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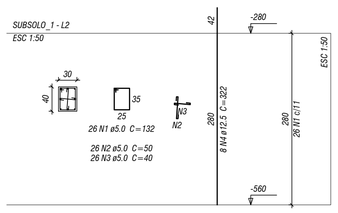

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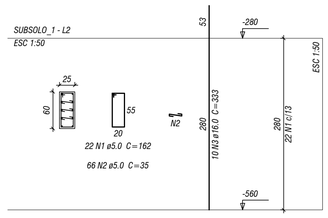

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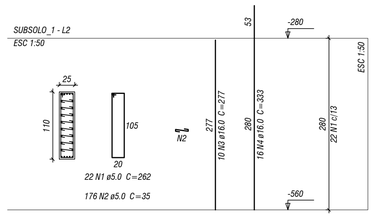

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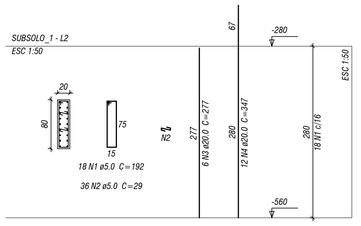

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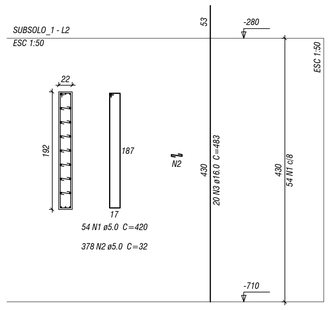

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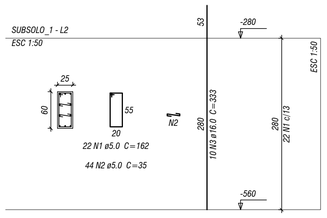

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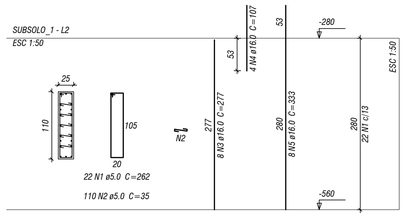

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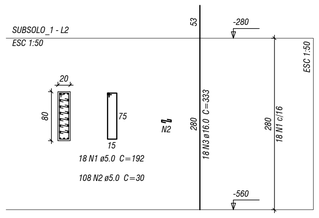

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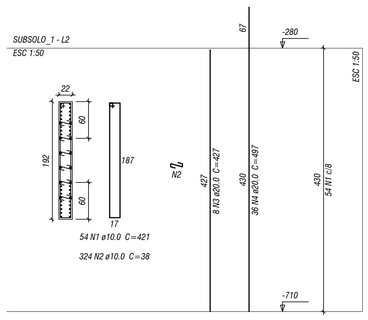

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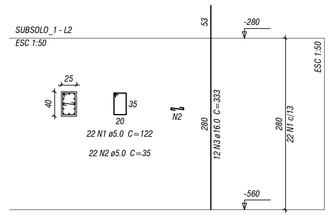

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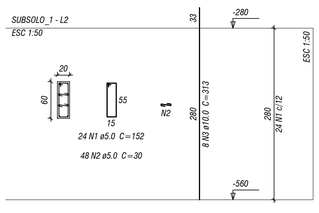

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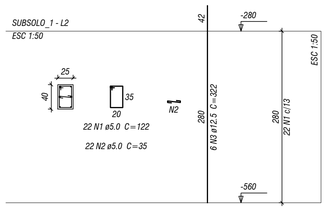

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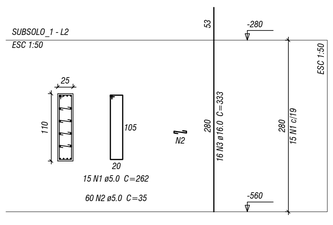

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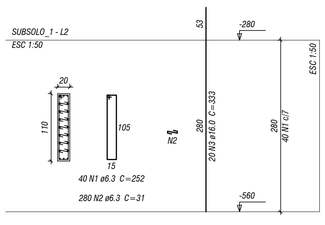

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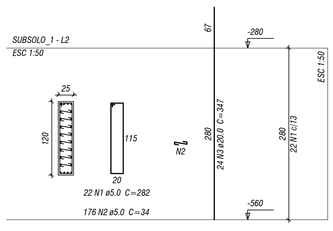

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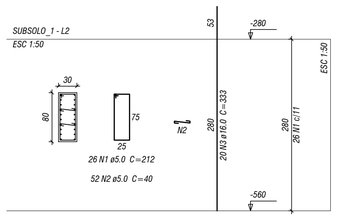

