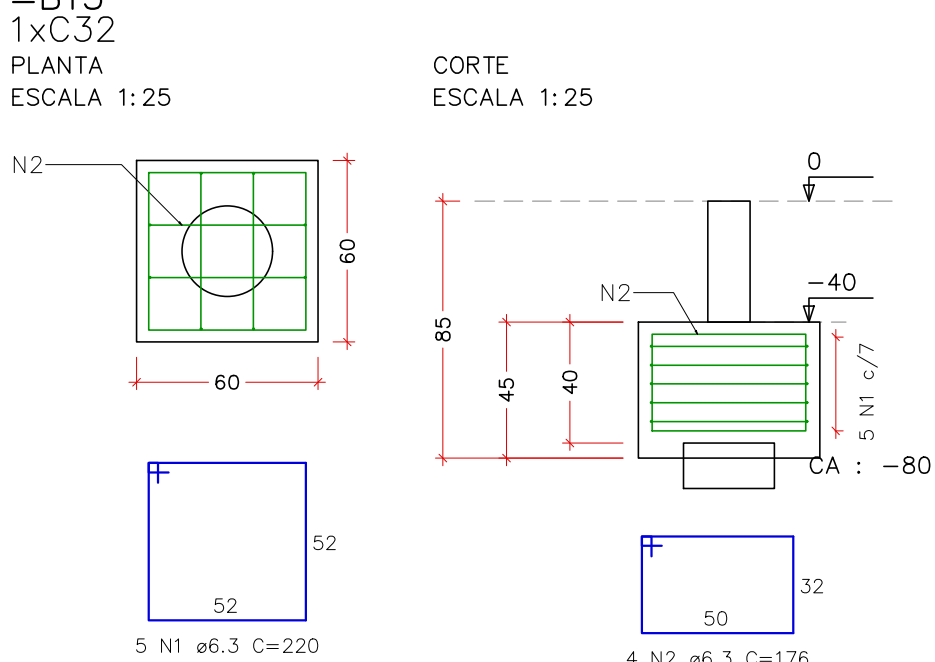
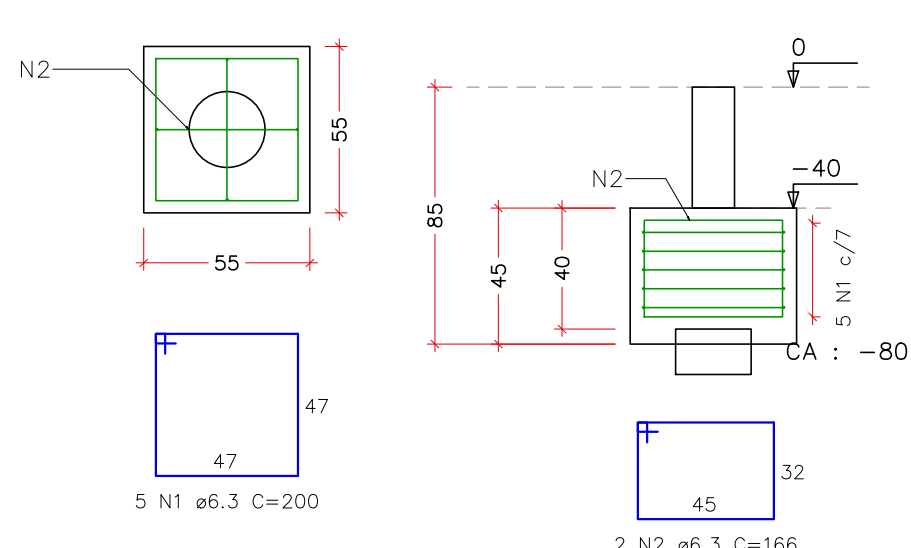


PROJETO ESTRUTURAL – AMPLIAÇÃO DO CEIM MARILISA LOPES DE OLIVEIRA  
ESCALA INDICADA

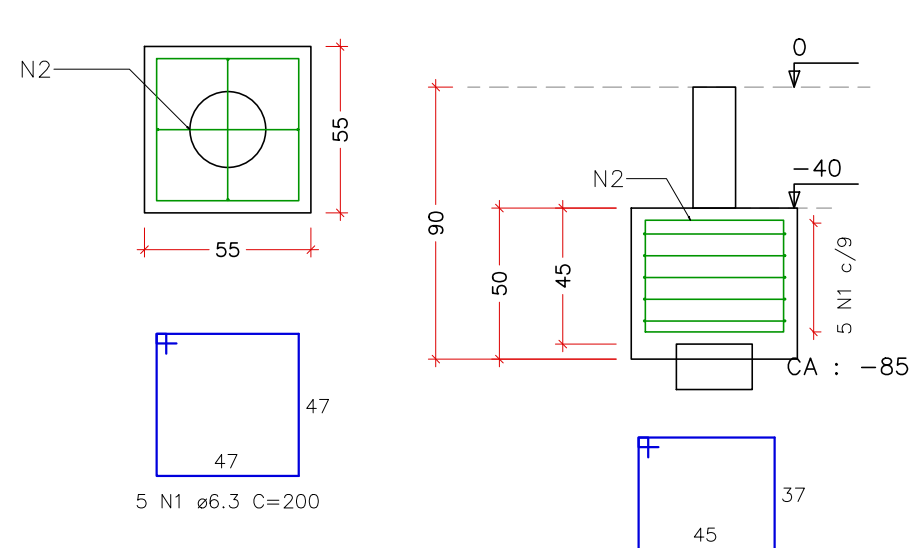
B1=B2=B3=B4=B5=B7=B10=B11=B12=B13=B14  
=B15  
1xC32  
PLANTA  
ESCALA 1:25



