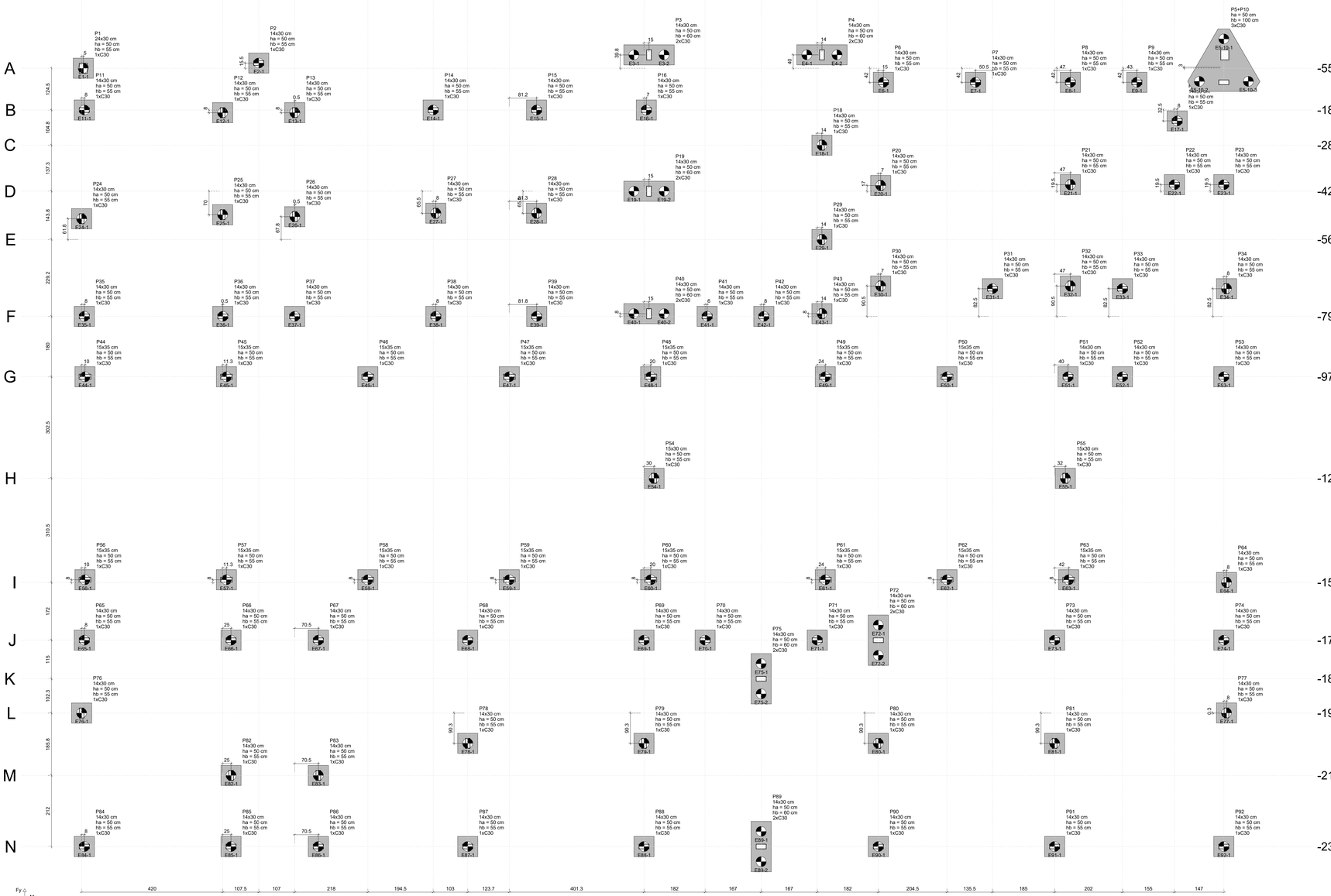


Estacas			
Simbologia	Nome	d (cm)	Quantidade
	C30	30.00	100

PLANTA DE LOCAÇÃO DAS ESTACAS

Escala 1:50

Nome	Seção (cm)	X (cm)	Y (cm)	Carga Máx. (tf)	Carga Min. (tf)	Pilar Mx Máximo (kgf.m) Positivo	Pilar Mx Máximo (kgf.m) Negativo	Pilar My Máximo (kgf.m) Positivo	Pilar My Máximo (kgf.m) Negativo	Pilar Fx Máximo (tf) Positivo	Pilar Fx Máximo (tf) Negativo	Pilar Fy Máximo (tf) Positivo	Pilar Fy Máximo (tf) Negativo	Fundação Lado B (cm)	Fundação Lado H (cm)	Fundação h0 / ha (cm)	Fundação h1 / hb (cm)	ne	Bloco Estaca	Bloco ca (cm)	Bloco Base tub. (cm)
P1	24x30	-3412.49	-55.50	2.1	0.2	400	-300	200	-200	0.1	0.0	0.2	-0.2	60	60	50	55	1	C30	-90	-
P2	14x30	-2889.99	-40.00	2.3	1.9	100	0	200	-100	0.1	-0.2	0.1	0.0	60	60	50	55	1	C30	-90	-
P3	14x30	-1727.50	-15.71	4.2	2.5	400	-200	0	-300	0.0	-1.8	0.0	-0.5	150	60	50	60	2	C30	-95	-
P4	14x30	-1212.49	-15.50	4.8	3.4	300	-300	400	0	1.8	0.0	0.6	0.0	150	60	50	60	2	C30	-95	-
P6	14x30	-1029.50	-97.50	3.2	3.0	0	-300	200	-300	0.1	-0.1	0.7	0.0	60	60	50	55	1	C30	-90	-
P7	14x30	-755.00	-97.50	2.4	2.4	100	-200	200	-300	0.1	-0.2	0.1	0.0	60	60	50	55	1	C30	-90	-
P8	14x30	-472.50	-97.50	3.0	2.8	0	-100	200	-100	0.4	0.0	0.6	0.0	60	60	50	55	1	C30	-90	-
P9	14x30	-274.50	-97.49	2.1	1.9	100	-200	100	-200	0.0	-0.4	0.1	0.0	60	60	50	55	1	C30	-90	-
P11	14x30	-3409.49	-180.00	4.6	3.1	100	-300	200	-300	0.0	-0.7	0.6	-0.2	60	60	50	55	1	C30	-90	-
P12	14x30	-2997.50	-188.00	4.3	4.1	100	-200	200	0	0.8	0.0	0.8	0.0	60	60	50	55	1	C30	-90	-
P13	14x30	-2782.50	-188.00	4.3	4.1	100	-200	0	-100	0.0	-0.8	0.3	0.0	60	60	50	55	1	C30	-90	-
P14	14x30	-2370.51	-180.00	4.0	3.8	0	-100	300	-200	0.6	0.0	0.6	0.0	60	60	50	55	1	C30	-90	-
P15	14x30	-2062.51	-180.00	3.6	3.4	0	-100	200	-200	0.0	-0.3	0.6	0.0	60	60	50	55	1	C30	-90	-
P16	14x30	-1735.50	-180.00	3.3	2.6	200	-100	200	-100	0.5	0.0	0.4	-0.3	60	60	50	55	1	C30	-90	-
P17	14x30	-154.50	-212.50	1.9	1.5	100	-200	300	0	0.1	-0.1	0.3	0.0	60	60	50	55	1	C30	-90	-
P18	14x30	-1212.50	-284.75	3.9	3.5	400	-300	100	0	0.0	-0.1	0.3	-0.5	60	60	50	55	1	C30	-90	-
P19	14x30	-1727.50	-422.00	4.6	4.2	200	-600	100	-200	0.0	-0.1	1.5	0.0	150	60	50	60	2	C30	-95	-
P20	14x30	-1037.50	-405.00	3.1	2.7	400	-400	0	-100	0.0	-0.1	0.2	-0.5	60	60	50	55	1	C30	-90	-
P21	14x30	-472.50	-402.50	3.3	3.1	300	-200	0	-100	0.0	-0.5	0.2	-0.4	60	60	50	55	1	C30	-90	-
P22	14x30	-162.50	-402.50	2.8	2.2	100	0	300	0	0.7	0.0	0.0	-0.4	60	60	50	55	1	C30	-90	-
P23	14x30	-15.50	-402.49	3.6	2.7	100	-200	100	-100	0.1	-0.3	0.2	-0.3	60	60	50	55	1	C30	-90	-
P24	14x30	-3417.49	-504.00	3.2	3.0	200	-300	100	0	0.1	0.0	0.0	-0.2	60	60	50	55	1	C30	-90	-
P25	14x30	-2997.50	-492.00	3.1	2.9	100	-400	0	-200	0.0	-0.4	0.5	0.0	60	60	50	55	1	C30	-90	-
P26	14x30	-2782.50	-498.00	3.1	2.9	100	-400	100	0	0.3	0.0	0.4	-0.2	60	60	50	55	1	C30	-90	-
P27	14x30	-2362.50	-487.50	2.5	2.4	200	-300	100	0	0.1	0.0	0.2	-0.1	60	60	50	55	1	C30	-90	-
P28	14x30	-2062.50	-487.50	2.4	2.4	200	-300	100	0	0.1	0.0	0.2	-0.1	60	60	50	55	1	C30	-90	-
P29	14x30	-1212.50	-565.79	5.6	5.4	400	-300	0	-400	0.8	0.0	0.2	-0.2	60	60	50	55	1	C30	-90	-
P30	14x30	-1037.50	-704.50	3.6	3.2	400	-200	0	-100	0.0	-0.4	0.0	-0.6	60	60	50	55	1	C30	-90	-
P31	14x30	-704.50	-712.50	2.6	2.5	100	-200	200	-100	0.3	0.0	0.1	0.0	60	60	50	55	1	C30	-90	-
P32	14x30	-472.50	-704.50	2.7	2.4	300	-300	100	0	0.2	0.0	-0.1	0.0	60	60	50	55	1	C30	-90	-
P33	14x30	-317.49	-712.49	3.1	2.8	0	-100	0	-400	0.0	-0.7	0.5	0.0	60	60	50	55	1	C30	-90	-
P34	14x30	-7.50	-712.49	3.6	3.4	200	-200	200	0	0.6	0.0	0.2	0.0	60	60	50	55	1	C30	-90	-
P35	14x30	-3409.49	-795.00	3.8	3.6	100	-200	100	-100	0.0	-0.7	0.1	-0.3	60	60	50	55	1	C30	-90	-
P36	14x30	-2997.50	-795.00	3.5	3.3	200	0	300	0	1.0	0.0	0.0	-0.2	60	60	50	55	1	C30	-90	-
P37	14x30	-2783.00	-795.00	3.5	3.3	100	0	0	-200	0.0	-0.8	0.0	-0.4	60	60	50	55	1	C30	-90	-
P38	14x30	-2362.50	-795.00	3.9	3.7	200	0	200	0	0.6	0.0	0.0	-0.5	60	60	50	55	1	C30	-90	-
P39	14x30	-2062.00	-795.00	3.6	3.4	200	0	100	-100	0.0	-0.4	0.0	-0.7	60	60	50	55	1	C30	-90	-
P40	14x30	-1727.50	-787.00	4.8	4.3	600	-200	100	0	0.3	0.0	0.0	-1.4	150	60	50	60	2	C30	-95	-
P41	14x30	-1554.50	-795.00	1.6	1.4	100	-100	100	-100	0.1	-0.3	0.1	0.0	60	60	50	55	1	C30	-90	-
P42	14x30	-1385.50	-795.00	1.8	1.6	200	-200	100	-100	0.1	-0.3	0.1	0.0	60	60	50	55	1	C30	-90	-
P43	14x30	-1212.49	-787.00	2.7	2.6	400	-300	100	0	0.2	0.0	0.3	-0.5	60	60	50	55	1	C30	-90	-
P44	15x35	-3407.49	-975.00	3.1	2.5	100	-200	200	-200	0.0	-0.8	0.1	-0.1	60	60	50	55	1	C30	-90	-
