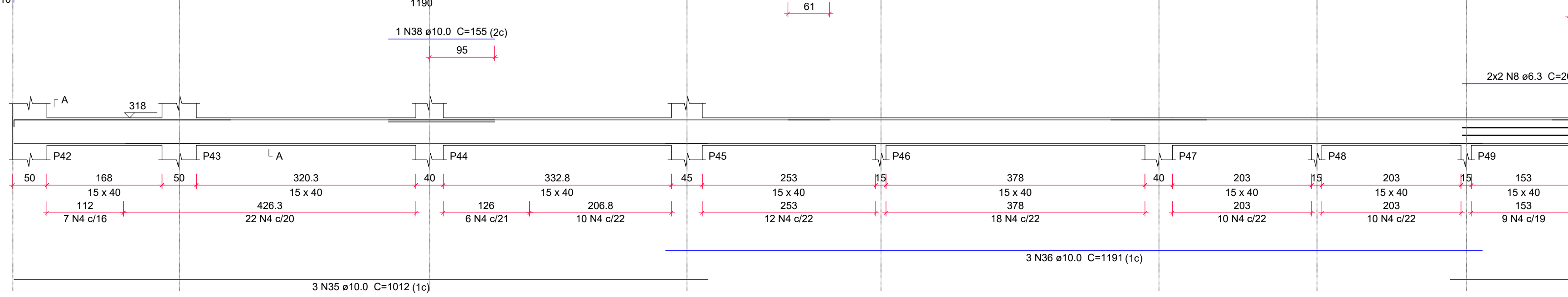
V7

ESC 1:50



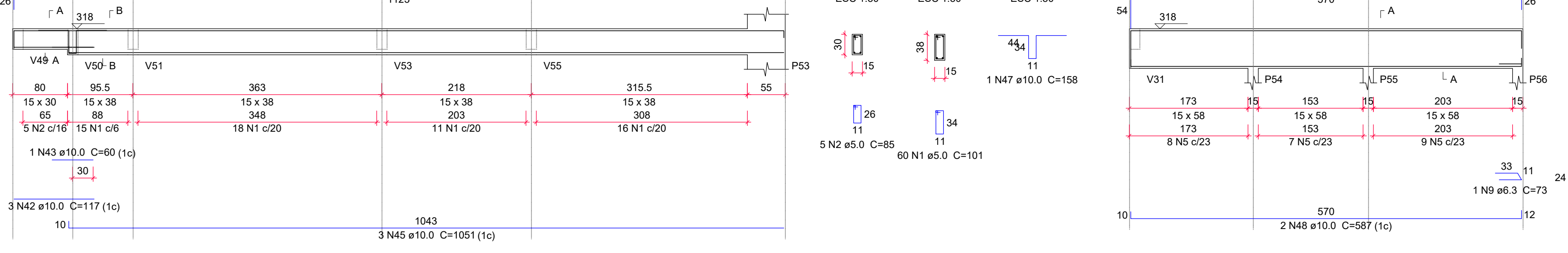
V11

ESC 1:50



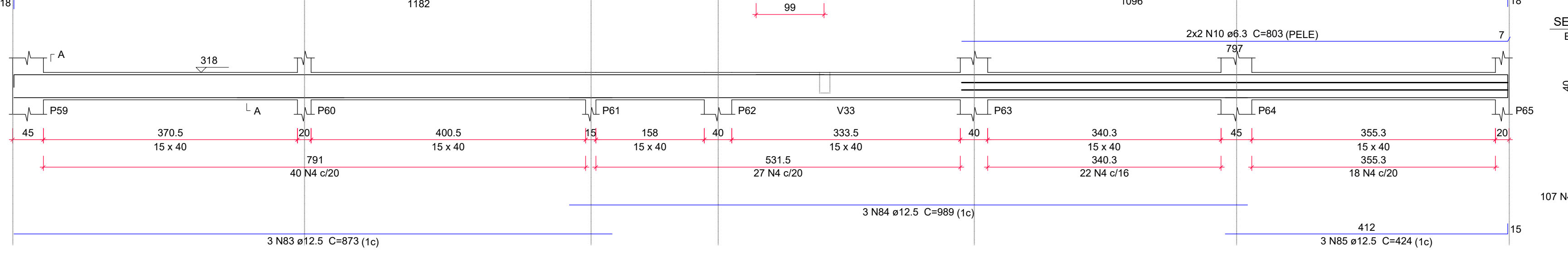
V13

ESC 1:50



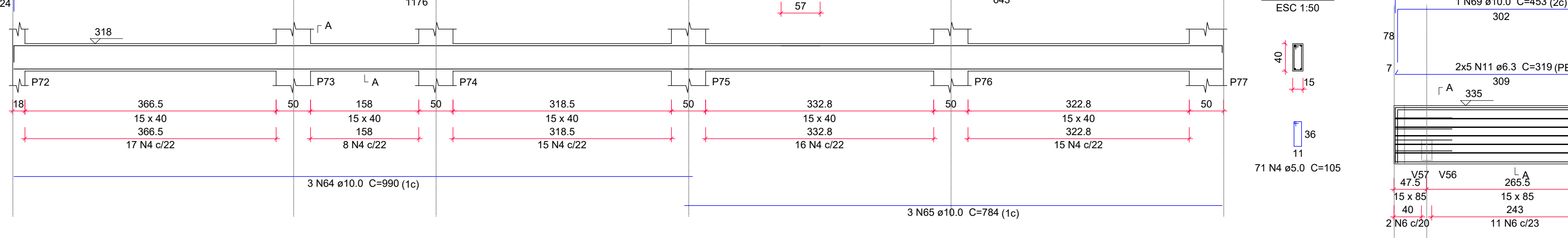
V17

ESC 1:50



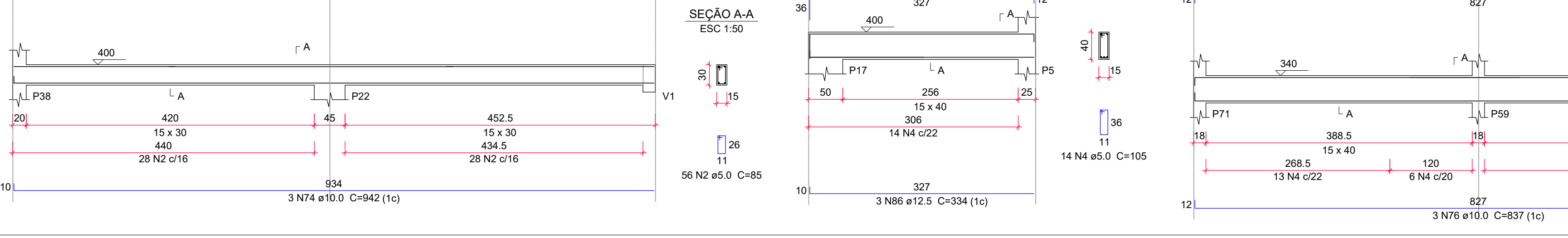
V22

ESC 1:50



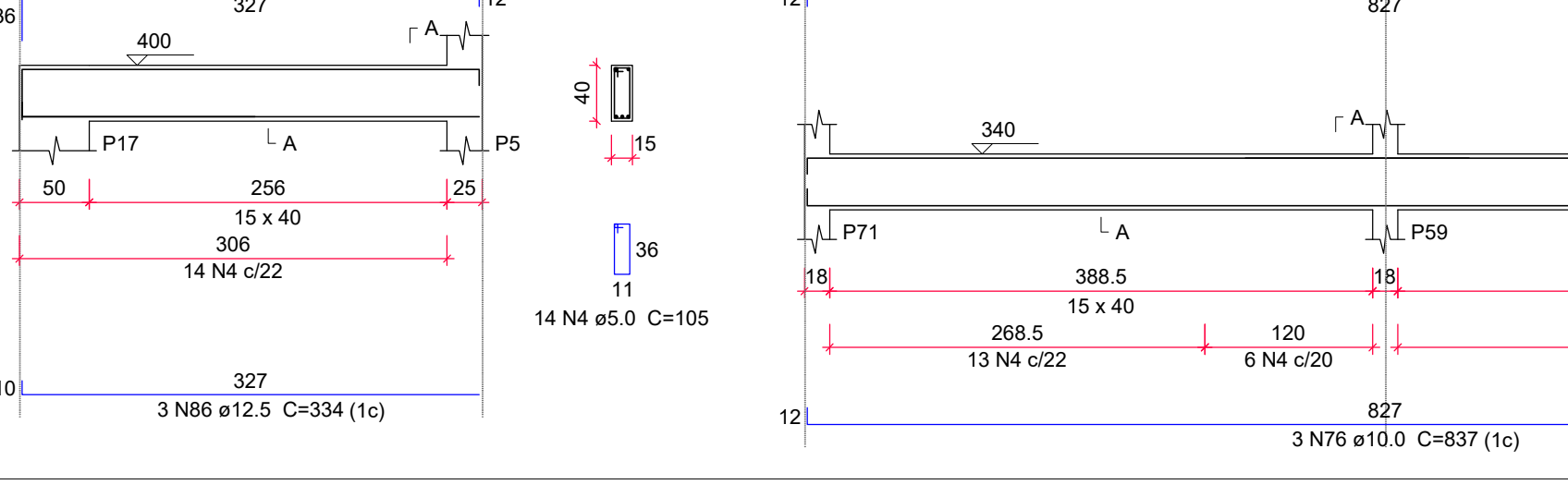
V26

ESC 1:50



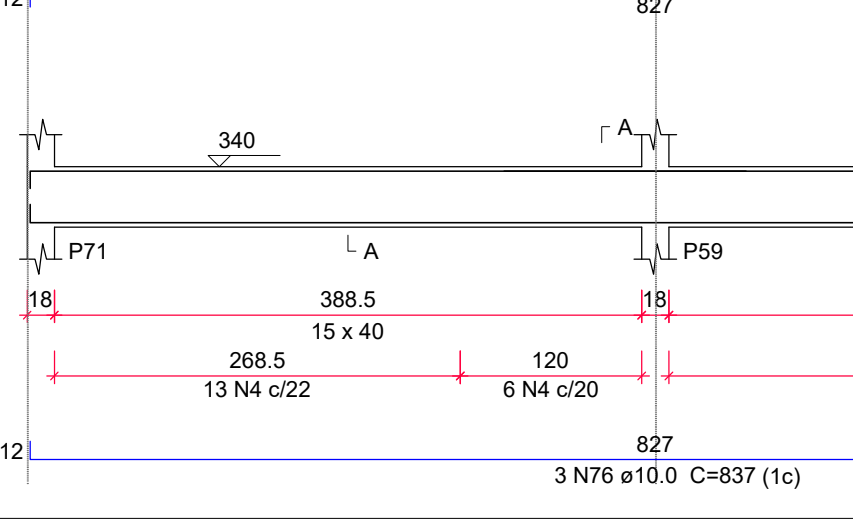
V27

ESC 1:50



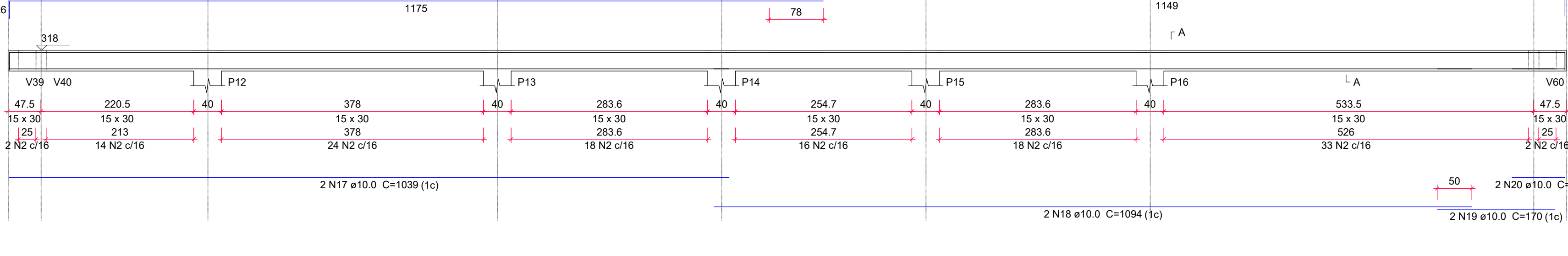
V28

ESC 1:50



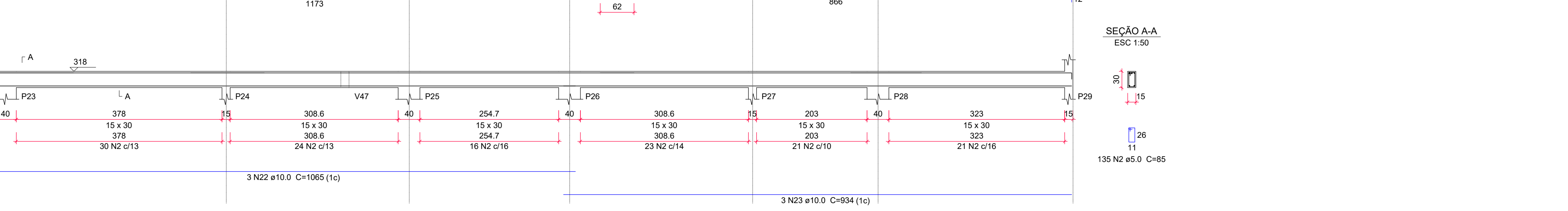
V3

ESC 1:50



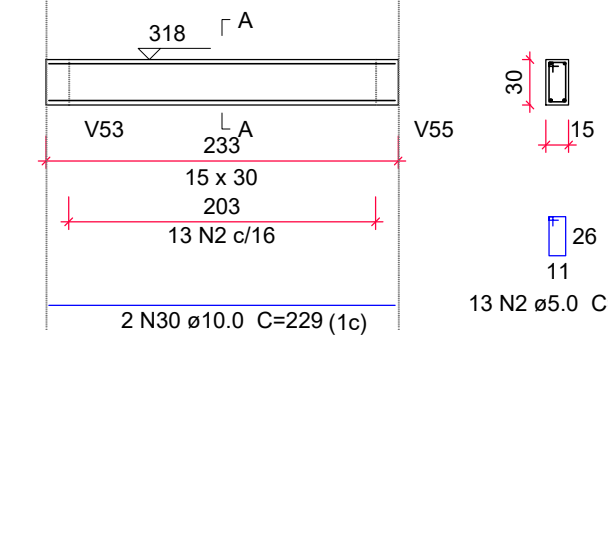
V6

ESC 1:50



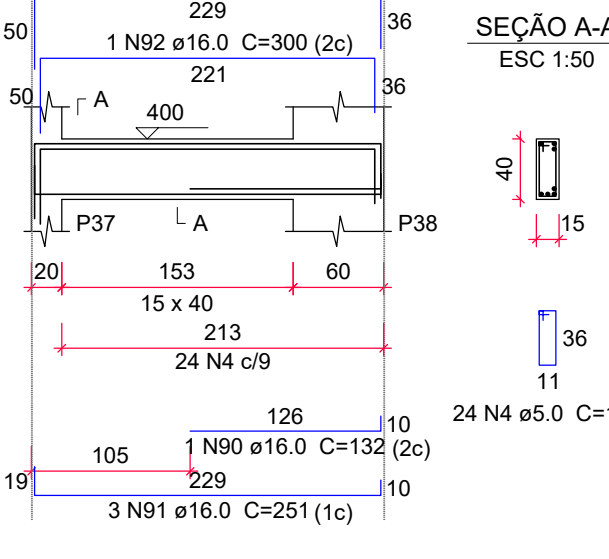
V8

ESC 1:50



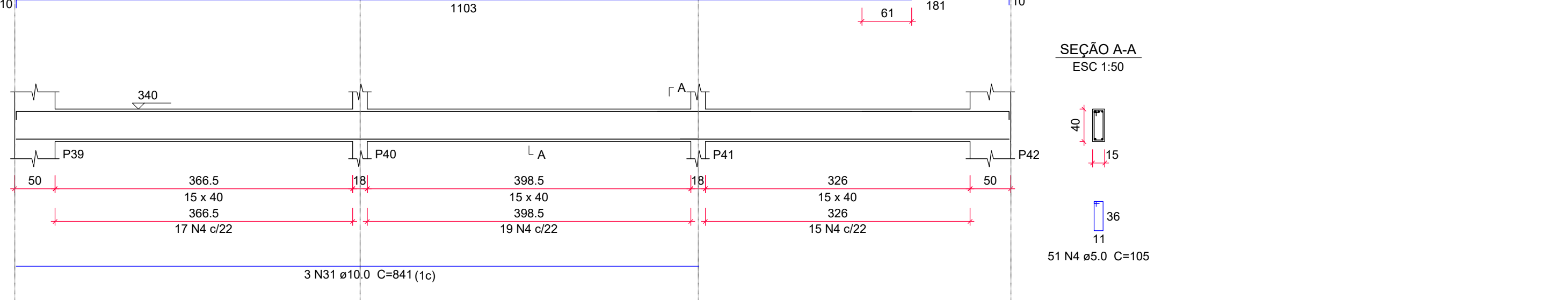
V9

ESC 1:50



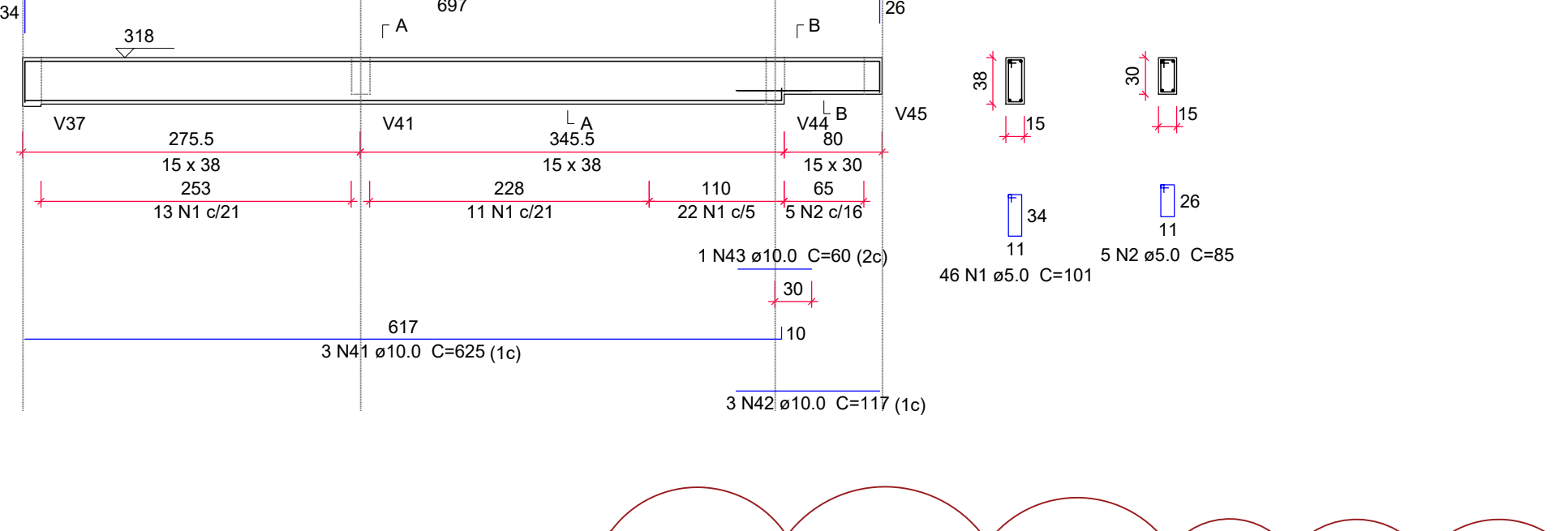
V10

ESC 1:50



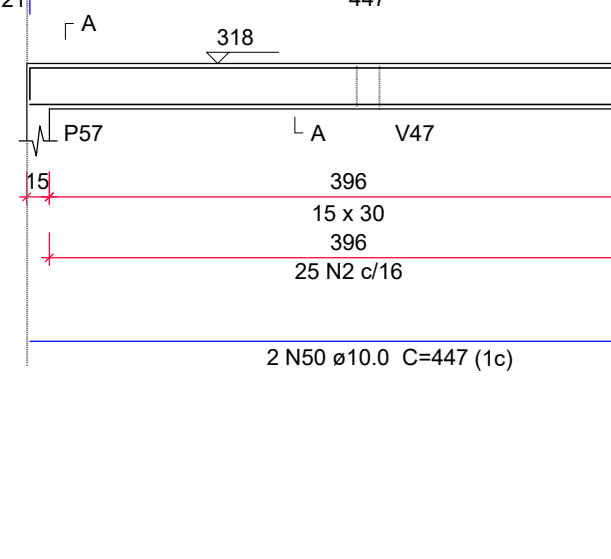
V12

ESC 1:50



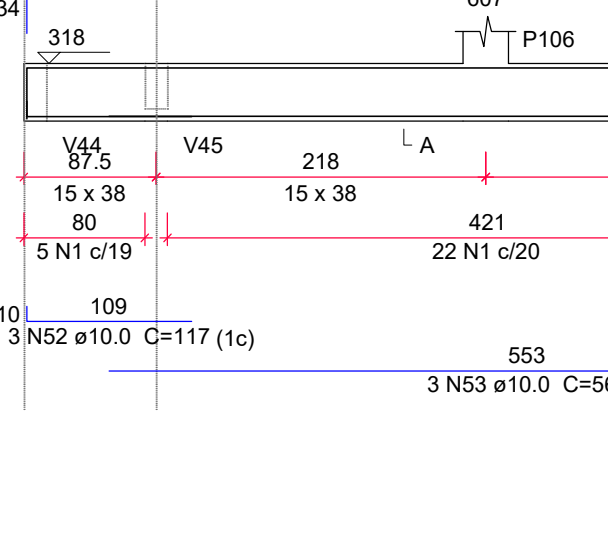
V15

ESC 1:50



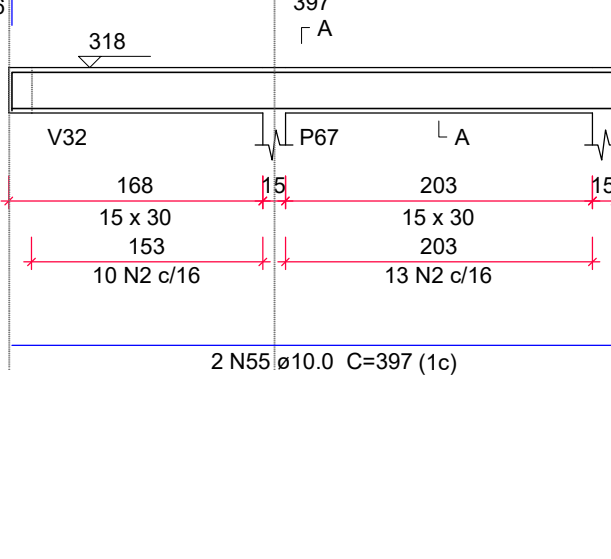
V16

ESC 1:50



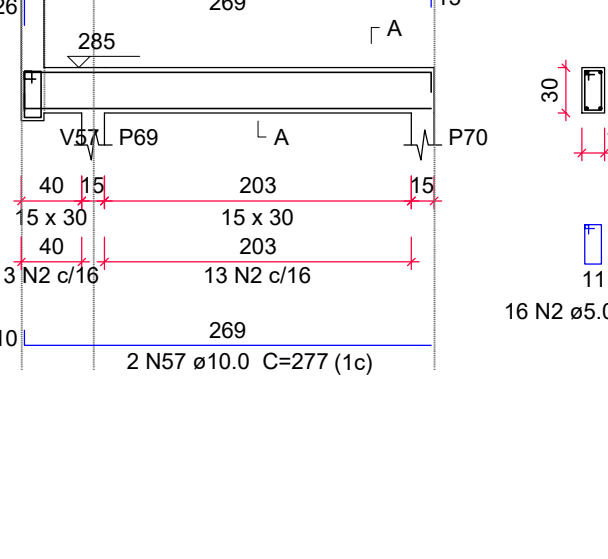
V18

ESC 1:50



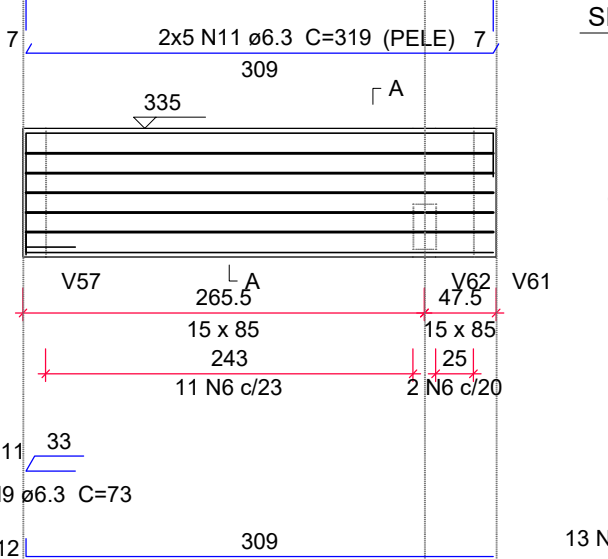
V19

ESC 1:50



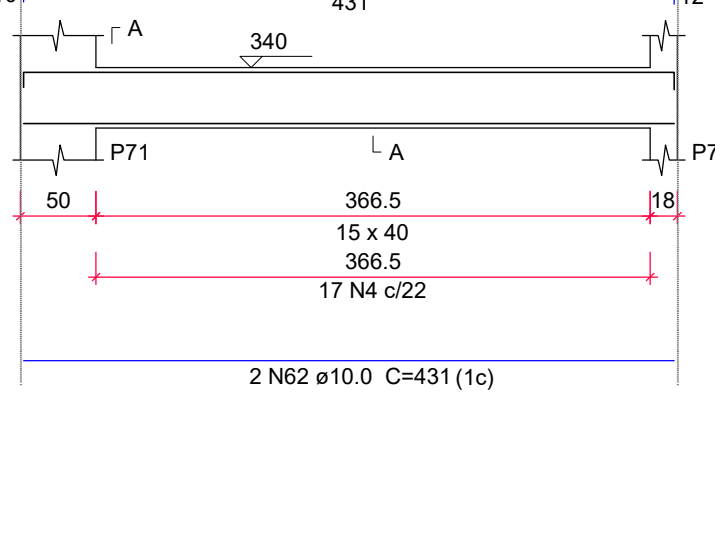
V20

ESC 1:50



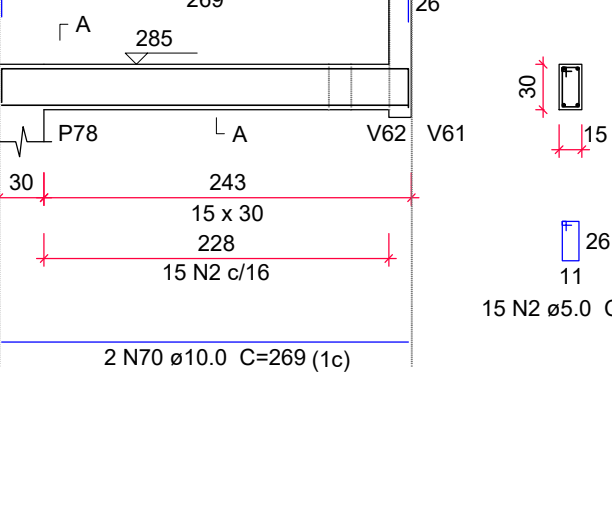
V21

ESC 1:50



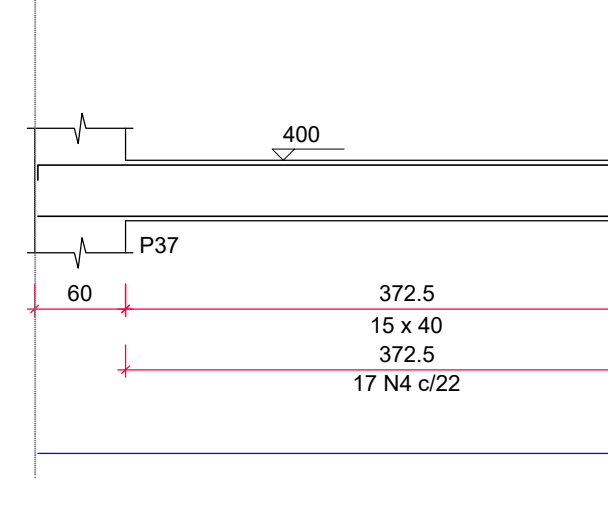
V23

ESC 1:50



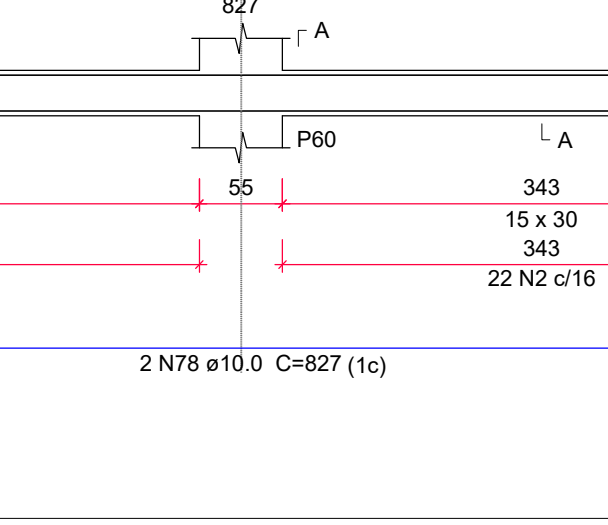
V24

ESC 1:50



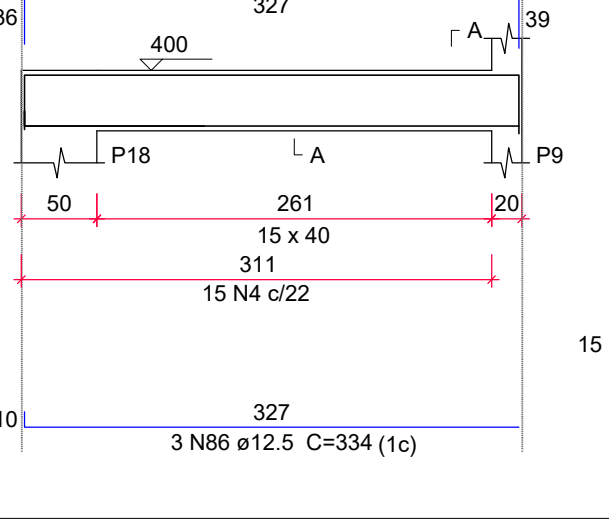
V29

ESC 1:50



V30

ESC 1:50

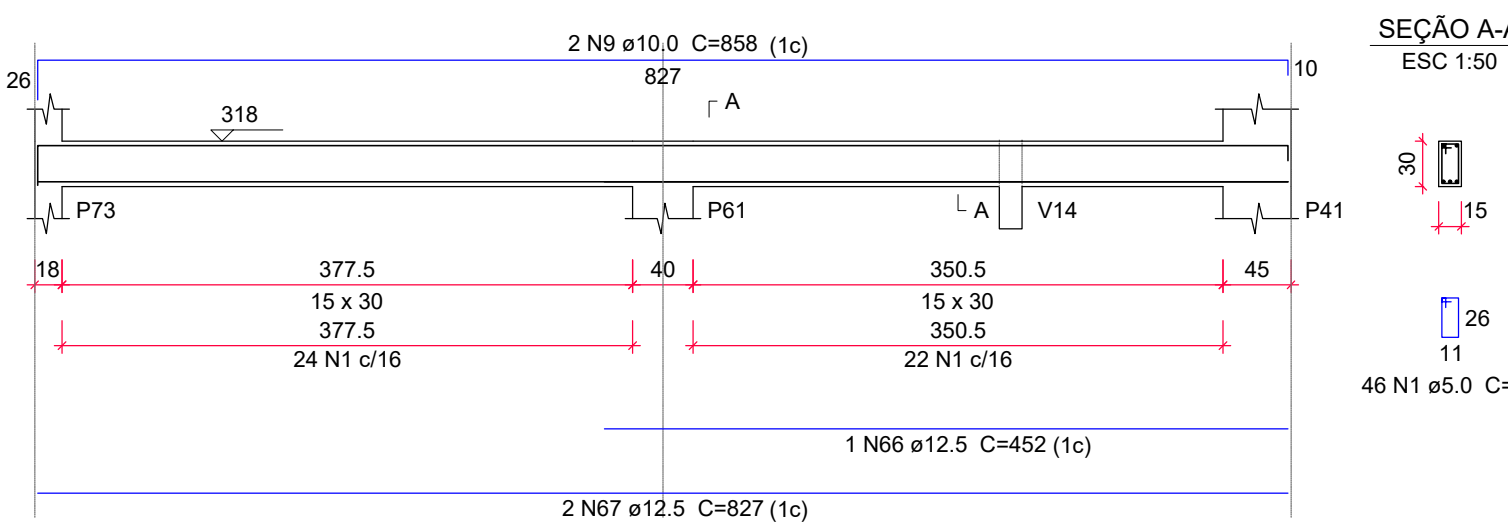


Relação do aço						Relação do aço					
V1						V2					
AÇO	N	DIAM	QUANT	C.UNIT	C.TOTAL	AÇO	N	DIAM	QUANT	C.UNIT	C.TOTAL
CASO	1	5.0	72	111	7992	CASO	1	5.0	241	241	241
	2	6.3	12	334	4008		2	5.0	584	85	49640
	3	10.0	3	1107	3321		3	5.0	49	125	6125
	4	10.0	3	441	1323		4	5.0	516	105	94180
	5	10.0	3	1198	3597		5	5.0	24	141	3384
	6	10.0	3	379	1137		6	5.0	8	150	6070
							7	5.0	4	173	682
							8	6.3	4	204	616
							9	6.3	3	73	219
							10	6.3	4	803	3212
							11	6.3	20	319	6380
							12	10.0	3	3153	3153
							13	10.0	3	885	2055
							14	10.0	3	617	1851
							15	10.0	6	1188	7188
							16	10.0	3	1113	3339
							17	10.0	2	1039	2078
							18	10.0	2	1084	2188
							19	10.0	2	110	340
							20	10.0	2	76	152
							21	10.0	3	1188	3564
							22	10.0	3	1065	3195
							23	10.0	6	934	5604
							24	10.0	3	1198	3594
							25	10.0	3	876	2628
							26	10.0	3	1156	3468
							27	10.0	3	560	1680
							28	10.0	3	1199	3597
							29	10.0	3	560	1680
							30	10.0	4	229	916
							31	10.0	3	841	2523
							32	10.0	3	405	1215
							33	10.0	3	1111	3333
							34	10.0	3	189	567
							35	10.0	3	1012	3036
							36	10.0	3	1191	3573
							37	10.0	3	1141	3423
							38	10.0	1	155	155
							39	10.0	3	1200	3600
							40	10.0	3	1002	3006
							41	10.0	3	625	1875
							42	10.0	6	117	702
							43	10.0	2	60	120
							44	10.0	3	752	2256
							45	10.0	3	1051	3153
							46	10.0	3	1154	3462
							47	10.0	3	845	2535
							48	10.0	2	587	1174
							49	10.0	2	845	1690
							50	10.0	2	447	894
							51	10.0	2	482	964
							52	10.0	3	117	351
							53	10.0	3	561	1683
							54	10.0	3	670	2010
							55	10.0	2	397	794
							56	10.0	2	431	862
							57	10.0	2	277	554
							58	10.0	3	303	909
							59	10.0	3	97	291
							60	10.0	3	319	957
							61	10.0	6	468	2708
							62	10.0	2	431	862
							63	10.0	2	448	896
							64	10.0	3	990	2970
							65	10.0	3	784	2352
							66	10.0	3	1189	3564
							67	10.0	3	651	1953
							68	10.0	3	326	978
							69	10.0	1	433	433
							70	10.0	2	209	538
							71	10.0	3	312	936
							72	10.0	3	822	2466
							73	10.0	3	847	2541
							74	10.0	3	942	2826
							75	10.0	2	370	740
							76	10.0	3	837	2511
							77	10.0	3	846	2538
							78	10.0	2	827	1654
							79	12.5	2	1198	2396
							80	12.5	3	1172	2344
							81	12.5	3	1149	3447
							82	12.5	3	286	472
							83	12.5	3	873	2619
							84	12.5	3	989	2967
							85	12.5	3	424	1272
							86	12.5	6	334	2004
							87	12.5	3	841	2523
							88	12.5	3	336	1188
							89	16.0	2	298	596
							90	16.0	1	132	132
							91	16.0	3	251	553
							92	16.0	1	300	300
							93	16.0	3	308	616
							94	16.0	3	1196	3588
							95	16.0	2	1110	2220

