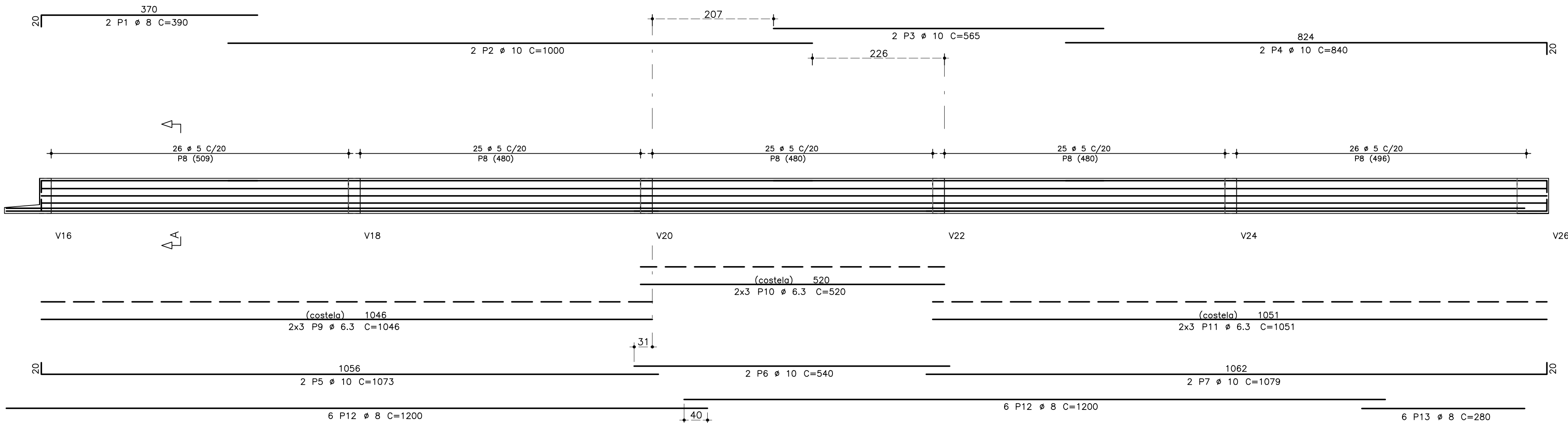
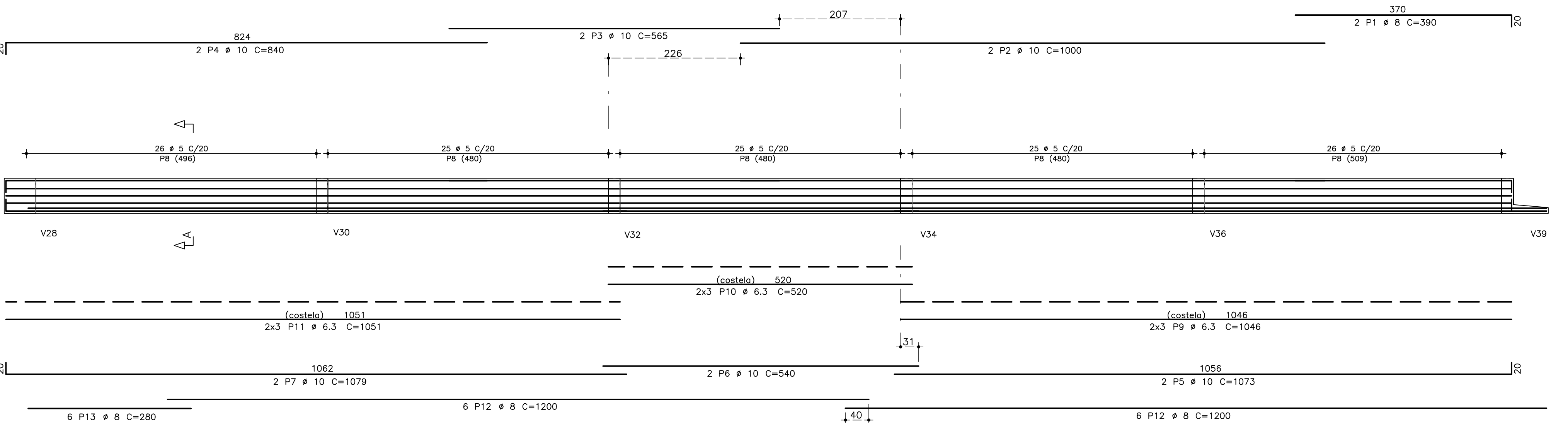


