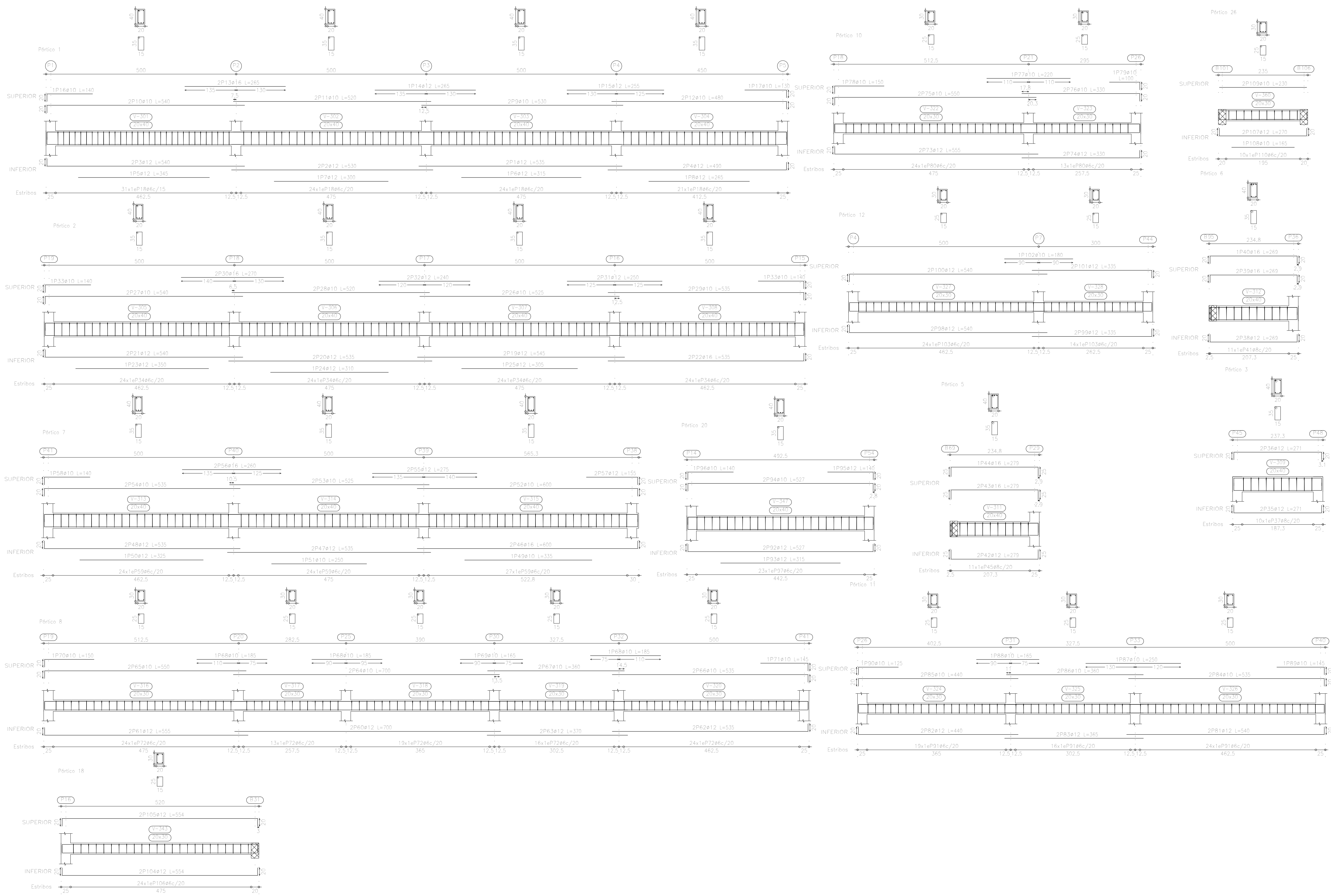






| Elemento         | Pos.             | Dim. | No. | Long. (cm) | Tot. (cm) | AH-500CM (kg) |     |
|------------------|------------------|------|-----|------------|-----------|---------------|-----|
| Pértico 1        | 1                | #12  | 3   | 535        | 1070      | 9.3           |     |
|                  | 2                | #12  | 2   | 535        | 1070      | 9.4           |     |
|                  | 3                | #12  | 2   | 540        | 1080      | 9.6           |     |
|                  | 4                | #12  | 2   | 495        | 990       | 8.7           |     |
|                  | 5                | #12  | 1   | 345        | 690       | 3.1           |     |
|                  | 6                | #12  | 1   | 315        | 315       | 2.8           |     |
|                  | 7                | #12  | 1   | 300        | 300       | 2.7           |     |
|                  | 8                | #12  | 1   | 285        | 285       | 2.4           |     |
|                  | 9                | #10  | 2   | 535        | 1070      | 8.5           |     |
|                  | 10               | #10  | 2   | 540        | 1080      | 8.7           |     |
|                  | 11               | #10  | 2   | 535        | 1070      | 8.4           |     |
|                  | 12               | #10  | 2   | 480        | 960       | 8.9           |     |
|                  | 13               | #10  | 1   | 355        | 355       | 3.1           |     |
|                  | 14               | #12  | 1   | 285        | 285       | 2.4           |     |
|                  | 15               | #10  | 1   | 135        | 135       | 0.8           |     |
|                  | 16               | #10  | 1   | 140        | 140       | 0.9           |     |
|                  | 17               | #10  | 2   | 250        | 500       | 4.4           |     |
|                  | 18               | #8   | 98  | 112        | 11200     | 24.9          |     |
| Total+100% 124.7 |                  |      |     |            |           |               |     |
| Pértico 2        | 19               | #12  | 3   | 545        | 1090      | 9.7           |     |
|                  | 20               | #12  | 2   | 535        | 1070      | 9.3           |     |
|                  | 21               | #12  | 2   | 540        | 1080      | 9.6           |     |
|                  | 22               | #16  | 2   | 535        | 1070      | 16.9          |     |
|                  | 23               | #12  | 1   | 505        | 505       | 3.1           |     |
|                  | 24               | #12  | 1   | 310        | 310       | 2.8           |     |
|                  | 25               | #12  | 1   | 305        | 305       | 2.7           |     |
|                  | 26               | #10  | 2   | 535        | 1070      | 8.5           |     |
|                  | 27               | #10  | 2   | 540        | 1080      | 8.7           |     |
|                  | 28               | #10  | 2   | 535        | 1070      | 8.4           |     |
|                  | 29               | #10  | 2   | 535        | 1070      | 8.6           |     |
|                  | 30               | #10  | 2   | 270        | 540       | 4.5           |     |
|                  | 31               | #12  | 2   | 250        | 500       | 4.4           |     |
|                  | 32               | #10  | 2   | 140        | 280       | 1.7           |     |
|                  | 33               | #10  | 2   | 145        | 290       | 1.7           |     |
|                  | 34               | #8   | 98  | 112        | 11200     | 23.9          |     |
|                  | Total+100% 124.7 |      |     |            |           |               |     |
|                  | Pértico 3        | 35   | #12 | 3          | 271       | 814           | 4.8 |
| 36               |                  | #12  | 2   | 271        | 542       | 4.8           |     |
| 37               |                  | #8   | 10  | 116        | 1160      | 14.6          |     |
| Total+100% 15.6  |                  |      |     |            |           |               |     |
| Pértico 4        | 38               | #12  | 2   | 269        | 538       | 4.8           |     |
|                  | 39               | #16  | 2   | 269        | 538       | 8.5           |     |
|                  | 40               | #16  | 1   | 269        | 269       | 4.2           |     |
|                  | 41               | #8   | 11  | 116        | 1160      | 15.6          |     |
| Total+100% 24.8  |                  |      |     |            |           |               |     |
| Pértico 5        | 42               | #12  | 3   | 275        | 825       | 5.0           |     |
|                  | 43               | #16  | 2   | 275        | 550       | 8.8           |     |
|                  | 44               | #16  | 1   | 279        | 279       | 4.4           |     |
|                  | 45               | #8   | 11  | 116        | 1160      | 15.6          |     |
| Total+100% 25.5  |                  |      |     |            |           |               |     |
| Pértico 7        | 46               | #16  | 2   | 600        | 1200      | 18.9          |     |
|                  | 47               | #12  | 2   | 510        | 1020      | 9.5           |     |
|                  | 48               | #12  | 2   | 535        | 1070      | 9.3           |     |
|                  | 49               | #10  | 1   | 525        | 525       | 3.9           |     |
|                  | 50               | #12  | 1   | 325        | 325       | 2.9           |     |
|                  | 51               | #10  | 2   | 600        | 1200      | 2.4           |     |
|                  | 52               | #10  | 2   | 535        | 1070      | 8.5           |     |
|                  | 53               | #10  | 2   | 535        | 1070      | 8.5           |     |
|                  | 54               | #10  | 2   | 535        | 1070      | 8.6           |     |
|                  | 55               | #12  | 2   | 275        | 550       | 4.9           |     |
|                  | 56               | #16  | 2   | 325        | 650       | 6.2           |     |
|                  | 57               | #12  | 2   | 315        | 630       | 2.8           |     |
|                  | 58               | #10  | 1   | 135        | 270       | 1.5           |     |
|                  | 59               | #8   | 75  | 112        | 8400      | 18.6          |     |
| Total+100% 118.3 |                  |      |     |            |           |               |     |
| Pértico 8        | 60               | #12  | 3   | 555        | 1110      | 11.4          |     |
|                  | 61               | #12  | 2   | 555        | 1110      | 9.9           |     |
|                  | 62               | #12  | 2   | 555        | 1110      | 9.9           |     |
|                  | 63               | #12  | 2   | 370        | 740       | 6.8           |     |
|                  | 64               | #10  | 2   | 555        | 1110      | 8.6           |     |
|                  | 65               | #10  | 2   | 555        | 1110      | 8.8           |     |
|                  | 66               | #10  | 2   | 500        | 1000      | 7.6           |     |
|                  | 67               | #10  | 2   | 500        | 1000      | 6.4           |     |
|                  | 68               | #10  | 1   | 185        | 370       | 3.4           |     |
|                  | 69               | #10  | 2   | 185        | 370       | 3.4           |     |
|                  | 70               | #10  | 1   | 155        | 155       | 0.9           |     |
|                  | 71               | #10  | 2   | 145        | 290       | 0.9           |     |
|                  | 72               | #8   | 98  | 52         | 5092      | 19.6          |     |
| Total+100% 89.7  |                  |      |     |            |           |               |     |
| Pértico 10       | 73               | #12  | 3   | 555        | 1110      | 9.9           |     |
|                  | 74               | #12  | 2   | 555        | 1110      | 9.9           |     |
|                  | 75               | #10  | 2   | 500        | 1000      | 6.4           |     |
|                  | 76               | #10  | 2   | 530        | 1060      | 4.1           |     |
|                  | 77               | #10  | 1   | 230        | 230       | 1.4           |     |
|                  | 78               | #10  | 1   | 150        | 150       | 0.9           |     |
|                  | 79               | #10  | 1   | 100        | 100       | 0.6           |     |
|                  | 80               | #8   | 37  | 92         | 3404      | 7.6           |     |
| Total+100% 49.9  |                  |      |     |            |           |               |     |
| Pértico 11       | 81               | #12  | 2   | 440        | 880       | 6.6           |     |
|                  | 82               | #12  | 2   | 440        | 880       | 7.8           |     |
|                  | 83               | #12  | 2   | 395        | 790       | 6.5           |     |
|                  | 84               | #10  | 2   | 535        | 1070      | 8.5           |     |
|                  | 85               | #10  | 2   | 440        | 880       | 5.4           |     |
|                  | 86               | #10  | 2   | 360        | 720       | 4.4           |     |
|                  | 87               | #10  | 1   | 230        | 230       | 1.5           |     |
|                  | 88               | #10  | 1   | 165        | 165       | 1.0           |     |
|                  | 89               | #10  | 1   | 145        | 145       | 0.9           |     |
|                  | 90               | #10  | 1   | 125        | 125       | 0.6           |     |
|                  | 91               | #8   | 59  | 52         | 3028      | 12.0          |     |
| Total+100% 62.2  |                  |      |     |            |           |               |     |
| Pértico 20       | 92               | #12  | 3   | 527        | 1054      | 8.4           |     |
|                  | 93               | #12  | 1   | 315        | 315       | 2.8           |     |
|                  | 94               | #10  | 2   | 537        | 1074      | 8.5           |     |
|                  | 95               | #12  | 1   | 145        | 145       | 1.2           |     |
|                  | 96               | #10  | 1   | 140        | 140       | 0.9           |     |
|                  | 97               | #8   | 23  | 112        | 2576      | 5.7           |     |
| Total+100% 27.3  |                  |      |     |            |           |               |     |
| Pértico 12       | 98               | #12  | 2   | 545        | 1090      | 9.6           |     |
|                  | 99               | #12  | 2   | 545        | 1090      | 9.7           |     |
|                  | 100              | #12  | 2   | 540        | 1080      | 9.6           |     |
|                  | 101              | #12  | 2   | 535        | 1070      | 9.3           |     |
|                  | 102              | #10  | 2   | 185        | 370       | 1.1           |     |
|                  | 103              | #8   | 38  | 92         | 3496      | 7.8           |     |
| Total+100% 43.9  |                  |      |     |            |           |               |     |
| Pértico 18       | 104              | #12  | 2   | 554        | 1108      | 9.8           |     |
|                  | 105              | #12  | 2   | 554        | 1108      | 9.8           |     |
|                  | 106              | #8   | 24  | 92         | 2208      | 4.0           |     |
|                  | Total+100% 23.5  |      |     |            |           |               |     |
| Pértico 26       | 107              | #12  | 2   | 270        | 540       | 4.8           |     |
|                  | 108              | #10  | 1   | 165        | 165       | 1.0           |     |
|                  | 109              | #10  | 2   | 230        | 460       | 2.8           |     |
|                  | 110              | #8   | 10  | 92         | 920       | 5.0           |     |
|                  | Total+100% 11.7  |      |     |            |           |               |     |
| Total+100% 11.7  |                  |      |     |            |           |               |     |