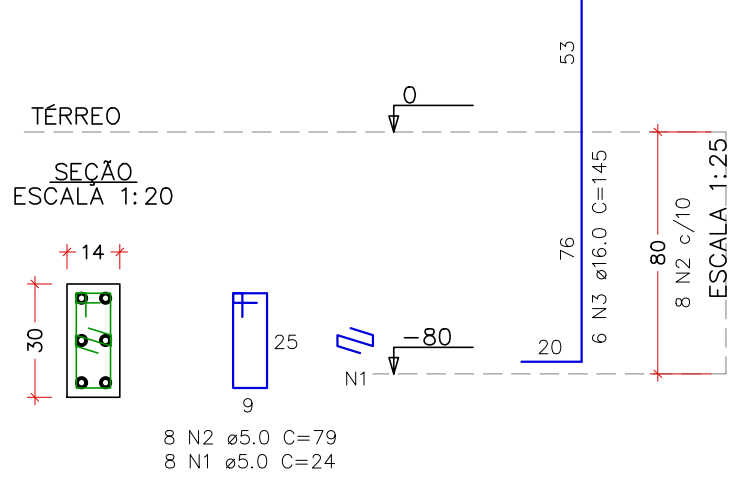
B6=B9  
1xC25  
PLANTA  
ESCALA 1:25



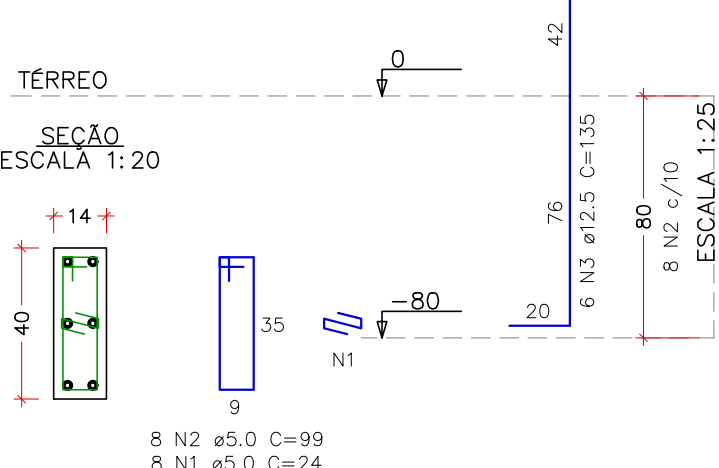
B8  
1xC25  
PLANTA  
ESCALA 1:25



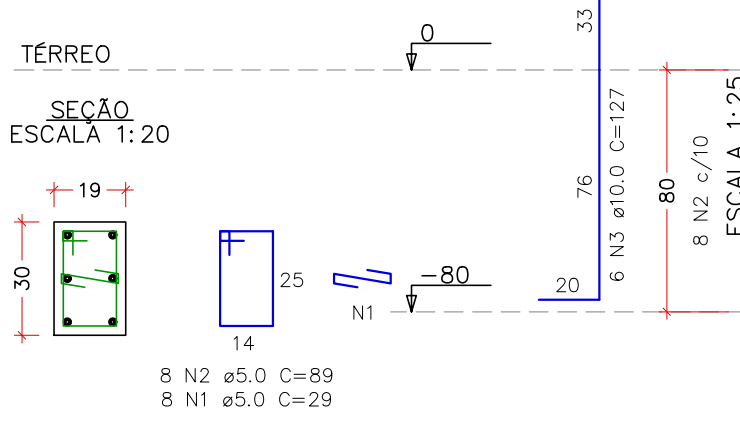
P1



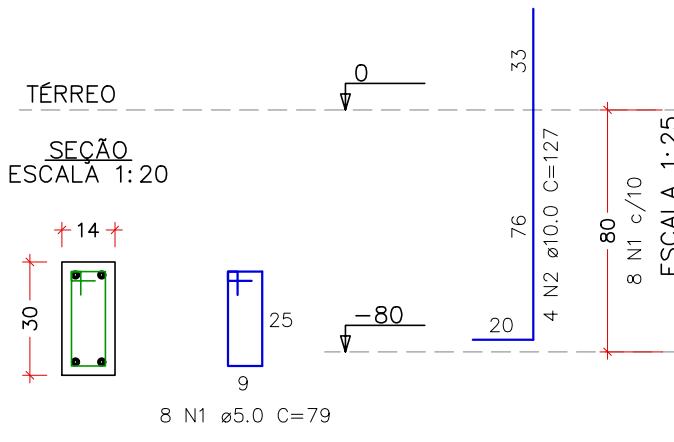
P2=P11



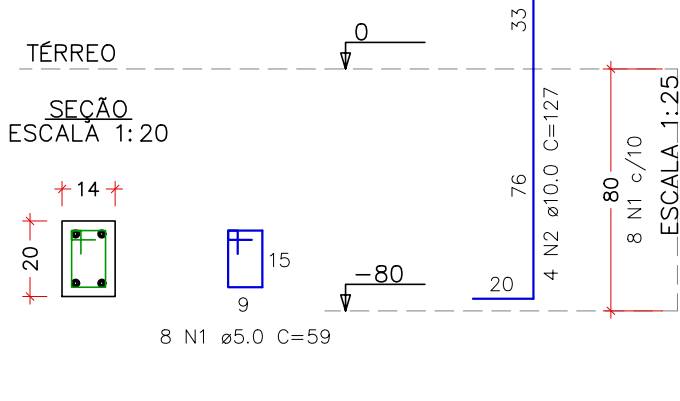
P3=P12



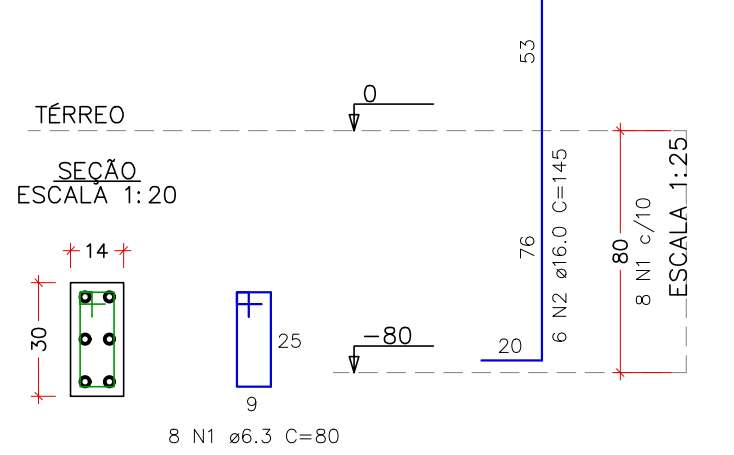
P4=P5=P13=P14=P15



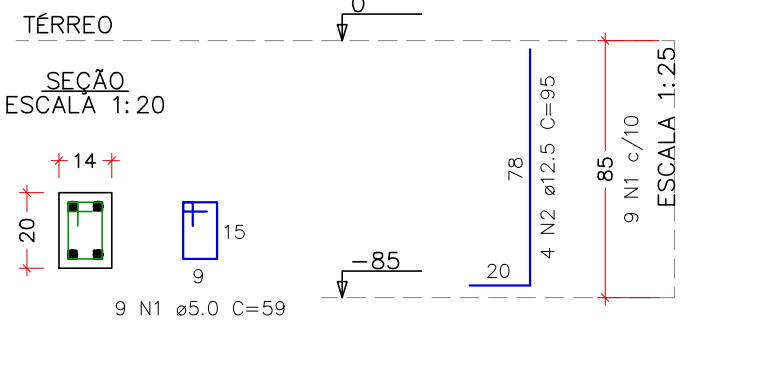
P6=P9



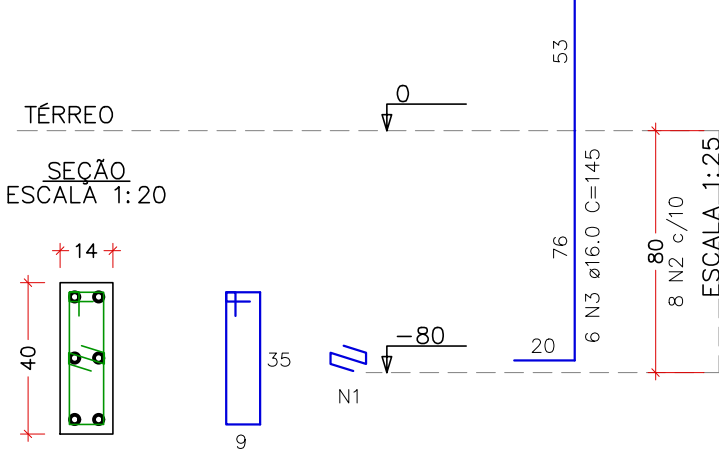
P7



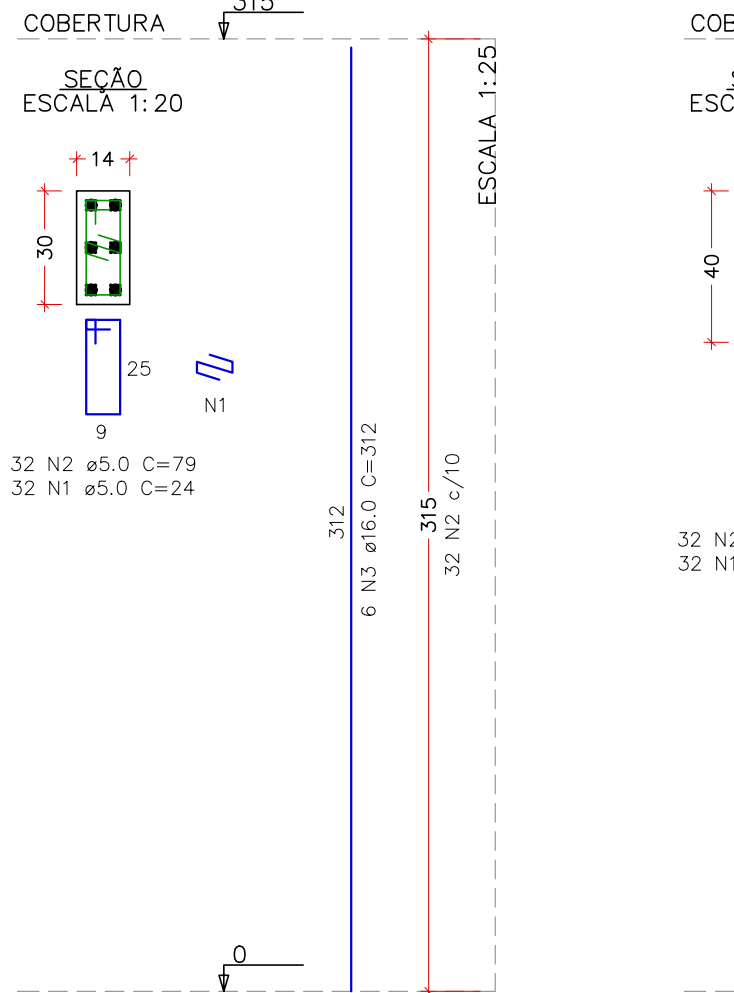
P8



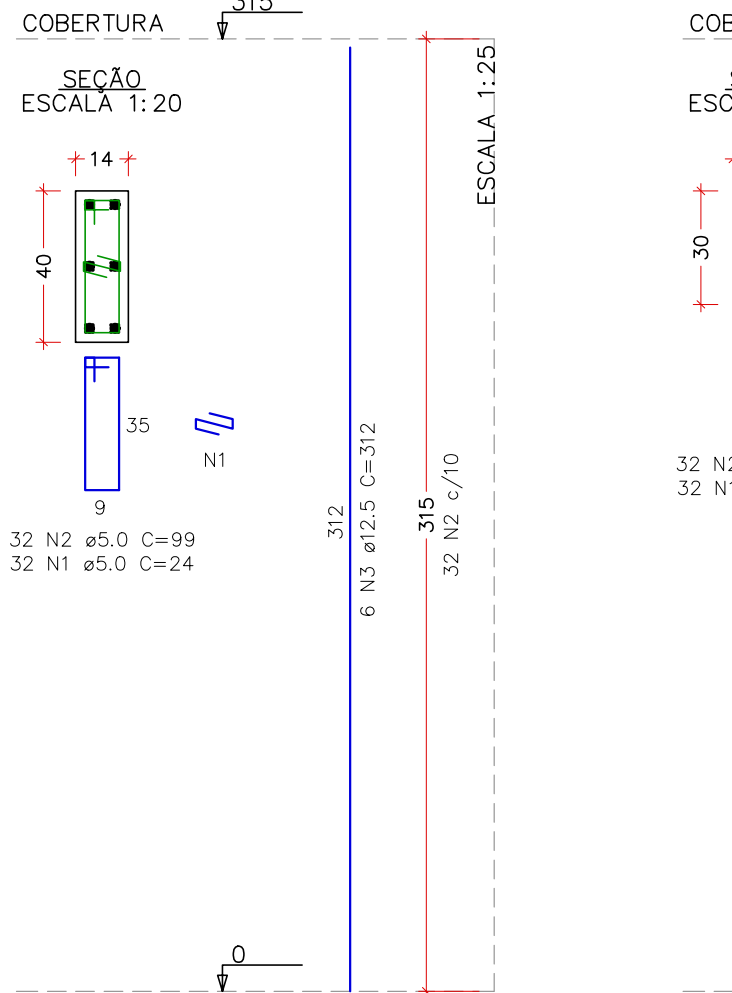
P10



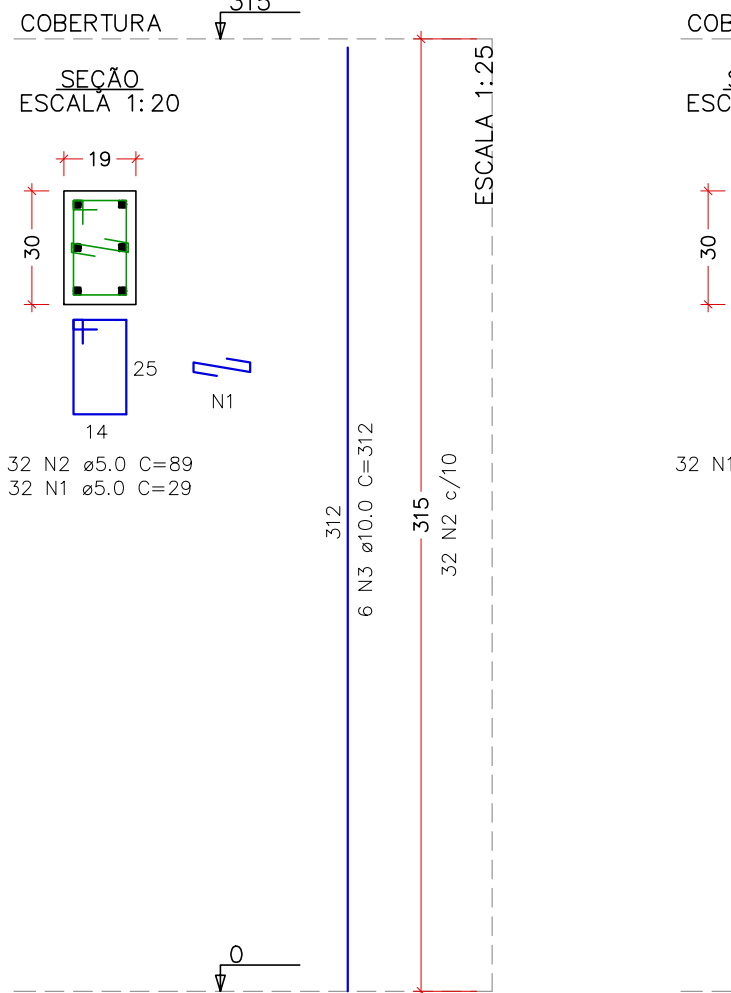
P1=P7



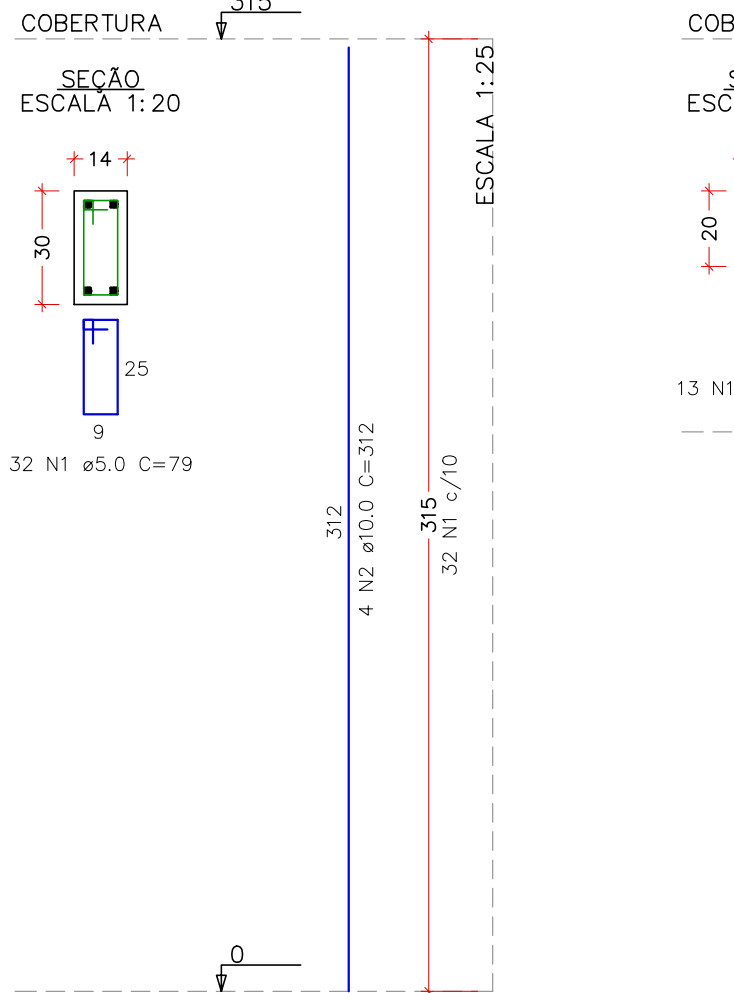
P2=P11



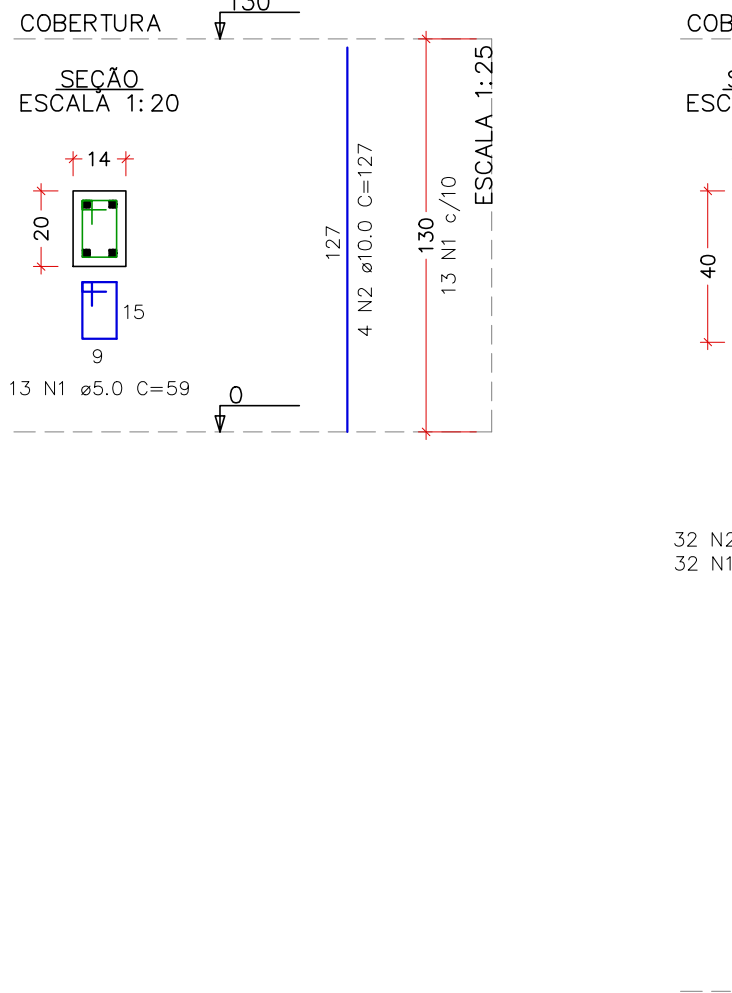
P3=P12



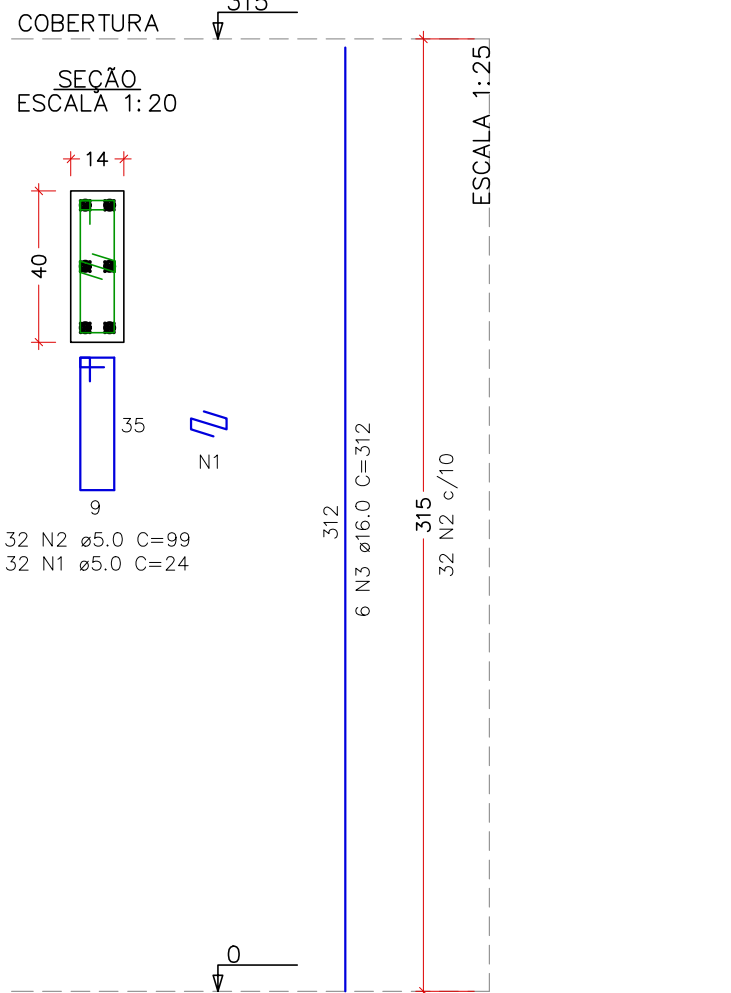
P4=P5=P13=P14=P15



P6=P9



P10



| RELAÇÃO DO AÇO – PAV. TERREO |      |   |           |       |             |              |
|------------------------------|------|---|-----------|-------|-------------|--------------|
| ELEMENTO                     | AÇO  | N | DIAM (mm) | QUANT | C.UNIT (cm) | C.TOTAL (cm) |
