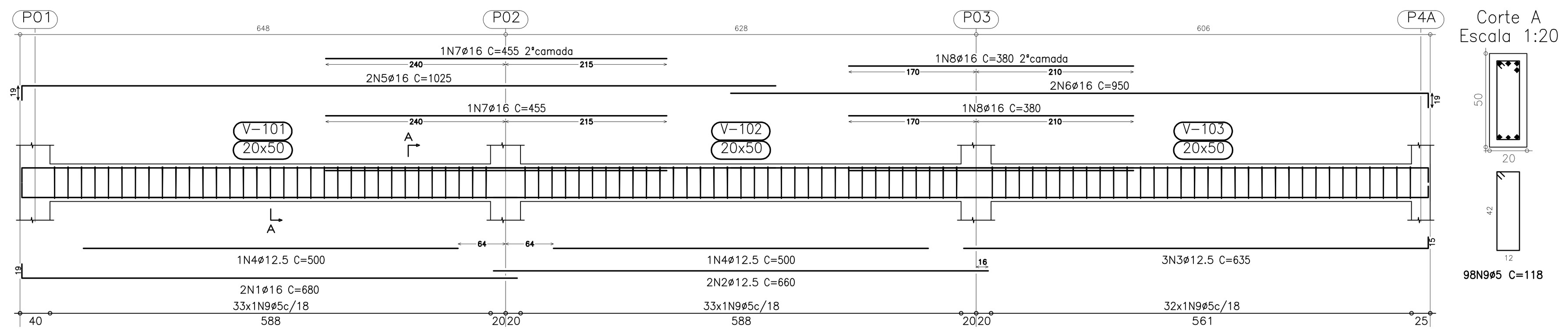
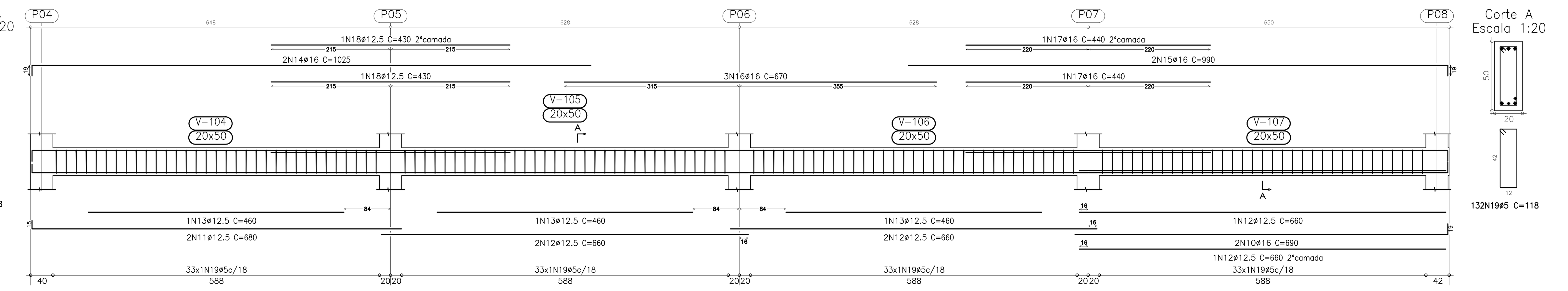
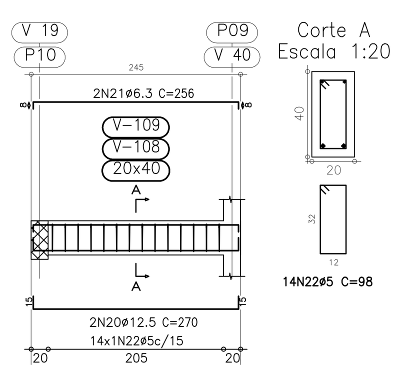
V 1
Escala 1:50