UNIVERSIDAD AUTÓNOMA JUAN MISAEL SARACHO

Departamento: Tarija  
Provincia: Cercado

Docente Tribunal:  
Ing. Almendras Armando  
Ing. Echalar Flores Michael  
Ing. Zenteno David

Universitario:  
Luis Enrique Ayarde Cayo

Legendas:

Notas Generales:

Proyecto: "DISEÑO DEL CENTRO DE SALUD AMBULATORIO LOS CHAPACOS II"

Carácter: Armadura de vigas - Primer piso

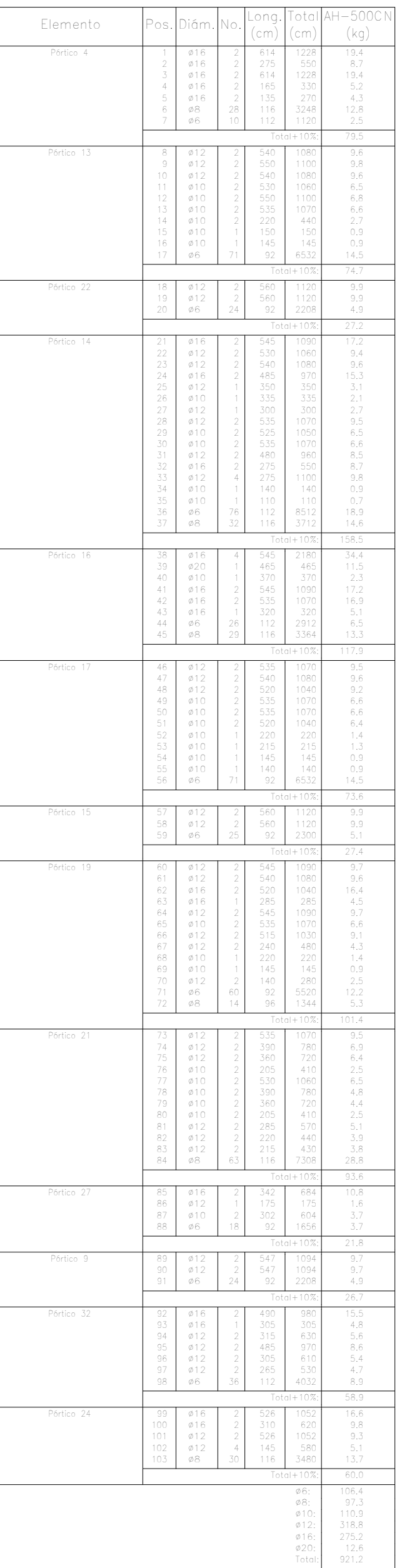
Fecha: Semestre I - 2021

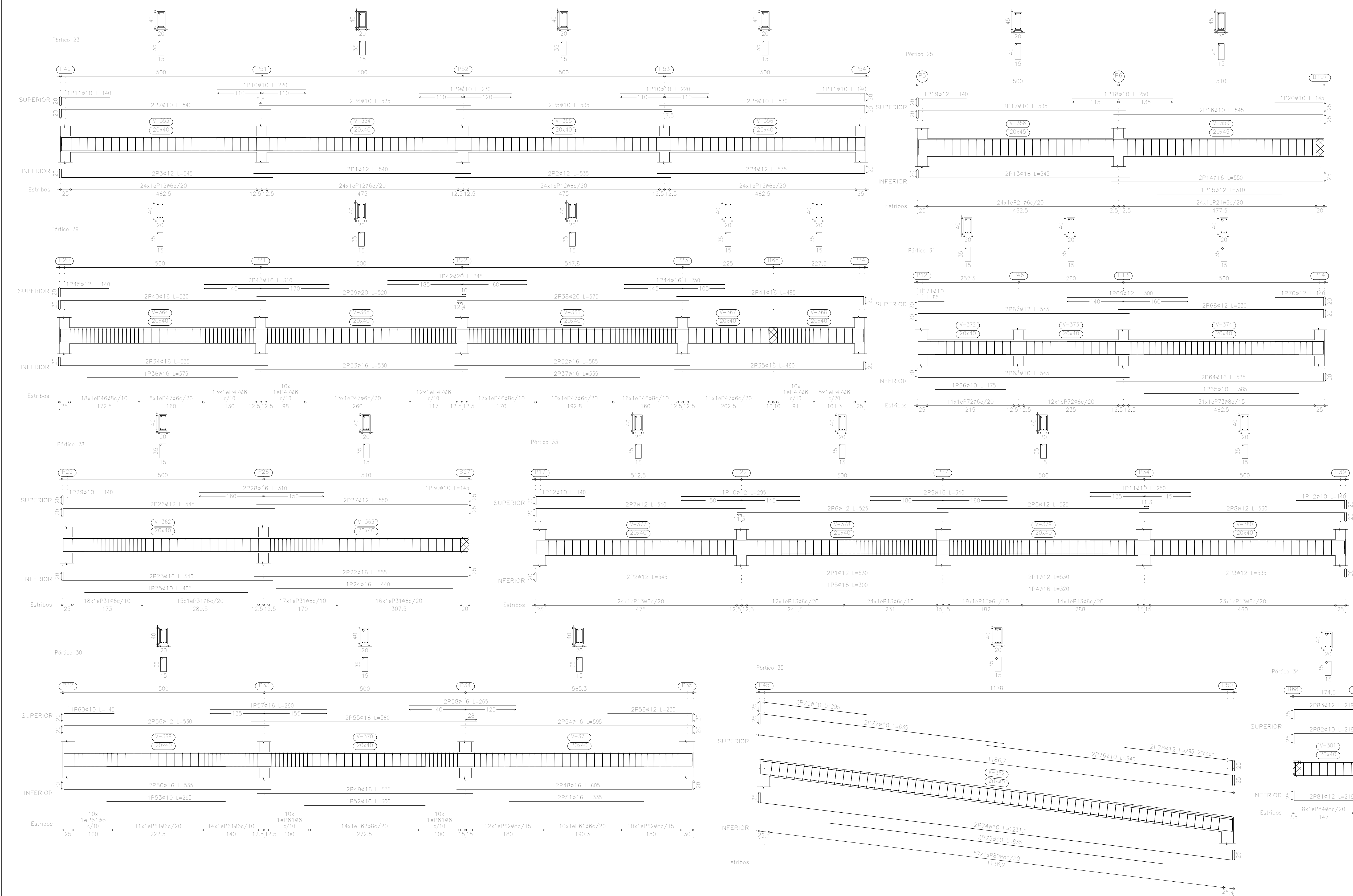
Escala: 1:50

Lámina N°

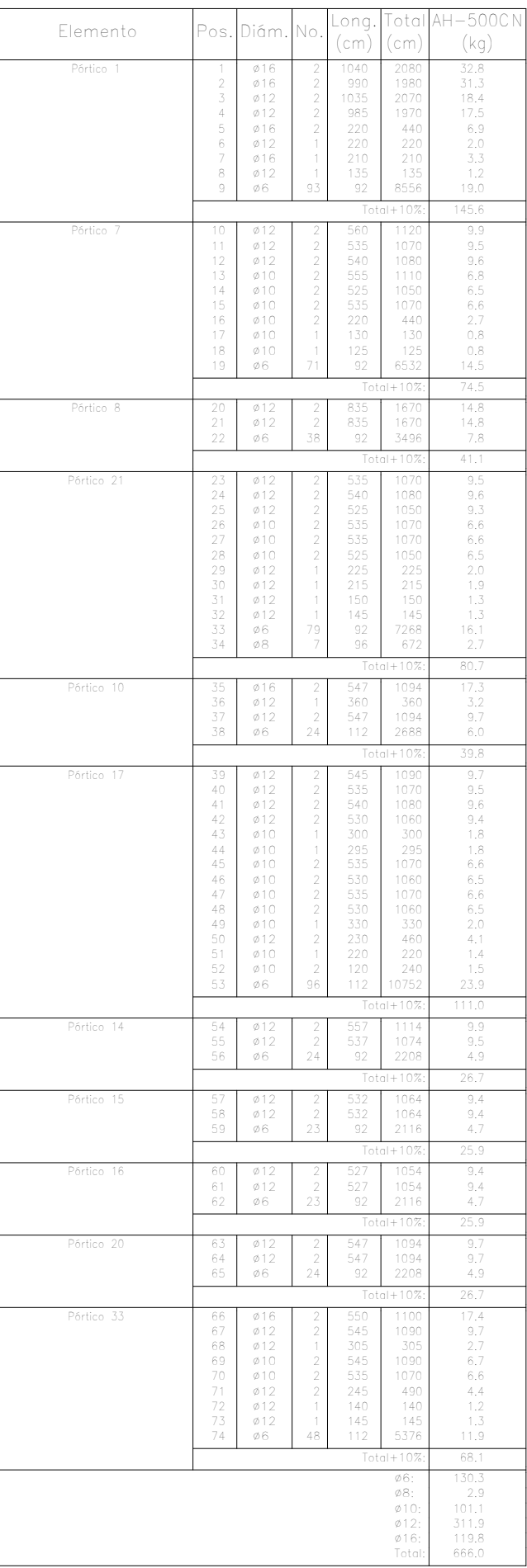
8/14

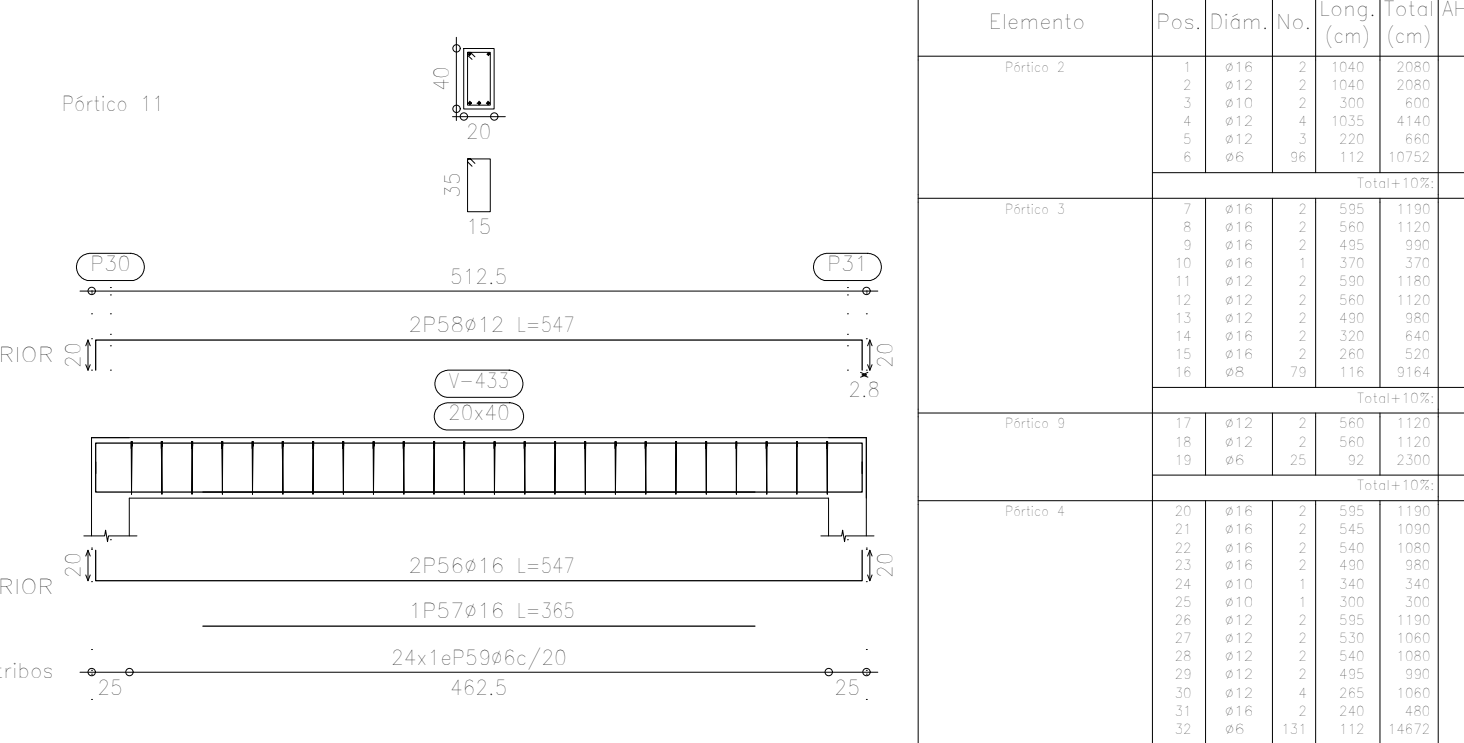
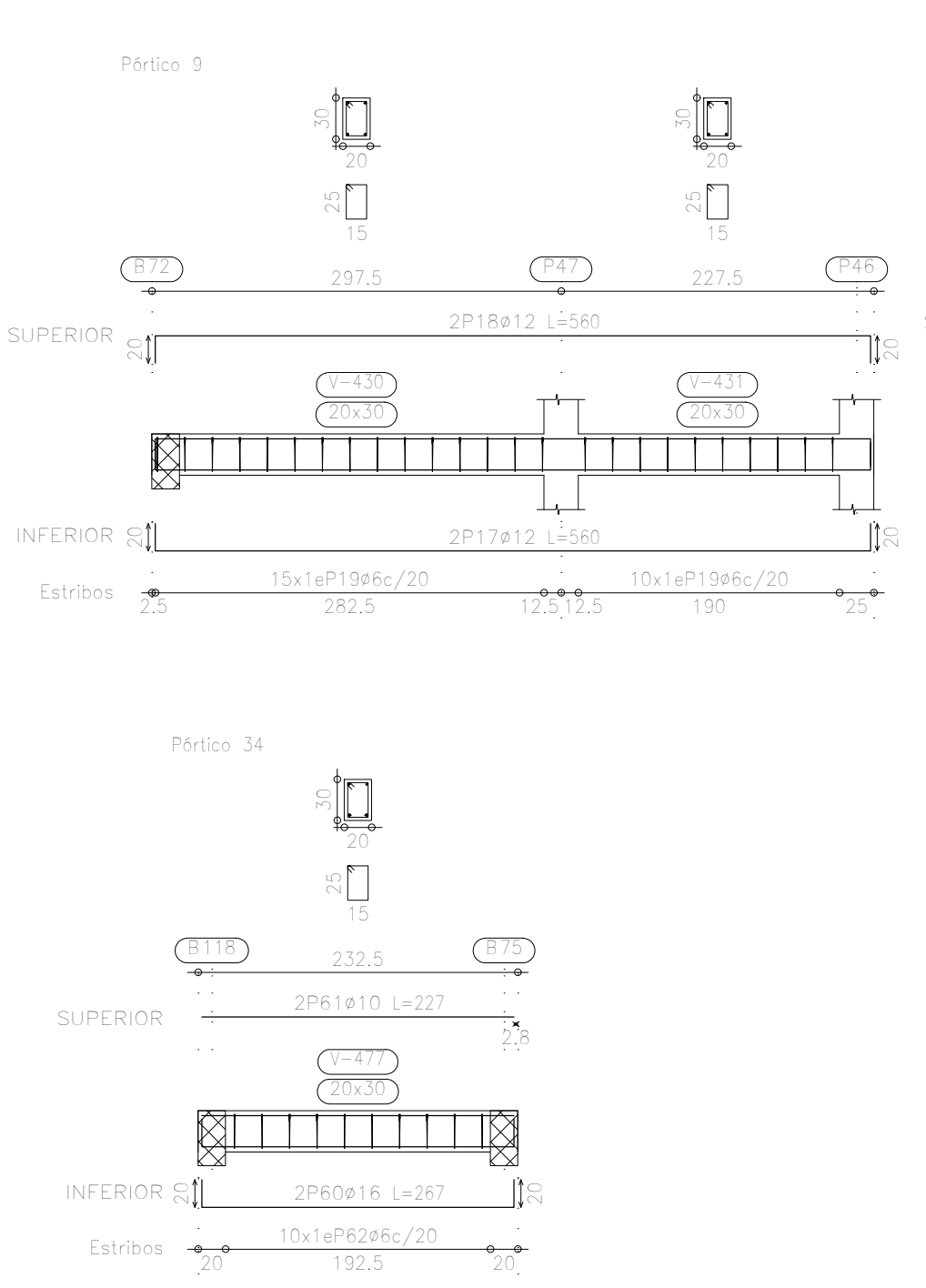
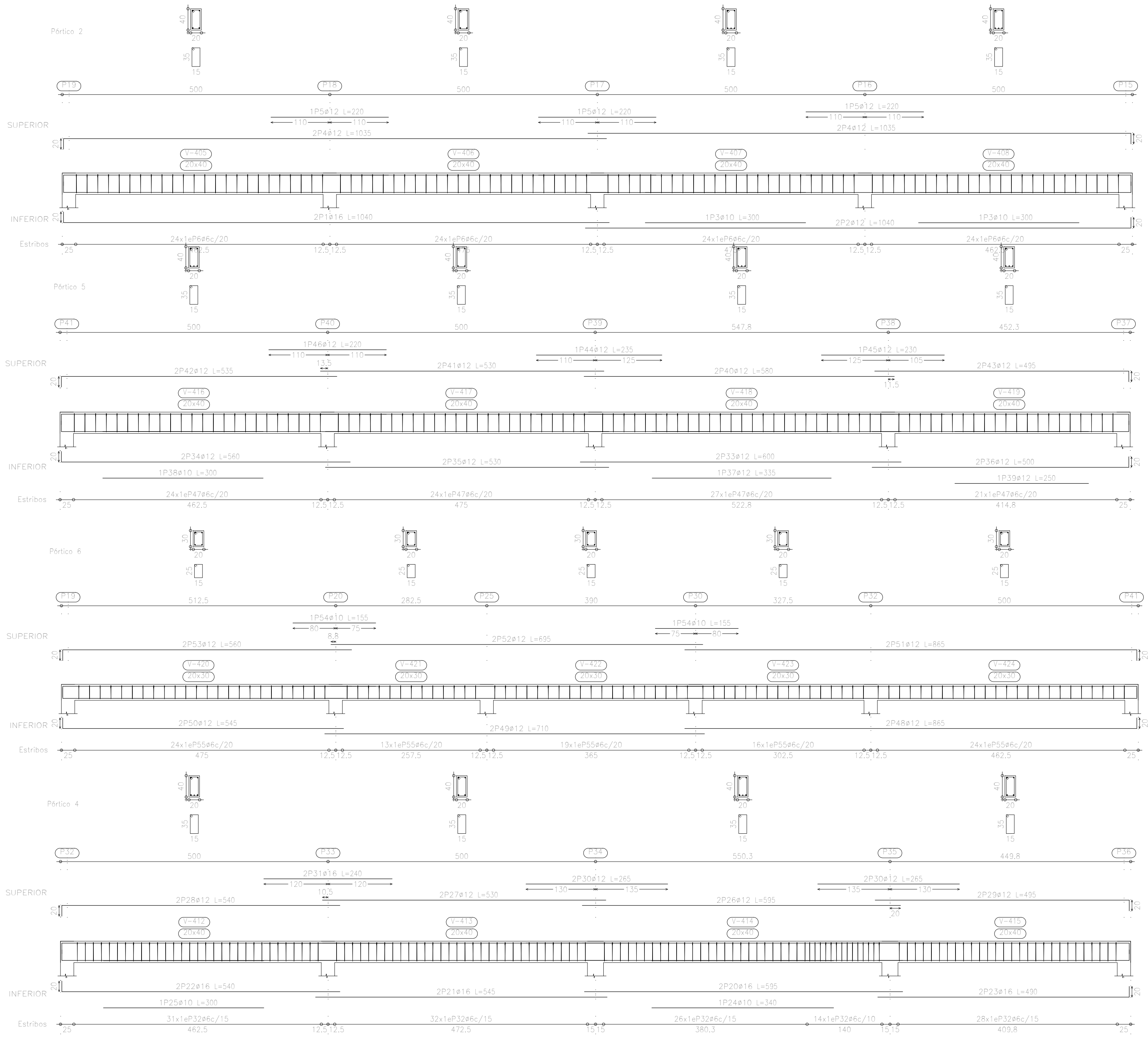
Dimensiones de lamina  
594x841 mm



