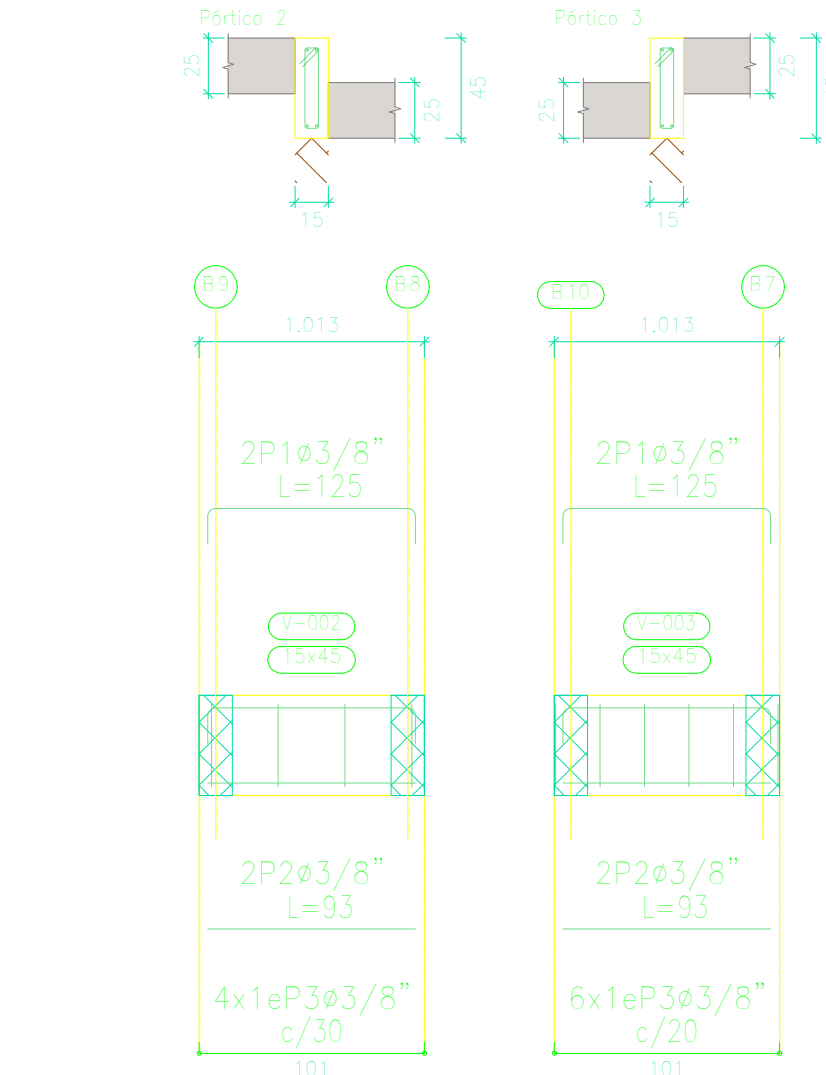
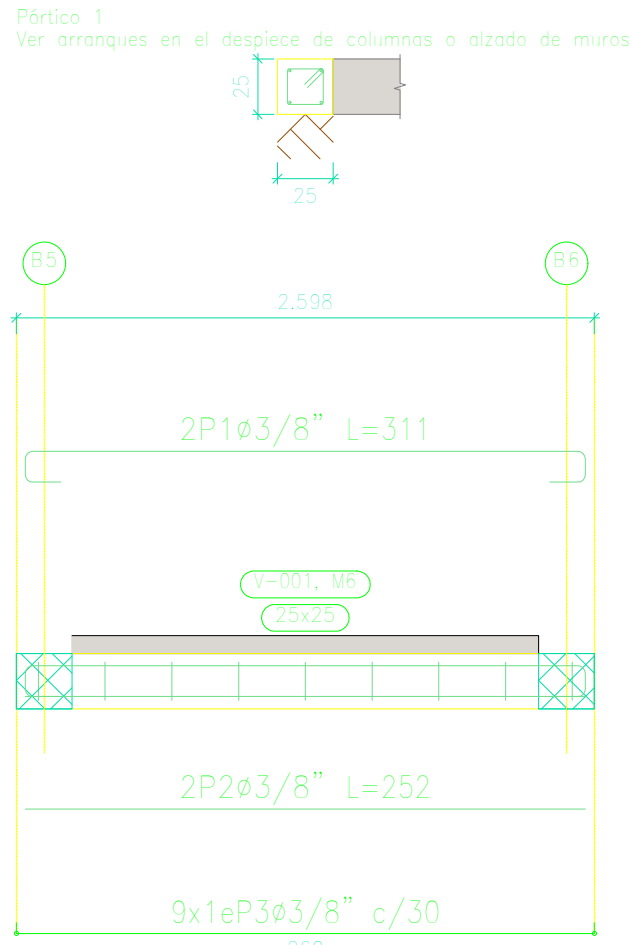
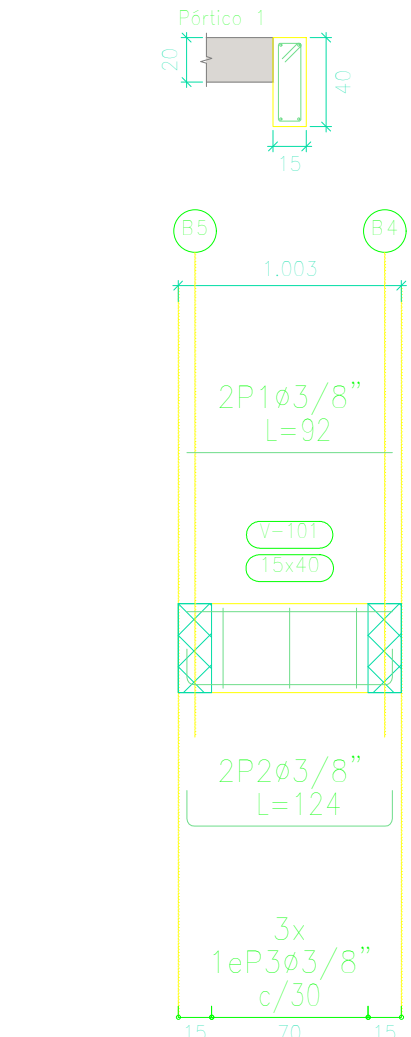
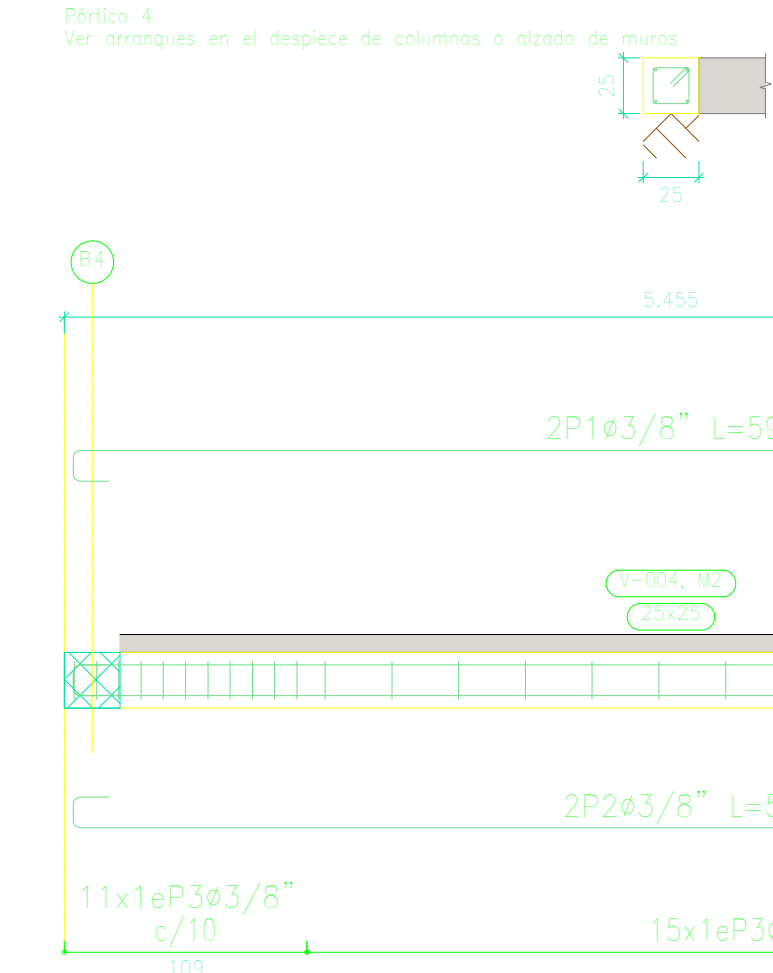
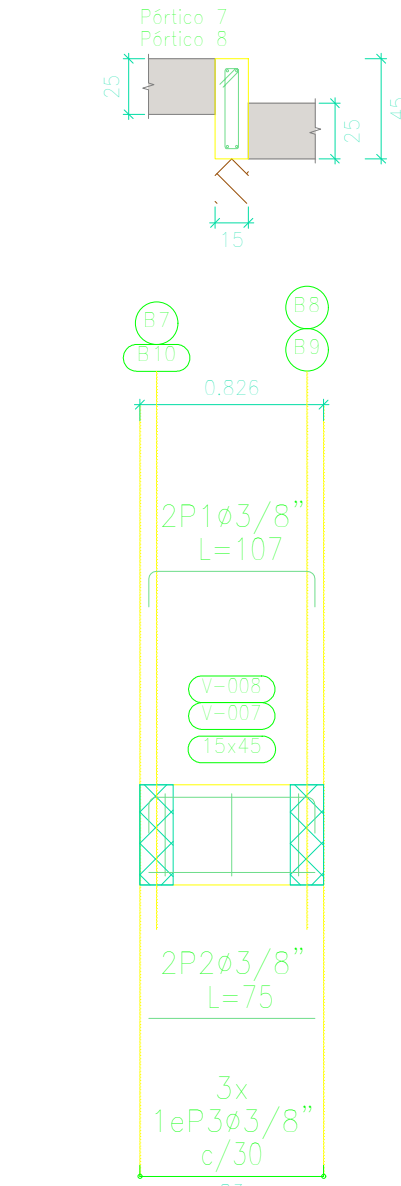