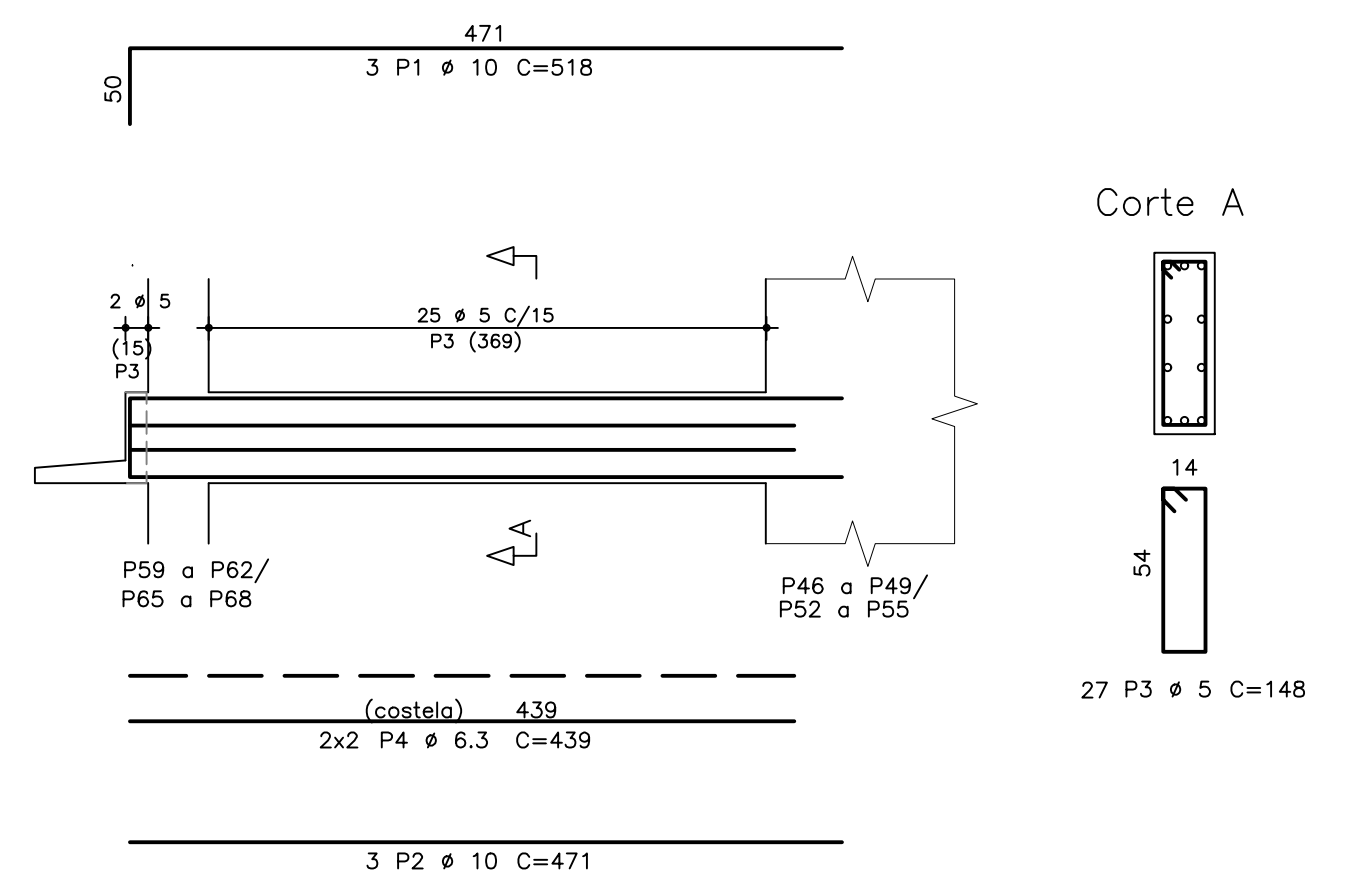
V11 14/60+ABA



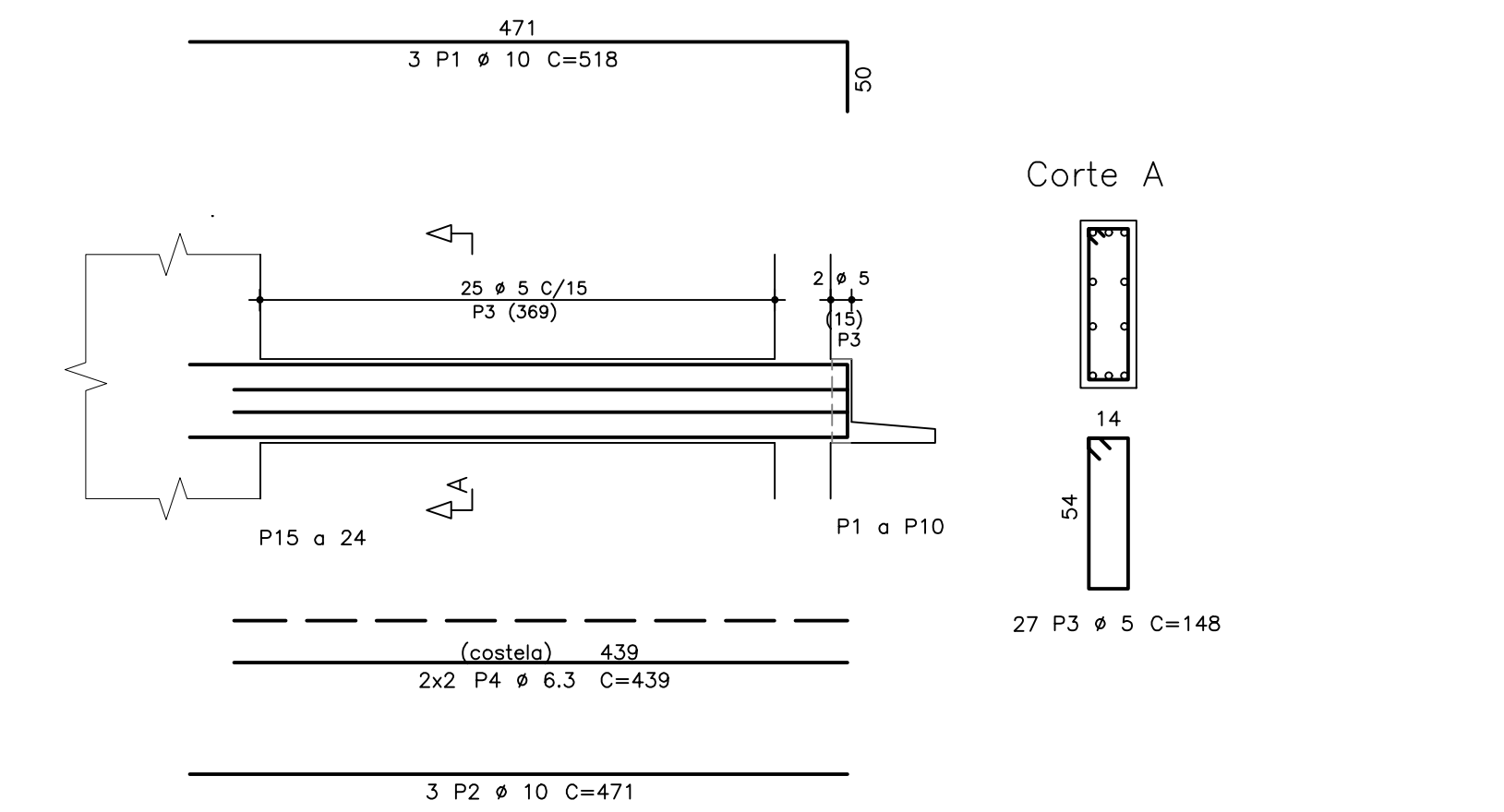