P45	15x35	-2986.25	-975.00	3.7	3.6	300	-200	300	0	0.4	0.0	0.1	-0.2	60	60	50	55	1	C30	-90	-
P46	15x35	-2565.00	-975.00	3.6	3.6	300	-400	200	-200	0.3	0.0	0.1	-0.2	60	60	50	55	1	C30	-90	-
P47	15x35	-2143.75	-975.00	3.6	3.6	300	-200	200	-200	0.2	-0.2	0.1	-0.2	60	60	50	55	1	C30	-90	-
P48	15x35	-1722.50	-975.00	5.8	5.6	0	0	0	0	0.0	-0.5	0.3	0.0	60	60	50	55	1	C30	-90	-
P49	15x35	-1202.50	-975.00	4.6	3.8	200	-100	200	-200	0.8	0.0	0.1	-0.3	60	60	50	55	1	C30	-90	-
P50	15x35	-840.00	-975.00	3.2	3.2	200	-300	100	-300	0.0	-0.3	0.1	-0.2	60	60	50	55	1	C30	-90	-
P51	14x30	-479.50	-975.00	3.8	3.2	100	-300	200	0	0.6	0.0	0.7	-0.2	60	60	50	55	1	C30	-90	-
P52	14x30	-317.49	-975.00	3.0	2.7	200	0	0	-200	0.0	-0.7	0.0	-0.6	60	60	50	55	1	C30	-90	-
P53	14x30	-15.50	-975.00	3.0	2.6	100	0	100	0	0.4	0.0	0.0	-0.3	60	60	50	55	1	C30	-90	-
P54	15x30	-1712.50	-1277.50	3.5	3.3	400	-600	100	-200	0.1	0.0	0.6	-0.2	60	60	50	55	1	C30	-90	-
P55	15x30	-487.50	-1277.50	3.5	3.3	400	-300	100	-200	0.1	0.0	0.3	-0.4	60	60	50	55	1	C30	-90	-
P56	15x35	-3407.49	-1580.00	3.2	2.4	200	-100	200	0	0.3	-0.6	0.2	0.0	60	60	50	55	1	C30	-90	-
P57	15x35	-2986.25	-1580.00	3.7	3.6	300	-200	300	0	0.4	0.0	0.1	-0.2	60	60	50	55	1	C30	-90	-
P58	15x35	-2565.00	-1580.00	3.6	3.6	300	-400	200	-200	0.3	0.0	0.1	-0.2	60	60	50	55	1	C30	-90	-
P59	15x35	-2143.75	-1580.00	3.6	3.6	300	-200	200	0	0.2	0.0	0.1	-0.2	60	60	50	55	1	C30	-90	-
P60	15x35	-1722.50	-1580.00	5.5	4.7	200	-200	100	-300	0.0	-0.6	0.0	-0.4	60	60	50	55	1	C30	-90	-
P61	15x35	-1202.50	-1580.00	3.9	3.8	300	-200	200	0	0.0	0.1	0.1	-0.2	60	60	50	55	1	C30	-90	-
P62	15x35	-840.00	-1580.00	3.1	3.1	300	-200	100	-100	0.0	-0.2	0.1	-0.2	60	60	50	55	1	C30	-90	-
P63	15x35	-477.50	-1580.00	5.3	4.6	200	0	0	-400	0.0	-1.1	0.0	-0.3	60	60	50	55	1	C30	-90	-
P64	14x30	-7.50	-1588.01	3.3	2.2	300	-200	200	0	1.1	0.0	0.1	-0.1	60	60	50	55	1	C30	-90	-
P65	14x30	-3409.49	-1760.01	3.4	3.3	200	-100	100	-100	0.0	-0.9	0.4	-0.5	60	60	50	55	1	C30	-90	-
P66	14x30	-2972.50	-1760.00	4.1	4.0	0	-200	400	0	1.0	0.0	1.0	0.0	60	60	50	55	1	C30	-90	-
P67	14x30	-2712.49	-1760.00	4.1	3.9	0	-200	100	-300	0.0	-0.8	1.0	0.0	60	60	50	55	1	C30	-90	-
P68	14x30	-2287.49	-1760.00	4.9	4.6	0	-100	100	-100	0.0	-0.4	0.6	0.0	60	60	50	55	1	C30	-90	-
P69	14x30	-1742.49	-1760.01	4.0	3.7	0	-100	400	0	1.5	0.0	0.6	0.0	60	60	50	55	1	C30	-90	-
P70	14x30	-1560.50	-1760.00	2.8	2.6	200	0	0	-400	0.0	-0.9	0.2	-0.3	60	60	50	55	1	C30	-90	-
P71	14x30	-1226.49	-1760.01	2.8	2.6	200	0	300	0	0.8	0.0	0.2	0.0	60	60	50	55	1	C30	-90	-
P72	14x30	-1044.49	-1760.01	4.0	3.6	0	-100	0	-300	0.0	-1.6	0.6	0.0	150	60	50	60	2	C30	-95	-
P73	14x30	-519.49	-1760.00	5.1	4.9	0	0	100	-300	0.0	-0.3	0.6	0.0	60	60	50	55	1	C30	-90	-
P74	14x30	-15.50	-1760.01	3.7	3.3	200	-100	200	-200	1.0	0.0	0.4	-0.3	60	60	50	55	1	C30	-90	-
P75	14x30	-1393.49	-1875.00	4.4	4.1	0	-300	100	-200	0.1	-0.2	1.8	0.0	150	60	50	60	2	C30	-95	-
P76	14x30	-3417.50	-1977.25	3.3	3.0	200	-400	100	0	0.1	0.0	0.9	0.0	60	60	50	55	1	C30	-90	-
P77	14x30	-7.51	-1978.98	3.4	3.0	200	-400	100	0	0.1	0.0	1.0	0.0	60	60	50	55	1	C30	-90	-
P78	14x30	-2267.49	-2067.50	2.5	2.5	200	-300	100	0	0.1	0.0	0.2	-0.1	60	60	50	55	1	C30	-90	-
P79	14x30	-1742.49	-2067.50	2.5	2.5	300	-300	100	0	0.1	0.0	0.2	-0.3	60	60	50	55	1	C30	-90	-
P80	14x30	-1044.50	-2067.51	2.5	2.5	300	-300	100	0	0.1	0.0	0.2	-0.3	60	60	50	55	1	C30	-90	-
P81	14x30	-519.49	-2067.50	2.5	2.5	200	-300	100	0	0.1	0.0	0.2	-0.1	60	60	50	55	1	C30	-90	-
P82	14x30	-2972.49	-2163.01	3.4	3.2	300	-200	0	-100	0.0	-0.4	0.0	-1.0	60	60	50	55	1	C30	-90	-
P83	14x30	-2712.49	-2163.00	3.4	3.2	300	0	200	0	0.5	0.0	0.0	-1.0	60	60	50	55	1	C30	-90	-
P84	14x30	-3409.49	-2375.00	3.8	3.3	300	0	100	-100	0.0	-0.9	0.0	-0.9	60	60	50	55	1	C30	-90	-
P85	14x30	-2972.50	-2375.00	3.6	3.1	100	0	400	0	1.1	0.0	0.0	-0.2	60	60	50	55	1	C30	-90	-
P86	14x30	-2712.50	-2375.00	3.5	3.1	100	0	100	-300	0.0	-0.8	0.0	-0.2	60	60	50	55	1	C30	-90	-
P87	14x30	-2287.49	-2375.01	4.8	4.6	200	0	100	-100	0.0	-0.4	0.0	-0.5	60	60	50	55	1	C30	-90	-
P88	14x30	-1742.49	-2375.00	4.5	4.3	200	0	300	0	1.0	0.0	0.0	-0.7	60	60	50	55	1	C30	-90	-
P89	14x30	-1393.49	-2375.00	4.7	4.5	400	0	100	-100	0.1	-0.1	0.0	-1.8	150	60	50	60	2	C30	-95	-
P90	14x30	-1044.50	-2375.00	4.5	4.2	0	0	0	-400	0.0	-1.1	0.0	-0.7	60	60	50	55	1	C30	-90	-
P91	14x30	-519.49	-2375.01	5.1	4.8	200	0	100	-300	0.0	-0.3	0.0	-0.5	60	60	50	55	1	C30	-90	-
P92	14x30	-15.50	-2375.00	3.9	3.5	300	0	100	-200	1.0	0.0	0.0	-1.0	60	60	50	55	1	C30	-90	-
P5+P10	-	-15.50	-52.50	4.5	4.1	3100	-1000	400	-200	0.3	0.0	0.8	-0.3	215	186	50	100	3	C30	-135	-

