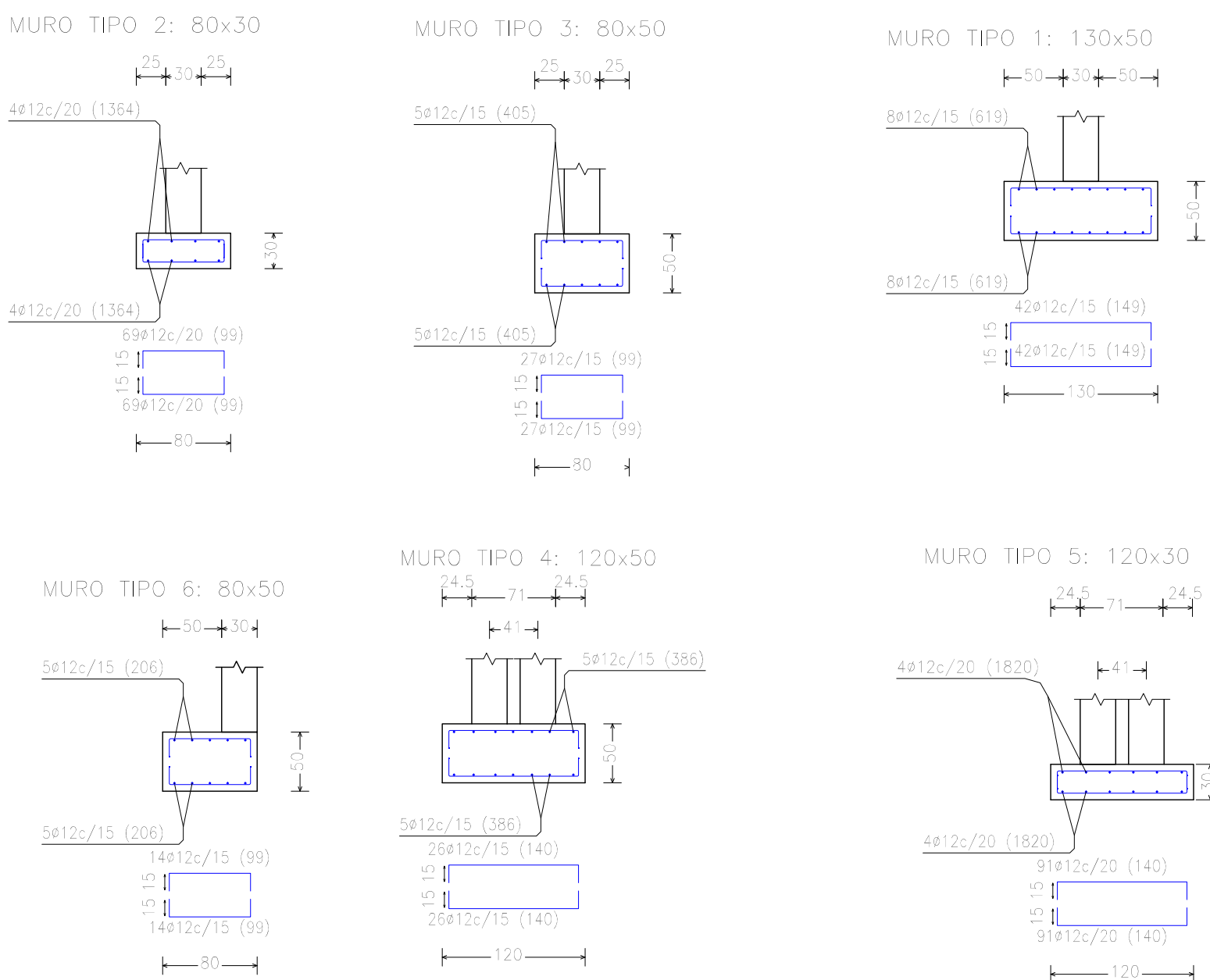


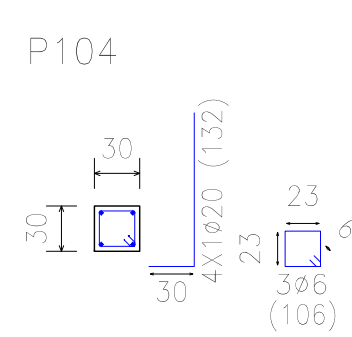
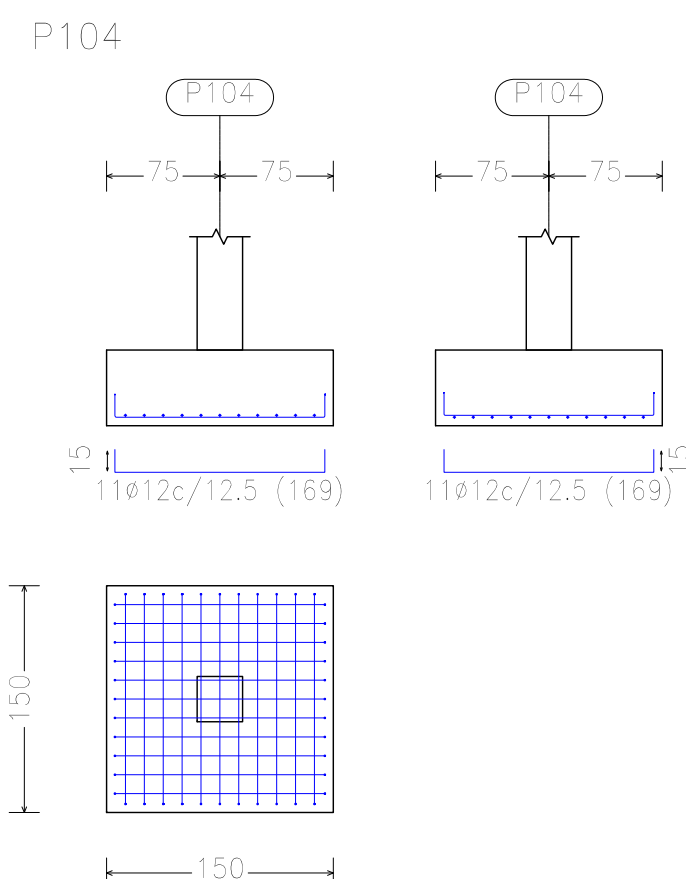
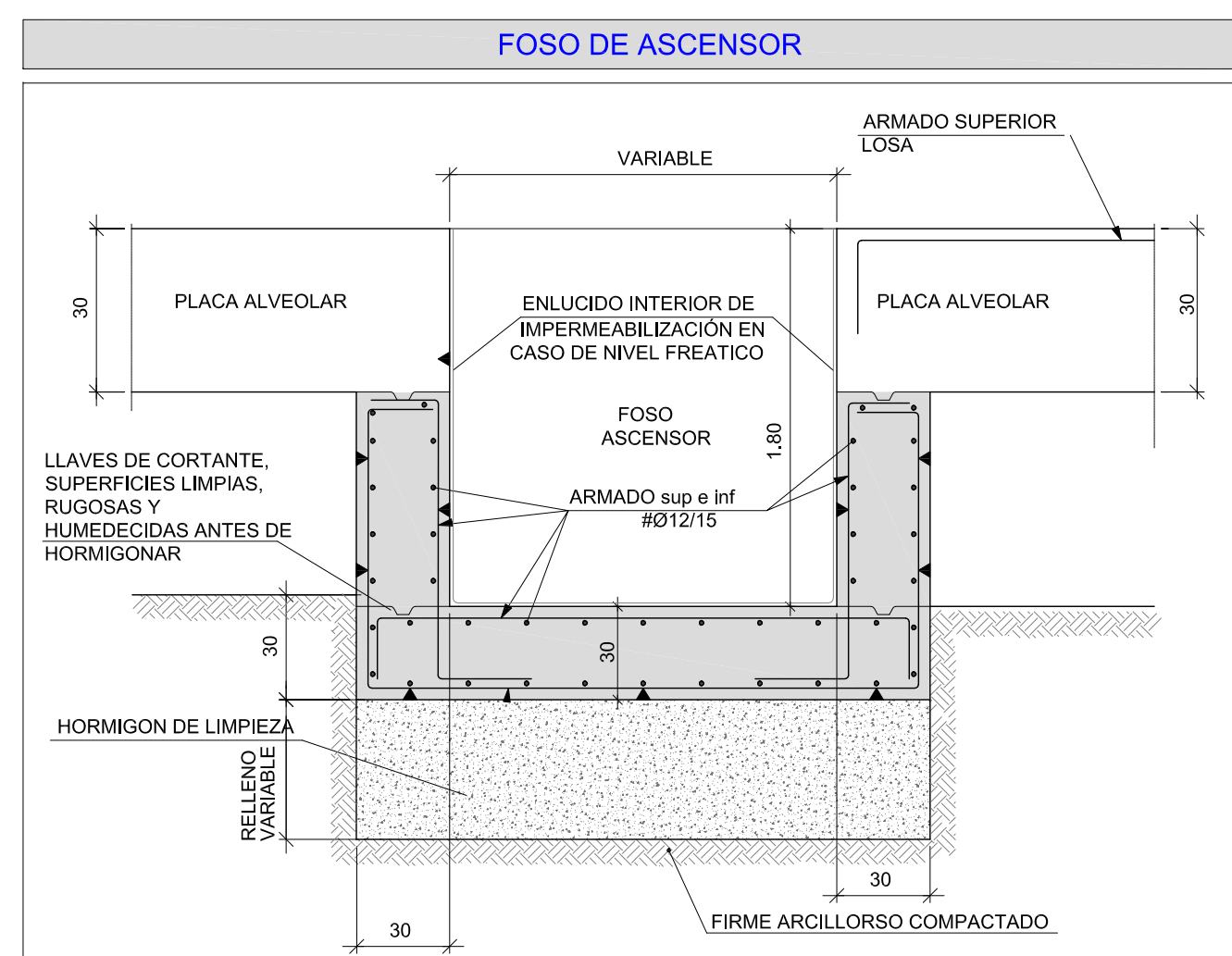
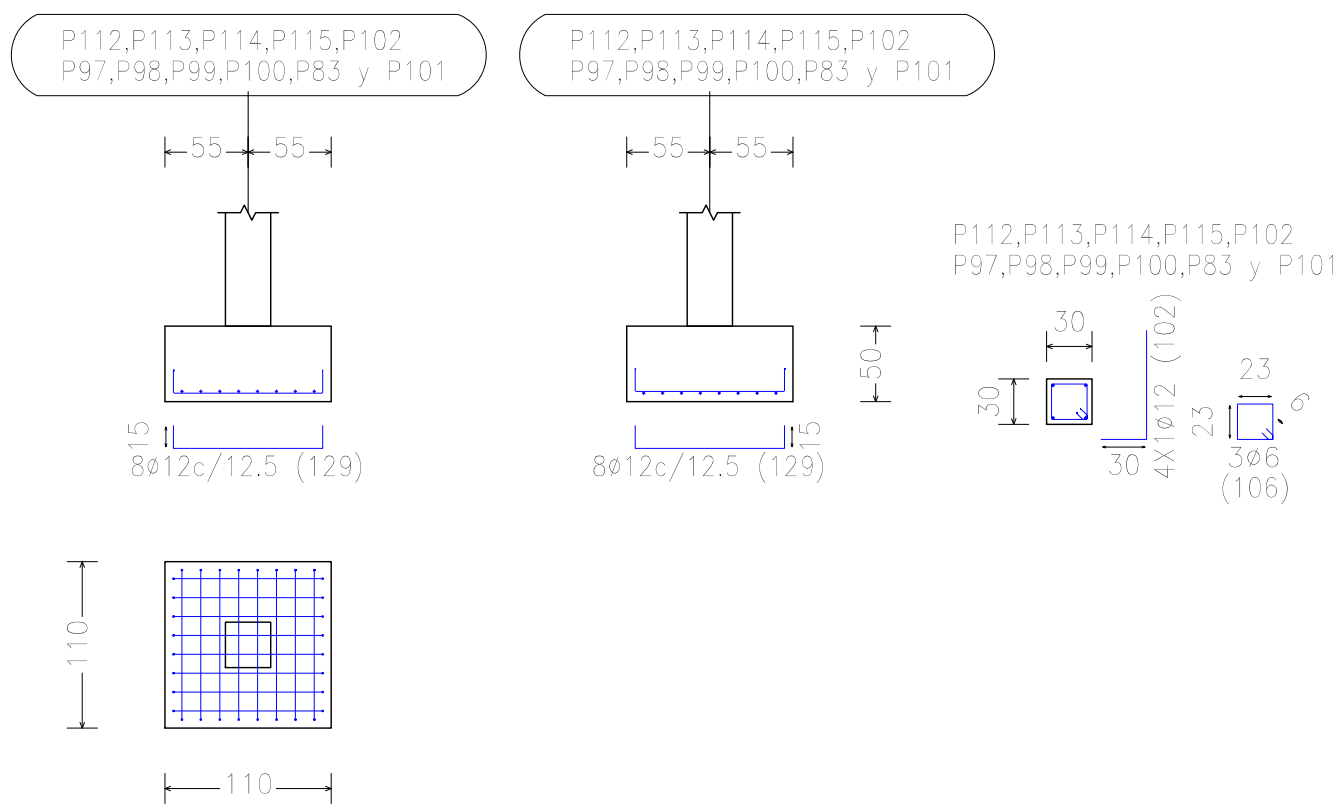
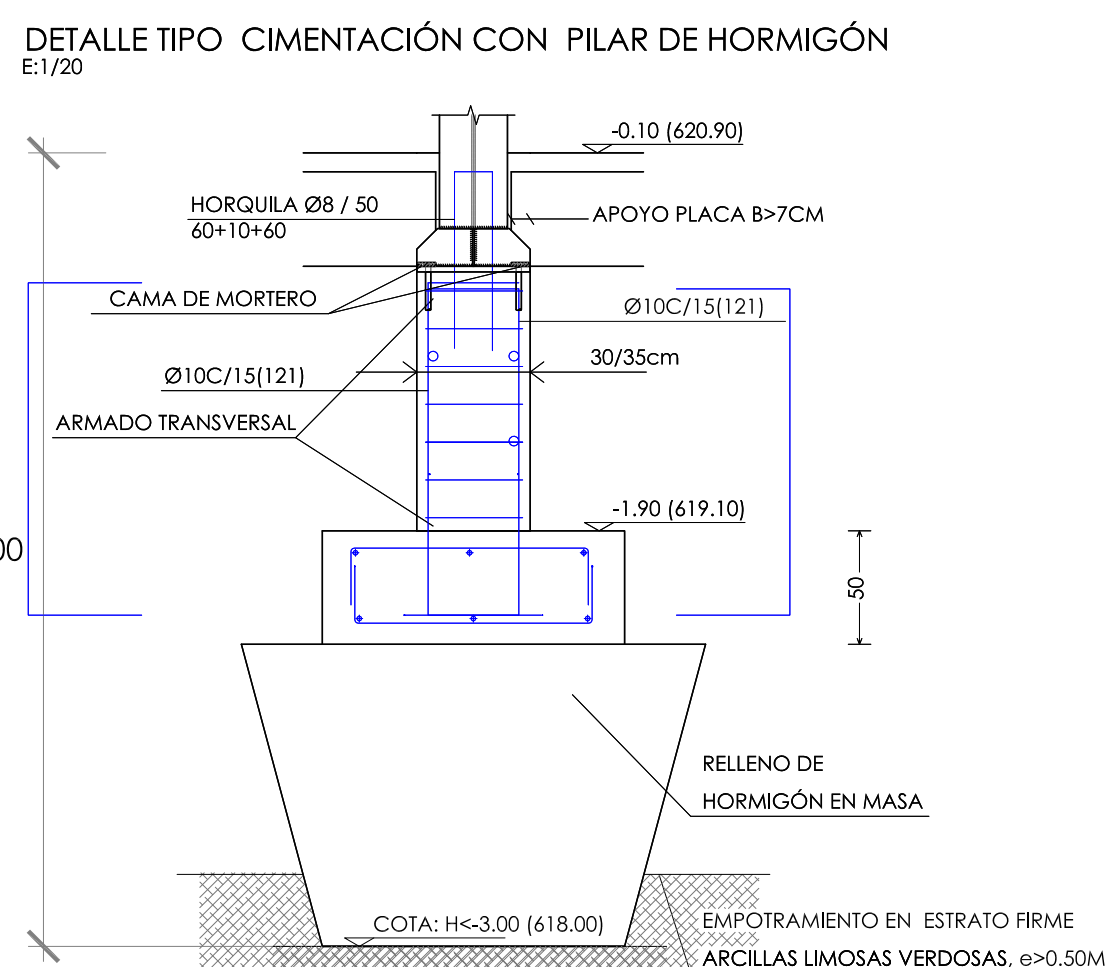
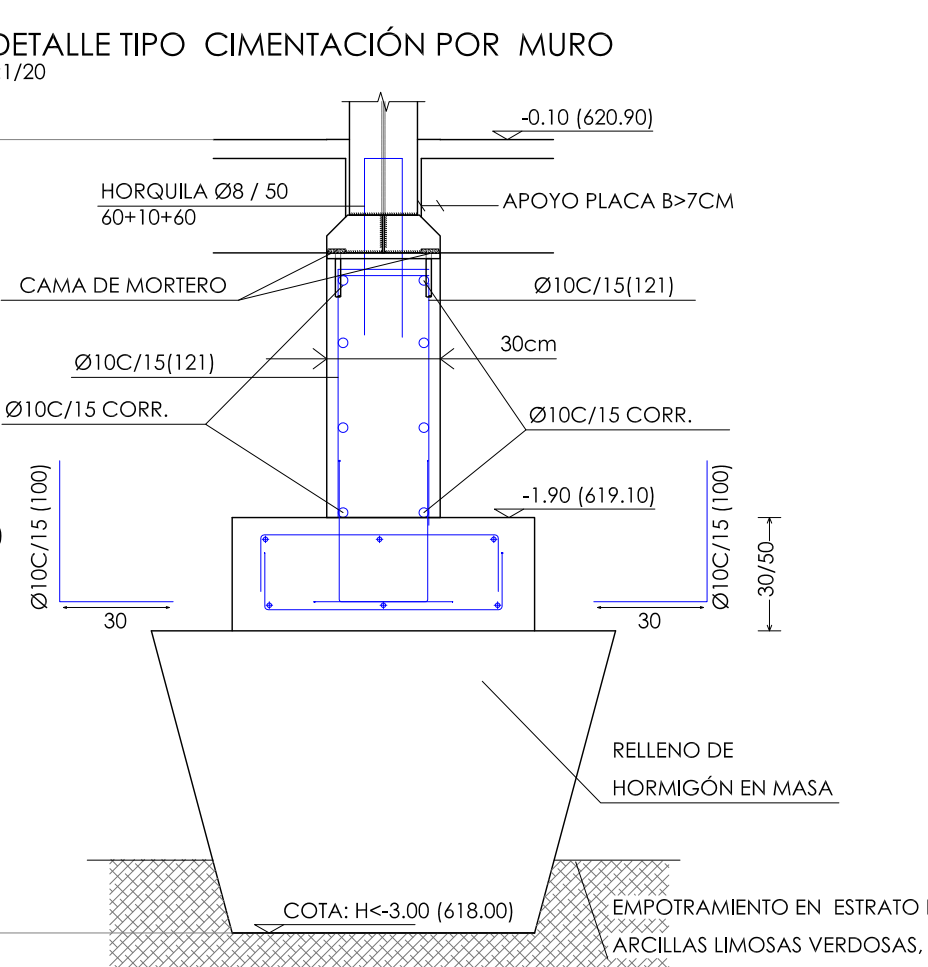
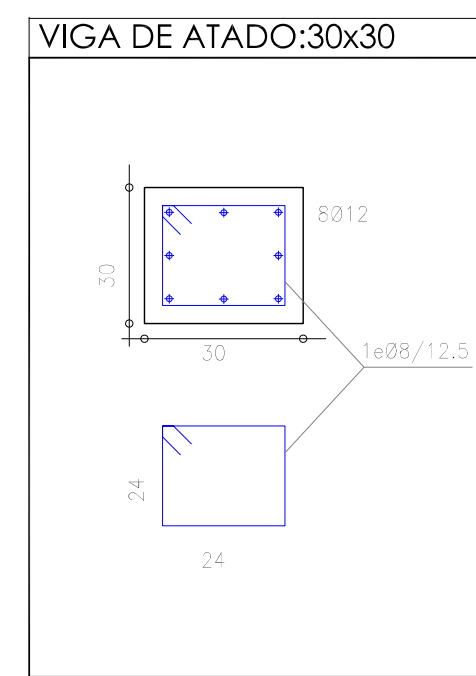
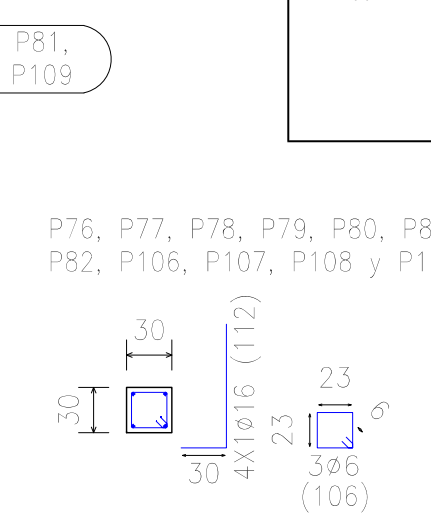
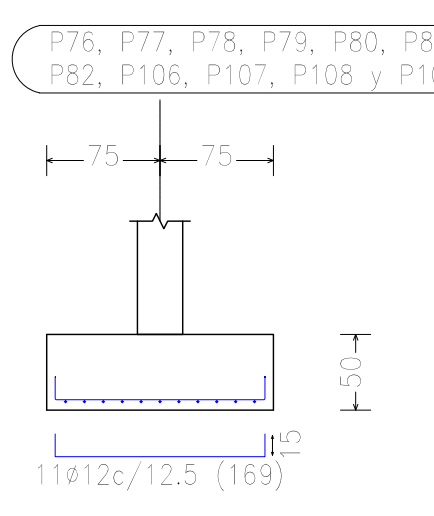
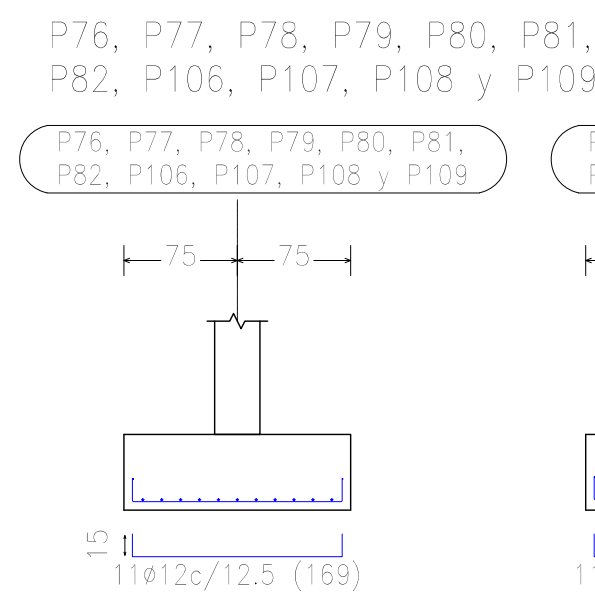
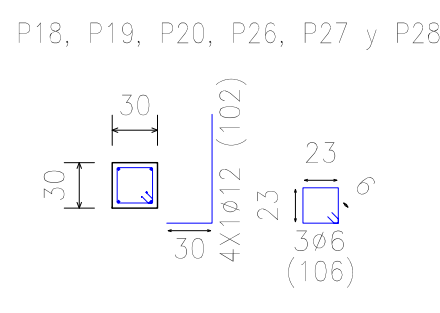
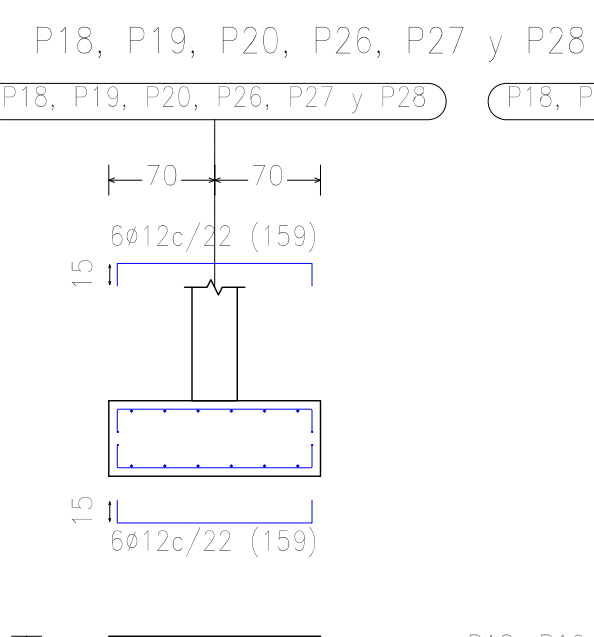
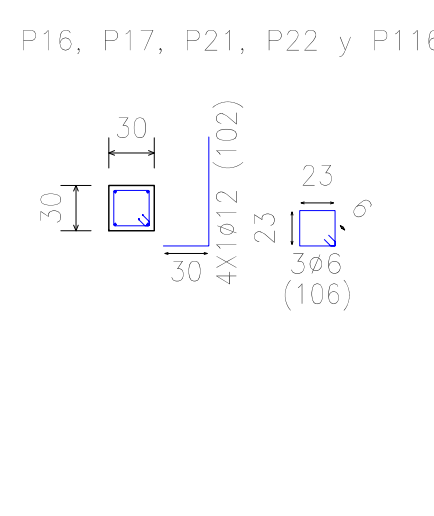