V14 14/60+ABA



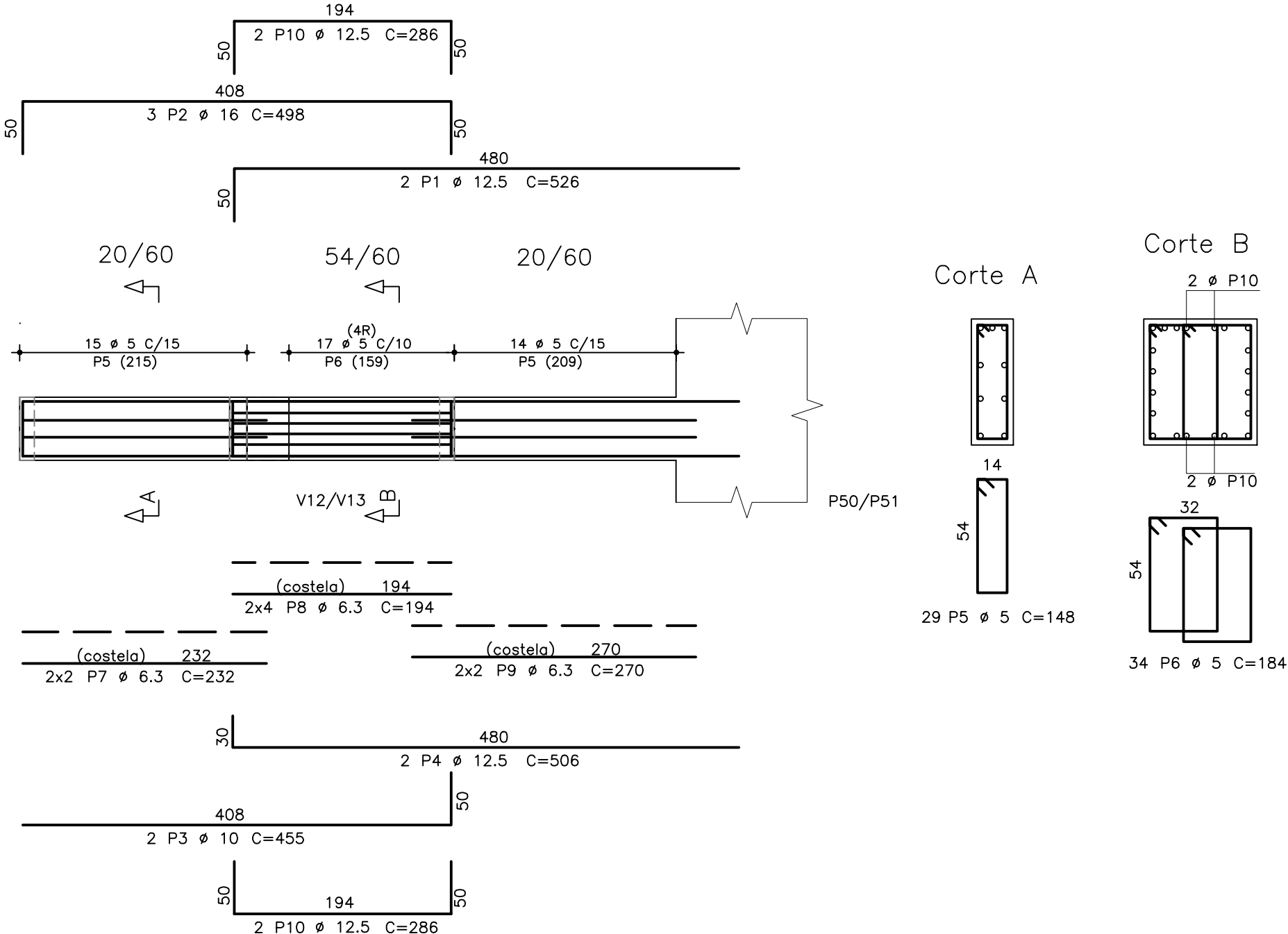
V18=V20=V22=V24=V30=V32=V34=V36 20/60