Os esforços indicados nesta tabela são os valores máximos obtidos pela envoltória de todas as combinações definidas para as fundações. Para análises complementares, deve-se consultar o relatório de esforços na fundação, que apresenta os valores calculados para cada combinação.

CONCRETO ESTRUTURAL (ESTACAS):

1) CONSIDERADA CAA II - MODERADA
2) RESISTÊNCIA COMPRESSÃO ≥20MPa: Módulo de elasticidade 24 GPa. Brita diâmetro máx. 19 mm.
3) ABATIMENTO CONCRETO (SLUMP) = 12 ± 2cm
4) CONSUMO CIMENTO ≥ 300kg/m3
5) RELAÇÃO AGUA/CIMENTO ≤ 0,60

Locação no eixo Y

Coordenadas (cm)	Nome
-15.50	P4
-15.71	P3
-40.00	P2
-52.50	P5+P10
-55.50	P1
-97.49	P9
-97.50	P6, P7, P8
-180.00	P11, P14, P15, P16
-188.00	P12, P13
-212.50	P17
-284.75	P18
-402.50	P21, P22
-402.49	P23
-405.00	P20
-422.00	P19
-487.50	P27, P28
-492.00	P25
-498.00	P26
-504.00	P24
-565.79	P29
-704.50	P30, P32
-712.50	P31
-712.49	P33, P34
-787.00	P40, P43
-795.00	P35, P36, P37, P38, P39, P41, P42
-975.00	P44, P45, P46, P47, P48, P49, P50, P51, P52, P53
-1277.50	P54, P55
-1580.00	P56, P57, P58, P59, P60, P61, P62, P63
-1588.01	P64
-1760.01	P65
-1760.00	P66, P67, P68
-1760.01	P69
-1760.00	P70
-1760.01	P71, P72
-1760.00	P73
-1760.01	P74
-1875.00	P75
-1976.95	P77
-1977.25	P76
-2067.50	P78, P79, P81
-2067.51	P80
-2163.00	P83
-2163.01	P82
-2375.00	P84, P85, P86, P88, P89, P90, P92
-2375.01	P87, P91

Locação no eixo X

Coordenadas (cm)	Nome
-3417.50	P76
-3417.49	P24
-3412.49	P1
-3409.49	P11, P35, P65, P84
-3407.49	P44, P56
-2997.50	P12, P25
-2997.00	P36
-2988.25	P45, P57
-2972.50	P66, P85
-2972.49	P82
-2889.99	P2
-2783.00	P37
-2782.50	P13, P26
-2712.50	P86
-2712.49	P67, P83
-2565.00	P46, P58
-2370.51	P14
-2362.50	P27, P38
-2287.49	P68, P78, P87
-2143.75	P47, P59
-2062.51	P15
-2062.50	P28
-2062.00	P39
-1742.49	P69, P79, P88
-1735.50	P16
-1727.50	P3, P19, P40
-1722.50	P48, P60
-1712.50	P54
-1560.50	P70
-1554.50	P41
-1393.49	P75, P89
-1385.50	P42
-1226.49	P71
-1212.49	P4
-1212.50	P18, P29
-1212.49	P43
-1202.50	P49, P61
-1044.49	P72
-1044.50	P80, P90
-1037.50	P20, P30
-1029.50	P6
-840.00	P50, P62
-755.00	P7
-704.50	P31
-519.49	P73, P81, P91
-487.50	P55
-479.50	P51
-477.50	P63
-472.50	P8, P21, P32
-317.49	P33, P52
-274.50	P9
-162.50	P22
-154.50	P17
-15.50	P5+P10, P23, P53, P74, P92
-7.50	P34, P64
-7.51	P77

NOTAS GERAIS:

1 - MEDIDAS EM CENTIMETROS. CONFERIR COTAS CONFORME PROJETO ARQUITETÔNICO.
2 - PROJETO ESTRUTURAL DE ACORDO COM A NBR-6118/23 "PROJETO E EXECUÇÃO DE OBRAS DE CONCRETO ARMADO".
3 - TODA ARMADURA DEVERÁ SER LIMPA COM JATO DE AR E ÁGUA ANTES DA CONCRETAGEM
4 - AS ARMADURAS DEVERÃO SER ESTOCADAS COM PROTEÇÃO A FIM DE EVITAR A CONTAMINAÇÃO DEVIDO AO AMBIENTE AGRESSIVO
5 - DEVERA SER OBEDECIDO AS NORMAS E RECOMENDAÇÕES DOS ORGÃOS DE FISCALIZAÇÃO DO MEIO AMBIENTE E ORIENTAÇÃO DA FISCALIZAÇÃO DA OBRA.
6 - QUALQUER ALTERAÇÃO NO PROJETO, SÓ PODERÁ SER EXECUTADO APÓS VERIFICAÇÃO E APROVAÇÃO DO PROJETISTA ESTRUTURAL.
7 - NENHUMA CONCRETAGEM PODERA SER REALIZADA SEM A PRESENÇA DO ENGENHEIRO RESPONSÁVEL PELA OBRA.
8 - AS FORMAS DEVEM TER ESCORAMENTO, TRAVAMENTO E CONTRAVENTAMENTO ADEQUADOS PARA RESISTIR AS PRESSÕES DE CONCRETAGEM, MANTENDO CONTRA FLECHAS, ALINHAMENTOS E O NIVELAMENTOS DE PROJETO.
9 - SEGUIR AS ORIENTAÇÕES DE SEGURANÇA QUANTO A ESTABILIDADE DAS ESCAVAÇÕES, PROVIDENCIAR ESCORAMENTOS ADEQUADOS ONDE NECESSÁRIOS. CONSULTAR SONDAGEM LOCAL (REF. TIPO DO SOLO) E NIVEL DO LENÇOL FREÁTICO.
10 - VERIFICAR A CAPACIDADE DE CARGA DO SOLO, SENDO NECESSÁRIO, SUBSTITUIR O SOLO RUIM POR SOLO ADEQUADO, COMPACTANDO EM CAMADAS FINAS A 100% DO PROCTOR NORMAL.
11 - VERIFICAR ORÇAMENTO E MEMORIAL DESCRITIVO QUE COMPLEMENTAM O PROJETO.