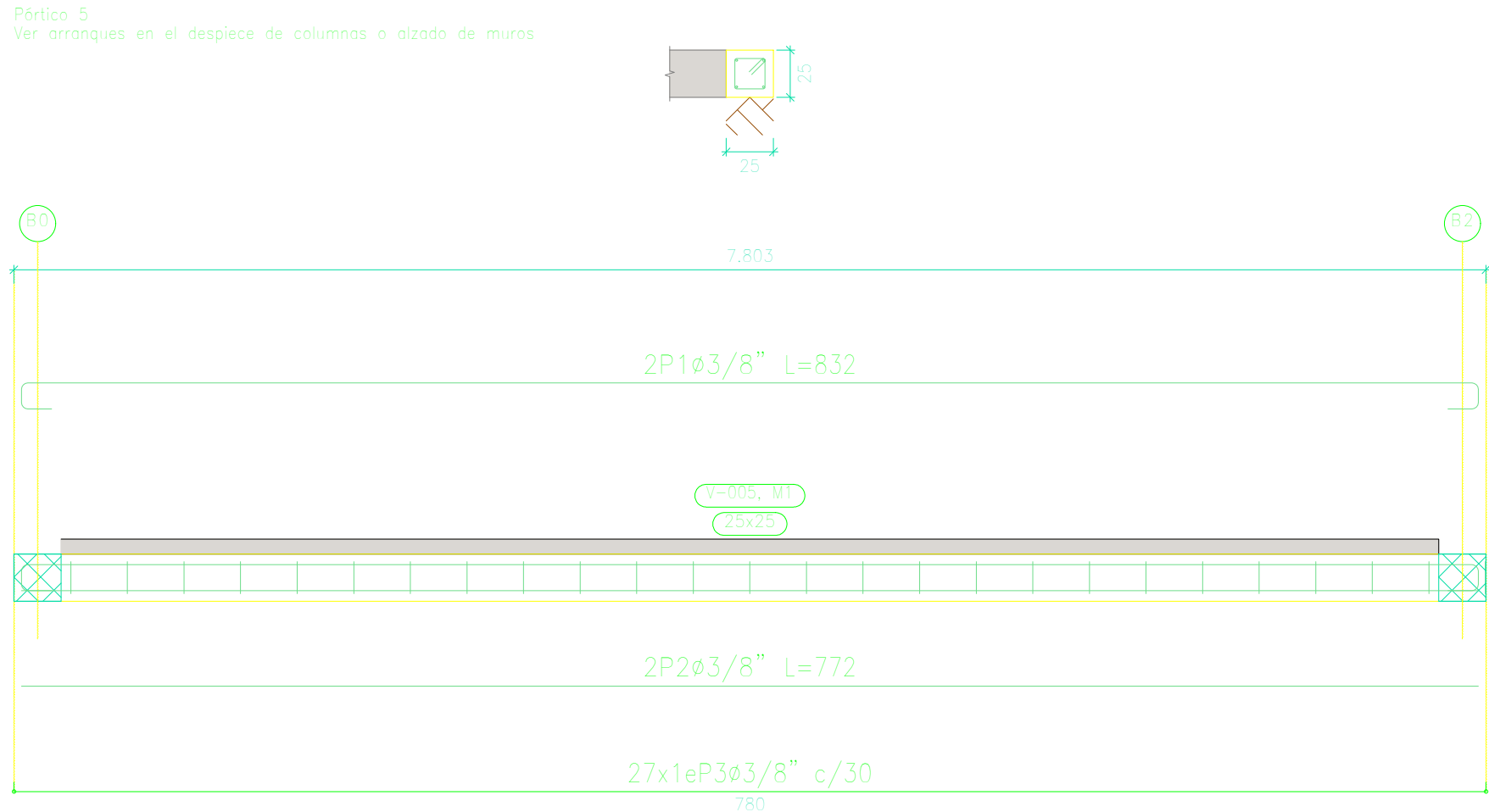
Fundación  
Despiece de vigas  
Hormigón: f'c=280  
Acero en barras: Grado 60 (Latinoamérica)  
Acero en estribos: Grado 60 (Latinoamérica)  
Escala pórticos 1:50  
Escala secciones 1:50  
Escala huecos 1:50