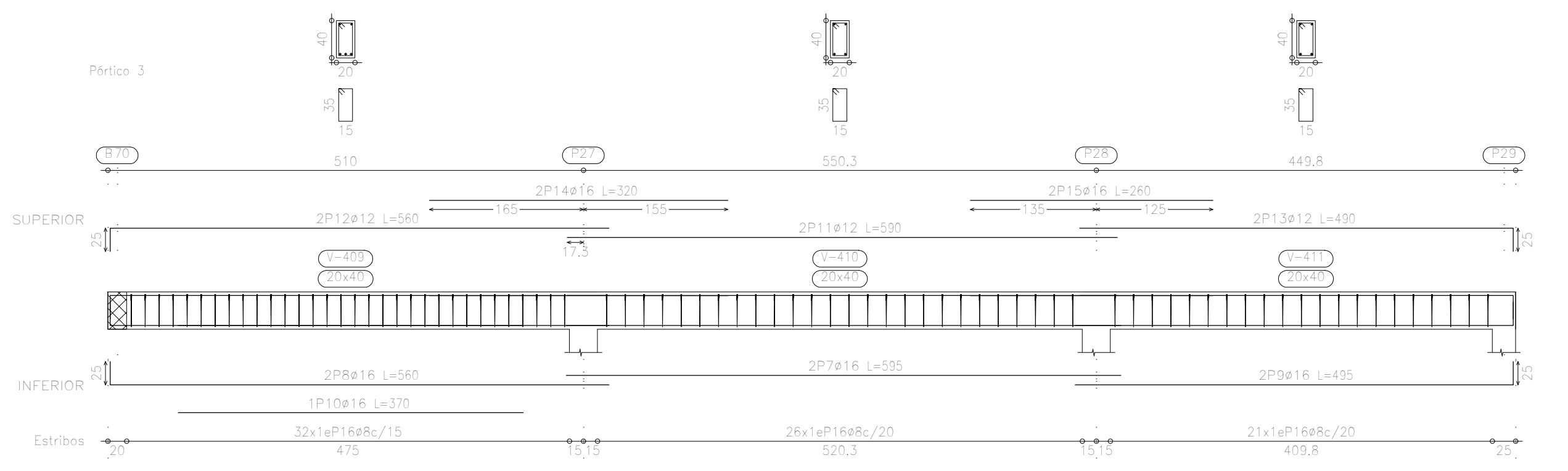


| Elemento    | Pos. | Dím. | No. | Long.<br>(cm) | Tota<br>(cm) | AH-500CII<br>(kg) |
|-------------|------|------|-----|---------------|--------------|-------------------|
| Pértico 23  | 1    | #12  | 2   | 545           | 1090         | 8.6               |
|             | 2    | #12  | 2   | 535           | 1070         | 8.5               |
|             | 3    | #12  | 2   | 545           | 1090         | 8.7               |
|             | 4    | #12  | 2   | 535           | 1070         | 8.5               |
|             | 5    | #10  | 2   | 535           | 1070         | 6.6               |
|             | 6    | #10  | 2   | 535           | 1070         | 6.6               |
|             | 7    | #10  | 2   | 545           | 1090         | 6.7               |
|             | 8    | #10  | 2   | 535           | 1070         | 6.6               |
|             | 9    | #10  | 2   | 225           | 230          | 1.4               |
|             | 10   | #10  | 2   | 225           | 230          | 1.4               |
|             | 11   | #10  | 2   | 145           | 145          | 0.9               |
|             | 12   | #8   | 86  | 112           | 10752        | 23.9              |
| Totales+10% |      |      |     |               |              | 103.7             |
| Pértico 25  | 13   | #16  | 2   | 545           | 1105         | 17.2              |
|             | 14   | #16  | 2   | 555           | 1105         | 17.4              |
|             | 15   | #16  | 1   | 555           | 1105         | 8.6               |
|             | 16   | #10  | 2   | 545           | 1090         | 6.7               |
|             | 17   | #10  | 2   | 535           | 1070         | 6.6               |
|             | 18   | #10  | 1   | 225           | 230          | 1.5               |
|             | 19   | #12  | 1   | 145           | 145          | 1.2               |
|             | 20   | #10  | 1   | 145           | 145          | 0.9               |
|             | 21   | #8   | 48  | 122           | 5854         | 13.0              |
| Totales+10% |      |      |     |               |              | 74.9              |
| Pértico 28  | 22   | #16  | 2   | 555           | 1105         | 17.2              |
|             | 23   | #16  | 2   | 545           | 1105         | 17.0              |
|             | 24   | #16  | 1   | 545           | 1105         | 8.5               |
|             | 25   | #12  | 2   | 545           | 1090         | 6.7               |
|             | 26   | #12  | 2   | 555           | 1105         | 6.8               |
|             | 27   | #16  | 2   | 555           | 1105         | 17.2              |
|             | 28   | #16  | 2   | 545           | 1105         | 17.0              |
|             | 29   | #16  | 2   | 555           | 1105         | 17.2              |
|             | 30   | #10  | 1   | 145           | 145          | 0.9               |
|             | 31   | #8   | 86  | 112           | 10752        | 23.9              |
| Totales+10% |      |      |     |               |              | 103.7             |
| Pértico 29  | 32   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 33   | #16  | 2   | 535           | 1090         | 16.7              |
|             | 34   | #16  | 1   | 535           | 1070         | 8.5               |
|             | 35   | #16  | 2   | 495           | 990          | 15.5              |
|             | 36   | #16  | 1   | 535           | 1070         | 8.5               |
|             | 37   | #16  | 2   | 535           | 1070         | 10.6              |
|             | 38   | #20  | 2   | 535           | 1070         | 25.4              |
|             | 39   | #20  | 2   | 525           | 1045         | 25.4              |
|             | 40   | #16  | 2   | 535           | 1070         | 15.5              |
|             | 41   | #16  | 2   | 485           | 970          | 15.3              |
|             | 42   | #16  | 1   | 545           | 1090         | 8.6               |
|             | 43   | #16  | 1   | 510           | 1020         | 8.8               |
| Pértico 30  | 44   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 45   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 46   | #16  | 1   | 535           | 1070         | 8.5               |
|             | 47   | #10  | 1   | 300           | 300          | 1.8               |
|             | 48   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 49   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 50   | #12  | 2   | 535           | 1070         | 9.4               |
|             | 51   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 52   | #16  | 2   | 295           | 295          | 4.4               |
|             | 53   | #12  | 2   | 235           | 440          | 4.1               |
|             | 54   | #10  | 1   | 145           | 145          | 0.9               |
|             | 55   | #8   | 65  | 112           | 7285         | 16.2              |
| Pértico 31  | 56   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 57   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 58   | #16  | 1   | 535           | 1070         | 8.5               |
|             | 59   | #10  | 1   | 300           | 300          | 1.8               |
|             | 60   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 61   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 62   | #12  | 2   | 535           | 1070         | 9.4               |
|             | 63   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 64   | #16  | 2   | 295           | 295          | 4.4               |
|             | 65   | #12  | 2   | 235           | 440          | 4.1               |
|             | 66   | #10  | 1   | 145           | 145          | 0.9               |
|             | 67   | #8   | 51  | 116           | 5916         | 13.3              |
| Pértico 33  | 68   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 69   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 70   | #16  | 1   | 535           | 1070         | 8.5               |
|             | 71   | #10  | 1   | 300           | 300          | 1.8               |
|             | 72   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 73   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 74   | #12  | 2   | 535           | 1070         | 9.4               |
|             | 75   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 76   | #16  | 2   | 295           | 295          | 4.4               |
|             | 77   | #12  | 2   | 235           | 440          | 4.1               |
|             | 78   | #10  | 1   | 145           | 145          | 0.9               |
|             | 79   | #8   | 51  | 116           | 5916         | 13.3              |
| Pértico 34  | 80   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 81   | #16  | 2   | 535           | 1070         | 16.9              |
|             | 82   | #16  | 1   | 535           | 1070         | 8.5               |
|             | 83   | #10  | 1   | 300           | 300          | 1.8               |
|             | 84   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 85   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 86   | #12  | 2   | 535           | 1070         | 9.4               |
|             | 87   | #16  | 2   | 585           | 1170         | 18.5              |
|             | 88   | #16  | 2   | 295           | 295          | 4.4               |
|             | 89   | #12  | 2   | 235           | 440          | 4.1               |
|             | 90   | #10  | 1   | 145           | 145          | 0.9               |
|             | 91   | #8   | 51  | 116           | 5916         | 13.3              |
| Totales+10% |      |      |     |               |              | 158.7             |
| Pértico 35  |      |      |     |               |              | 17.6              |
| Pértico 36  |      |      |     |               |              | 10.8              |
| Pértico 37  |      |      |     |               |              | 10.4              |
| Pértico 38  |      |      |     |               |              | 9.8               |
| Pértico 39  |      |      |     |               |              | 5.2               |
| Pértico 40  |      |      |     |               |              | 3.4               |
| Pértico 41  |      |      |     |               |              | 0.7               |
| Pértico 42  |      |      |     |               |              | 0.2               |
| Pértico 43  |      |      |     |               |              | 0.1               |
| Pértico 44  |      |      |     |               |              | 0.1               |
| Pértico 45  |      |      |     |               |              | 0.1               |
| Pértico 46  |      |      |     |               |              | 0.1               |
| Pértico 47  |      |      |     |               |              | 0.1               |
| Pértico 48  |      |      |     |               |              | 0.1               |
| Pértico 49  |      |      |     |               |              | 0.1               |
| Pértico 50  |      |      |     |               |              | 0.1               |
| Pértico 51  |      |      |     |               |              | 0.1               |
| Pértico 52  |      |      |     |               |              | 0.1               |
| Pértico 53  |      |      |     |               |              | 0.1               |
| Pértico 54  |      |      |     |               |              | 0.1               |
| Pértico 55  |      |      |     |               |              | 0.1               |
| Pértico 56  |      |      |     |               |              | 0.1               |
| Pértico 57  |      |      |     |               |              | 0.1               |
| Pértico 58  |      |      |     |               |              | 0.1               |
| Pértico 59  |      |      |     |               |              | 0.1               |
| Pértico 60  |      |      |     |               |              | 0.1               |
| Pértico 61  |      |      |     |               |              | 0.1               |
| Pértico 62  |      |      |     |               |              | 0.1               |
| Pértico 63  |      |      |     |               |              | 0.1               |
| Pértico 64  |      |      |     |               |              | 0.1               |
| Pértico 65  |      |      |     |               |              | 0.1               |
| Pértico 66  |      |      |     |               |              | 0.1               |
| Pértico 67  |      |      |     |               |              | 0.1               |
| Pértico 68  |      |      |     |               |              | 0.1               |
| Pértico 69  |      |      |     |               |              | 0.1               |
| Pértico 70  |      |      |     |               |              | 0.1               |
| Pértico 71  |      |      |     |               |              | 0.1               |
| Pértico 72  |      |      |     |               |              | 0.1               |
| Pértico 73  |      |      |     |               |              | 0.1               |
| Pértico 74  |      |      |     |               |              | 0.1               |
| Pértico 75  |      |      |     |               |              | 0.1               |
| Pértico 76  |      |      |     |               |              | 0.1               |
| Pértico 77  |      |      |     |               |              | 0.1               |
| Pértico 78  |      |      |     |               |              | 0.1               |
| Pértico 79  |      |      |     |               |              | 0.1               |
| Pértico 80  |      |      |     |               |              | 0.1               |
| Pértico 81  |      |      |     |               |              | 0.1               |
| Pértico 82  |      |      |     |               |              | 0.1               |
| Pértico 83  |      |      |     |               |              | 0.1               |
| Pértico 84  |      |      |     |               |              | 0.1               |
| Pértico 85  |      |      |     |               |              | 0.1               |
| Pértico 86  |      |      |     |               |              | 0.1               |
| Pértico 87  |      |      |     |               |              | 0.1               |
| Pértico 88  |      |      |     |               |              | 0.1               |
| Pértico 89  |      |      |     |               |              | 0.1               |
| Pértico 90  |      |      |     |               |              | 0.1               |
| Pértico 91  |      |      |     |               |              | 0.1               |
| Pértico 92  |      |      |     |               |              | 0.1               |
| Pértico 93  |      |      |     |               |              | 0.1               |
| Pértico 94  |      |      |     |               |              | 0.1               |
| Pértico 95  |      |      |     |               |              | 0.1               |
| Pértico 96  |      |      |     |               |              | 0.1               |
| Pértico 97  |      |      |     |               |              | 0.1               |
| Pértico 98  |      |      |     |               |              | 0.1               |
| Pértico 99  |      |      |     |               |              | 0.1               |
| Pértico 100 |      |      |     |               |              | 0.1               |
| Pértico 101 |      |      |     |               |              | 0.1               |
| Pértico 102 |      |      |     |               |              | 0.1               |
| Pértico 103 |      |      |     |               |              | 0.1               |
| Pértico 104 |      |      |     |               |              | 0.1               |
| Pértico 105 |      |      |     |               |              | 0.1               |
| Pértico 106 |      |      |     |               |              | 0.1               |
| Pértico 107 |      |      |     |               |              | 0.1               |
| Pértico 108 |      |      |     |               |              | 0.1               |
| Pértico 109 |      |      |     |               |              | 0.1               |
| Pértico 110 |      |      |     |               |              | 0.1               |
| Pértico 111 |      |      |     |               |              | 0.1               |
| Pértico 112 |      |      |     |               |              | 0.1               |
| Pértico 113 |      |      |     |               |              | 0.1               |
| Pértico 114 |      |      |     |               |              | 0.1               |
| Pértico 115 |      |      |     |               |              | 0.1               |
| Pértico 116 |      |      |     |               |              | 0.1               |
| Pértico 117 |      |      |     |               |              | 0.1               |
| Pértico 118 |      |      |     |               |              | 0.1               |
| Pértico 119 |      |      |     |               |              | 0.1               |
| Pértico 120 |      |      |     |               |              | 0.1               |
| Pértico 121 |      |      |     |               |              | 0.1               |
| Pértico 122 |      |      |     |               |              | 0.1               |
| Pértico 123 |      |      |     |               |              | 0.1               |
| Pértico 124 |      |      |     |               |              | 0.1               |
| Pértico 125 |      |      |     |               |              | 0.1               |
| Pértico 126 |      |      |     |               |              | 0.1               |
| Pértico 127 |      |      |     |               |              | 0.1               |
| Pértico 128 |      |      |     |               |              | 0.1               |
| Pértico 129 |      |      |     |               |              | 0.1               |
| Pértico 130 |      |      |     |               |              | 0.1               |
| Pértico 131 |      |      |     |               |              | 0.1               |
| Pértico 132 |      |      |     |               |              | 0.1               |
| Pértico 133 |      |      |     |               |              | 0.1               |
| Pértico 134 |      |      |     |               |              | 0.1               |
| Pértico 135 |      |      |     |               |              | 0.1               |