CONCRETO ESTRUTURAL(EXCETO ESTACAS):

1) CONSIDERADA CAA II - MODERADA
2) RESISTÊNCIA COMPRESSÃO ≥25MPa: Módulo de elasticidade 24 GPa. Brita diâmetro máx. 19 mm.
3) ABATIMENTO CONCRETO (SLUMP) = 12 ± 2cm
4) CONSUMO CIMENTO ≥ 360kg/m3
5) RELAÇÃO AGUA/CIMENTO ≤ 0,60
6) COBRIMENTO MÍNIMO DAS ARMADURAS:

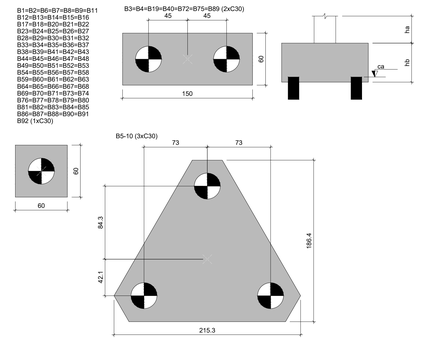
LAJES(*):		BLOCOS/SAPATAS:	4,0 cm
ARMADURA NEGATIVA	2,5 cm	ESTACAS/TIRÚLOES:	4,0 cm
ARMADURA POSITIVA	2,5 cm	CORTINA/SIMUROS:	4,0 cm
ESCADAS:	2,5 cm	PILARES:	3,0 cm
VIGAS(*):		PILARES EM CONTATO COM O SOLO	4,5 cm
VIGAS DE BALDRAME	4,5 cm	RESERVATÓRIOS:	
DEMAIS VIGAS	3,0 cm	LAJE DA TAMPA	4,5 cm
		PAREDES E LAJE DO FUNDO	4,5 cm

ATENÇÃO:
DEVE SER REALIZADO CONTROLE RIGOROSO DE QUALIDADE E RIGIDOS LIMITES DE TOLERÂNCIA DA VARIABILIDADE DAS MEDIDAS DURANTE A EXECUÇÃO.
OS COBRIMENTOS DEVERÃO SER GARANTIDOS COM A UTILIZAÇÃO DE ESPACADORES PLÁSTICOS.

7) PRAZO PARA RETIRADA DAS FORMAS:
7.1) Laterais de Vigas: 03 dias
7.2) Pilares: 03 dias
7.3) Fundo de Vigas: 07 dias (REESCORAR)
7.4) Paineis de Lajes: 07 dias (REESCORAR)

CONSIDERAÇÕES DO PROJETO:

1. OS PROJETISTAS ESTRUTURAIS APENAS SE RESPONSABILIZAM PELAS ATIVIDADES TÉCNICAS DOS PROJETOS ESTRUTURAIS, CONTIDOS NAS RESPECTIVAS ART'S. NÃO FICANDO RESPONSÁVEIS, POR QUAISQUER SERVIÇOS DE PLANEJAMENTO DE OBRA, EXECUÇÃO LOGÍSTICA, ETC., QUE PODEM APARECER NAS FASES DA OBRA.
2. DEMAIS CONSTRUÇÕES OU REFORMAS APONTADAS APÓS A EMISSÃO DAS ART'S DOS PROJETOS ESTRUTURAIS, NÃO SÃO DE RESPONSABILIDADE DOS PROFISSIONAIS TITULARES DESTE PROJETO.



LEGENDA DOS BLOCOS

Escala 1:25

Resultado dos Métodos

	Carga admissível da estaca (t)			
	Capacidade de carga total da estaca (t)			
	apacidade de carga resitência de ponta (t)			
	apacidade de carga atrito lateral (t)			
Pedro Paulo Costa Velloso	23,4	19,0	42,4	**17,0**
Aoki Velloso	11,8	25,9	37,7	**18,9**
Decourt Quaresma	19,6	18,6	38,2	**19,7**
Alberto Henriques Teixeira	24,1	4,0	28,1	**17,1**
Urbano Rodrigues Alonso	21,7	16,2	37,8	**18,9**
Média dos processos	20,1	16,7	36,8	**18,3**

RELAÇÃO DO AÇO

100xC30

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	4000	80	320.000
CA50	2	12.5	400	820	328.000

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 0% (kg)
CA50	12.5	328.00	315.87
CA60	5.0	320.00	49.28

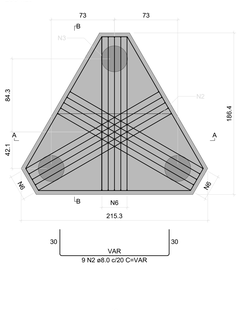
PESO TOTAL (kg)

CA50	315.87
CA60	49.28

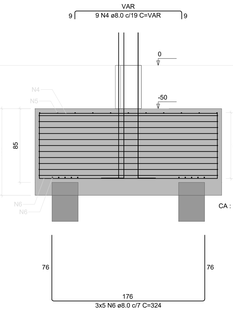
Volume de concreto (C-20) = 56.52 m³

DETALHE TÍPICO DAS ESTACAS BROCA C30 ø30 cm (X100)
ESC 1:25

B5-10
3xC30
PLANTA
ESC 1:25



CORTE A-A
ESC 1:25



CORTE B-B
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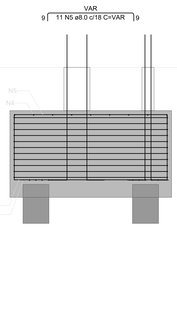

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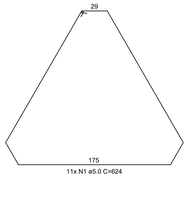
=P61=P62=P63



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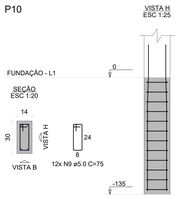

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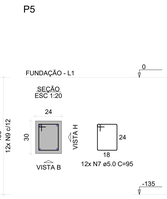

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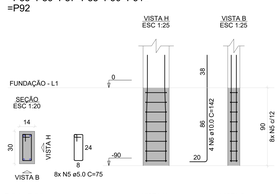

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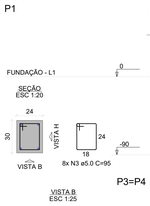

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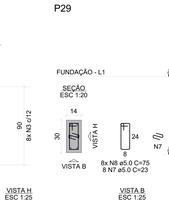

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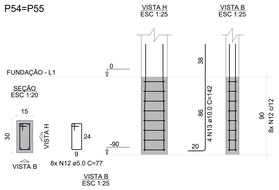

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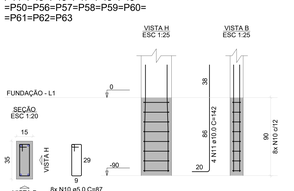

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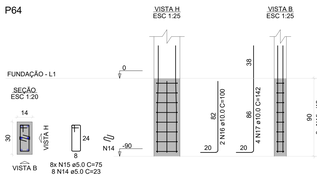

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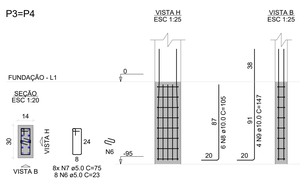

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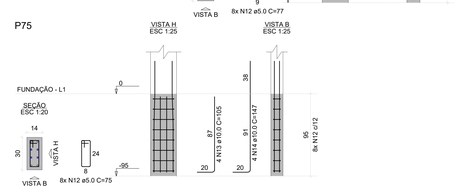

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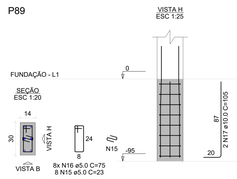


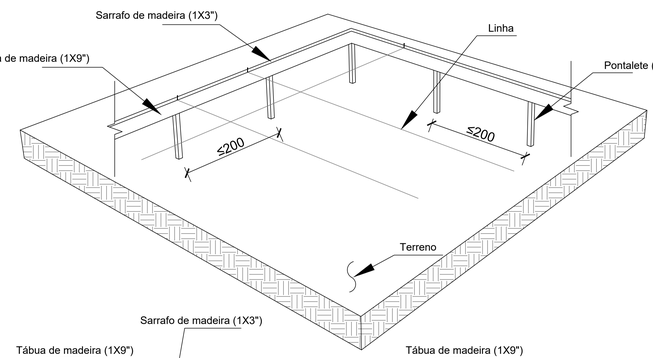
ARMADURA COM COMPRIMENTO VARIÁVEL				
N2	QUANT	C. VAR (cm)	C. UNIT (cm)	C. TOTAL (cm)
A	1	40	98	98
B	1	63	121	121
C	1	85	143	143
D	1	108	166	166
E	1	130	188	188
F	1	153	211	211
G	1	176	234	234
H	1	186	244	244
I	1	198	256	256

