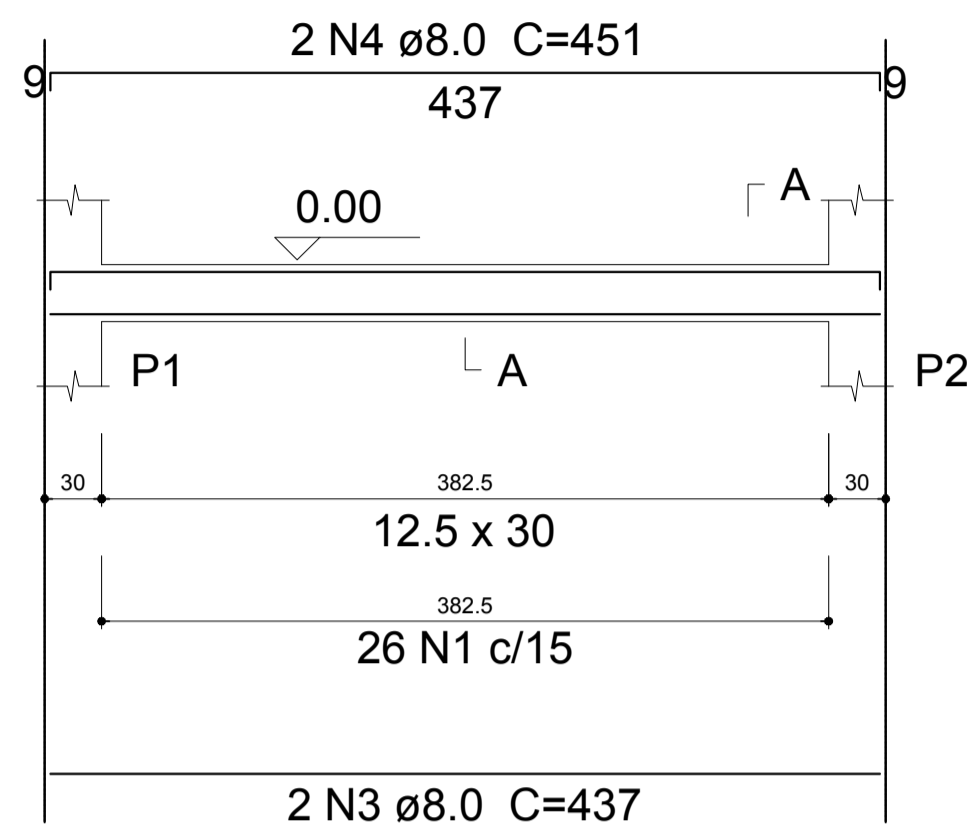


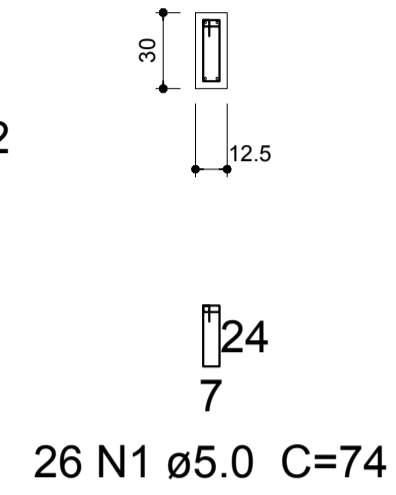
V1

ESC 1:40



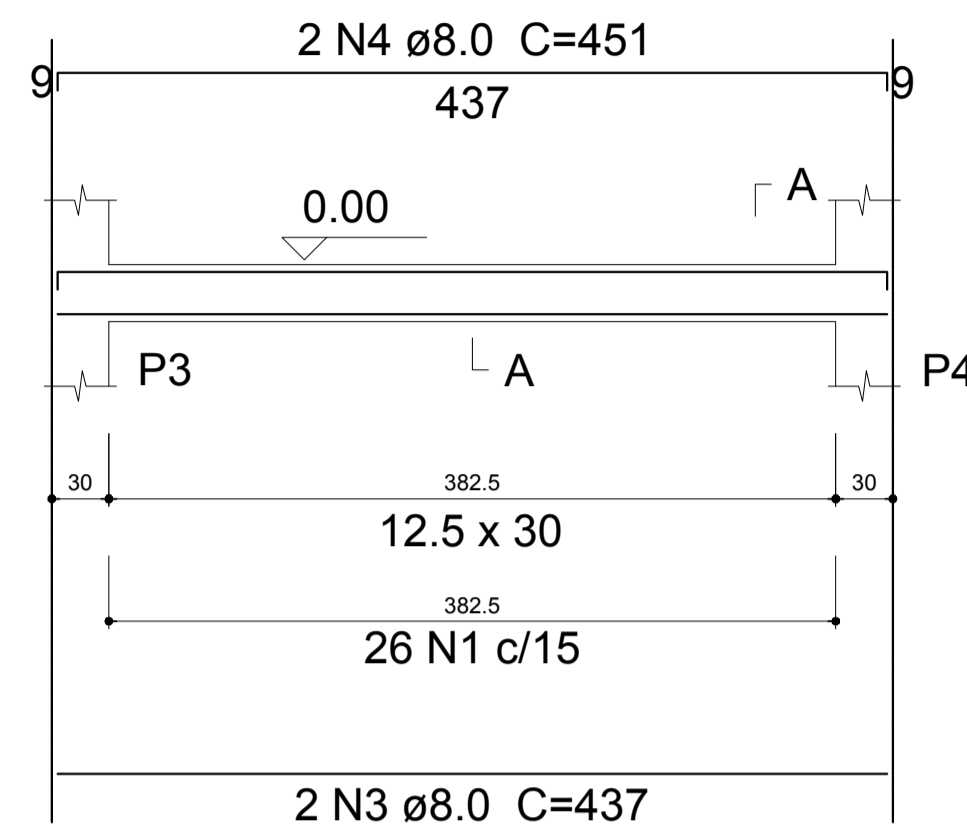
SEÇÃO A-A

ESC 1:30



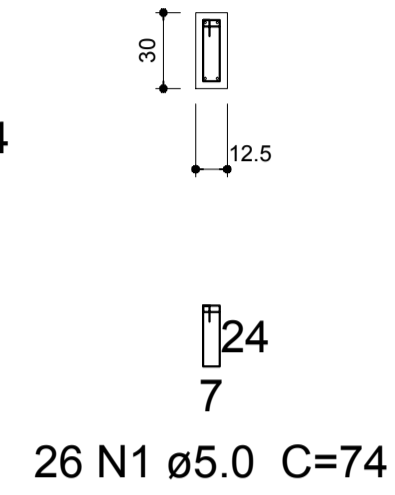
V2

ESC 1:40



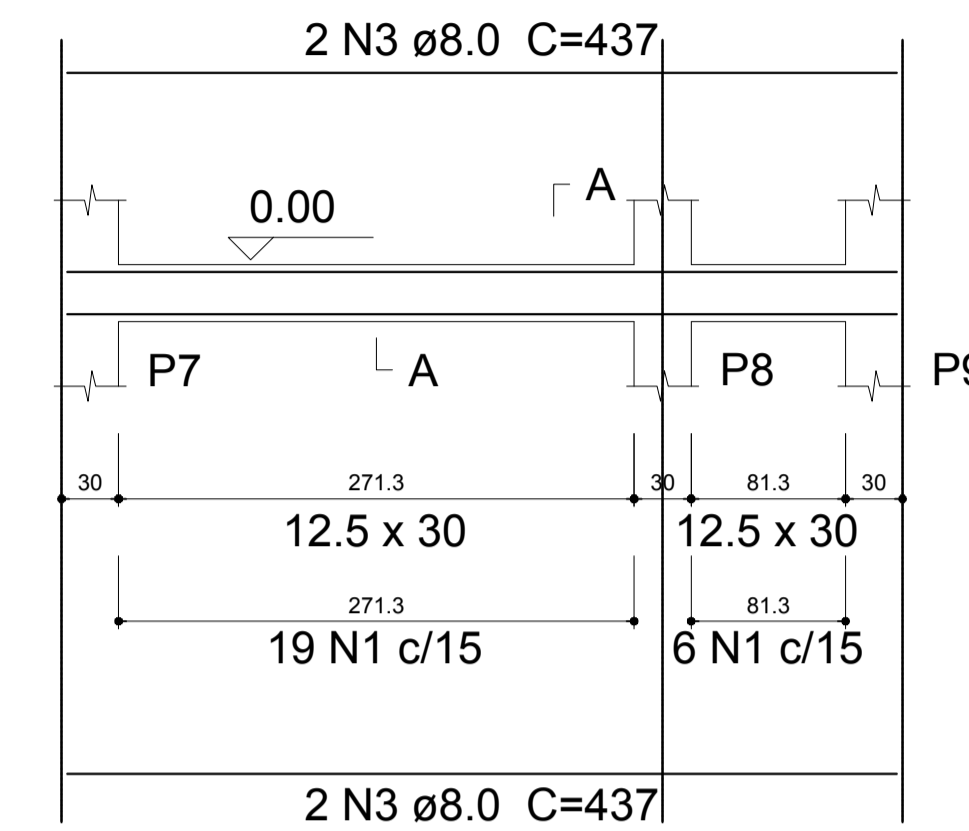