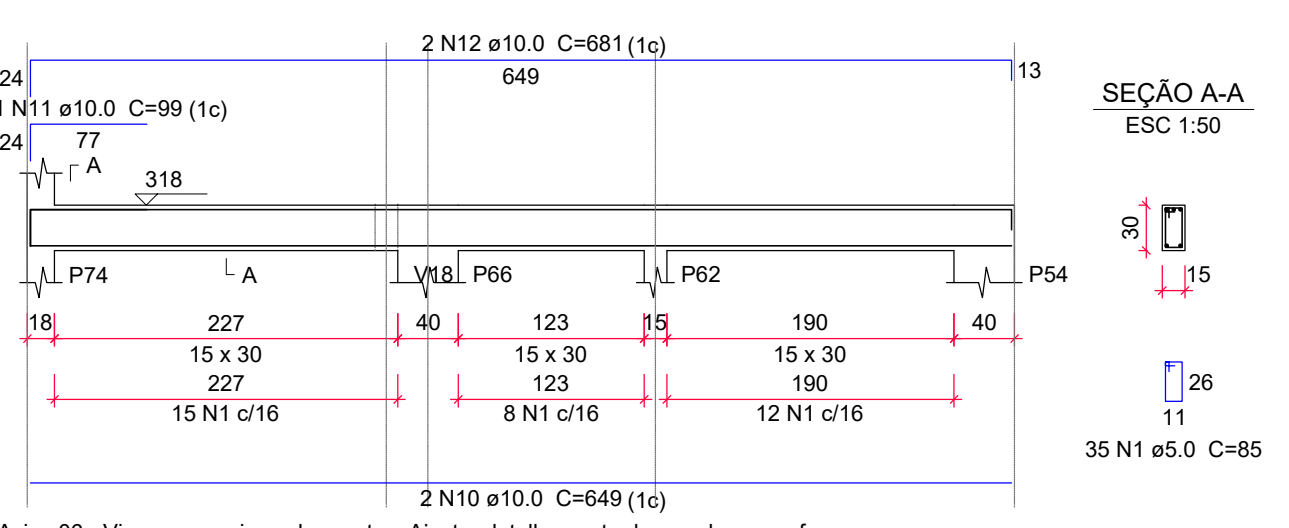
Resumo do aço					Resumo do aço				
TOTAL (m)	QUANT + 10 % (Barras)		PESO + 10 % (kg)		AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
40.1	4		10.8		CA50	6.3	106.3	10	28.6
93.8	9		63.6			10.0	1363	125	924.3
80	-		13.6			12.5	212.4	20	225
						16.0	82.1	8	142.5
					CA60	5.0	1434.4	-	243.2
					PESO TOTAL (kg)				