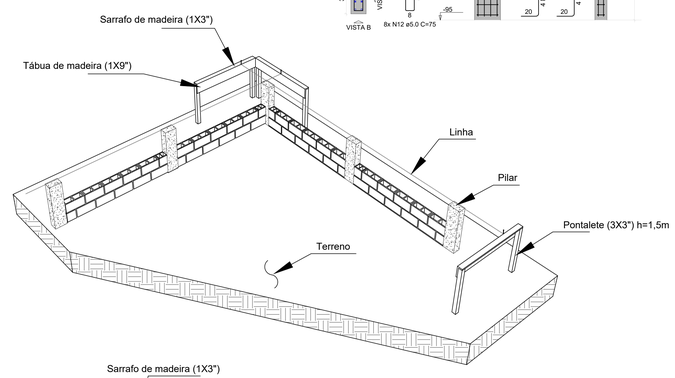
ARMADURA COM COMPRIMENTO VARIÁVEL				
N3	QUANT	C. VAR (cm)	C. UNIT (cm)	C. TOTAL (cm)
A	2	39	97	194
B	2	84	142	284
C	2	123	181	362
D	2	162	220	440
E	1	176	234	234

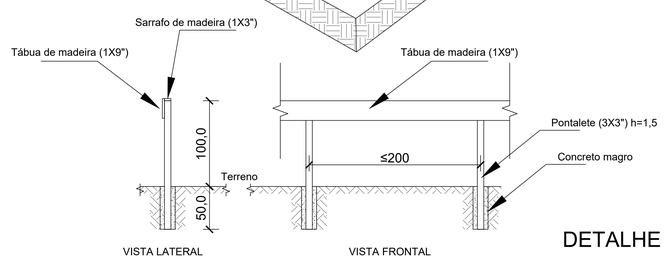
ARMADURA COM COMPRIMENTO VARIÁVEL				
N4	QUANT	C. VAR (cm)	C. UNIT (cm)	C. TOTAL (cm)
A	1	30	46	46
B	1	55	71	71
C	1	80	96	96
D	1	105	121	121
E	1	130	146	146
F	1	156	172	172
G	1	176	192	192
H	1	181	197	197
I	1	201	217	217

ARMADURA COM COMPRIMENTO VARIÁVEL				
N5	QUANT	C. VAR (cm)	C. UNIT (cm)	C. TOTAL (cm)
A	1	4	20	20
B	1	5	21	21
C	2	62	78	156
D	1	96	112	112
E	1	97	113	113
F	1	131	147	147
G	1	132	148	148
H	1	166	182	182
I	1	167	183	183
J	1	176	192	192

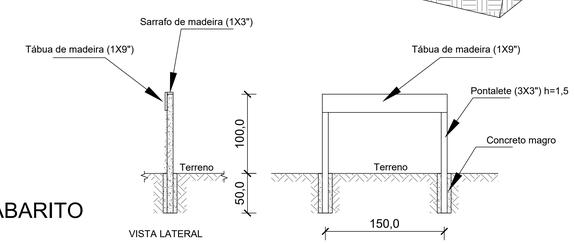
LOCAÇÃO DAS ESTACAS											
Bloco	Nome	Tipo	Coordenada X (cm)	Coordenada Y (cm)	Carga máx. tf	Carga mín. tf	Momento máx. kgf.m	Momento mín. kgf.m	Força horiz. máx. tf	Força horiz. mín. tf	CA (cm)
B1	E1-1	C30	-3412.49	-55.50	2.56	0.62	394.48	26.26	0.21	0.04	-90
B2	E2-1	C30	-2889.99	-40.00	2.72	2.31	175.26	13.19	0.09	0.00	-90
B3	E3-1	C30	-1772.50	-15.71	3.66	2.83	254.40	45.92	0.84	0.80	-95
	E3-2		-1682.50	-15.71	1.75	0.92	254.40	45.92	0.84	0.80	-
B4	E4-1	C30	-1257.49	-15.50	2.03	1.33	256.04	26.74	0.88	0.84	-95
	E4-2		-1167.49	-15.50	4.04	3.33	256.04	26.74	0.88	0.84	-
B6	E6-1	C30	-1029.50	-97.50	3.65	3.42	385.91	155.23	0.69	0.42	-90
B7	E7-1	C30	-755.00	-97.50	2.81	2.78	242.67	50.31	0.22	0.01	-90
B8	E8-1	C30	-472.50	-97.50	3.46	3.19	356.17	144.15	0.60	0.39	-90
B9	E9-1	C30	-274.50	-97.49	2.49	2.36	341.57	10.20	0.42	0.08	-90
B11	E11-1	C30	-3409.49	-180.00	5.06	3.55	426.61	172.55	0.93	0.68	-90
B12	E12-1	C30	-2997.50	-188.00	4.73	4.54	431.39	262.81	0.78	0.54	-90
B13	E13-1	C30	-2782.50	-188.00	4.74	4.53	358.53	201.12	0.67	0.43	-90
B14	E14-1	C30	-2370.51	-180.00	4.40	4.18	434.06	222.27	0.68	0.55	-90
B15	E15-1	C30	-2062.51	-180.00	4.02	3.77	394.38	192.98	0.59	0.44	-90
B16	E16-1	C30	-1735.50	-180.00	3.74	2.98	321.70	28.72	0.53	0.29	-90
B17	E17-1	C30	-154.50	-212.50	2.34	1.90	248.70	82.12	0.30	0.16	-90
B18	E18-1	C30	-1212.50	-284.75	4.33	3.91	479.15	30.72	0.39	0.05	-90
B19	E19-1	C30	-1772.50	-422.00	3.00	2.78	499.47	54.55	0.70	0.41	-95
	E19-2		-1682.50	-422.00	2.89	2.68	499.47	54.55	0.70	0.41	-
B20	E20-1	C30	-1037.50	-405.00	3.51	3.16	440.45	91.54	0.40	0.13	-90
B21	E21-1	C30	-472.50	-402.50	3.70	3.56	414.57	200.74	0.57	0.46	-90
B22	E22-1	C30	-162.50	-402.50	3.24	2.58	435.00	191.11	0.70	0.51	-90
B23	E23-1	C30	-15.50	-402.49	3.99	3.13	165.69	24.59	0.18	0.05	-90
B24	E24-1	C30	-3417.49	-504.00	3.64	3.43	190.23	5.27	0.06	0.03	-90
B25	E25-1	C30	-2997.50	-492.00	3.54	3.32	426.28	128.45	0.52	0.32	-90
B26	E26-1	C30	-2782.50	-488.00	3.54	3.33	394.53	127.09	0.46	0.28	-90
B27	E27-1	C30	-2362.50	-487.50	2.87	2.87	216.96	6.63	0.13	0.00	-90
B28	E28-1	C30	-2062.50	-487.50	2.87	2.86	237.11	5.55	0.14	0.01	-90
B29	E29-1	C30	-1212.50	-565.79	6.00	5.86	519.32	64.18	0.84	0.64	-90
B30	E30-1	C30	-1037.50	-704.50	4.03	3.58	534.73	173.41	0.69	0.44	-90
B31	E31-1	C30	-704.50	-712.50	2.98	2.90	180.31	23.19	0.26	0.18	-90
B32	E32-1	C30	-472.50	-704.50	3.12	2.80	415.37	14.93	0.51	0.27	-90
B33	E33-1	C30	-337.49	-712.49	3.51	3.26	539.99	311.27	0.83	0.71	-90
B34	E34-1	C30	-7.50	-712.49	4.05	3.85	361.75	179.42	0.51	0.40	-90
B35	E35-1	C30	-3409.49	-795.00	4.18	3.97	366.31	161.58	0.74	0.63	-90
B36	E36-1	C30	-2997.00	-795.00	3.94	3.75	627.42	382.80	1.08	0.90	-90
B37	E37-1	C30	-2783.00	-795.00	3.95	3.74	496.38	263.28	0.90	0.72	-90
B38	E38-1	C30	-2362.50	-795.00	4.34	4.13	415.99	262.32	0.74	0.63	-90
B39	E39-1	C30	-2062.00	-795.00	4.05	3.78	329.26	196.61	0.60	0.45	-90
B40	E40-1	C30	-1772.50	-787.00	2.94	2.66	487.35	24.14	0.64	0.36	-95
	E40-2		-1682.50	-787.00	3.13	2.92	487.35	24.14	0.64	0.36	-
B41	E41-1	C30	-1554.50	-795.00	1.97	1.79	170.61	23.40	0.19	0.01	-90
B42	E42-1	C30	-1385.50	-795.00	2.18	2.04	164.98	25.01	0.18	0.01	-90
B43	E43-1	C30	-1212.49	-787.00	3.14	2.97	437.92	20.05	0.38	0.08	-90
B44	E44-1	C30	-3407.49	-975.00	3.48	2.94	271.51	35.80	0.67	0.53	-90
B45	E45-1	C30	-2986.25	-975.00	4.08	4.06	327.84	69.94	0.35	0.20	-90
B46	E46-1	C30	-2565.00	-975.00	4.02	4.02	335.64	13.37	0.22	0.01	-90
B47	E47-1	C30	-2143.75	-975.00	4.00	3.99	268.75	30.62	0.19	0.03	-90
B48	E48-1	C30	-1722.50	-975.00	6.22	5.98	160.39	111.37	0.54	0.38	-90
B49	E49-1	C30	-1202.50	-975.00	5.23	4.27	411.08	113.75	0.76	0.55	-90
B50	E50-1	C30	-840.00	-975.00	3.64	3.63	295.72	47.22	0.33	0.18	-90
B51	E51-1	C30	-479.50	-975.00	4.22	3.58	412.09	196.34	0.78	0.49	-90
B52	E52-1	C30	-317.49	-975.00	3.43	3.15	484.51	305.76	0.84	0.65	-90
B53	E53-1	C30	-15.50	-975.00	3.46	3.02	235.68	132.87	0.49	0.39	-90
B54	E54-1	C30	-1712.50	-1277.50	3.92	3.75	636.97	124.43	0.55	0.02	-90
B55	E55-1	C30	-487.50	-1277.50	3.87	3.74	424.51	11.00	0.26	0.00	-90
B56	E56-1	C30	-3407.49	-1580.00	3.67	2.80	239.54	50.18	0.65	0.53	-90
B57	E57-1	C30	-2986.25	-1580.00	4.08	4.06	301.80	112.07	0.34	0.23	-90
B58	E58-1	C30	-2565.00	-1580.00	4.02	4.02	345.48	10.17	0.21	0.07	-90
B59	E59-1	C30	-2143.75	-1580.00	4.00	3.99	274.75	22.81	0.18	0.05	-90
B60	E60-1	C30	-1722.50	-1580.00	5.95	5.13	412.81	155.28	0.80	0.55	-90
B61	E61-1	C30	-1202.50	-1580.00	4.30	4.26	403.54	177.02	0.73	0.60	-90
B62	E62-1	C30	-840.00	-1580.00	3.55	3.55	254.88	23.44	0.24	0.10	-90
B63	E63-1	C30	-477.50	-1580.00	5.72	4.98	599.00	425.19	1.05	0.94	-90
B64	E64-1	C30	-7.50	-1588.01	3.73	2.64	576.21	444.92	1.06	0.97	-90
B65	E65-1	C30	-3409.49	-1760.01	3.83	3.75	386.34	143.77	0.83	0.67	-90
B66	E66-1	C30	-2972.50	-1760.00	4.51	4.37	791.98	577.26	1.40	1.25	-90
B67	E67-1	C30	-2712.49	-1760.00	4.48	4.34	584.91	448.77	1.13	1.02	-90
B68	E68-1	C30	-2267.49	-1760.00	5.27	5.05	364.30	227.10	0.67	0.55	-90
B69	E69-1	C30	-1742.49	-1760.01	4.46	4.09	789.13	519.42	1.50	1.29	-90
B70	E70-1	C30	-1560.50	-1760.00	3.24	2.99	508.06	214.05	0.80	0.53	-90
B71	E71-1	C30	-1228.49	-1760.01	3.25	3.01	478.64	186.00	0.76	0.49	-90
B72	E72-1	C30	-1044.49	-1715.01	2.97	2.65	434.73	283.63	0.77	0.66	-95
	E72-2		-1044.49	-1805.01	2.36	2.17	434.73	283.63	0.77	0.66	-
B73	E73-1	C30	-519.49	-1760.00	5.50	5.27	327.92	194.60	0.56	0.41	-90
B74	E74-1	C30	-15.50	-1760.01	4.12	3.74	406.58	163.34	0.97	0.85	-90
B75	E75-1	C30	-1393.49	-1830.00	3.75	3.69	58.07	0.63	0.86	0.78	-95
	E75-2		-1393.49	-1920.00	1.93	1.59	58.07	0.63	0.86	0.78	-
B76	E76-1	C30	-3417.50	-1977.25	3.74	3.44	694.72	15.87	0.87	0.65	-90
B77	E77-1	C30	-7.51	-1976.95	3.81	3.46	708.66	50.46	0.97	0.67	-90
B78	E78-1	C30	-2267.49	-2067.50	2.87	2.87	213.14	5.41	0.13	0.01	-90
B79	E79-1	C30	-1742.49	-2067.50	2.88	2.87	284.37	18.64	0.17	0.01	-90
B80	E80-1	C30	-1044.50	-2067.51	2.87	2.87	282.80	17.99	0.17	0.01	-90
B81	E81-1	C30	-519.49	-2067.50	2.87	2.87	222.70	5.57	0.13	0.01	-90
B82	E82-1	C30	-2972.49	-2163.01	3.86	3.57	603.17	243.45	0.98	0.76	-90
B83	E83-1	C30	-2712.49	-2163.00	3.85	3.58	594.86	255.47	0.98	0.77	-90
B84	E84-1	C30	-3409.49	-2375.00	4.19	3.69	563.39	383.53	1.17	1.02	-90
B85	E85-1	C30	-2972.50	-2375.00	3.98	3.56	649.98	404.39	1.07	0.91	-90
B86	E86-1	C30	-2712.50	-2375.00	3.95	3.54	371.75	117.57	0.68	0.49	-90
B87	E87-1	C30	-2267.49	-2375.01	5.26	5.04	348.94	213.53	0.65	0.53	-90
B88	E88-1	C30	-1742.49	-2375.00	4.94	4.68	564.09	353.64	1.04	0.90	-90
B89	E89-1	C30	-1393.49	-2300.00	1.93	1.82	80.00	1.35	0.90	0.81	-95
	E89-2		-1393.49	-2420.00	4.13	3.84	80.00	1.35	0.90	0.81	-
B90	E90-1	C30	-1044.50	-2375.00	4.93	4.67	604.63	386.32	1.09	0.95	-90
B91	E91-1	C30	-519.49	-2375.01	5.49	5.26	337.59	206.14	0.57	0.42	-90
B92	E92-1	C30	-15.50	-2375.00	4.31	3.94	552.47	398.49	1.26	1.14	-90
B5-10	E5-10-1	C30	-15.50	31.79	4.71	0.89	0.00	0.00	0.25	0.07	-135
	E5-10-2		-88.50	-94.65	4.67	2.78	0.00	0.00	0.25	0.07	-
	E5-10-3		57.50	-94.65	4.85	3.21	0.00	0.00	0.25	0.07	-