SEÇÃO A-A

ESC 1:30



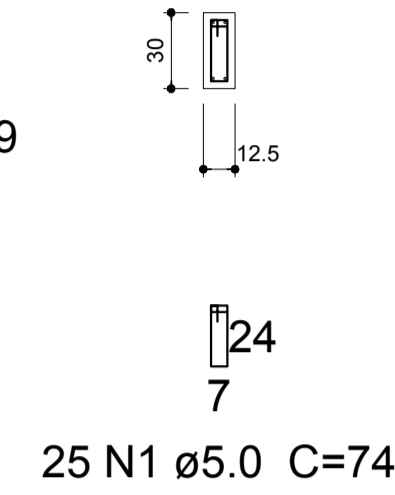
V3

ESC 1:40



SEÇÃO A-A

ESC 1:30

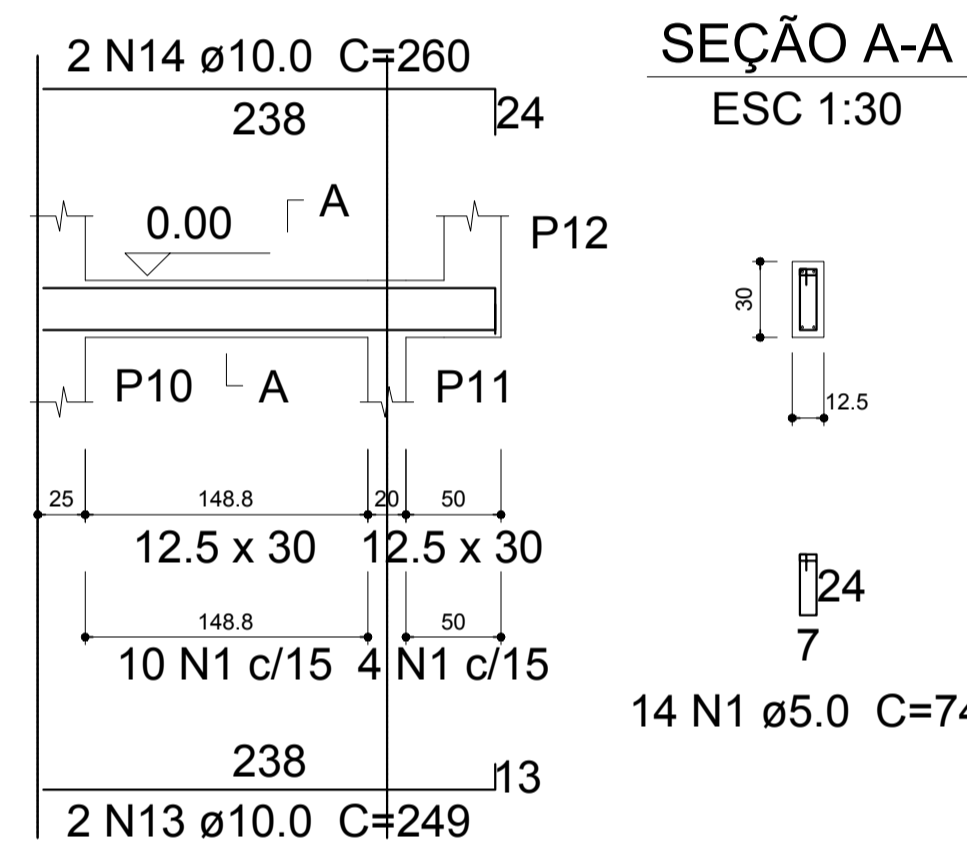


Relação do aço

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	177	74	13098
CA50	2	6.3	1	104	104
	3	8.0	8	437	3496
	4	8.0	4	451	1804
	5	8.0	2	325	650
	6	8.0	2	334	668
	7	8.0	4	381	1524
	8	8.0	2	396	792
	9	8.0	2	395	790
	10	8.0	4	198	792
	11	8.0	2	198	396
	12	8.0	2	212	424
	13	10.0	2	249	498
	14	10.0	2	260	520