VIGAS COBERTURA 1

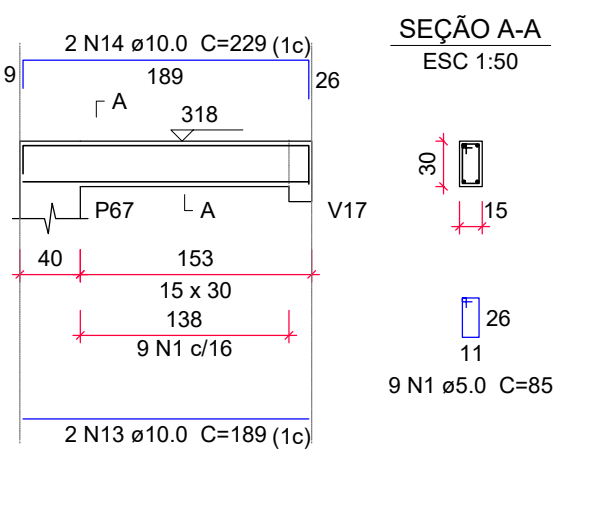
ESC. 1/50
V31
ESC. 1/50



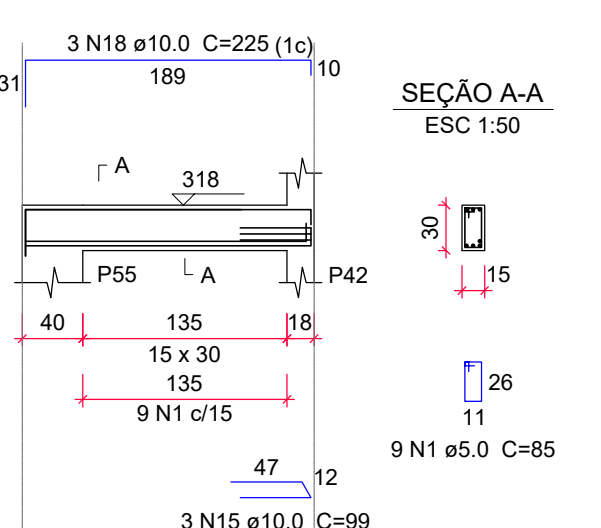
V32
ESC. 1/50



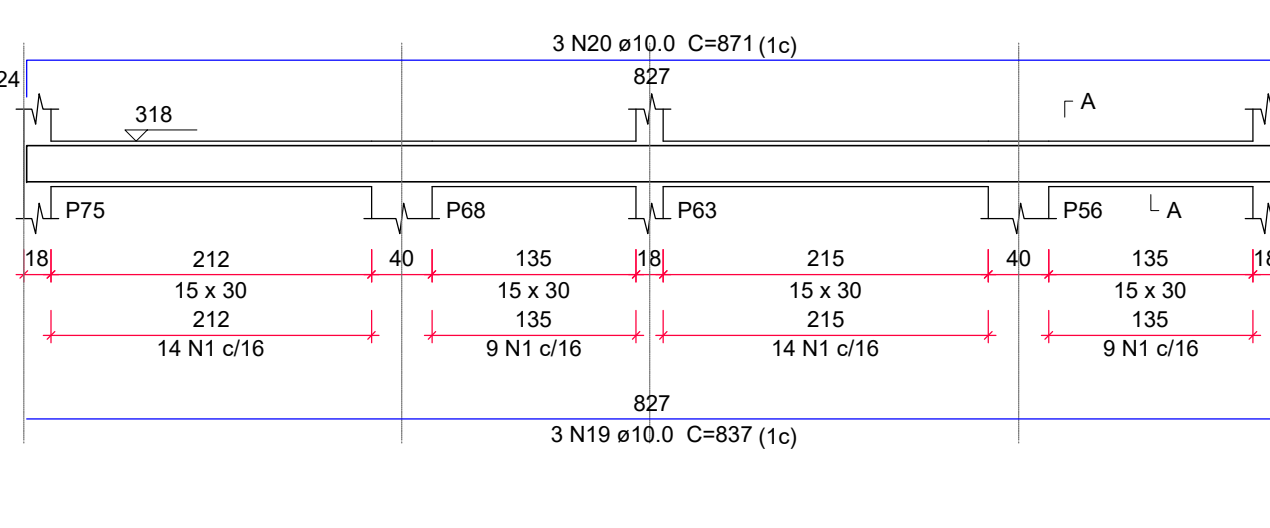
V33
ESC. 1/50



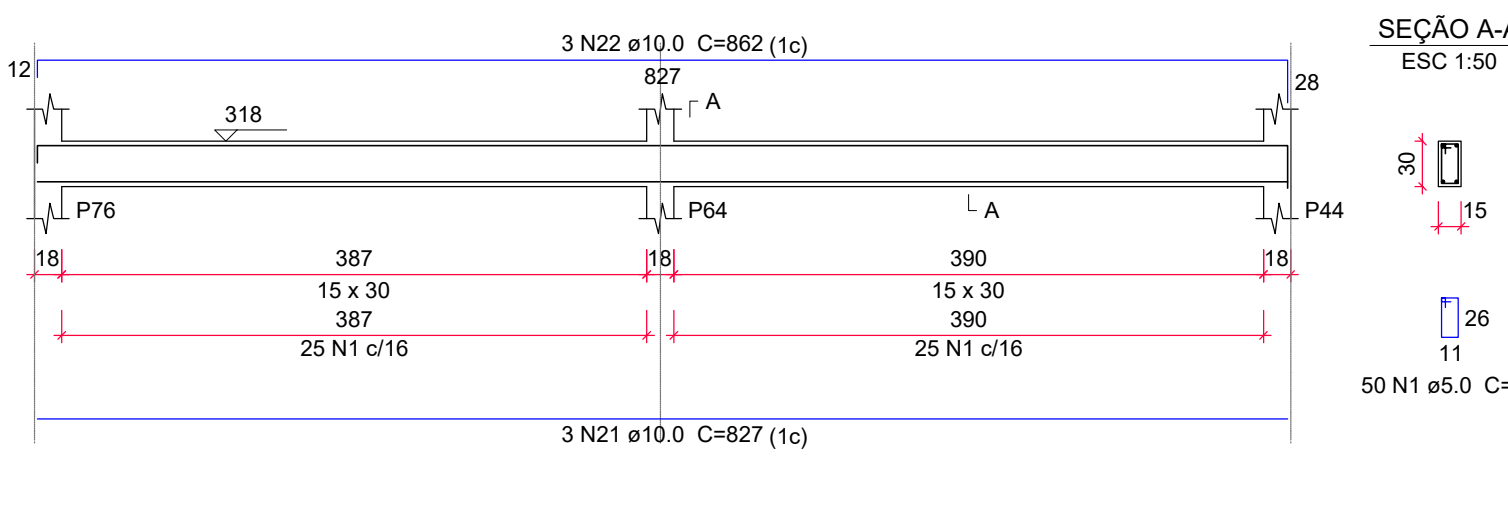
V34
ESC. 1/50



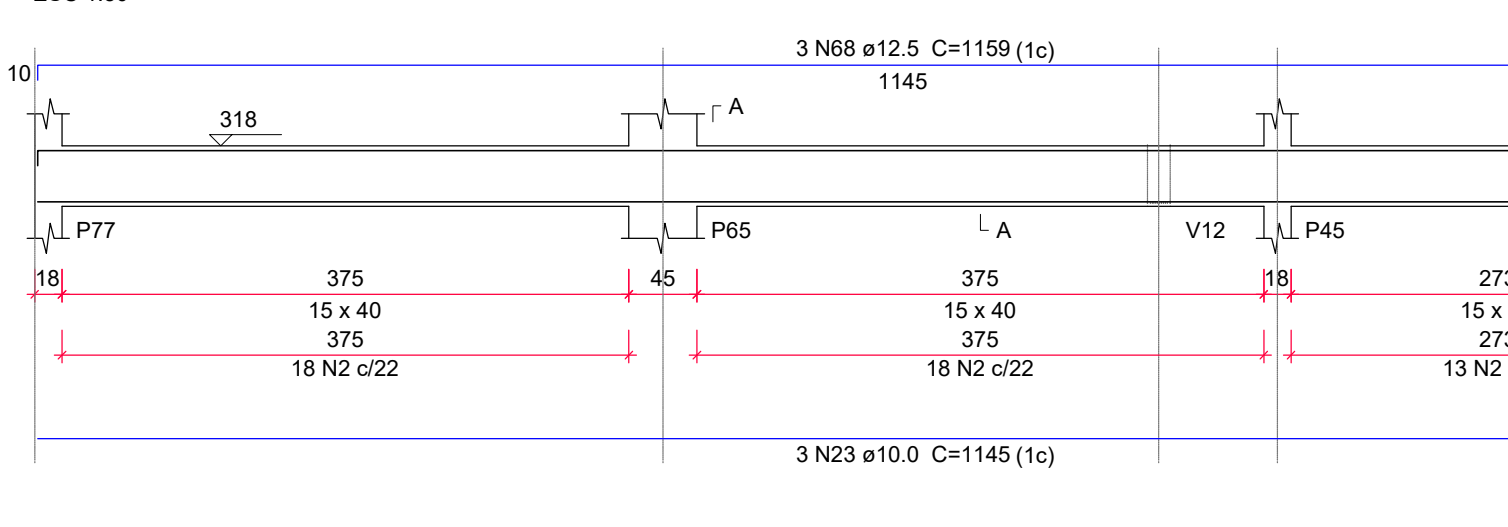
V35
ESC. 1/50



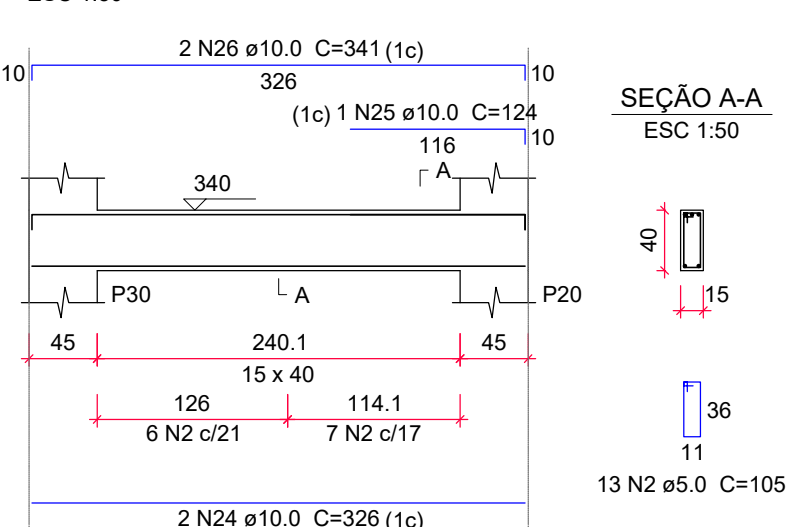
V36
ESC. 1/50



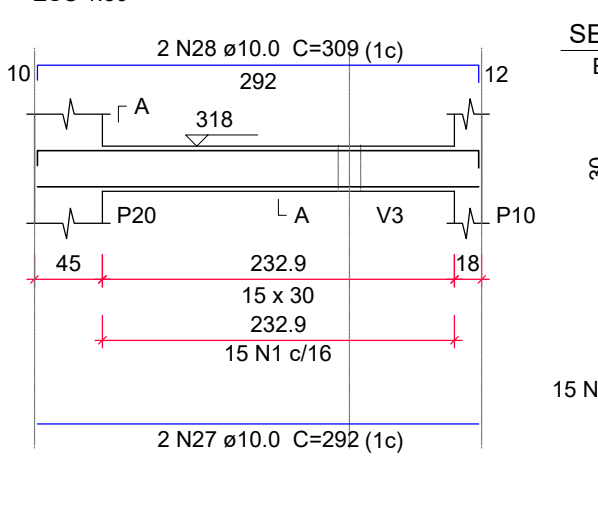
V37
ESC. 1/50



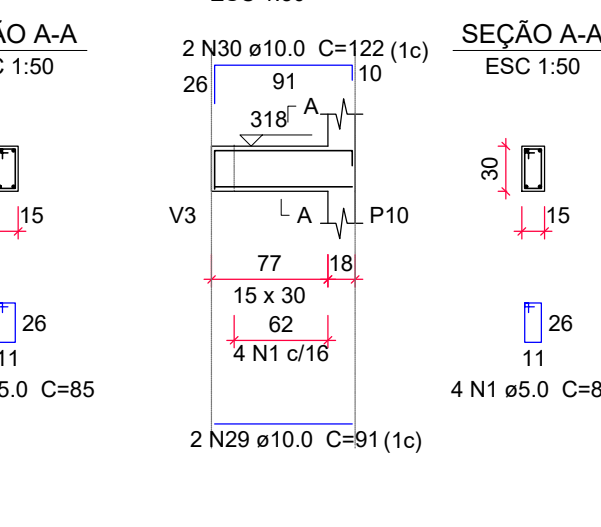
V38
ESC. 1/50



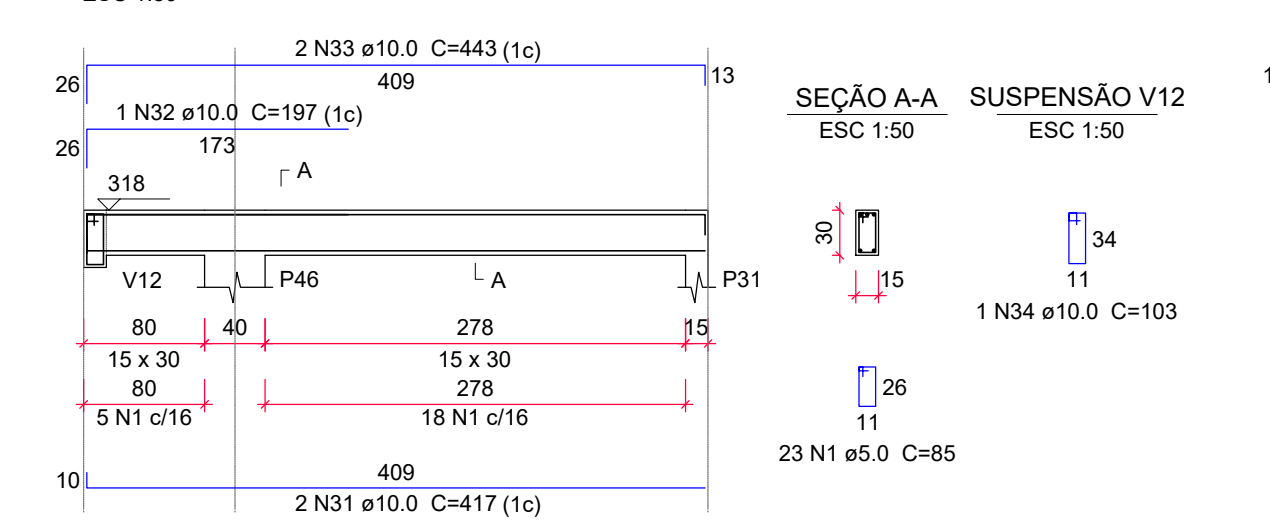
V39
ESC. 1/50



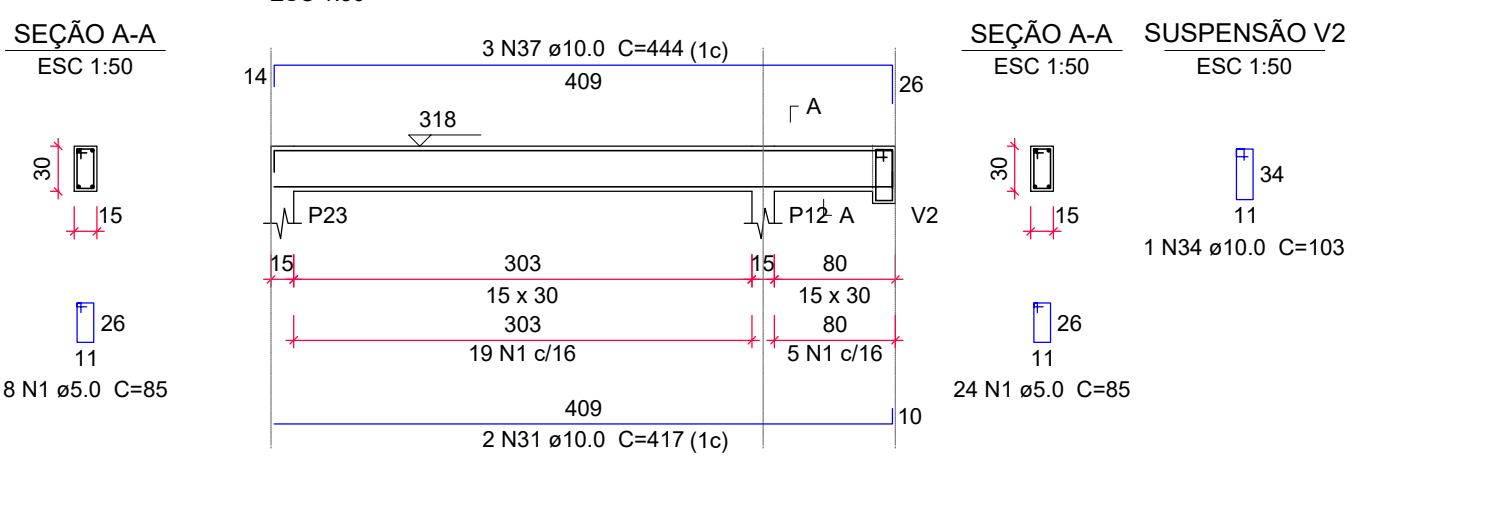
V40
ESC. 1/50



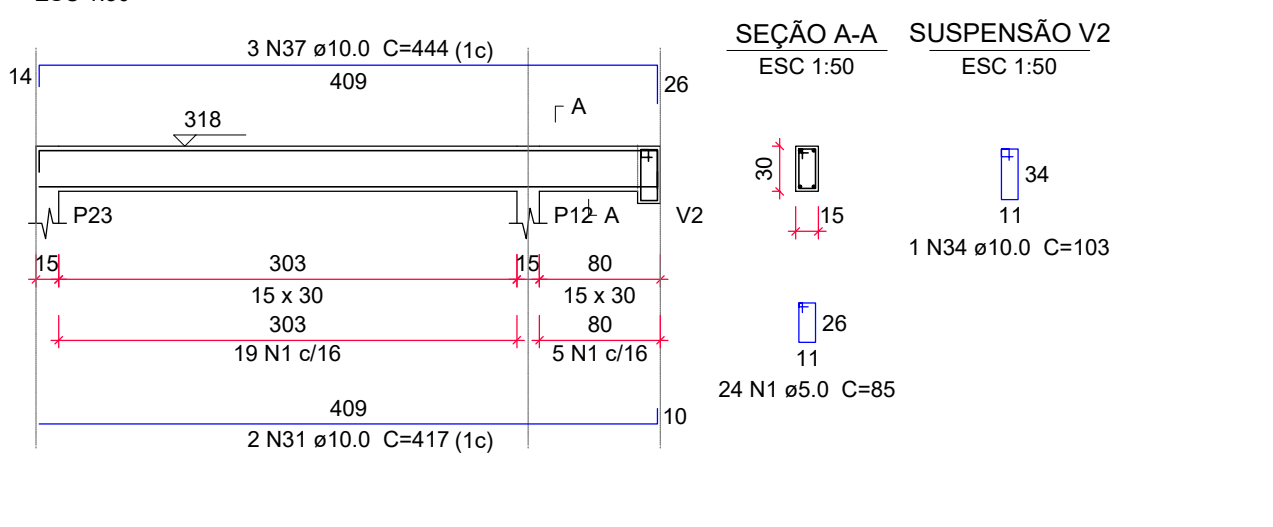
V41
ESC. 1/50



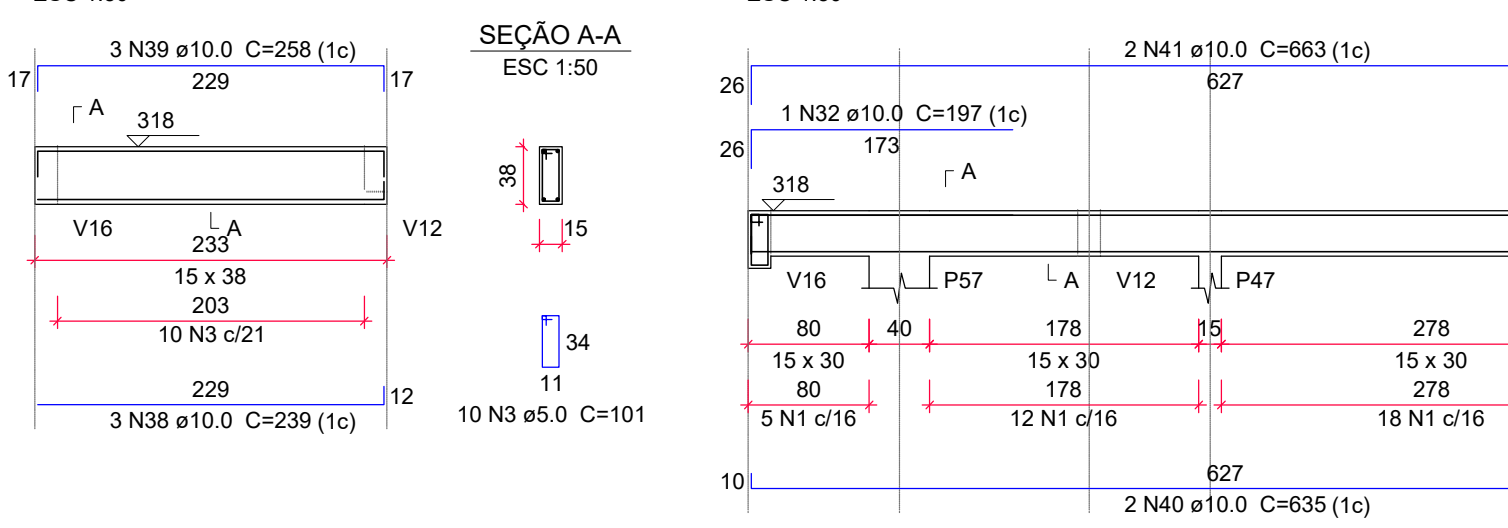
V42
ESC. 1/50



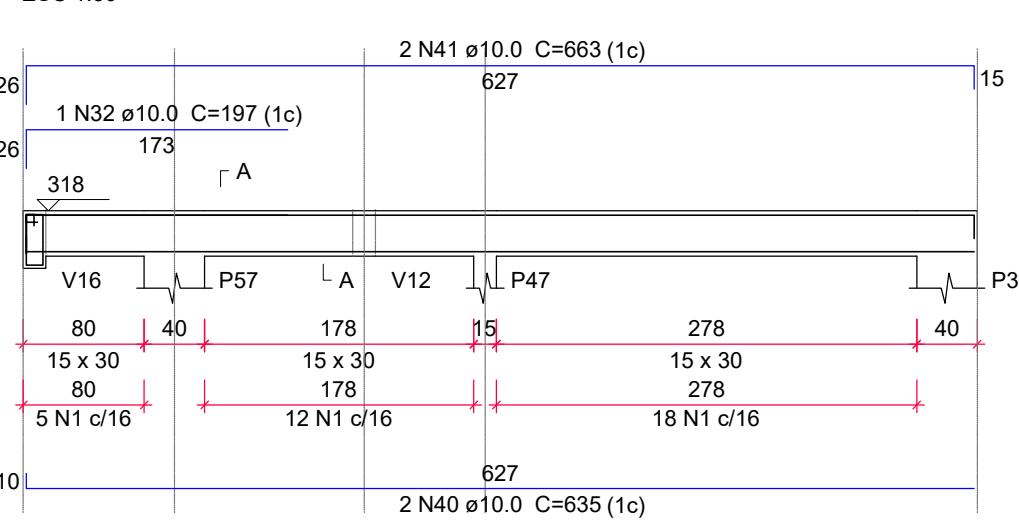
V43
ESC. 1/50



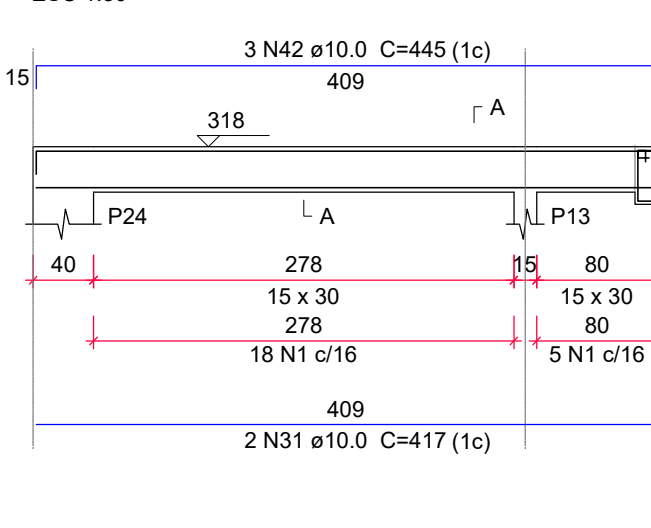
V44
ESC. 1/50



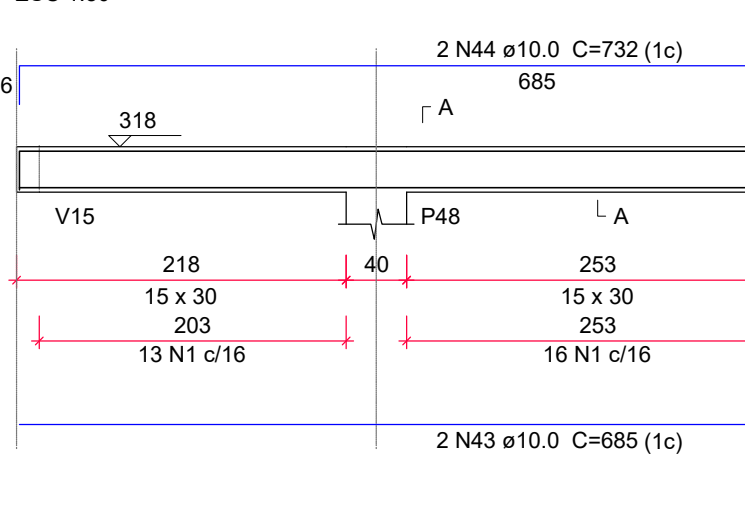
V45
ESC. 1/50



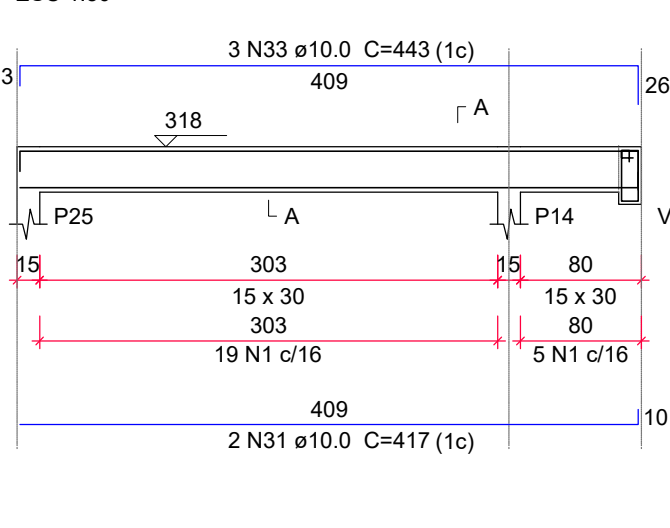
V46
ESC. 1/50



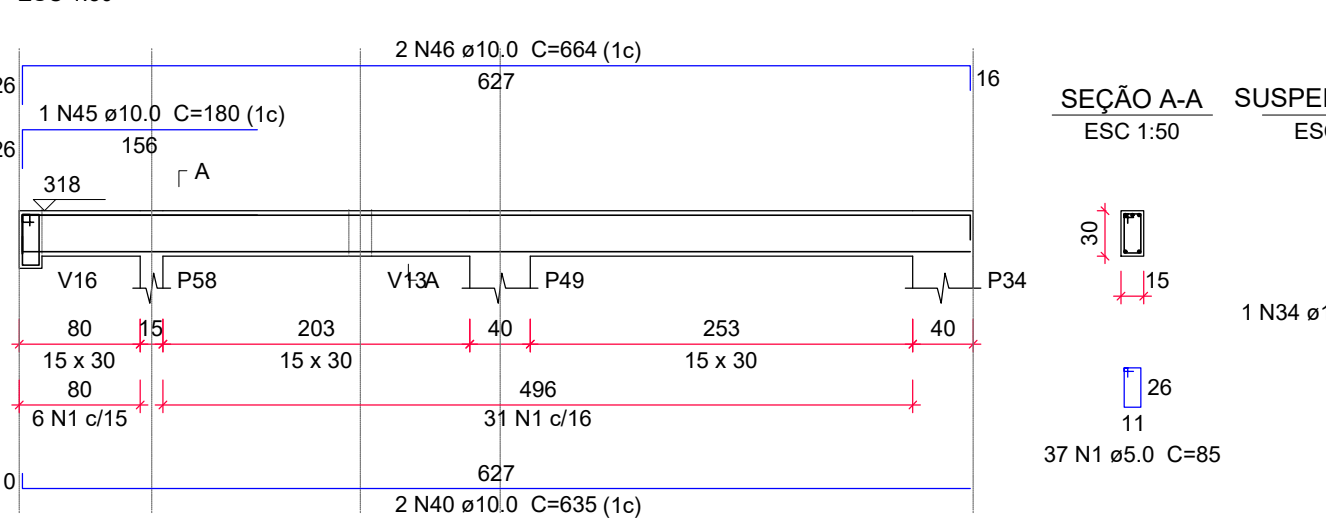
V47
ESC. 1/50



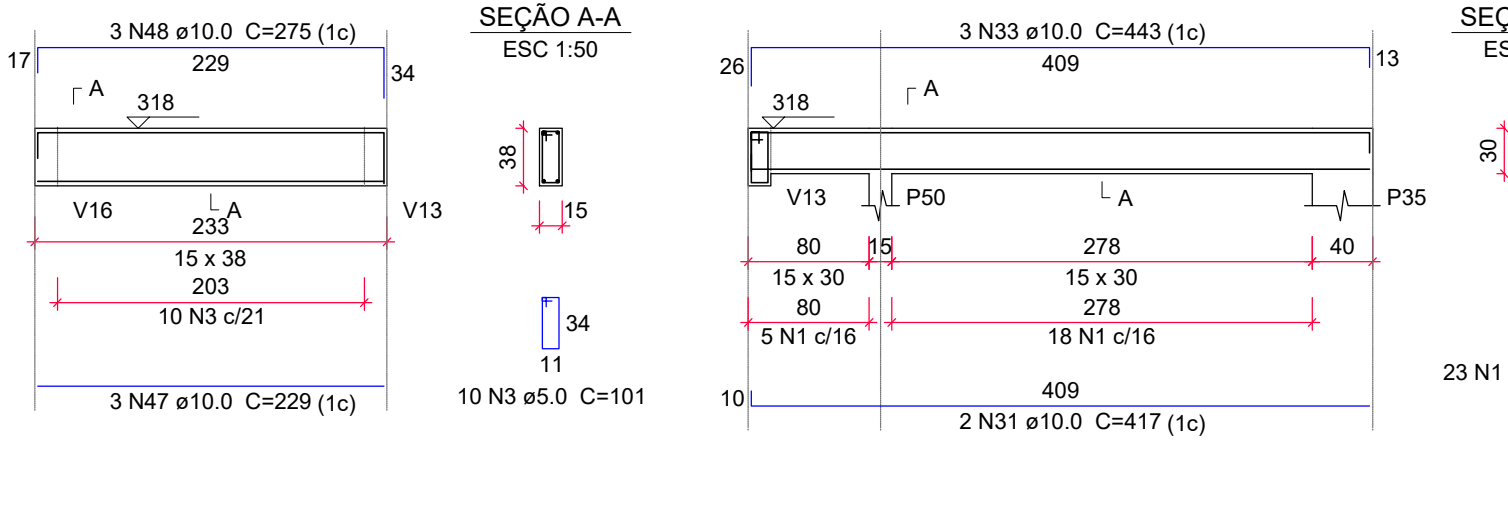
V48
ESC. 1/50



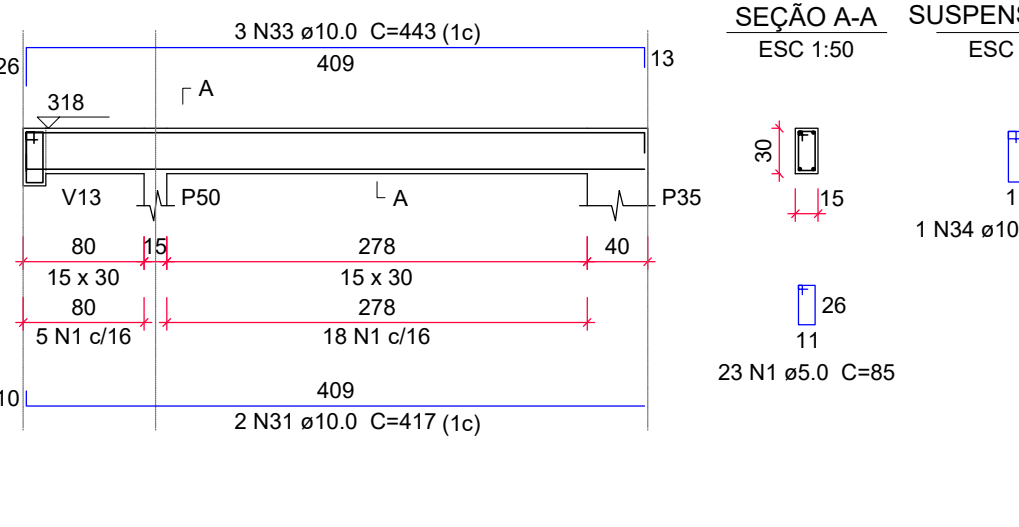
V49
ESC. 1/50



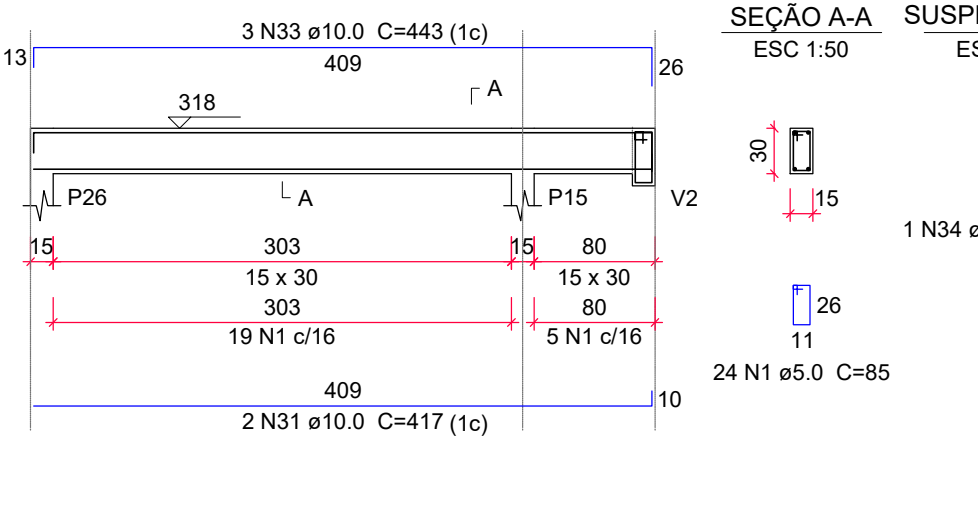
V50
ESC. 1/50



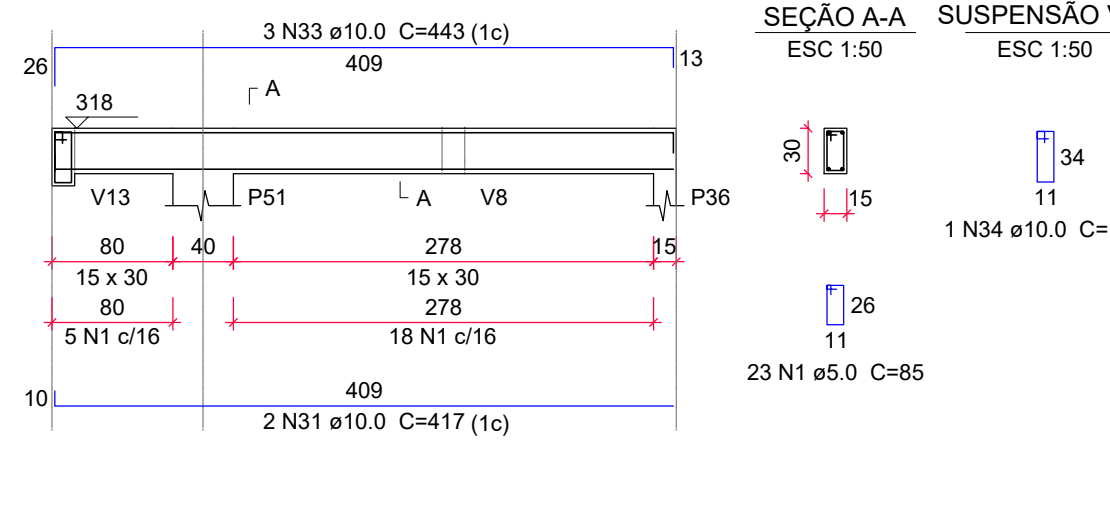
V51
ESC. 1/50



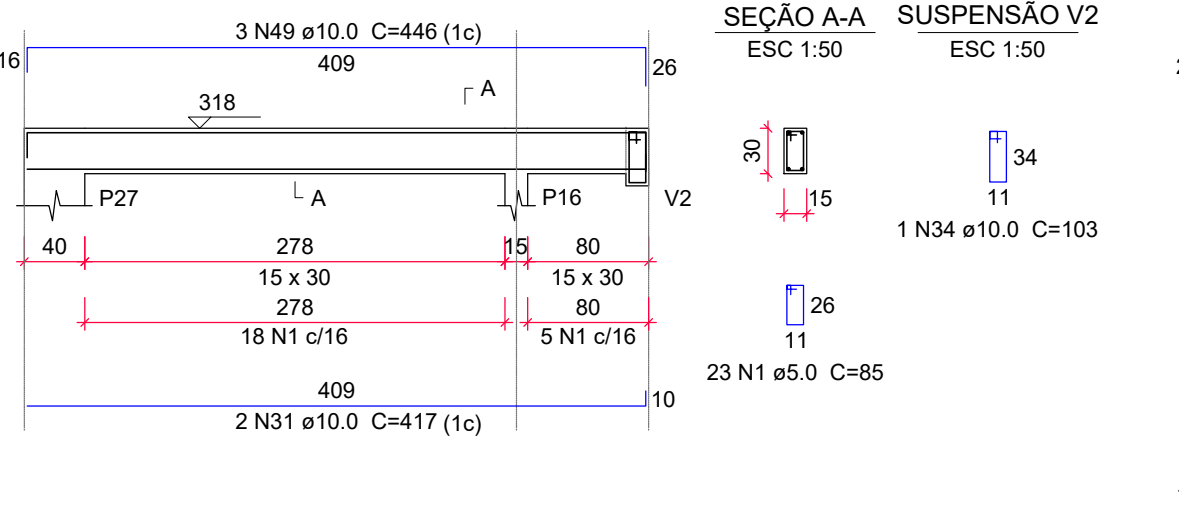
V52
ESC. 1/50



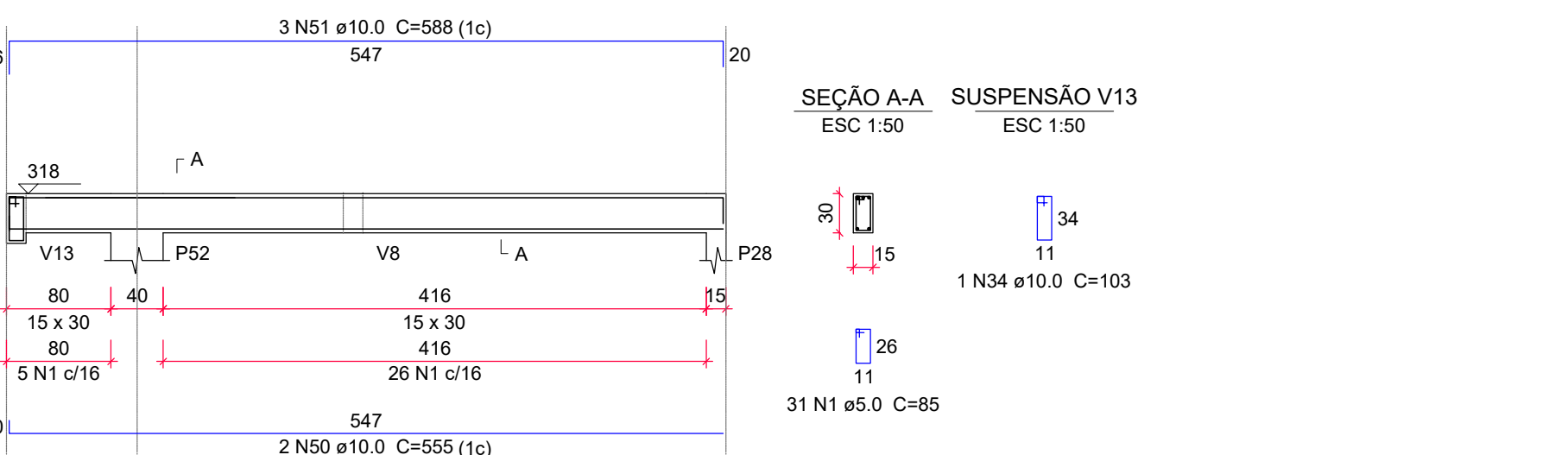
V53
ESC. 1/50



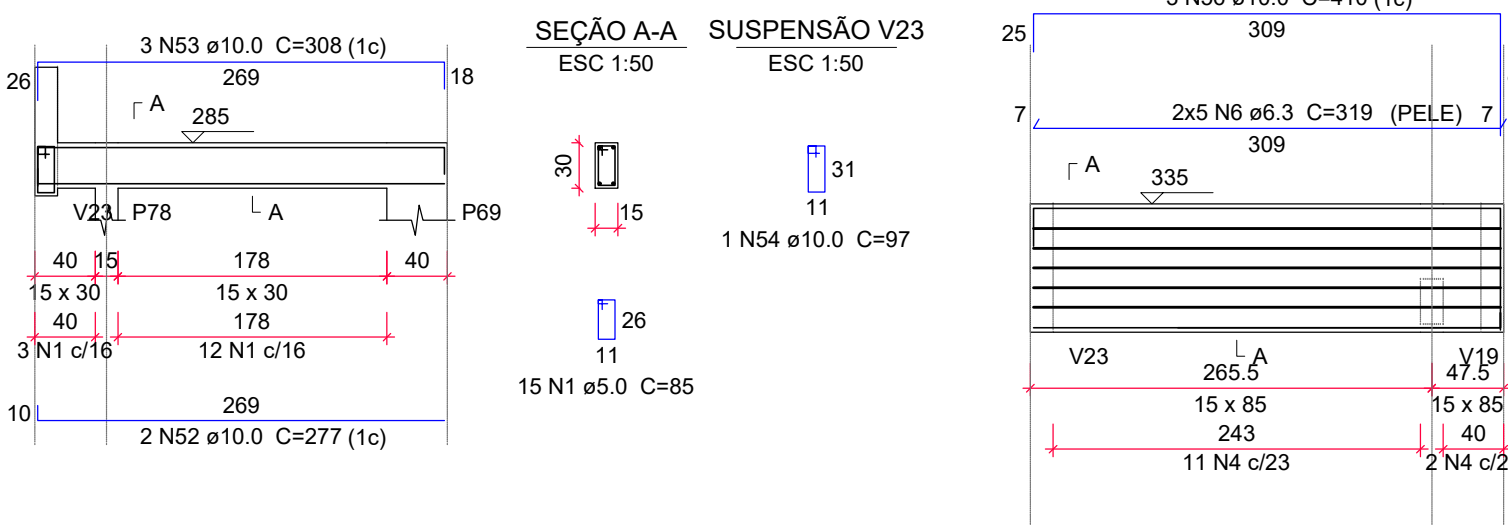
V54
ESC. 1/50



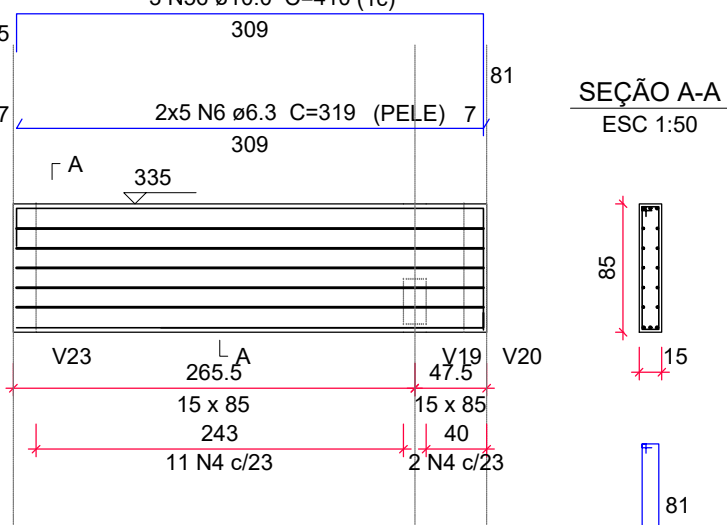
V55
ESC. 1/50



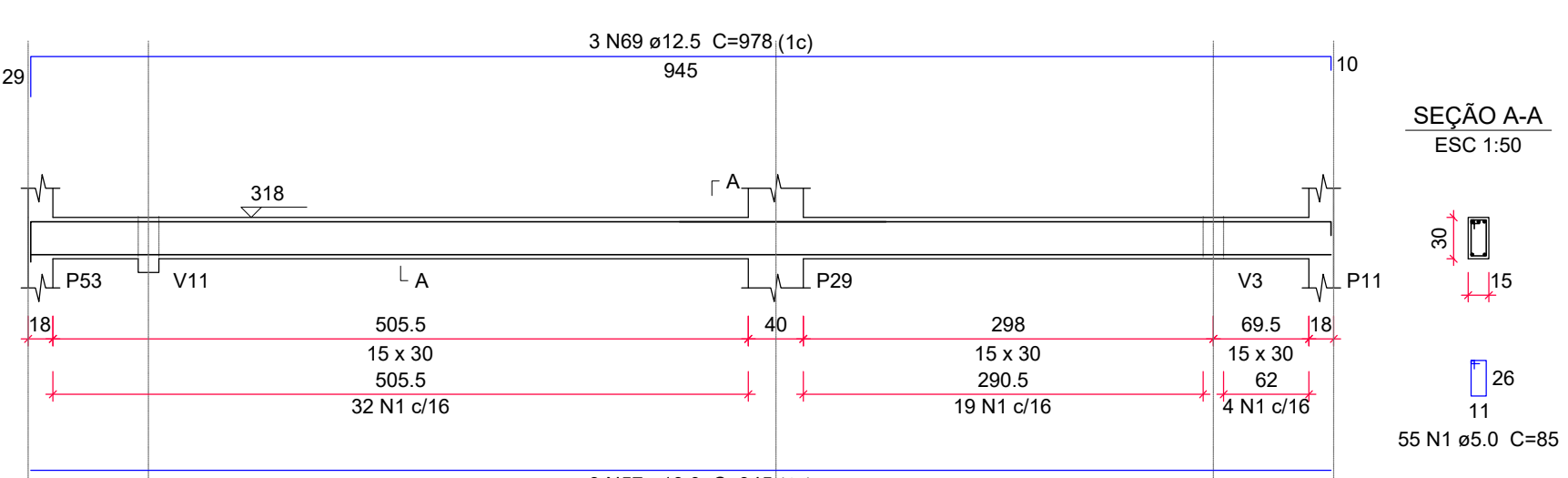
V56
ESC. 1/50



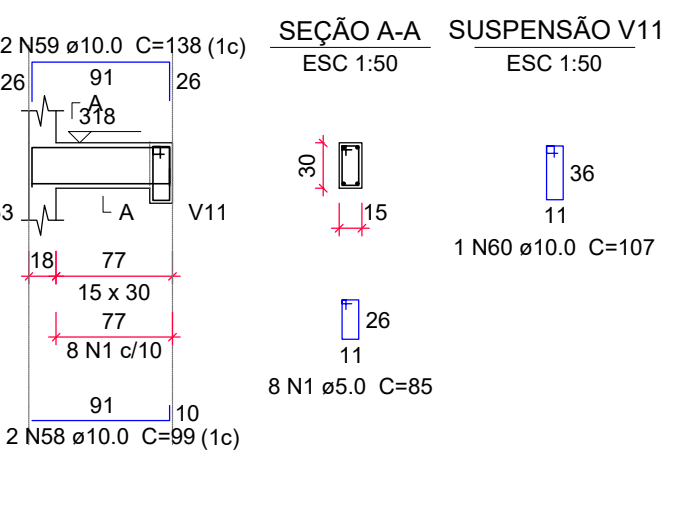
V57
ESC. 1/50



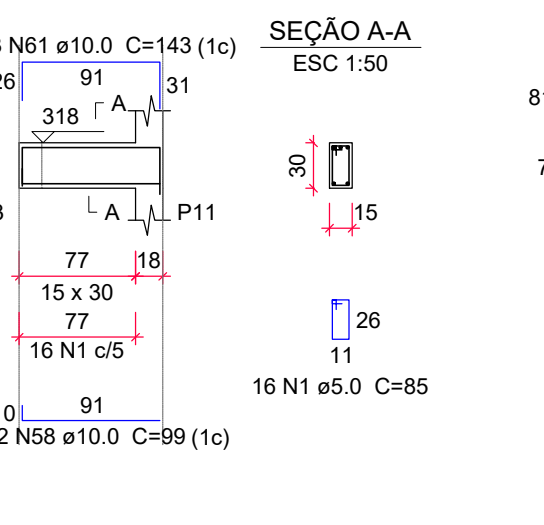
V58
ESC. 1/50



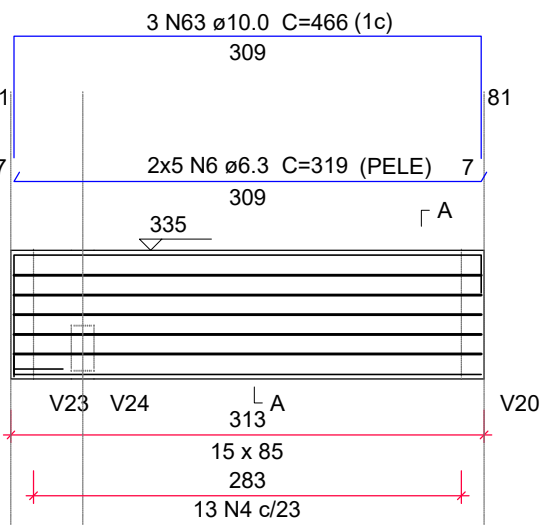
V59
ESC. 1/50



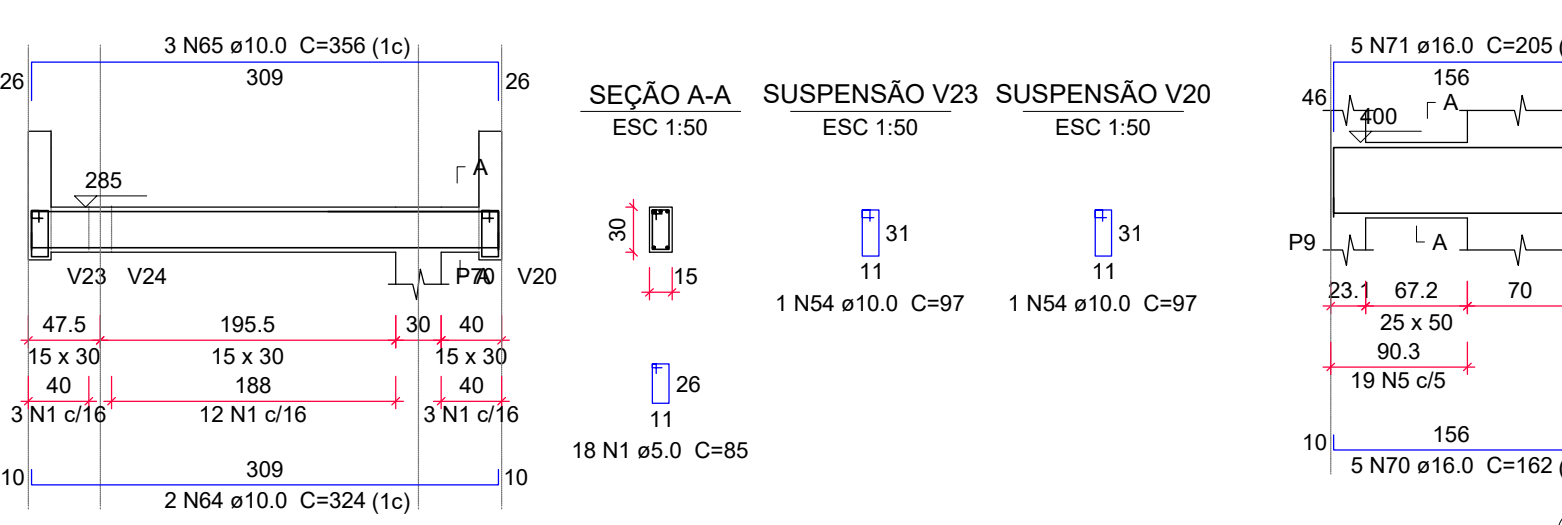
V60
ESC. 1/50



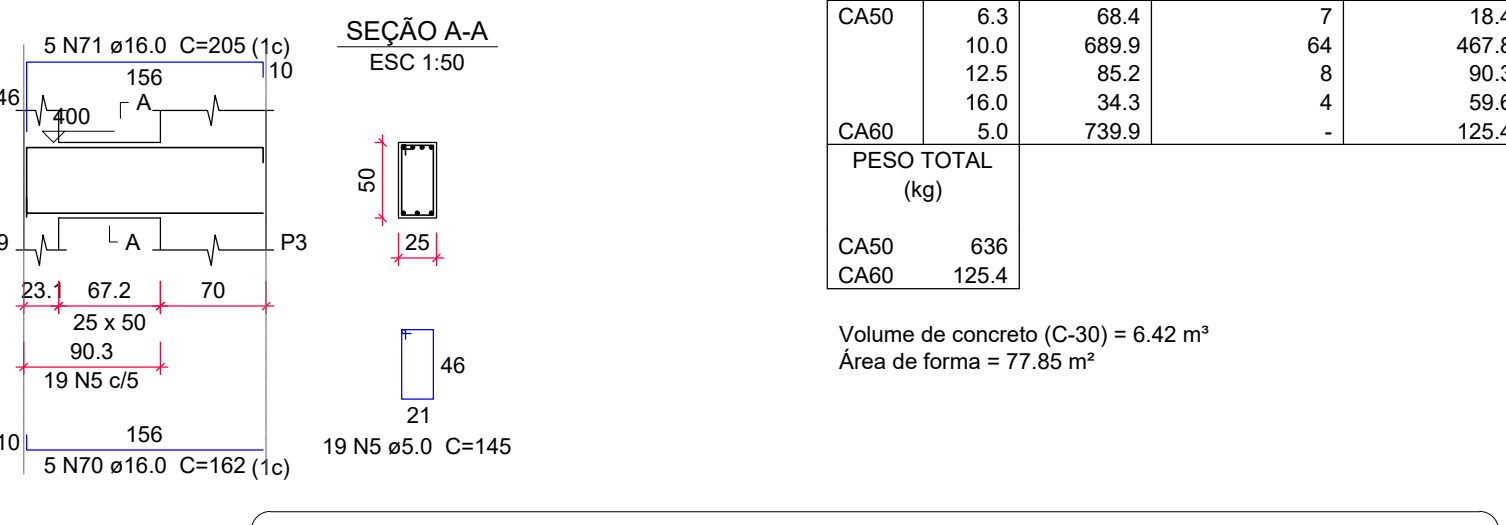
V61
ESC. 1/50



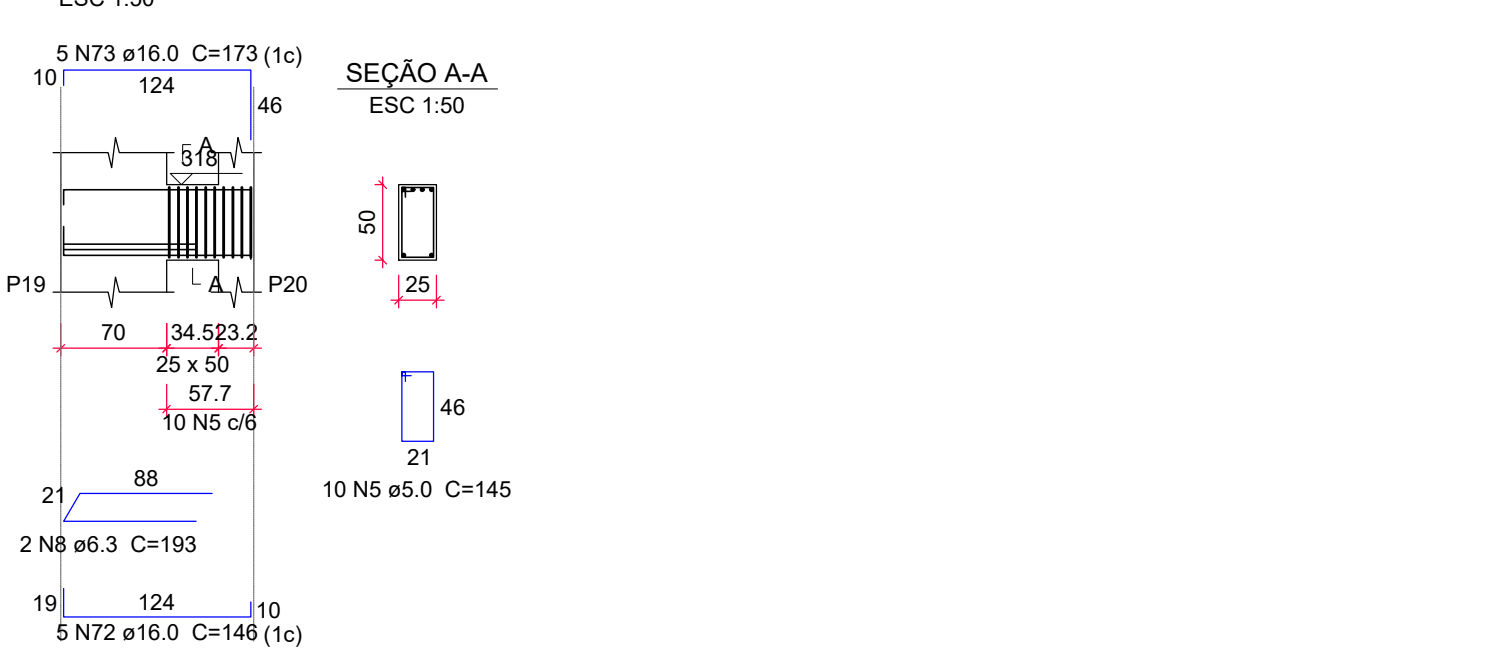
V62
ESC. 1/50



V63
ESC. 1/50



V64
ESC. 1/50



Relação do aço

ACO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA50	1	5.0	661	85	56185
	2	5.0	62	105	6510
	3	5.0	20	101	2020
	4	5.0	26	195	5070
	5	5.0	29	145	4205
	6	6.3	20	319	6380
	7	6.3	1	73	73
	8	6.3	2	193	386
	9	10.0	2	858	1716
	10	10.0	2	649	1298
CA50	11	10.0	1	99	99
	12	10.0	2	881	1362
	13	10.0	2	189	378
	14	10.0	2	229	458
	15	10.0	3	99	297
	16	10.0	3	196	588
	17	10.0	3	199	597
	18	10.0	3	225	675
	19	10.0	3	837	2511
	20	10.0	3	871	2613
	21	10.0	3	827	2481
	22	10.0	3	862	2586
	23	10.0	3	1145	3435
	24	10.0	2	326	652
	25	10.0	1	124	124
	26	10.0	3	341	1023
	27	10.0	2	292	584
	28	10.0	2	309	618
	29	10.0	2	91	182
	30	10.0	2	122	244
	31	10.0	16	417	6672
	32	10.0	2	197	394
	33	10.0	14	443	6202
	34	10.0	11	103	1133
	35	10.0	3	149	298
	36	10.0	2	170	340
	37	10.0	3	444	1332
	38	10.0	3	239	717
	39	10.0	3	298	774
	40	10.0	4	635	2540
	41	10.0	2	683	1366
	42	10.0	3	445	1335
	43	10.0	2	685	1370
	44	10.0	2	732	1464
	45	10.0	3	180	540
	46	10.0	2	664	1328
	47	10.0	3	229	687
	48	10.0	3	275	825
	49	10.0	3	446	1338
	50	10.0	2	555	1110
	51	10.0	3	508	1524
	52	10.0	2	277	554
	53	10.0	3	308	924
	54	10.0	3	97	291
	55	10.0	3	317	951
	56	10.0	3	410	1230
	57	10.0	3	945	2835
	58	10.0	4	99	396
	59	10.0	2	138	276
	60	10.0	3	468	1398
	61	10.0	3	324	972
	62	10.0	3	319	957
	63	10.0	3	468	1398
	64	10.0	2	324	648
	65	10.0	3	356	1068
	66	12.5	1	452	452
	67	12.5	2	827	1654
	68	12.5	3	1159	3477
	69	12.5	3	978	2934
	70	16.0	5	162	810
	71	16.0	5	205	1025
	72	16.0	5	146	730
	73	16.0	5	173	865

Resumo do aço

ACO	DIAM (mm)	C.TOTAL (m)	QUANT + 10% (Barras)	PESO + 10% (kg)
CA50	5.0	66.9	68.4	18.4
	6.3	68.9	64	467.8
	10.0	85.2	8	90.3
	16.0	34.3	4	59.6
CA60	5.0	739.9	-	125.4

CA50	636
CA60	125.4

Volume de concreto (C=30) = 6.42 m³
Área de forma = 77.85 m²

PROJETO ESTRUTURAL



TERMINAL INTEGRADO RODOVIÁRIO E METROPOLITANO



MODELO 3D - ESTRUTURA
Obs: Necessário Internet

LOCAL: CENTRO

MUNICÍPIO: ANTONIO LUIZ BENDO - PREFEITO MUNICIPAL

CONTÉUDO: VIGAS COBERTURA 1

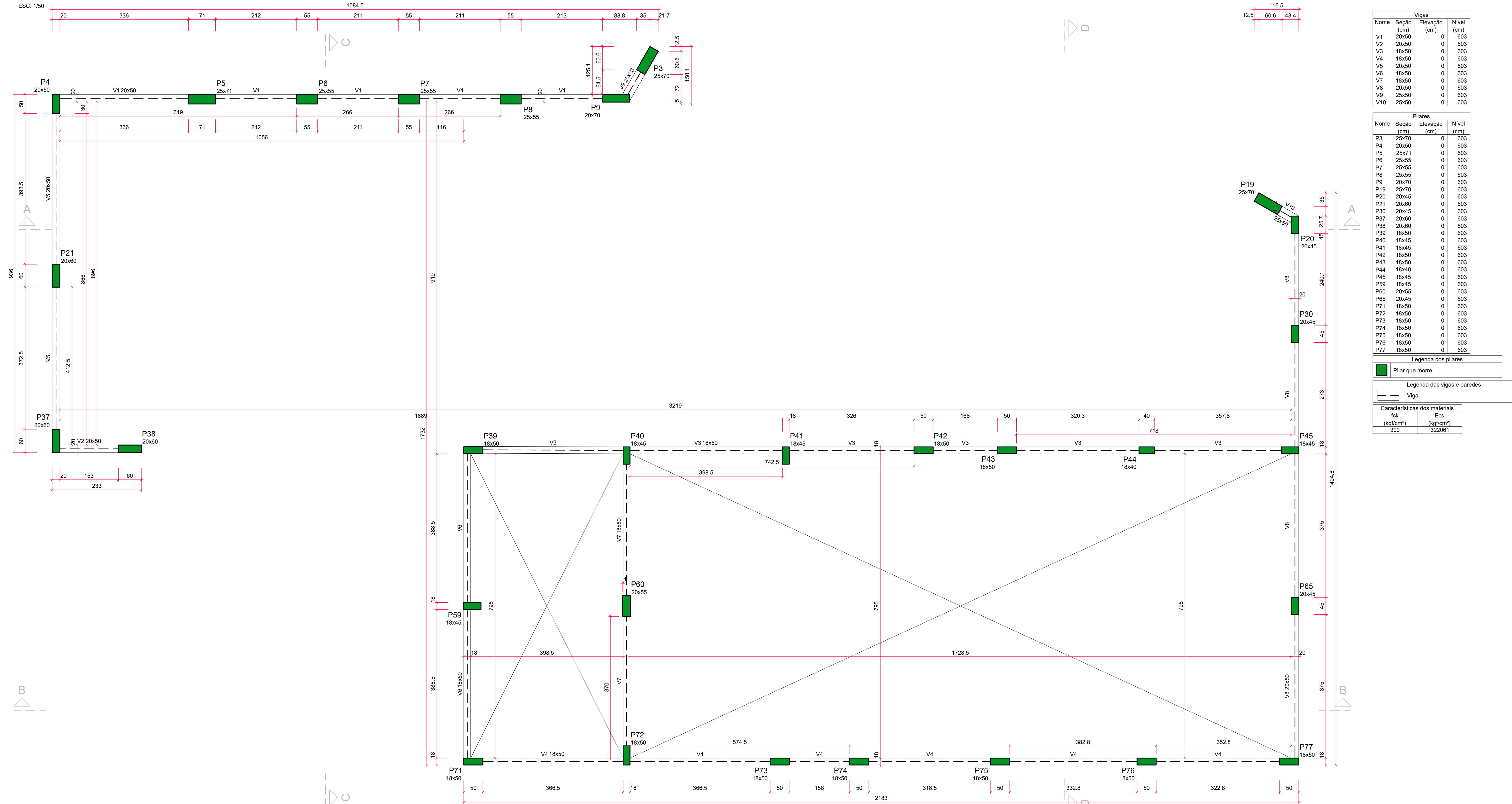
DATA: JULHO/2025

PROJETO: NATANIEL CARBOLIN DE LIMA - CREA-PR: 214962/D

REVISÃO: 01

FOLHA: 11/16

FORMA DO PAVIMENTO COBERTURA 2 (Nível 603)



Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	20x50	0	603
V2	20x50	0	603
V3	18x50	0	603
V4	18x50	0	603
V5	20x50	0	603
V6	18x50	0	603
V7	18x50	0	603
V8	20x50	0	603
V9	25x50	0	603
V10	25x50	0	603

Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P3	25x70	0	603
P4	20x50	0	603
P5	25x71	0	603
P6	25x55	0	603
P7	25x55	0	603
P8	25x55	0	603
P9	20x70	0	603
P19	25x70	0	603
P20	20x45	0	603
P21	20x60	0	603
P30	20x45	0	603
P37	20x60	0	603
P38	20x60	0	603
P39	18x50	0	603
P40	18x45	0	603
P41	18x45	0	603
P42	18x50	0	603
P43	18x50	0	603
P44	18x40	0	603
P45	18x45	0	603
P59	18x45	0	603
P60	20x55	0	603
P65	20x45	0	603
P71	18x50	0	603
P72	18x50	0	603
P73	18x50	0	603
P74	18x50	0	603
P75	18x50	0	603
P76	18x50	0	603
P77	18x50	0	603

Legenda dos pilares

Pilar que morre

Legenda das vigas e paredes

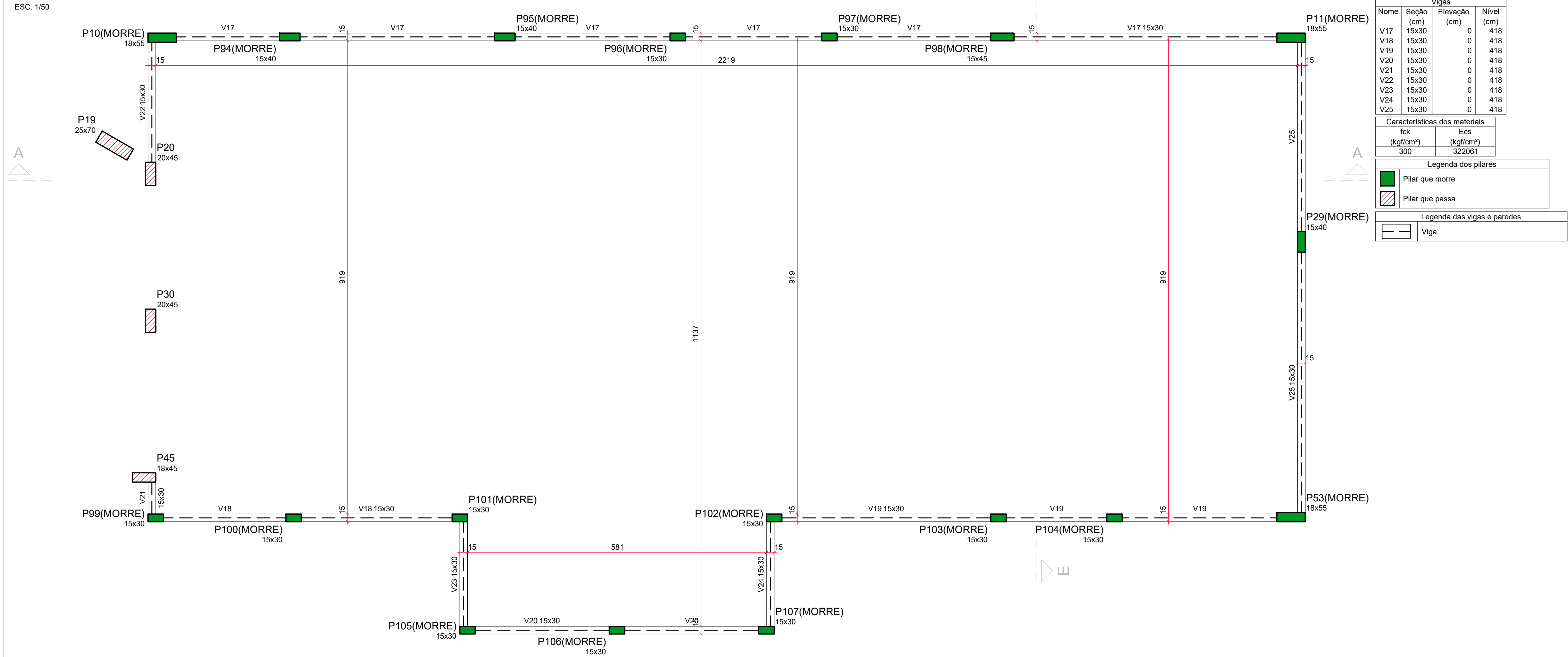
Viga

Características dos materiais

fck (kgf/cm²) Ecs (kgf/cm²)

300 322061

FORMA INTERMEDIÁRIA DO PAVIMENTO COBERTURA 2 (Nível 418)



Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V17	15x30	0	418
V18	15x30	0	418
V19	15x30	0	418
V20	15x30	0	418
V21	15x30	0	418
V22	15x30	0	418
V23	15x30	0	418
V24	15x30	0	418
V25	15x30	0	418

Características dos materiais	
fck (kgf/cm²)	Ecs (kgf/cm²)
300	322061

Legenda dos pilares

Pilar que morre

Pilar que passa

Legenda das vigas e paredes

Viga

Obs: atentar-se aos detalhes das chapas metálicas conforme previsto nos projetos executivos da estrutura metálica.

PROJETO ESTRUTURAL

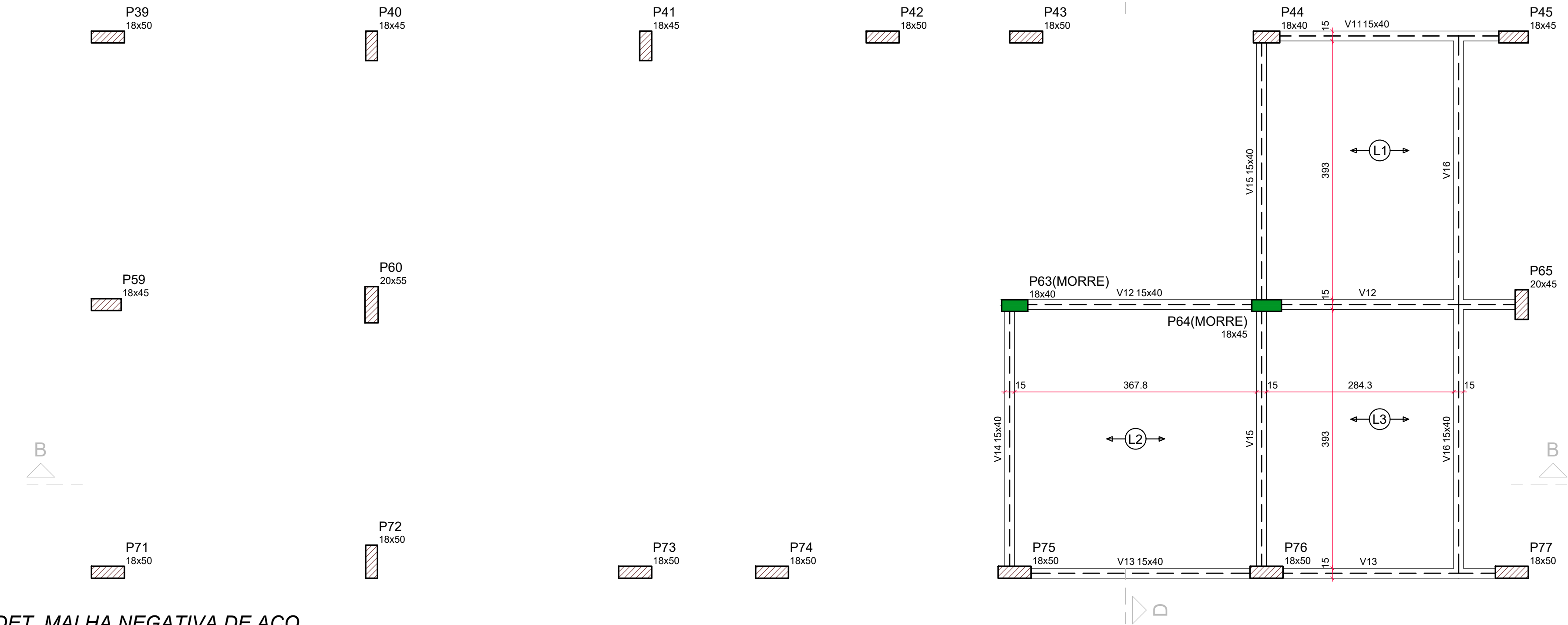


MÓDELO 3D - ESTRUTURA
Obs: Necessário Internet

OBRA		TERMINAL INTEGRADO RODOVIÁRIO E METROPOLITANO		DATA		JULHO/2025					
LOCAL		CENTRO		CIDADE		SANTA TEREZINHA DE ITAIPU - PR		303		87.802	
MUNICÍPIO		ANTONIO LUIZ BENDO - PREFEITO MUNICIPAL		PROJETISTA		NATANAEL CARBOLIN DE LIMA		CREA-PR: 214962/D		Documento assinado digitalmente	
CONTEÚDO		• FORMA DO PAVIMENTO COBERTURA 2 • FORMA INTERMEDIARIA DO PAVIMENTO COBERTURA 2				NATANAEL CARBOLIN DE LIMA		Data: 12/11/2025 22:28:45-0300		Verifique em https://validar.ic.gov.br	
ESPECIFICAÇÃO:		ESTRUTURAL		REVISÃO:		01		FOLHA:		12/16	

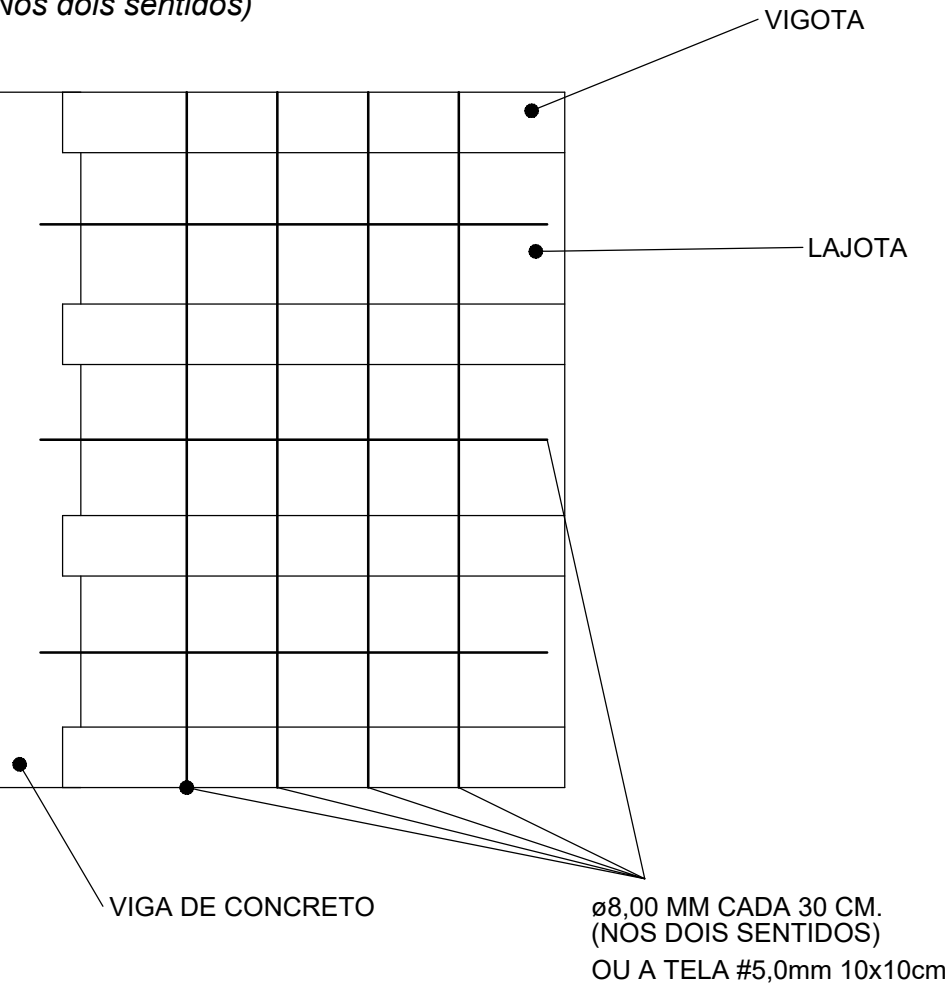
FORMA INTERMEDIÁRIA DO PAVIMENTO COBERTURA 2 (Nível 476)

ESC. 1/50



DET. MALHA NEGATIVA DE AÇO

(Nos dois sentidos)



Legenda dos pilares	
	Pilar que morre
	Pilar que passa
Legenda das vigas e paredes	
	Viga

Lajes							
Dados				Sobrecarga (kgf/m²)			
Nome	Tipo	Altura (cm)	Elevação (cm)	Nível (cm)	Peso próprio (kgf/m²)	Adicional	Água
L1	Treliçada 1D	12	0	476	147	50	269
L2	Treliçada 1D	12	0	476	147	50	208
L3	Treliçada 1D	12	0	476	147	50	269

