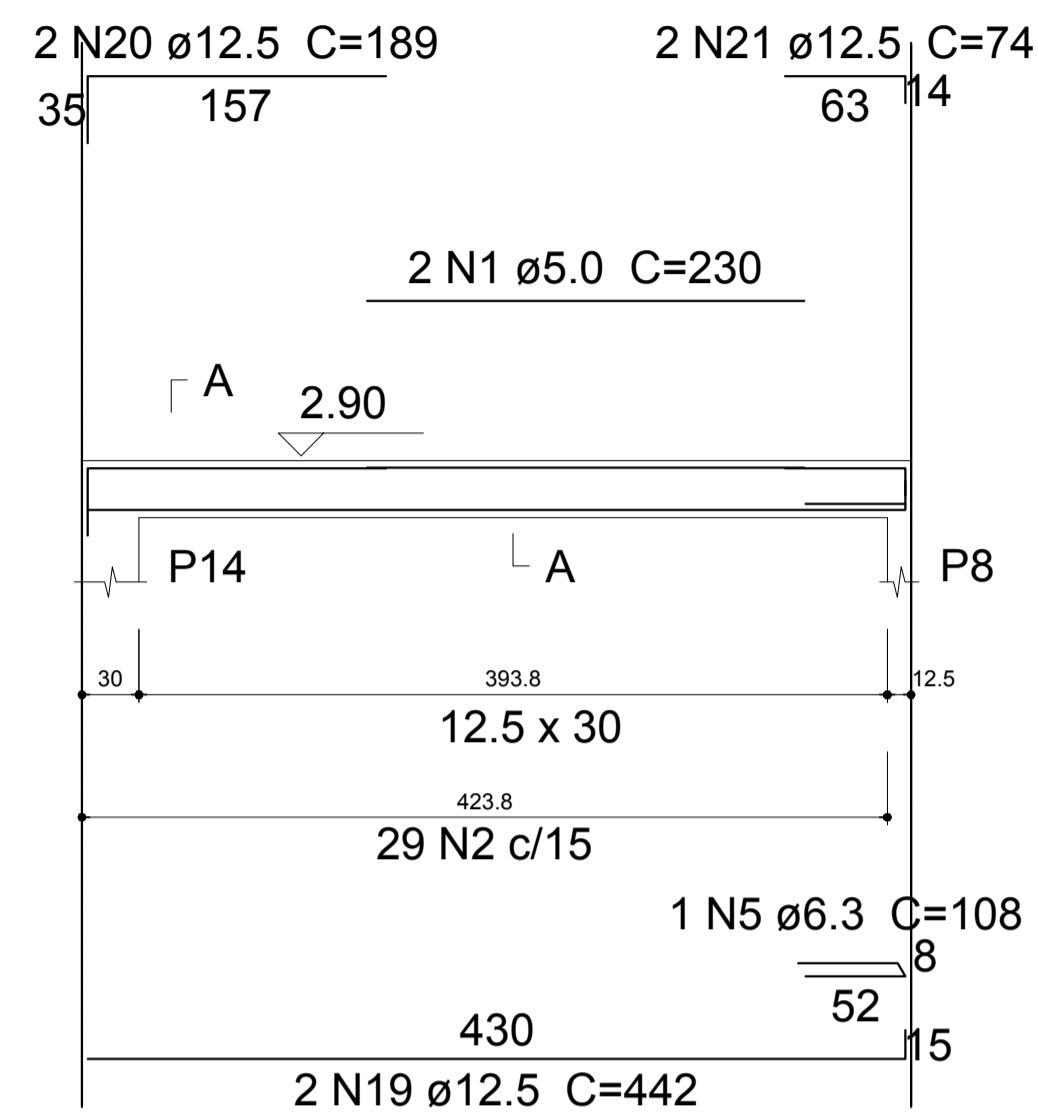


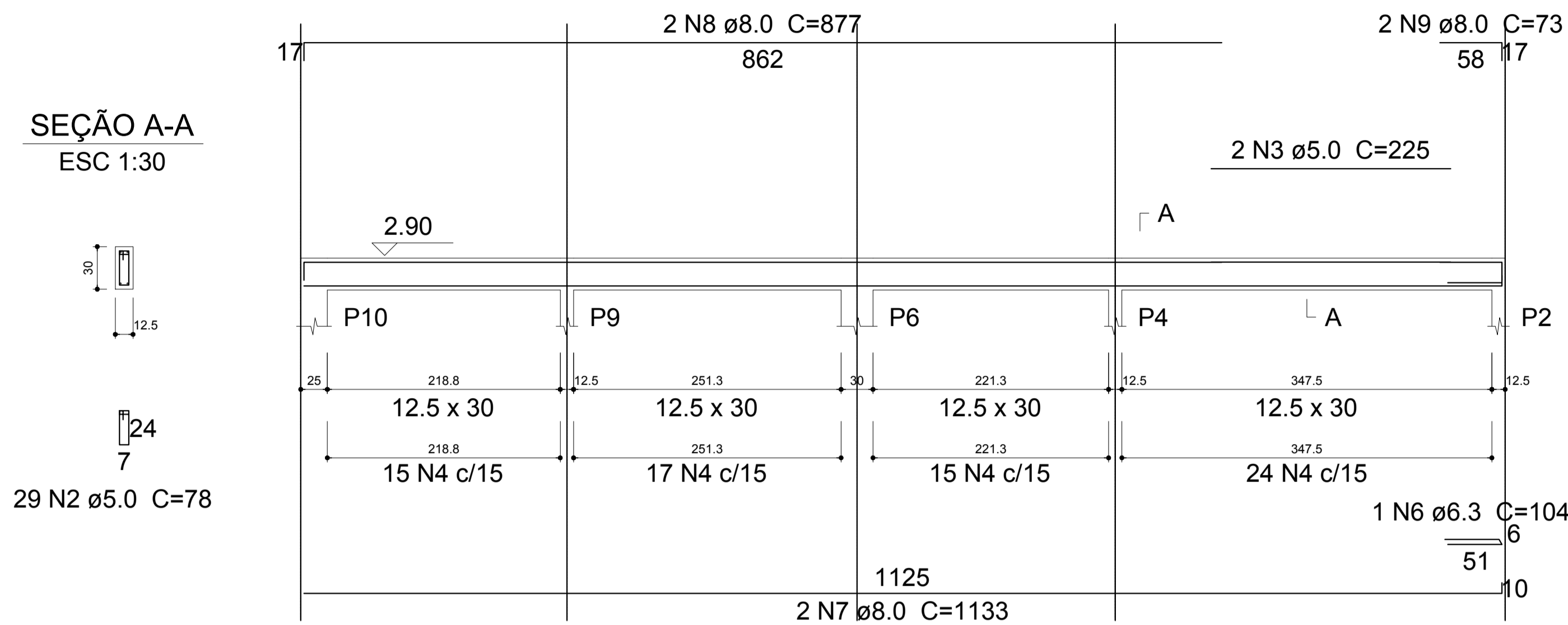
V17

ESC 1:40



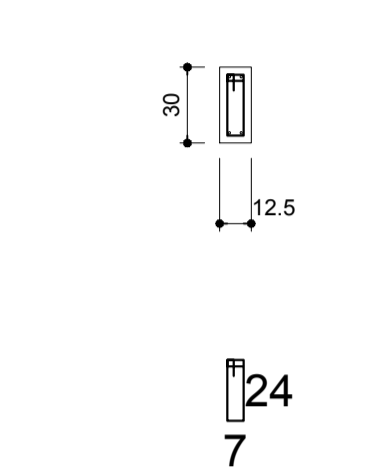
V18

ESC 1:40



SEÇÃO A-A

ESC 1:30

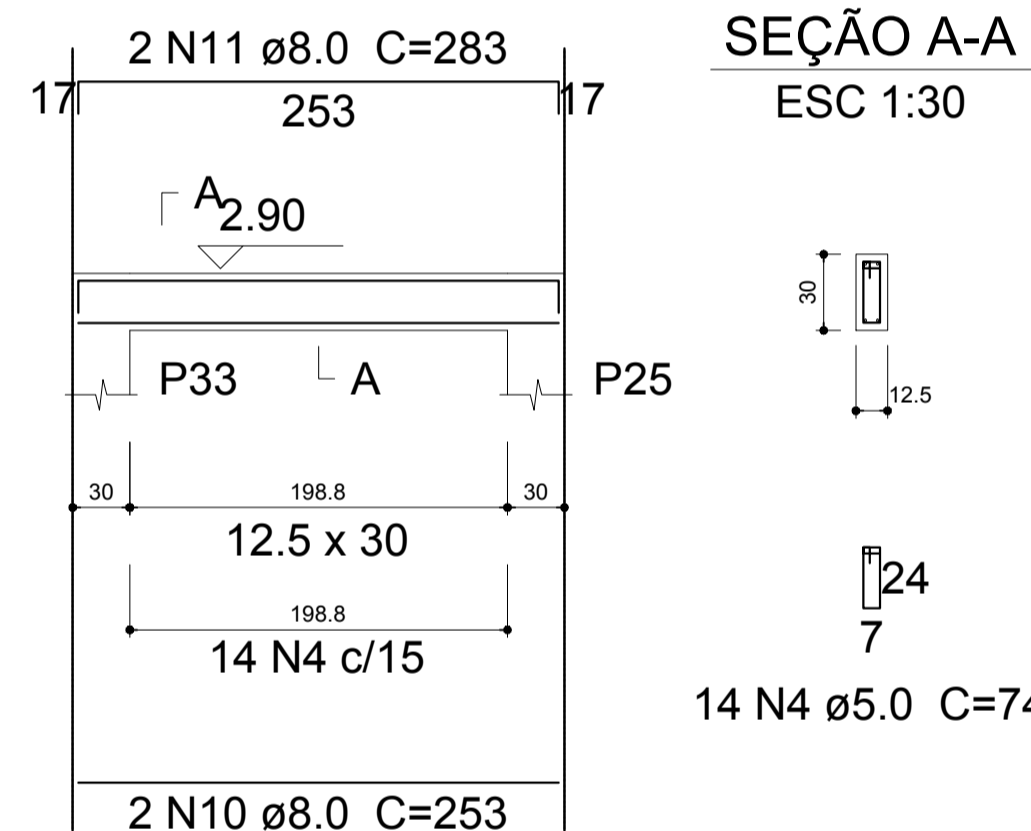


Relação do aço

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	2	230	460
	2	5.0	29	74	2146
	3	5.0	2	225	450
CA50	4	5.0	180	74	13320
	5	6.3	1	108	108
	6	6.3	2	104	208
	7	8.0	2	1133	2266
	8	8.0	2	877	1754
	9	8.0	2	73	146
	10	8.0	4	253	1012
	11	8.0	2	283	566
	12	8.0	2	411	822
	13	8.0	2	433	866
	14	8.0	2	297	594
	15	8.0	2	327	654
	16	8.0	2	662	1324
	17	8.0	2	692	1384
	18	8.0	2	290	580
	19	12.5	2	442	884
	20	12.5	2	189	378
	21	12.5	2	74	148

