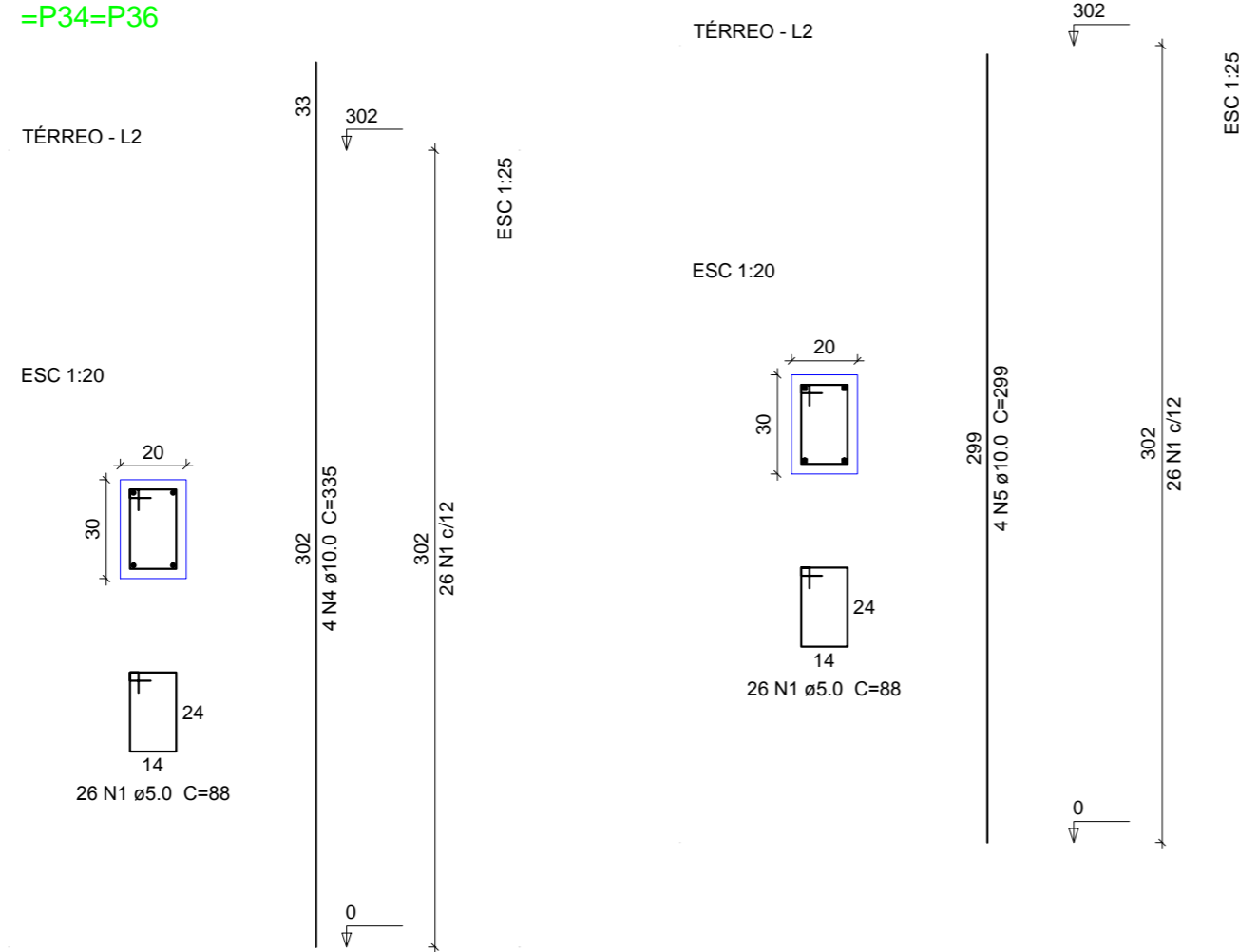
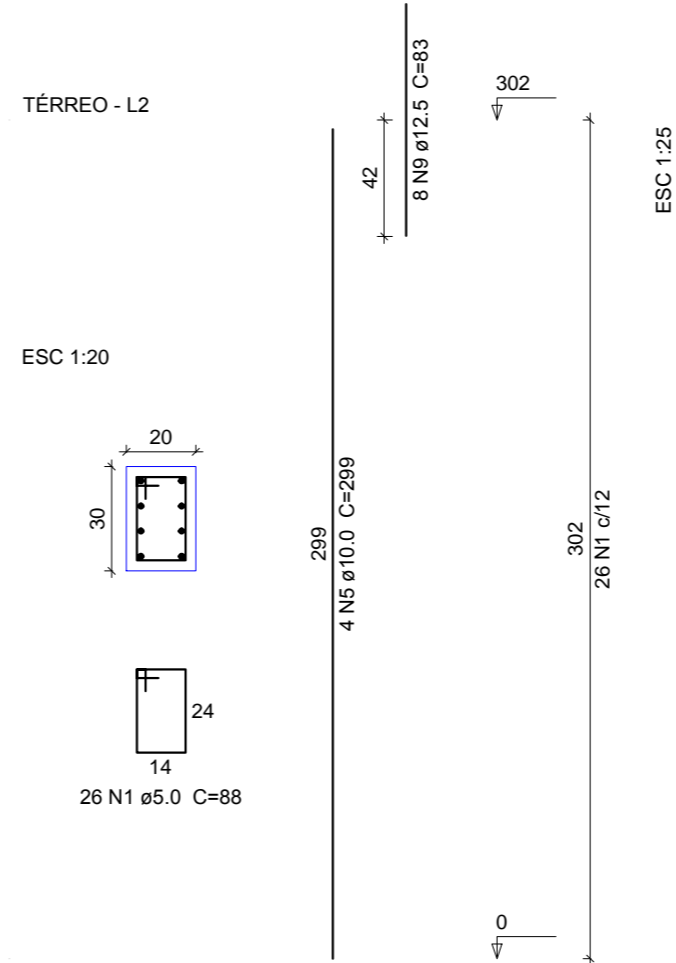