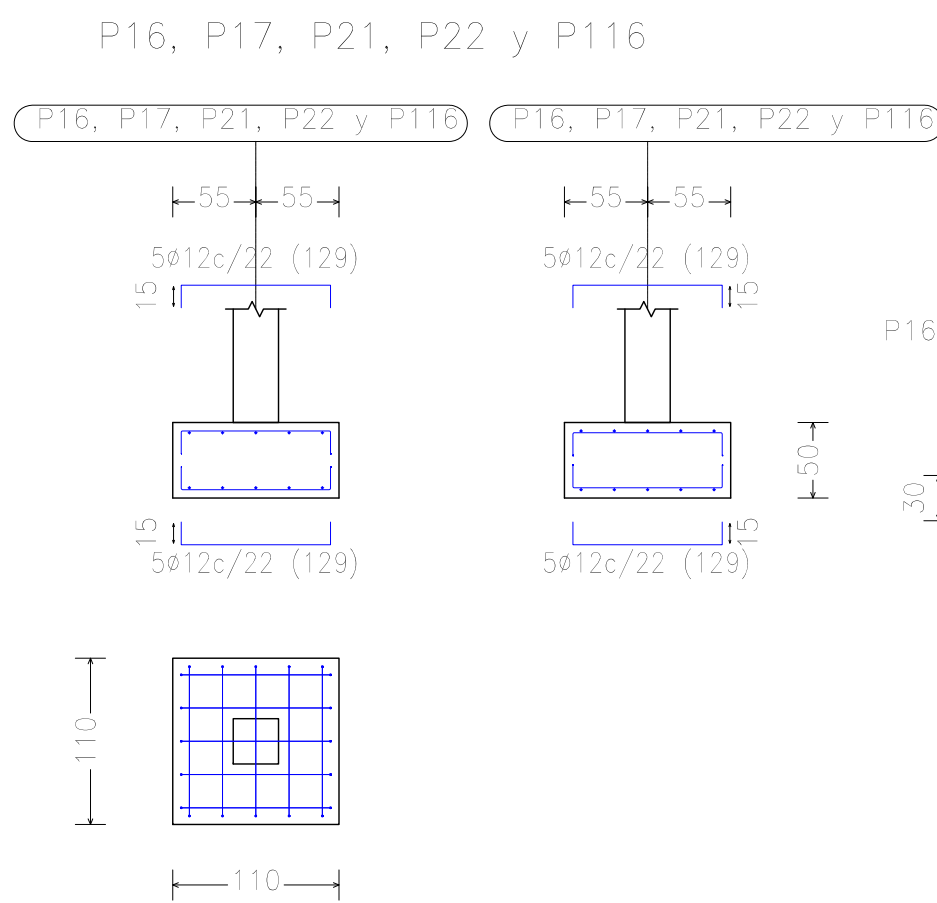
Diagrama de una zapata corrida sobre un pozo de cimentación. El diagrama muestra una sección transversal de una losa de hormigón armado que se eleva desde un pozo de cimentación. La losa tiene un espesor de 20 cm en la parte superior y 25 cm en la parte inferior. El pozo de cimentación tiene una profundidad de 1.50 m y una anchura de 0.50 m. La losa está reforzada con armadura superior y inferior, y con armadura de borde. El diagrama también muestra la superficie rugosa de la losa y la superficie de la zapata.