| Elemento   | Pos.      | Dím. | No. | Long.<br>(cm) | Vol.<br>(m³) | Peso<br>(kg) |
|------------|-----------|------|-----|---------------|--------------|--------------|
| Pórtico 2  | 1         | ø16  | 2   | 1045          | 0.005        | 18.5         |
|            | 2         | ø12  | 2   | 1035          | 0.003        | 7.7          |
|            | 3         | ø10  | 2   | 1035          | 0.002        | 5.8          |
|            | 4         | ø12  | 4   | 1035          | 0.008        | 23.6         |
|            | 5         | ø10  | 2   | 1035          | 0.002        | 6.9          |
|            | 6         | ø6   | 56  | 112           | 0.0002       | 0.3          |
| Total+10%  |           |      |     |               |              | 55.8         |
| Pórtico 3  | 7         | ø12  | 2   | 545           | 0.002        | 6.8          |
|            | 8         | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 9         | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 10        | ø16  | 4   | 545           | 0.020        | 5.8          |
|            | 11        | ø16  | 2   | 545           | 0.005        | 6.9          |
|            | 12        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 13        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 14        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 15        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 16        | ø6   | 76  | 116           | 0.0004       | 0.3          |
|            | Total+10% |      |     |               |              | 105.7        |
| Pórtico 9  | 17        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 18        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 19        | ø6   | 25  | 92            | 0.0001       | 0.1          |
| Total+10%  |           |      |     |               |              | 13.9         |
| Pórtico 4  | 20        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 21        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 22        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 23        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 24        | ø16  | 1   | 545           | 0.003        | 8.9          |
|            | 25        | ø10  | 1   | 545           | 0.001        | 1.8          |
|            | 26        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 27        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 28        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 29        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 30        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 31        | ø12  | 4   | 545           | 0.008        | 23.6         |
|            | 32        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 33        | ø6   | 111 | 112           | 0.0002       | 0.3          |
| Total+10%  |           |      |     |               |              | 126.4        |
| Pórtico 5  | 34        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 35        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 36        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 37        | ø12  | 1   | 545           | 0.001        | 1.8          |
|            | 38        | ø10  | 1   | 545           | 0.001        | 1.8          |
|            | 39        | ø12  | 1   | 545           | 0.001        | 2.2          |
|            | 40        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 41        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 42        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 43        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 44        | ø12  | 1   | 545           | 0.001        | 2.2          |
|            | 45        | ø12  | 1   | 545           | 0.001        | 2.2          |
|            | 46        | ø12  | 1   | 545           | 0.001        | 2.2          |
|            | 47        | ø6   | 56  | 112           | 0.0002       | 0.3          |
| Total+10%  |           |      |     |               |              | 55.3         |
| Pórtico 8  | 48        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 49        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 50        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 51        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 52        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 53        | ø12  | 2   | 545           | 0.002        | 6.9          |
| Pórtico 11 | 54        | ø10  | 2   | 545           | 0.001        | 1.8          |
|            | 55        | ø6   | 56  | 92            | 0.0001       | 0.1          |
| Total+10%  |           |      |     |               |              | 19.6         |
| Pórtico 34 | 56        | ø16  | 1   | 545           | 0.003        | 8.9          |
|            | 57        | ø16  | 1   | 545           | 0.003        | 8.9          |
|            | 58        | ø12  | 2   | 545           | 0.002        | 6.9          |
|            | 59        | ø6   | 24  | 112           | 0.0001       | 0.1          |
| Total+10%  |           |      |     |               |              | 22.7         |
| Pórtico 3  | 60        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 61        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 62        | ø16  | 2   | 545           | 0.005        | 17.7         |
|            | 63        | ø6   | 19  | 92            | 0.0001       | 0.1          |
| Total+10%  |           |      |     |               |              | 53.2         |
| Total+10%  |           |      |     |               |              | 750.3        |



UNIVERSIDAD AUTÓNOMA JUAN MISAE SARACHO

Departamento: Tarija  
Provincia: Cercado

Docente Tribunal:  
Ing. Almendras Armando  
Ing. Echalar Flores Michael  
Ing. Zenteno David

Universitario:  
Luis Enrique Ayarde Cayo

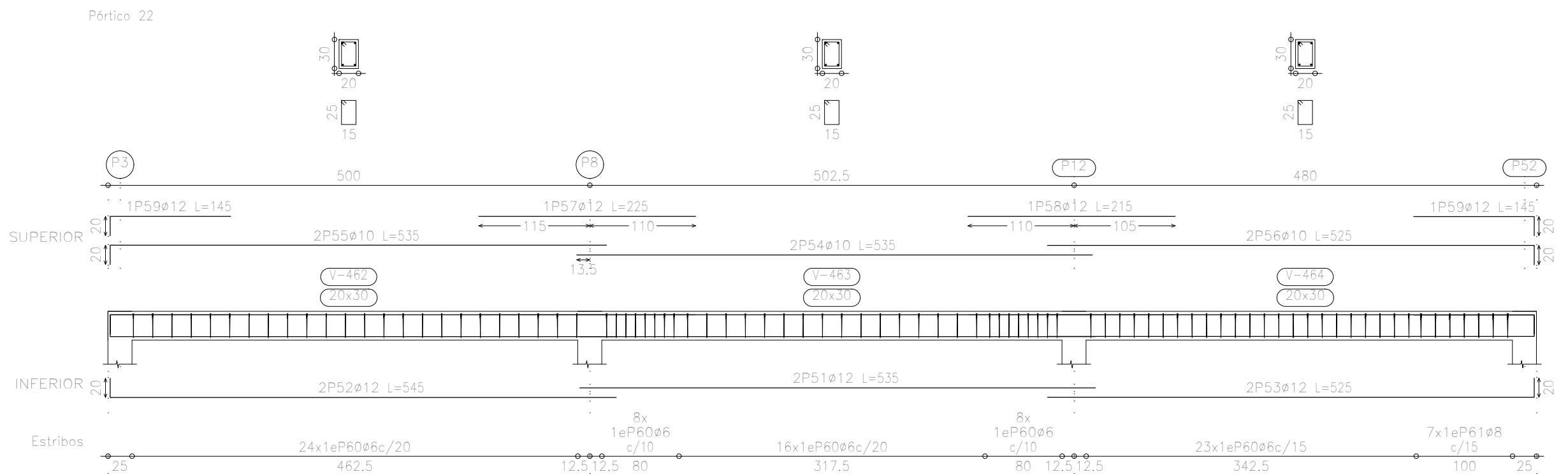
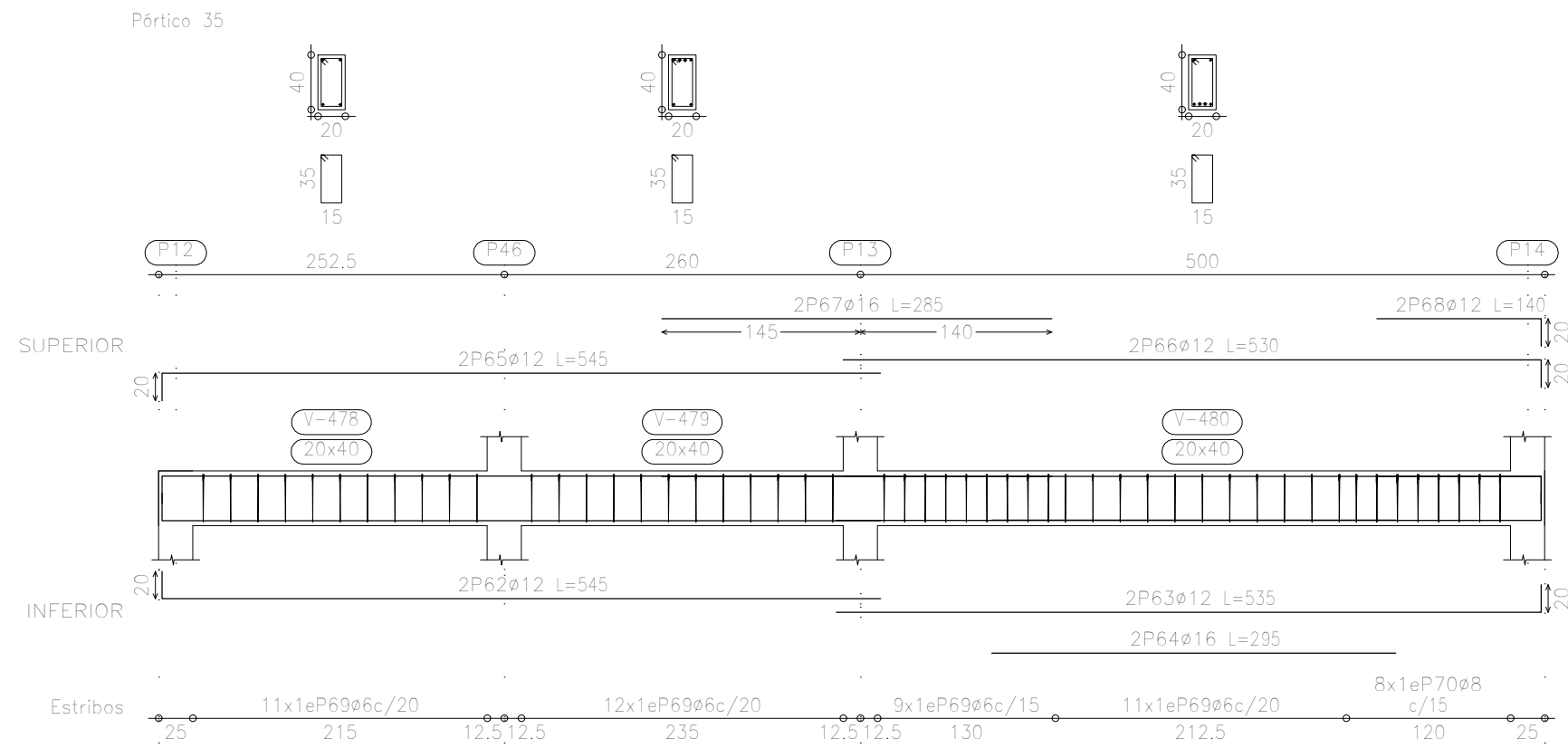
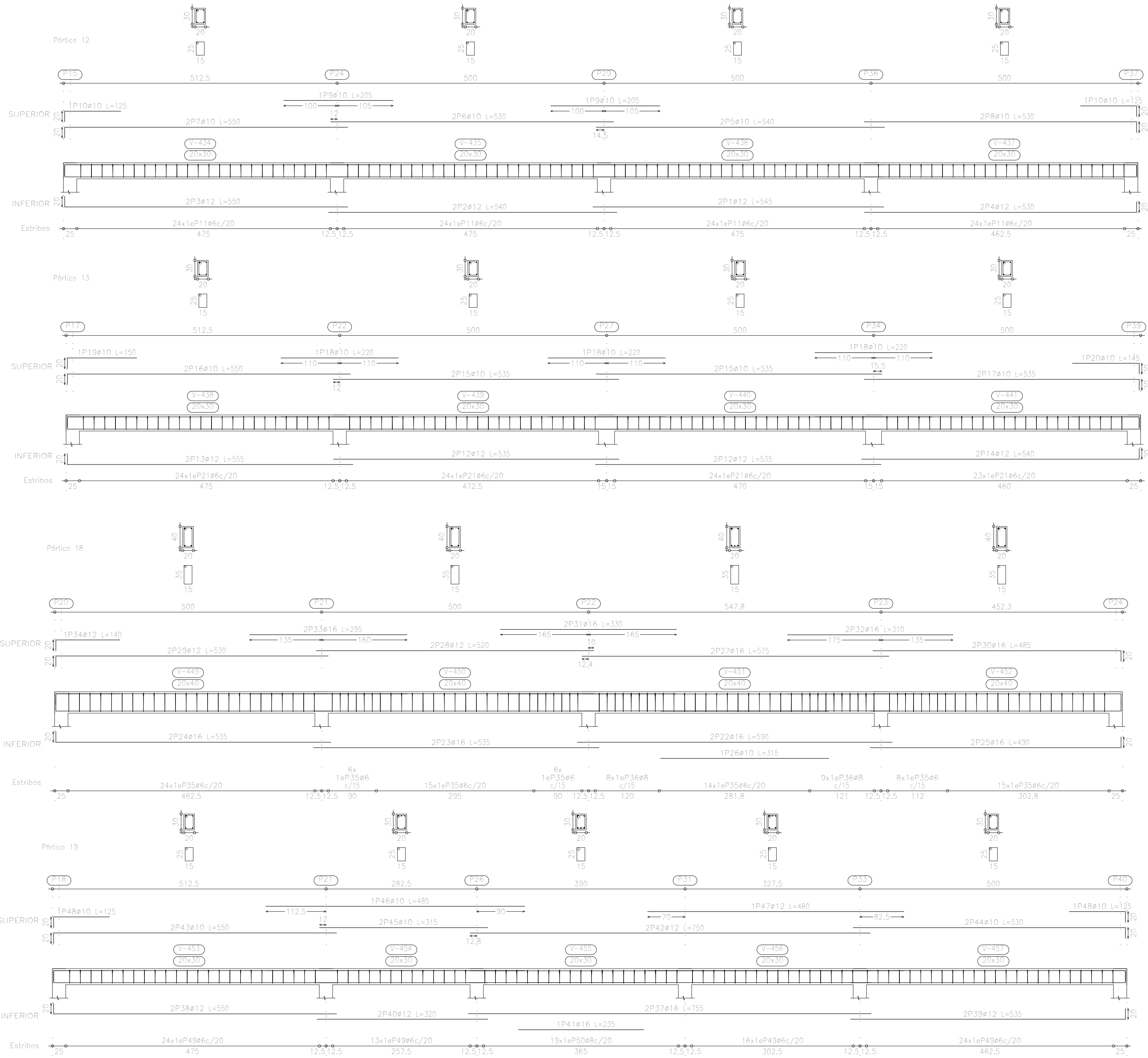
Leyendas:

Notas Generales:

Proyecto: "DISEÑO DEL CENTRO DE SALUD  
AMBULATORIO LOS CHAPACOS II"  
Carácter: Armadura de vigas - Terraza  
Fecha: Semestre I - 2021  
Escala: 1:50

Lámina N°  
12/14

Dimensiones de lámina  
59x841 mm



| Elemento   | Pos.       | Diám. | No. | Long. (m) | Total (m) | AH-500CN (kg) |       |
|------------|------------|-------|-----|-----------|-----------|---------------|-------|
| Pórtico 12 | 1          | ø12   | 2   | 145       | 1000      | 9.7           |       |
|            | 2          | ø12   | 2   | 240       | 1000      | 9.8           |       |
|            | 3          | ø12   | 2   | 240       | 1000      | 9.8           |       |
|            | 4          | ø10   | 2   | 530       | 1000      | 6.5           |       |
|            | 5          | ø10   | 2   | 240       | 1000      | 6.7           |       |
|            | 6          | ø10   | 2   | 530       | 1000      | 6.8           |       |
|            | 7          | ø10   | 2   | 530       | 1000      | 6.8           |       |
|            | 8          | ø10   | 2   | 230       | 410       | 1.5           |       |
|            | 9          | ø10   | 2   | 145       | 200       | 0.9           |       |
|            | 10         | ø10   | 2   | 145       | 200       | 0.9           |       |
|            | 11         | ø6    | 96  | 90        | 8832      | 13.6          |       |
| Total=1038 |            |       |     |           |           | 97.2          |       |
| Pórtico 13 | 12         | ø12   | 4   | 530       | 2100      | 19.0          |       |
|            | 13         | ø12   | 2   | 530       | 1110      | 9.9           |       |
|            | 14         | ø12   | 2   | 240       | 1000      | 9.8           |       |
|            | 15         | ø10   | 4   | 530       | 2140      | 19.2          |       |
|            | 16         | ø10   | 2   | 240       | 1000      | 9.8           |       |
|            | 17         | ø10   | 2   | 530       | 1010      | 6.8           |       |
|            | 18         | ø10   | 2   | 230       | 400       | 1.1           |       |
|            | 19         | ø10   | 1   | 150       | 150       | 0.9           |       |
|            | 20         | ø10   | 1   | 150       | 150       | 0.9           |       |
|            | 21         | ø6    | 90  | 92        | 8740      | 13.4          |       |
|            | Total=1038 |       |     |           |           |               | 99.4  |
| Pórtico 18 | 22         | ø16   | 2   | 530       | 1000      | 18.6          |       |
|            | 23         | ø16   | 2   | 530       | 1070      | 16.9          |       |
|            | 24         | ø16   | 2   | 530       | 1070      | 16.9          |       |
|            | 25         | ø16   | 1   | 480       | 1000      | 16.9          |       |
|            | 26         | ø10   | 1   | 315       | 1110      | 9.9           |       |
|            | 27         | ø16   | 2   | 530       | 1000      | 18.2          |       |
|            | 28         | ø12   | 2   | 520       | 1040      | 9.2           |       |
|            | 29         | ø12   | 2   | 530       | 1000      | 9.4           |       |
|            | 30         | ø16   | 2   | 480       | 970       | 15.3          |       |
|            | 31         | ø16   | 2   | 230       | 400       | 1.1           |       |
|            | 32         | ø16   | 2   | 310       | 830       | 9.8           |       |
| Pórtico 19 | 33         | ø16   | 2   | 530       | 1000      | 18.6          |       |
|            | 34         | ø12   | 2   | 530       | 1070      | 16.9          |       |
|            | 35         | ø12   | 2   | 530       | 640       | 5.7           |       |
|            | 36         | ø10   | 2   | 530       | 1000      | 6.8           |       |
|            | 37         | ø16   | 2   | 530       | 1000      | 18.2          |       |
|            | 38         | ø10   | 2   | 500       | 1000      | 9.2           |       |
|            | 39         | ø10   | 2   | 530       | 1000      | 9.4           |       |
|            | 40         | ø10   | 2   | 315       | 830       | 9.8           |       |
|            | 41         | ø10   | 2   | 480       | 480       | 3.0           |       |
|            | 42         | ø12   | 1   | 480       | 480       | 4.3           |       |
|            | 43         | ø16   | 2   | 230       | 200       | 1.1           |       |
| Pórtico 22 | 44         | ø16   | 77  | 92        | 7094      | 15.7          |       |
|            | 45         | ø6    | 19  | 90        | 1654      | 2.2           |       |
|            | Total=1038 |       |     |           |           |               | 126.2 |
| Pórtico 22 | 51         | ø12   | 2   | 530       | 1000      | 9.7           |       |
|            | 52         | ø12   | 2   | 240       | 1000      | 9.7           |       |
|            | 53         | ø12   | 2   | 525       | 1000      | 9.3           |       |
|            | 54         | ø10   | 2   | 530       | 1000      | 6.8           |       |
|            | 55         | ø10   | 2   | 530       | 1010      | 6.8           |       |
|            | 56         | ø10   | 1   | 530       | 1000      | 6.5           |       |
|            | 57         | ø12   | 1   | 230       | 200       | 0.9           |       |
|            | 58         | ø12   | 1   | 215       | 215       | 1.9           |       |
|            | 59         | ø12   | 2   | 145       | 200       | 0.8           |       |
|            | 60         | ø6    | 75  | 92        | 7288      | 16.1          |       |
|            | 61         | ø6    | 7   | 90        | 672       | 0.7           |       |
| Total=1038 |            |       |     |           |           | 80.9          |       |
| Pórtico 35 | 62         | ø12   | 2   | 545       | 1000      | 9.7           |       |
|            | 63         | ø12   | 2   | 240       | 1000      | 9.7           |       |
|            | 64         | ø16   | 2   | 230       | 500       | 9.3           |       |
|            | 65         | ø12   | 2   | 240       | 1000      | 9.7           |       |
|            | 66         | ø12   | 2   | 530       | 1000      | 9.4           |       |
|            | 67         | ø16   | 2   | 280       | 500       | 9.0           |       |
|            | 68         | ø12   | 2   | 140       | 240       | 2.9           |       |
|            | 69         | ø6    | 43  | 112       | 4814      | 16.9          |       |
|            | 70         | ø6    | 8   | 118       | 508       | 3.7           |       |
|            | Total=1038 |       |     |           |           |               | 80.9  |
|            | Pórtico 35 |       |     |           |           |               | 13.4  |
| ø6: 23.0   |            |       |     |           |           | 19.0          |       |
| ø16: 19.4  |            |       |     |           |           | 19.4          |       |
| ø12: 23.0  |            |       |     |           |           | 19.4          |       |
| Total:     |            |       |     |           |           | 685.4         |       |

UNIVERSIDAD AUTÓNOMA JUAN MISAE SARACHO

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AMBULATORIO LOS CHAPACOS II"