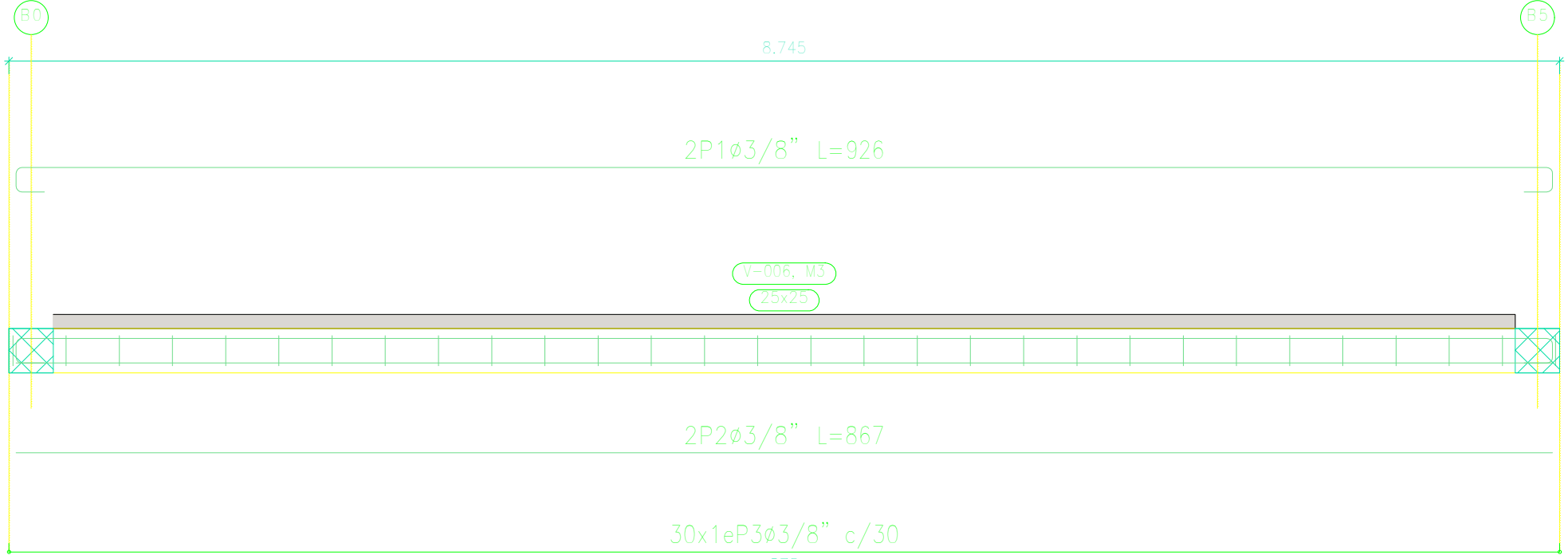
| Resumen Acero     | Long. total | Peso+10% |
|-------------------|-------------|----------|
| Plano de pórticos | (m)         | (kg)     |
| Grado 60 ø3/8"    | 148.0       | 91       |