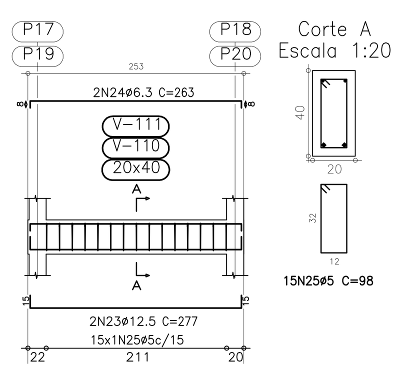
V 2
Escala 1:50



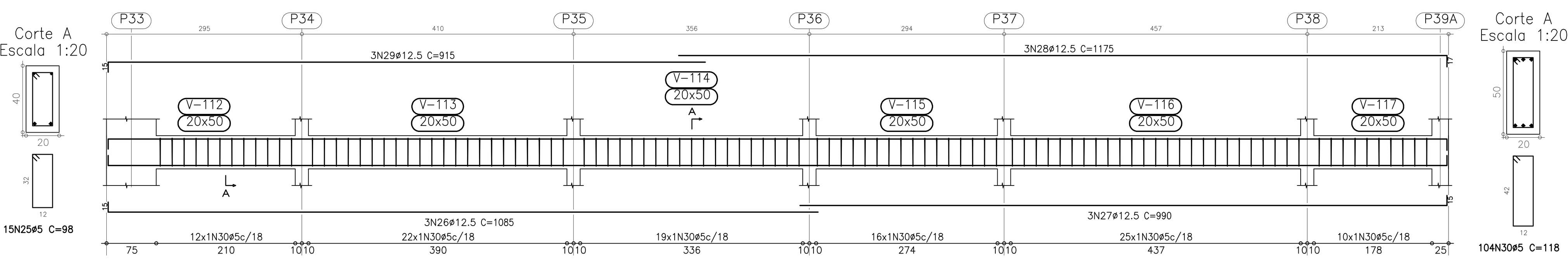
V 3
V 4
Escala 1:50



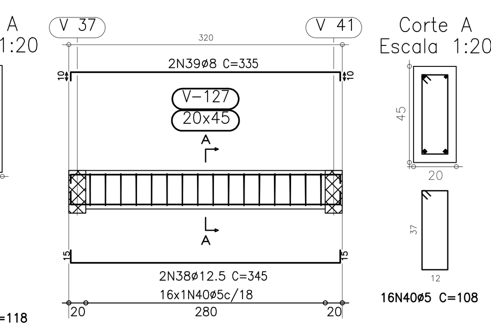
V 5
V 6
Escala 1:50



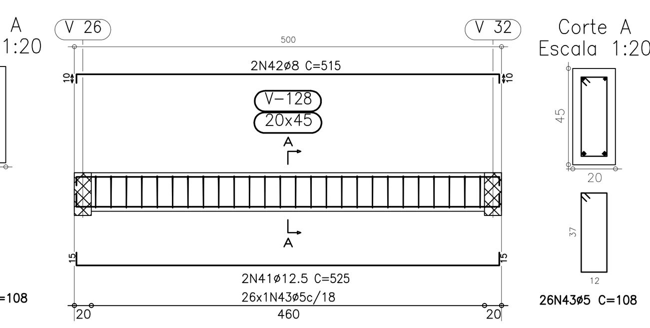
V 7
Escala 1:50



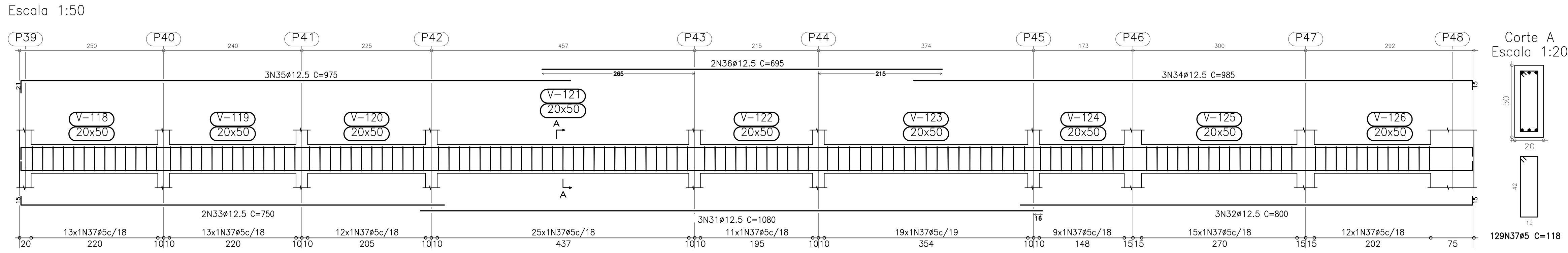
V 9
Escala 1:50



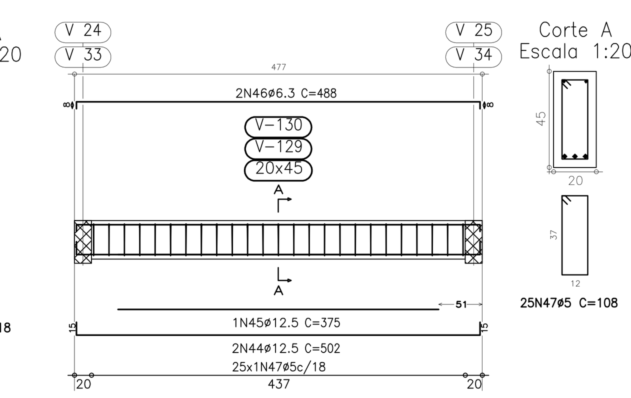
V 10
Escala 1:50



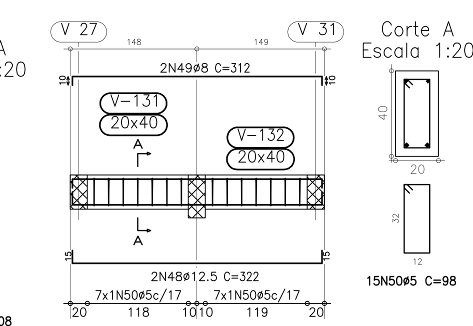
V 8
Escala 1:50