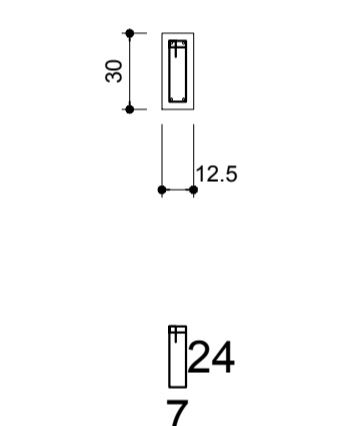
V19

ESC 1:40



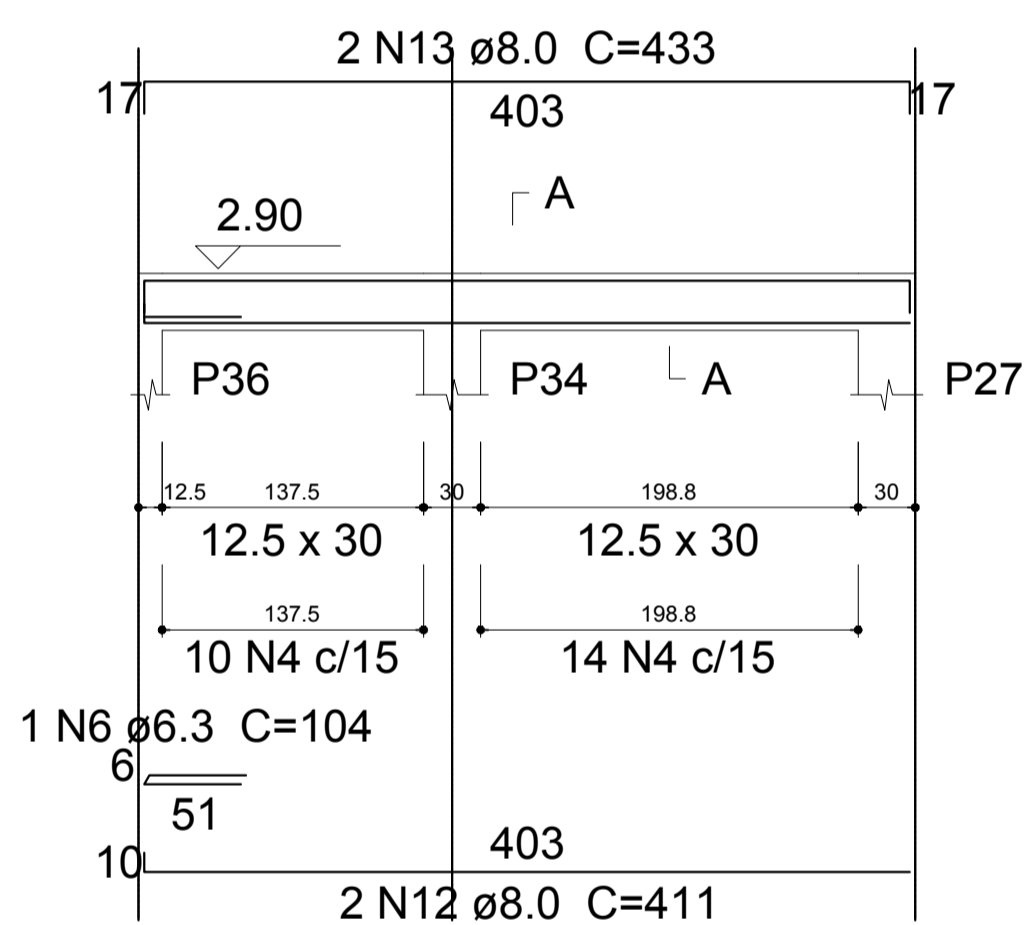
SEÇÃO A-A

ESC 1:30



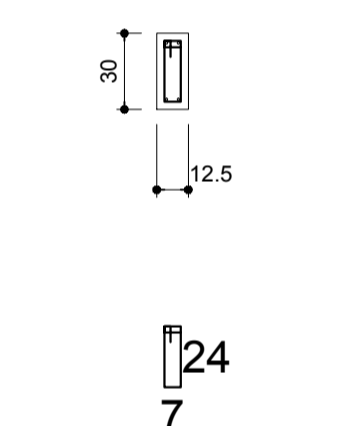
V20