| Resumen Acero Sótano Cimentación | Long. total (m) | Peso+10% (kg) |
|--|--------------------|------------------|
| B 500 S, CN Ø12 | 9435.7 | 9215 |



| CURSO DE ELEMENTOS DE CONTABILIDAD | | | | | | | |
|---|------------------|-------------|---------------|---------------|---------------|---------------|---------------|
| Referencia | Orientación (km) | Vel. (km/h) | Ampli. (m. x) | Ampli. (m. x) | Ampli. (m. x) | Ampli. (m. x) | Ampli. (m. x) |
| P101, P102, P103, P104, P105 | 140/40 | 30 | 84/26/12,5 | 84/26/12,5 | 84/26/12,5 | 84/26/12,5 | 84/26/12,5 |
| P106, P107, P108, P109, P110, P111, P112, P113, P114, P115, P116, P117, P118, P119, P120, P121, P122, P123, P124, P125, P126, P127, P128, P129, P130, P131, P132, P133, P134, P135, P136, P137, P138, P139, P140, P141, P142, P143, P144, P145, P146, P147, P148, P149, P150, P151, P152, P153, P154, P155, P156, P157, P158, P159, P160, P161, P162, P163, P164, P165, P166, P167, P168, P169, P170, P171, P172, P173, P174, P175, P176, P177, P178, P179, P180, P181, P182, P183, P184, P185, P186, P187, P188, P189, P190, P191, P192, P193, P194, P195, P196, P197, P198, P199, P200, P201, P202, P203, P204, P205, P206, P207, P208, P209, P210, P211, P212, P213, P214, P215, P216, P217, P218, P219, P220, P221, P222, P223, P224, P225, P226, P227, P228, P229, P230, P231, P232, P233, P234, P235, P236, P237, P238, P239, P240, P241, P242, P243, P244, P245, P246, P247, P248, P249, P250, P251, P252, P253, P254, P255, P256, P257, P258, P259, P260, P261, P262, P263, P264, P265, P266, P267, P268, P269, P270, P271, 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P934, P935, P936, P937, P938, P939, P940, P941, P942, P943, P944, P945, P946, P947, P948, P949, P950, P951, P952, P953, P954, P955, P956, P957, P958, P959, P960, P961, P962, P963, P964, P965, P966, P967, P968, P969, P970, P971, P972, P973, P974, P975, P976, P977, P978, P979, P980, P981, P982, P983, P984, P985, P986, P987, P988, P989, P990, P991, P992, P993, P994, P995, P996, P997, P998, P999, P1000 | 1100/10 | 30 | 84/26/12,5 | 84/26/12,5 | | | |
| P101, P102, P103, P104, P105, P106, P107, P108, P109, P110, P111, P112, P113, P114, P115, P116, P117, P118, P119, P120, P121, P122, P123, P124, P125, P126, P127, P128, P129, P130, P131, P132, P133, P134, P135, P136, P137, P138, P139, P140, P141, P142, P143, P144, P145, P146, P147, P148, P149, P150, P151, P152, P153, P154, P155, P156, P157, P158, P159, P160, P161, P162, P163, P164, P165, P166, P167, P168, P169, P170, P171, P172, P173, P174, P175, P176, P177, P178, P179, P180, P181, P182, P183, P184, P185, P186, P187, P188, P189, P190, P191, P192, P193, P194, P195, P196, P197, P198, P199, P200, P201, P202, P203, P204, P205, P206, P207, P208, P209, P210, P211, P212, P213, P214, P215, P216, P217, P218, P219, P220, P221, P222, P223, P224, P225, P226, P227, P228, P229, P230, P231, P232, P233, P234, P235, P236, P237, P238, P239, P240, P241, P242, P243, P244, P245, P246, P247, P248, P249, P250, P251, P252, P253, P254, P255, P256, P257, P258, P259, P260, P261, P262, P263, P264, P265, P266, P267, P268, P269, P270, P271, P272, P273, P274, P275, P276, P277, P278, P279, P280, P281, P282, P283, P284, P285, P286, P287, P288, P289, P290, P291, P292, P293, P294, P295, P296, P297, P298, P299, P300, P301, P302, P303, P304, P305, P306, P307, P308, P309, P310, P311, P312, P313, P314, P315, P316, P317, P318, P319, P320, P321, P322, P323, P324, P325, P326, P327, P328, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P341, P342, P343, P344, P345, P346, P347, P348, P349, P350, P351, P352, P353, P354, P355, P356, P357, P358, P359, P360, P361, P362, P363, P364, P365, P366, P367, P368, P369, P370, P371, P372, P373, P374, P375, P376, P377, P378, P379, P380, P381, P382, P383, P384, P385, P386, P387, P388, P389, P390, P391, P392, P393, P394, P395, P396, P397, P398, P399, P400, P401, P402, P403, P404, P405, P406, P407, P408, P409, P410, P411, P412, P413, P414, P415, P416, P417, P418, P419, P420, P421, P422, P423, P424, P425, P426, P427, P428, P429, P430, P431, P432, P433, P434, P435, P436, P437, P438, P439, P440, P441, P442, P443, P444, P445, P446, P447, P448, P449, P450, P451, P452, P453, P454, P455, P456, P457, P458, P459, P460, P461, P462, P463, P464, P465, P466, P467, P468, P469, P470, P471, P472, P473, P474, P475, P476, P477, P478, P479, P480, P481, P482, P483, P484, P485, P486, P487, P488, P489, P490, P491, P492, P493, P494, P495, P496, P497, P498, P499, P500, P501, P502, P503, P504, P505, P506, P507, P508, P509, P510, P511, P512, P513, P514, P515, P516, P517, P518, P519, P520, P521, P522, P523, P524, P525, P526, P527, P528, P529, P530, P531, P532, P533, P534, P535, P536, P537, P538, P539, P540, P541, P542, P543, P544, P545, P546, P547, P548, P549, P550, P551, P552, P553, P554, P555, P556, P557, P558, P559, P560, P561, P562, P563, P564, P565, P566, P567, P568, P569, P570, P571, P572, P573, P574, P575, P576, P577, P578, P579, P580, P581, P582, P583, P584, P585, P586, P587, P588, P589, P590, P591, P592, P593, P594, P595, P596, P597, P598, P599, P600, P601, P602, P603, P604, P605, P606, P607, P608, P609, P610, P611, P612, P613, P614, P615, P616, P617, P618, P619, P620, P621, P622, P623, P624, P625, P626, P627, P628, P629, P630, P631, P632, P633, P634, P635, P636, P637, P638, P639, P640, P641, P642, P643, P644, P645, P646, P647, P648, P649, P650, P651, P652, P653, P654, P655, P656, P657, P658, P659, P660, P661, P662, P663, P664, P665, P666, P667, P668, P669, P670, P671, P672, P673, P674, P675, P676, P677, P678, P679, P680, P681, P682, P683, P684, P685, P686, P687, P688, P689, P690, P691, P692, P693, P694, P695, P696, P697, P698, P699, P700, P701, P702, P703, P704, P705, P706, P707, P708, P70 | | | | | | | |

| Referencia | Código de armarios | | |
|--|--------------------|-----------------|-----------------|
| | Armarios Esquemas | Armarios Cora 1 | Armarios Cora 2 |
| P15, P76, P79, P80, P81, P82, P83, P107, P108 y P109 | 4816 (30+42+40) | | |
| P15, P17, P18, P19, P20, P21, P22, P23, P24, P26, P27, P28, P29, P30, P31, P32, P40, P44, P45, P46, P47, P48, P49, P50, P51, P52, P53, P54, P55, P56, P57, P58, P59, P100, P101, P102, P111, P112, P113, P114, P115, P116 y P117 | 4812 (30+42+35) | | |
| P61 | 4816 (30+42+40) | 2016 (30+42+40) | 2012 (30+42+30) |
| P62, P83 y P110 | 3012 (30+42+30) | 2012 (30+42+30) | |
| P76 y P103 | 4816 (30+42+40) | 2012 (30+42+30) | |
| P77 y P104 | 4820 (30+42+40) | | |



| CUADRO CARACTERÍSTICAS SEGUN EHE-08 | | | | | | | |
|-------------------------------------|------------------|------------------------|--------------------------|---------------------|------------------------------|------------------|------|
| LOCALIZACION | TIPICACION | RESISTENCIA DE CALCULO | MÍNIMO CONTENIDO CEMENTO | MAXIMA RELACION A/C | VALOR NOMINAL RECURBIMIENTOS | NIVEL DE CONTROL | % |
| LÍNEA/E | HL-1050B | 10.5 N/mm ² | 150 Kg | | | | |
| RELLENOS/POZOS | HNE-150/40 | 10.5 N/mm ² | | | | ESTATÍSTICO | 1.5 |
| ORIENTACION | HA-25/250/100+40 | 16.5 N/mm ² | 325 Kg | 0.50 | 30 x 10 mm | ESTATÍSTICO | 1.5 |
| MUROS CREMATION | HA-25/250/10 | 16.5 N/mm ² | 325 Kg | 0.50 | 20 x 10 mm | ESTATÍSTICO | 1.5 |
| HA-CARRE | HA-25/250/10 | 16.5 N/mm ² | 275 Kg | 0.60 | 20 x 10 mm | ESTATÍSTICO | 1.5 |
| FORJADOS | HA-25/250/10 | 16.5 N/mm ² | 275 Kg | 0.60 | 20 x 10 mm | ESTATÍSTICO | 1.5 |
| RESTO DE ESTRUCTURA | HA-25/250/10 | 16.5 N/mm ² | 275 Kg | 0.60 | 20 x 10 mm | ESTATÍSTICO | 1.5 |
| A C E R O PARA HORMIGON ARMADO | | | | | | | |
| LOCALIZACION | DESIGNACION | RESISTENCIA DE CALCULO | | | NIVEL DE CONTROL | | |
| A C E R O PARA HORMIGON ARMADO | B-500 SD | 435 N/mm ² | | | ART. 67 | | 1.15 |
| A C E R O ESTRUCTURAL | | | | | | | |
| LOCALIZACION | DESIGNACION | RESISTENCIA DE CALCULO | | | NIVEL DE CONTROL | | % |
| ARMADO | B-500 SD | 435 N/mm ² | | | ART. 67 | | 1.15 |
| CONFORMADO | B-500 SD | 435 N/mm ² | | | ART. 67 | | 1.15 |
| NOTAS | | | | | | | |

| Medición de perfiles Acero: S235 | | |
|-------------------------------------|-----------|-----------|
| Tipo | Long. (m) | Peso (kg) |
| d200.10 | 121.20 | 5679 |

