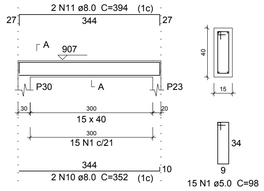
## V53
ESC. 1:75

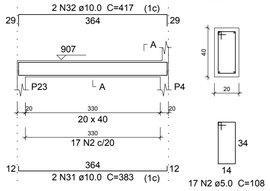



SEÇÃO A-A
ESC. 1:25




15 N1 ø5.0 C=98

## V54
ESC. 1:75

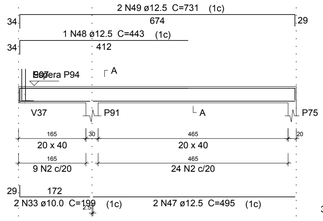



SEÇÃO A-A
ESC. 1:25

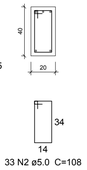



17 N2 ø5.0 C=108

## V55
ESC. 1:75




SEÇÃO A-A
ESC. 1:25

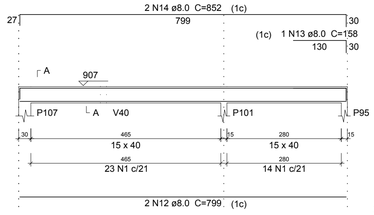



33 N2 ø5.0 C=108

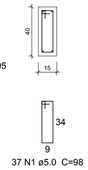
ESPERA P94
ESC. 1:25

4 N3 ø5.0 c/12 C=48

## V56
ESC. 1:75

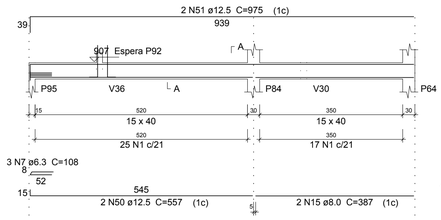



SEÇÃO A-A
ESC. 1:25

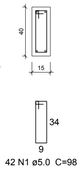



37 N1 ø5.0 C=98

## V57
ESC. 1:75

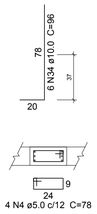



SEÇÃO A-A
ESC. 1:25



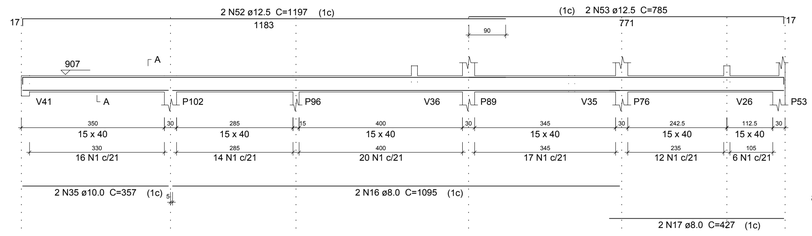

42 N1 ø5.0 C=98

ESPERA P92
ESC. 1:25

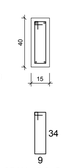



4 N4 ø5.0 c/12 C=78

## V58
ESC. 1:75

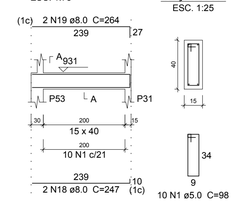



SEÇÃO A-A
ESC. 1:25




85 N1 ø5.0 C=98

## V59
ESC. 1:75

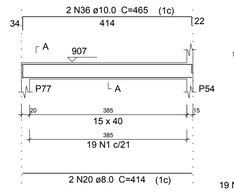



SEÇÃO A-A