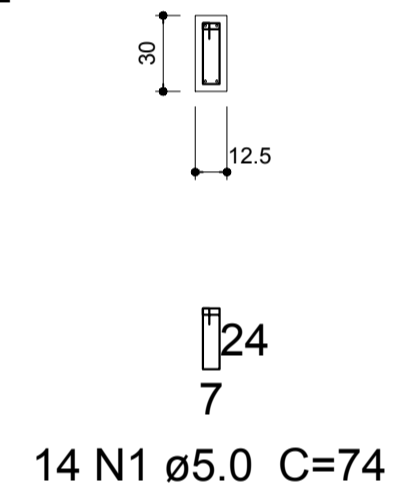
V4

ESC 1:40



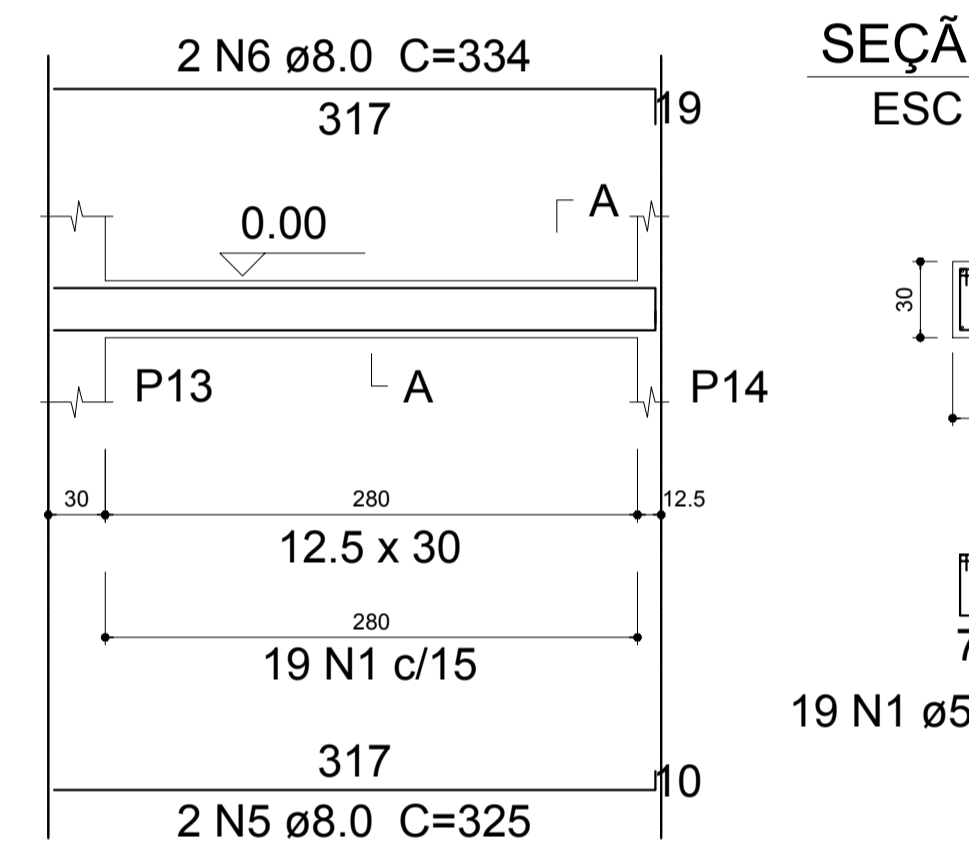
SEÇÃO A-A

ESC 1:30



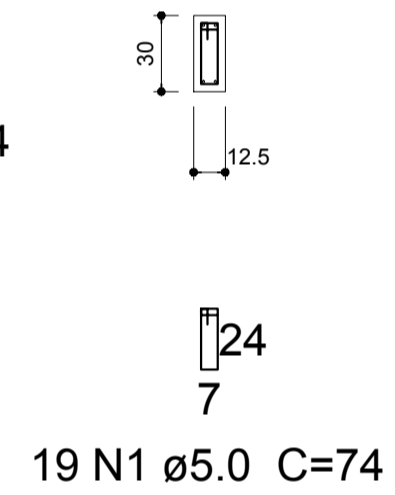
V5