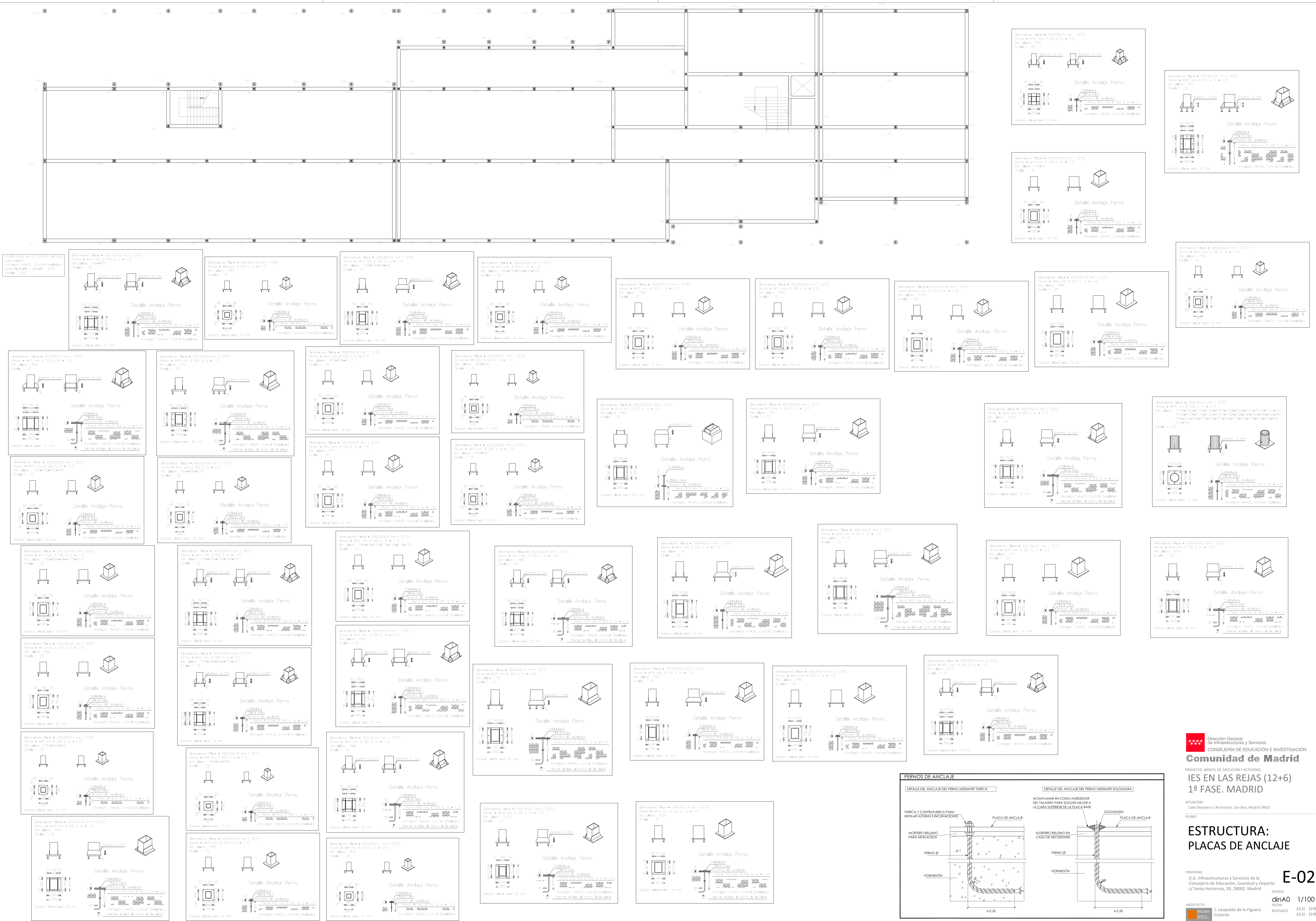
| Resumen Acero Forjados 1 a 3 Pilares | Long. total (m) | Peso+10% (kg) | Total |
|--|--------------------|------------------|-------|
| B 500 S, CN Ø6 | 2704.8 | 660 | |
| Ø12 | 974.3 | 951 | |
| Ø16 | 108.0 | 188 | |
| Ø20 | 24.5 | 66 | 1855 |

[illegible]

| Medição de perdas Anexo: 5275 | | |
|----------------------------------|-----------|--------------|
| Tipo | Long. (m) | Peso (kg) |
| 2xVPR 1000 | 17,75 | 576 |
| 2xVPR 1000 | 14,20 | 301 |
| 2xVPR 240 | 17,75 | 1179 |
| 2xVPR 240 | 3,55 | 297 |
| 2xVPR 240 | 7,10 | 478 |
| 2xVPR 240 | 10,65 | 769 |
| 2xVPR 200 | 67,45 | 3410 |
| 2xVPR 220 | 24,85 | 1459 |
| 2xVPR 180 | 53,25 | 2341 |
| 2xVPR 180 | 46,15 | 2029 |
| 2xVPR 160 | 22,80 | 825 |
| 2xVPR 160 | 10,65 | 808 |
| 2xVPR 160 | 10,65 | 808 |
| 2xVPR 140 | 39,90 | 1251 |
| 2xVPR 140 | 35,90 | 1137 |
| 2xVPR 120 | 11,35 | 1260 |
| 2xVPR 180 | 3,55 | 141 |
| 2xVPR 120 | 35,90 | 947 |
| 2xVPR 120 | 3,55 | 86 |
| 2xVPR 160 | 28,40 | 1070 |
| 2xVPR 220 | 3,55 | 1370 |
| 2xVPR 220 | 7,10 | 378 |
| 2xVPR 120 | 3,55 | 95 |
| 2xVPR 200 | 3,55 | 162 |
| 2xVPR 600 | 3,55 | 61 |
| Total | | 24500 |

| LONGITUD (m) | | |
|--------------|------------|-------------|
| Ø mm | POSICION I | POSICION II |
| 10 | 0,25 | 0,36 |
| 12 | 0,30 | 0,43 |
| 16 | 0,40 | 0,57 |
| 20 | 0,52 | 0,73 |
| 25 | 0,65 | 1,14 |

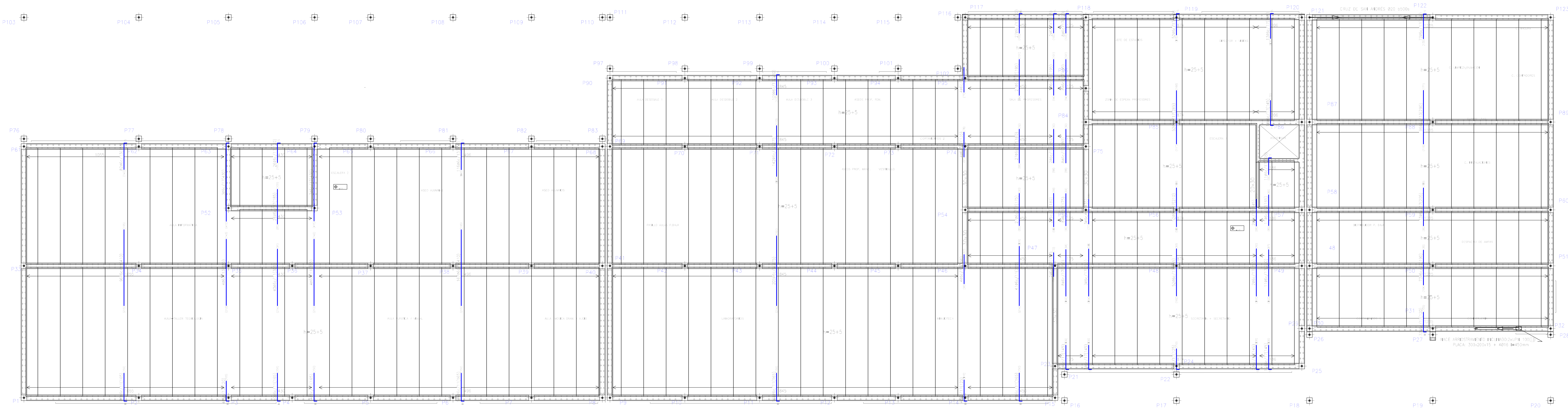
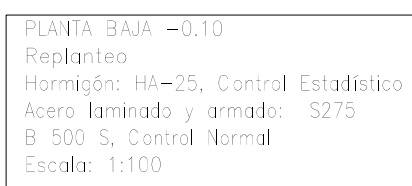
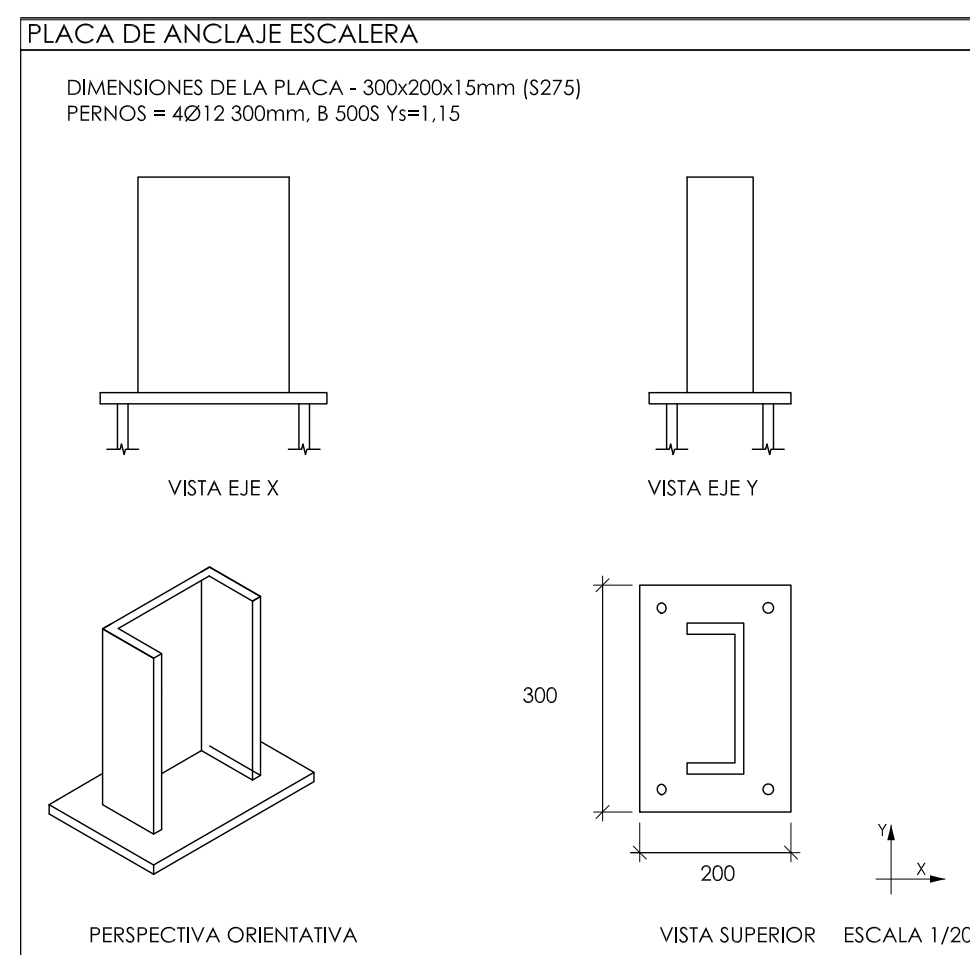
| LONGITUD (m) | | | | | |
|-------------------------------|------------|-------------|-------------------------------|------------|-------------|
| DISTANCIA ENTRE EMPALMES <100 | | | DISTANCIA ENTRE EMPALMES >100 | | |
| Ø mm | POSICION I | POSICION II | Ø mm | POSICION I | POSICION II |
| 10 | 0,45 | 0,64 | 10 | 0,25 | 0,36 |
| 12 | 0,54 | 0,77 | 12 | 0,30 | 0,43 |
| 16 | 0,72 | 1,03 | 16 | 0,40 | 0,57 |
| 20 | 0,94 | 1,31 | 20 | 0,52 | 0,73 |
| 25 | 1,46 | 2,05 | 25 | 0,81 | 1,14 |