| B8                           | CA50 | 1 | 6.3       | 5     | 200         | 1000         |
|                              | CA50 | 2 | 6.3       | 2     | 176         | 352          |
|                              | CA50 | 1 | 6.3       | 10    | 200         | 2000         |
|                              | CA50 | 2 | 6.3       | 4     | 166         | 664          |
| 12x815                       | CA50 | 1 | 6.3       | 60    | 220         | 13200        |
|                              | CA50 | 2 | 6.3       | 48    | 176         | 8448         |

| RESUMO DO AÇO   |           |             |                 |
|-----------------|-----------|-------------|-----------------|
| AÇO             | DIAM (mm) | C.TOTAL (m) | PESO + 10% (kg) |
| CA50            | 6.3       | 256.6       | 69.1            |
| PESO TOTAL (kg) |           |             |                 |
| CA50            | 69.1      |             |                 |

VOLUME DE CONCRETO (C-30) = 2.32 m³  
AREA DE FORMA = 16.04 m²

| RELAÇÃO DO AÇO – PAV. TERREO |      |   |           |       |             |              |
|------------------------------|------|---|-----------|-------|-------------|--------------|
| ELEMENTO                     | AÇO  | N | DIAM (mm) | QUANT | C.UNIT (cm) | C.TOTAL (cm) |
| P1                           | CA60 | 1 | 5.0       | 8     | 24          | 192          |
|                              | CA60 | 2 | 5.0       | 8     | 79          | 632          |
|                              | CA50 | 3 | 16.0      | 6     | 145         | 870          |
|                              | CA60 | 1 | 5.0       | 16    | 24          | 384          |
| 2xP2                         | CA60 | 2 | 5.0       | 16    | 99          | 1584         |
|                              | CA50 | 3 | 12.5      | 12    | 135         | 1620         |
|                              | CA60 | 1 | 5.0       | 16    | 29          | 464          |
|                              | CA60 | 2 | 5.0       | 16    | 89          | 1424         |
| 2xP3                         | CA50 | 3 | 10.0      | 12    | 127         | 1524         |
