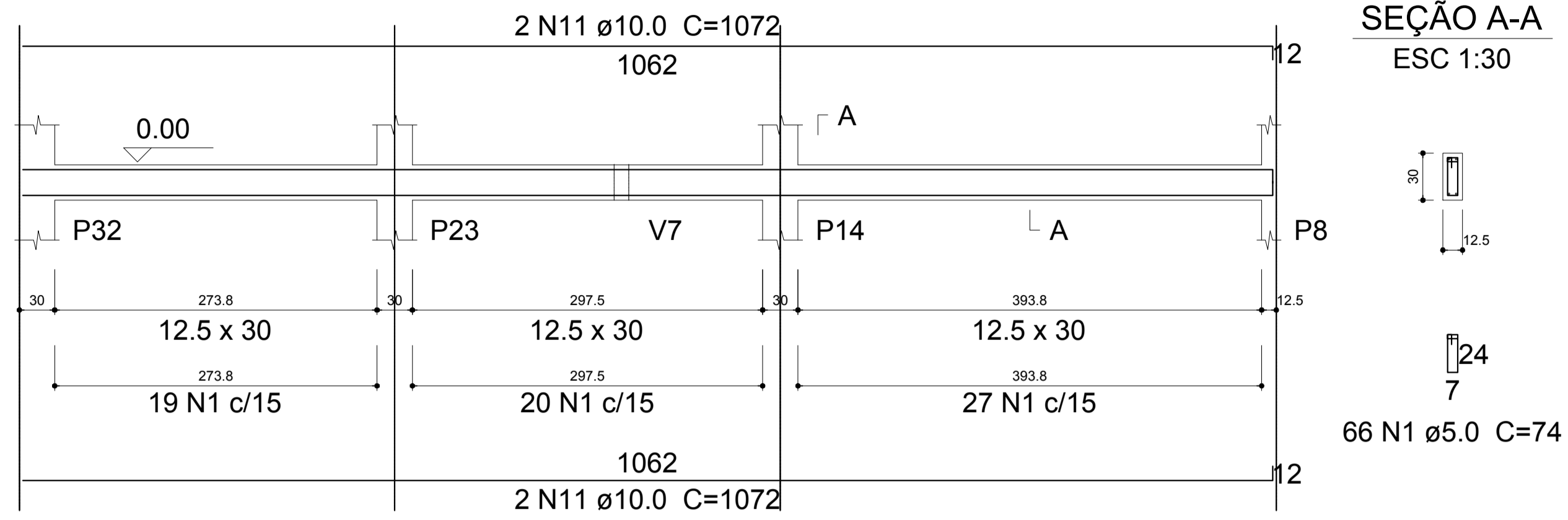
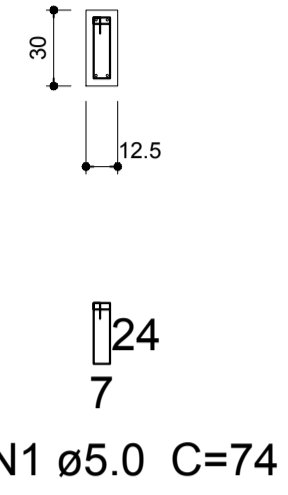