ESC 1:40



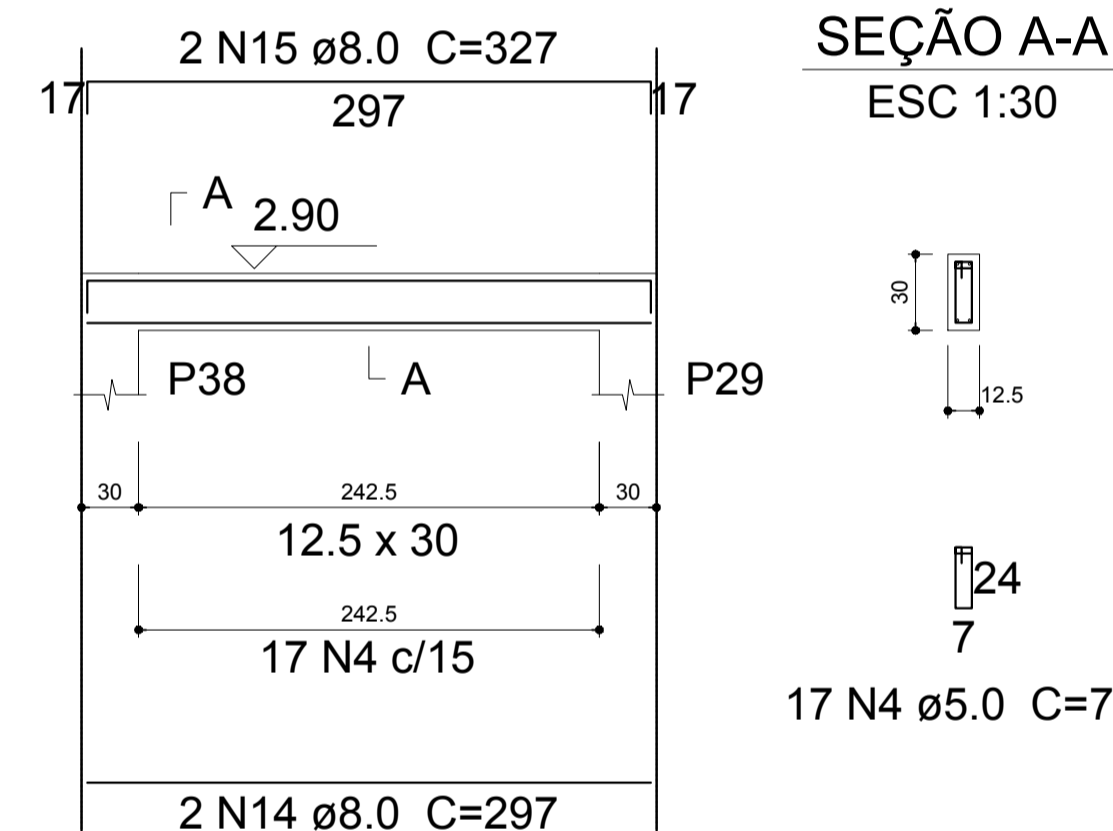
SEÇÃO A-A

ESC 1:30



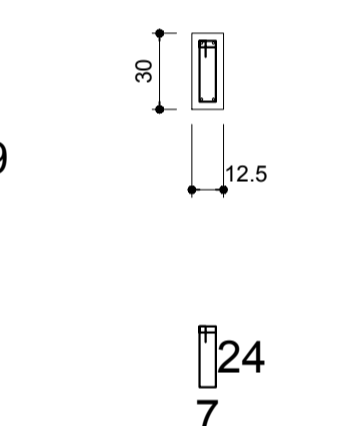
V21

ESC 1:40



SEÇÃO A-A

ESC 1:30