NOTAS

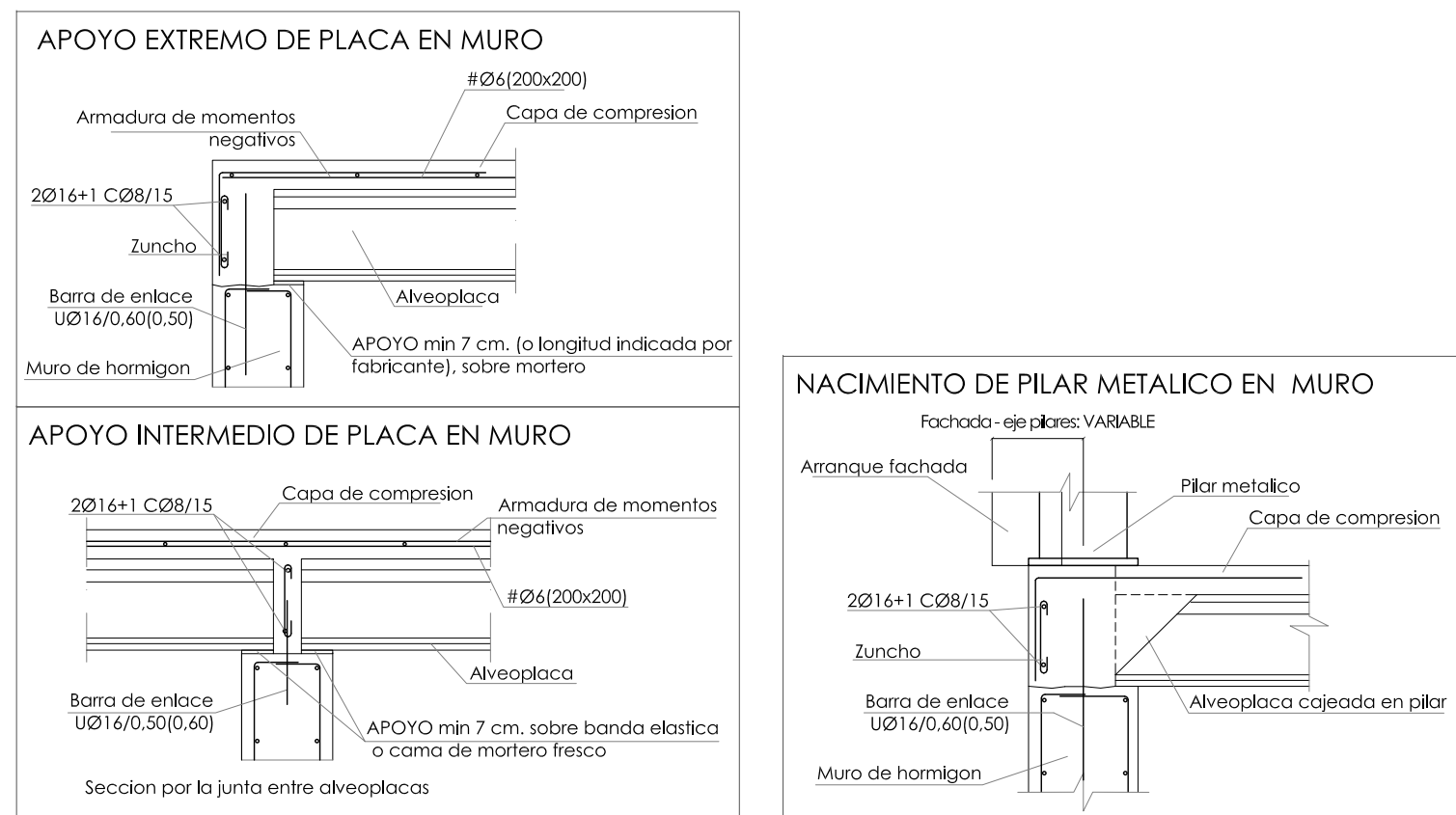
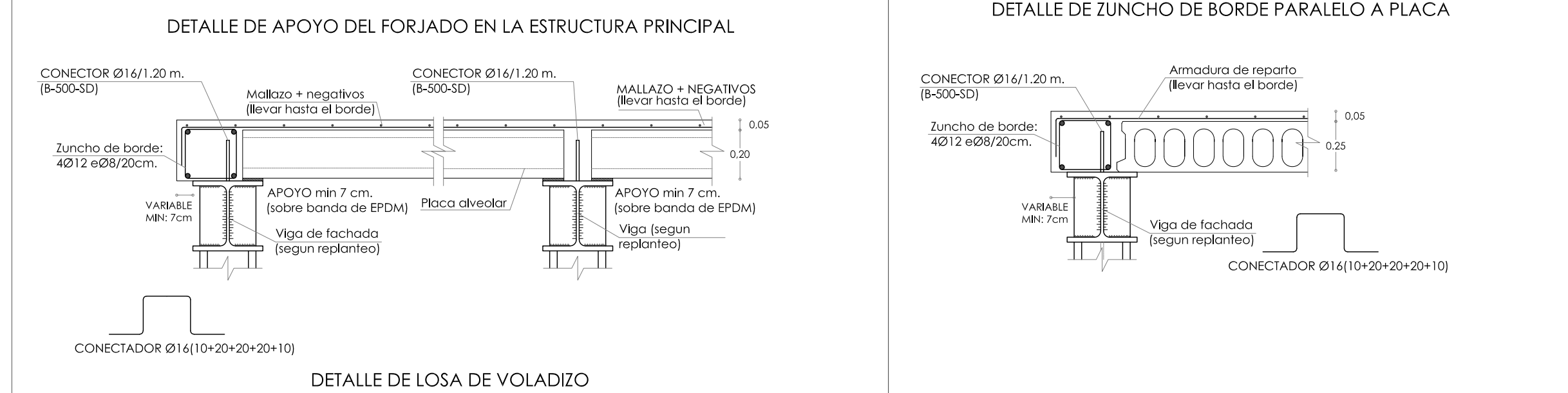
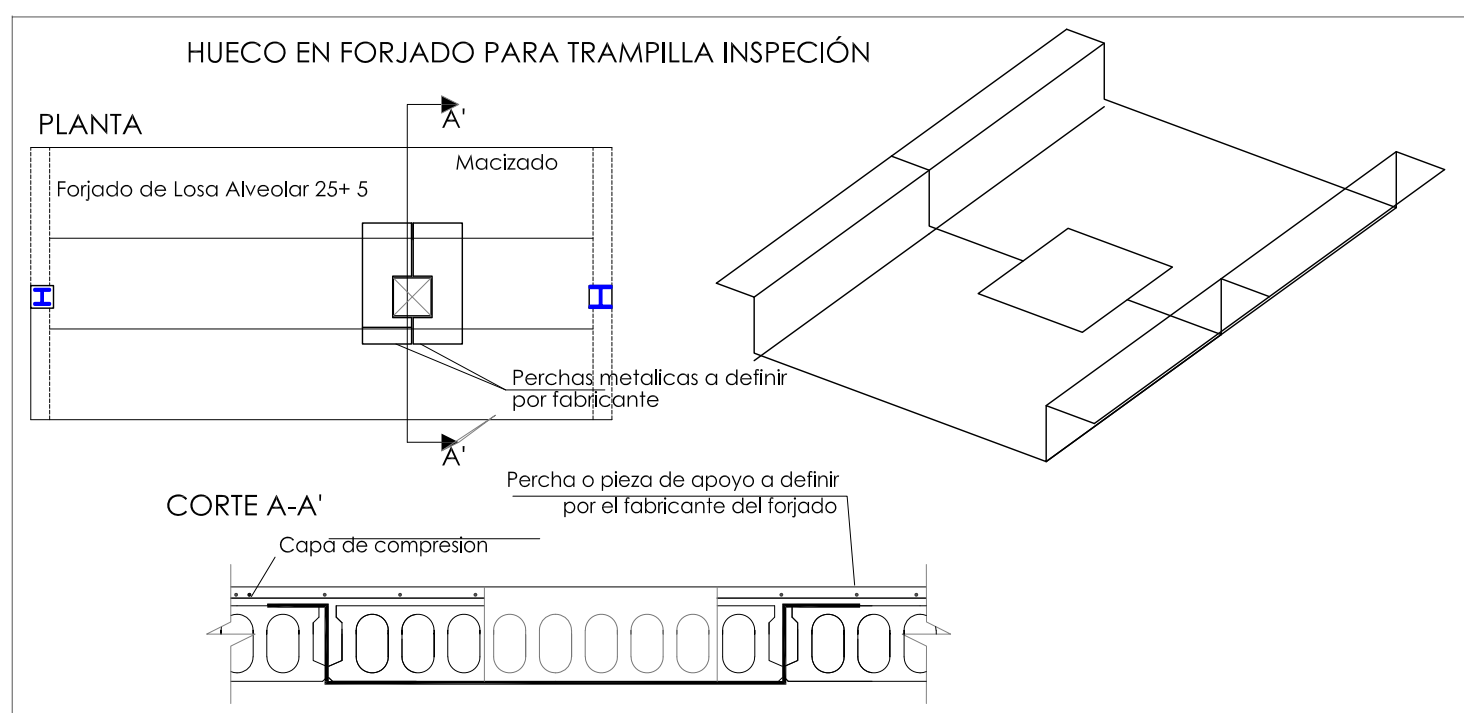
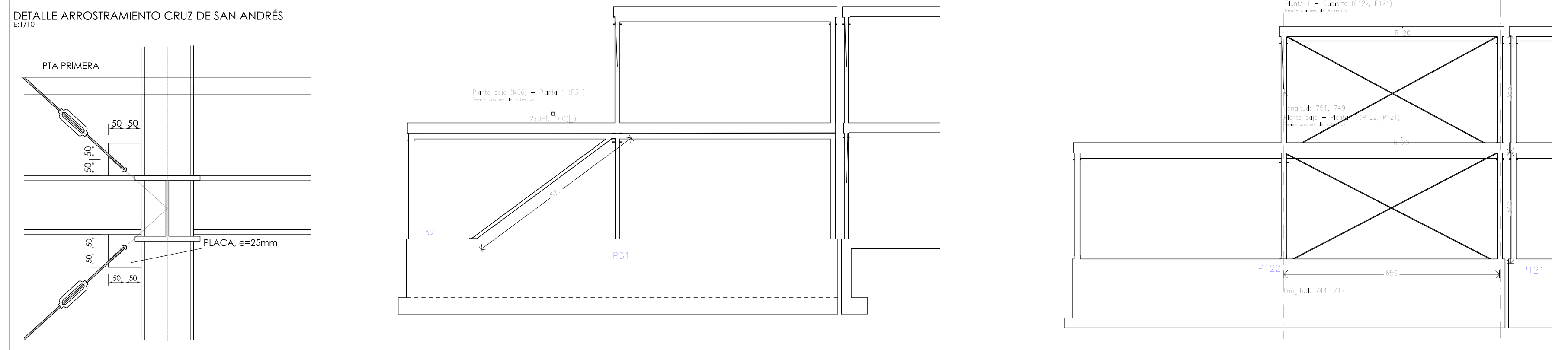
- NIVEL CONTROL DE EJECUCIÓN: NORMAL

- EL VALOR DE CÁLCULO DE LAS ACCIONES SE DETERMINA A PARTIR DE LAS REGLAS DE COMBINACIÓN DEL ART. 13

[illegible]