# V14

ESC 1:40

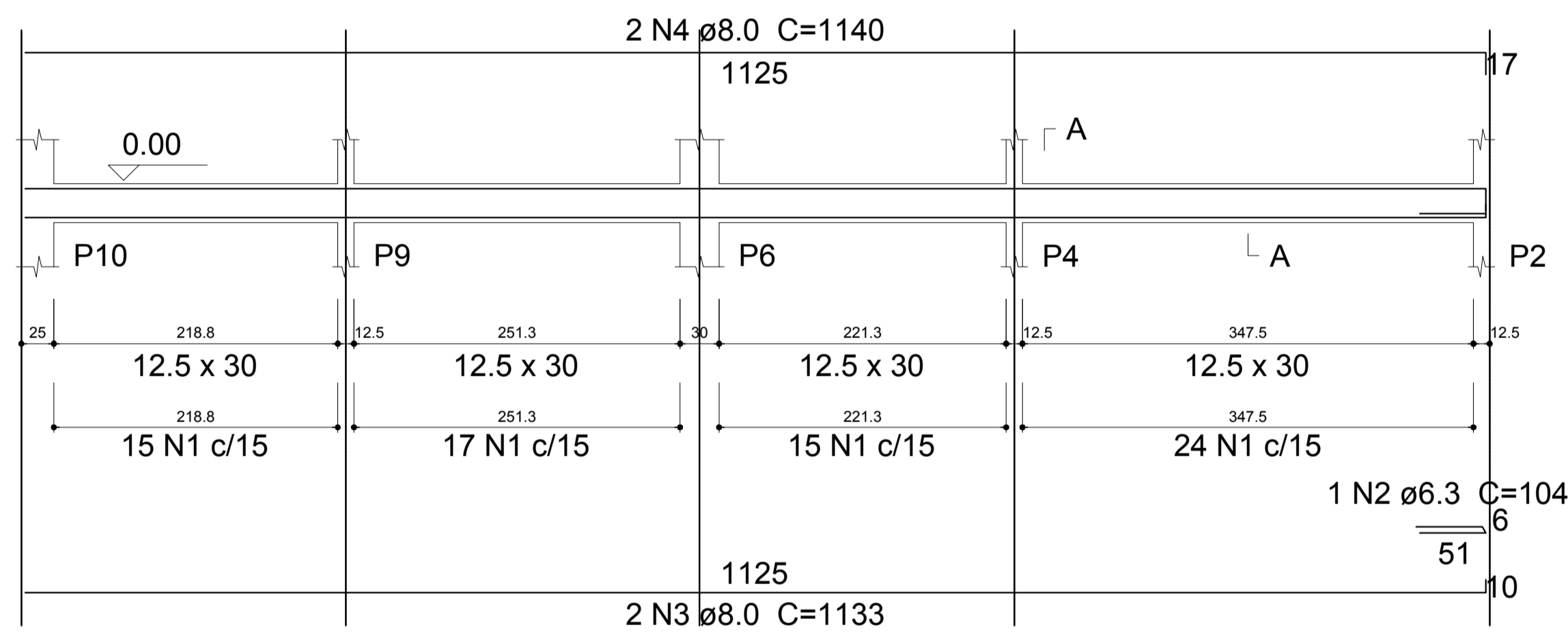


SEÇÃO A-A  
ESC 1:30

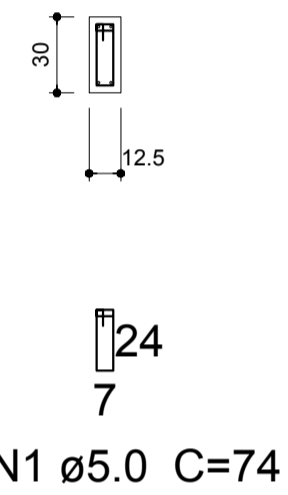


# V15

ESC 1:40

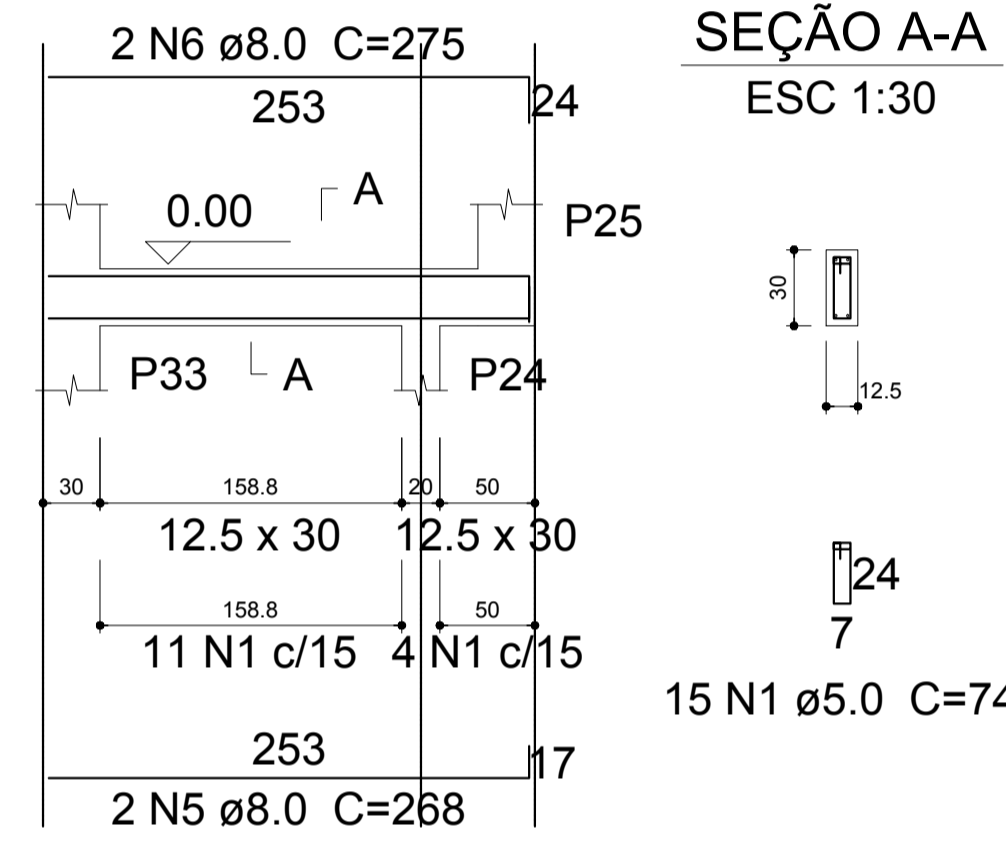


SEÇÃO A-A  
ESC 1:30

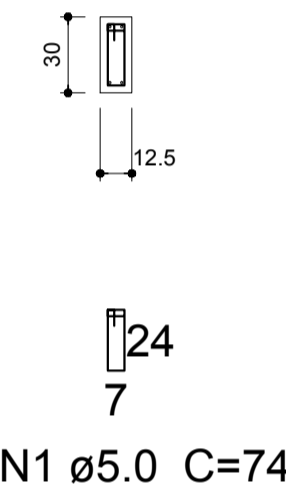


# V16

ESC 1:40



SEÇÃO A-A  
ESC 1:30



## Relação do aço

V14	V15	V16
V17	V18	V19
V20		

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	248	74	18352
CA50	2	6.3	2	104	208
	3	8.0	2	1133	2266
	4	8.0	2	1140	2280
	5	8.0	2	268	536
	6	8.0	4	275	1100
	7	8.0	2	426	852
	8	8.0	2	440	880
	9	8.0	4	297	1188
	10	8.0	2	253	506
	11	10.0	4	1072	4288
	12	10.0	4	662	2648