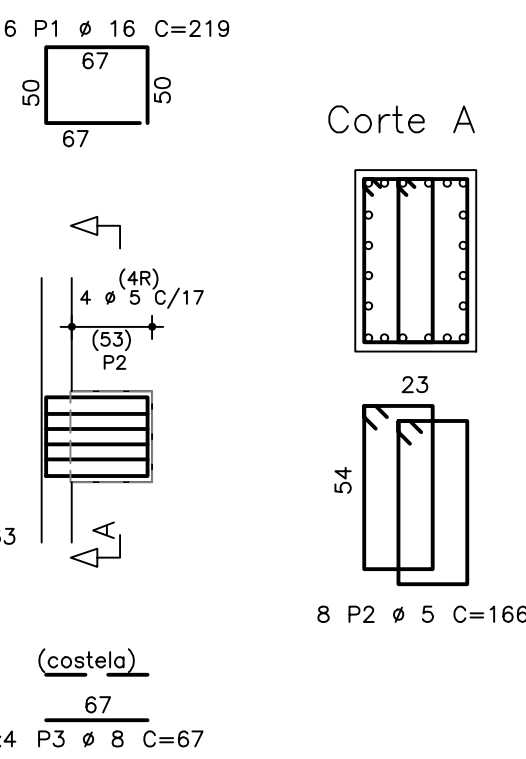
V19=V21=V23=V25=V27=V29=V31=V33=V35=V37 20/60