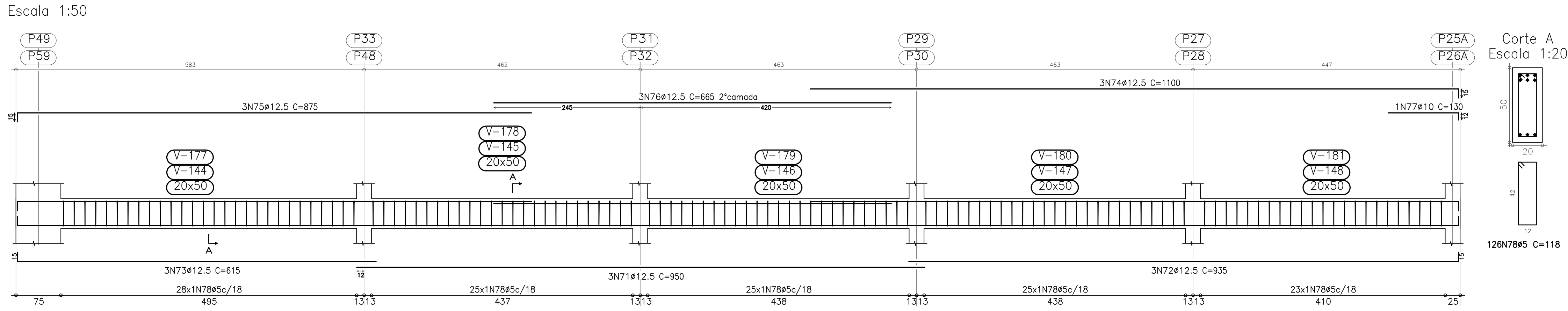
V 11
V 12
Escala 1:50



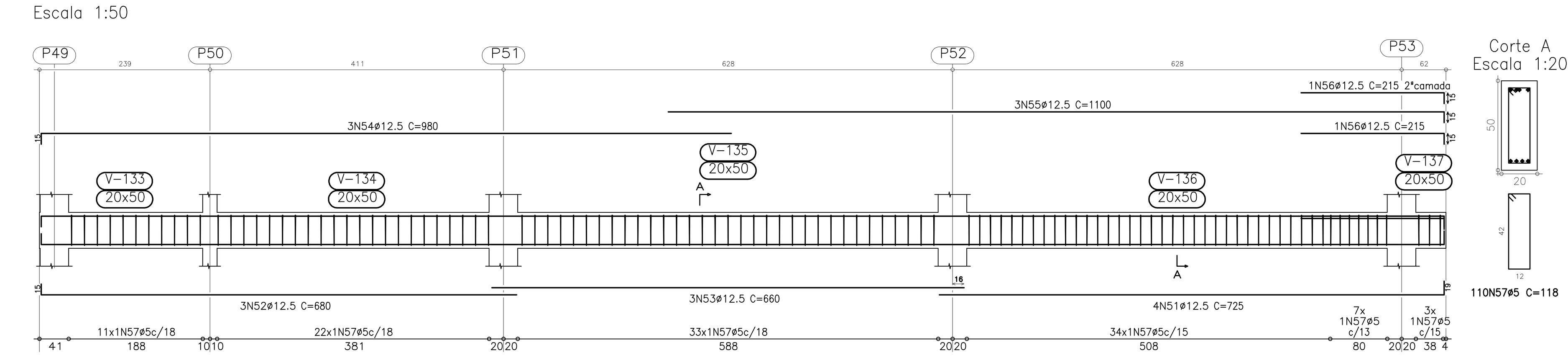
V 13
Escala 1:50



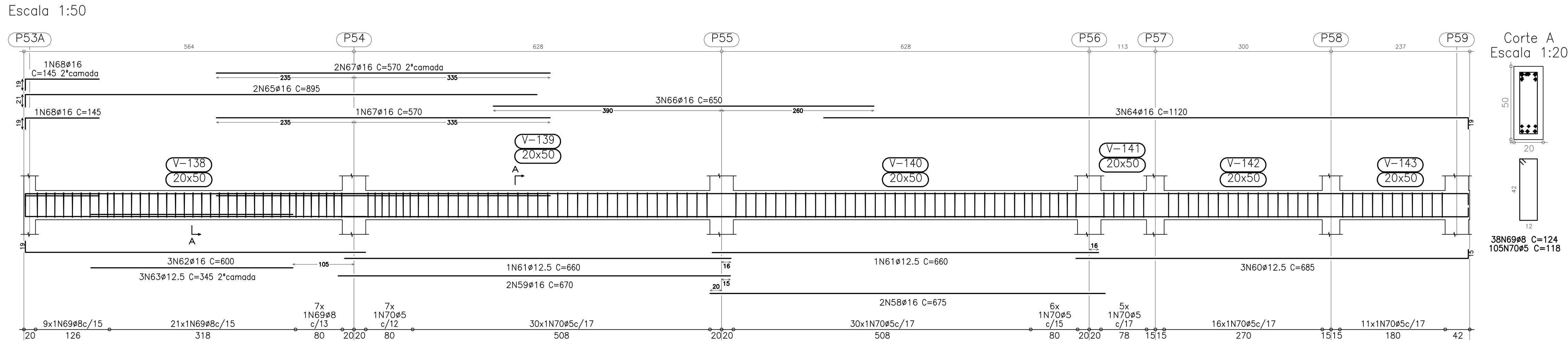
V 16
V 42
Escala 1:50



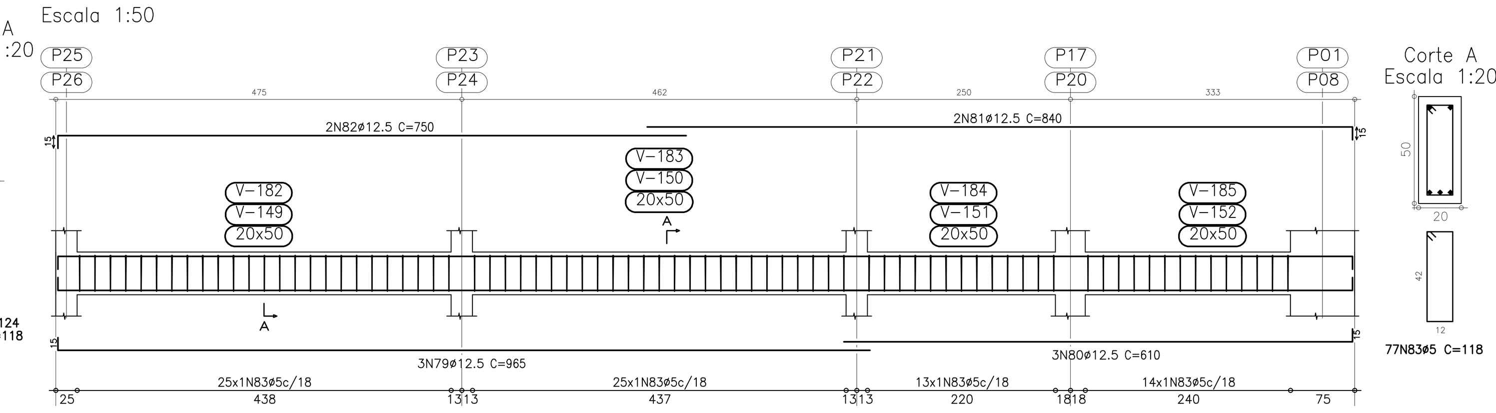
V 14
Escala 1:50



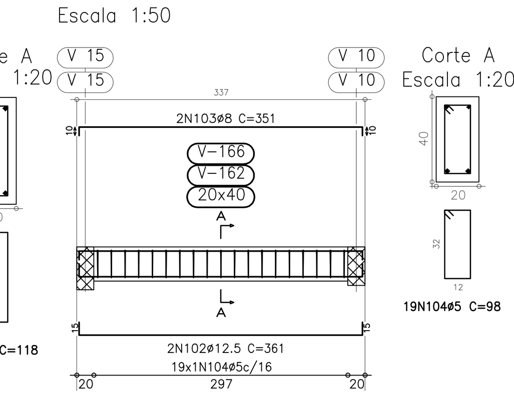
V 15
Escala 1:50



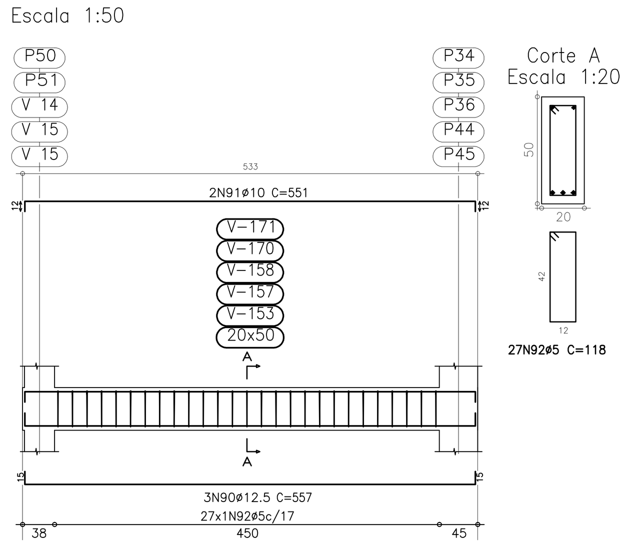
V 17
V 43
Escala 1:50



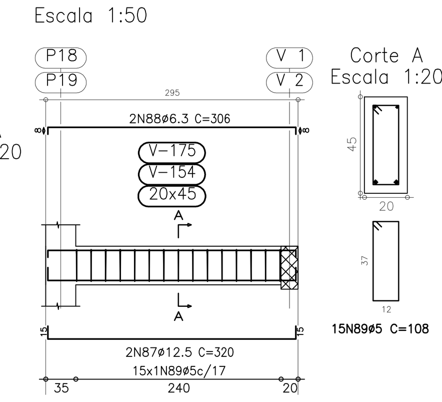
V 27
V 31