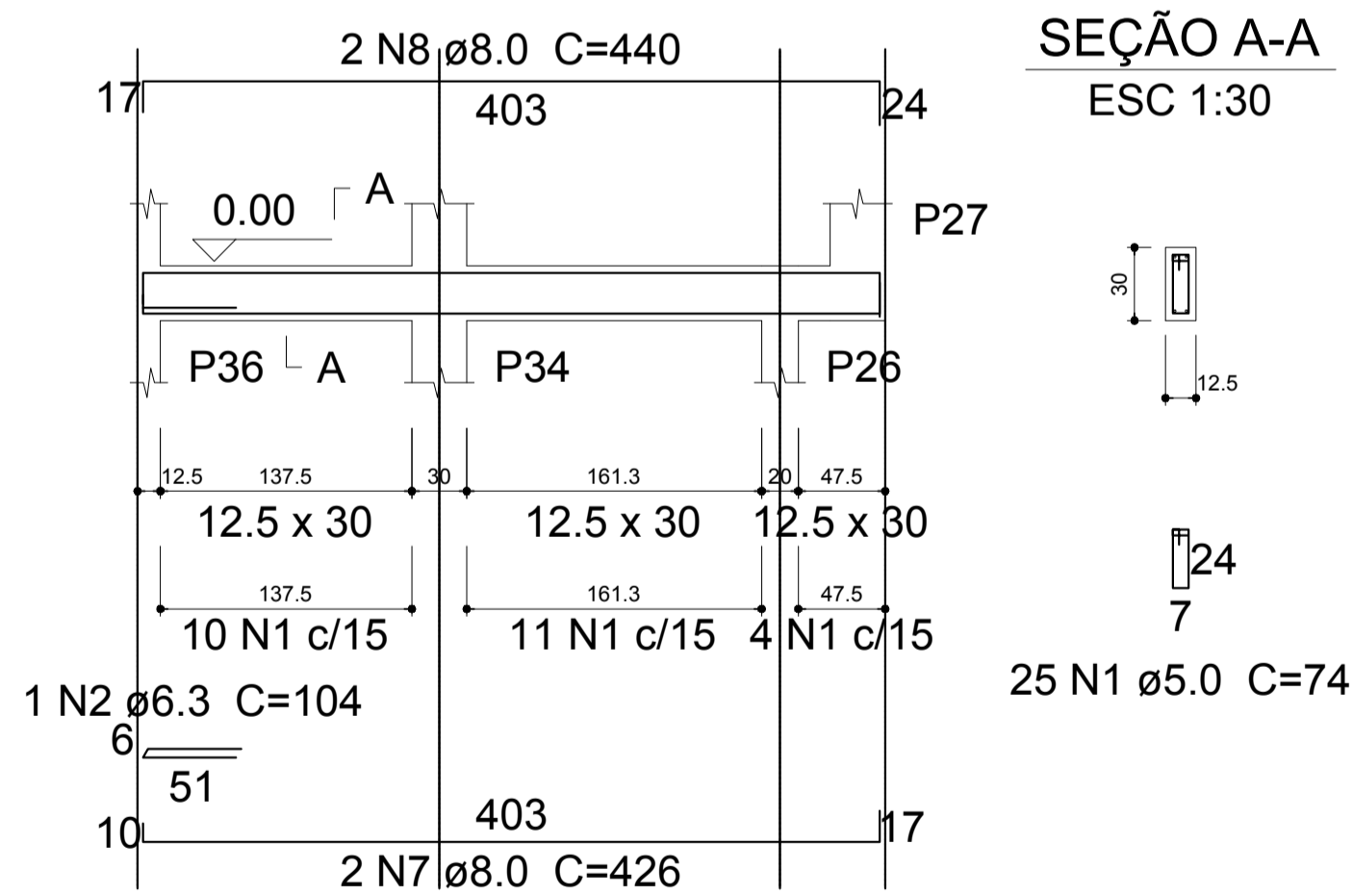
## Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	2.1	0.6
	8.0	96.1	41.7
	10.0	69.4	47
CA60	5.0	183.6	31.1
<b>PESO TOTAL</b>			
CA50	89.3		
CA60	31.1		

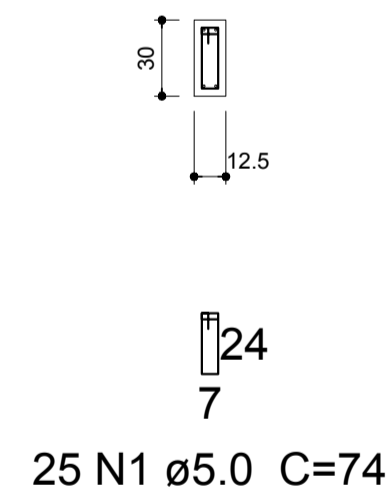
Vol. de concreto total (C-25) = 1.54 m³  
Área de forma total = 29.69 m²