ESC 1:40



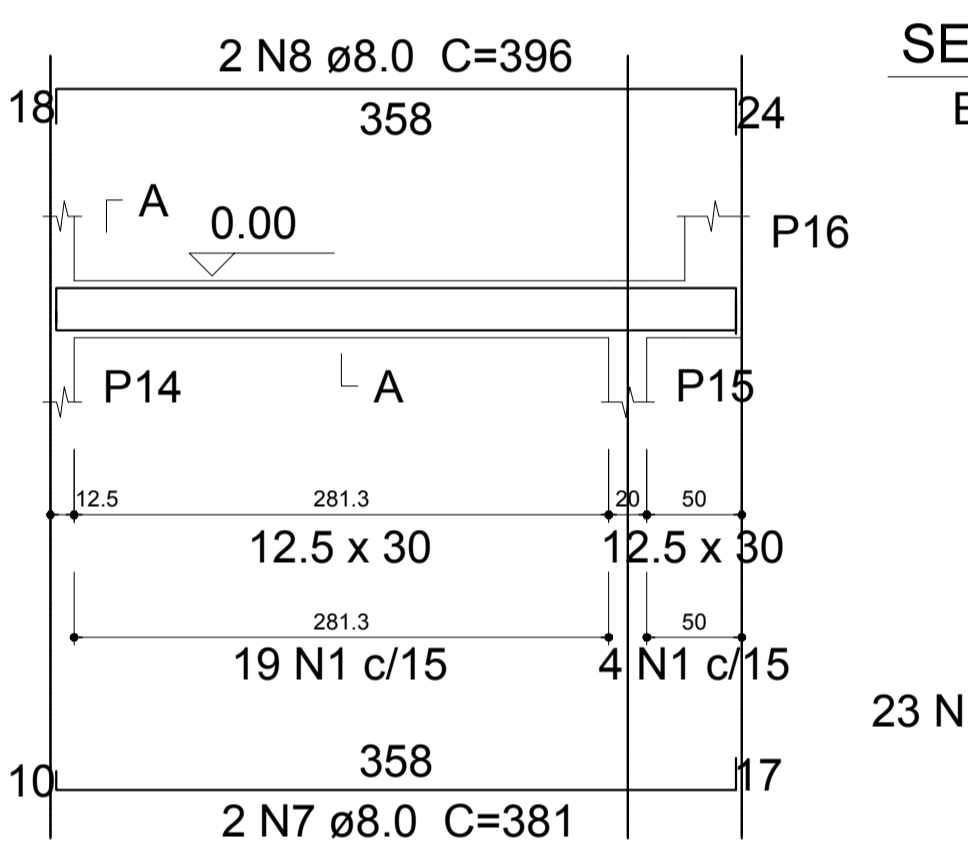
SEÇÃO A-A

ESC 1:30



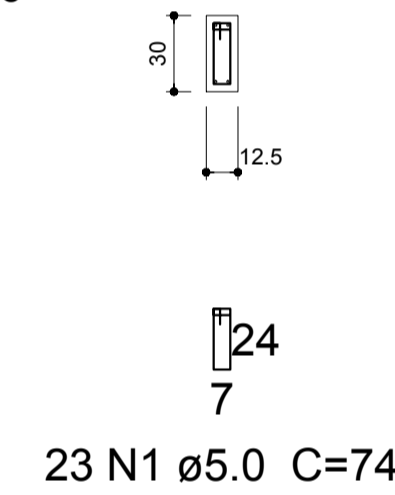
V6

ESC 1:40



SEÇÃO A-A

ESC 1:30