Características dos materiais			
fck (kgf/cm²)	Ecs (kgf/cm²)		
300	322061		

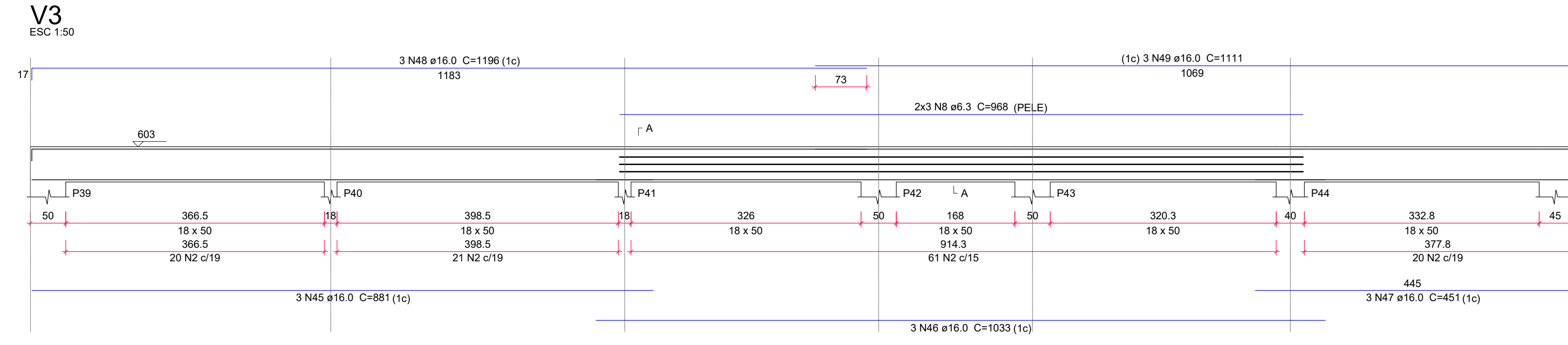
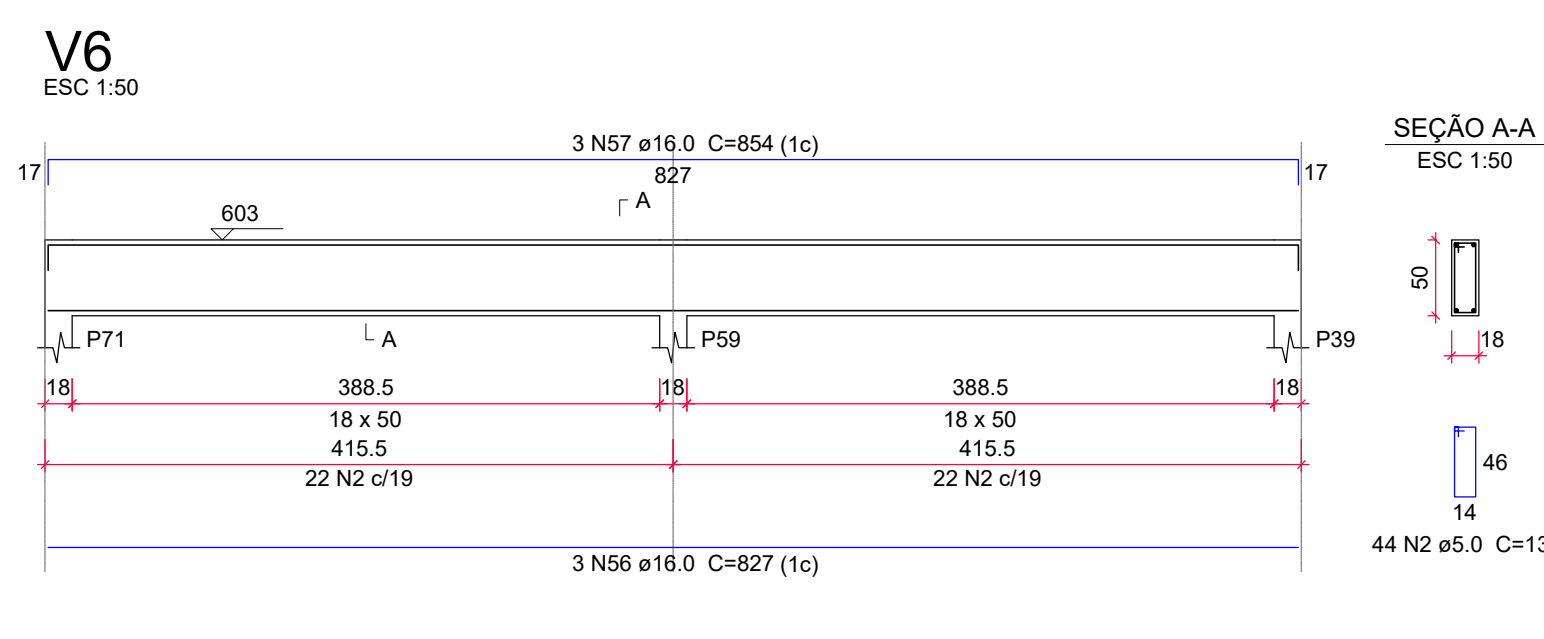
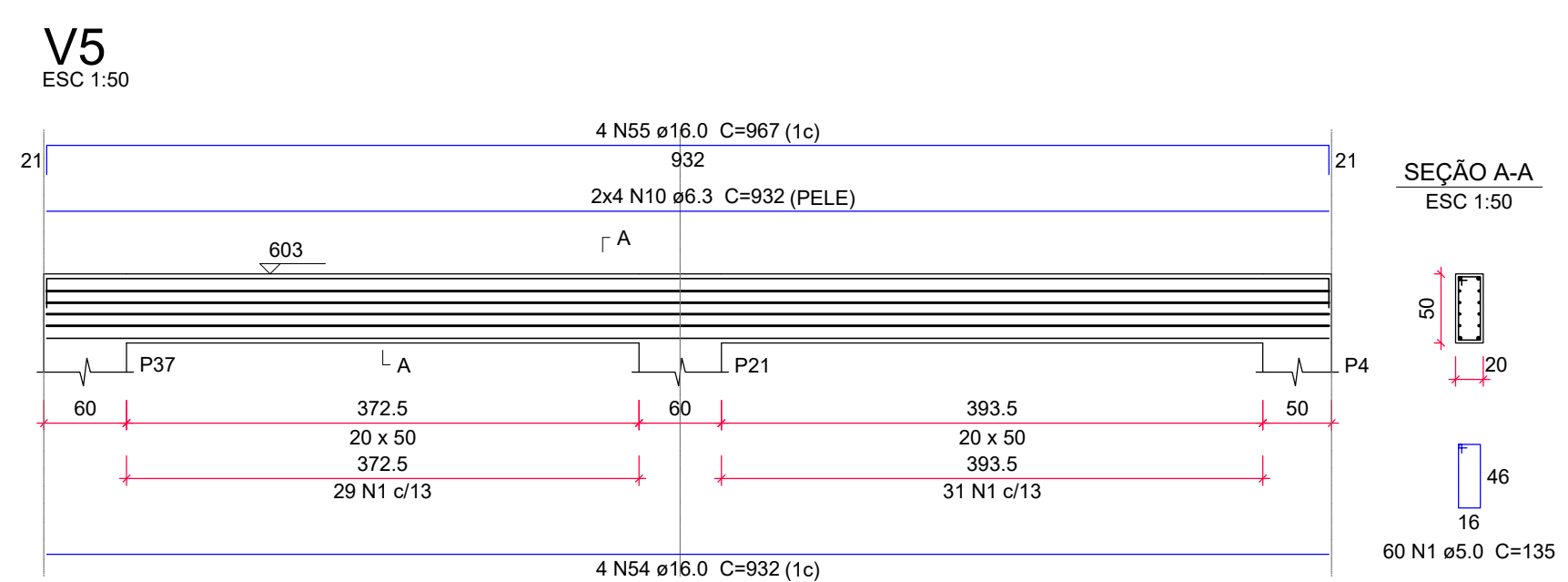
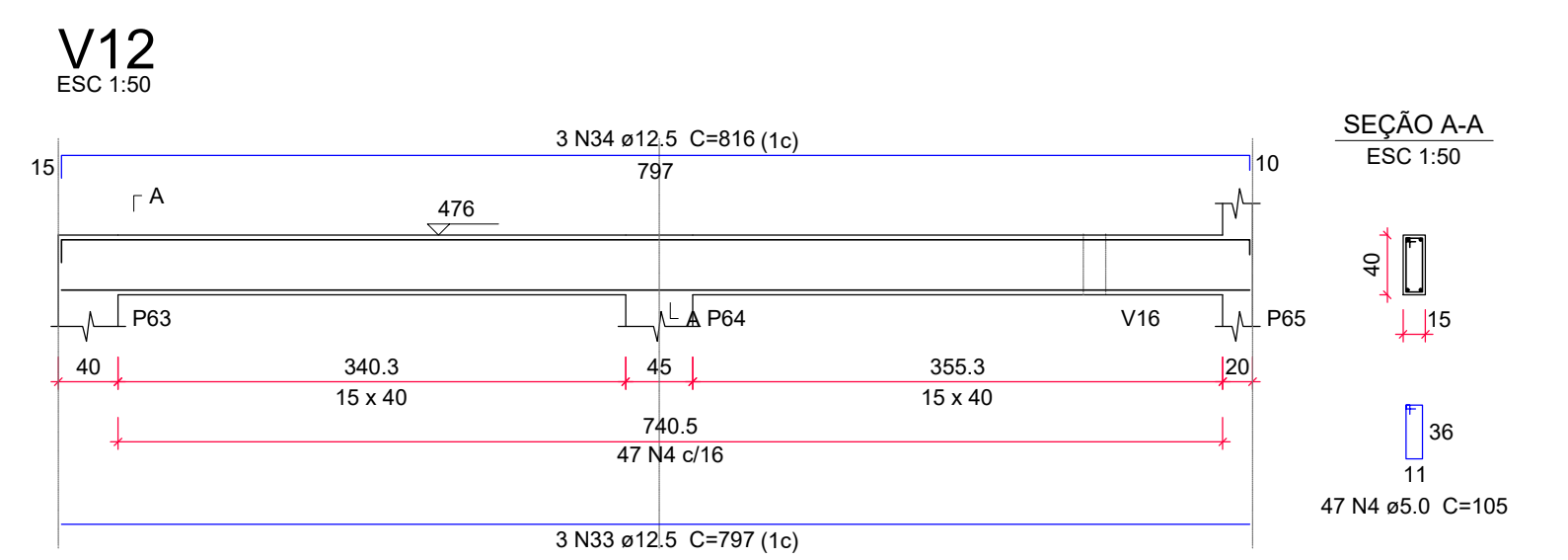
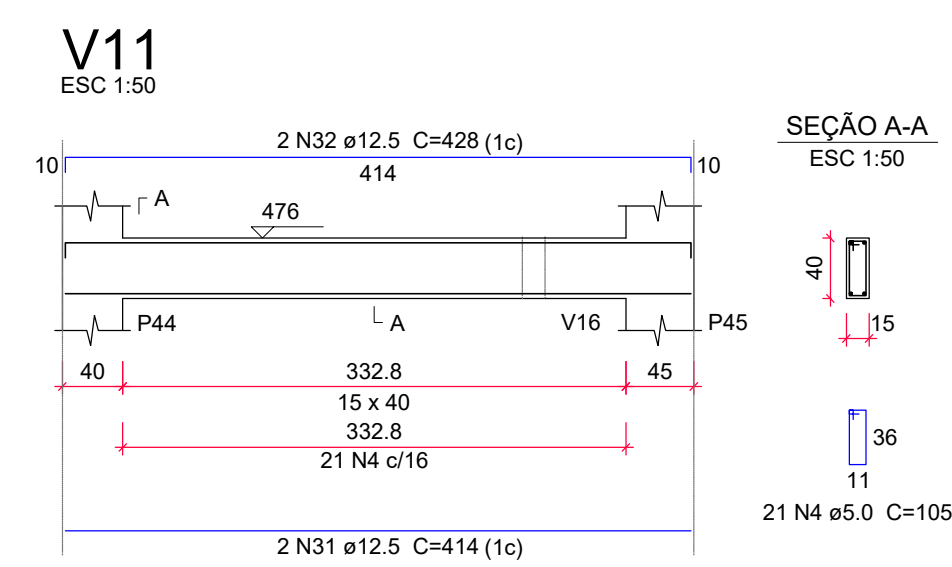
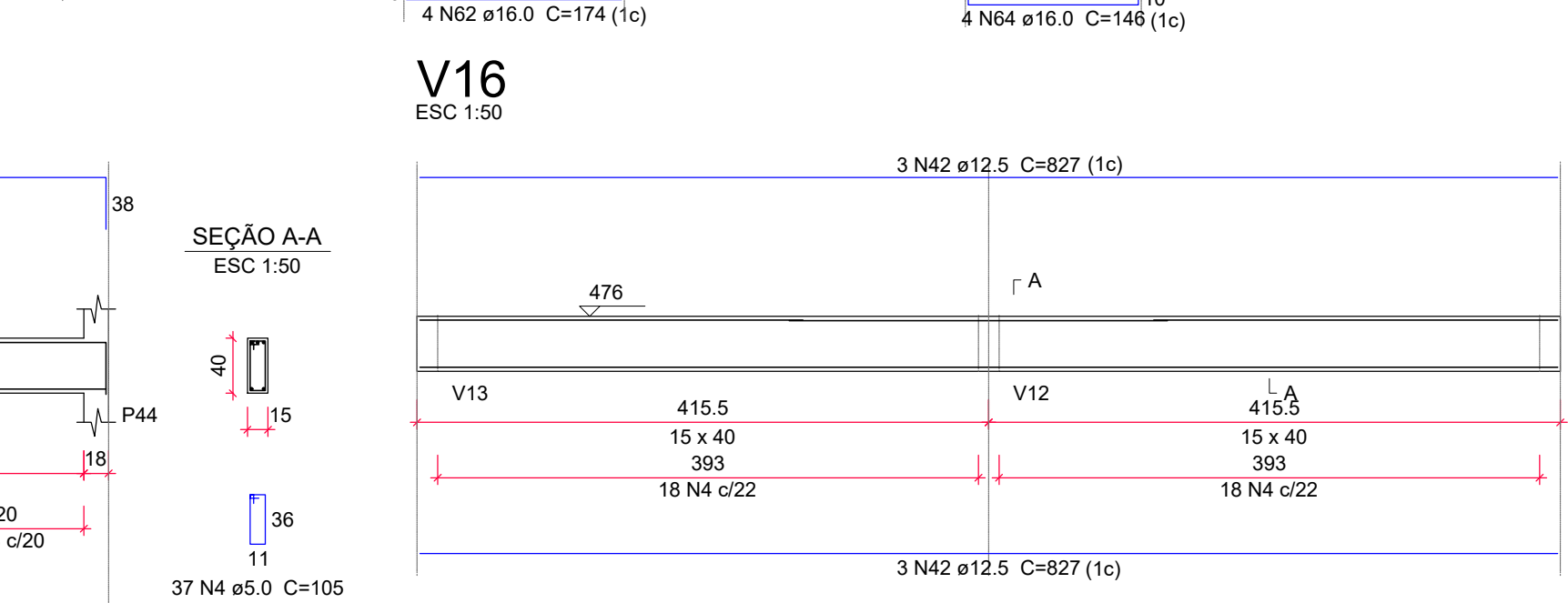
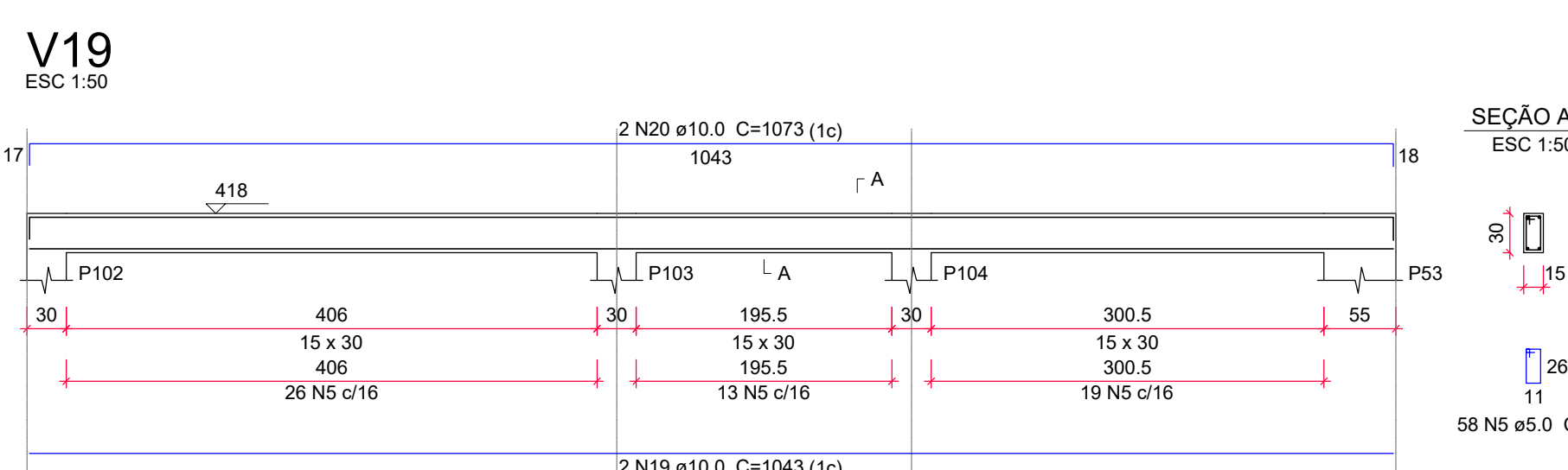
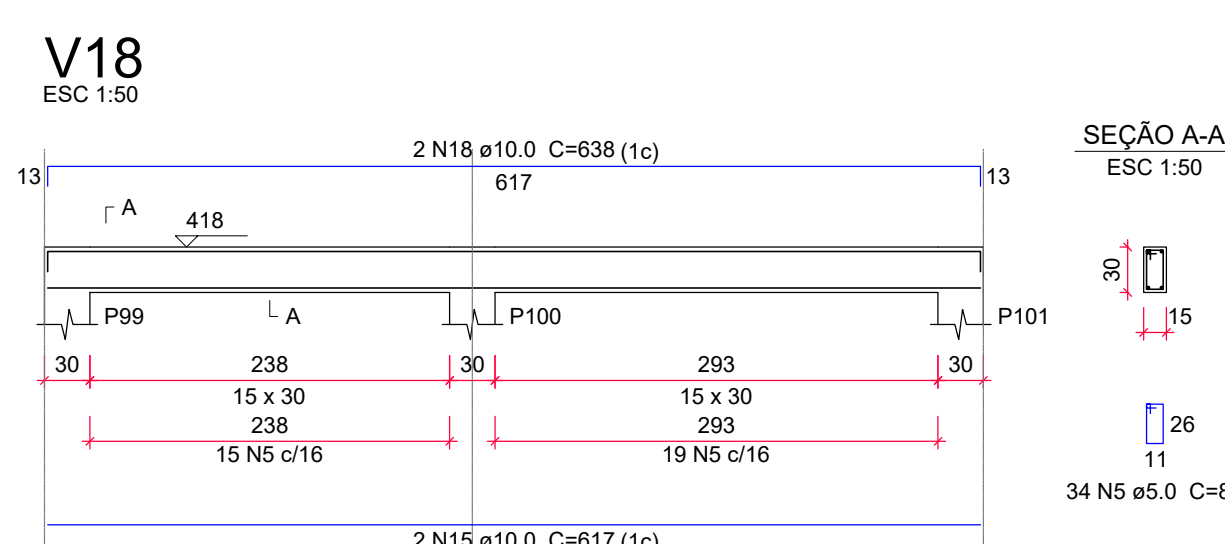
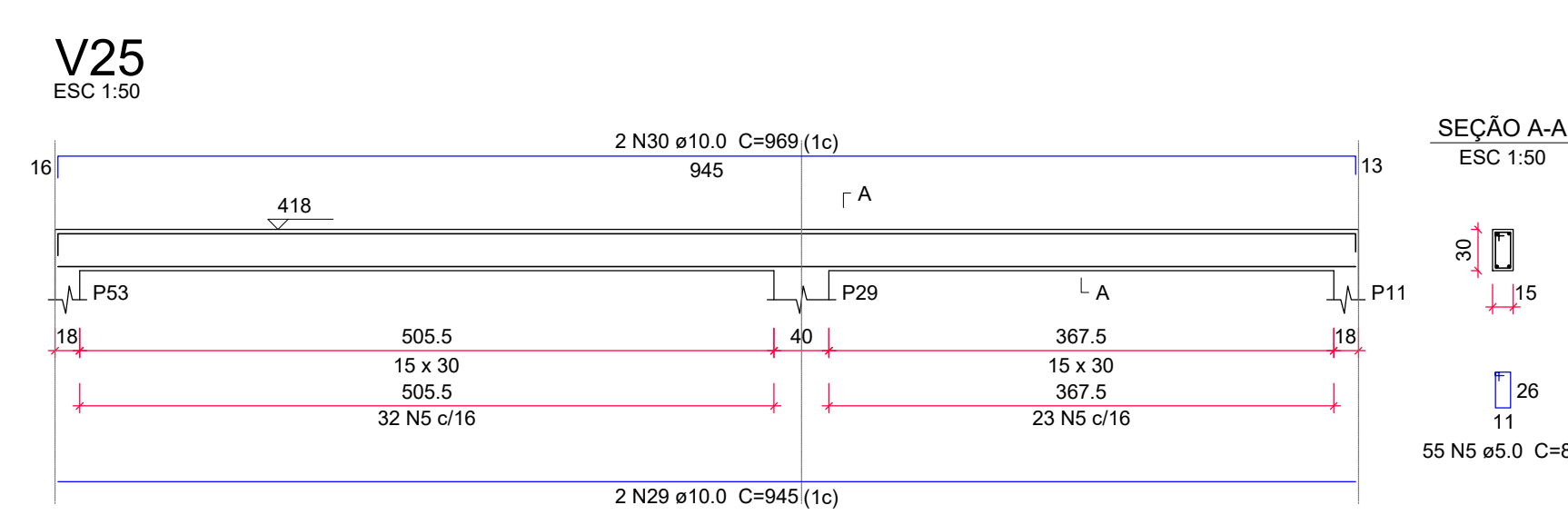
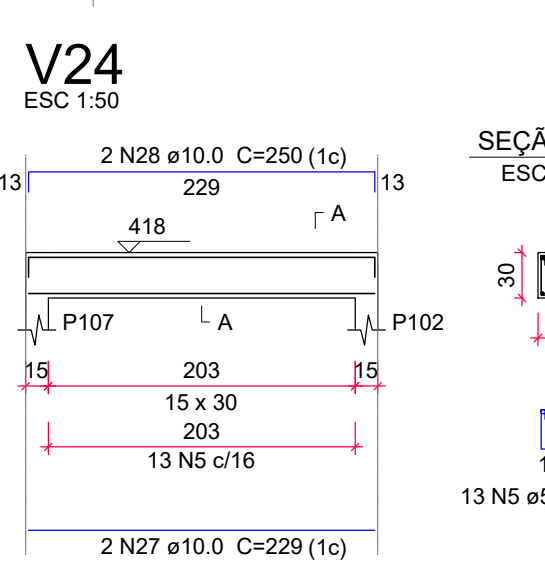
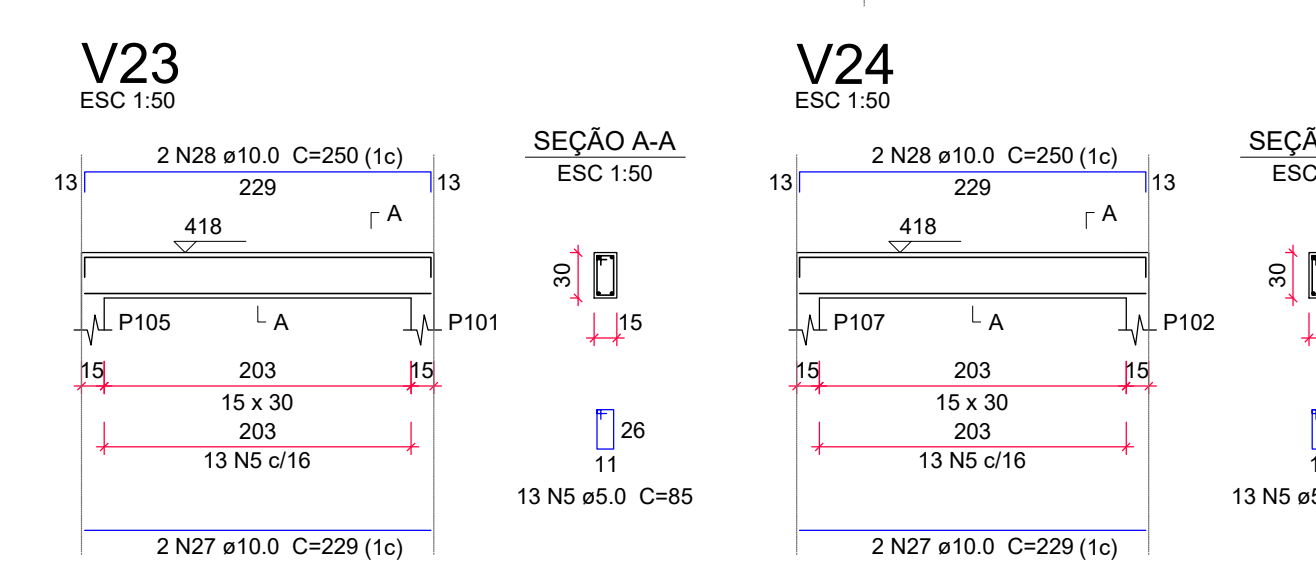
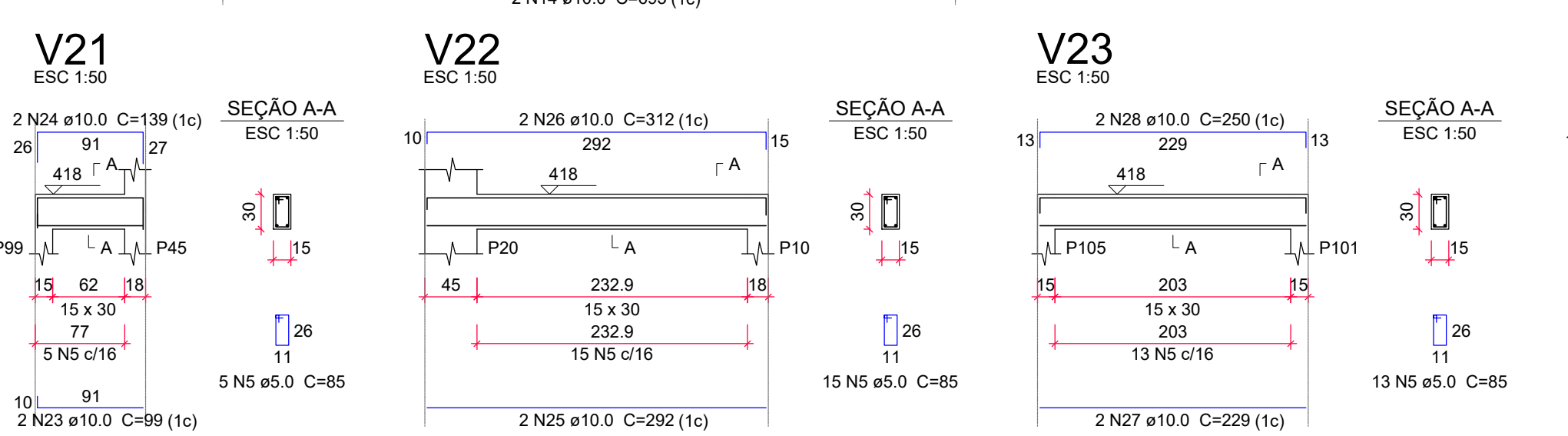
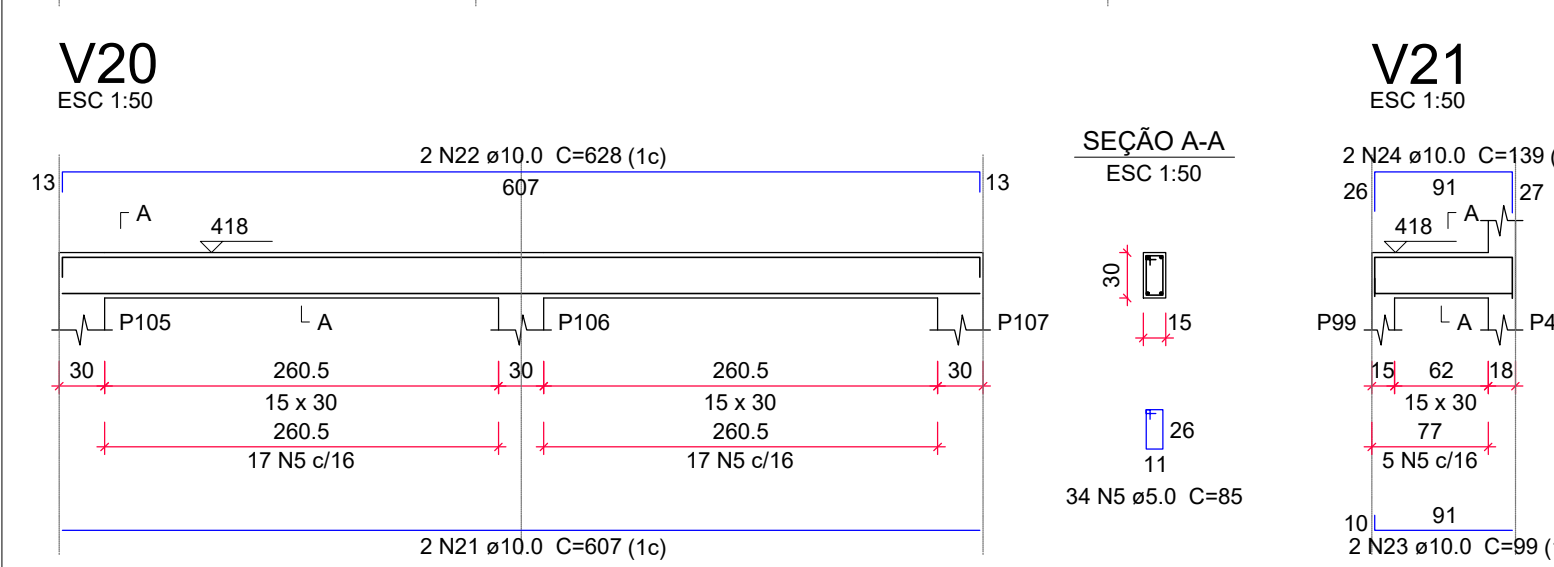
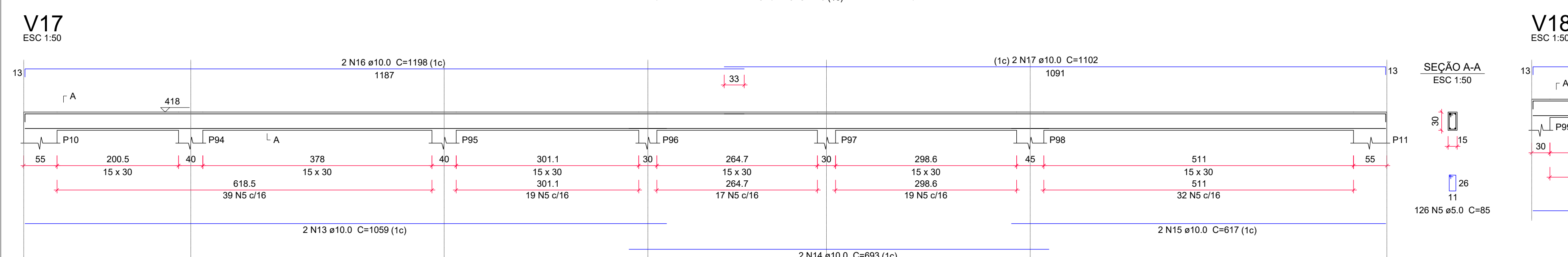
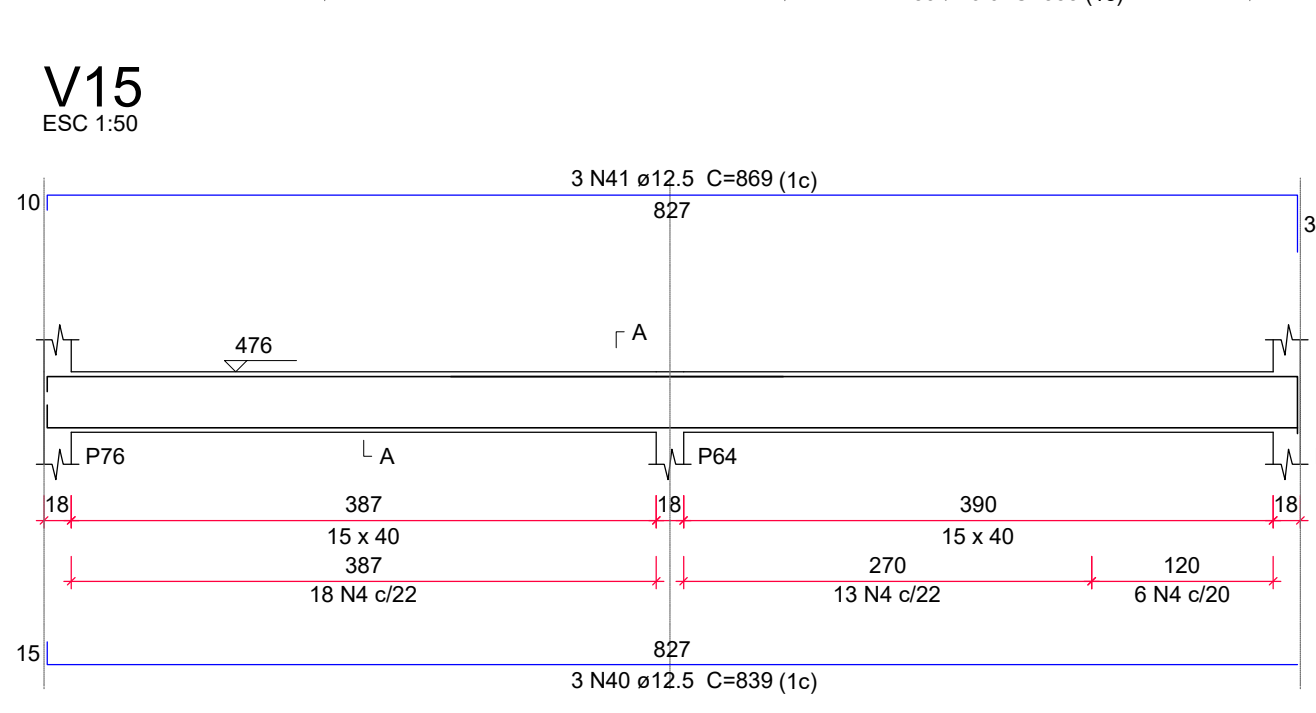
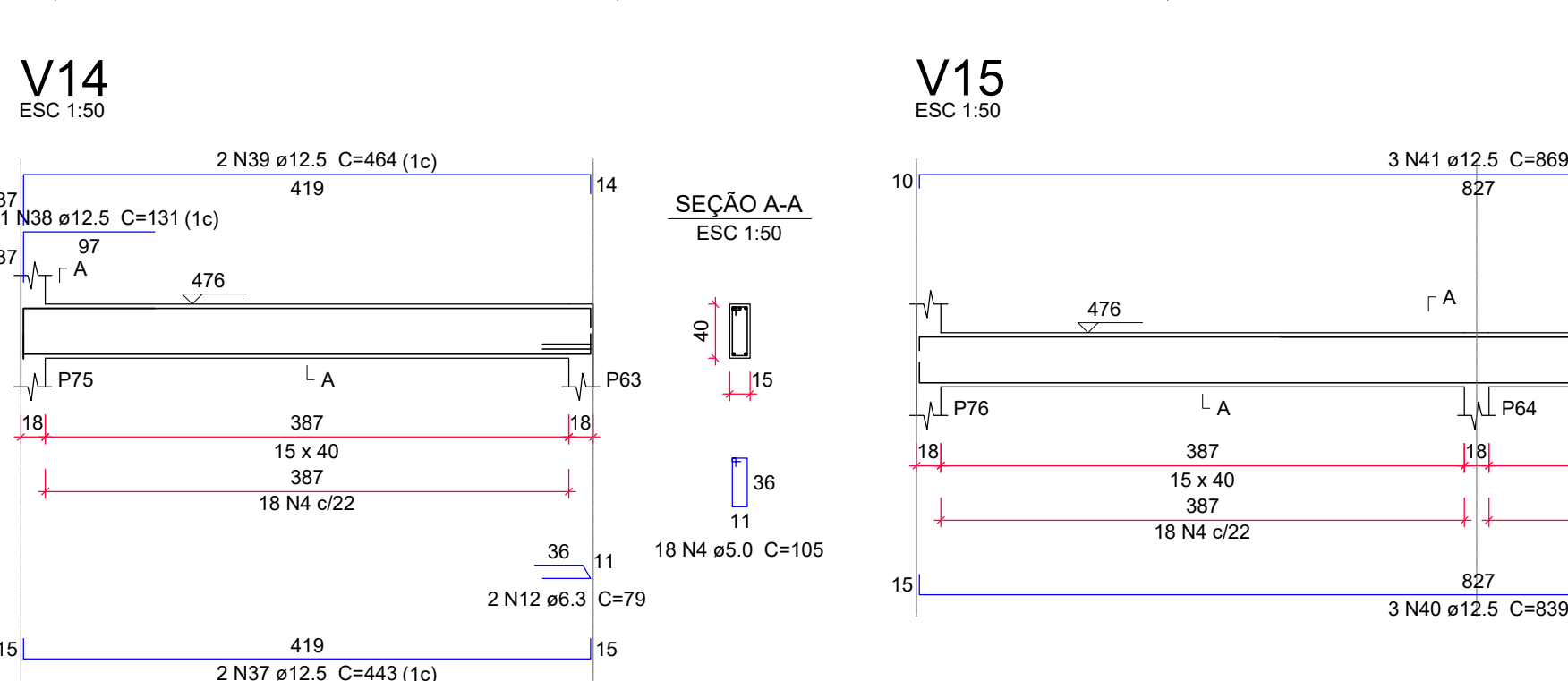
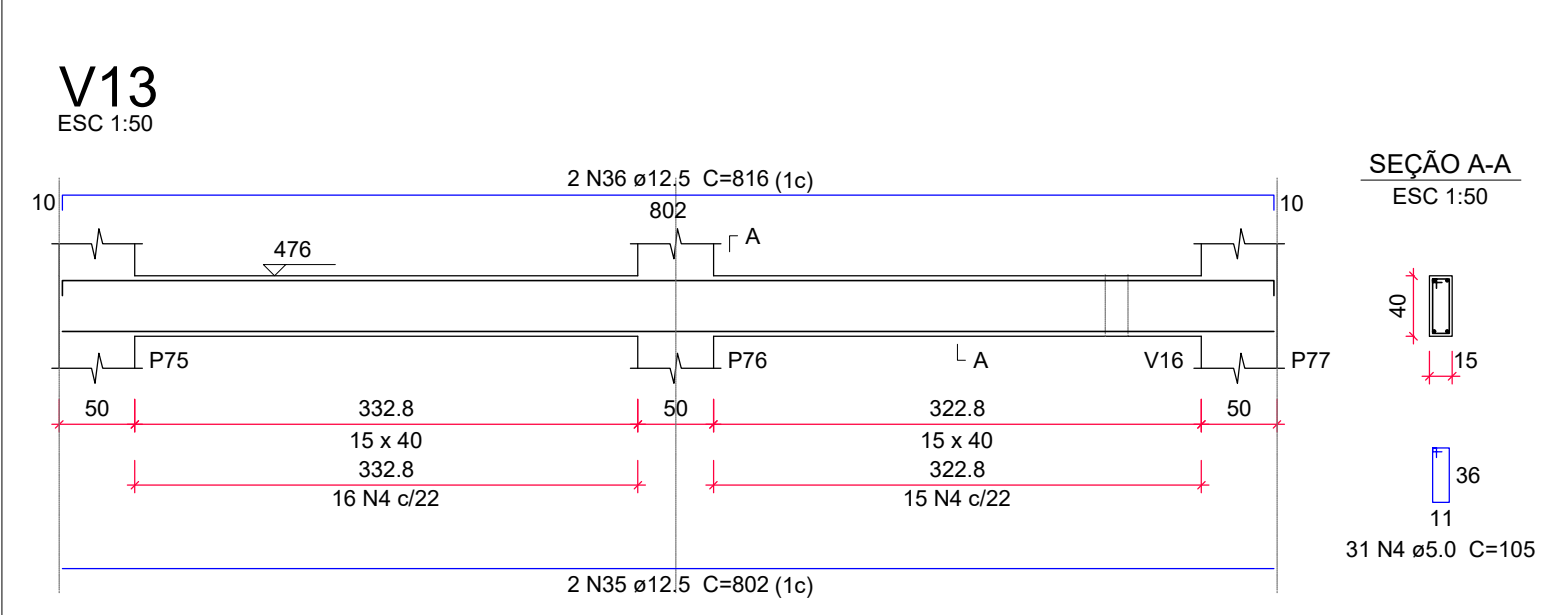
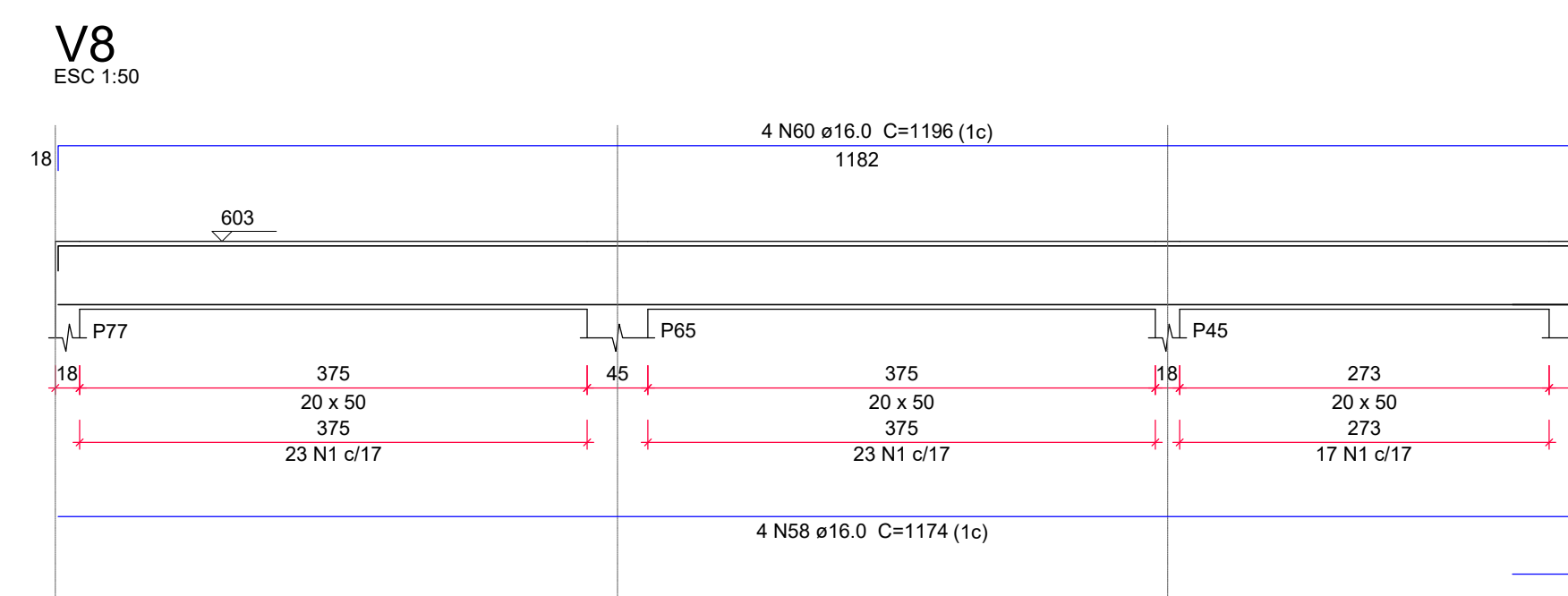
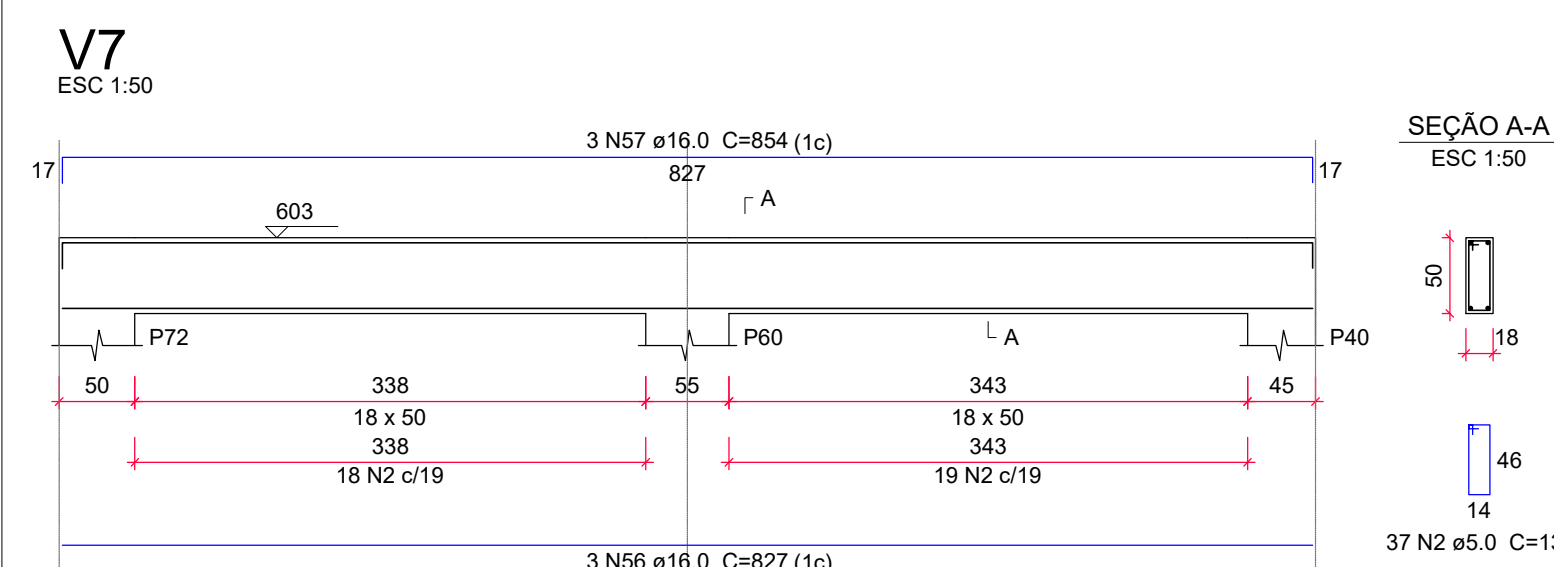
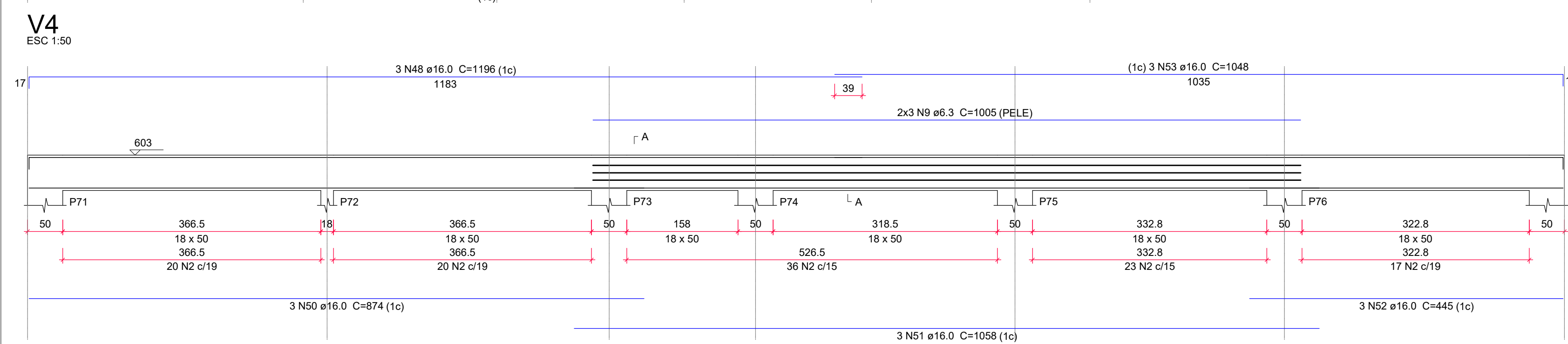
Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V11	15x40	0	476
V12	15x40	0	476
V13	15x40	0	476
V14	15x40	0	476
V15	15x40	0	476
V16	15x40	0	476

PROJETO ESTRUTURAL



MODELO 3D - ESTRUTURA
Obs: Necessário Internet

OBRA: TERMINAL INTEGRADO RODOVIÁRIO E METROPOLITANO		DATA: JULHO/2025	
LOCAL: CENTRO	CIDADE: SANTA TEREZINHA DE ITAIPU - PR	303	87.802
MUNICÍPIO: ANTONIO LUIZ BENDO - PREFEITO MUNICIPAL		PROJETISTA: NATANAEL CARBOLIN DE LIMA CREA-PR: 214962/D Documento assinado digitalmente gov.br NATANAEL CARBOLIN DE LIMA Data: 12/11/2025 22:39:45-0300 Verifique em https://validar.iti.gov.br	
CONTEÚDO: • FORMA INTERMEDIÁRIA DO PAVIMENTO COBERTURA 2; • DETALHES.		ESPECIFICIDADE: ESTRUTURAL	REVISÃO: 01 FOLHA: 13/16

[illegible]

V1

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	102	135	13770
CA50	2	8.0	4	694	2776
	3	8.0	4	600	2400
	4	16.0	4	1126	4504
	5	16.0	4	421	1684
	6	16.0	4	1196	4784
	7	16.0	4	416	1664

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	8.0	51.8	5	22.5
	16.0	126.4	12	219.4
CA60	5.0	137.7	-	23.3
PESO TOTAL (kg)				
CA50	241.8			
CA60	23.3			