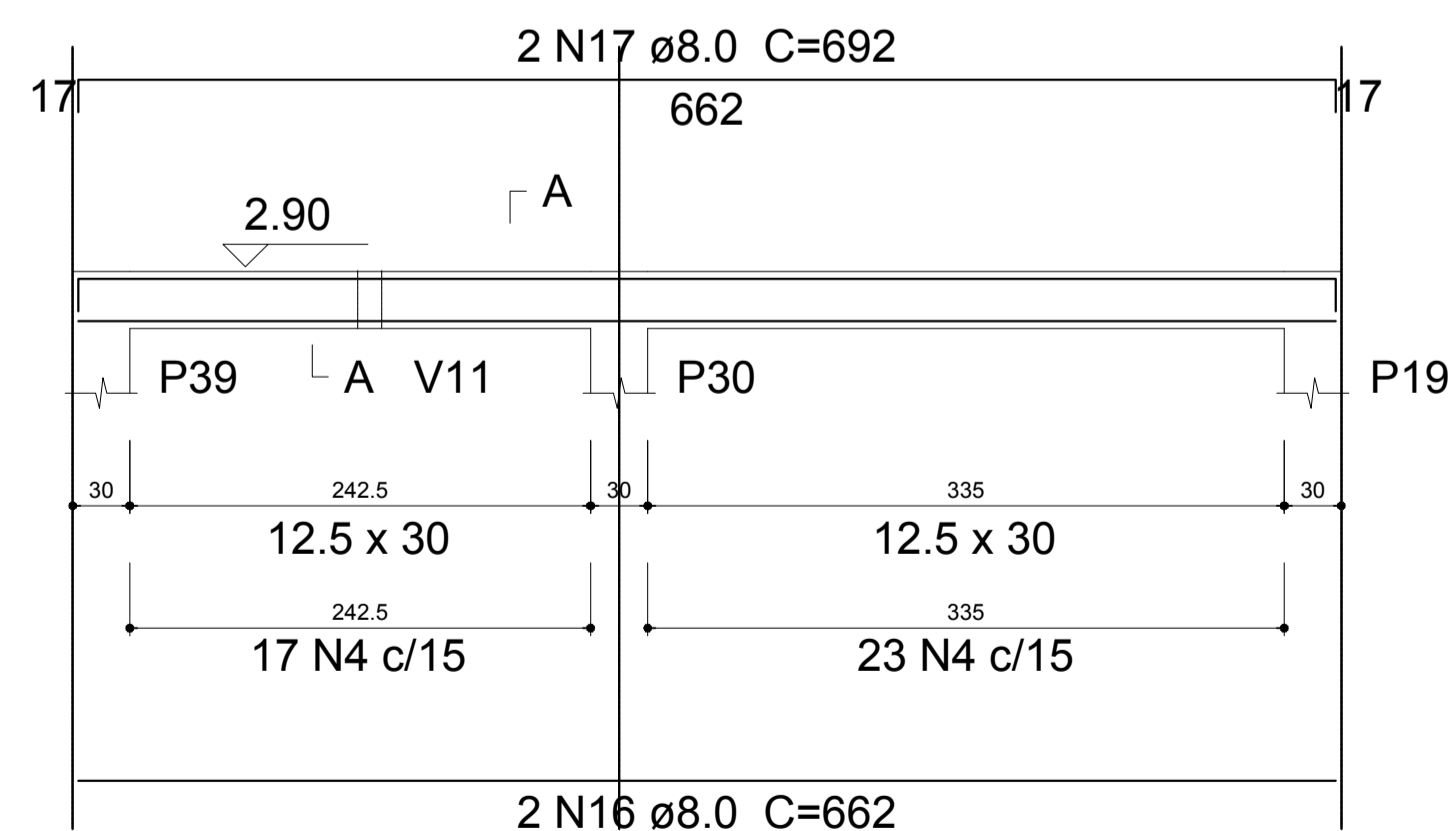
Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	3.2	0.9
	8.0	119.7	51.9
	12.5	14.1	14.9
CA60	5.0	165	28
PESO TOTAL			
CA50		67.7	
CA60		28	