|                              | CA60 | 1 | 5.0       | 40    | 79          | 3160         |
|                              | CA50 | 2 | 10.0      | 20    | 127         | 2540         |
|                              | CA60 | 1 | 5.0       | 16    | 59          | 944          |
| 5xP4                         | CA50 | 2 | 10.0      | 8     | 127         | 1016         |
|                              | CA50 | 1 | 6.3       | 8     | 80          | 640          |
|                              | CA50 | 2 | 16.0      | 6     | 145         | 870          |
|                              | CA60 | 1 | 5.0       | 9     | 59          | 531          |
| P7                           | CA50 | 1 | 6.3       | 8     | 80          | 640          |
|                              | CA50 | 2 | 16.0      | 6     | 145         | 870          |
|                              | CA60 | 1 | 5.0       | 9     | 59          | 531          |
|                              | CA50 | 2 | 12.5      | 4     | 95          | 380          |
| P8                           | CA60 | 1 | 5.0       | 8     | 24          | 192          |
|                              | CA60 | 2 | 5.0       | 8     | 99          | 792          |
|                              | CA50 | 3 | 16.0      | 6     | 145         | 870          |
|                              | CA50 | 3 | 16.0      | 6     | 145         | 870          |

| RESUMO DO AÇO   |           |             |                 |
|-----------------|-----------|-------------|-----------------|
| AÇO             | DIAM (mm) | C.TOTAL (m) | PESO + 10% (kg) |
| CA50            | 6.3       | 6.4         | 1.7             |
|                 | 10.0      | 50.8        | 34.5            |
|                 | 12.5      | 20          | 21.2            |
| CA60            | 16.0      | 26.1        | 45.3            |
|                 | 5.0       | 103         | 17.5            |
| PESO TOTAL (kg) |           |             |                 |
| CA50            | 102.7     |             |                 |
| CA60            | 17.5      |             |                 |