Carácter: Armadura de vigas - Terraza

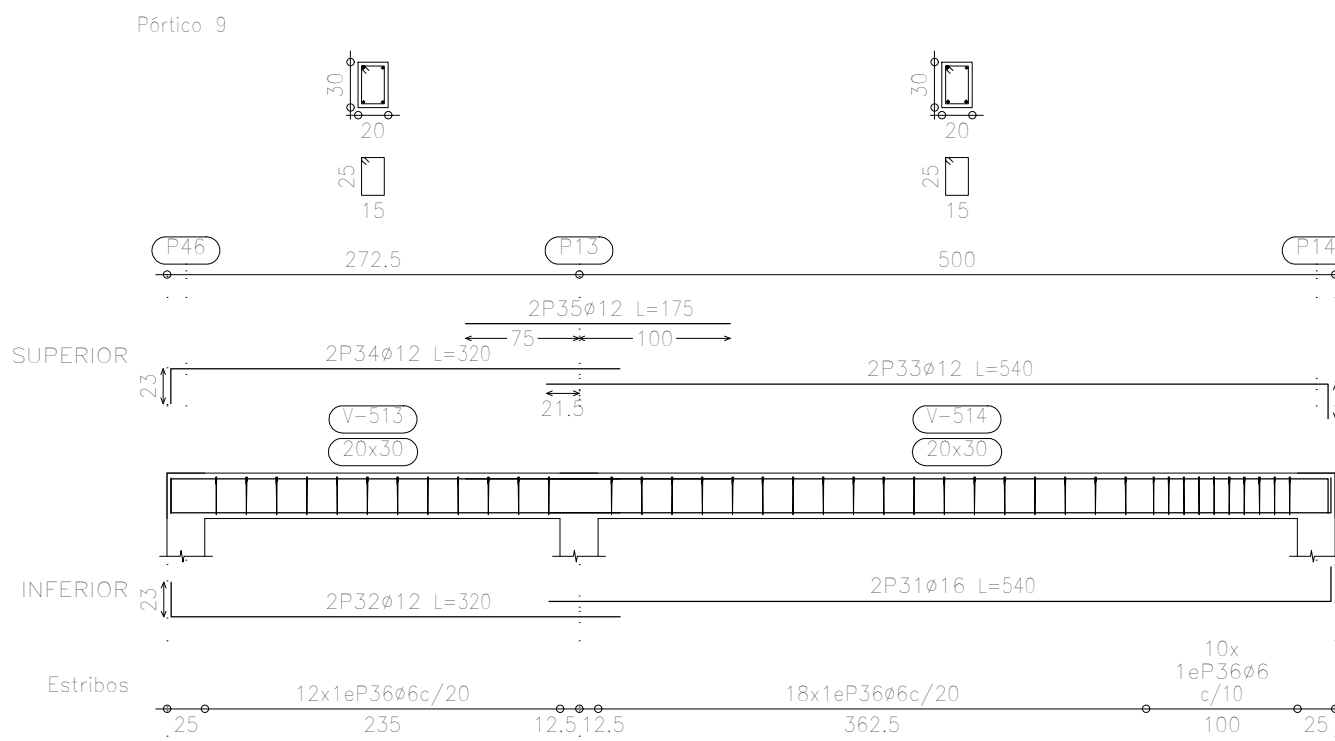
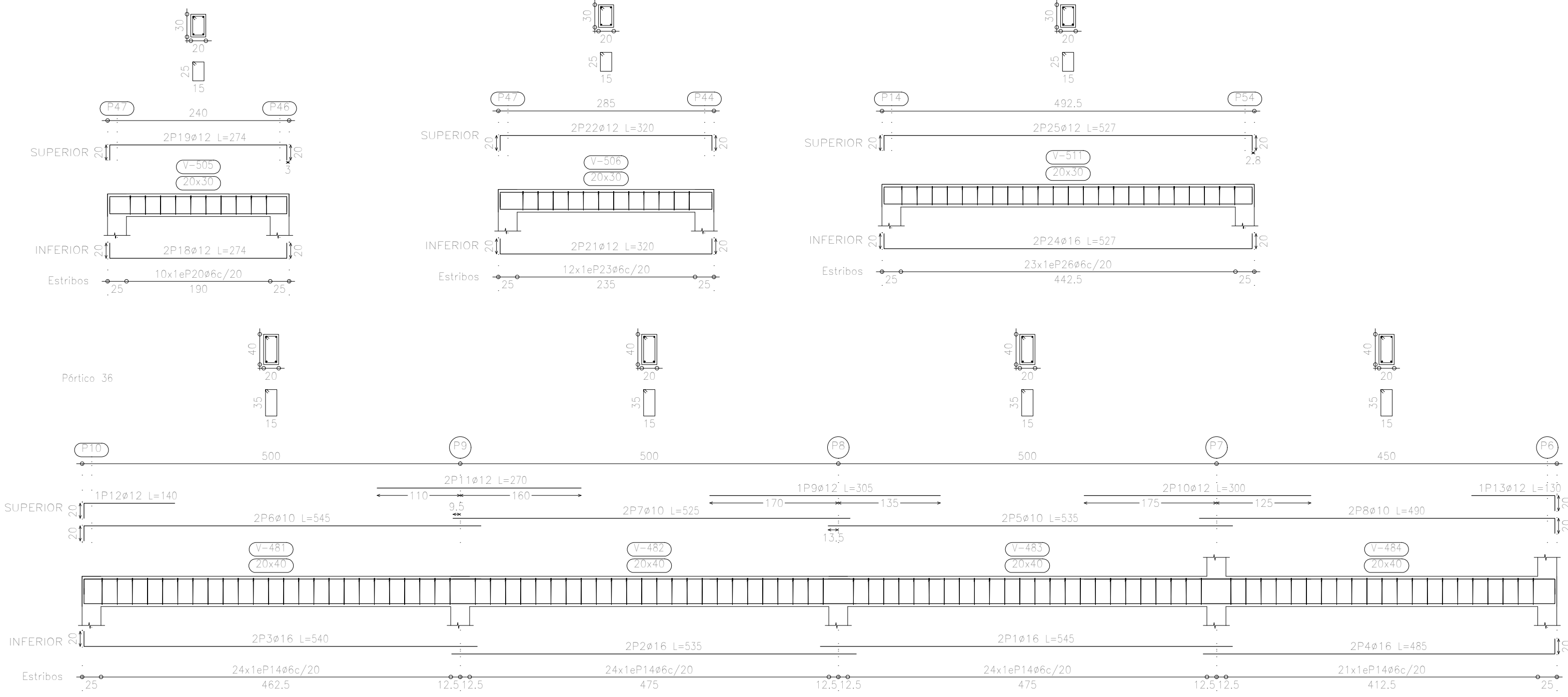
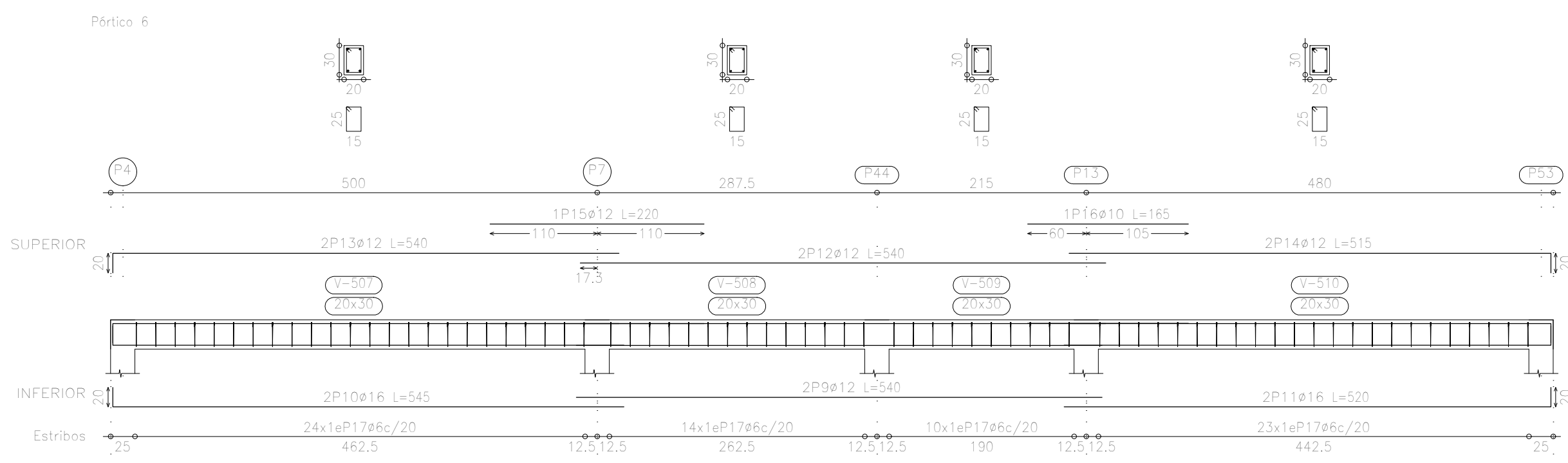
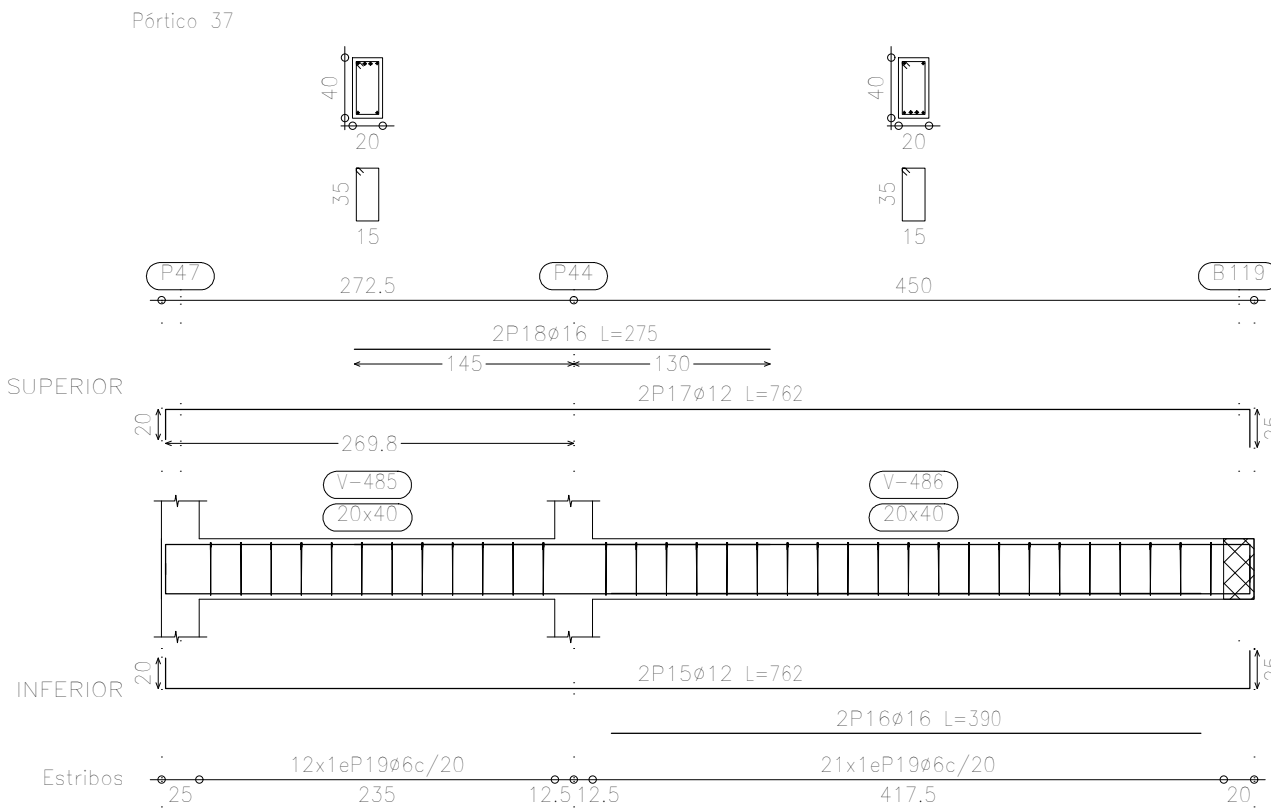
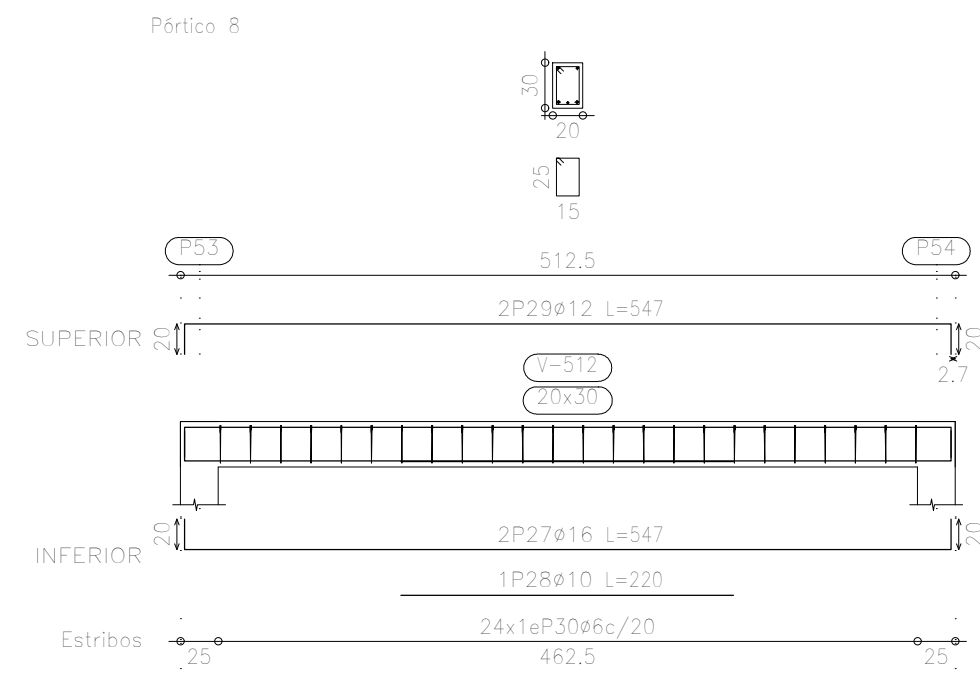
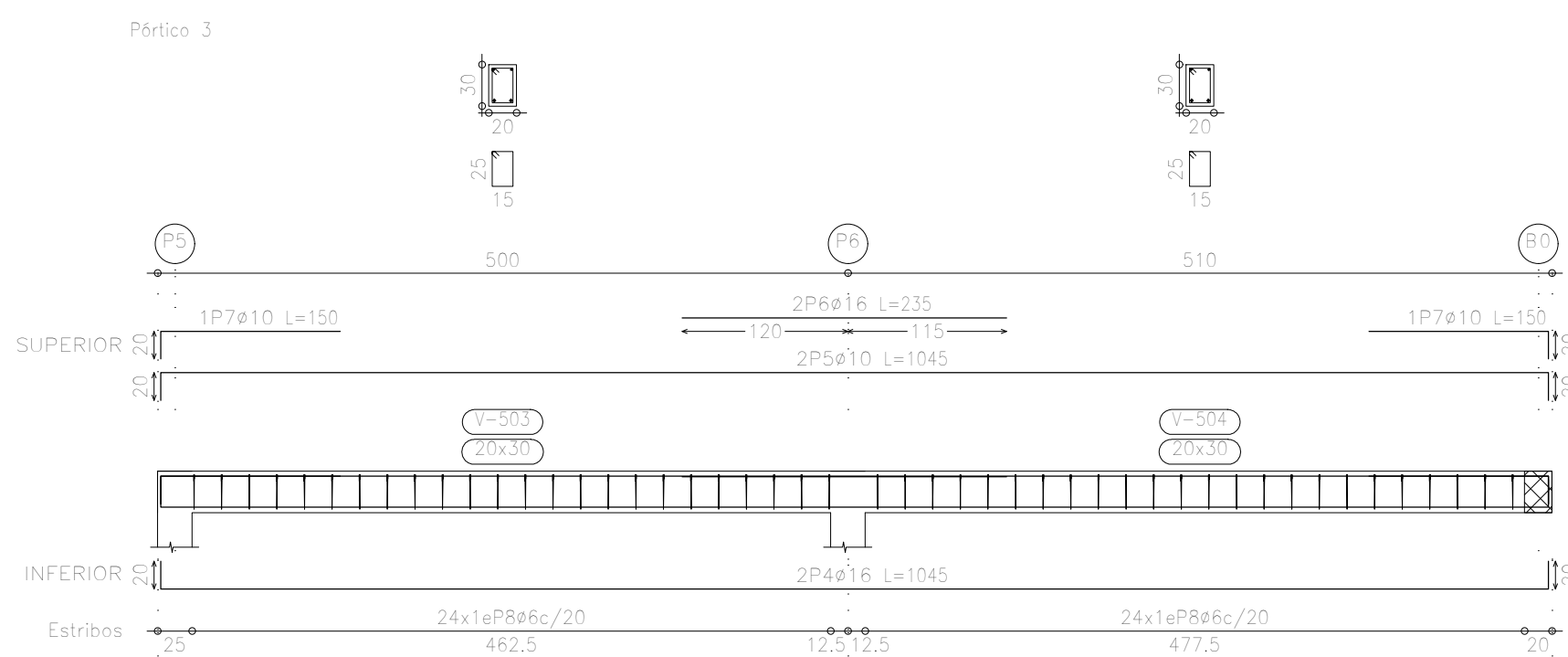
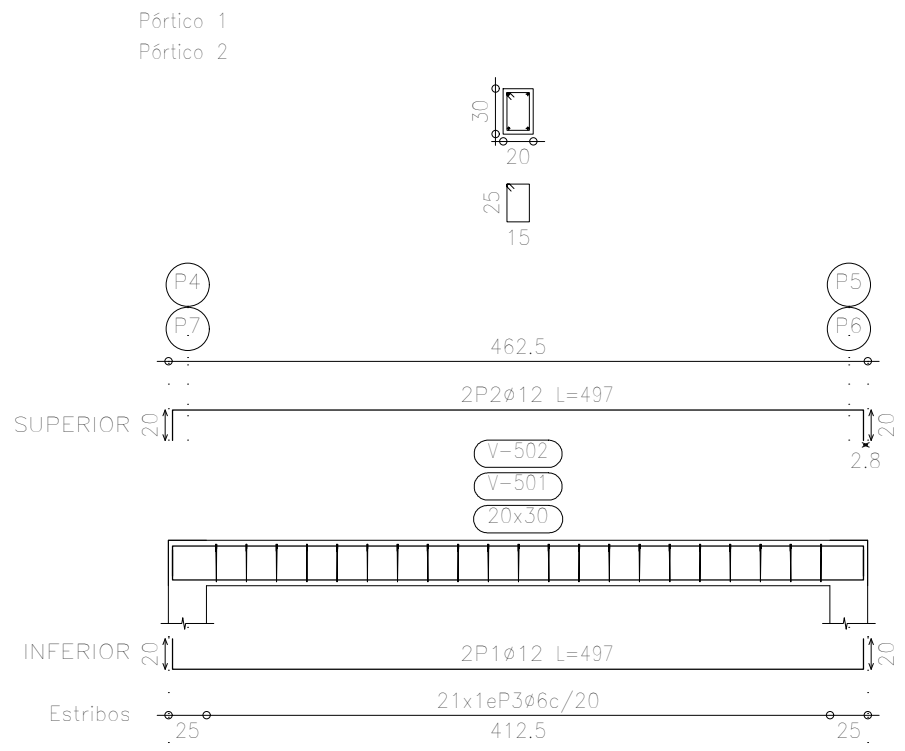
Fecha: Semestre I - 2021