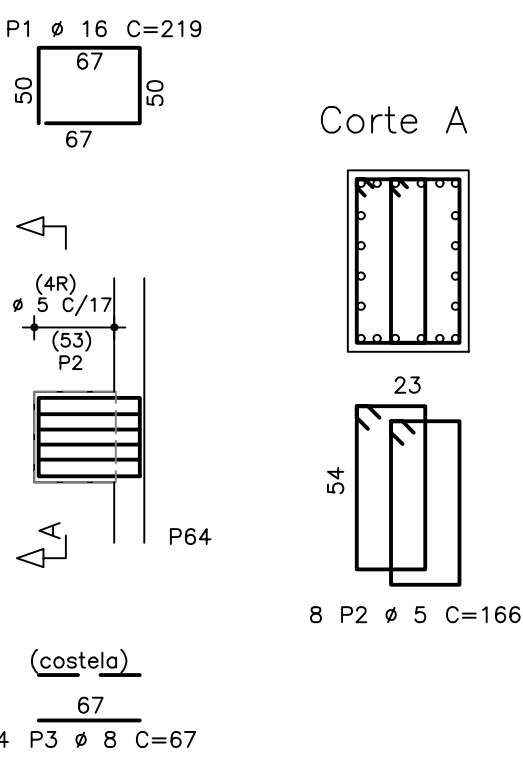
V26=V28



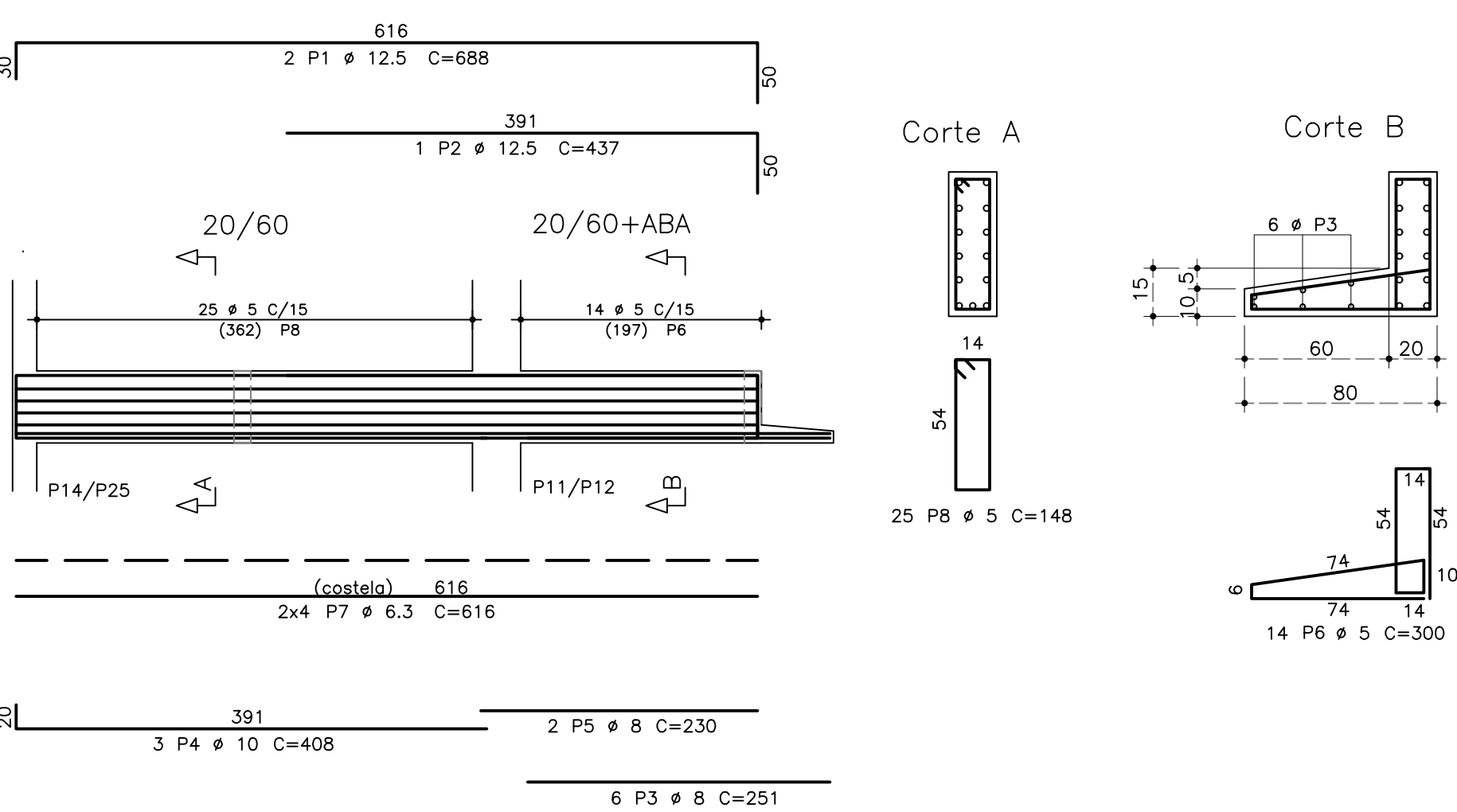
V12 40/60



V13 40/60



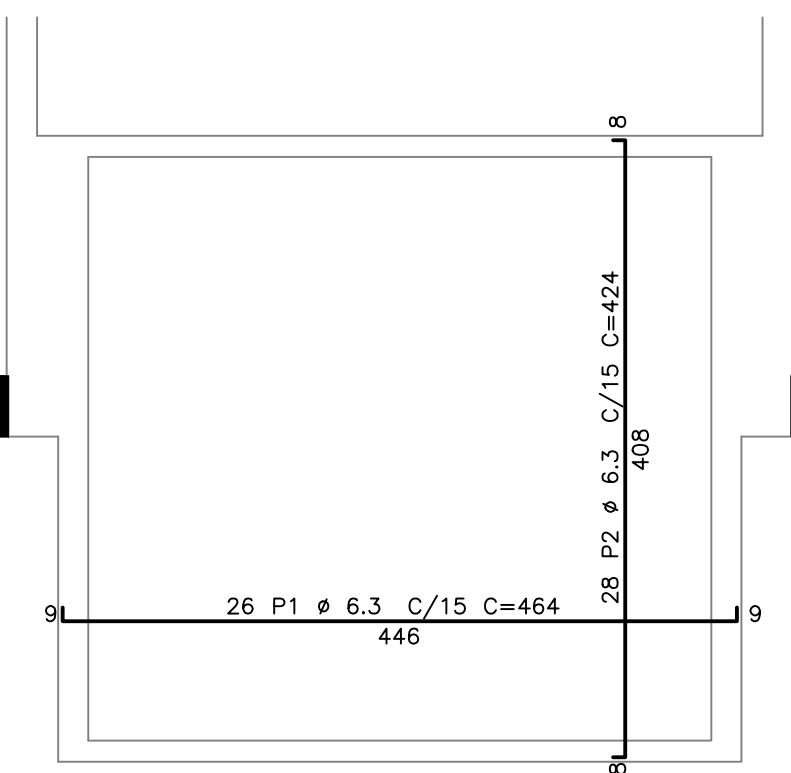
V17=V39



AÇO	POS	BIT (mm)	QUANT	COMPRIMENTO	
				UNIT (cm)	TOTAL (cm)
V11	50	1	8	2	390
	50	2	10	2	1000
	50	3	10	2	565
	50	4	10	2	840
	50	5	10	2	1073
	50	6	10	2	540
	50	7	10	2	1079
	60	8	5	127	275
	50	9	6.3	6	1046
	50	10	6.3	6	520
	50	11	6.3	6	1051
	50	12	8	12	1200
	50	13	8	6	280
V12	50	1	16	6	219
	60	2	5	8	166
	50	3	8	8	67
V13	50	1	16	6	219
	60	2	5	8	166
	50	3	8	8	67
V14	50	1	8	2	390
	50	2	10	2	1000
	50	3	10	2	565
	50	4	10	2	840
	50	5	10	2	1073
	50	6	10	2	540
	50	7	10	2	1079
	60	8	5	127	275
	50	9	6.3	6	1046
	50	10	6.3	6	520
	50	11	6.3	6	1051
	50	12	8	12	1200
	50	13	8	6	280