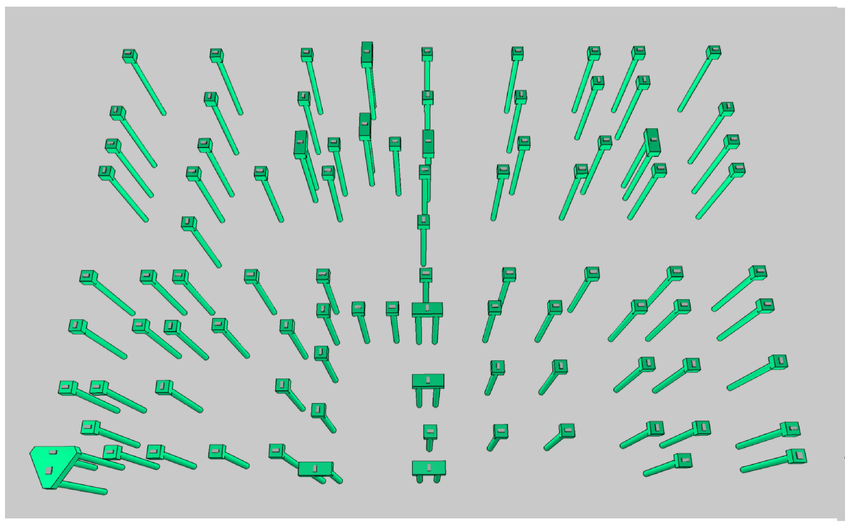


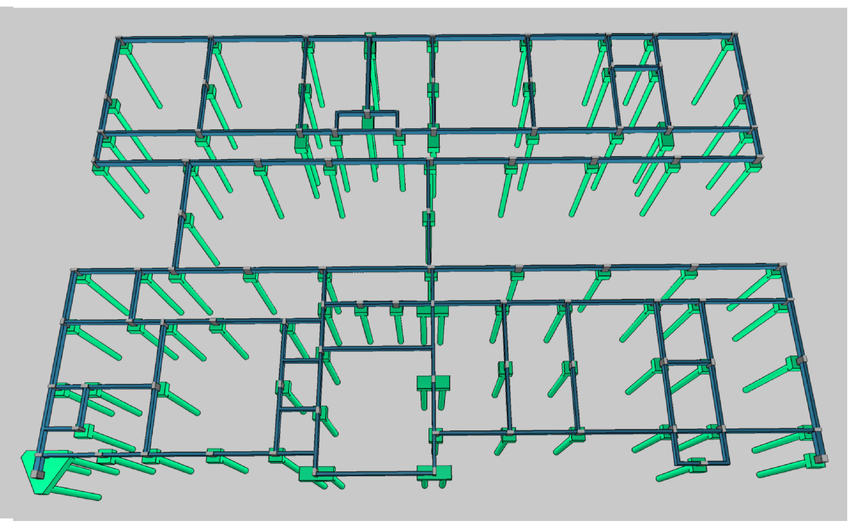




DETALHE GABARITO







ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Caraíjás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 02/13

Obra : CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
DETALHES ARRANQUES E BLOCOS