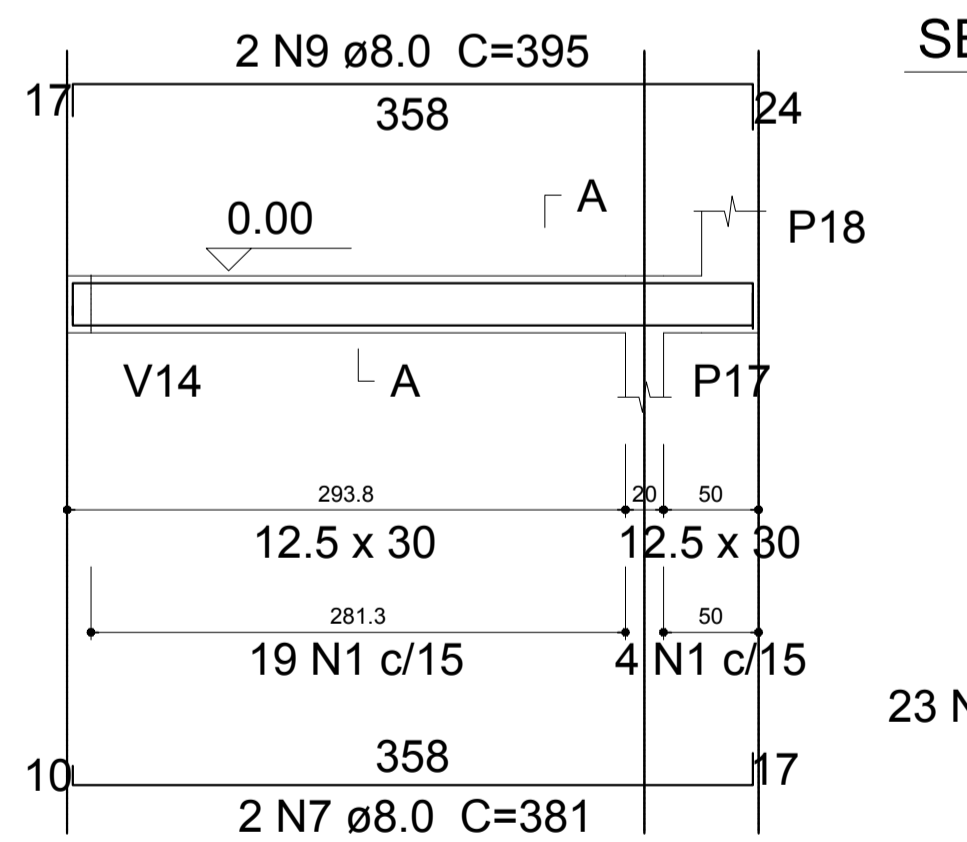
Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	1.1	0.3
	8.0	113.4	49.2
	10.0	10.2	6.9
CA60	5.0	131	22.2
PESO TOTAL			
CA50	56.4		
CA60	22.2		