VOLUME DE CONCRETO (C-30) = 0.26 m³  
AREA DE FORMA = 5.36 m²

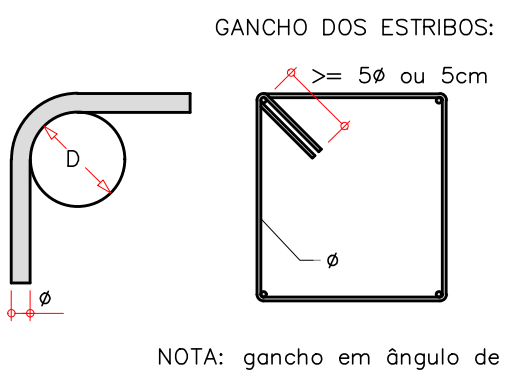
| RELAÇÃO DO AÇO – PAV. COBERTURA |      |   |           |       |             |              |
|---------------------------------|------|---|-----------|-------|-------------|--------------|
| ELEMENTO                        | AÇO  | N | DIAM (mm) | QUANT | C.UNIT (cm) | C.TOTAL (cm) |
| 2xP1                            | CA60 | 1 | 5.0       | 64    | 24          | 1536         |
|                                 | CA60 | 2 | 5.0       | 64    | 79          | 5056         |
|                                 | CA50 | 3 | 16.0      | 12    | 312         | 3744         |
|                                 | CA60 | 1 | 5.0       | 64    | 24          | 1536         |
| 2xP2                            | CA60 | 2 | 5.0       | 64    | 99          | 6336         |
|                                 | CA50 | 3 | 12.5      | 12    | 312         | 3744         |
|                                 | CA60 | 1 | 5.0       | 64    | 29          | 1856         |
|                                 | CA60 | 2 | 5.0       | 64    | 89          | 5696         |
| 2xP3                            | CA50 | 3 | 10.0      | 12    | 312         | 3744         |
|                                 | CA60 | 1 | 5.0       | 160   | 79          | 12640        |
|                                 | CA50 | 2 | 10.0      | 20    | 312         | 6240         |
|                                 | CA60 | 1 | 5.0       | 26    | 59          | 1534         |
| 5xP4                            | CA50 | 2 | 10.0      | 8     | 127         | 1016         |
|                                 | CA60 | 1 | 5.0       | 32    | 24          | 768          |
|                                 | CA60 | 2 | 5.0       | 32    | 99          | 3168         |
|                                 | CA50 | 3 | 16.0      | 6     | 312         | 1872         |

| RESUMO DO AÇO   |           |             |                 |
|-----------------|-----------|-------------|-----------------|
| AÇO             | DIAM (mm) | C.TOTAL (m) | PESO + 10% (kg) |
| CA50            | 10.0      | 110         | 74.6            |
|                 | 12.5      | 37.4        | 39.7            |
|                 | 16.0      | 56.2        | 97.5            |
| CA60            | 5.0       | 401.3       | 68              |
| PESO TOTAL (kg) |           |             |                 |
| CA50            | 211.8     |             |                 |
| CA60            | 68        |             |                 |

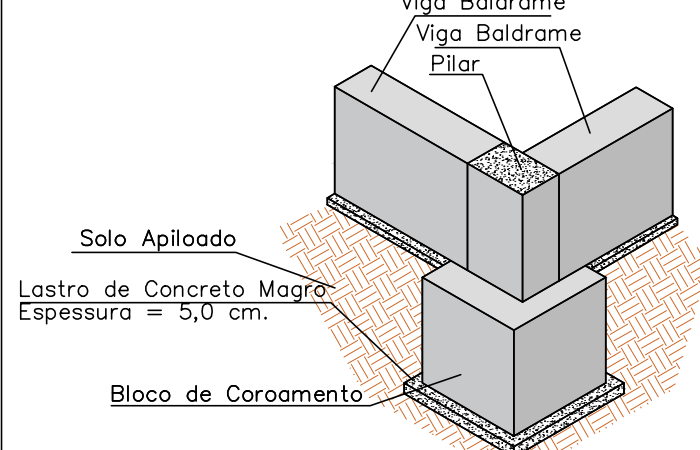
VOLUME DE CONCRETO (C-30) = 1.89 m³  
AREA DE FORMA = 37.55 m²

DETALHE DE DOBRAS  
SEM ESCALA

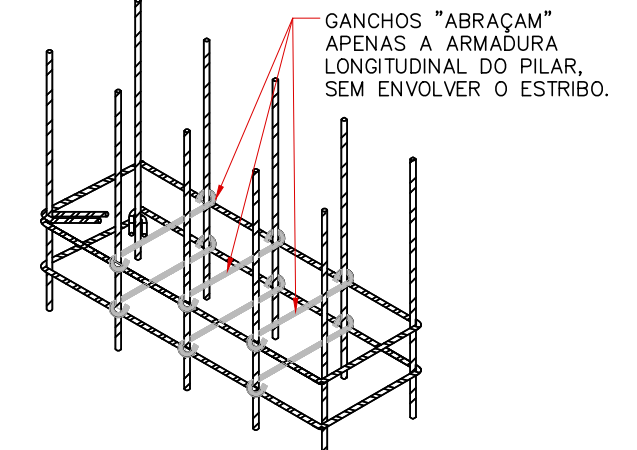
| ESTRIBOS |        | BARRAS DE TRAÇÃO |        |
|----------|--------|------------------|--------|
| ø (mm)   | D (mm) | ø (mm)           | D (mm) |
| 5,0      | 15,0   | 5,0              | 30,0   |
| 6,3      | 18,9   | 6,3              | 31,5   |
| 8,0      | 24,0   | 8,0              | 40,0   |
| 10,0     | 30,0   | 10,0             | 50,0   |
| 12,5     | 62,5   | 12,5             | 62,5   |
| 16,0     | 80,0   | 16,0             | 80,0   |
| >= 20,0  | 8xø    | >= 20,0          | 8xø    |