Escala 1:50



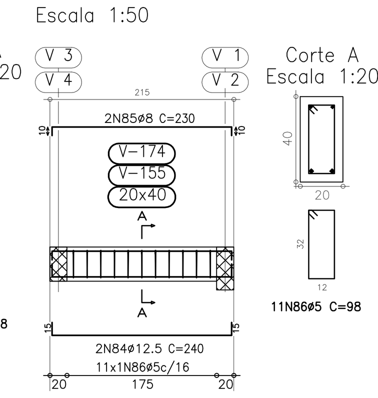
V 18
V 22
V 23
V 35
V 36
Escala 1:50



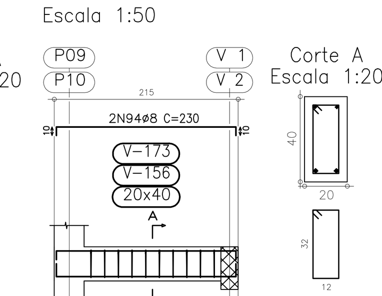
V 19
V 40
Escala 1:50



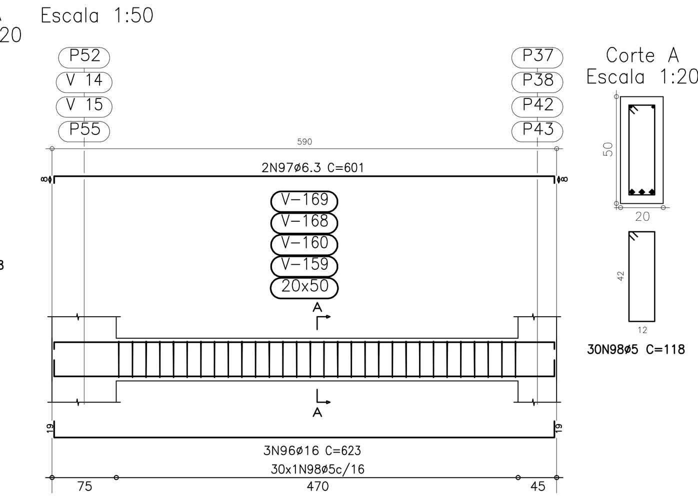
V 20
V 39
Escala 1:50



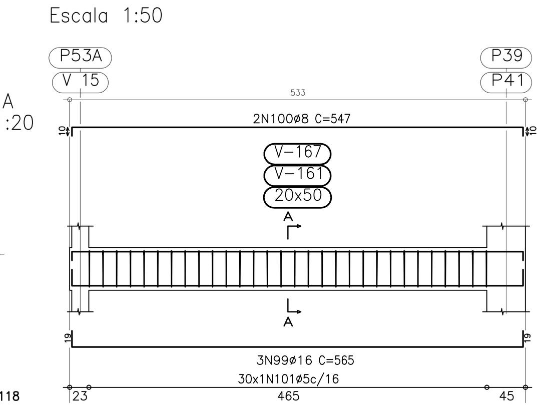
V 21
V 38
Escala 1:50



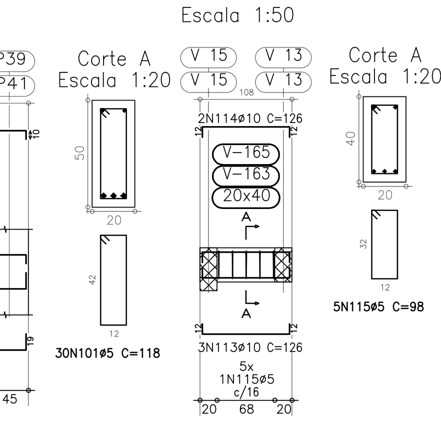
V 24
V 25
V 33
V 34
Escala 1:50



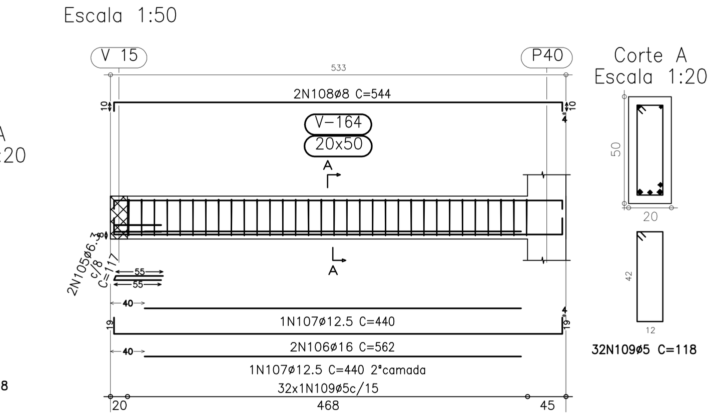
V 26
V 32
Escala 1:50