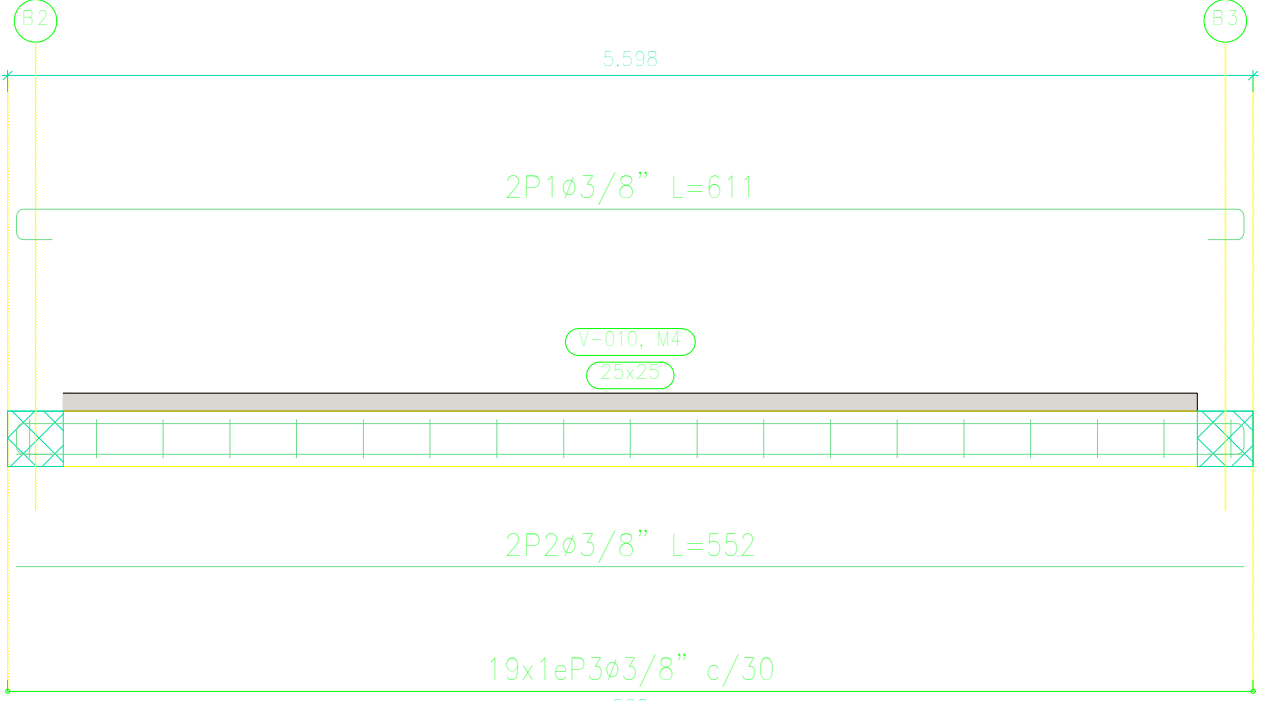
| Resumen Acero     | Long. total | Peso+10% |
|-------------------|-------------|----------|
| Plano de pórticos | (m)         | (kg)     |
| Grado 60 ø3/8"    | 279.5       | 172      |



