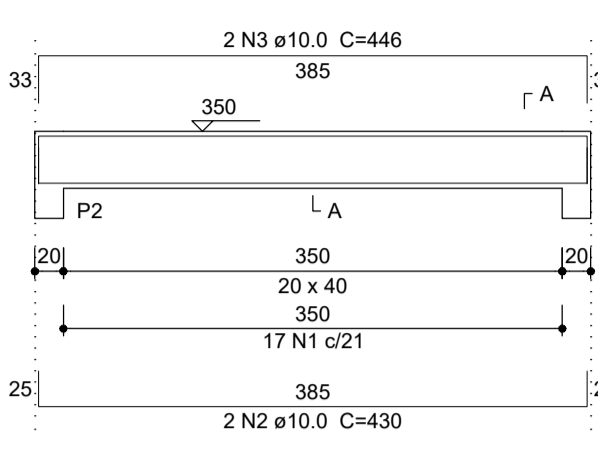
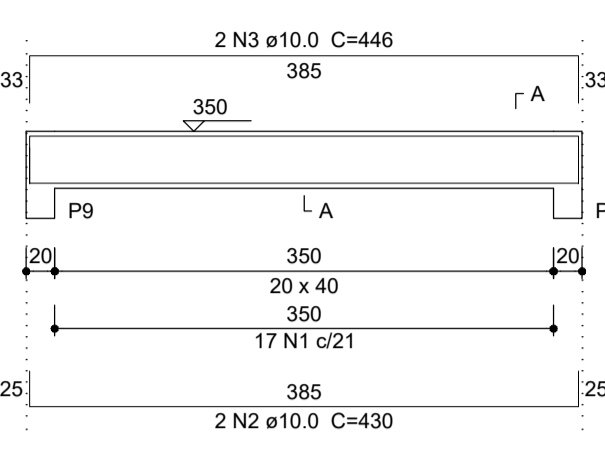