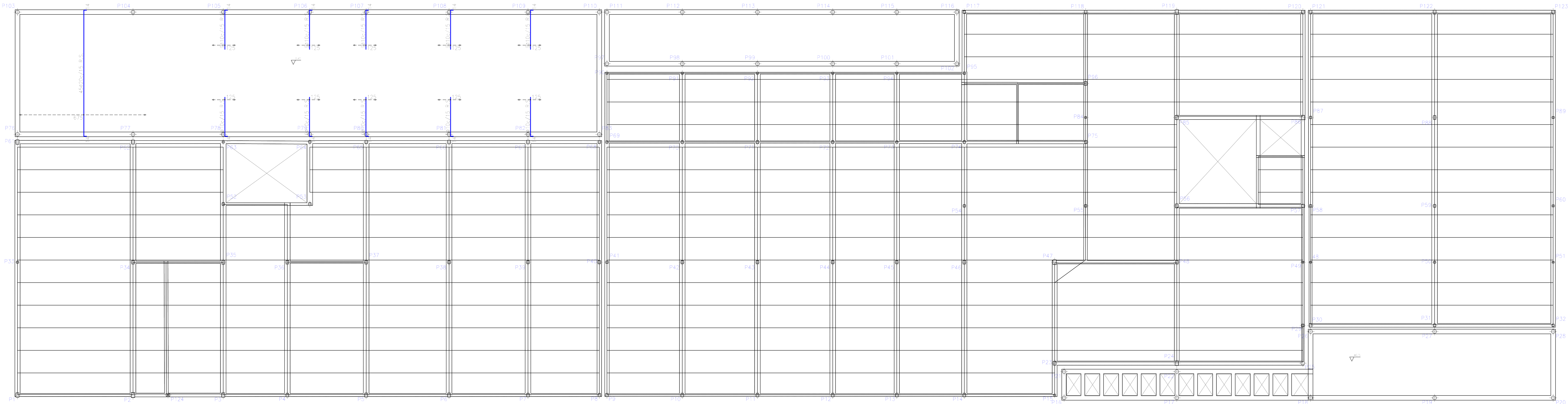
-

DETALLE ARROSTRAMIENTO CRUZ DE SAN ANDRÉS



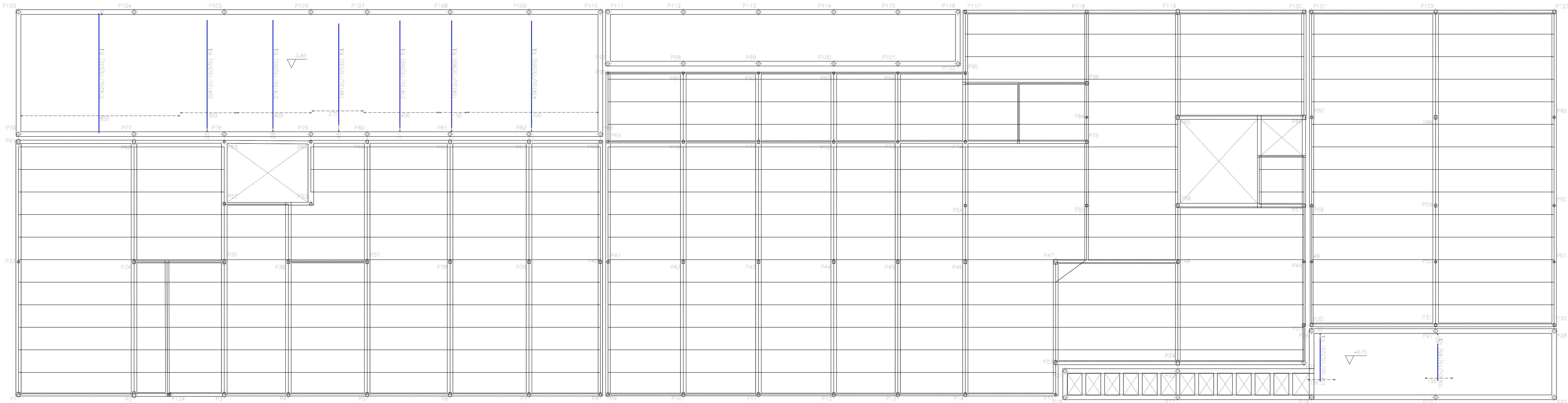
| Resumen Acero | Long. total (m) | Peso+10% (kg) | Total |
|-------------------------------|--------------------|------------------|-------|
| PLANTA 1, +3.45 | | | |
| Armadura transversal superior | | | |
| B 500 S, CII | Ø10 | 202,5 | 137 |
| | Ø20 | 314,1 | 852 |
| | | | 989 |

PLANTA 1, +3.45
Armadura transversal superior
Norma: HA=25, Control Estadístico
Acero laminado y armado: S275
B 500 S, Control Normal
Armadura base en losa maciza
S275: Ø10 cada 15 cm. Interior: Ø10 cada
15 cm.
No detallada en plano ni incluida en la medición.
R.S. Refuerzo superior
Consulte los detalles constructivos
correspondientes a la
zona de los ejes medidos con forjados.
Escala: 1:100



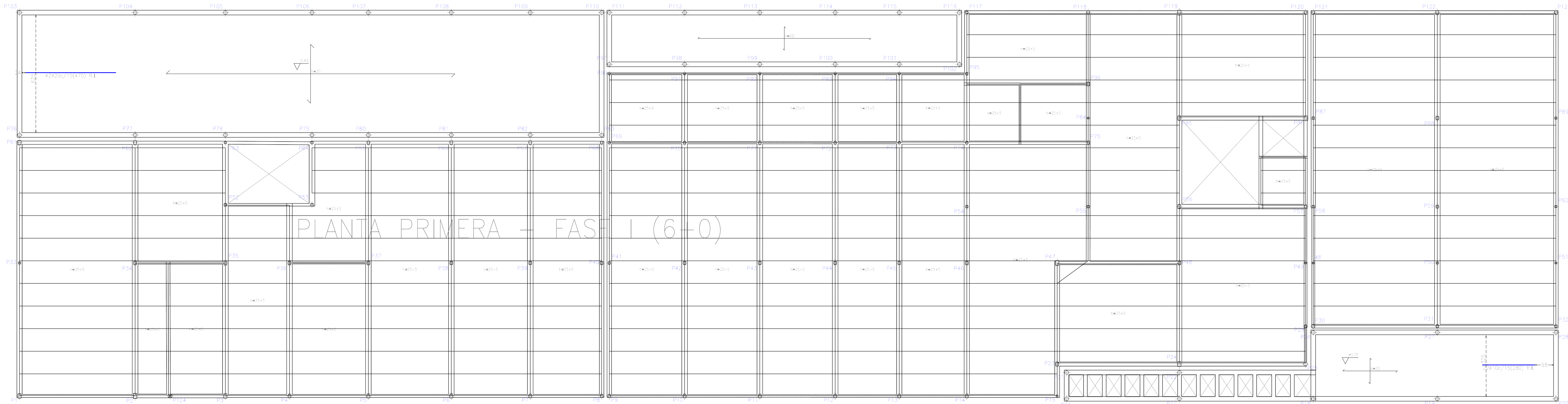
| Resumen Acero | Long. total (m) | Peso+10% (kg) | Total |
|-------------------------------|--------------------|------------------|-------|
| PLANTA 1 | | | |
| Armadura transversal inferior | | | |
| B 500 S, CII | Ø10 | 608,0 | 412 |
| | Ø12 | 270,7 | 264 |
| | Ø20 | 362,0 | 982 |
| | | | 1658 |

PLANTA 1, +3.45
Armadura transversal inferior
Norma: HA=25, Control Estadístico
Acero laminado y armado: S275
B 500 S, Control Normal
Armadura base en losa maciza
S275: Ø10 cada 15 cm. Interior: Ø10 cada
15 cm.
No detallada en plano ni incluida en la medición.
R.S. Refuerzo inferior
Consulte los detalles constructivos
correspondientes a la
zona de los ejes medidos con forjados.
Escala: 1:100



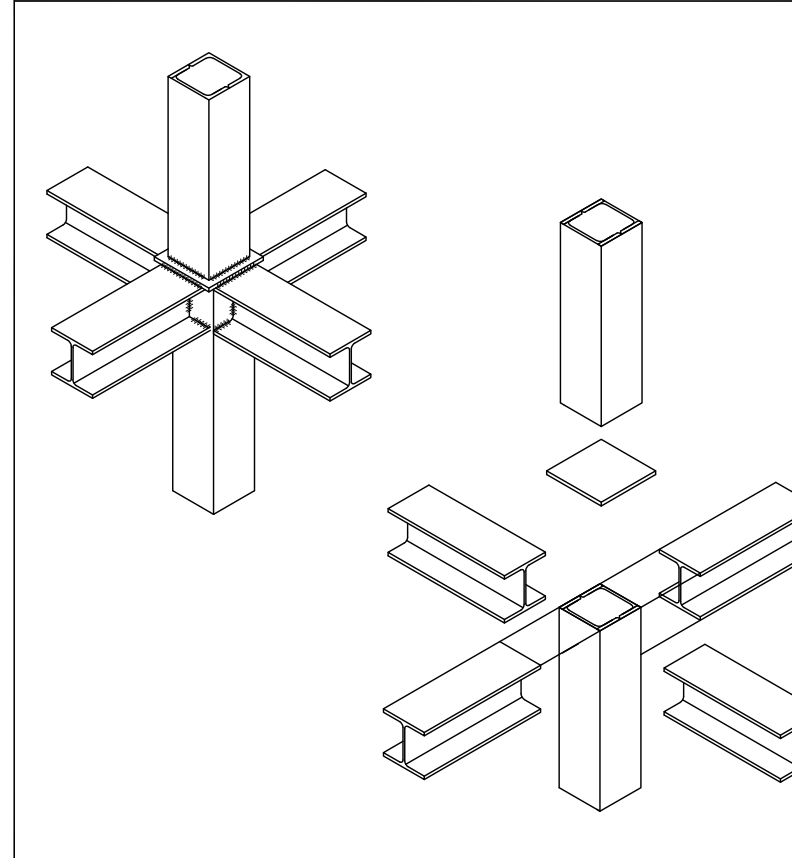
| Resumen Acero | Long. total (m) | Peso+10% (kg) | Total |
|--------------------------------|--------------------|------------------|-------|
| PLANTA 1 | | | |
| Armadura longitudinal inferior | | | |
| B 500 S, CII | Ø10 | 74,4 | 50 |
| | Ø20 | 199,5 | 541 |
| | | | 591 |

PLANTA 1, +3.45
Armadura longitudinal inferior
Norma: HA=25, Control Estadístico
Acero laminado y armado: S275
B 500 S, Control Normal
Armadura base en losa maciza
S275: Ø10 cada 15 cm. Interior: Ø10 cada
15 cm.
No detallada en plano ni incluida en la medición.
R.S. Refuerzo inferior
Consulte los detalles constructivos
correspondientes a la
zona de los ejes medidos con forjados.
Escala: 1:100

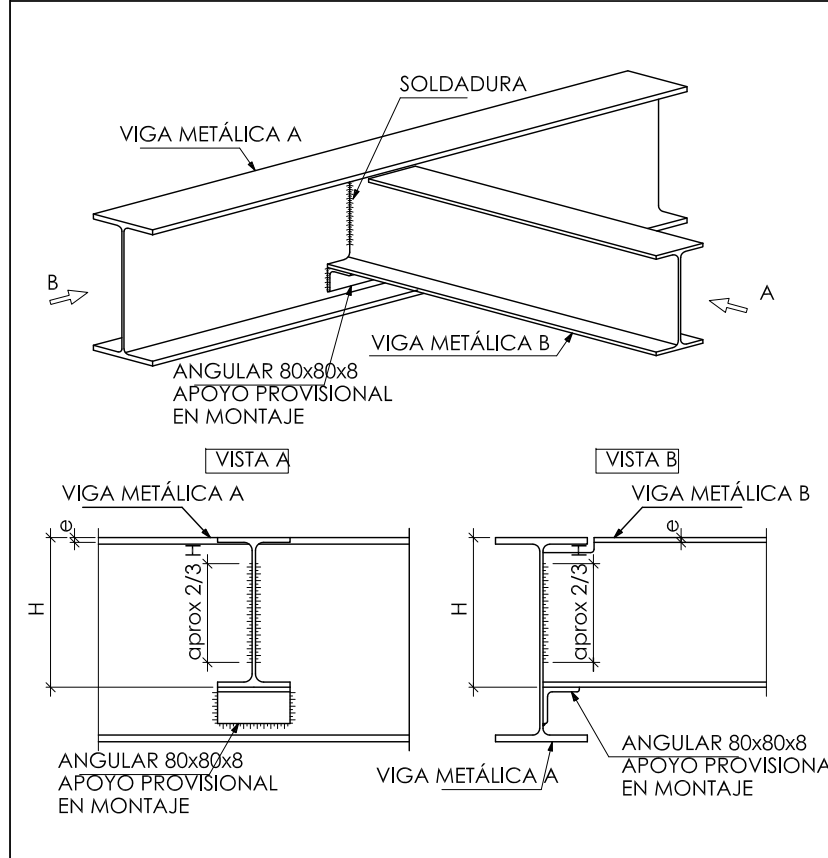


PLANTA PRIMERA - FASE I (6+0)