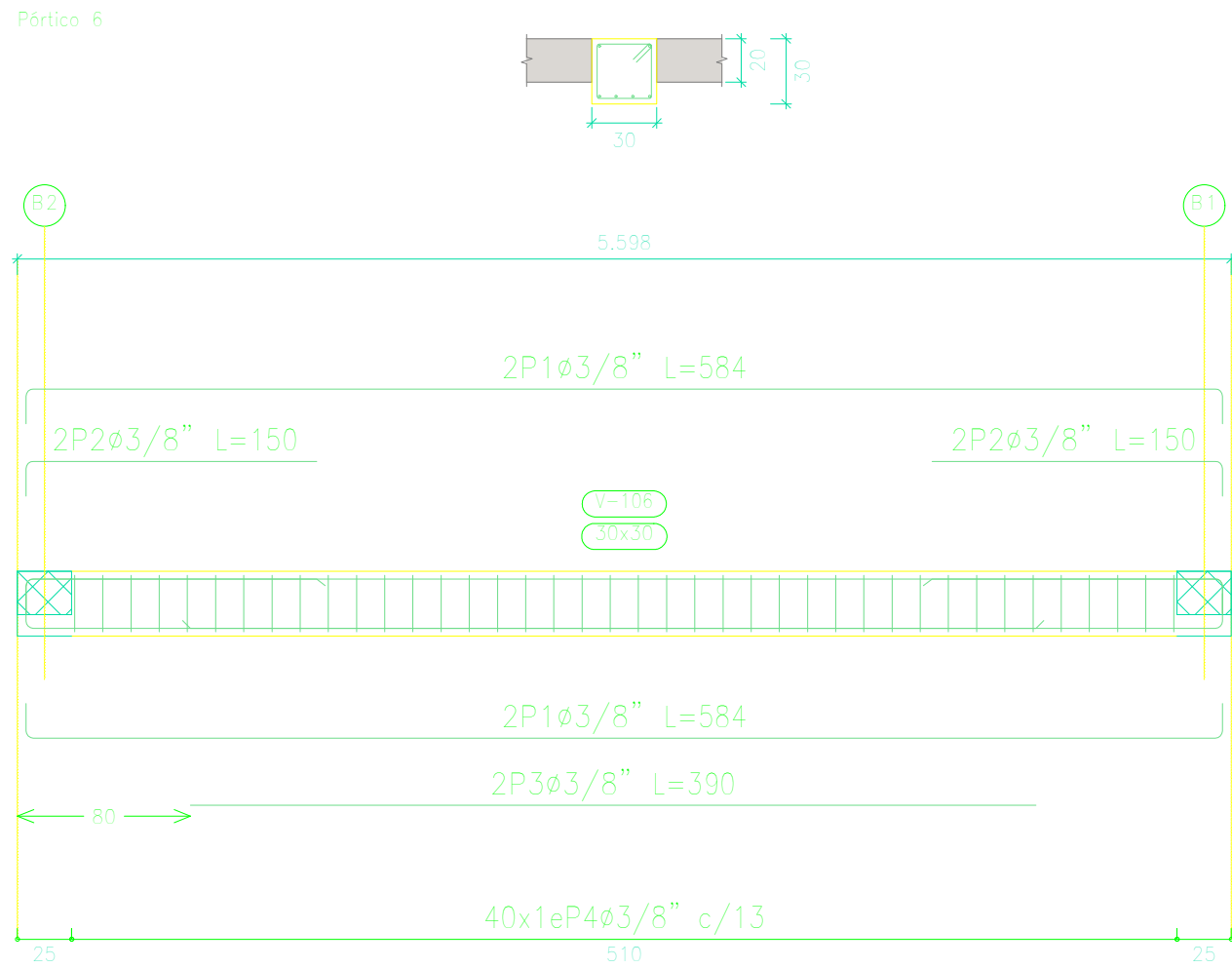
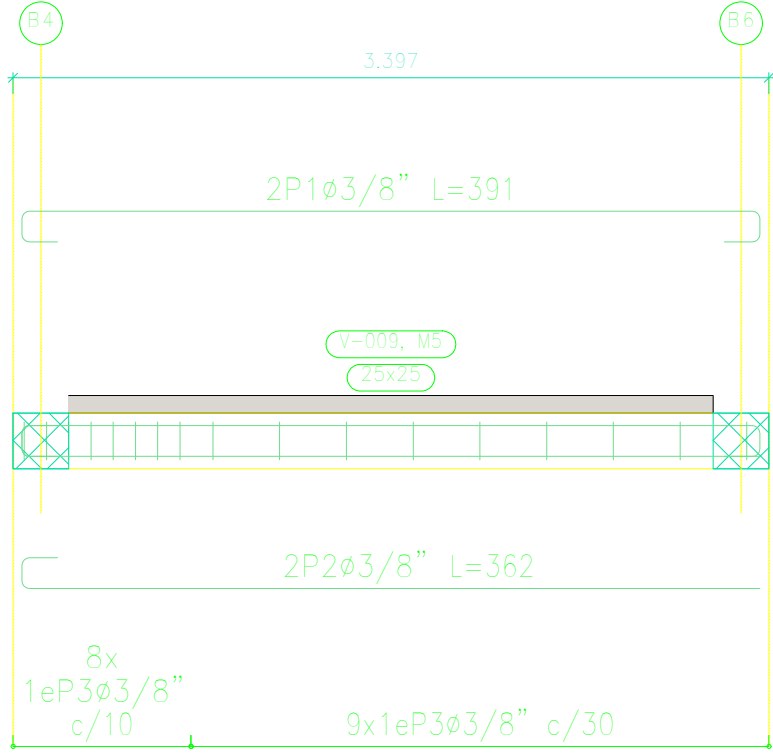
Pórtico 4  
Ver anclajes en el despiece de columnas o alzado de muros