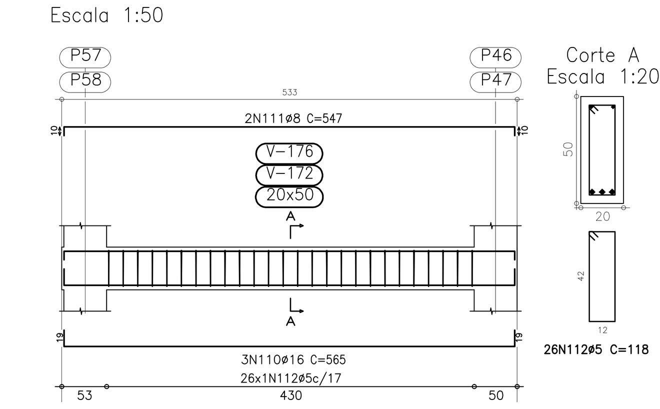
V 28
V 30
Escala 1:50



V 29
Escala 1:50



V 37
V 41
Escala 1:50



NIVEL BALDRAME
Desenho de vigas
Concreto: C30, em geral
Aço: CA-50-A e CA-60-B
Escala vigas: 1:50
Escala seções: 1:20

Resumo Aço NIVEL BALDRAME Vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50-A	ø6.3	102.9	28	
	ø8	156.2	67	
	ø10	70.3	49	
	ø12.5	1245.5	1344	
	ø16	442.5	764	2252
CA-60-B	ø5	2040.5	352	352
Total				2604