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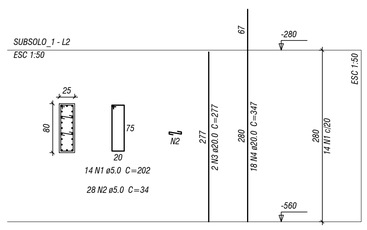

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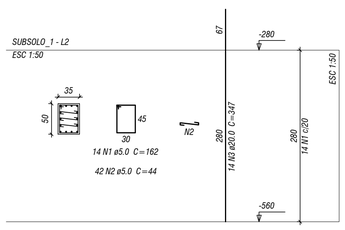

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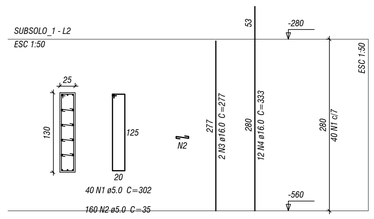

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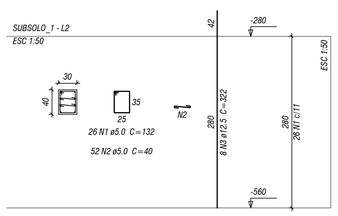

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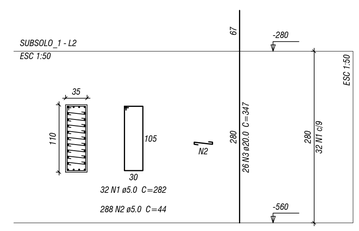

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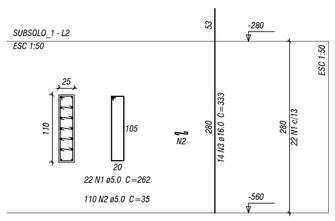

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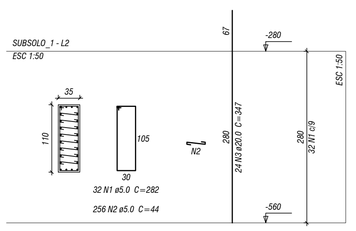

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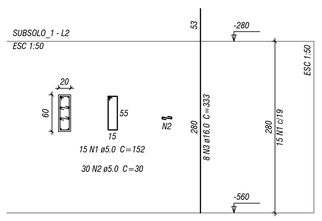

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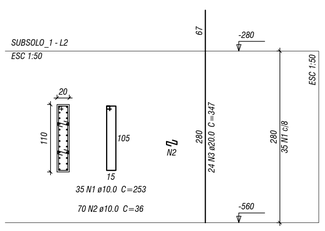

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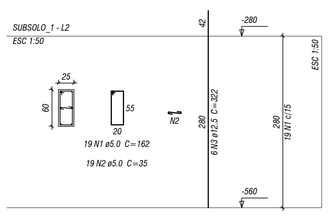