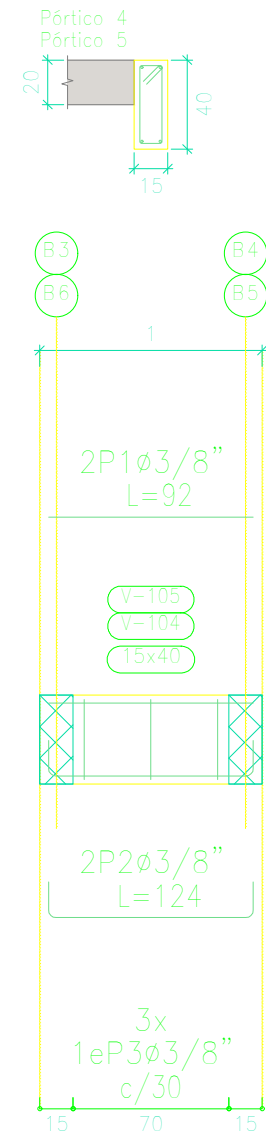
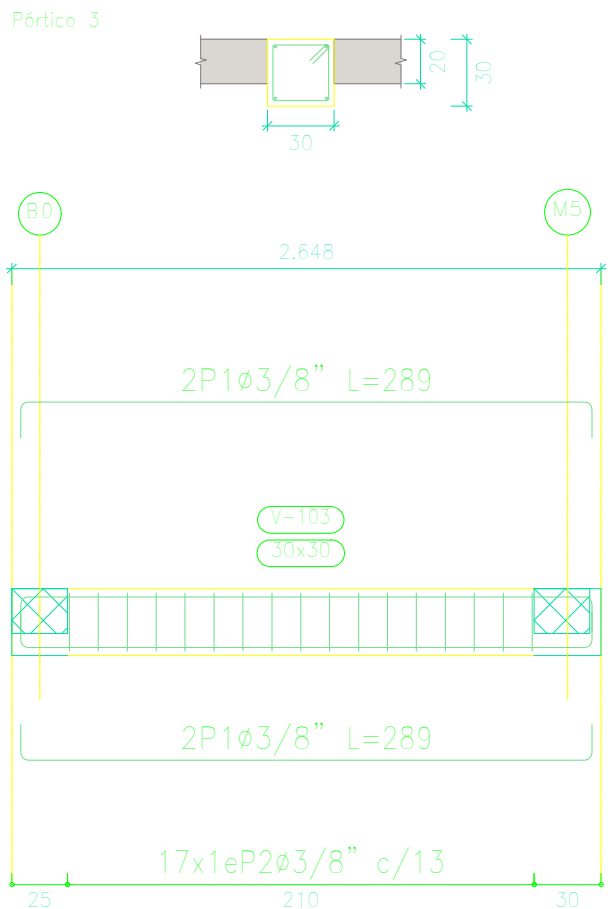
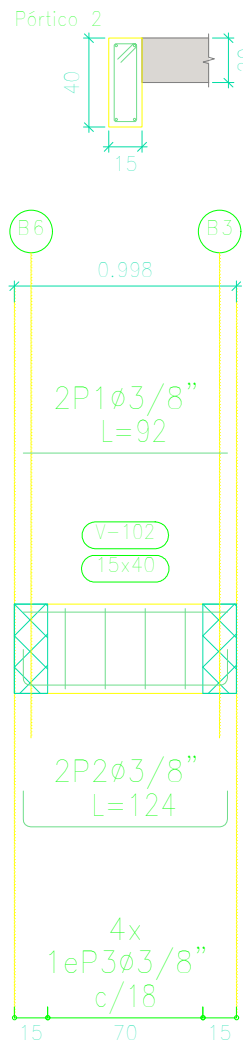
Pórtico 10  
Ver anclajes en el despiece de columnas o alzado de muros