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
V 1	1	ø16	2	19	661		680	1360	21.4	
	2	ø12.5	2		660		660	1320	13.0	
	3	ø12.5	3		620	15	635	1905	18.7	
	4	ø12.5	2		500		500	1000	9.8	
	5	ø16	2	19	1006		1025	2050	32.2	
	6	ø16	2		931	19	950	1900	29.8	
	7	ø16	2		455		455	910	14.3	
	8	ø16	2		380		380	760	11.9	
	9	ø5	98				118	11564		18.2
								Total+10%:	166.2	20.0
V 2	10	ø16	2		671	19	690	1380	21.7	
	11	ø12.5	2	15	665		680	1360	13.3	
	12	ø12.5	6		660		660	3960	38.9	
	13	ø12.5	3		460		460	1380	13.5	
	14	ø16	2	19	1006		1025	2050	32.2	
	15	ø16	2		971	19	990	1980	31.1	
	16	ø16	3		670		670	2010	31.6	
	17	ø16	2		440		440	880	13.8	
	18	ø12.5	2		430		430	860	8.4	
	19	ø5	132				118	15576		24.5
								Total+10%:	225.0	27.0
V 3=V 4	20	ø12.5	2	15	240	15	270	540	5.3	
	21	ø6.3	2	8	240	8	256	512	1.3	
	22	ø5	14				98	1372		2.2
								Total+10%:	7.3	2.4
								(x2):	14.6	4.8
V 5=V 6	23	ø12.5	2	15	247	15	277	554	5.4	
	24	ø6.3	2	8	247	8	263	526	1.3	
	25	ø5	15				98	1470		2.3
								Total+10%:	7.4	2.5
								(x2):	14.8	5.0
V 7	26	ø12.5	3	15	1070		1085	3255	31.9	
	27	ø12.5	3		975	15	990	2970	29.1	
	28	ø12.5	3		1158	17	1175	3525	34.6	
	29	ø12.5	3	15	900		915	2745	26.9	
	30	ø5	104				118	12272		19.3
								Total+10%:	134.8	21.2
V 8	31	ø12.5	3		1080		1080	3240	31.8	
	32	ø12.5	3		785	15	800	2400	23.6	
	33	ø12.5	2	15	735		750	1500	14.7	
	34	ø12.5	3		970	15	985	2955	29.0	
	35	ø12.5	3	21	954		975	2925	28.7	
	36	ø12.5	2		695		695	1390	13.6	
	37	ø5	129				118	15222		23.9
								Total+10%:	155.5	26.3
V 9	38	ø12.5	2	15	315	15	345	690	6.8	
	39	ø8	2	10	315	10	335	670	2.6	
	40	ø5	16				108	1728		2.7
								Total+10%:	10.3	3.0
V 10	41	ø12.5	2	15	495	15	525	1050	10.3	
	42	ø8	2	10	495	10	515	1030	4.0	
	43	ø5	26				108	2808		4.4
								Total+10%:	15.7	4.8
V 11=V 12	44	ø12.5	2	15	472	15	502	1004	9.9	
	45	ø12.5	1		375		375	375	3.7	
	46	ø6.3	2	8	472	8	488	976	2.4	
	47	ø5	25				108	2700		4.2
								Total+10%:	17.6	4.6
								(x2):	35.2	9.2
V 13	48	ø12.5	2	15	292	15	322	644	6.3	
	49	ø8	2	10	292	10	312	624	2.4	
	50	ø5	14				98	1372		2.2
								Total+10%:	9.6	2.4
V 14	51	ø12.5	4		706	19	725	2900	28.5	
	52	ø12.5	3	15	665		680	2040	20.0	
	53	ø12.5	3		660		660	1980	19.4	
	54	ø12.5	3	15	965		980	2940	28.8	
	55	ø12.5	3		1085	15	1100	3300	32.4	
	56	ø12.5	2		200	15	215	430	4.2	
	57	ø5	110				118	12980		20.4
								Total+10%:	146.6	22.4
V 15	58	ø16	2		675		675	1350	21.2	
	59	ø16	2		670		670	1340	21.0	
	60	ø12.5	3		670	15	685	2055	20.2	
	61	ø12.5	2		660		660	1320	13.0	
	62	ø16	3	19	581		600	1800	28.3	
	63	ø12.5	3		345		345	1035	10.2	
	64	ø16	3		1101	19	1120	3360	52.8	