Volume de concreto (C-30) = 1.18 m³
Área de forma = 14.2 m²

Relação do aço

V2	V3	V4
V5	V6	V7
V8	V9	V10
V11	V12	V13
V14	V15	V16
V17	V18	V19
V20	V21	V22
V23	V24	V25

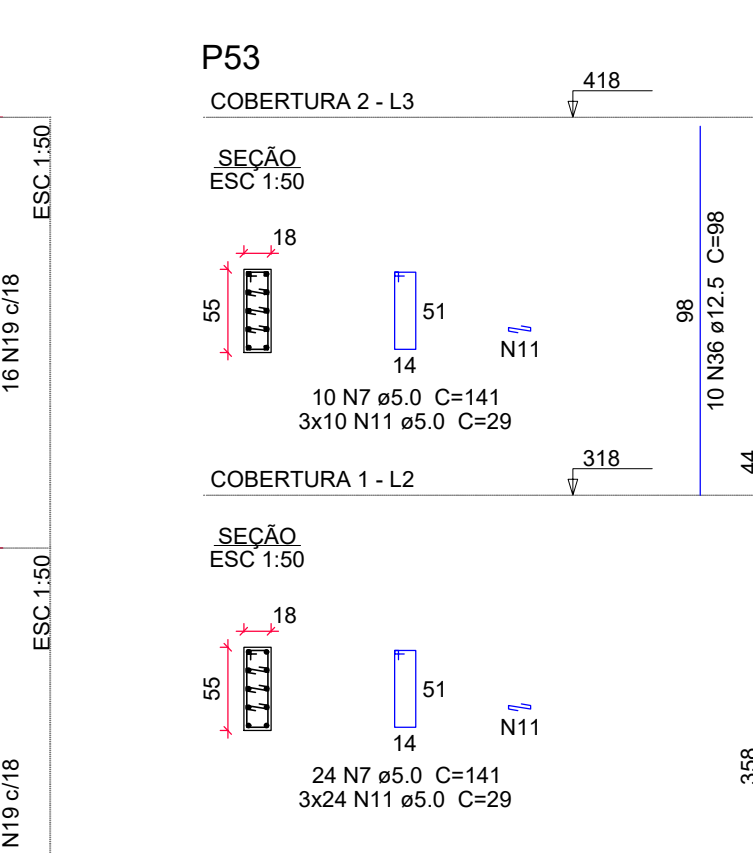
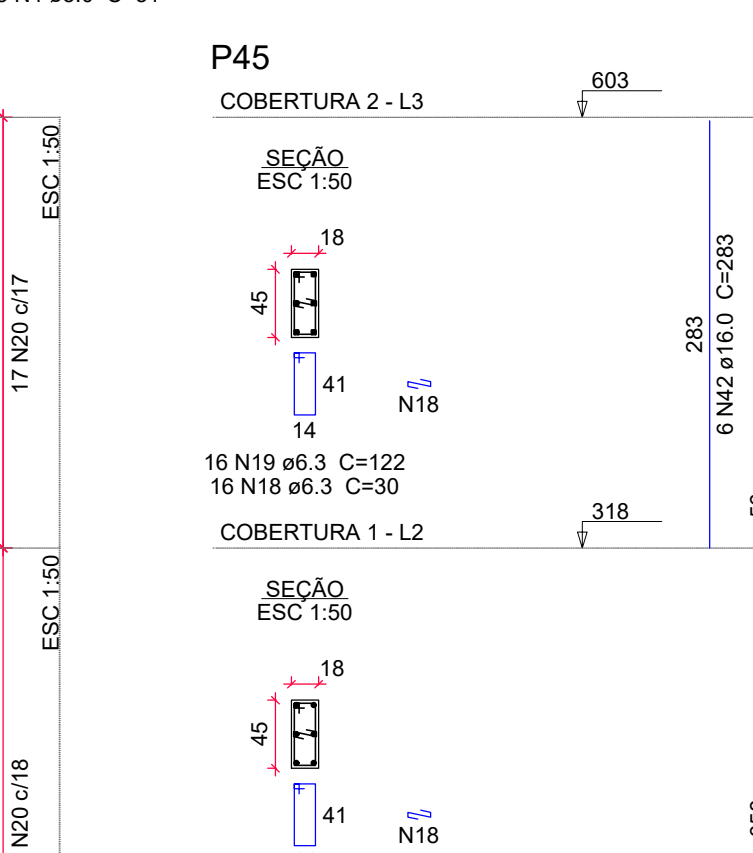
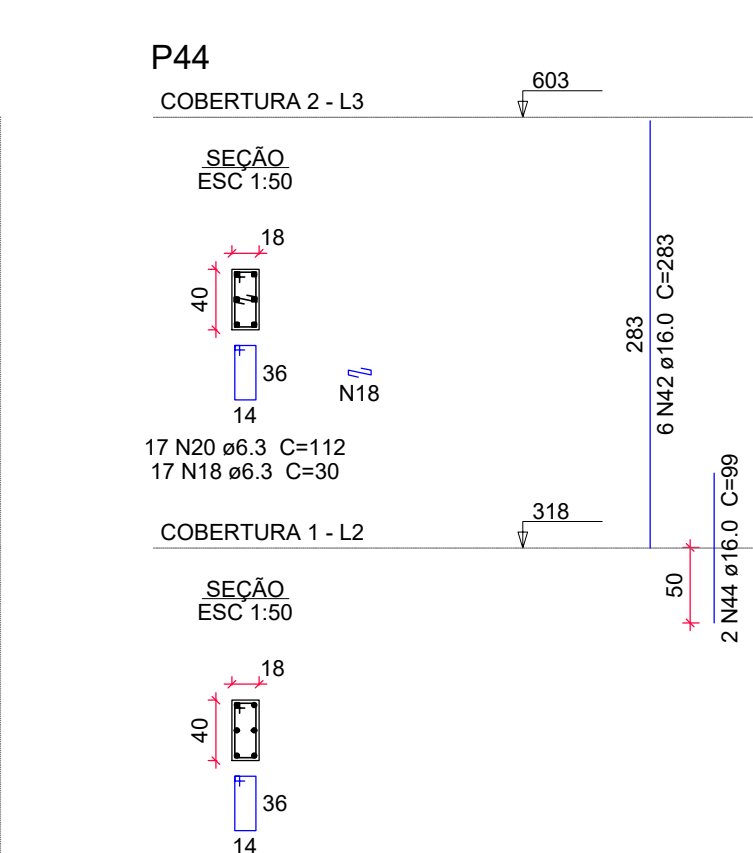
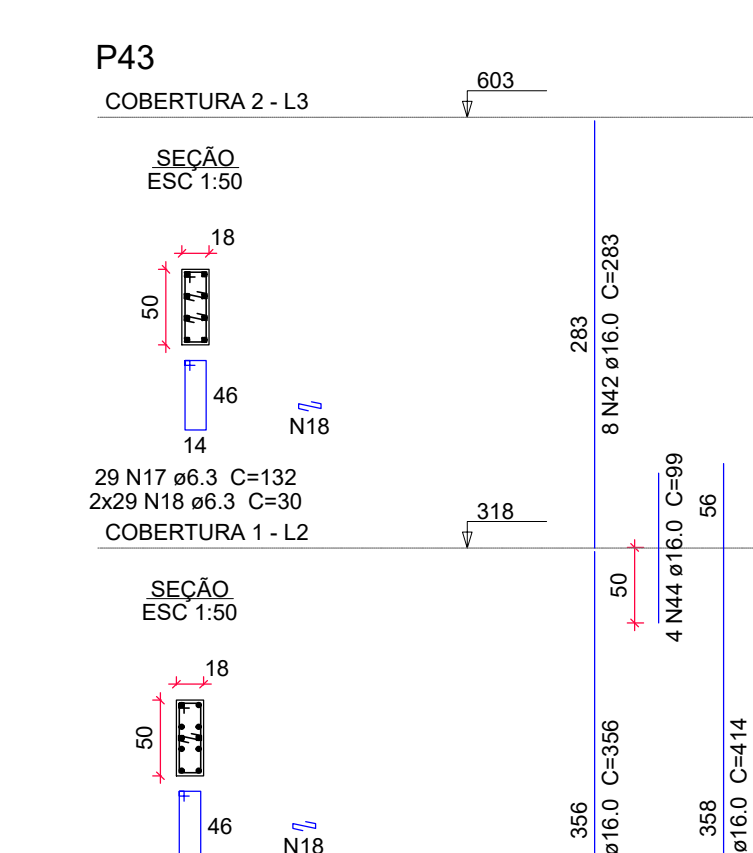
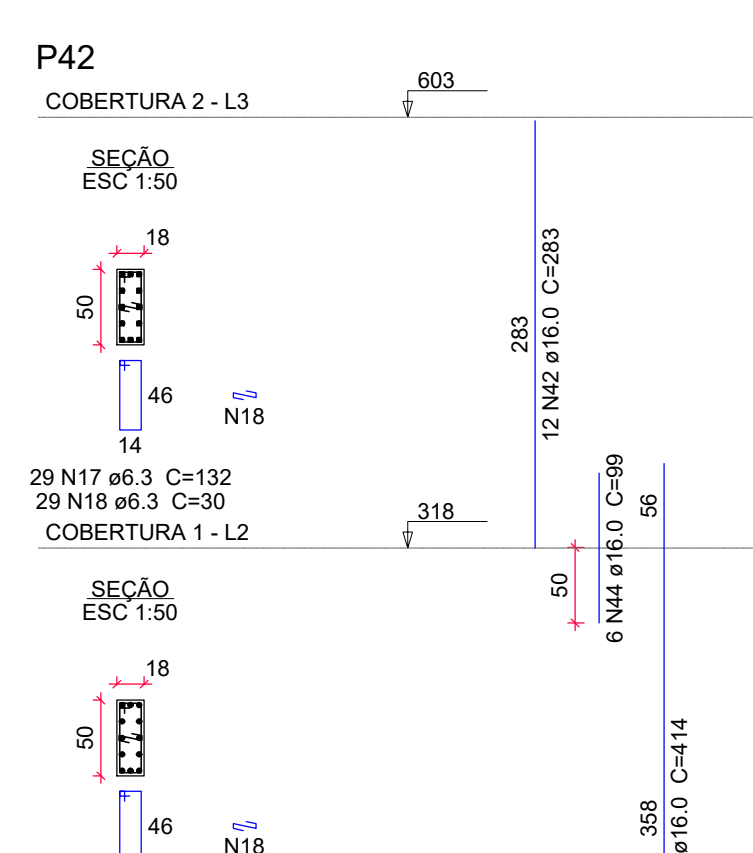
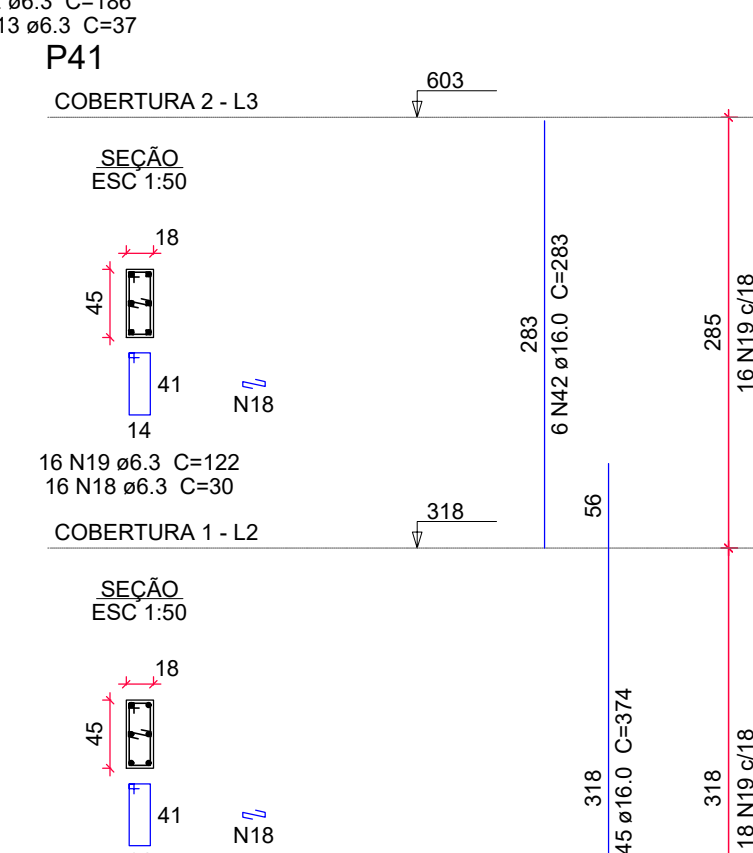
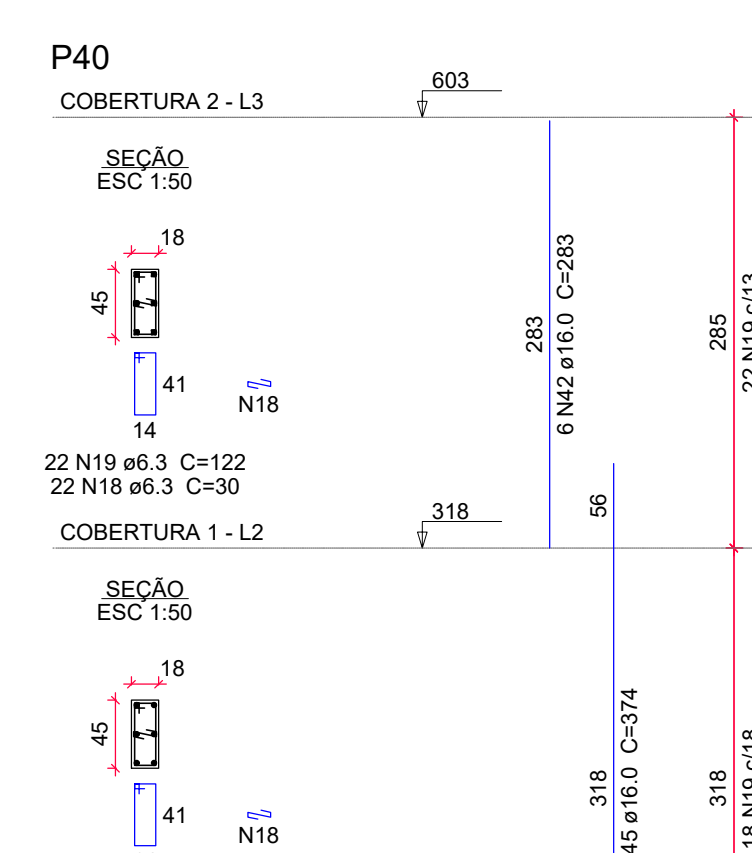
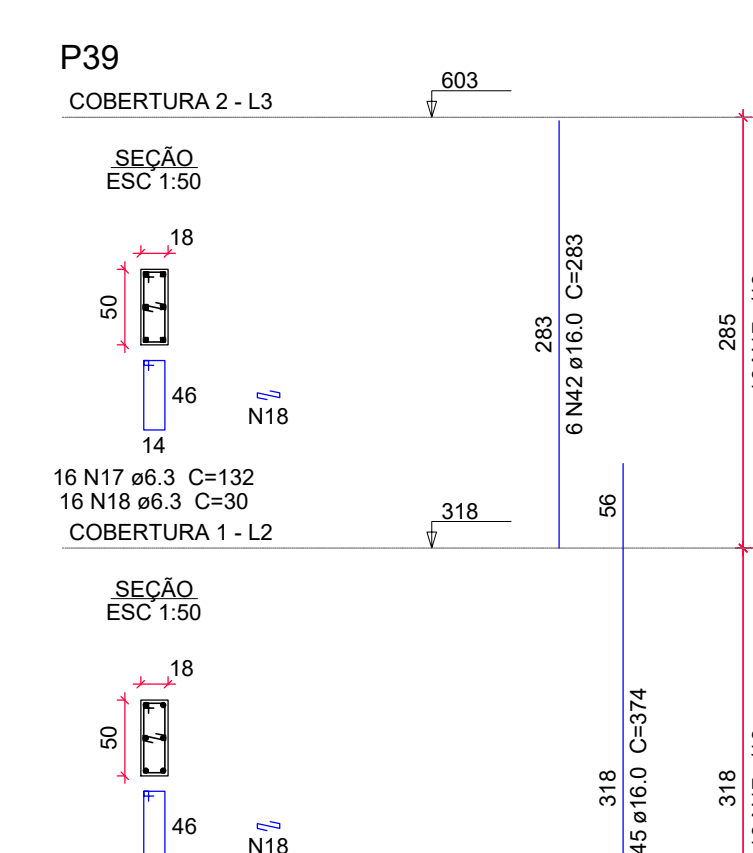
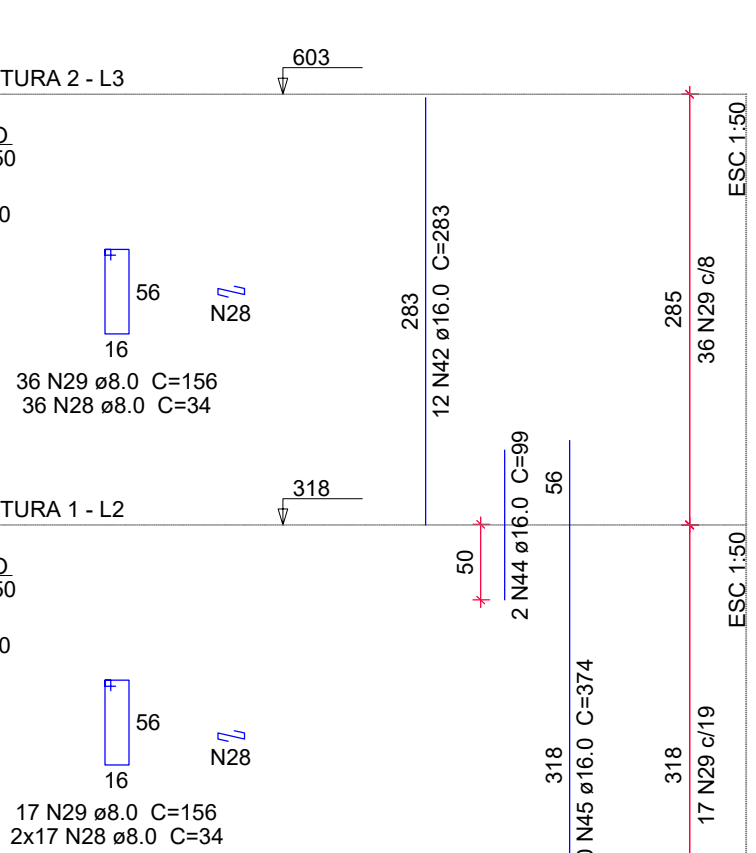
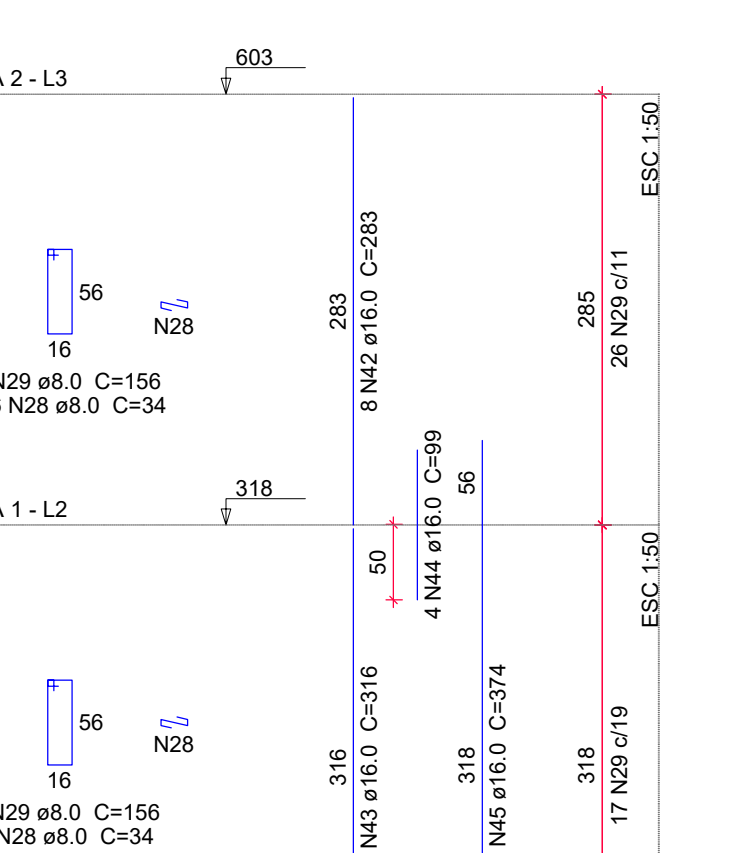
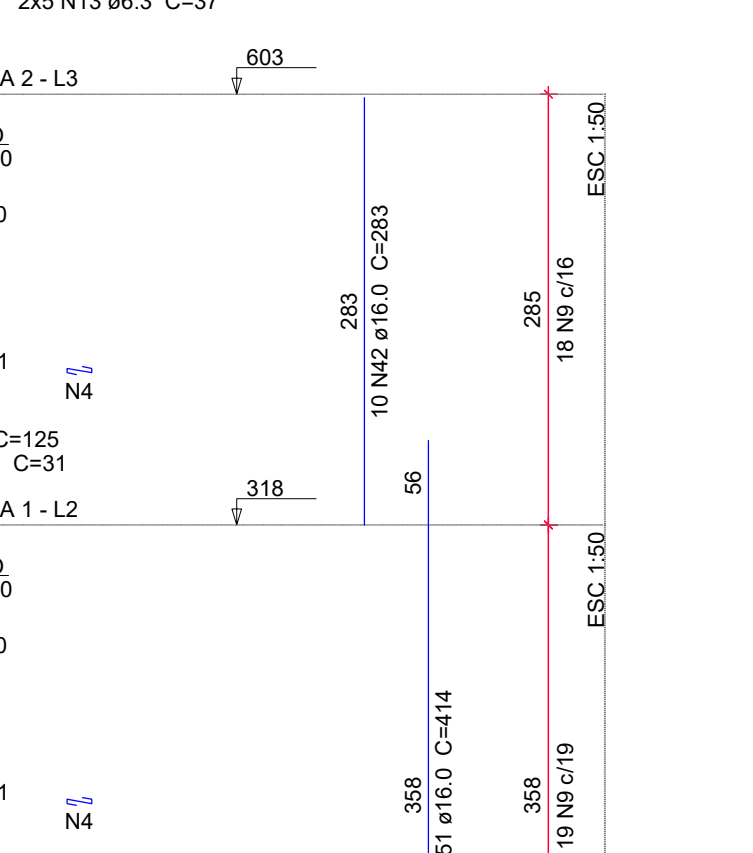
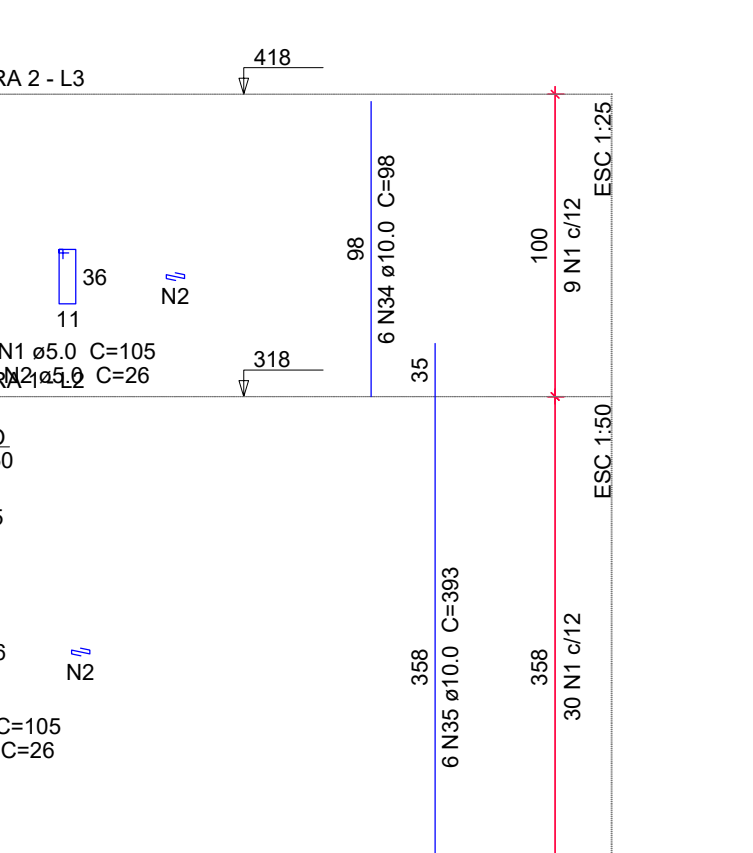
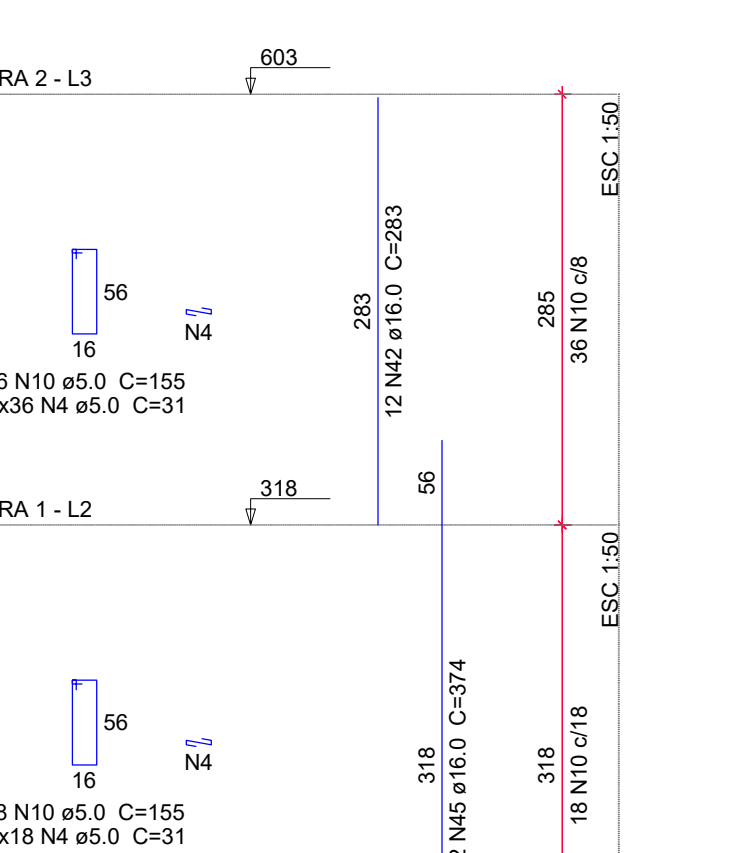
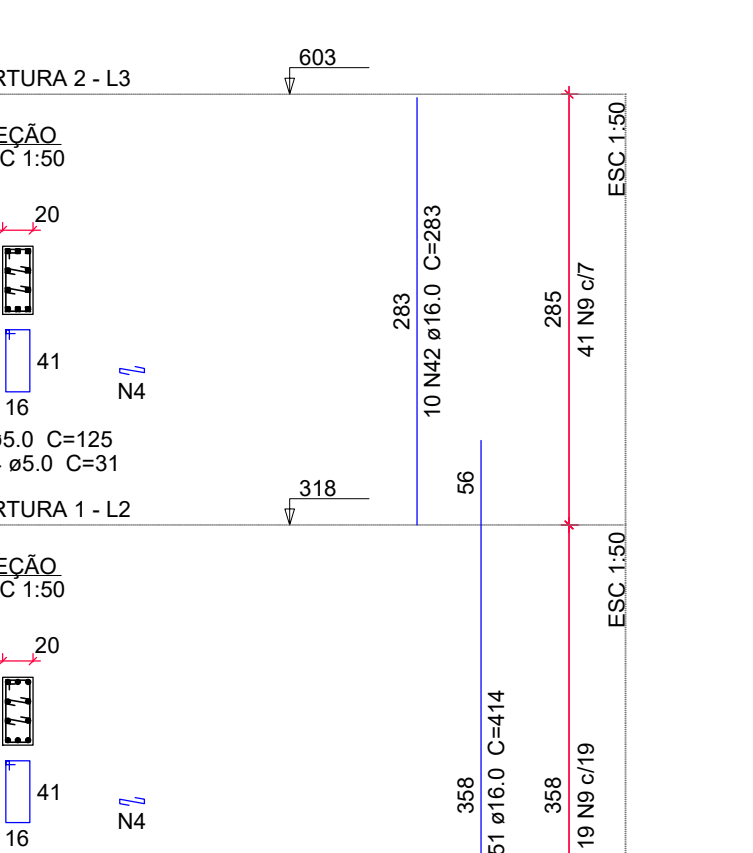
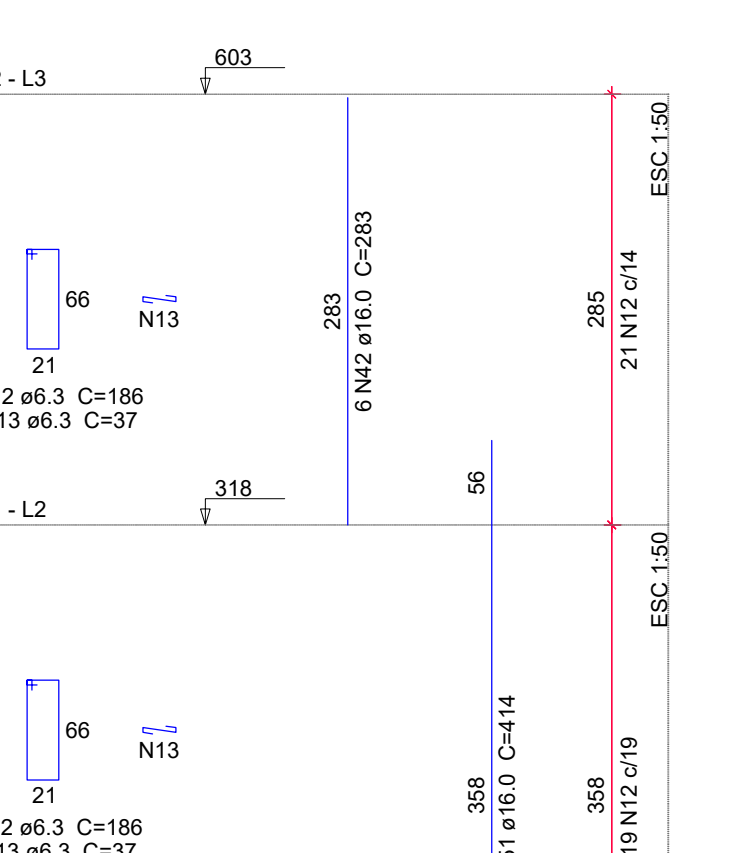
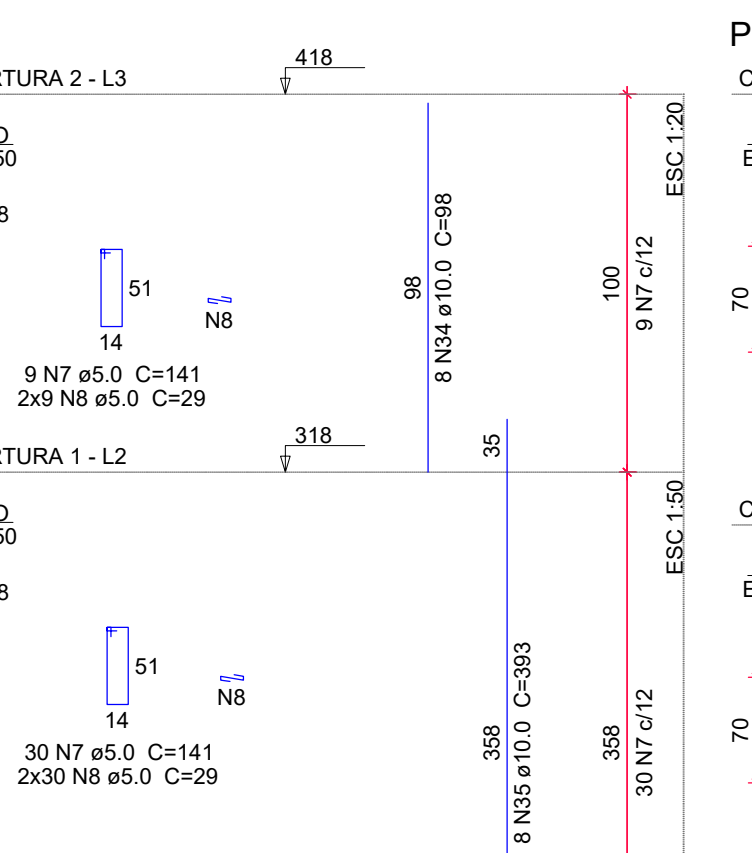
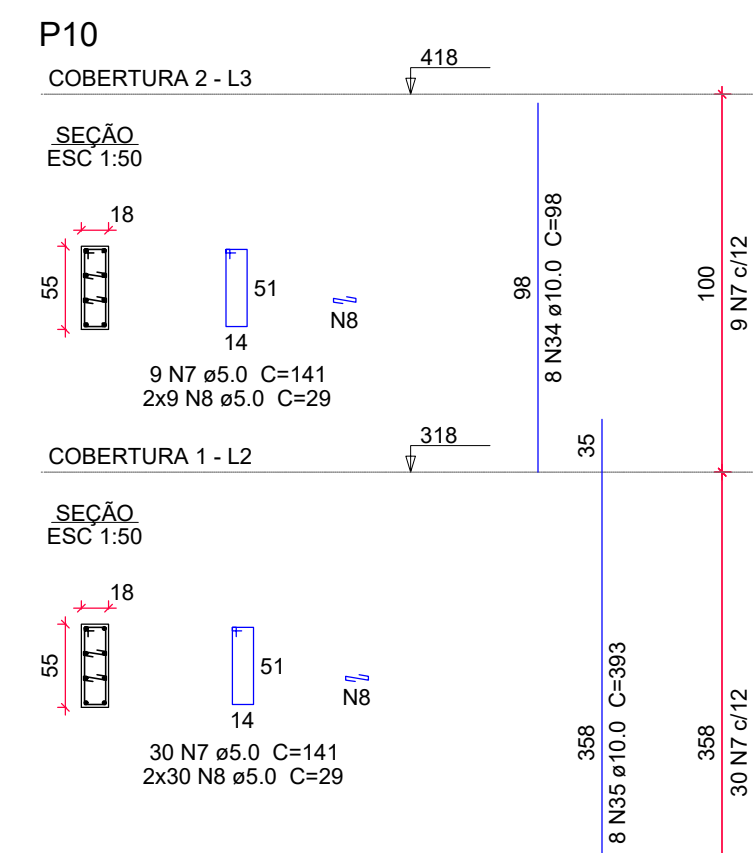
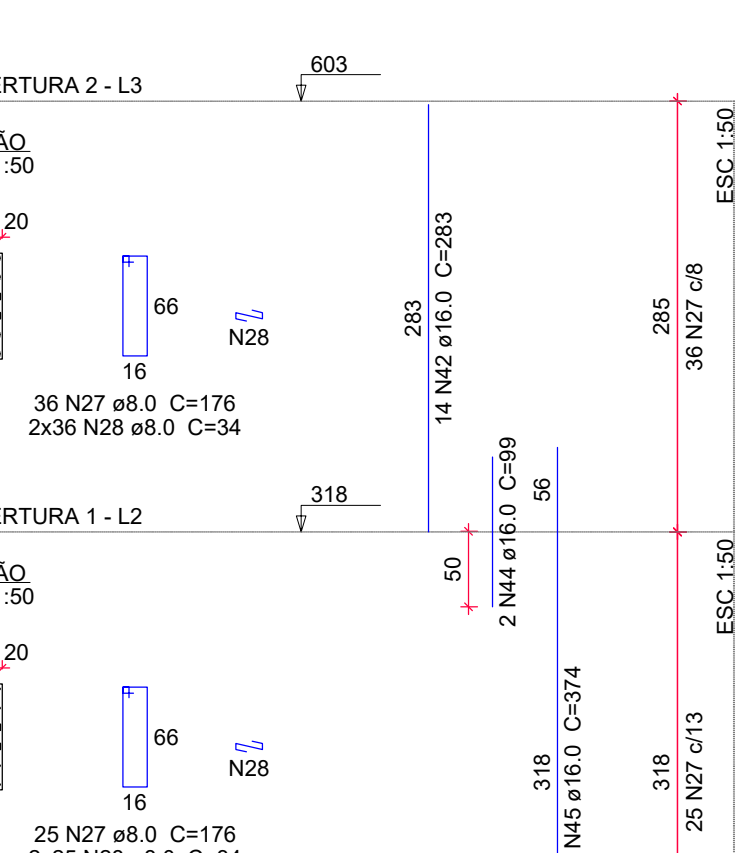
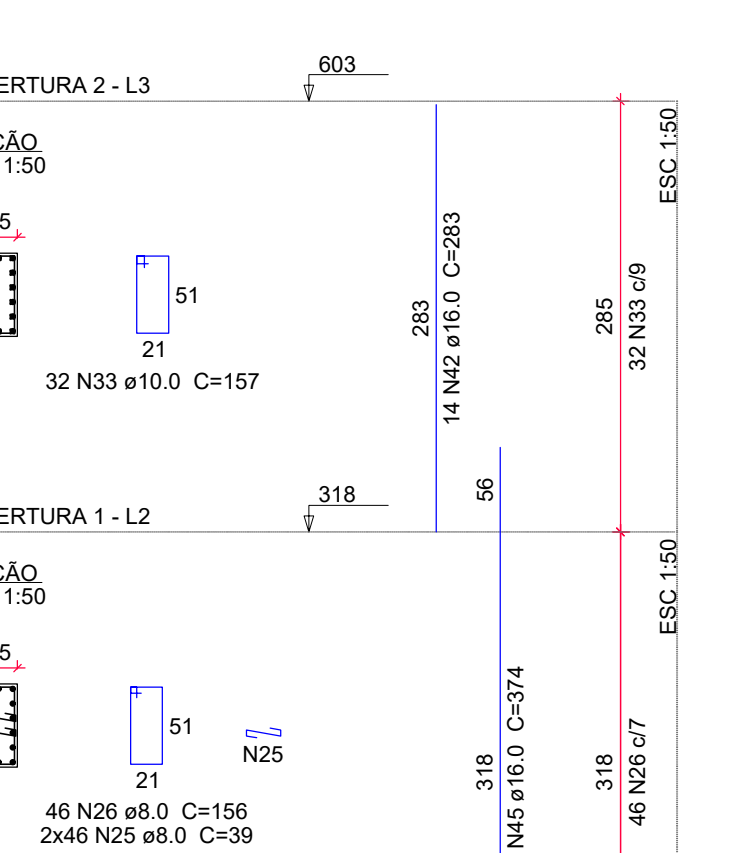
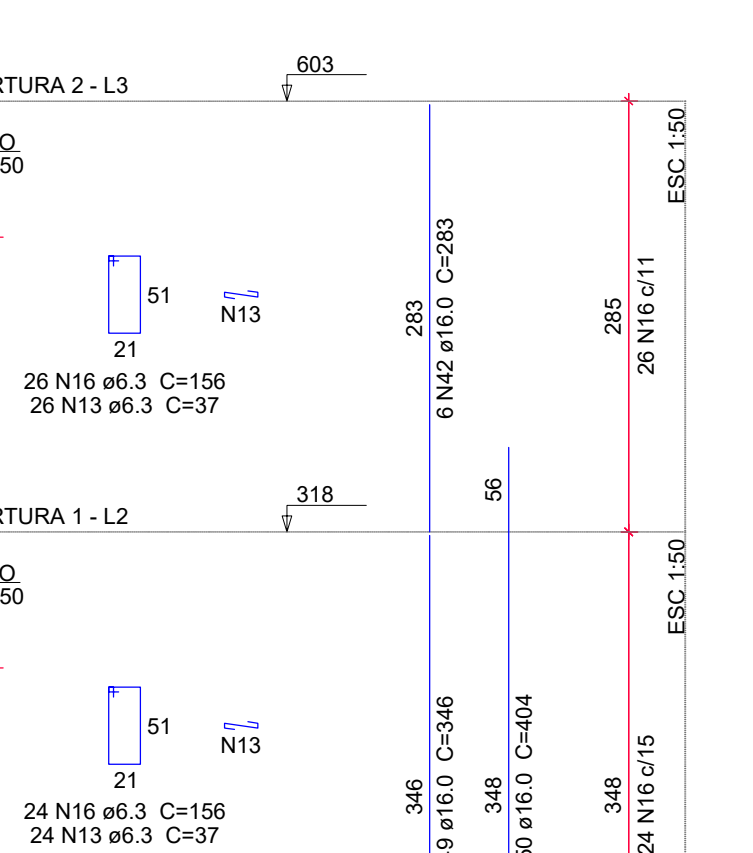
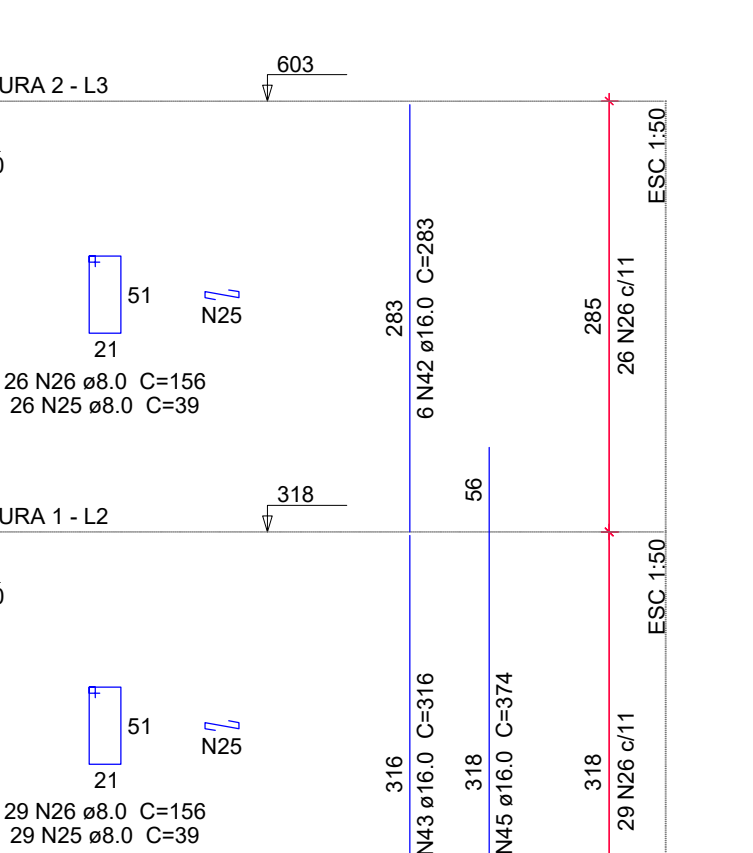
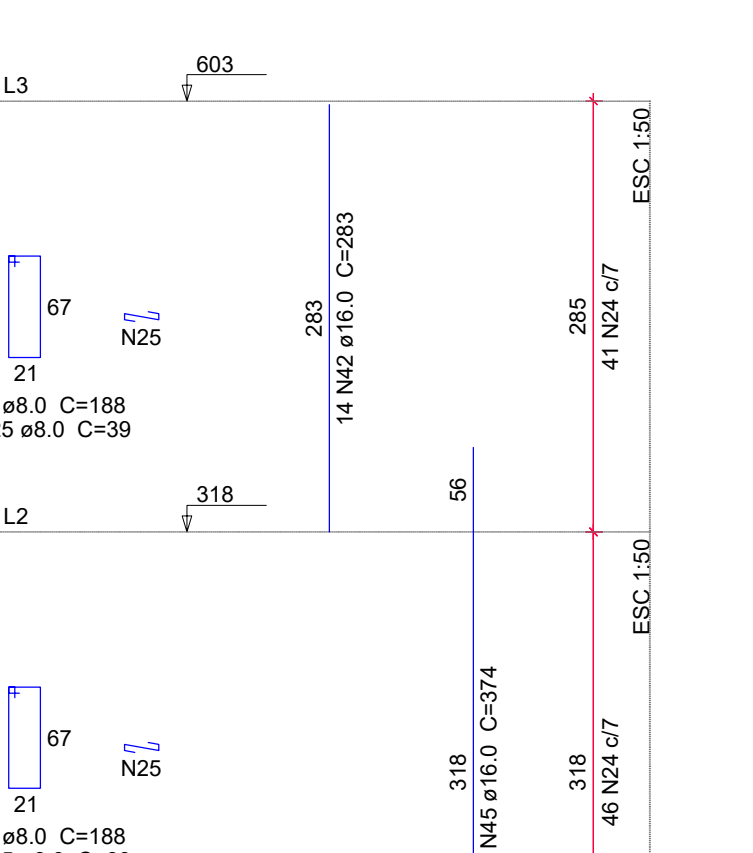
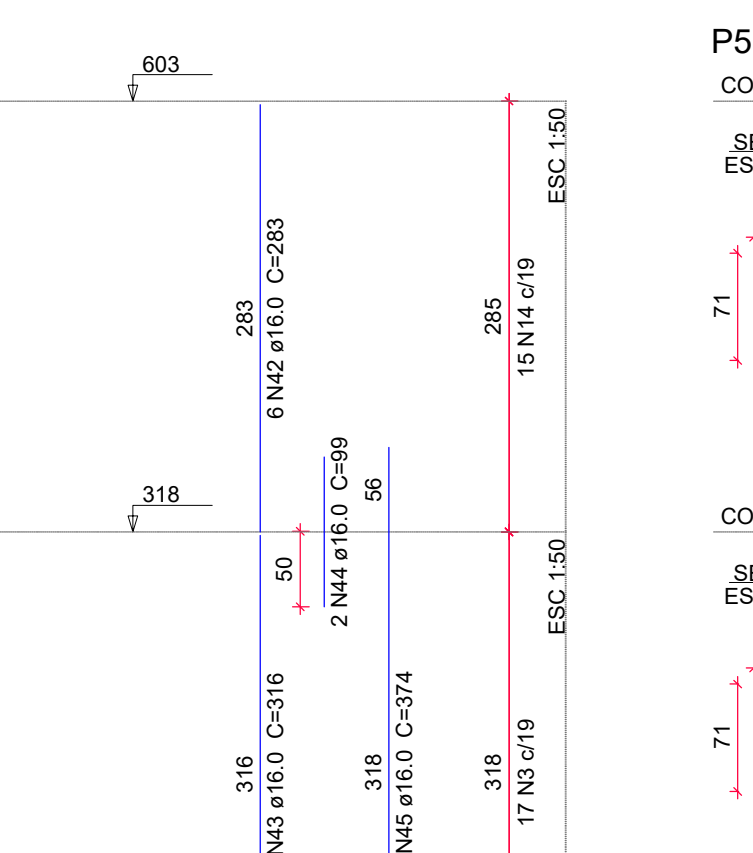
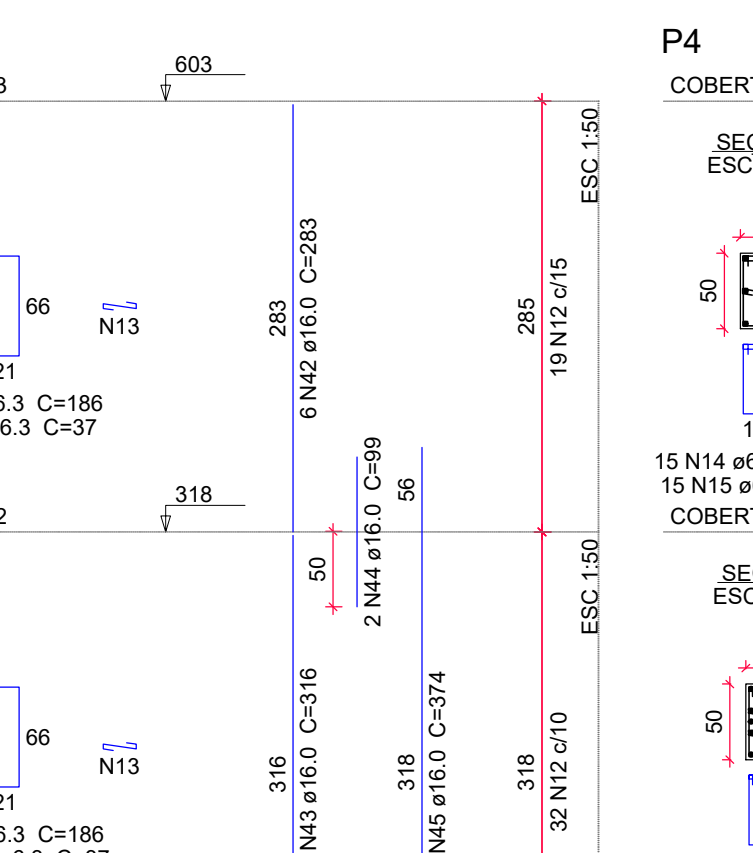
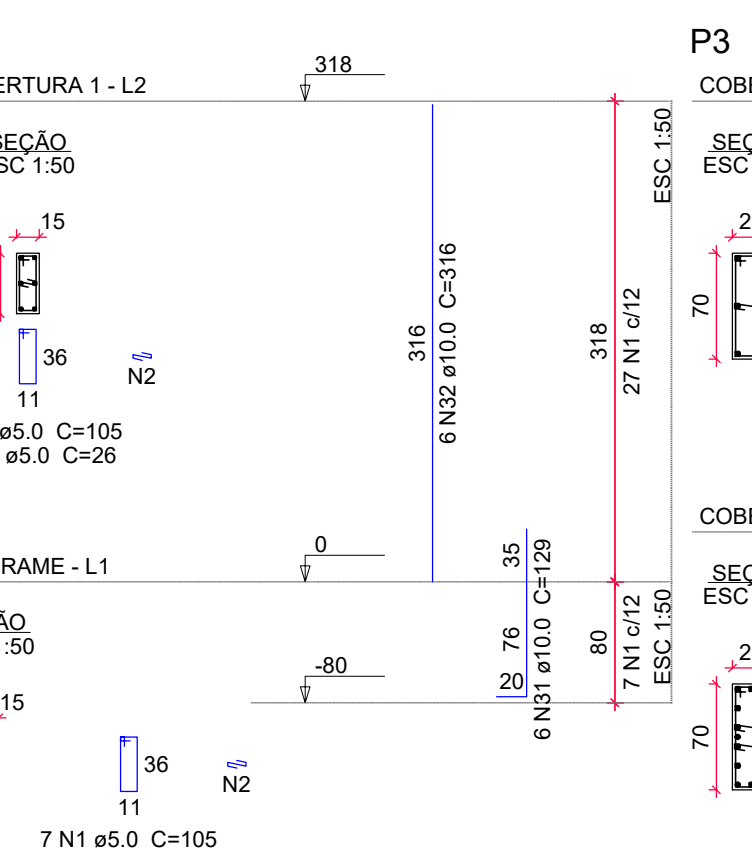
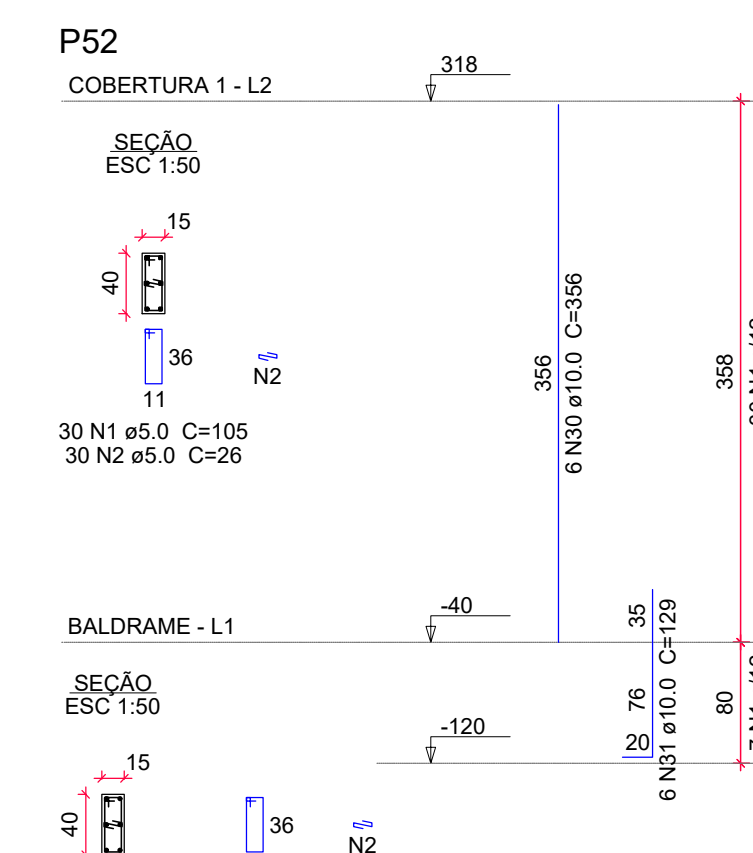
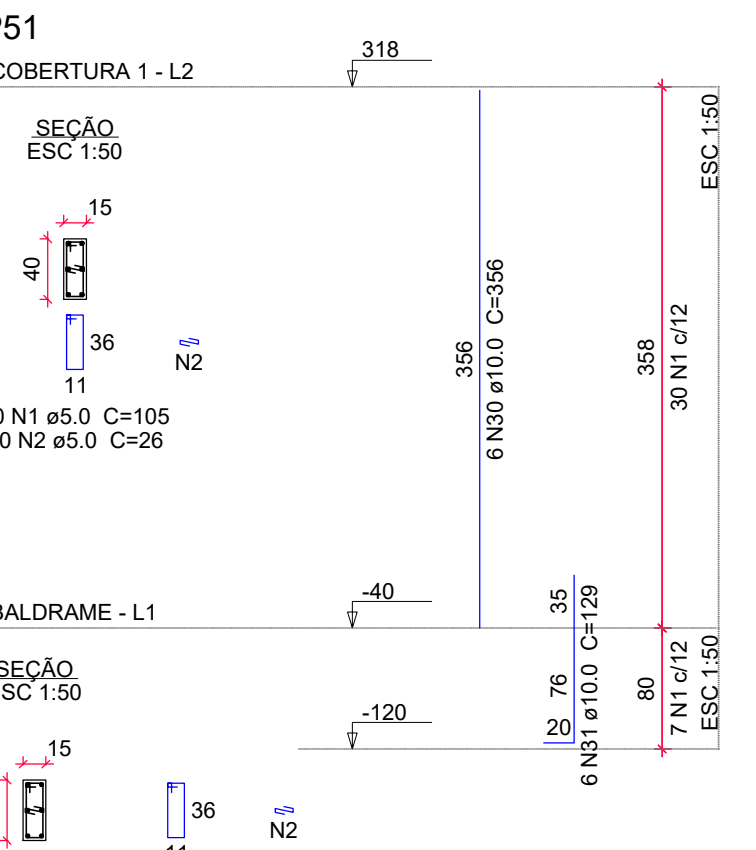
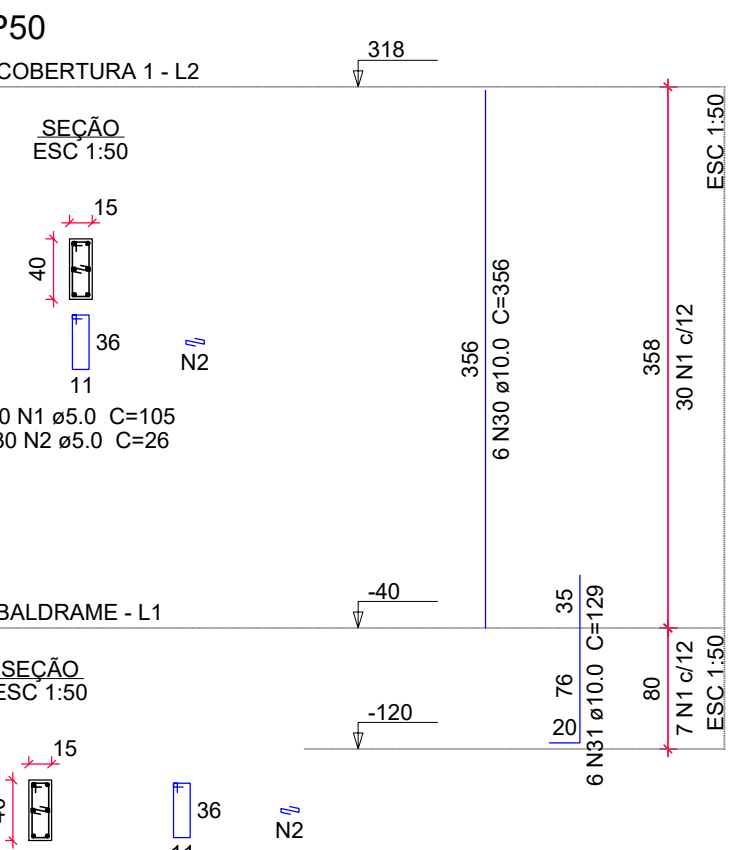
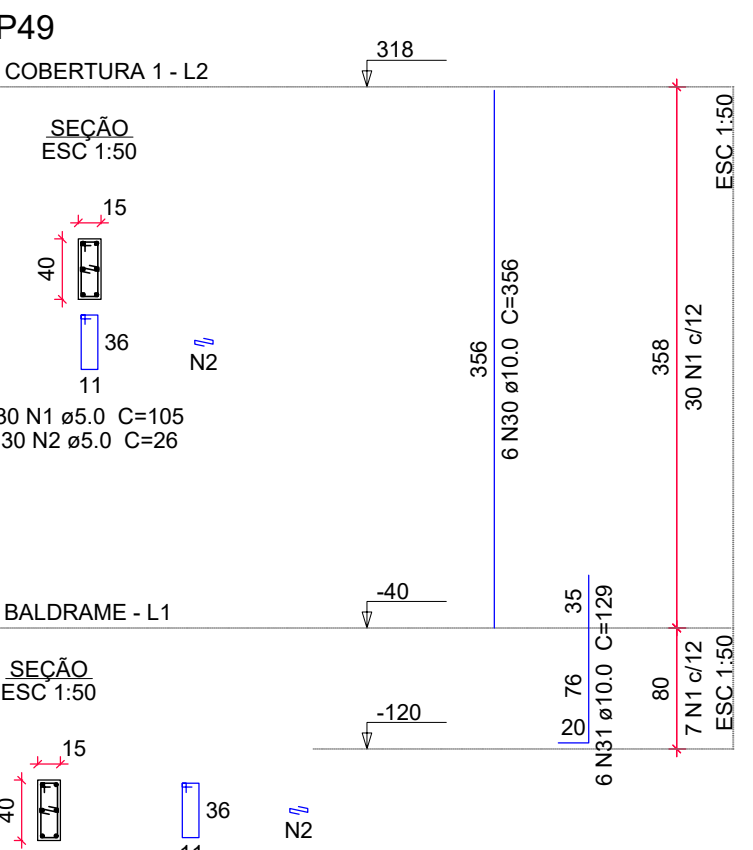
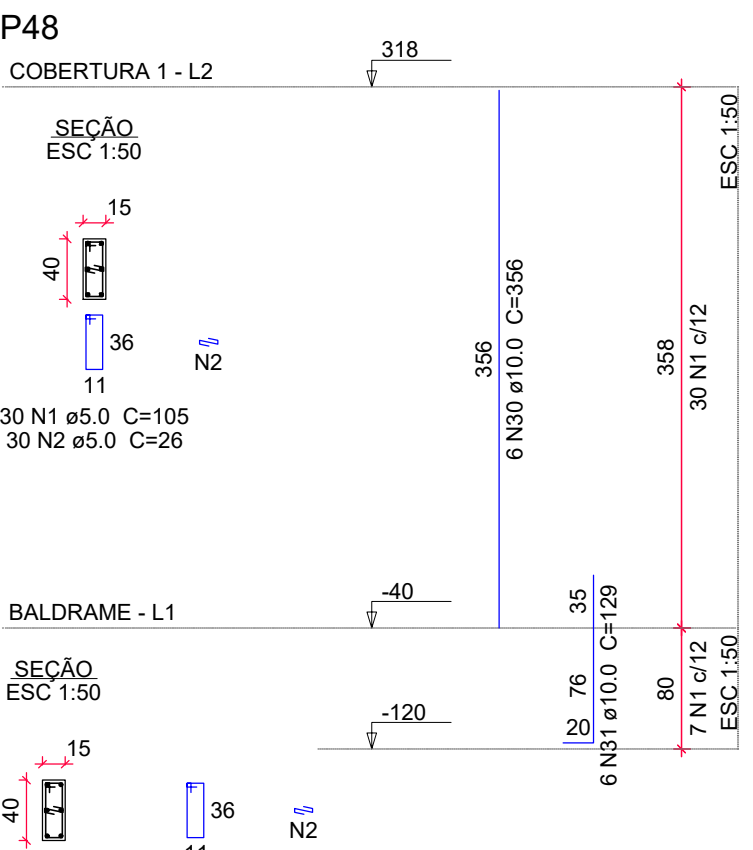
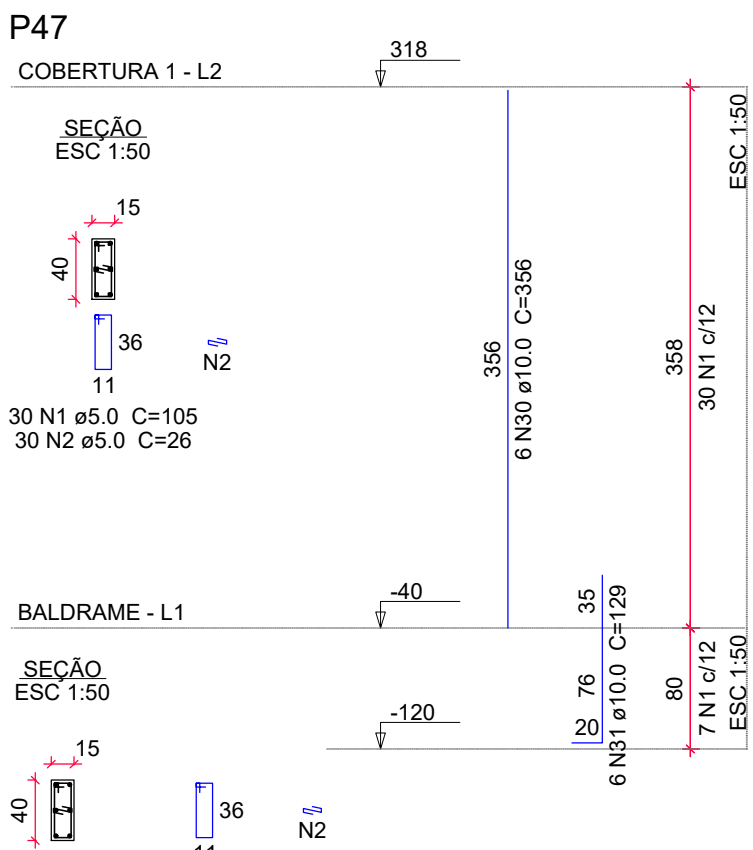
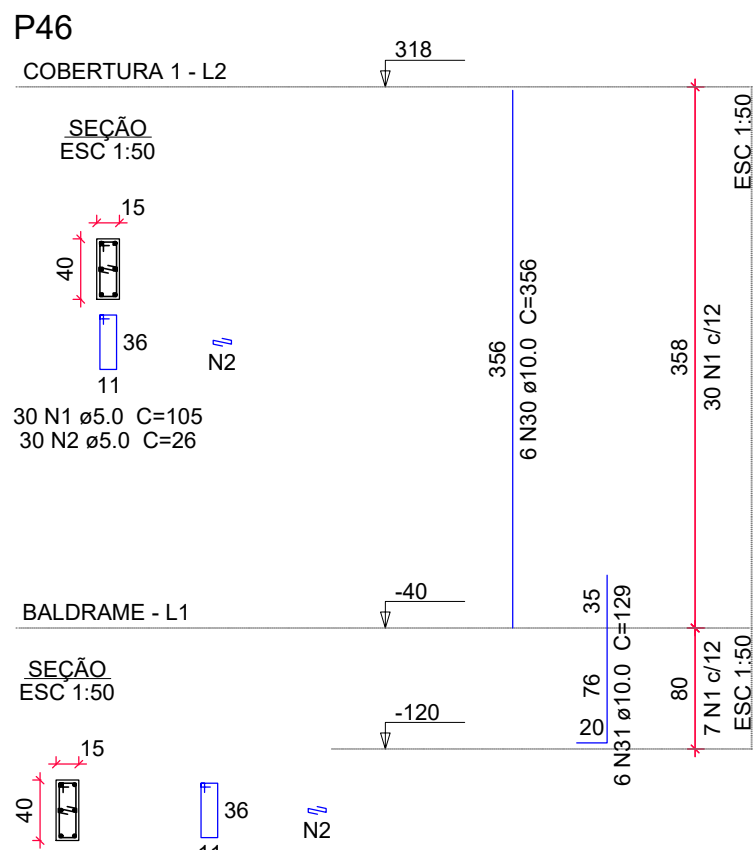
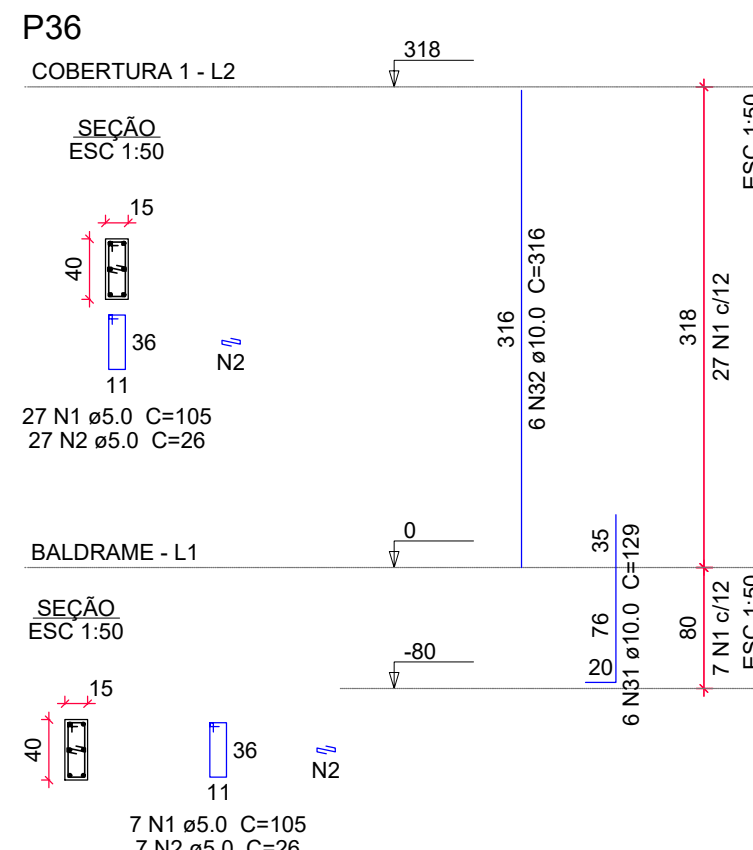
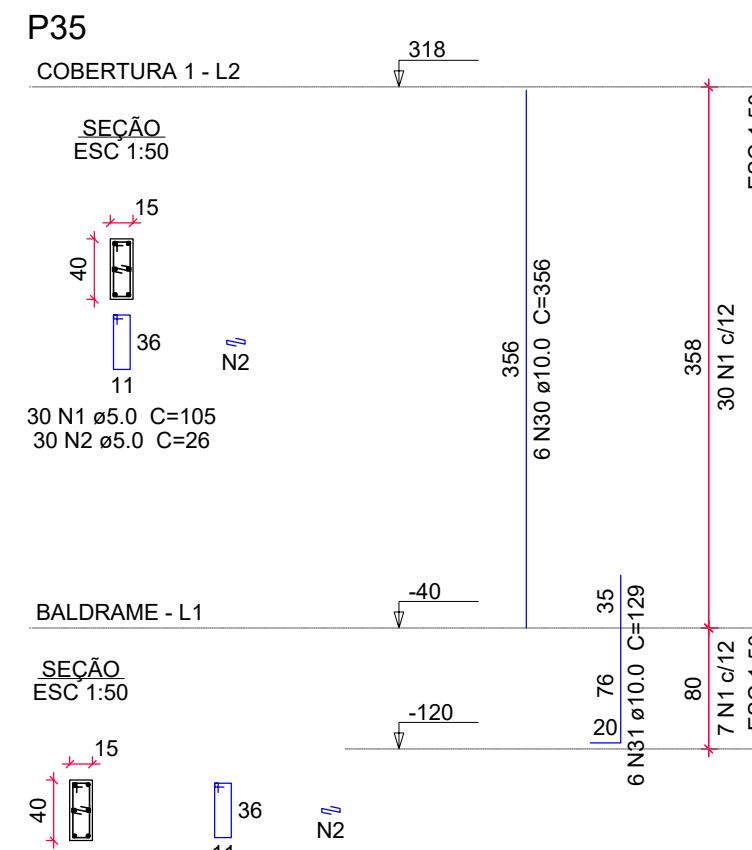
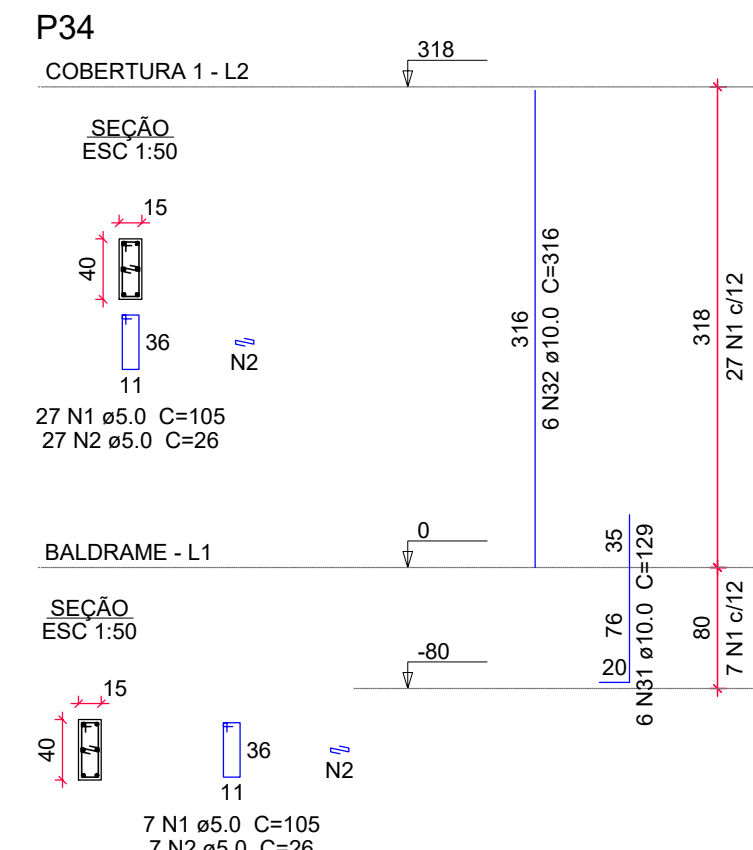