P1=P2=P3=P4=P5=P6=P7=P9=P10=P11=P12=P13=P17=P21  
 =P14=P15=P16=P18=P19=P20=P22=P23=P24  
 =P25=P26=P27=P28=P29=P30=P31=P32=P33  
 =P34=P36



P35



**Relação do aço**

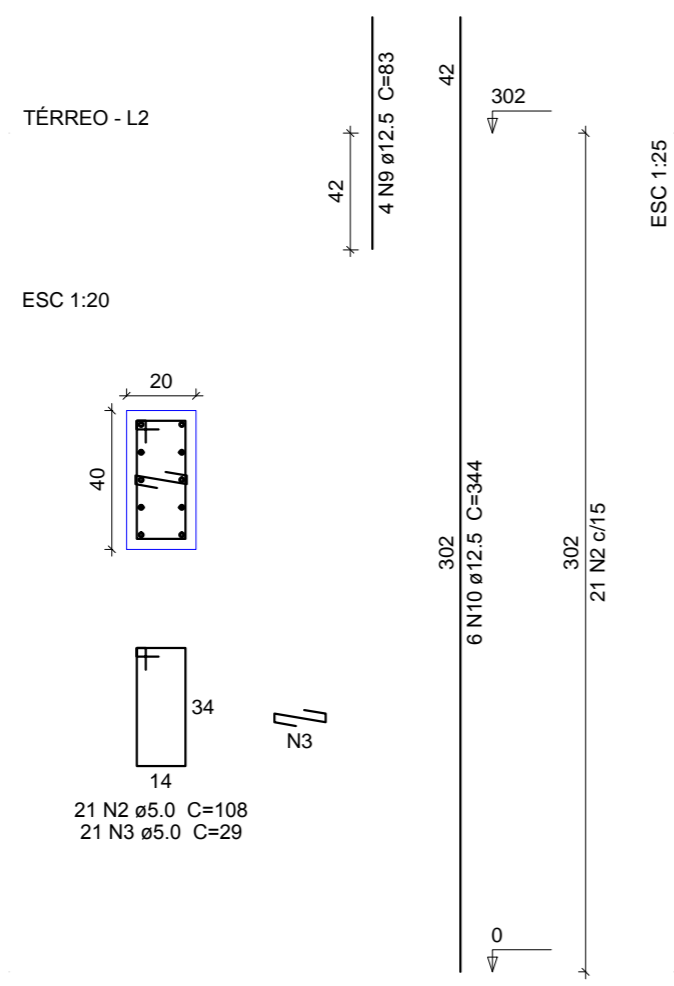
AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	1148	88	101024
	2	5.0	21	108	2268
	3	5.0	21	29	609
CA50	4	10.0	128	335	42880
	5	10.0	12	299	3588
	6	10.0	128	VAR	VAR
	7	10.0	8	VAR	VAR
	8	10.0	2	67	134
	9	12.5	12	83	996
	10	12.5	6	344	2064