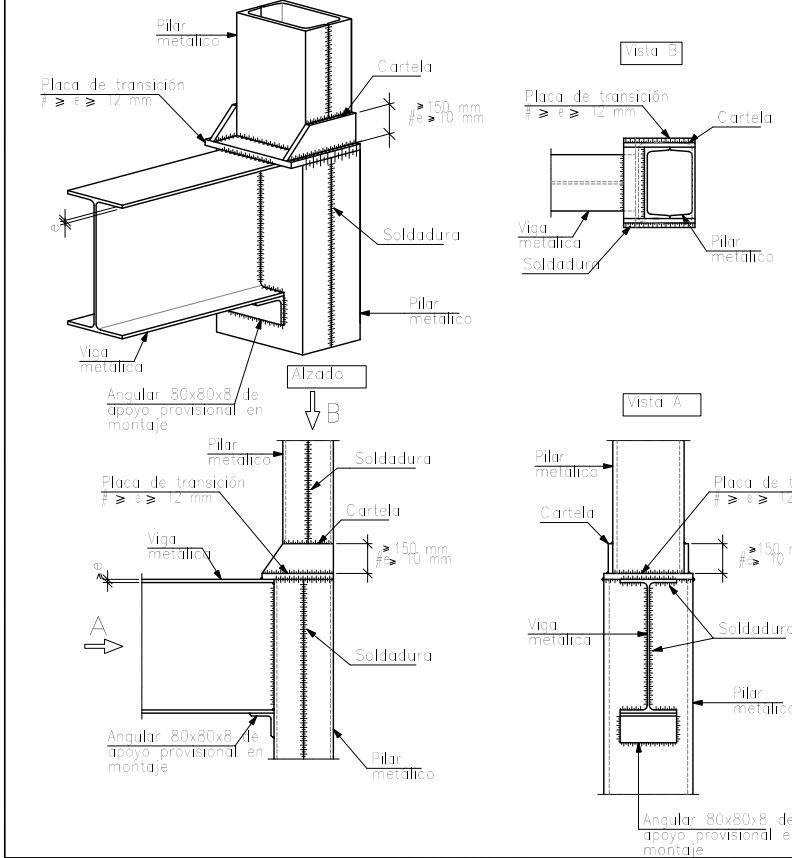
PERSPECTIVA DE DETALLE CON NUDO COMPLETO FORMADO POR VIGAS Y PILARES UPN



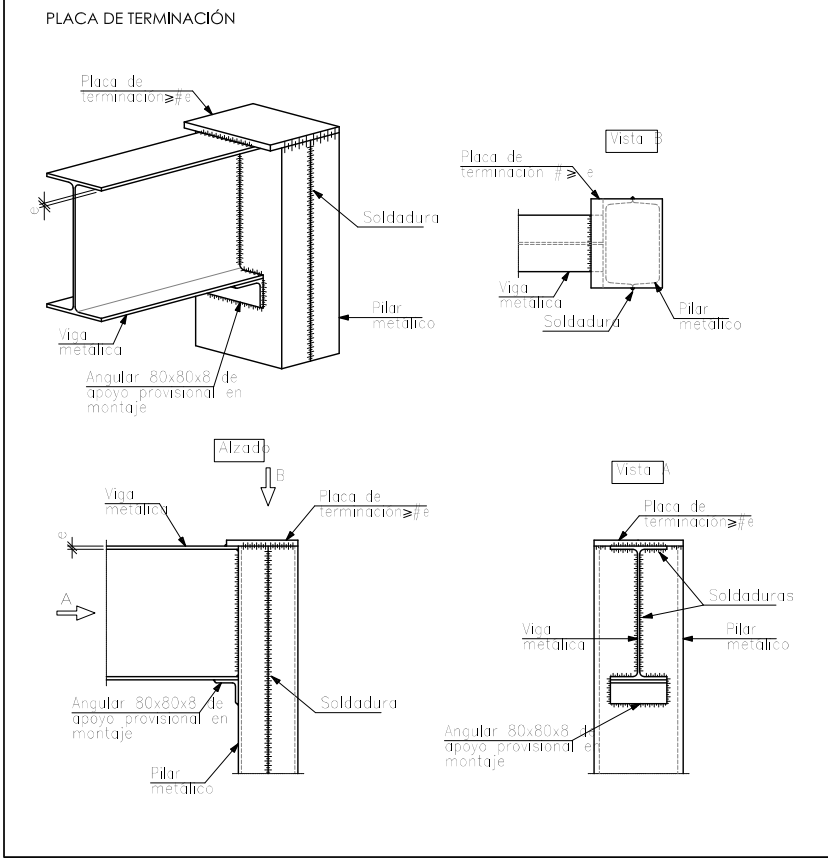
EMBROCHAMIENTO ENTRE VIGAS METÁLICAS DE DISTINTO CANTO



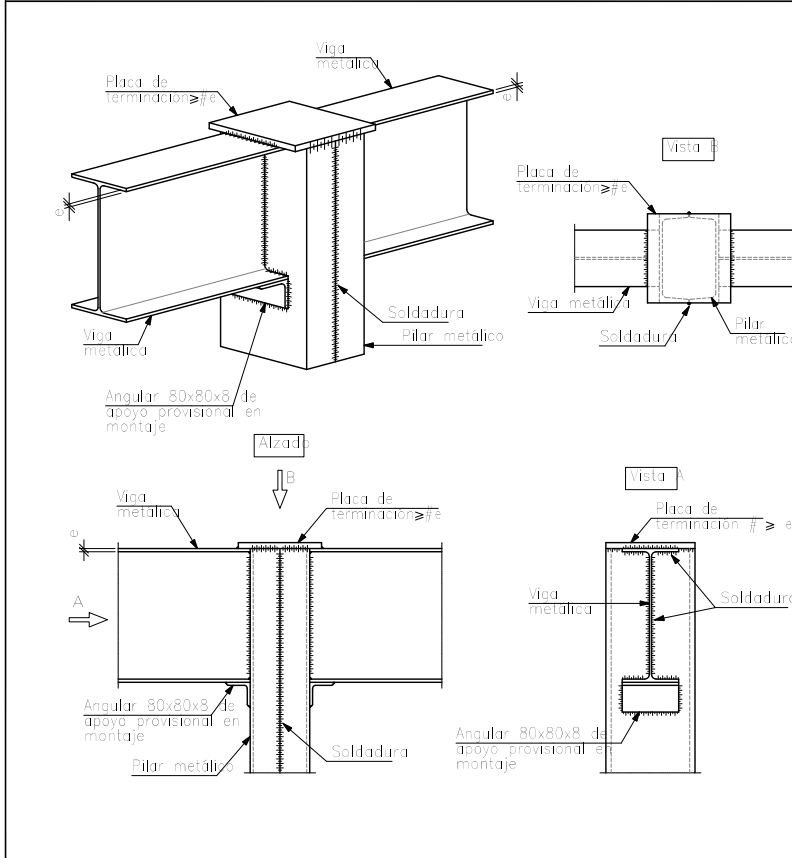
ENLACE SEMIRRIGIDO EN EXTREMO DE VANO DE VIGA CON PILAR ZUPN DE ÚLTIMA PLANTA



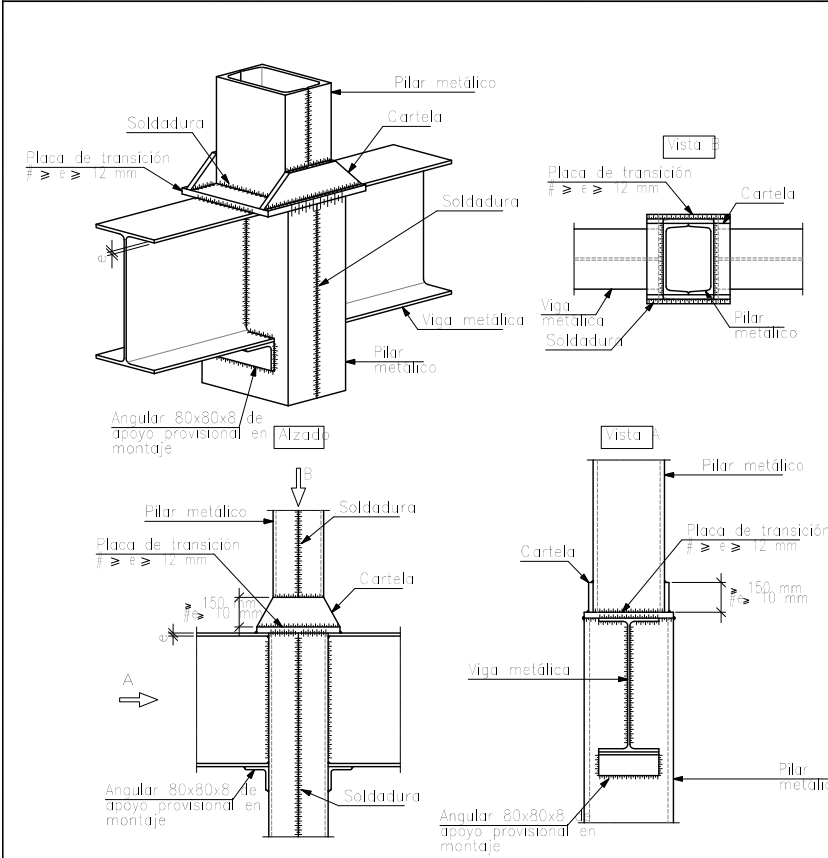
ENLACE SEMIRRIGIDO EN EXTREMO DE VANO DE VIGA CON PILAR ZUPN DE ÚLTIMA PLANTA



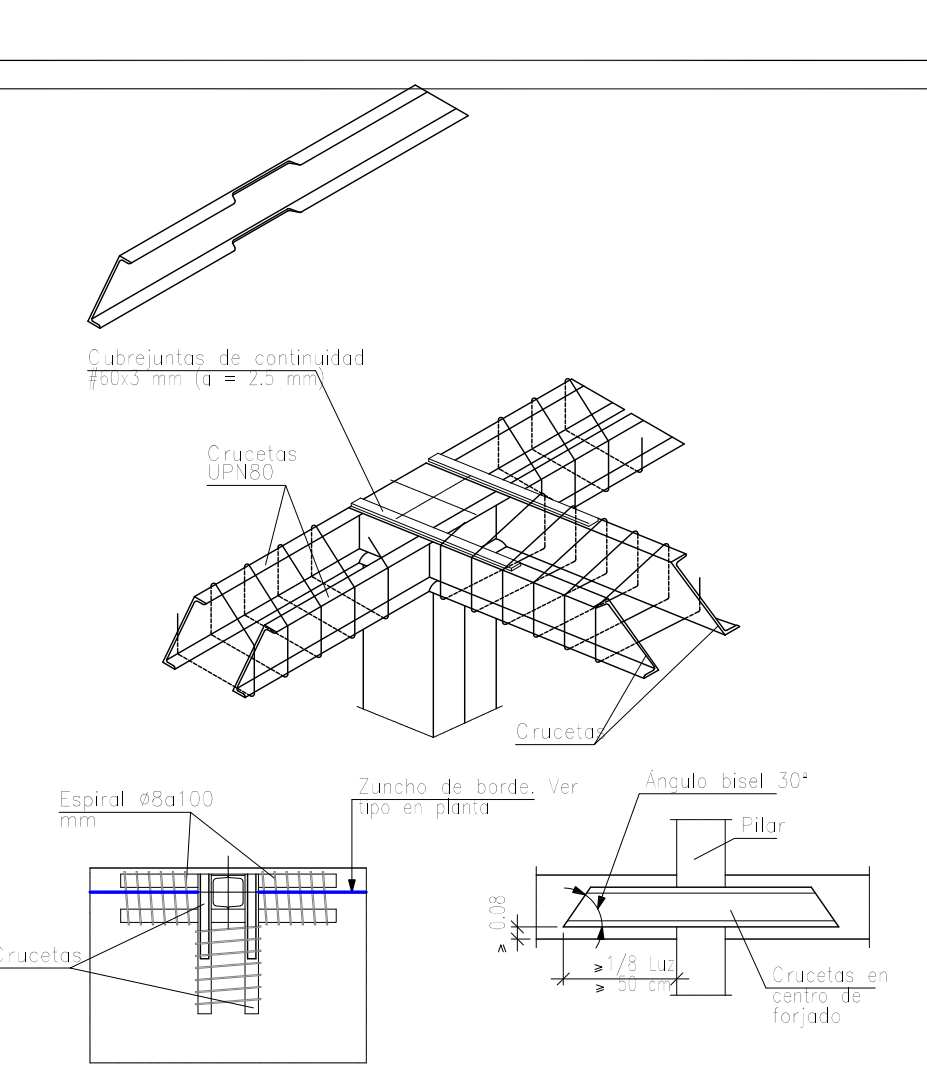
ENLACE SEMIRRIGIDO EN LÍNEA DE PILARES DE VIGA CON PILAR ZUPN DE ÚLTIMA PLANTA



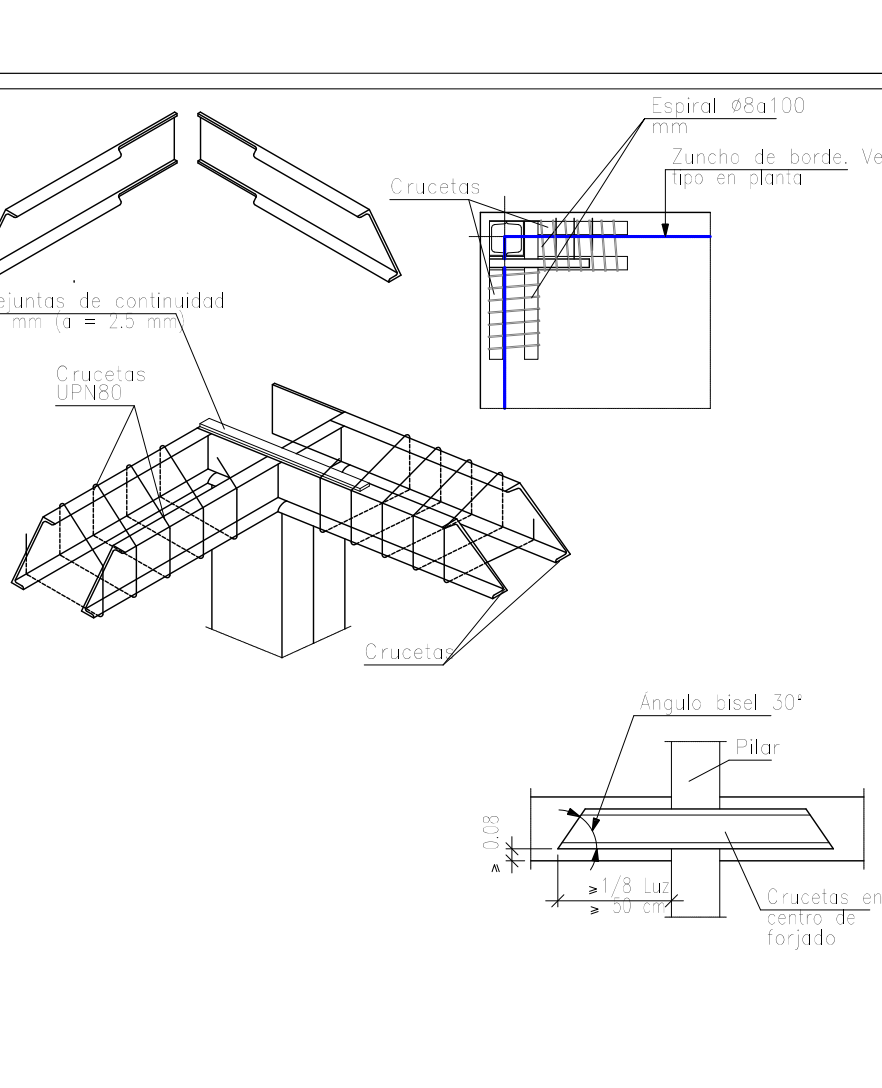
ENLACE SEMIRRIGIDO EN LÍNEA DE PILARES DE VIGA Y PILAR CON VIGA Y PILAR ZUPN



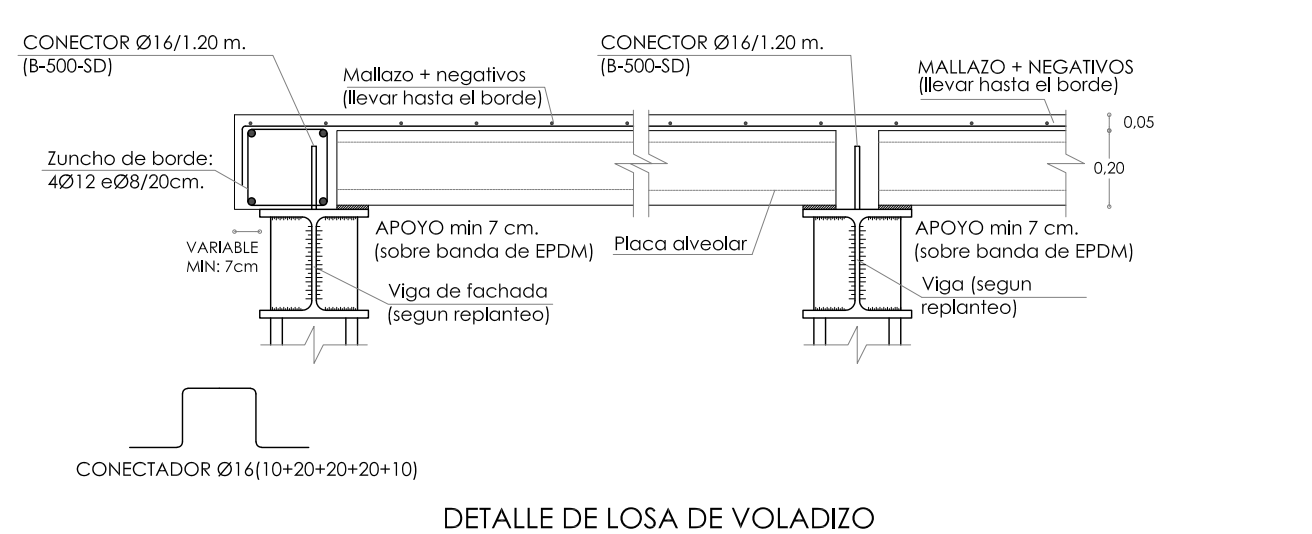
ENLACE DE LOSA MACIZA CON PILAR METÁLICO DE BORDE .



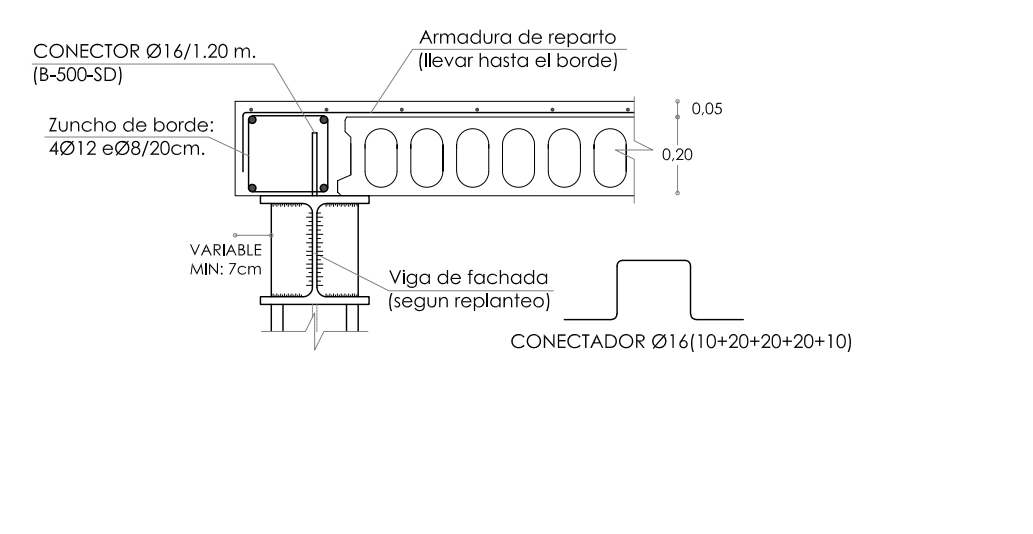
ENLACE DE LOSA MACIZA CON PILAR METÁLICO DE ESQUINA .



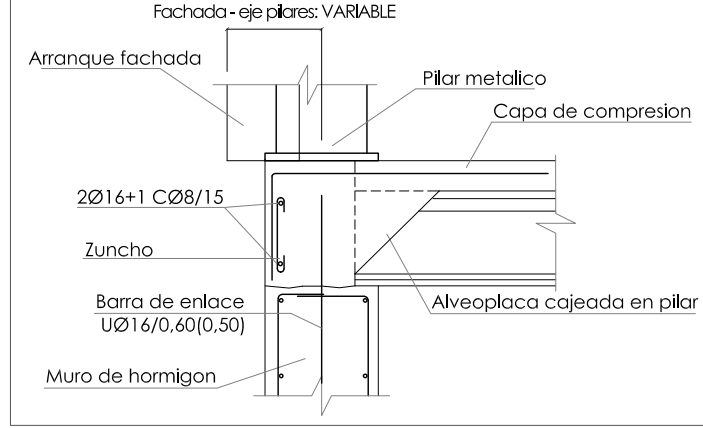
DETALLE DE APOYO DEL FORJADO EN LA ESTRUCTURA PRINCIPAL



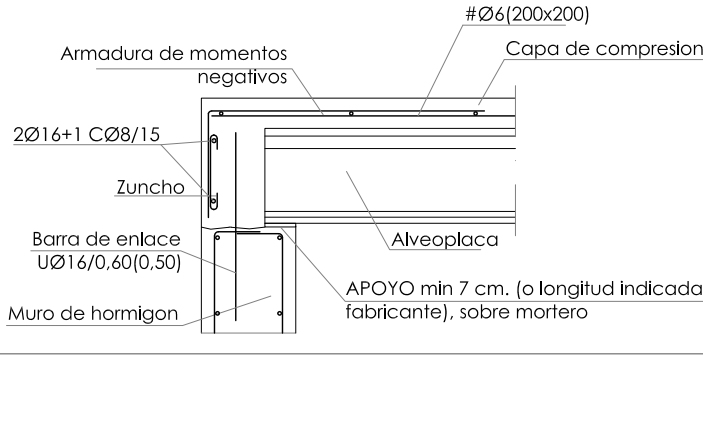
DETALLE DE JUNCHO DE BORDE PARALELO A PLACA



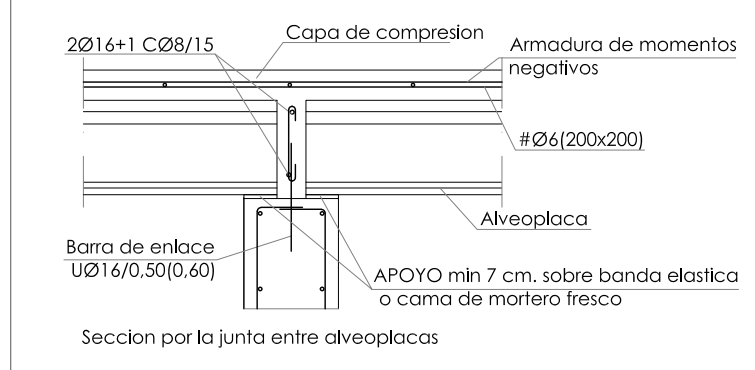
NACIMIENTO DE PILAR METÁLICO EN MURO



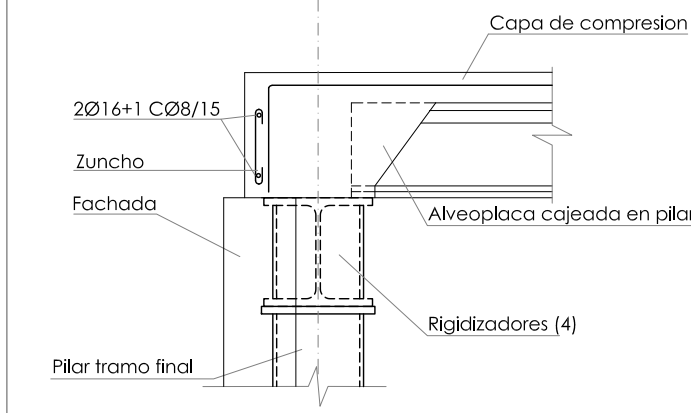