V400
ESC 1:50



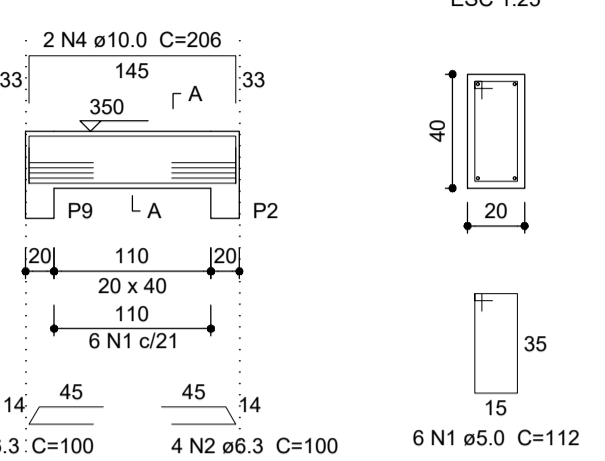
SEÇÃO A-A
ESC 1:25

V401
ESC 1:50



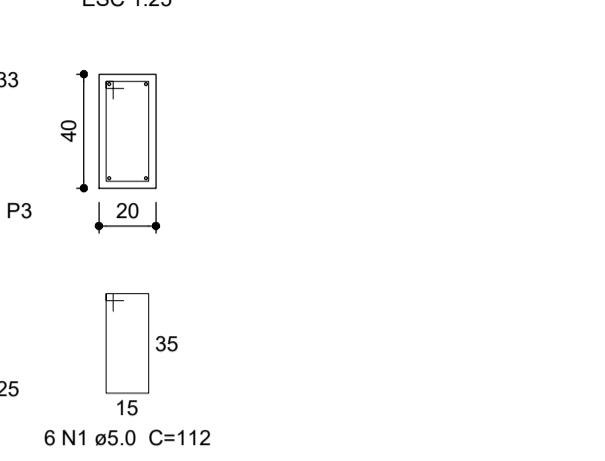
SEÇÃO A-A
ESC 1:25

V402
ESC 1:50



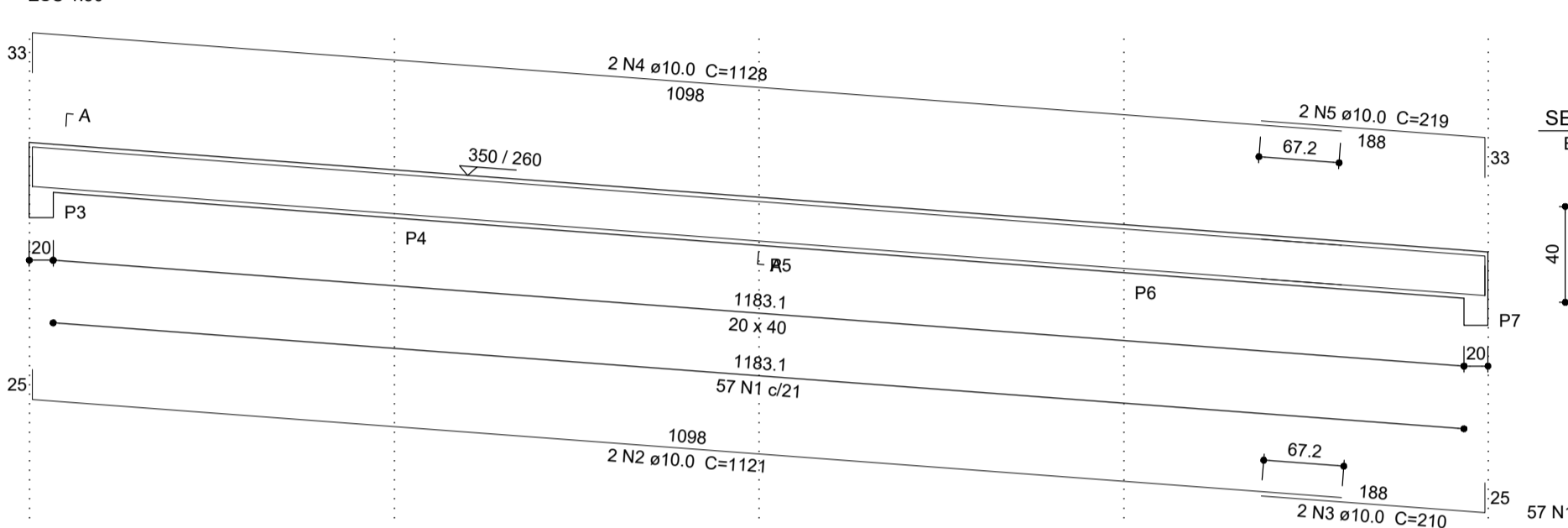
SEÇÃO A-A
ESC 1:25

V403
ESC 1:50

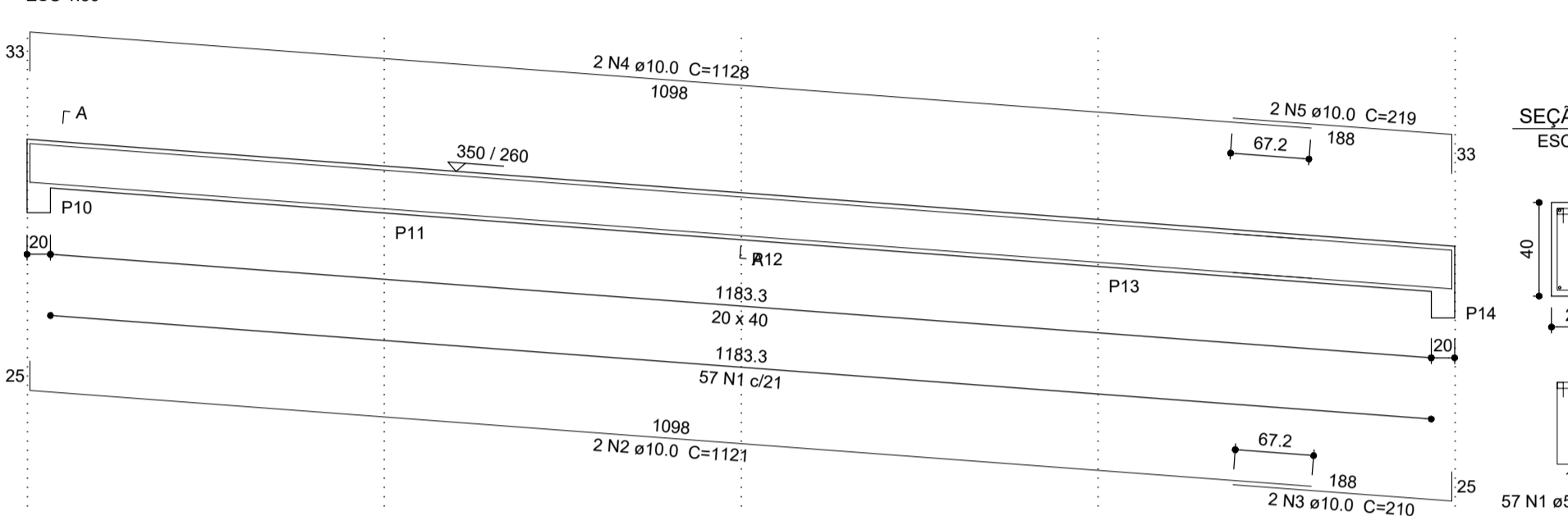