ESC. 1:25

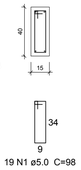



10 N1 ø5.0 C=98

## V60
ESC. 1:75

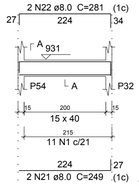



SEÇÃO A-A
ESC. 1:25

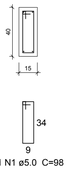



19 N1 ø5.0 C=98

## V61
ESC. 1:75

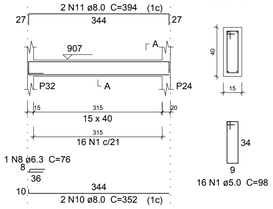



SEÇÃO A-A
ESC. 1:25




11 N1 ø5.0 C=98

## V62
ESC. 1:75

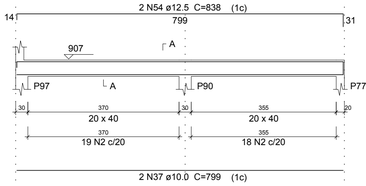



SEÇÃO A-A
ESC. 1:25

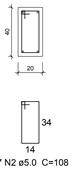



16 N1 ø5.0 C=98

## V63
ESC. 1:75

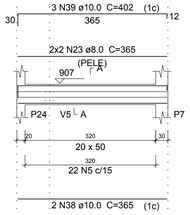



SEÇÃO A-A
ESC. 1:25

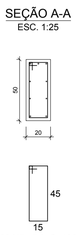



37 N2 ø5.0 C=108

## V64
ESC. 1:75

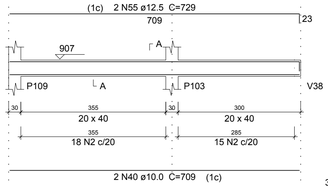



SEÇÃO A-A
ESC. 1:25

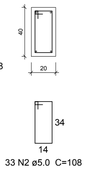



22 N5 ø5.0 C=132

## V65
ESC. 1:75




SEÇÃO A-A
ESC. 1:25




33 N2 ø5.0 C=108

### Relação do aço

| | | |
|---|---|---|
| V53 | V54 | V55 |
| V56 | V57 | V58 |
| V59 | V60 | V61 |
| V62 | V63 | V64 |
| V65 | V66 | V67 |
| V68 | V69 | V70 |
| V71 | V72 | V73 |
| V74 | V75 | V76 |