	65	ø16	2	21	874		895	1790	28.1	
	66	ø16	3		650		650	1950	30.6	
	67	ø16	3		570		570	1710	26.8	
	68	ø16	2	19	126		145	290	4.6	
	69	ø8	37				124	4588	18.0	
	70	ø5	105				118	12390		19.5
								Total+10%:	302.3	21.5
V 16=V 42	71	ø12.5	3		950		950	2850	28.0	
	72	ø12.5	3		920	15	935	2805	27.5	
	73	ø12.5	3	15	600		615	1845	18.1	
	74	ø12.5	3		1085	15	1100	3300	32.4	
	75	ø12.5	3	15	860		875	2625	25.8	
	76	ø12.5	3		665		665	1995	19.6	
	77	ø10	1		118	12	130	130	0.8	
	78	ø5	126				118	14868		23.3
								Total+10%:	167.4	25.6
								(x2):	334.8	51.2
V 17=V 43	79	ø12.5	3	15	950		965	2895	28.4	
	80	ø12.5	3		595	15	610	1830	18.0	
	81	ø12.5	2		825	15	840	1680	16.5	
	82	ø12.5	2	15	735		750	1500	14.7	
	83	ø5	77				118	9086		14.3
								Total+10%:	85.4	15.7
								(x2):	170.8	31.4
V 20=V 39	84	ø12.5	2	15	210	15	240	480	4.7	
	85	ø8	2	10	210	10	230	460	1.8	
	86	ø5	11				98	1078		1.7
								Total+10%:	7.2	1.9
								(x2):	14.4	3.8
V 19=V 40	87	ø12.5	2	15	290	15	320	640	6.3	
	88	ø6.3	2	8	290	8	306	612	1.5	
	89	ø5	15				108	1620		2.5
								Total+10%:	8.6	2.8
								(x2):	17.2	5.6
V 18=V 22=V 23 V 35=V 36	90	ø12.5	3	15	527	15	557	1671	16.4	
	91	ø10	2	12	527	12	551	1102	6.9	
	92	ø5	27				118	3186		5.0
								Total+10%:	25.6	5.5
								(x5):	128.0	27.5
V 21=V 38	93	ø12.5	2	15	210	15	240	480	4.7	
	94	ø8	2	10	210	10	230	460	1.8	
	95	ø5	10				98	980		1.5
								Total+10%:	7.2	1.7
								(x2):	14.4	3.4
V 24=V 25=V 33 V 34	96	ø16	3	19	585	19	623	1869	29.3	
	97	ø6.3	2	8	585	8	601	1202	3.0	
	98	ø5	30				118	3540		5.6
								Total+10%:	35.5	6.2
								(x4):	142.0	24.8
V 26=V 32	99	ø16	3	19	527	19	565	1695	26.6	
	100	ø8	2	10	527	10	547	1094	4.3	
	101	ø5	30				118	3540		5.6
								Total+10%:	34.0	6.2
								(x2):	68.0	12.4
V 27=V 31	102	ø12.5	2	15	331	15	361	722	7.1	
	103	ø8	2	10	331	10	351	702	2.8	
	104	ø5	19				98	1862		2.9
								Total+10%:	10.9	3.2
								(x2):	21.8	6.4
V 29	105	ø6.3	2	55	7	55	117	234	0.6	
	106	ø16	2	19	524	19	562	1124	17.6	
	107	ø12.5	2		440		440	880	8.6	
	108	ø8	2	10	524	10	544	1088	4.3	
	109	ø5	32				118	3776		5.9
								Total+10%:	34.2	6.5
V 37=V 41	110	ø16	3	19	527	19	565	1695	26.6	
	111	ø8	2	10	527	10	547	1094	4.3	
	112	ø5	26				118	3068		4.8
								Total+10%:	34.0	5.3
								(x2):	68.0	10.6
V 28=V 30	113	ø10	3	12	102	12	126	378	2.4	
	114	ø10	2	12	102	12	126	252	1.6	
	115	ø5	5				98	490		0.8
								Total+10%:	4.4	0.9
								(x2):	8.8	1.8
								ø5:	0.0	353.0
								ø6.3:	28.5	0.0
								ø8:	67.4	0.0
								ø10:	48.6	0.0
								ø12.5:	1344.5	0.0
								ø16:	764.0	0.0
								Total:	2253.0	353.0