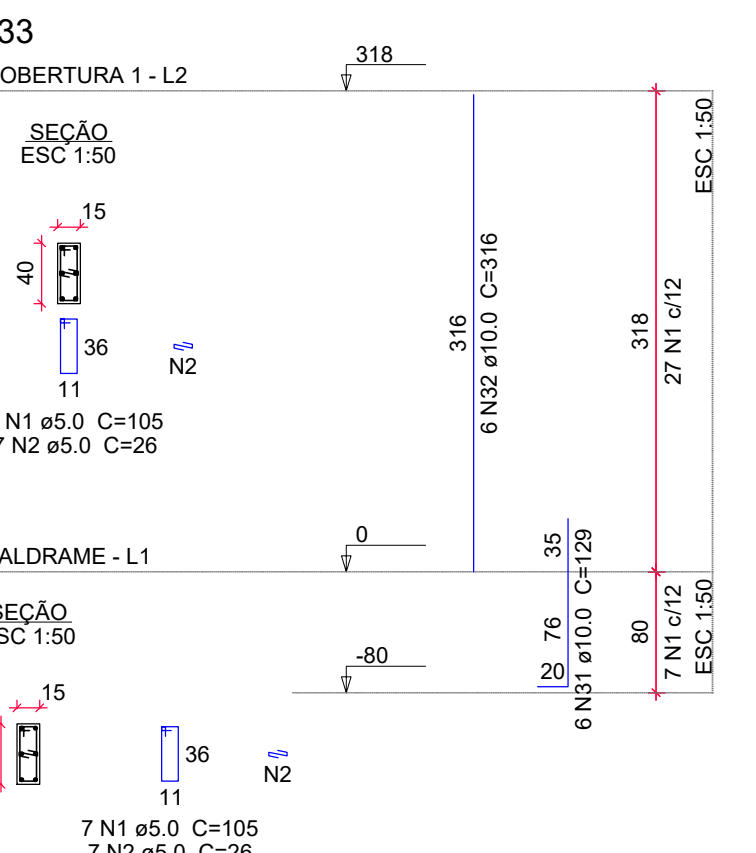
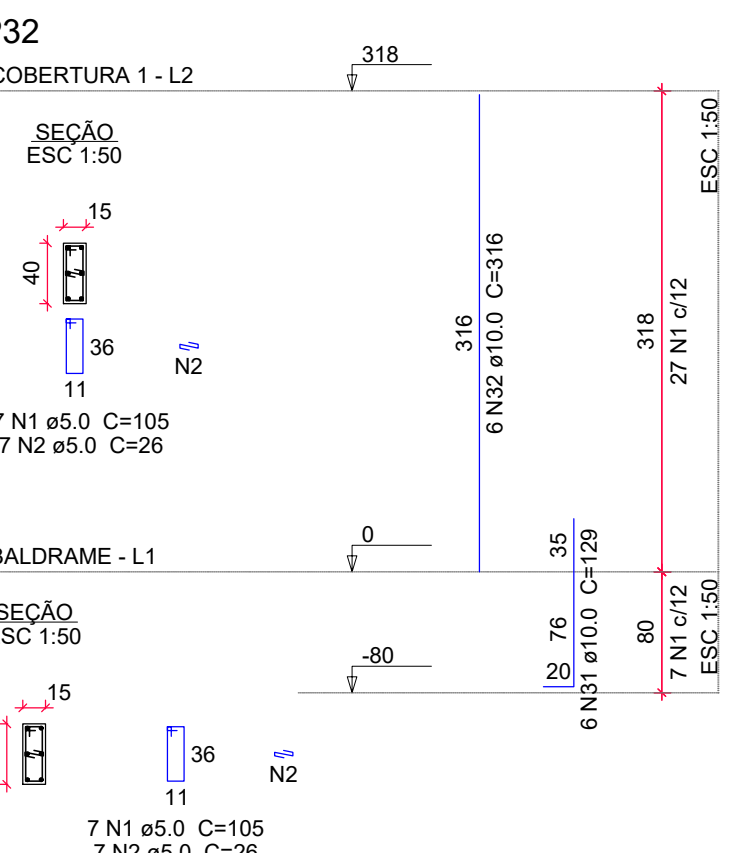
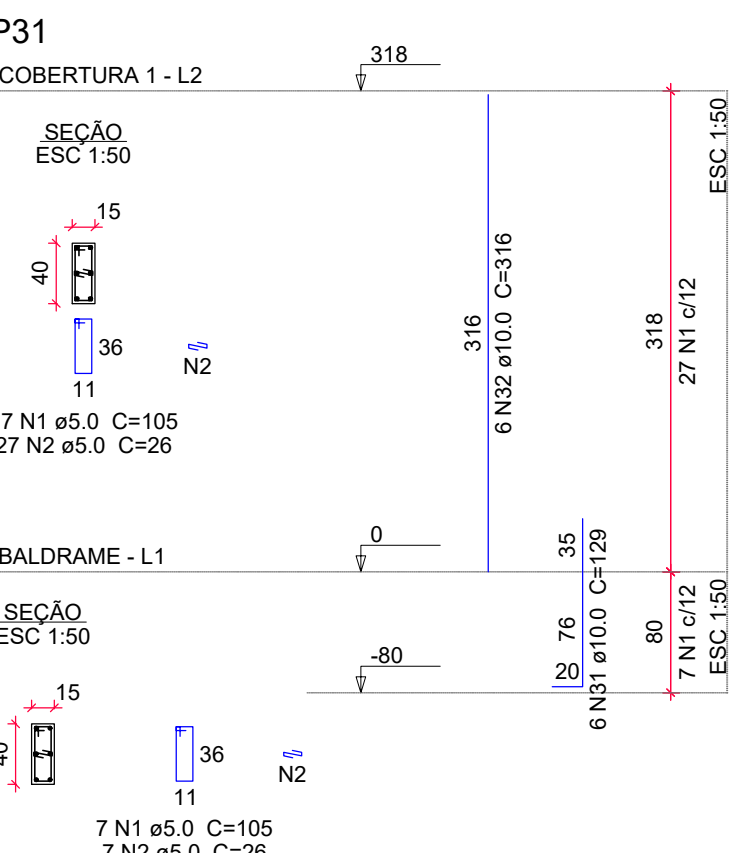
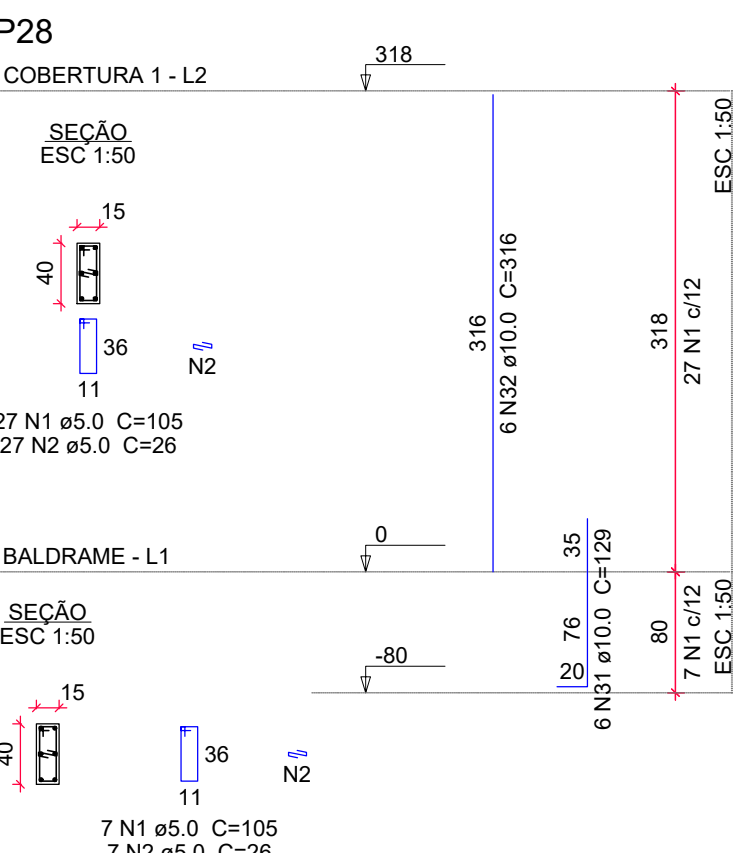
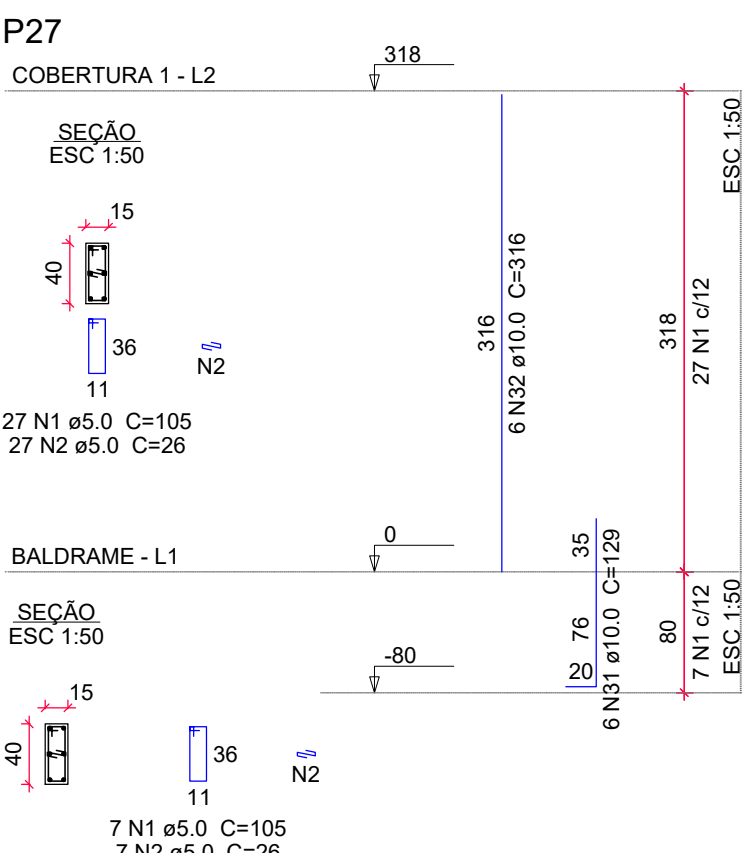
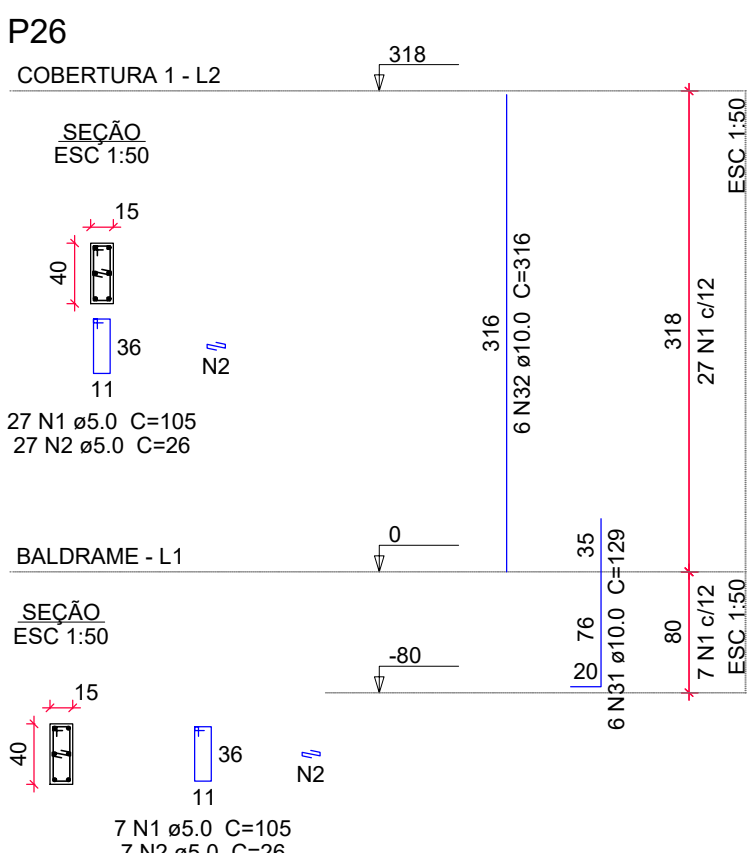
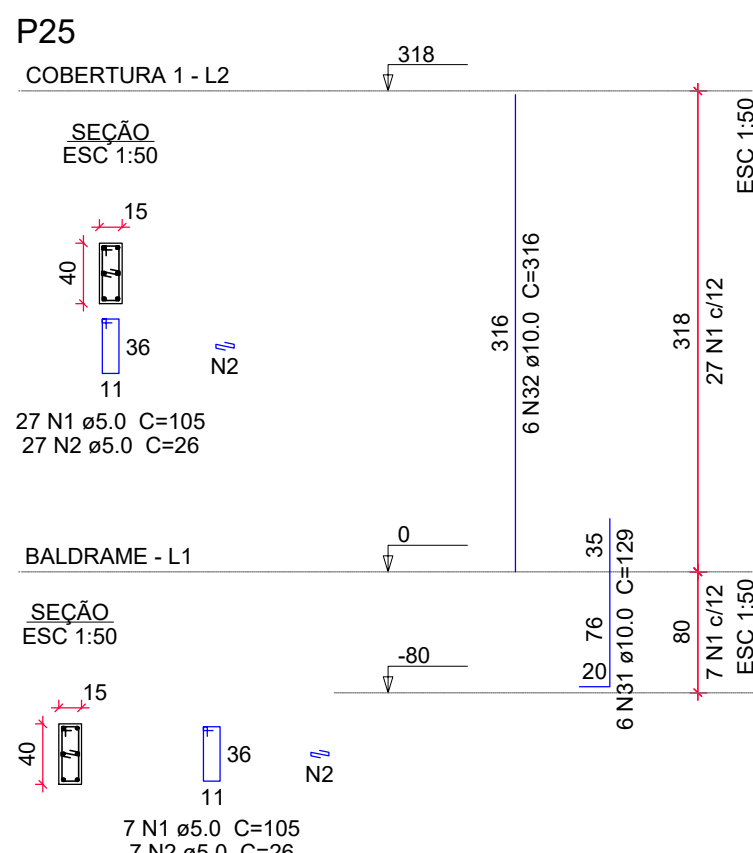
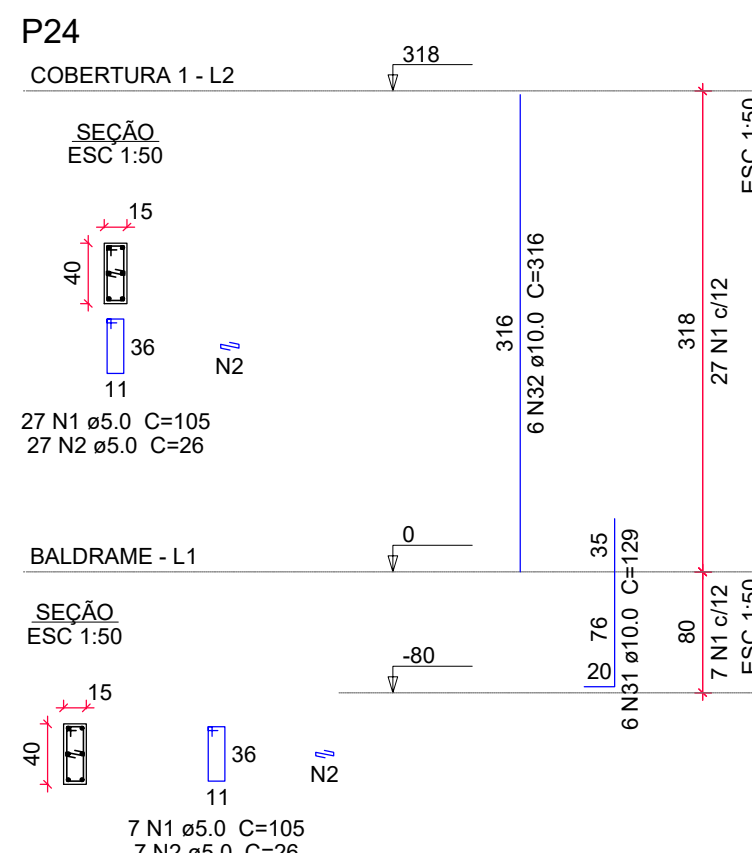
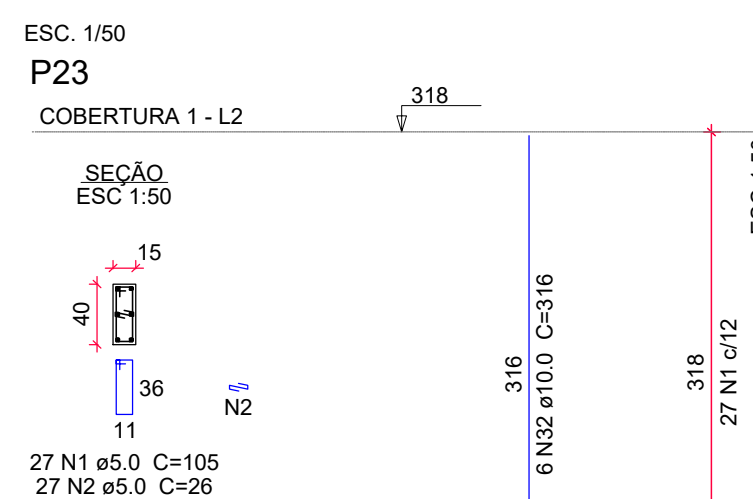
ACO	N	DIAM (mm)	QUANT	C-LIMIT (mm)	C-TOTAL (mm)
CA60	1	5.0	155	135	20925
	3	5.0	319	135	41763
	3	5.0	18	145	2610
CA50	4	5.0	190	105	19955
	5	5.0	353	85	30603
	6	6.3	8	232	1655
	7	6.3	1	88	86
	8	6.3	6	965	5000
	9	6.3	6	1005	6030
	10	6.3	8	932	7456
	11	6.3	4	93	772
	12	10.0	2	154	791
	13	10.0	2	1059	2118
	14	10.0	2	883	1386
	15	10.0	4	2468	817
	16	10.0	2	1198	2396
	17	10.0	2	1102	2270
	18	10.0	2	836	1273
	19	10.0	2	1043	2086
	20	10.0	2	1073	2140
	21	10.0	2	801	1216
	22	10.0	2	628	1255
	23	10.0	2	99	198
	24	10.0	2	232	271
	25	10.0	2	212	624
	26	10.0	4	229	916
	27	10.0	4	250	1000
	28	10.0	4	245	1895
	29	10.0	2	989	1930
	30	12.5	12	414	2810
	31	12.5	12	418	856
	32	12.5	2	802	1046
	33	12.5	2	816	2444
	34	12.5	2	443	886
	35	12.5	2	131	131
	36	12.5	2	92	464
	37	12.5	3	839	2517
	38	12.5	3	791	239
	39	12.5	4	251	1000
	40	16.0	4	316	1294
	41	16.0	4	264	86
	42	16.0	3	1033	3905
	43	16.0	3	451	1353
	44	16.0	3	717	717
	45	16.0	3	1174	3233
	46	16.0	3	881	1088
	47	16.0	3	445	1335
	48	16.0	3	1048	3144
	49	16.0	3	932	3726
	50	16.0	3	385	961
	51	16.0	6	827	4862
	52	16.0	6	854	5126
	53	16.0	6	408	1174
	54	16.0	6	355	1290
	55	16.0	6	1196	4784
	56	16.0	6	1174	4862
	57	16.0	6	291	1196
	58	16.0	6	236	944
	59	16.0	6	149	584
	60	16.0	6	199	796