SEÇÃO A-A
ESC 1:25

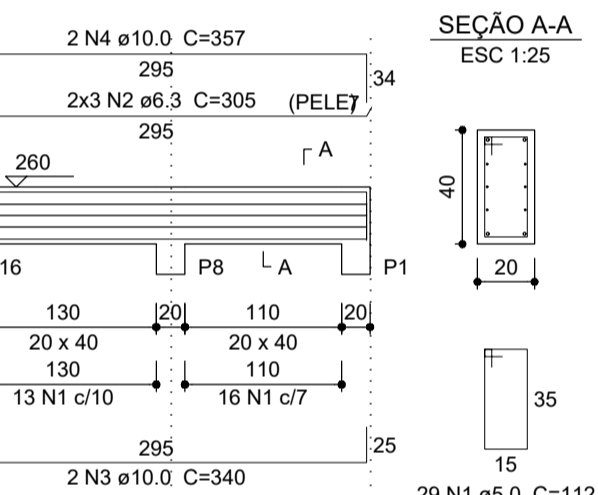
V404
ESC 1:50



V405
ESC 1:50

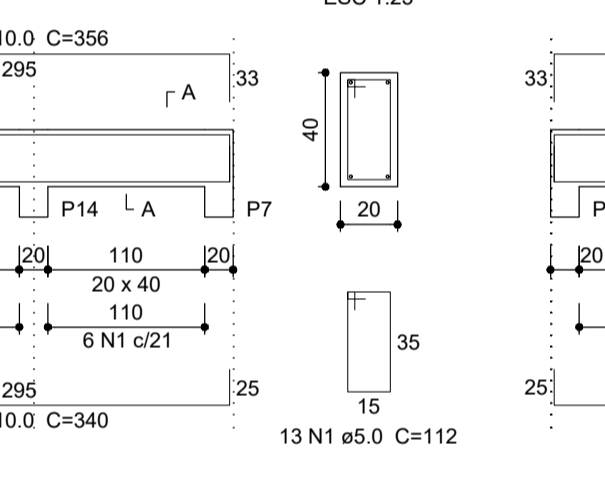


V300
ESC 1:50



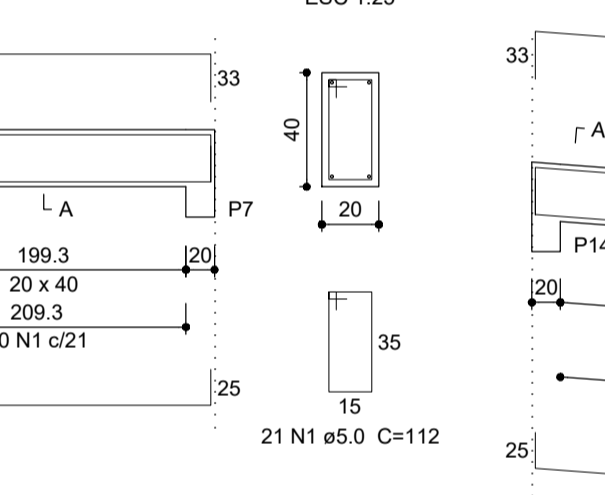
SEÇÃO A-A
ESC 1:25

V301
ESC 1:50



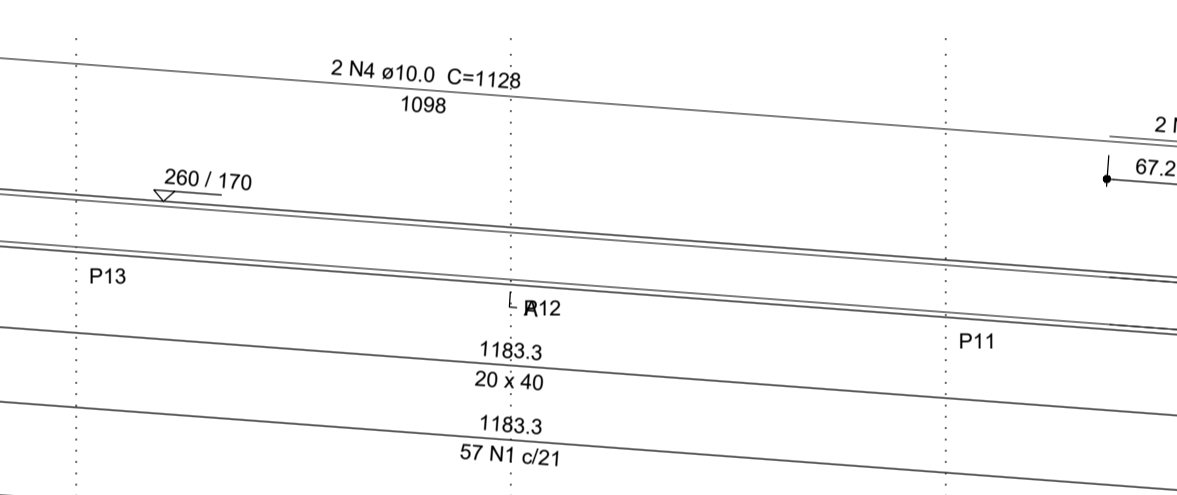