NOTAS GERAIS

1. AS UNIDADES USADAS NO PROJETO SÃO AS SEGUINTES, SALVO QUANDO INDICADO AO CONTRÁRIO:
   - 1.1 COORDENADAS EM METROS(M);
   - 1.2 ELEVAÇÕES EM METROS(M);
   - 1.3 DIMENSÕES EM CENTÍMETROS(CM);
   - 1.4 UNIDADES S. I. (SISTEMA INTERNACIONAL);
   - 1.5 CONCRETO ESTRUTURAL (BLOCOS,VIGAS, PILARES E LAJE)–FCK=30MPA;
   - 1.6 COBRIMENTO=4 CM;
   - 1.7 ESTRUTURA: CLASSE DE AGRESSIVIDADE DO AMBIENTE: CLASSE III;
   - 1.8 ESTRUTURA: RELAÇÃO ÁGUA/CIMENTO EM MASSA: A/C < 0,55;
2. A EXECUÇÃO DAS ESTRUTURAS DEVERÃO ATENDER TODAS AS PRESCRIÇÕES DAS NORMAS NBR–6122 – PROJETO E EXECUÇÃO DE FUNDAÇÕES E N–1644 CONSTRUÇÃO DE FUNDAÇÕES E DE ESTRUTURAS DE CONCRETO. NBR–14931–2004 –EXECUÇÃO DE ESTRUTURAS DE CONCRETO–PROCEDIMENTO
3. PARA EXECUÇÃO DA ESCADA VER PLANTA 19–POS–CIE–ESCADA.dwg

REV.	DESCRIÇÃO	DATA	EXEC.	VERIF.	APPROV.
C					
B					
A	ADEQUAÇÃO ESTILO LETRAS, TABELAS	14/03/17	CYPE	POS	OCF
0	EMISSÃO ORIGINAL	28/08/14	CYPE	POS	OCF

CONTRATANTE: SECRETARIA MUNICIPAL DE TURISMO ESPORTE E LAZER
RUBRICA:
RESP. TECNICO PELO PROJETO: ENG. OSVALDO CORREA FILHO
RESP. TECNICO PELA EXECUÇÃO:
REG. CREA No: 78.181–D/RS
REG. CREA No:
RUBRICA:
RUBRICA:

ESTE DOCUMENTO E DE PROPRIEDADE DA POSITIVO ENGENHARIA LTDA., E NAO PODE SER REPRODUZIDO OU USADO PARA QUALQUER FINALIDADE DIFERENTE DAQUELA PARA QUAL ESTA SENDO FORNECIDO.

POSITIVO ENGENHARIA LTDA.
RUA LUIS LOREA, 571–B SALA 101 – RIO GRANDE/ RS CEP 96200–350
Email: positivoengenharia@vetorial.net C.N.P.J. 06.164.829/0001–06

CLIENTE: SECRETARIA MUNICIPAL DE TURISMO ESPORTE E LAZER CIDADE DO RIO GRANDE/RS

PROGRAMA OU PROJETO: CIE – CENTRO DE INICIAÇÃO AO ESPORTE

TITULO: VIGAS ACADEMIA

PROJ.	DES.	VERIF.	APROV.
POS	CYPE	POS	POS
ESCALA: 1:50			FOLHA: 1 DE 1
DATA: 28/08/14	No. PB	09	

Plotagem Monocromática		
nº	Cor	Pena
1	7	0.1
2	7	0.2
3	7	0.3
4	7	0.4
5	7	0.5
6	7	0.6
7	7	0.2
8	7	0.1
esc. Plot. 1:1		