**Resumo do aço**

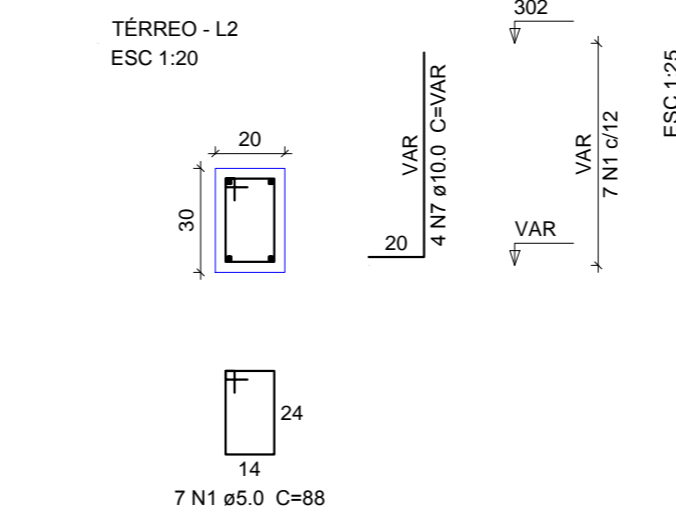
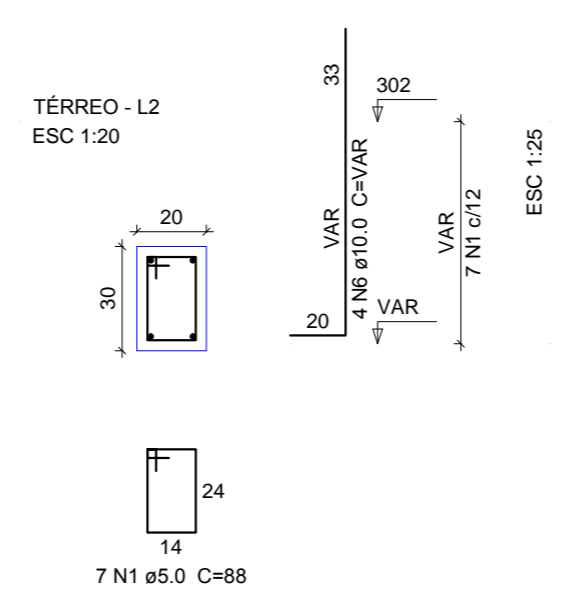
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	637.3	432.2
CA60	5.0	1039.1	176.2
<b>PESO TOTAL (kg)</b>			
CA50		464.6	
CA60		176.2	

Volume de concreto (C-30) = 8.22 m³  
 Área de forma = 136.52 m²

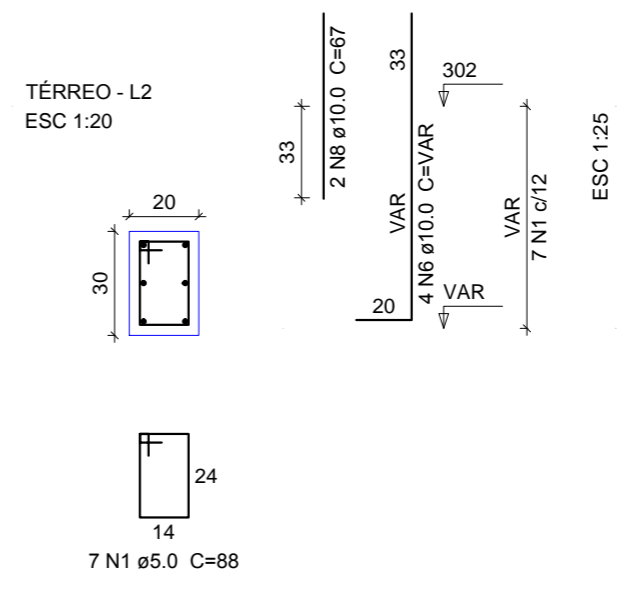
P8



P37=P38=P39=P40=P41=P42=P43=P44=P45=P46P52=P53  
 =P47=P48=P49=P50=P51=P54=P55=P56=P57  
 =P58=P59=P61=P62=P63=P64=P65=P66=P67  
 =P68=P69=P70



P60



**BERARDI ENGENHARIA & CONSTRUÇÕES LTDA.**

Rua Capitão Eleutério, 610, Sala 406, Edifício Centro Executivo, Passo Fundo/RS 99010-060  
 berardiengenharia@gmail.com (54)3313 9870 - (54) 9994 0837  
 CNPJ: 13.425.382/0001-47

RESPONSÁVEL TÉCNICO: Jean Berardi Manica Engº Civil CREA-RS 133.545-D  
 CONTRATANTE: Prefeitura Municipal de Jóia Cnpj: 89.650.121/0001-92

PROJETO: **PROJETO ESTRUTURAL**

CONTEÚDO DA PRANCHA: **FERRAGEM PILARES SUSTENTAÇÃO PAVIMENTO TÉRREO**

ENDEREÇO DA OBRA: Rua Dr. Edmar Krueel - Nº 188 - Centro - Jóia/RS

PROJETISTA: Jean Berardi ESCALA: 1/50 DATA: Agosto de 2017 ÁREA DO PROJETO: 1.139,11 m²

PRANCHA: **E-12**