| AÇO | N | DIAM (mm) | QUANT (Barras) | UNIT (cm) | C.TOTAL (cm) |
|---|---|---|---|---|---|
| CA60 | 1 | 5.0 | 378 | 98 | 37044 |
| | 2 | 5.0 | 120 | 108 | 12960 |
| | 3 | 5.0 | 8 | 48 | 384 |
| | 4 | 5.0 | 4 | 78 | 312 |
| | 5 | 5.0 | 22 | 132 | 2904 |
| | 6 | 5.0 | 38 | 102 | 3876 |
| CA50 | 7 | 6.3 | 3 | 108 | 324 |
| | 8 | 6.3 | 1 | 76 | 76 |
| | 9 | 6.3 | 1 | 106 | 106 |
| | 10 | 8.0 | 4 | 352 | 1408 |
| | 11 | 8.0 | 4 | 394 | 1576 |
| | 12 | 8.0 | 2 | 799 | 1598 |
| | 13 | 8.0 | 1 | 158 | 158 |
| | 14 | 8.0 | 2 | 852 | 1704 |
| | 15 | 8.0 | 2 | 387 | 774 |
| | 16 | 8.0 | 2 | 1095 | 2190 |
| | 17 | 8.0 | 2 | 427 | 854 |
| | 18 | 8.0 | 2 | 247 | 494 |
| | 19 | 8.0 | 2 | 264 | 528 |
| | 20 | 8.0 | 2 | 414 | 828 |
| | 21 | 8.0 | 2 | 249 | 498 |
| | 22 | 8.0 | 2 | 281 | 562 |
| | 23 | 8.0 | 4 | 365 | 1460 |
| | 24 | 8.0 | 4 | 423 | 1692 |
| | 25 | 8.0 | 4 | 465 | 1860 |
| | 26 | 8.0 | 2 | 512 | 1024 |
| | 27 | 8.0 | 6 | 254 | 1524 |
| | 28 | 8.0 | 2 | 529 | 1058 |
| | 29 | 8.0 | 4 | 207 | 828 |
| | 30 | 8.0 | 4 | 256 | 1024 |
| | 31 | 10.0 | 2 | 383 | 766 |
| | 32 | 10.0 | 2 | 417 | 834 |
| | 33 | 10.0 | 2 | 199 | 398 |
| | 34 | 10.0 | 14 | 96 | 1344 |
| | 35 | 10.0 | 2 | 357 | 714 |
| | 36 | 10.0 | 2 | 465 | 930 |
| | 37 | 10.0 | 2 | 799 | 1598 |
| | 38 | 10.0 | 2 | 365 | 730 |
| | 39 | 10.0 | 3 | 402 | 1206 |
| | 40 | 10.0 | 2 | 709 | 1418 |
| | 41 | 10.0 | 2 | 539 | 1078 |
| | 42 | 10.0 | 1 | 309 | 309 |
| | 43 | 10.0 | 2 | 559 | 1118 |
| | 44 | 10.0 | 2 | 273 | 546 |
| | 45 | 10.0 | 2 | 414 | 828 |
| | 46 | 10.0 | 2 | 473 | 946 |
| | 47 | 12.5 | 2 | 495 | 990 |
| | 48 | 12.5 | 1 | 443 | 443 |
| | 49 | 12.5 | 2 | 731 | 1462 |
| | 50 | 12.5 | 2 | 557 | 1114 |
| | 51 | 12.5 | 2 | 975 | 1950 |
| | 52 | 12.5 | 2 | 1197 | 2394 |
| | 53 | 12.5 | 2 | 785 | 1570 |
| | 54 | 12.5 | 2 | 838 | 1676 |
| | 55 | 12.5 | 2 | 729 | 1458 |
| | 56 | 12.5 | 4 | 528 | 2112 |
| | 57 | 12.5 | 1 | 272 | 272 |
| | 58 | 12.5 | 2 | 572 | 1144 |
| | 59 | 12.5 | 1 | 265 | 265 |
| | 60 | 12.5 | 2 | 571 | 1142 |

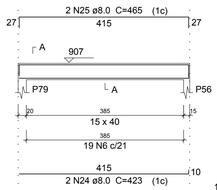
### Resumo do aço

| AÇO | DIAM (mm) | C.TOTAL (m) | PESO + 10 % (kg) |
|---|---|---|---|
| CA50 | 6.3 | 5.1 | 1.4 |
| | 8.0 | 236.5 | 102.6 |
| | 10.0 | 147.7 | 100.1 |
| | 12.5 | 180 | 190.7 |
| CA60 | 5.0 | 574.8 | 97.5 |

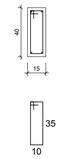
| PESO TOTAL (kg) | |
|---|---|
| CA50 | 394.8 |
| CA60 | 97.5 |