Vol. de concreto total (C-25) = 1.33 m³
Área de forma total = 25.22 m²

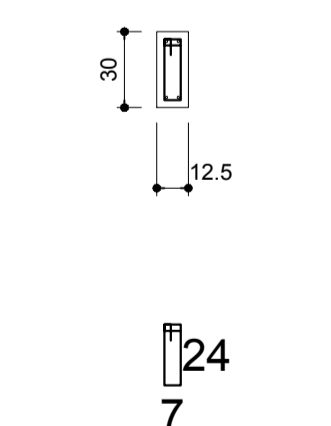
V22

ESC 1:40



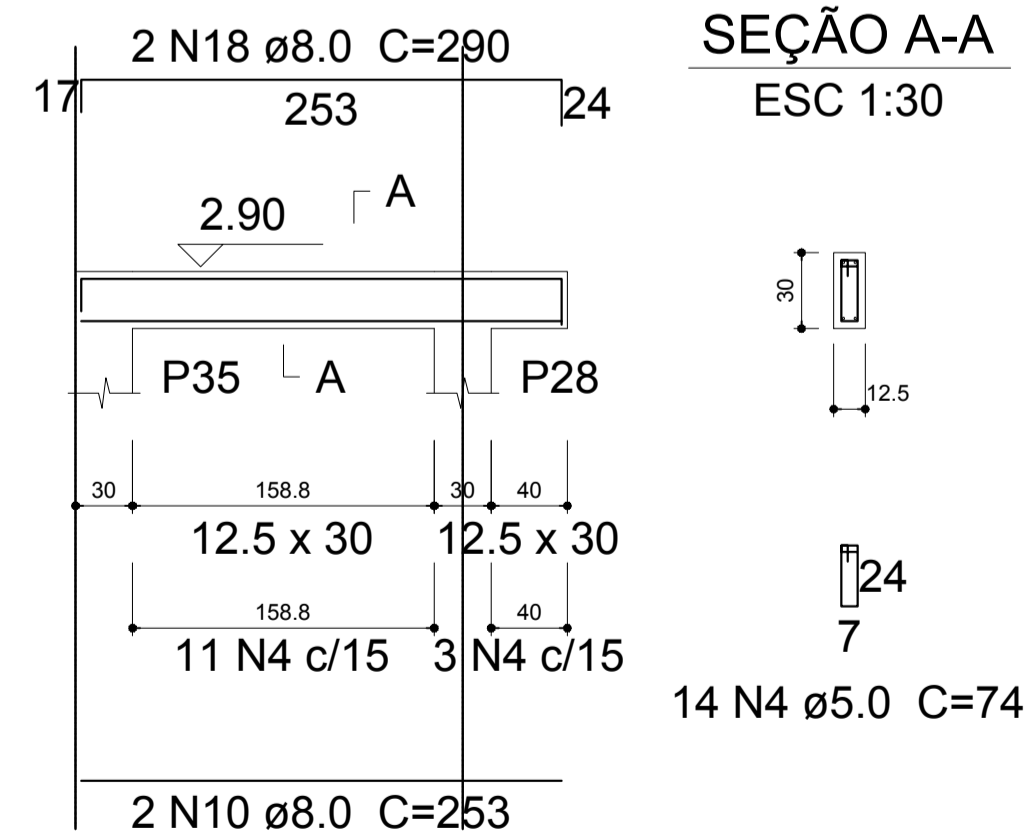
SEÇÃO A-A

ESC 1:30



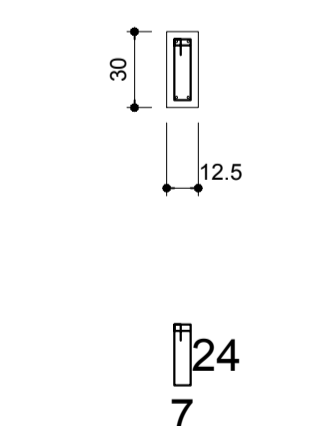
V23


ESC 1:40



SEÇÃO A-A

ESC 1:30



 PREFEITURA MUNICIPAL DE PARANAGUÁ 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 - COBERTURA					
PROPRIETÁRIO			AUTOR DO PROJETO		
PREFEITURA MUNICIPAL DE PARANAGUÁ			DEBORA TEMPORÃO DE AGUIAR RAMOS		
C.N.P.J. 36.017.458/0001-15			C.R.E.A. PB-2647/D		
DATA	Julho/2016	ESCALA	indicada	DESENHO	Debora
		ÁREA AMPL.	163,95m²	PRANCHAS	13/15
		ÁREA TOTAL	399,63m²		