V17=V39	50	1	12.5	4	688
	50	2	12.5	2	437
	50	3	8	12	251
	50	4	10	6	408
	50	5	8	4	230
	60	6	5	28	300
	50	7	6.3	16	616
	60	8	5	50	148
	50	1	10	24	518
	50	2	10	24	471
	60	3	5	216	148
	50	4	6.3	32	439
	50	5	10	30	471
V18=V20=V22=V24=V30=V32=V34=V36	50	1	10	30	471
	50	2	10	30	471
	60	3	5	270	148
	50	4	6.3	40	439
	50	5	10	30	471
	50	6	10	30	471
	60	7	5	270	148
	50	8	6.3	40	439
	50	9	10	30	471
	50	10	12.5	8	286
	50	11	12.5	8	286
	50	12	12.5	8	286
	50	13	12.5	8	286
LM	50	1	6.3	28	464
	50	2	6.3	28	424

AÇO	RESUMO BIT (mm)	ACO CA (mm)	50-60 COMPR (m)	PESO (kg)
60	5.3	1813		280
50	6.3	1039		280
50	8	387		155
50	10	781		482
50	12.5	100		100
50	16	56		90
Peso Total				290 kg
Peso Total				1097 kg

LM h=12



DETALHE DE DOBRAMENTO DOS FERROS	Ø	RAIO (cm)	DESCONTO(cm)
