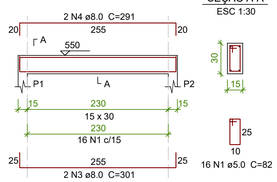
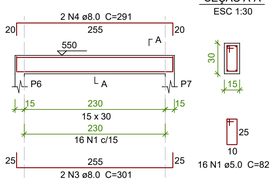
V301 (15 x 30)
ESC 1:50



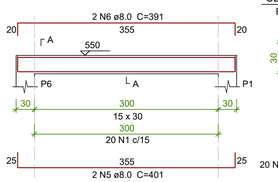
SEÇÃO A-A
ESC 1:30

V302 (15 x 30)
ESC 1:50



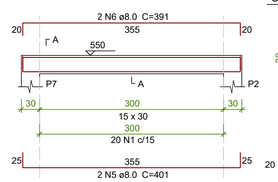
SEÇÃO A-A
ESC 1:30

V303 (15 x 30)
ESC 1:50



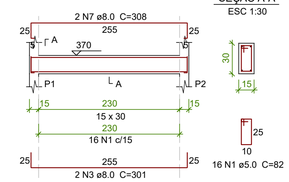
SEÇÃO A-A
ESC 1:30

V304 (15 x 30)
ESC 1:50



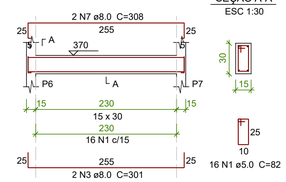
SEÇÃO A-A
ESC 1:30

V305 (15 x 30)
ESC 1:50



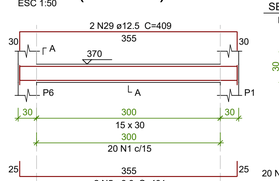
SEÇÃO A-A
ESC 1:30

V306 (15 x 30)
ESC 1:50

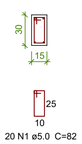


SEÇÃO A-A
ESC 1:30

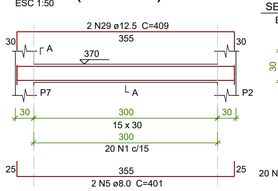
V307 (15 x 30)
ESC 1:50



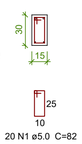
SEÇÃO A-A
ESC 1:30



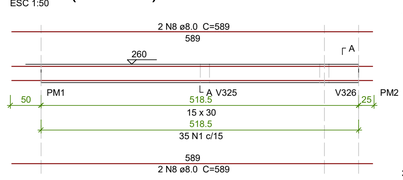
V308 (15 x 30)
ESC 1:50



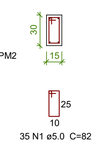
SEÇÃO A-A
ESC 1:30



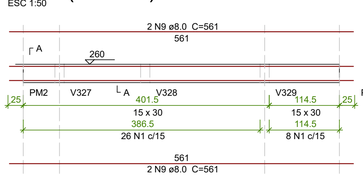
V309 (15 x 30)
ESC 1:50



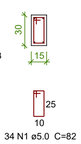
SEÇÃO A-A
ESC 1:30



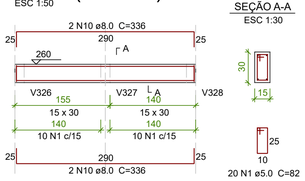
V310 (15 x 30)
ESC 1:50



SEÇÃO A-A
ESC 1:30

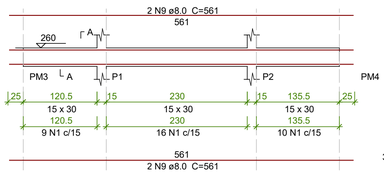


V313 (15 x 30)
ESC 1:50

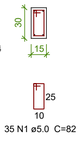


SEÇÃO A-A
ESC 1:30

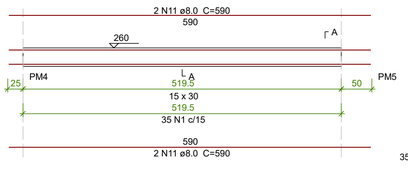
V311 (15 x 30)
ESC 1:50



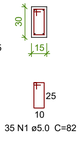
SEÇÃO A-A
ESC 1:30



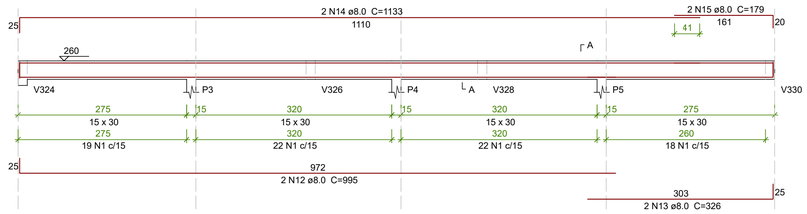
V312 (15 x 30)
ESC 1:50



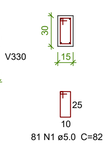
SEÇÃO A-A
ESC 1:30



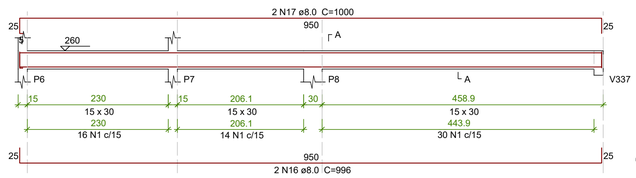
V314 (15 x 30)
ESC 1:50



SEÇÃO A-A
ESC 1:30



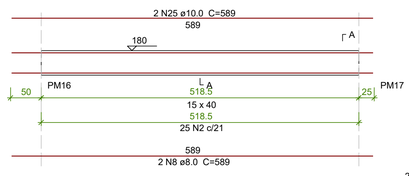
V315 (15 x 30)
ESC 1:50



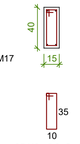
SEÇÃO A-A
ESC 1:30



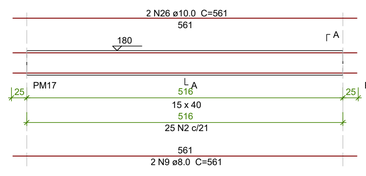
V316 (15 x 40)
ESC 1:50



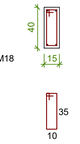
SEÇÃO A-A
ESC 1:30



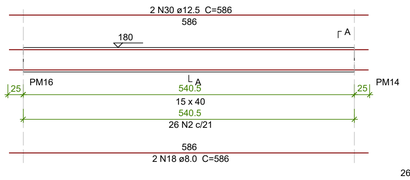
V317=V318 (15 x 40)
ESC 1:50



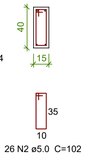
SEÇÃO A-A
ESC 1:30



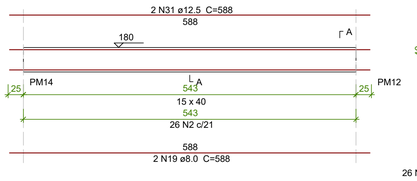
V319=V332 (15 x 40)
ESC 1:50



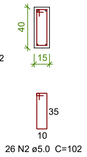
SEÇÃO A-A
ESC 1:30



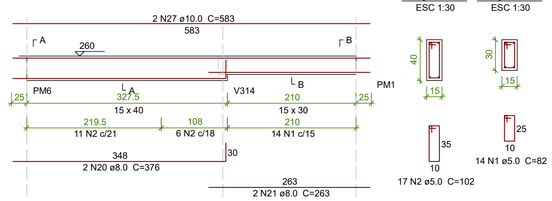
V320=V321=V322=V323 (15 x 40)
ESC 1:50



SEÇÃO A-A
ESC 1:30