Pórtico 9  
Ver anclajes en el despiece de columnas o alzado de muros

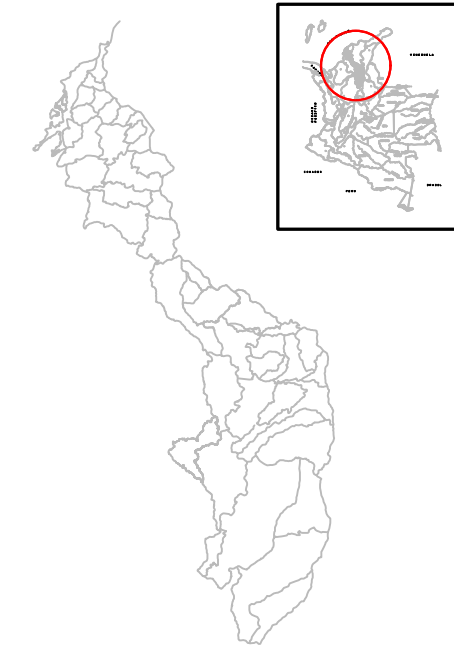


Losa 1  
Despiece de vigas  
Hormigón: f'c=280  
Acero en barras: Grado 60 (Latinoamérica)  
Acero en estribos: Grado 60 (Latinoamérica)  
Escala pórticos 1:50  
Escala secciones 1:50  
Escala huecos 1:50