Relação do aço

ELEMENTO	AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
P1	CA60	1	5.0	26	132	3432
	CA60	2	5.0	26	50	1300
	CA60	3	5.0	26	40	1040
	CA50	4	12.5	8	322	2576
P2	CA60	1	5.0	22	122	2684
	CA60	2	5.0	22	35	770
	CA50	3	12.5	6	322	1932
P3	CA60	1	5.0	26	132	3432
	CA60	2	5.0	52	40	2080
	CA50	3	12.5	8	322	2576
P4	CA60	1	5.0	32	282	9024
	CA60	2	5.0	288	44	12672
	CA50	3	20.0	26	347	9022
P5	CA60	1	5.0	22	262	5764
	CA60	2	5.0	110	35	3850
	CA50	3	16.0	14	333	4662
P6	CA60	1	5.0	32	282	9024
	CA60	2	5.0	256	44	11264
	CA50	3	20.0	24	347	8328
P7	CA60	1	5.0	15	152	2280
	CA60	2	5.0	30	30	900
	CA50	3	16.0	8	333	2664
P8	CA50	1	10.0	35	253	8855
	CA50	2	10.0	70	36	2520
	CA50	3	20.0	24	347	8328
P9	CA60	1	5.0	19	162	3078
	CA60	2	5.0	19	35	665
	CA50	3	12.5	6	322	1932
P10	CA60	1	5.0	22	162	3564
	CA60	2	5.0	66	35	2310
	CA50	3	16.0	10	333	3330
P11	CA60	1	5.0	22	262	5764
	CA60	2	5.0	176	35	6160
	CA50	3	16.0	10	277	2770
	CA50	4	16.0	16	333	5328
P12	CA60	1	5.0	18	192	3456
	CA60	2	5.0	36	29	1044
	CA50	3	20.0	6	277	1662
	CA50	4	20.0	12	347	4164
P13	CA60	1	5.0	54	420	22680
	CA60	2	5.0	378	32	12096
	CA50	3	16.0	20	483	9660
P14	CA60	1	5.0	22	162	3564
	CA60	2	5.0	44	35	1540
	CA50	3	16.0	10	333	3330
P15	CA60	1	5.0	22	262	5764
	CA60	2	5.0	110	35	3850
	CA50	3	16.0	8	277	2216
	CA50	4	16.0	4	107	428
	CA50	5	16.0	8	333	2664
P16	CA60	1	5.0	18	192	3456
	CA60	2	5.0	108	30	3240
	CA50	3	16.0	18	333	5994
P17	CA50	1	10.0	54	421	22734
	CA50	2	10.0	324	38	12312
	CA50	3	20.0	8	427	3416
	CA50	4	20.0	36	497	17892
P18	CA60	1	5.0	22	122	2684
	CA60	2	5.0	22	35	770
	CA50	3	16.0	12	333	3996
P19	CA60	1	5.0	24	152	3648
	CA60	2	5.0	48	30	1440
	CA50	3	10.0	8	313	2504
P20	CA60	1	5.0	15	262	3930
	CA60	2	5.0	60	35	2100
	CA50	3	16.0	16	333	5328
P21	CA50	1	6.3	40	252	10080
	CA50	2	6.3	280	31	8680
	CA50	3	16.0	20	333	6660
P22	CA60	1	5.0	22	282	6204
	CA60	2	5.0	176	34	5984
	CA50	3	20.0	24	347	8328
P23	CA60	1	5.0	26	212	5512
	CA60	2	5.0	52	40	2080
	CA50	3	16.0	20	333	6660
P24	CA60	1	5.0	14	202	2828
	CA60	2	5.0	28	34	952
	CA50	3	20.0	2	277	554
	CA50	4	20.0	18	347	6246
P25	CA60	1	5.0	14	162	2268
	CA60	2	5.0	42	44	1848
	CA50	3	20.0	14	347	4858
2xP26	CA60	1	5.0	80	302	24160
	CA60	2	5.0	320	35	11200
	CA50	3	16.0	4	277	1108
	CA50	4	16.0	24	333	7992

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO (kg)
CA50	6.3	187.6	45.9
	10.0	489.3	301.6
	12.5	90.2	86.9
	16.0	747.9	1180.4
	20.0	728	1795.3
CA60	5.0	2293.6	353.5
PESO TOTAL			
CA50	3410.1		
CA60	353.5		

Vol. de concreto total (C-30) = 18.54 m³
Área de forma total = 189.69 m²

CONTROLE DAS REVISÕES:

REVISÃO	DATA	DESCRIÇÃO

ENGENHARIA
Engenharia de Estruturas e Engenharia de Segurança do Trabalho
Excelência em Projetos Estruturais de Concreto Armado, Protendido, Pré-Moldado, Estruturas Metálicas e Alvenaria Estrutural
Avenida Pingüim, N° 304 | Sala 01 | Gleba Ribeirão Pingüim | Maringá - Paraná | CEP: 87065-675
Fone/Fax: (44) 3026-8993 - e-mail: yk@ykengenharia.com.br - Visite nosso site! http://www.ykengenharia.com.br

PROJETO:
ESTRUTURAL EM CONCRETO ARMADO

CLIENTE:
RODRIGO KOJO

OBRA:
Para Construção de Uma Edificação Residencial Coletiva - Edifício Jardins de France

LOCAL:
Rua Francisco Glicério, n° 1.033 - Zona 07 - Maringá - Paraná

REFERÊNCIA(s):
Detalhes dos Pilares do Subsolo 2
< >
< >

REVISÃO: **R-00**

PRANCHA: **5** / **68**

RESPONSÁVEL TÉCNICO:
Eng°. Esp. Yutaka Mario Kobayashi Júnior
CREA PR-89.748/D

DATA CRIAÇÃO: 09/04/2013

DATA DA REVISÃO: N/C

ART N°: 20122498064

PROJETO N°: P-181

ESCALAS: INDICADAS

PENAS PARA PLOTAGEM

COR	PENA N°	ESP.
1 (red)	5	0.25
2 (yellow)	7	0.10
3 (green)	7	0.60
4 (cyan)	7	0.60
5 (blue)	7	0.60
6 (magenta)	7	0.22
7 (white)	7	0.22