# V17

ESC 1:40

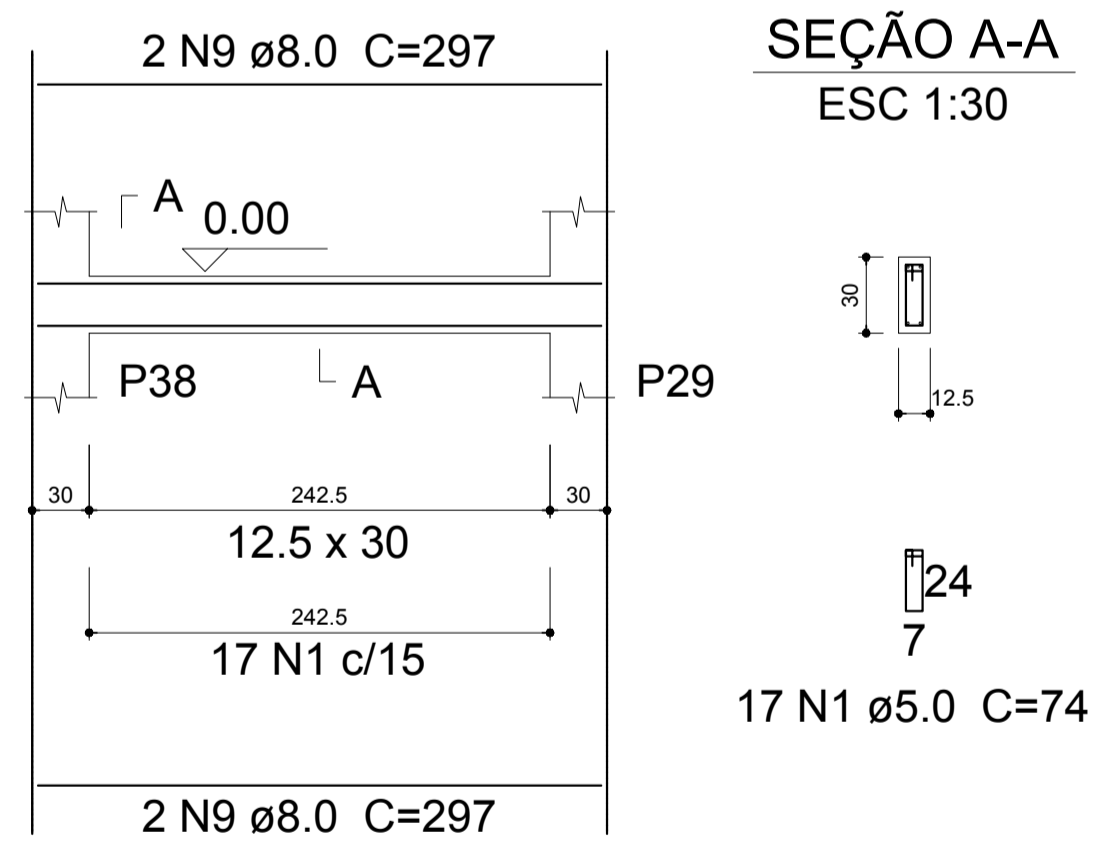


SEÇÃO A-A  
ESC 1:30

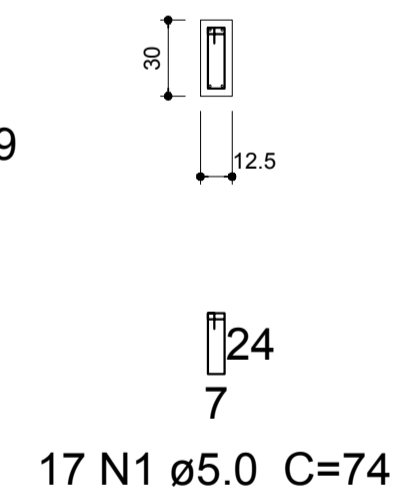


# V18

ESC 1:40

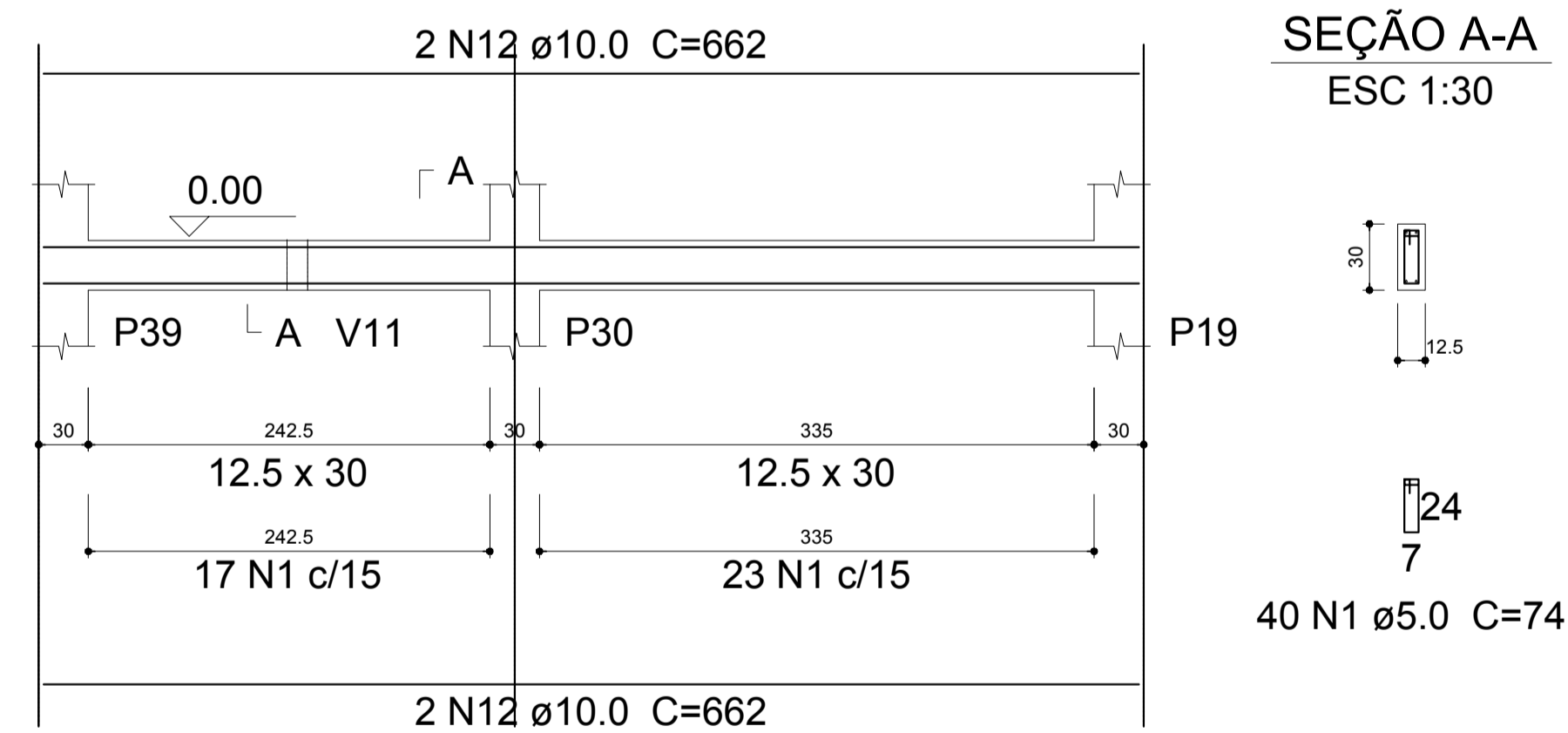


SEÇÃO A-A  
ESC 1:30

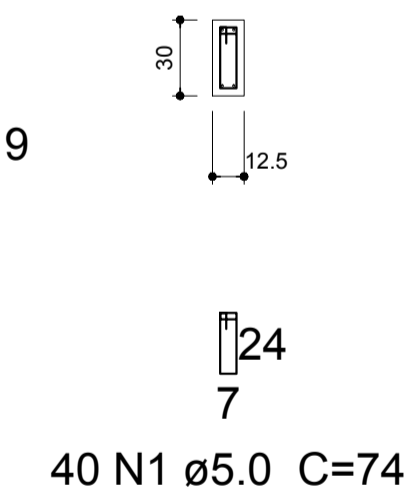


# V19

ESC 1:40

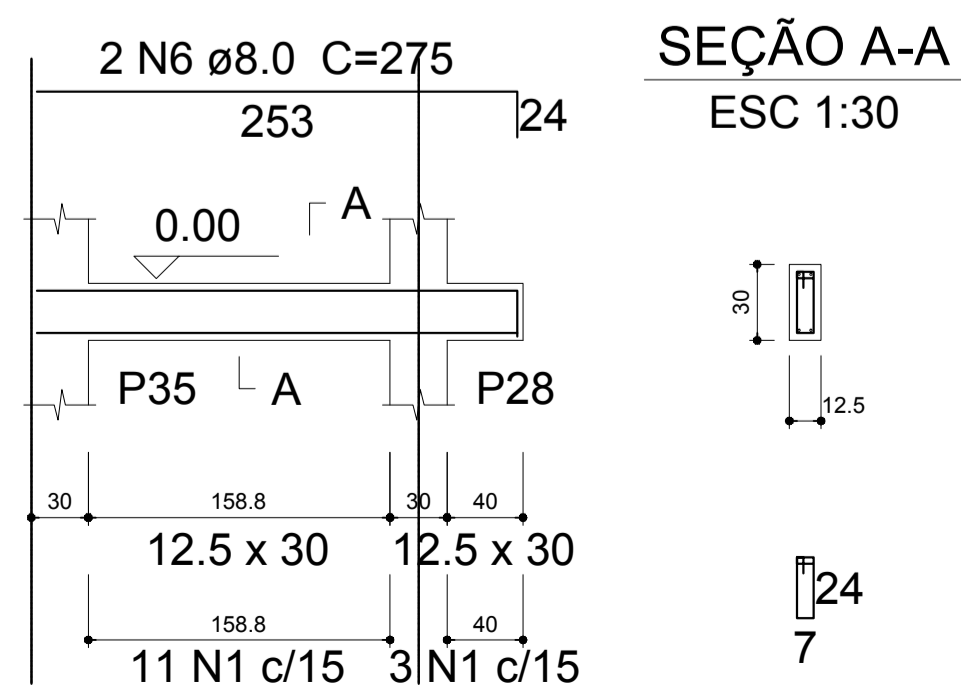


SEÇÃO A-A  