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	221.7	21	59.7
	10.0	259.8	24	176.2
	12.5	217.9	20	230.9
	16.0	629.5	58	1092.8
CA60	5.0	1152.8	-	195.5
PESO TOTAL				

Volume de concreto (C-30) = 11.72 m³
Área de forma = 160.58 m²

CARBOLIN ENGENHARIA		MODELO 3D - ESTRUTURA	
			
CERA: TERMINAL INTEGRADO RODoviÁRIO E METROPOLITANO		DATA: JULHO/2025	
LOCAL: CENTRO	LOCOM: SANTA TEREZINHA DE ITAIPU - PR	303	87.802
MUNICÍPIO: ANTÔNIO LUIZ BENDO - PREFEITO MUNICIPAL	PROJETA: NATANAEL CARBOLIN DE LIMA CREA-PR: 214962/D		
Documento assinado digitalmente  NATANAEL CARBOLIN DE LIMA Data: 12/11/2025 09:28:00 Verifique em https://validar.dl.gov.br			
CONTÉUDO: • VIGAS COBERTURA 2.		EPISPECIFICAÇÃO: ESTRUTURAL	NUMERO: 01
		FOLHA:	14/16

PILARES POR LANCE



Relação do aço

Barra:	P1	P2
Cobertura 1:	P13	P15
	P16	P17
	P18	P19
	P20	P21
	P22	P23
	P24	P25
	P26	P27
	P28	P29
	P30	P31
	P32	P33
	P34	P35
	P36	P37
	P38	P39
	P40	P41
	P42	P43
	P44	P45
	P46	P47
	P48	P49
	P50	P51
	P52	P53
	P54	P55
	P56	P57
	P58	P59
	P60	P61
	P62	P63
	P64	P65
	P66	P67
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	P100	P101
	P102	P103
	P104	P105
	P106	P107
	P108	P109
	P110	P111
	P112	P113
	P114	P115
	P116	P117
	P118	P119
	P120	P121
	P122	P123
	P124	P125
	P126	P127
	P128	P129
	P130	P131
	P132	P133
	P134	P135
	P136	P137
	P138	P139
	P140	P141
	P142	P143
	P144	P145
	P146	P147
	P148	P149
	P150	P151
	P152	P153

ACO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CASO	1	5.0	923	105	96915
	2	5.0	923	26	23998
	3	5.0	923	76	70038
	4	5.0	533	31	16523
	5	5.0	33	115	3795
	6	5.0	33	26	858
	7	5.0	132	141	18612
	8	5.0	184	37	6838
	9	5.0	102	125	12750
	10	5.0	118	118	13926
	11	5.0	120	29	3480
	12	6.3	105	186	19530
	13	6.3	211	37	7807
	14	6.3	15	136	2040
	15	6.3	15	32	480
	16	6.3	55	156	8580
	17	6.3	147	132	19464
	18	6.3	318	30	9540
	19	6.3	125	122	15250
	20	6.3	42	112	4704
	21	8.0	10	286	2860
	22	8.0	10	199	1990
	23	8.0	20	64	1280
	24	8.0	10	185	1850
	25	8.0	362	39	14118
	26	8.0	105	156	16380
	27	8.0	86	176	15116
	28	8.0	280	34	9520
	29	8.0	105	156	16380
	30	10.0	54	356	19224
	31	10.0	172	129	22188
	32	10.0	96	316	30336
	33	10.0	32	157	5024
	34	10.0	22	96	2156
	35	10.0	22	363	8046
	36	10.0	10	96	960
	37	12.5	10	402	4020
	38	12.5	10	319	3190
	39	16.0	20	105	2100
	40	16.0	26	398	10348
	41	16.0	144	148	21312
	42	16.0	174	253	43942
	43	16.0	22	319	6952
	44	16.0	24	99	2376
	45	16.0	88	374	32652
	46	16.0	22	112	2464
	47	16.0	12	346	4152
	48	16.0	6	404	2424
	49	16.0	8	90	720
	50	16.0	46	414	19044
	51	16.0	46	114	5224
	52	16.0	6	150	900
	53	16.0	4	168	672
54	16.0	6	143	858	
55	16.0	2	120	2400	
56	16.0	6	156	936	
57	16.0	2	120	2400	

P1
BALDRAME - L1

SEÇÃO
ESC 1:50

50
30
91
N22
N23

5 N21 e#0 C=296
5 N22 e#0 C=109
2x5 N23 e#0 C=64

0
f
-95
12 32 42
10 N28 e#0 C=105
5 N22 e#0 C=64

P79
BALDRAME - L1

SEÇÃO
ESC 1:50

50
30
91
N24
N25

5 N23 e#0 C=296
5 N24 e#0 C=109
2x5 N25 e#0 C=64

0
f
-95
12 32 42
10 N28 e#0 C=105
5 N23 e#0 C=64

P12
COBERTURA - L1 - L2

SEÇÃO
ESC 1:50

15
40
36
11
N2

30 N1 e#0 C=105
30 N2 e#0 C=26

318
f
-40
35
35
6 N28 e#0 C=356
5 N23 e#0 C=296
30 N1 e#0 C=105
30 N2 e#0 C=26

BALDRAME - L1

SEÇÃO
ESC 1:50

15
40
36
11
N2

7 N1 e#0 C=105
7 N2 e#0 C=26

0
f
-95
12 32 42
10 N28 e#0 C=105
5 N23 e#0 C=64

P55
COBERTURA - L1 - L2

SEÇÃO
ESC 1:50

15
40
36
11
N2

27 N1 e#0 C=105
27 N2 e#0 C=26

318
f
-40
35
35
6 N28 e#0 C=356
5 N23 e#0 C=296
30 N1 e#0 C=105
30 N2 e#0 C=26

BALDRAME - L1

SEÇÃO
ESC 1:50

15
40
36
11
N2

7 N1 e#0 C=105
7 N2 e#0 C=26

0
f
-95
12 32 42
10 N28 e#0 C=105
5 N23 e#0 C=64

P67
COBERTURA - L1 - L2

SEÇÃO
ESC 1:50

15
40
36
11
N2

30 N1 e#0 C=105
30 N2 e#0 C=26

318
f
-40
35
35
6 N28 e#0 C=356
5 N23 e#0 C=296
30 N1 e#0 C=105
30 N2 e#0 C=26

BALDRAME - L1

SEÇÃO
ESC 1:50

15
40
36
11
N2

7 N1 e#0 C=105
7 N2 e#0 C=26

0
f
-95
12 32 42
10 N28 e#0 C=105
5 N23 e#0 C=64

P65
COBERTURA - L2 - L3

SEÇÃO
ESC 1:50

20
45
41
16
N21
N22
N23

15 N21 e#0 C=126
4 N22 e#0 C=283
4 N23 e#0 C=144
4 N24 e#0 C=148
5 N21 e#0 C=126
15 N22 e#0 C=126

603
f
-40
35
35
6 N28 e#0 C=356
5 N23 e#0 C=296
30 N1 e#0 C=105
30 N2 e#0 C=26

COBERTURA - L1 - L2

SEÇÃO
ESC 1:50

20
45
41
16
N21
N22
N23

19 N21 e#0 C=126
4 N22 e#0 C=283
4 N23 e#0 C=144
4 N24 e#0 C=148
5 N21 e#0 C=126
15 N22 e#0 C=126

318
f
-40
35
35
6 N28 e#0 C=356
5 N23 e#0 C=296
30 N1 e#0 C=105
30 N2 e#0 C=26

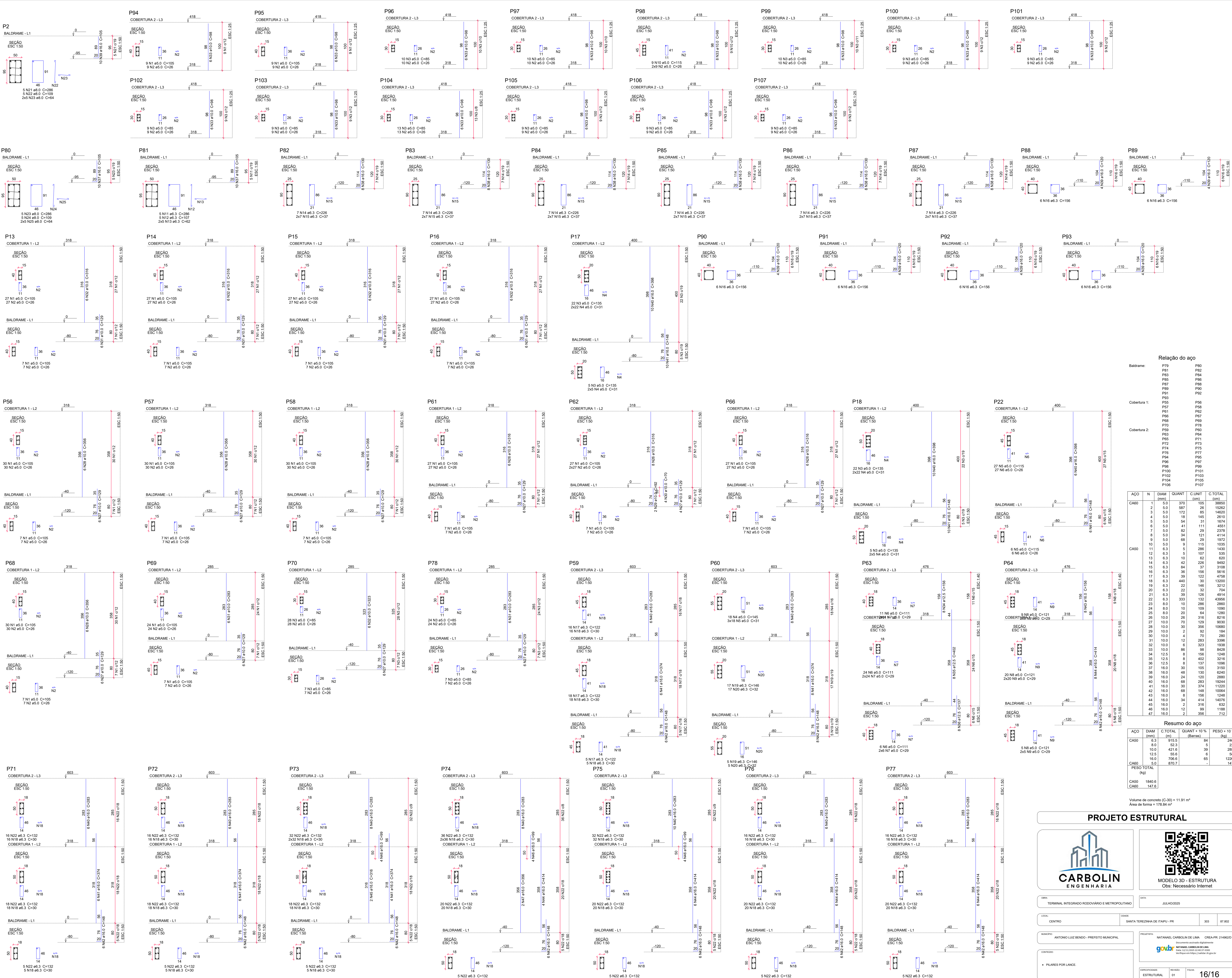
BALDRAME - L1

SEÇÃO
ESC 1:50

20
45
41
16
N21
N22
N23

5 N21 e#0 C=126

0
f
-95
12 32 42
10 N28 e#0 C=105
5 N23 e#0 C=64



OBRA	
Tipo	Terminal Rodoviário e Metropolitano
Título	Resumo de materiais do projeto estrutural de concreto armado
Endereço	Centro - Santa Terezinha de Itaipu - PR
Cliente	Antonio Luiz Bendo - Prefeito Municipal
Responsável	Natanael Carbolin de Lima - Engenheiro Civil

Resumo de Materiais (Moldados in Loco)

Resumo por elemento e por pavimento

Pavimento	Elemento	Peso do aço +10 % (kg)	Volume de concreto (m³)	Área de forma (m²)	Consumo de aço (kg/m³)
GLOBAL DA OBRA	Vigas	5.522,7	49,2	699,8	112,2
	Pilares	6.429,5	35,5	519,5	181,1
	Fundações	3.249,4	37,2	225,5	87,4
	Estacas	2.328,8	91,8	0,0	25,4
	Total	17.530,4	213,7	1.444,8	82,0

Resumo por bitola e por elemento

Aço	Diâmetro (mm)	Quantidade + 10 % (Barras)				
		Vigas	Pilares	Fundações	Estacas	Total
CA50	6,3	44	165	55	0	264
CA50	8,0	104	91	86	0	281
CA50	10,0	260	120	117	223	720
CA50	12,5	53	12	79	0	144
CA50	16,0	82	213	84	0	379
CA60	5,0	480	265	43	367	1.154

Aço	Diâmetro (mm)	Peso + 10 % (kg)				
		Vigas	Pilares	Fundações	Estacas	Total
CA50	6,3	117,9	481,5	158,6	0,0	758,0
CA50	8,0	486,5	426,1	395,9	0,0	1.308,5
CA50	10,0	1.907,9	879,8	852,7	1.651,6	5.292,0
CA50	12,5	608,8	126,4	206,7	0,0	941,9
CA50	16,0	1.514,3	4.026,2	1.556,5	0,0	7.097,0
CA60	5,0	887,3	489,5	79,0	677,2	2.133,0

Resumo por material e por elemento

		Vigas	Pilares	Fundações	Estacas	Total
Peso total + 10% (kg)	CA50	4.635,4	5.940,0	3.170,4	1.651,6	15.397,4
	CA60	887,3	489,5	79,0	677,2	2.133,0
	Total	5.522,7	6.429,5	3.249,4	2.328,8	17.530,4
	C-30	49,2	35,5	37,2	91,8	213,7
	Total	49,2	35,5	37,2	91,8	213,7
Área de forma (m²)		699,8	519,5	225,5	0,0	1.444,8
Consumo de aço (kg/m³)		112,2	181,1	87,4	25,4	82,0

Resumo das lajes

Pavimento	Área de laje (m²)	Tela + transpasse estimado (m²)	Tela + transpasse estimado (kg)		Volume de concreto (m³)
Cobertura 1	383,20	421,5	Q138	1.007,82	24,14
			Q196	751,07	
Cobertura 2	42,30	46,5	Q392	165,82	2,7
Total	425,50	468,0			26,8



1. Responsável Técnico

NATANAEL CARBOLIN DE LIMA

Título profissional:

ENGENHEIRO CIVIL

RNP: **1721992936**

Carteira: **PR-214962/D**

2. Dados do Contrato

Contratante: **CARBOLIN ENGENHARIA LTDA**

CNPJ: **61.618.357/0001-22**

RUA ESPIRITO SANTO, 1528

PARQUE DOS ESTADOS - SANTA TEREZINHA DE ITAIPU/PR 85875-000

Contrato: (Sem número)

Celebrado em: 28/07/2025

Valor: R\$ 10.750,00

Tipo de contratante: Pessoa Jurídica (Direito Privado) brasileira

3. Dados da Obra/Serviço

ADOLPHO LOLLATO, 2990

LOTE RURAL 303 CENTRO - SANTA TEREZINHA DE ITAIPU/PR 85875-000

Data de Início: 28/07/2025

Previsão de término: 04/08/2025

Coordenadas Geográficas: -25,448127 x -54,409377

Proprietário: MUNICIPIO DE SANTA TEREZINHA DE ITAIPU

CNPJ: **75.425.314/0001-35**

4. Atividade Técnica

[Projeto] de estrutura de concreto armado

Quantidade

Unidade

934,85

M2

Após a conclusão das atividades técnicas o profissional deverá proceder a baixa desta ART

7. Assinaturas

Declaro serem verdadeiras as informações registradas nesta Anotação de Responsabilidade Técnica.

Documento assinado eletronicamente por NATANAEL CARBOLIN DE LIMA, registro Crea-PR PR-214962/D, na área restrita do profissional com uso de login e senha, na data 29/07/2025 e hora 10h21.

CARBOLIN ENGENHARIA LTDA - CNPJ: 61.618.357/0001-22

8. Informações

- A ART é válida somente quando quitada, conforme informações no rodapé deste formulário ou conferência no site www.crea-pr.org.br.

- A autenticidade deste documento pode ser verificada no site www.crea-pr.org.br ou www.confea.org.br

- A guarda da via assinada da ART será de responsabilidade do profissional e do contratante com o objetivo de documentar o vínculo contratual.

Acesso nosso site www.crea-pr.org.br

Central de atendimento: 0800 041 0067



CREA-PR
Conselho Regional de Engenharia
e Agronomia do Paraná

Valor da ART: R\$ 103,03

Registrada em : 29/07/2025

Valor Pago: R\$ 103,03