SEÇÃO A-A
ESC 1:25

V302
ESC 1:50

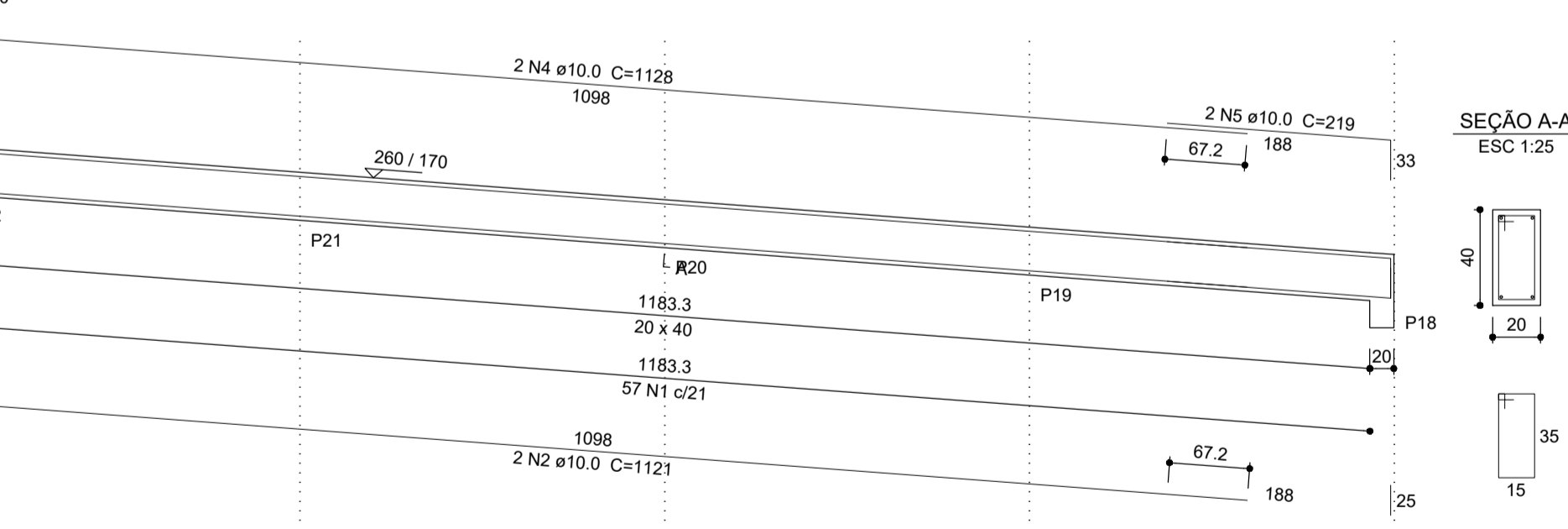


SEÇÃO A-A
ESC 1:25

V303
ESC 1:50

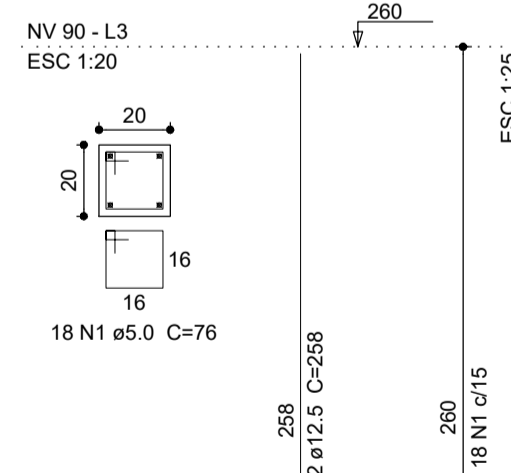


V304
ESC 1:50

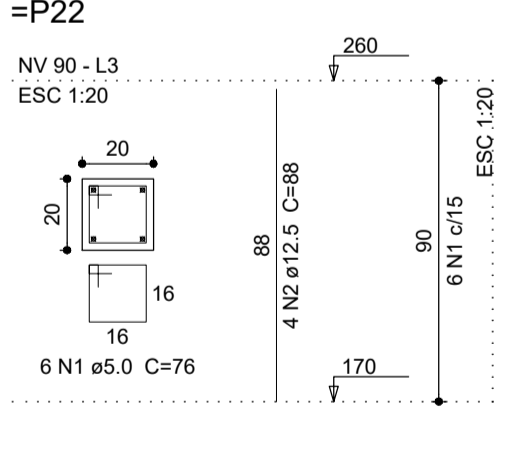


SEÇÃO A-A
ESC 1:25

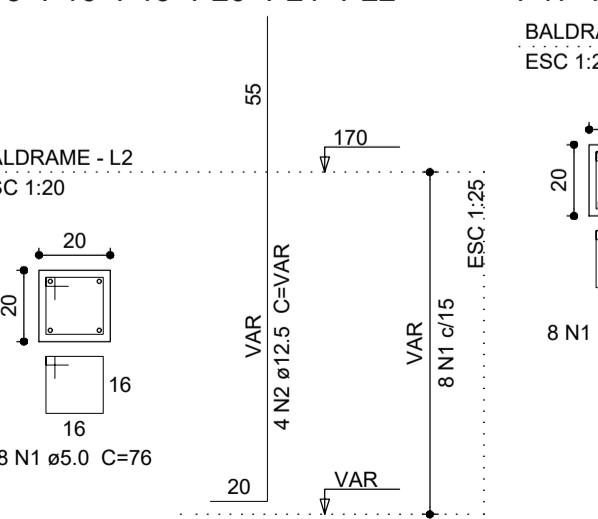
P15=P16=P19=P20=P21=P22



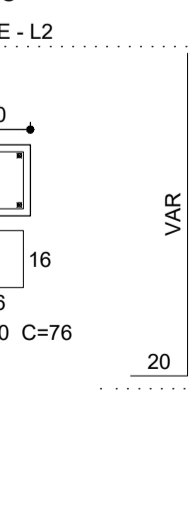
P17=P18



P15=P16=P19=P20=P21=P22



P17=P18



Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
6xP15	CA60	1	5.0	48	76	3648
	CA50	2	12.5	24	VAR	VAR
	CA60	1	5.0	16	76	1216
	CA50	2	12.5	8	VAR	VAR