| Elemento            | Pos.      | Diám. | No. | Esquema (cm) | Long. Total (cm) | Grado 60 (kg) |
|---------------------|-----------|-------|-----|--------------|------------------|---------------|
| Pórtico 1           | 1         | ø3/8" | 2   |              | 311              | 622           |
|                     | 2         | ø3/8" | 2   |              | 252              | 504           |
|                     | 3         | ø3/8" | 9   |              | 83               | 747           |
|                     | Total+10% |       |     |              |                  | 11.6          |
| Pórtico 2           | 1         | ø3/8" | 2   |              | 125              | 250           |
|                     | 2         | ø3/8" | 2   |              | 93               | 186           |
|                     | 3         | ø3/8" | 4   |              | 103              | 412           |
|                     | Total+10% |       |     |              |                  | 5.2           |
| Pórtico 3           | 1         | ø3/8" | 2   |              | 125              | 250           |
|                     | 2         | ø3/8" | 2   |              | 93               | 186           |
|                     | 3         | ø3/8" | 6   |              | 103              | 618           |
|                     | Total+10% |       |     |              |                  | 6.5           |
| Pórtico 4           | 1         | ø3/8" | 2   |              | 597              | 1,194         |
|                     | 2         | ø3/8" | 2   |              | 567              | 1,134         |
|                     | 3         | ø3/8" | 26  |              | 83               | 2,158         |
|                     | Total+10% |       |     |              |                  | 27.6          |
| Pórtico 5           | 1         | ø3/8" | 2   |              | 832              | 1,664         |
|                     | 2         | ø3/8" | 2   |              | 772              | 1,544         |
|                     | 3         | ø3/8" | 27  |              | 83               | 2,241         |
|                     | Total+10% |       |     |              |                  | 33.4          |
| Pórtico 6           | 1         | ø3/8" | 2   |              | 926              | 1,852         |
|                     | 2         | ø3/8" | 3   |              | 867              | 1,734         |
|                     | 3         | ø3/8" | 30  |              | 83               | 2,490         |
|                     | Total+10% |       |     |              |                  | 37.4          |
| Pórtico 7-Pórtico 8 | 1         | ø3/8" | 2   |              | 107              | 214           |
|                     | 2         | ø3/8" | 2   |              | 75               | 150           |
|                     | 3         | ø3/8" | 3   |              | 103              | 309           |
|                     | Total+10% |       |     |              |                  | 4.1           |
| Pórtico 9           | 1         | ø3/8" | 2   |              | 301              | 782           |
|                     | 2         | ø3/8" | 2   |              | 362              | 724           |
|                     | 3         | ø3/8" | 17  |              | 83               | 1,411         |
|                     | Total+10% |       |     |              |                  | 18.0          |
| Pórtico 10          | 1         | ø3/8" | 2   |              | 611              | 1,222         |
|                     | 2         | ø3/8" | 2   |              | 552              | 1,104         |
|                     | 3         | ø3/8" | 19  |              | 83               | 1,577         |
|                     | Total+10% |       |     |              |                  | 24.0          |
| Pórtico 2           | 1         | ø3/8" | 2   |              | 92               | 184           |
|                     | 2         | ø3/8" | 2   |              | 124              | 248           |
|                     | 3         | ø3/8" | 4   |              | 109              | 436           |
|                     | Total+10% |       |     |              |                  | 5.3           |
| Pórtico 3           | 1         | ø3/8" | 4   |              | 289              | 1,156         |
|                     | 2         | ø3/8" | 17  |              | 119              | 2,023         |
|                     | Total+10% |       |     |              |                  | 19.6          |
| Pórtico 6           | 1         | ø3/8" | 4   |              | 584              | 2,336         |
|                     | 2         | ø3/8" | 4   |              | 150              | 600           |
|                     | 3         | ø3/8" | 2   |              | 390              | 780           |
|                     | 4         | ø3/8" | 40  |              | 119              | 4,760         |
|                     | Total+10% |       |     |              |                  | 52.3          |
| Pórtico 4+Pórtico 5 | 1         | ø3/8" | 2   |              | 92               | 184           |
|                     | 2         | ø3/8" | 2   |              | 124              | 248           |
|                     | 3         | ø3/8" | 3   |              | 109              | 327           |
|                     | Total+10% |       |     |              |                  | 4.6           |
| Pórtico 1           | 1         | ø3/8" | 2   |              | 92               | 184           |
|                     | 2         | ø3/8" | 2   |              | 124              | 248           |
|                     | 3         | ø3/8" | 3   |              | 109              | 327           |
|                     | Total+10% |       |     |              |                  | 4.6           |

DEPARTAMENTO DE BOLIVAR



MOMPOX - BOLIVAR

OBJETO:

CONSTRUCCIÓN DE LA  
INFRAESTRUCTURA DE INSTITUCIÓN  
EDUCATIVA MUNICIPIO  
EL CARMEN  
DEPARTAMENTO DE BOLIVAR.

LOCALIZACIÓN DEL PROYECTO:

DEPARTAMENTO DE BOLÍVAR

DIRECCIÓN DEL PREDIO

MOMPOX

Diseño Arquitectónico:

Diseño Estructural:

Rafael Enrique Altamiranda Gonzalez  
Mat. No: 113202-380607 BLV

Diseño Eléctrico:

Vo Bo: Secretaría de  
infraestructura gubernacion  
de Bolívar

Firma funcionario responsable:  
Cargo:

Vo Bo: Secretaría de  
infraestructura gubernacion  
de Bolívar

Firma funcionario responsable:  
Cargo:

OBSERVACIONES

|   |  |  |
|---|--|--|
| 5 |  |  |
| 4 |  |  |
| 3 |  |  |
| 2 |  |  |
| 1 |  |  |

No. FECHA MODIFICACION

CONTIENE

DETALLES DE ELEMENTOS  
NO ESTRUCTURALES

TANQUES DE AGUAS BLANCAS

DIBUJO

BORIS RANGEL ESPINOSA  
Mat. No: A269152016-1143846365

ESCALA

INDICADA

ESTUDIO:

ESTRUCTURALES

PL:

DE:

6

8