APOYO EXTREMO DE PLACA EN MURO



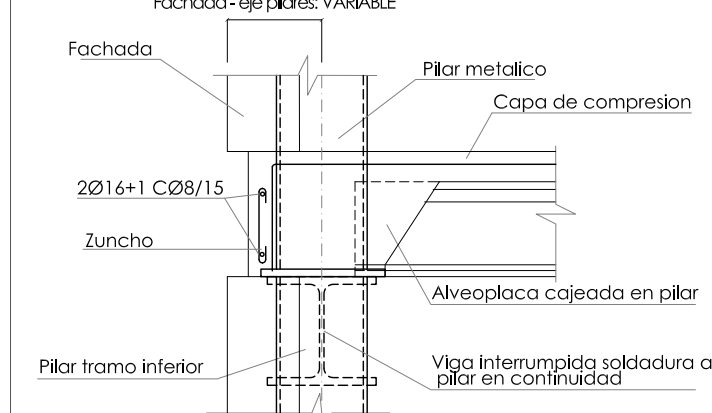
APOYO INTERMEDIO DE PLACA EN MURO



NUDO SUPERIOR DE PILAR METÁLICO



NUDO INTERMEDIO DE PILAR METÁLICO



C-308/15, $\sigma = 7,00$
Resistente
Hormigón: $\sigma_{cd} = 25$, Control Estadístico
Acero: $\sigma_{cd} = 355$, Control Estadístico
B-500 S, Control Normal
Control de los detalles constructivos
correspondientes a la
unión de las vigas metálicas con forjados
Escala: 1:100

| Resumen Acero Resistente | Long. total (m) | Peso+10% (kg) | Total |
|-----------------------------|--------------------|------------------|-------|
| B-500 S, CN-06 | 2710,0 | 662 | |
| 08 | 237,2 | 99 | |
| 010 | 415,8 | 282 | |
| 012 | 242,7 | 237 | 1280 |

Nota de especificación de la obra (Artículo 10.1)
El presente proyecto ha sido elaborado
conforme a las especificaciones de la
Norma de la Comunidad de Madrid
para la ejecución de las obras de
construcción de edificios de
residencia de viviendas de tipo
residencial. La obra se ejecutará
conforme a las especificaciones de la
Norma de la Comunidad de Madrid
para la ejecución de las obras de
construcción de edificios de
residencia de viviendas de tipo
residencial.