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	12.5	55.6	6	58.8
CA60	5.0	48.7	5	8.2
PESO TOTAL (kg)				
CA50		58.8		
CA60		8.2		

Volume de concreto (C-20) = 0.38 m³
Área de forma = 7.68 m²

Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
4xP1	CA60	1	5.0	72	76	5472
	CA50	2	12.5	16	258	4128
	CA60	1	5.0	36	76	2736
6xP15	CA60	1	5.0	24	88	2112
	CA50	2	12.5	8	VAR	VAR

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	12.5	62.4	6	66.1
CA60	5.0	82.1	8	13.9
PESO TOTAL (kg)				
CA50		66.1		
CA60		13.9		

Volume de concreto (C-20) = 0.63 m³
Área de forma = 12.64 m²

Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
V400	CA60	1	5.0	17	112	1904
	CA50	2	10.0	2	430	860
	CA60	1	5.0	17	112	1904
V401	CA50	3	10.0	2	446	892
	CA60	1	5.0	17	112	1904
	CA50	2	10.0	2	430	860
V402	CA50	3	10.0	2	446	892
	CA60	1	5.0	6	112	672
	CA50	2	6.3	8	100	800
V403	CA50	3	10.0	2	190	380
	CA50	4	10.0	2	206	412
	CA60	1	5.0	6	112	672
V404	CA50	2	10.0	2	190	380
	CA50	3	10.0	2	206	412
	CA60	1	5.0	57	112	6384
V405	CA50	2	10.0	2	1121	2242
	CA50	3	10.0	2	210	420
	CA50	4	10.0	2	1128	2256
V406	CA50	5	10.0	2	219	438
	CA60	1	5.0	57	112	6384
	CA50	2	10.0	2	1121	2242
V407	CA50	3	10.0	2	210	420
	CA50	4	10.0	2	1128	2256
	CA50	5	10.0	2	219	438

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	8	1	2.2
CA50	10.0	158	15	107.2
CA60	5.0	179.2	17	30.4
PESO TOTAL (kg)				
CA50		109.3		
CA60		30.4		

Volume de concreto (C-20) = 2.82 m³
Área de forma = 35.2 m²

Relação do aço

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
V300	CA60	1	5.0	29	112	3248
	CA50	2	6.3	6	305	1830
	CA50	3	10.0	2	340	680
V301	CA50	4	10.0	2	357	714
	CA60	1	5.0	13	112	1456
	CA50	2	10.0	2	340	680
V302	CA50	3	10.0	2	356	712
	CA60	1	5.0	21	112	2352
	CA50	2	10.0	2	518	1036
V303	CA50	3	10.0	2	534	1068
	CA60	1	5.0	57	112	6384
	CA50	2	10.0	2	1121	2242
V304	CA50	3	10.0	2	210	420
	CA50	4	10.0	2	1128	2256
	CA50	5	10.0	2	219	438

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 10 % (Barras)	PESO + 10 % (kg)
CA50	6.3	18.3	2	4.9
CA60	5.0	156.1	15	105.8
CA60	10.0	198.3	19	33.6
PESO TOTAL (kg)				
CA50		110.7		
CA60		33.6		

Volume de concreto (C-20) = 2.81 m³
Área de forma = 35.16 m²

CALCULO ESTRUTURAL

RETIFICAÇÃO RAMPA PRONTO ATENDIMENTO - NOVA SERRANA MG

PEÇAS GRÁFICAS
VIGAS INCLINADAS

CLIENTE:
PREFEITURA MUNICIPAL DE NOVA SERRANA

DATA:
MARÇO/2015

PROPRIETÁRIO: PREF. MUNICIPAL DE NOVA SERRANA CNPJ: 18.291.385/0001-59

AUTOR PROJETO: JULIANO ANDRADE PIRES CREA-MG: 181.320/D

FOLHA

06/06