Volume de concreto (C-25) = 8.09 m³
Área de forma = 119.87 m²

## V66
ESC. 1:75

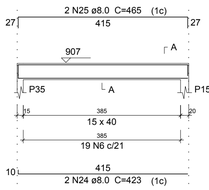



SEÇÃO A-A
ESC. 1:25

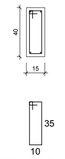



19 N6 ø5.0 C=102

## V67
ESC. 1:75

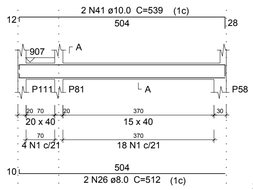



SEÇÃO A-A
ESC. 1:25

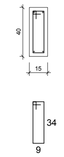



19 N6 ø5.0 C=102

## V68
ESC. 1:75

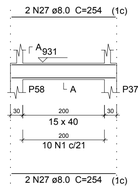



SEÇÃO A-A
ESC. 1:25

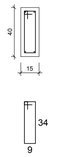



22 N1 ø5.0 C=98

## V69
ESC. 1:75

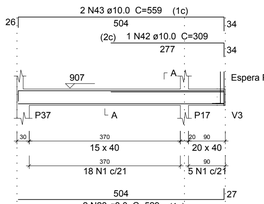



SEÇÃO A-A
ESC. 1:25

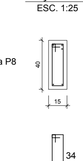



10 N1 ø5.0 C=98

## V70
ESC. 1:75

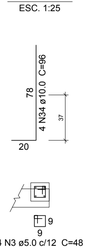



SEÇÃO A-A
ESC. 1:25



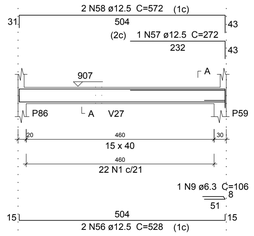

23 N1 ø5.0 C=98

ESPERA P8
ESC. 1:25

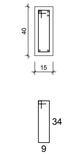



4 N3 ø5.0 c/12 C=48

## V71
ESC. 1:75

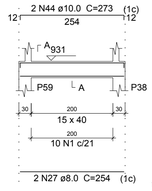



SEÇÃO A-A
ESC. 1:25

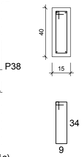



22 N1 ø5.0 C=98

## V72
ESC. 1:75

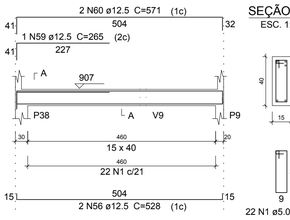



SEÇÃO A-A
ESC. 1:25

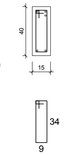



10 N1 ø5.0 C=98

## V73
ESC. 1:75

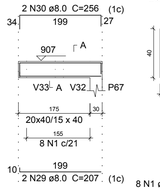



SEÇÃO A-A
ESC. 1:25

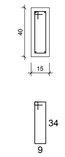



22 N1 ø5.0 C=98

## V74
ESC. 1:75

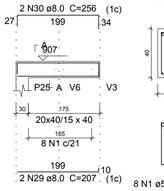



SEÇÃO A-A
ESC. 1:25

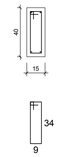



8 N1 ø5.0 C=98

## V75
ESC. 1:75




SEÇÃO A-A
ESC. 1:25




8 N1 ø5.0 C=98

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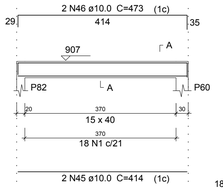
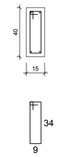
ESC. 1:75




SEÇÃO A-A
ESC. 1:25




18 N1 ø5.0 C=98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www.emais.eng.br - contato@emais.eng.br - (48)3093-9350
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Eng. Civil Jacson Jeremias
Eng. Eletricista Edenir Vieira
Eng. Mecânico e Seg. do Trabalho Mario Cesar Osorio
Arq. Urbanista Andrea Patricia Martins de Souza
Acad. de Engenharia Civil Evair da Silva Borges
Acad. de Arq. e Urbanismo Vinicius Souza


Projeto

# ESTRUTURAL

Obra

UBSF BAKITAS
Rua São Vicente S/N - Bairro Boa Vista - Joinville SC

Proprietário

Fundo Municipal de Saúde de Joinville
CNPJ:08184821/0001-37

Responsáveis Técnicos


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Arquiteta e Urbanista
CAU: A30287-2

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Engenheiro Civil
Crea/SC:122.825-5

Jacson Jeremias
Engenheiro Civil
Crea/SC:125.007-9


Conteúdo

Detalhamento de Vigas e Pilares.

| Ref. | Data | Área | Escala | Folha |
|---|---|---|---|---|
| JOI-01 | OUT/2016 | 862,69 m² | INDICADA | 19/25 |


PROIBIDO CÓPIA OU REPRODUÇÃO DO PROJETO SEM PRÉVIA AUTORIZAÇÃO.
DIREITOS AUTORAIS RESERVADOS PELA LEI Nº 9.610-98