V324 (var)
ESC 1:50



SEÇÃO A-A
ESC 1:30

SEÇÃO B-B
ESC 1:30

V325 (15 x 30)
ESC 1:50

SEÇÃO A-A
ESC 1:30

V326 (15 x 30)
ESC 1:50

SEÇÃO A-A
ESC 1:30

V327 (15 x 30)
ESC 1:50

SEÇÃO A-A
ESC 1:30

Relação do aço

V301	V302	V303
V304	V305	V306
V307	V308	V309
V310	V311	V312
V313	V314	V315
V316	V317	V319
4xV320	V324	V325
V326	V327	

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	501	82	41082
	2	5.0	197	102	20094
CA50	3	8.0	8	301	2408
	4	8.0	4	291	1164
	5	8.0	8	401	3208
	6	8.0	4	391	1564
	7	8.0	4	308	1232
	8	8.0	6	589	3534
	9	8.0	10	561	5610
	10	8.0	4	336	1344
	11	8.0	4	590	2360
	12	8.0	2	995	1990
	13	8.0	2	326	652
	14	8.0	2	1133	2266
	15	8.0	2	179	358
	16	8.0	2	996	1992
	17	8.0	2	1000	2000
	18	8.0	2	586	1172
	19	8.0	8	588	4704
	20	8.0	2	376	752
	21	8.0	2	263	526
	22	8.0	6	291	1746
	23	8.0	2	286	572
	24	8.0	2	281	562
	25	10.0	2	589	1178
	26	10.0	2	561	1122
	27	10.0	2	583	1166
	28	10.0	2	284	568
	29	12.5	4	409	1636
	30	12.5	2	586	1172
	31	12.5	8	588	4704

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	8.0	417.2	39	181.1
	10.0	40.4	4	27.4
	12.5	75.2	7	79.6
CA60	5.0	611.8	-	103.7

PESO TOTAL (kg)	
CA50	288
CA60	103.7

Volume de concreto (C-25) = 6.04 m³
Área de forma = 98.66 m²

CARIMBOS E ANOTAÇÕES:

Engenharia DO PROJETO
ENGENHARIA E CONSTRUÇÕES
ECP ENGENHARIA LTDA - ME | CNPJ: 22.076.288/0001-10 | CREA PR 58554
RUA CAMPO LARGO, 177 - BAIRRO INDUSTRIAL - FRANCISCO BELTRÃO / PR - 46.3057 4411
E-MAIL: EVANDRO@ENGENHARIADOPROJETO.COM - SITE: WWW.ENGENHARIADOPROJETO.COM
REGISTRO EMPRESA - CREA-PR 58554 | CREA-SC 152934-7

Evandro Cordeiro Pinto
Engenheiro Civil
CREA PR-144725/D
CREA SC-148171-8

AUTOR DO PROJETO: EVANDRO CORDEIRO PINTO
ENGENHEIRO CIVIL - CREA PR-144725/D

RESPONSÁVEL TÉCNICO - OBRA:

PROPRIETÁRIO: MUNICÍPIO DE IPUAÇU
95.993.028/0001-83

TIPO: PROJETO ESTRUTRAL

OBRA: GINÁSIO MUNICIPAL
ÁREA: 766,68 M²
PROPRIETÁRIO: MUNICÍPIO DE IPUAÇU
LOCALIZAÇÃO: RUA ARISTIDES XAVIER DOS SANTOS / RUA NEORI DOMINGOS RABAIOLI - IPUAÇU SC
REFERENCIA: ARMAÇÃO DAS VIGAS MOLDADAS IN-LOCO PAVTO COBERTURA

ESCALA: INDICADA
ART Nº: 6426100-6
DESENHO / CAD: E.C.P.
DATA: DEZEMBRO / 2017

PROJETO: 0334
TIPO: ES
FOLHA: 10
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