Vol. de concreto total (C-25) = 1.13 m³
Área de forma total = 21.84 m²

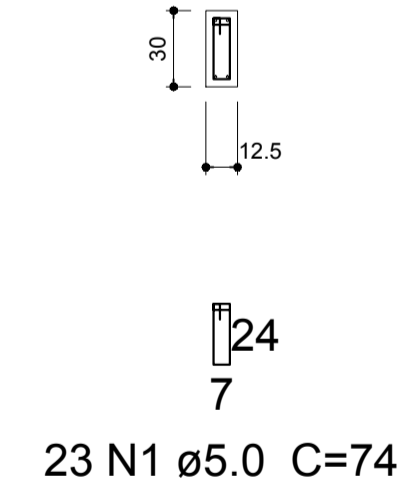
V7

ESC 1:40



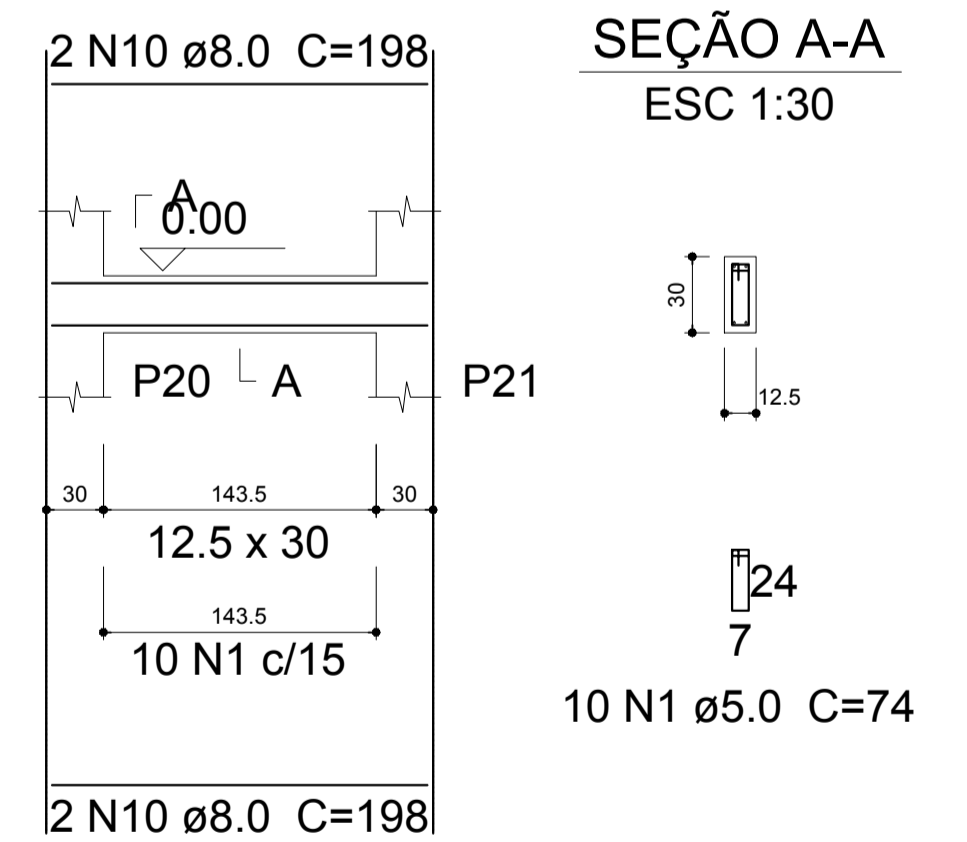
SEÇÃO A-A

ESC 1:30



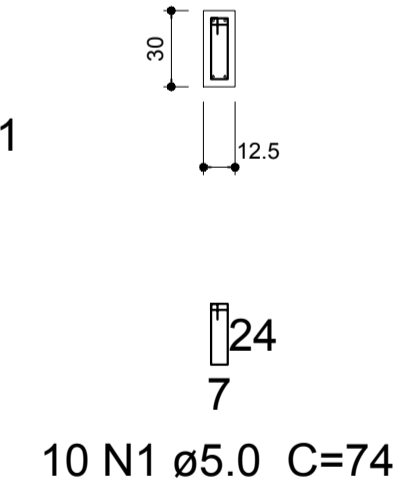
V8

ESC 1:40



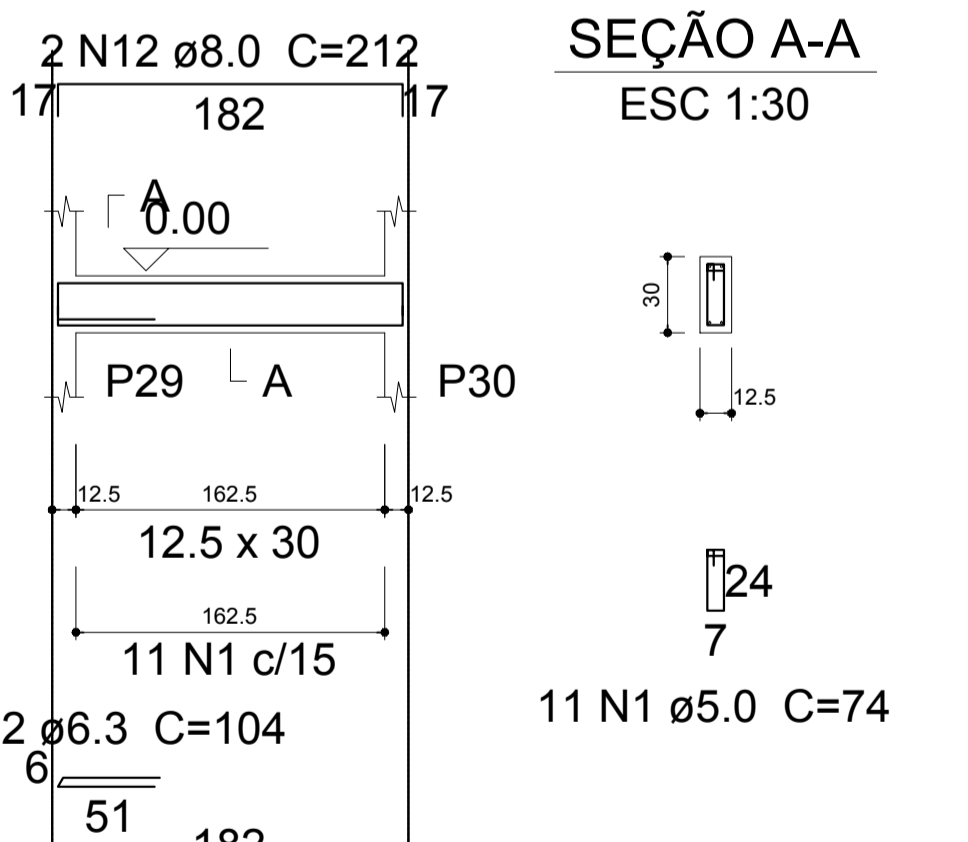
SEÇÃO A-A

ESC 1:30



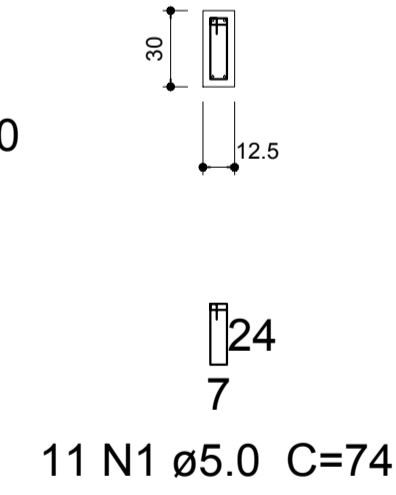
V9

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 - BALDRAME

PROPRIETÁRIO: PREFEITURA MUNICIPAL DE PARANAGUÁ
AUTOR DO PROJETO: DEBORA TEMPORÃO DE AGUIAR RAMOS
CRIAÇÃO: 20.07.2017 4580001.15 CREA: PR-25847-D

DATA: Julho/2016 ESCALA: indicada DESENHO: Debora ÁREA AMPL.: 163.95m² PRANCHAS: 08/15
ÁREA TOTAL: 399.63m²