Escala: 1:50

Lámina N°

13/14

Dimensiones de lámina  
594x841 mm



| Elemento            | Pos. | Diám. | No. | Long.<br>(cm) | Total<br>(cm) | AH-500CN<br>(kg) |
|---------------------|------|-------|-----|---------------|---------------|------------------|
| Pértico 1=Pértico 2 | 1    | ø12   | 2   | 497           | 994           | 8.8              |
|                     | 2    | ø12   | 2   | 497           | 994           | 8.8              |
|                     | 3    | ø8    | 21  | 50            | 1050          | 24.1             |
| Pértico 3           | 4    | ø16   | 2   | 1045          | 2090          | 33.9             |
|                     | 5    | ø16   | 2   | 1045          | 2090          | 33.9             |
|                     | 6    | ø16   | 2   | 235           | 470           | 7.4              |
|                     | 7    | ø16   | 2   | 150           | 300           | 1.8              |
|                     | 8    | ø8    | 48  | 50            | 2400          | 58.8             |
| Pértico 6           | 9    | ø12   | 2   | 547           | 1094          | 9.9              |
|                     | 10   | ø16   | 2   | 545           | 1090          | 17.2             |
|                     | 11   | ø16   | 2   | 545           | 1090          | 17.2             |
|                     | 12   | ø12   | 2   | 540           | 1080          | 9.8              |
|                     | 13   | ø12   | 2   | 540           | 1080          | 9.8              |
|                     | 14   | ø12   | 2   | 515           | 1030          | 9.1              |
|                     | 15   | ø12   | 2   | 220           | 440           | 2.0              |
|                     | 16   | ø10   | 1   | 160           | 160           | 1.0              |
|                     | 17   | ø8    | 21  | 50            | 1050          | 24.1             |
|                     | 18   | ø8    | 21  | 50            | 1050          | 24.1             |
| Pértico 4           | 19   | ø12   | 2   | 274           | 548           | 4.9              |
|                     | 20   | ø12   | 2   | 274           | 548           | 4.9              |
|                     | 21   | ø8    | 10  | 50            | 500           | 12.0             |
| Pértico 5           | 22   | ø12   | 2   | 105           | 210           | 1.9              |
|                     | 23   | ø12   | 2   | 105           | 210           | 1.9              |
|                     | 24   | ø8    | 15  | 50            | 750           | 18.0             |
| Pértico 7           | 25   | ø16   | 2   | 527           | 1054          | 9.4              |
|                     | 26   | ø12   | 2   | 527           | 1054          | 9.4              |
|                     | 27   | ø8    | 21  | 50            | 1050          | 24.1             |
| Pértico 8           | 28   | ø16   | 2   | 547           | 1094          | 17.3             |
|                     | 29   | ø16   | 2   | 547           | 1094          | 17.3             |
|                     | 30   | ø12   | 2   | 547           | 1094          | 9.7              |
|                     | 31   | ø8    | 24  | 50            | 1200          | 28.8             |
| Pértico 9           | 32   | ø16   | 2   | 540           | 1080          | 17.2             |
|                     | 33   | ø12   | 2   | 540           | 1080          | 9.8              |
|                     | 34   | ø12   | 2   | 520           | 1040          | 9.3              |
|                     | 35   | ø12   | 2   | 170           | 340           | 3.1              |
|                     | 36   | ø8    | 45  | 50            | 2250          | 56.2             |
|                     | 37   | ø8    | 45  | 50            | 2250          | 56.2             |
| Total               |      |       |     |               |               | 405.6            |

| Elemento   | Pos. | Diám. | No. | Long.<br>(cm) | Total<br>(cm) | AH-500CN<br>(kg) |
|------------|------|-------|-----|---------------|---------------|------------------|
| Pértico 36 | 1    | ø16   | 2   | 540           | 1080          | 17.2             |
|            | 2    | ø16   | 2   | 535           | 1070          | 16.9             |
|            | 3    | ø16   | 2   | 540           | 1080          | 17.0             |
|            | 4    | ø16   | 2   | 485           | 970           | 16.3             |
|            | 5    | ø10   | 2   | 530           | 1060          | 6.8              |
|            | 6    | ø10   | 2   | 545           | 1090          | 6.7              |
|            | 7    | ø12   | 2   | 525           | 1050          | 6.5              |
|            | 8    | ø10   | 2   | 490           | 980           | 6.0              |
|            | 9    | ø12   | 1   | 305           | 305           | 2.7              |
|            | 10   | ø12   | 2   | 305           | 610           | 5.3              |
|            | 11   | ø12   | 2   | 270           | 540           | 4.8              |
|            | 12   | ø12   | 1   | 140           | 140           | 1.2              |
|            | 13   | ø12   | 1   | 130           | 130           | 1.2              |
|            | 14   | ø8    | 53  | 110           | 5830          | 23.1             |
| Pértico 37 | 15   | ø12   | 2   | 160           | 320           | 13.5             |
|            | 16   | ø16   | 2   | 320           | 640           | 12.3             |
|            | 17   | ø12   | 2   | 760           | 1520          | 13.5             |
|            | 18   | ø16   | 2   | 275           | 550           | 6.7              |
|            | 19   | ø8    | 25  | 110           | 2750          | 6.0              |
| Total      |      |       |     |               |               | 205.4            |

UNIVERSIDAD AUTÓNOMA JUAN MISAE SARACHO

Departamento: Tarija  
Provincia: Cercado

Docente Tribunal:  
Ing. Almendras Armando  
Ing. Echalar Flores Michael  
Ing. Zenteno David

Universitario:  
Luis Enrique Ayarde Cayo

Leyendas:

Notas Generales:

Proyecto: "DISEÑO DEL CENTRO DE SALUD  
AMBULATORIO LOS CHAPACOS II"

Carácter: Armadura de vigas - Ultimo nivel

Fecha: Semestre I - 2021

Escala: 1:50

Lámina N°

14/14

Dimensiones de lamina  
594x841 mm



Proyecto: Proyecto2  
Fecha: mié 1/12/21

|                      |  |                           |  |                  |  |
|----------------------|--|---------------------------|--|------------------|--|
| Tarea                |  | Resumen inactivo          |  | Tareas externas  |  |
| División             |  | Tarea manual              |  | Hito externo     |  |
| Hito                 |  | solo duración             |  | Fecha límite     |  |
| Resumen              |  | Informe de resumen manual |  | Tareas críticas  |  |
| Resumen del proyecto |  | Resumen manual            |  | División crítica |  |
| Tarea inactiva       |  | solo el comienzo          |  | Progreso         |  |
| Hito inactivo        |  | solo fin                  |  | Progreso manual  |  |