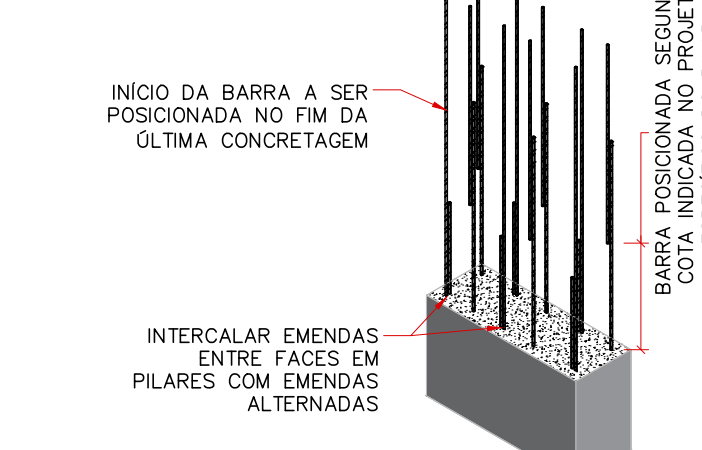
POSICIONAMENTO DOS BLOCOS  
SEM ESCALA



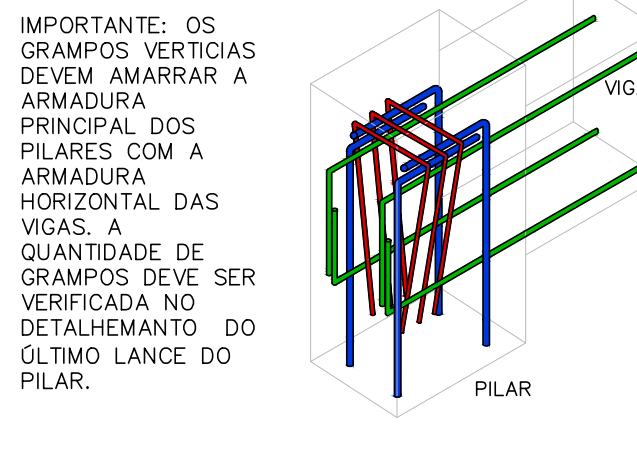
POSICIONAMENTO DOS GANCHOS  
SEM ESCALA



MONTAGEM DE ARMADURAS ALTERNADAS – PILARES  
SEM ESCALA



GRAMPOS DE ANCORAGEM – PILAR  
SEM ESCALA



LEGENDA DAS BARRAS – PILARES  
SEM ESCALA



|                                                                                                                                        |                                                                                                     |                              |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------|
| REV. 00   17/07/24   EMISSÃO INICIAL                                                                                                   |                                                                                                     | DAC                          |
| REVISÃO DATA :   DESCRIÇÃO:                                                                                                            |                                                                                                     | RESP.:                       |
| CLIENTE                                                                                                                                |                                                                                                     |                              |
|  <b>Prefeitura Municipal de Pouso Alegre</b>      |                                                                                                     |                              |
| PROJETO                                                                                                                                | COORDENAÇÃO                                                                                         |                              |
|  <b>DAC Engenharia</b>                            | RAFAEL BARBOSA CARREIRA CAU: 00A155411-5                                                            |                              |
| Rua Cel. Joaquim Francisco, 341, Bairro Varginha<br>CEP: 37501-052 – Itajubá / MG<br>Tel: (35) 2143 – 9087<br>www.docengenharia.com.br |                                                                                                     | RESPONSÁVEL TÉCNICO E AUTOR  |
| ALOISIO CAETANO FERREIRA CREA: MG-97.132/D                                                                                             |                                                                                                     |                              |
| EMPREENHAMENTO                                                                                                                         |                                                                                                     |                              |
| AMPLIAÇÃO DO CEIM MARILISA LOPES DE OLIVEIRA                                                                                           |                                                                                                     |                              |
| ENDEREÇO                                                                                                                               | RUA LUÍS BARBATO, 336 – B. JARDIM AURELIANO<br>POUSO ALEGRE – MINAS GERAIS                          | DISCIPLINA<br>ESTRUTURAL     |
| ASSUNTO                                                                                                                                | PROJETO ESTRUTURAL EM CONCRETO ARMADO<br>COZINHA<br>DETALHAMENTO DOS BLOCOS DE COROAMENTO E PILARES | FASE DO PROJETO<br>EXECUTIVO |
| DATA INICIAL                                                                                                                           | 17/07/2024                                                                                          | FOLHA Nº<br>12/25            |
| ESCALA                                                                                                                                 | INDICADA                                                                                            |                              |
| REVISÃO                                                                                                                                | R00                                                                                                 |                              |
| ARQUIVO                                                                                                                                | DAC-PMPA-MLO-PE-EST.DWG                                                                             |                              |