	10.0	7.5	3.0
	12.5	9.3	4.0
	16.0	12.0	5.0
	20.0	15.0	6.0
	25.0	18.5	8.0

REVISÃO	DESCRIÇÃO	SOLICITADO POR	DATA	RESPONSÁVEL

TAUFIG ASFURA  
CREA 1086 - PE/PA

ITALO B. SCHMITZ  
CREA PE045.442

GAMAL ASFURA  
CREA 16973 - PE/PA

engest  
engenharia estrutural ltda.

RUA ARNÓBIO MARQUES, 271 - STO. AMARO  
FONE:(081)3222-6652 - FAX:3231-2500

RECIFE-PE - CEP:50.100-130.  
E-MAIL:engestpe@terra.com.br

OBRA

GINÁSIO DE ESPORTES

(PREFEITURA DE LIMOEIRO)

01/2017

RESP. TÉCNICO  
GAMAL ASFURA

PROJETO  
ESTRUTURAL

DESENHO  
AMARO CORTEZ

AÇO  
CA= 50 e 60

CONCRETO  
fck > 35 MPa

ARQUIVO  
PO3-02.DWG

ESCALA  
1:50

DATA  
ABRIL/2017

REVISÃO  
0

P  
03/02

NÍVEL INTERMEDIÁRIO - ARMAÇÃO DAS VIGAS (PARTE 02/02)