ESC 1:30

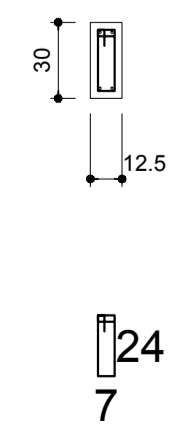



# V20

ESC 1:40



SEÇÃO A-A  
ESC 1:30



 <b>PREFEITURA MUNICIPAL DE PARANAGUÁ</b> ADMINISTRAÇÃO DR. EDISON DE OLIVEIRA KERSTEN SECRETARIA MUNICIPAL DE OBRAS PÚBLICAS					
TÍTULO					
PROJETO DE ESTRUTURA DE CONCRETO ARMADO					
OBRA					
REFORMA E AMPLIAÇÃO CMEI - ZULEIDE PINTO ROSA					
CONTEÚDO					
- VIGAS - BALDRAME					
PROPRIETÁRIO			AUTOR DO PROJETO		
PREFEITURA MUNICIPAL DE PARANAGUÁ			DEBORA TEMPORÃO DE AGUIAR RAMOS		
C.N.P.J. 36.017.458/0001-15			CREA: PR-25643/D		
DATA	Julho/2016	ESCALA	indicada	DESENHO	Debora
		ÁREA AMPL.	163,95m²	PRANCHAS	10/15
		ÁREA TOTAL	399,63m²		