Local : RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

Propriedade : Prefeitura Municipal Barra do Garças - MT

Proprietário: Prefeitura Municipal de Barra do Garças - MT

Autor do projeto: VINICIUS GIRARDI GEISS:05164398125 — Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:33:46 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

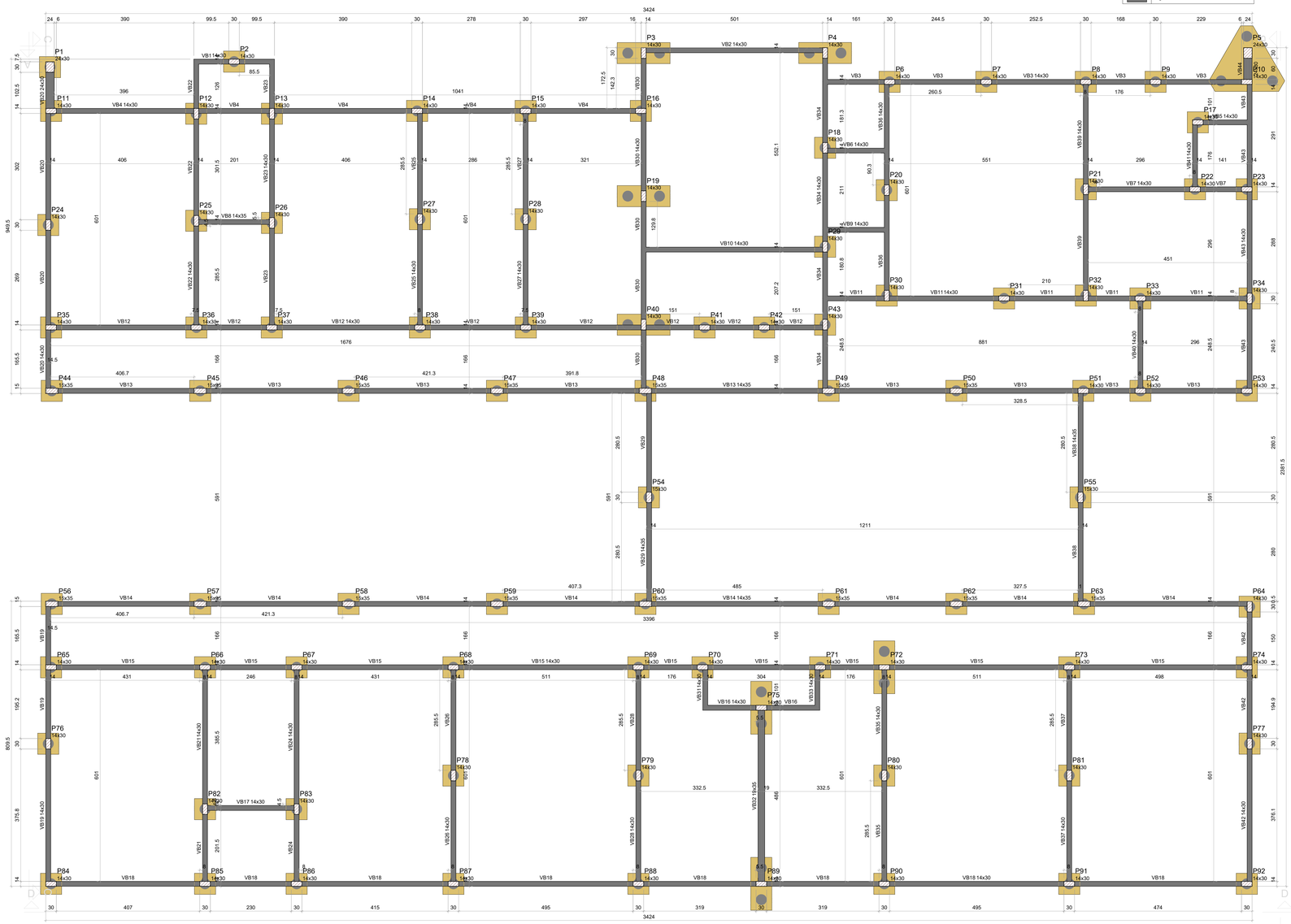
Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

Características dos materiais	
fck (kgf/cm²)	Eca (kgf/cm²)
250	241500

Dimensão máxima do agregado = 19 mm

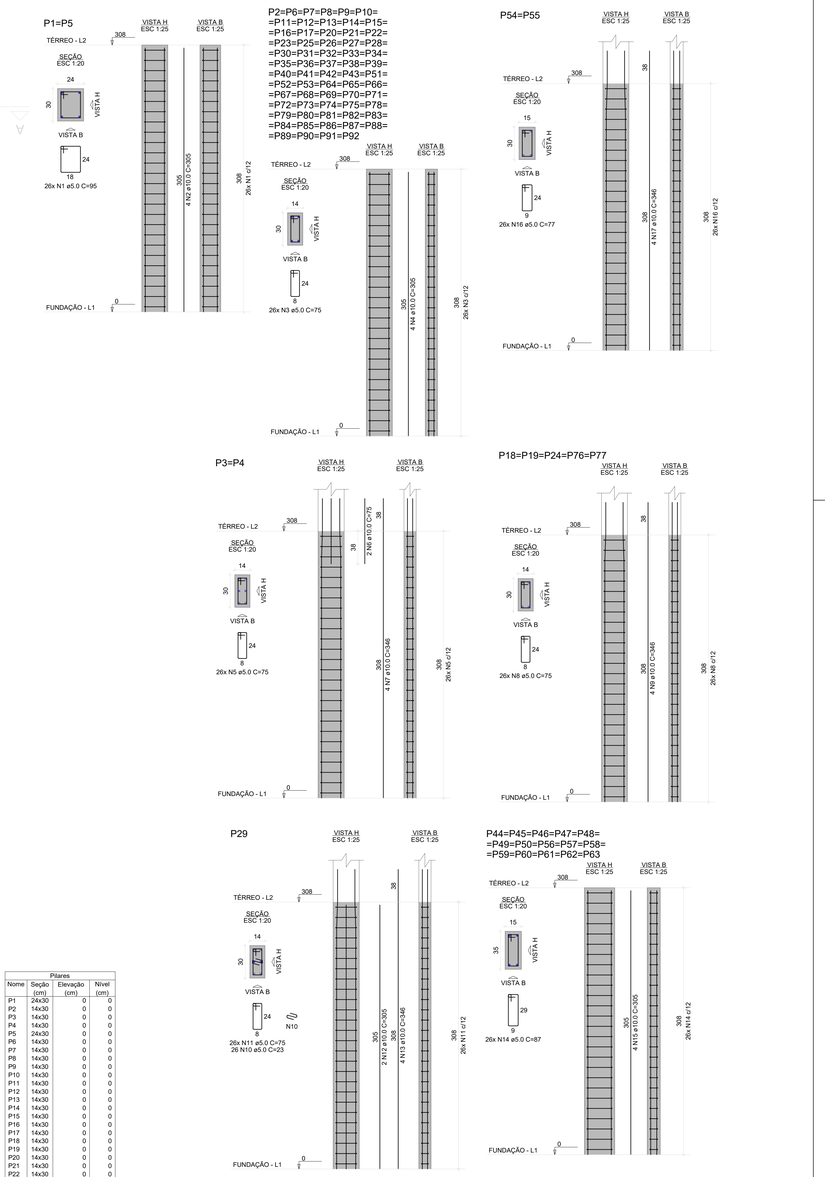
Legenda dos pilares
- Pilar que passa

Legenda das vigas e paredes
- Viga



FORMA DO PAVIMENTO FUNDAÇÃO

Escala 1:50



Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	24x30	0	0
P2	14x30	0	0
P3	14x30	0	0
P4	14x30	0	0
P5	24x30	0	0
P6	14x30	0	0
P7	14x30	0	0
P8	14x30	0	0
P9	14x30	0	0
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P85	14x30	0	0
P86	14x30	0	0
P87	14x30	0	0
P88	14x30	0	0
P89	14x30	0	0
P90	14x30	0	0
P91	14x30	0	0
P92	14x30	0	0

Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
VB1	14x30	0	0
VB2	14x30	0	0
VB3	14x30	0	0
VB4	14x30	0	0
VB5	14x30	0	0
VB6	14x30	0	0
VB7	14x30	0	0
VB8	14x35	0	0
VB9	14x30	0	0
VB10	14x30	0	0
VB11	14x30	0	0
VB12	14x30	0	0
VB13	14x35	0	0
VB14	14x35	0	0
VB15	14x30	0	0
VB16	14x30	0	0
VB17	14x30	0	0
VB18	14x30	0	0
VB19	14x30	0	0
VB20	14x30	0	0
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VB22	14x30	0	0
VB23	14x30	0	0
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VB25	14x30	0	0
VB26	14x30	0	0
VB27	14x30	0	0
VB28	14x30	0	0
VB29	14x35	0	0
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VB32	19x35	0	0
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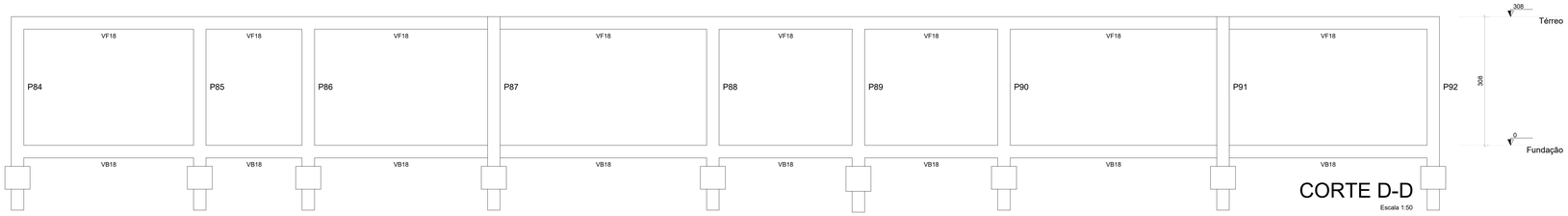
VB34	14x30	0	0
VB35	14x30	0	0
VB36	14x30	0	0
VB37	14x30	0	0
VB38	14x35	0	0
VB39	14x30	0	0
VB40	14x30	0	0
VB41	14x30	0	0
VB42	14x30	0	0
VB43	14x30	0	0
VB44	24x30	0	0



CORTE D-D

Escala 1:50

ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 03/13

Obra : CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
PLANTA DE FORMA E DETALHES

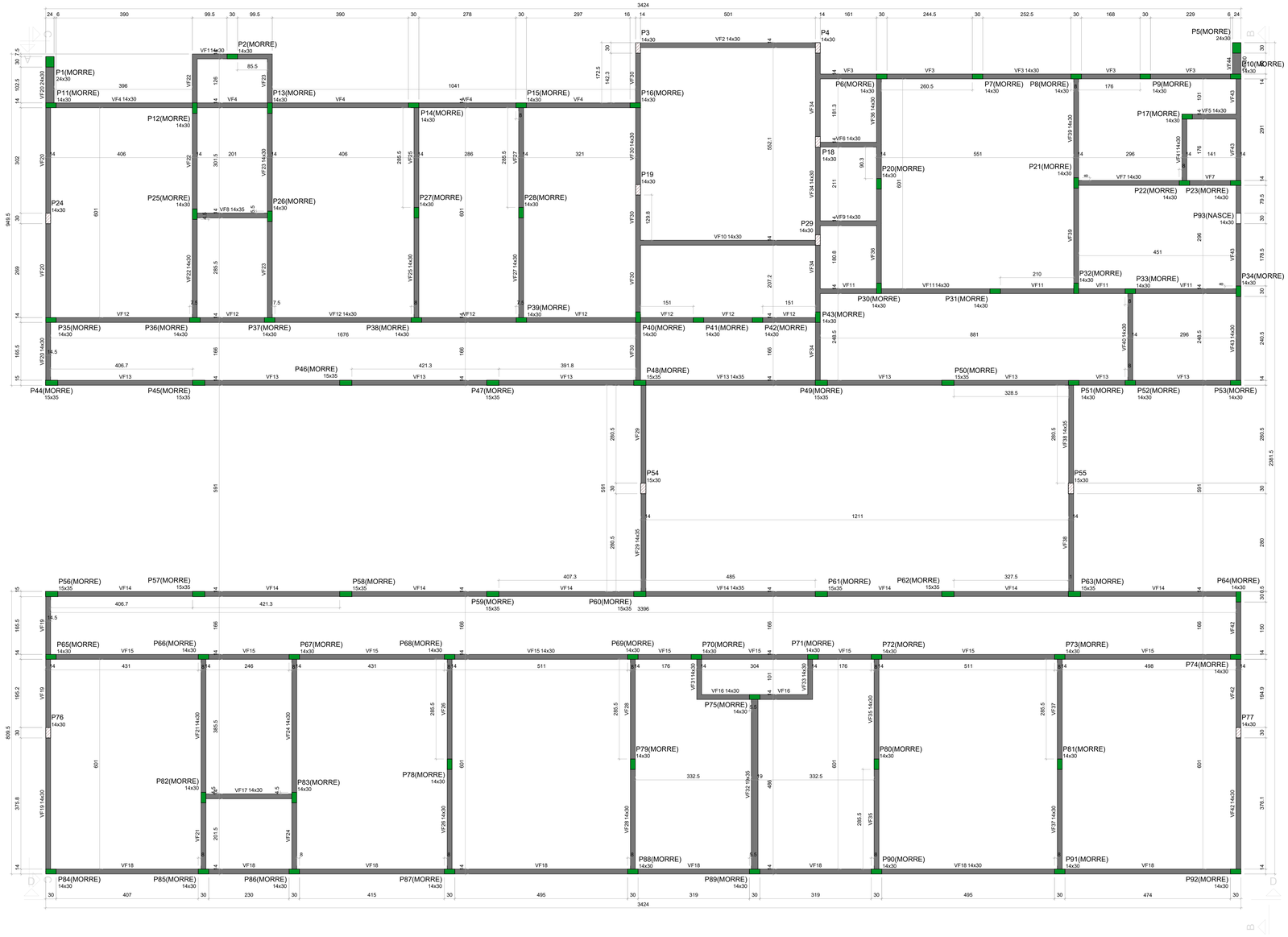
Local : RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

Propriedade : Prefeitura Municipal Barra do Garças - MT

Proprietário: Prefeitura Municipal de Barra do Garças - MT

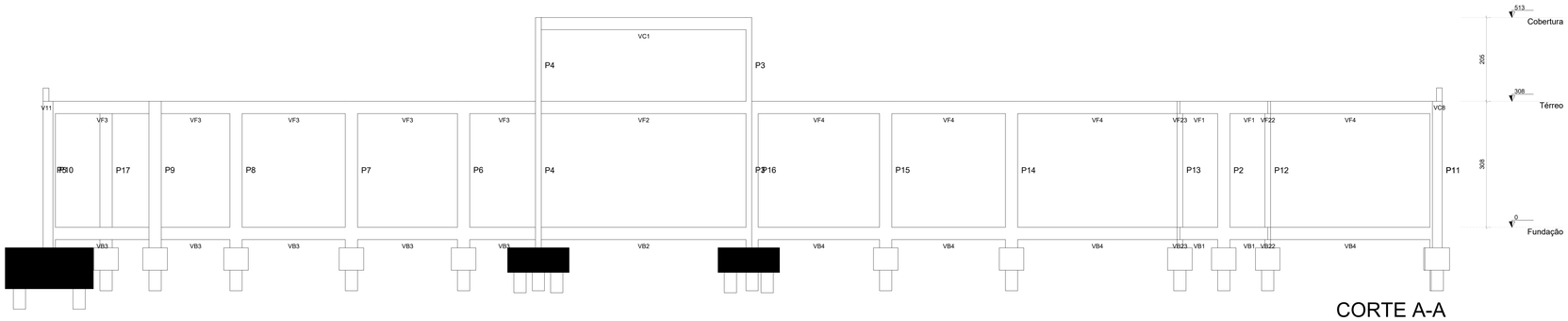
Autor do projeto: VINICIUS GIRARDI GEISS:05164398125 25
Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:36:00 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :



FORMA DO PAVIMENTO TÉRREO

Escala 1:50



CORTE A-A

Escala 1:50

Vigas			
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VF2	14x30	0	308
VF3	14x30	0	308
VF4	14x30	0	308
VF5	14x30	0	308
VF6	14x30	0	308
VF7	14x30	0	308
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VF37	14x30	0	308
VF38	14x35	0	308
VF39	14x30	0	308
VF40	14x30	0	308
VF41	14x30	0	308
VF42	14x30	0	308
VF43	14x30	0	308
VF44	24x30	0	308

Características dos materiais	
fck (kgf/cm²)	Eca (kgf/cm²)
250	241500

Dimensão máxima do agregado = 19 mm

Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	24x30	0	308
P2	14x30	0	308
P3	14x30	0	308
P4	14x30	0	308
P5	24x30	0	308
P6	14x30	0	308
P7	14x30	0	308
P8	14x30	0	308
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P72	14x30	0	308
P73	14x30	0	308
P74	14x30	0	308
P75	14x30	0	308
P76	14x30	0	308
P77	14x30	0	308
P78	14x30	0	308
P79	14x30	0	308
P80	14x30	0	308
P81	14x30	0	308
P82	14x30	0	308
P83	14x30	0	308
P84	14x30	0	308
P85	14x30	0	308
P86	14x30	0	308
P87	14x30	0	308
P88	14x30	0	308
P89	14x30	0	308
P90	14x30	0	308
P91	14x30	0	308
P92	14x30	0	308
P93	14x30	0	308

Legenda dos pilares
Pilar que morre
Pilar que passa
Pilar que nasce

Legenda das vigas e paredes
Viga

ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.229/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 04/13

Obra : CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
PLANTA DE FORMA E DETALHES

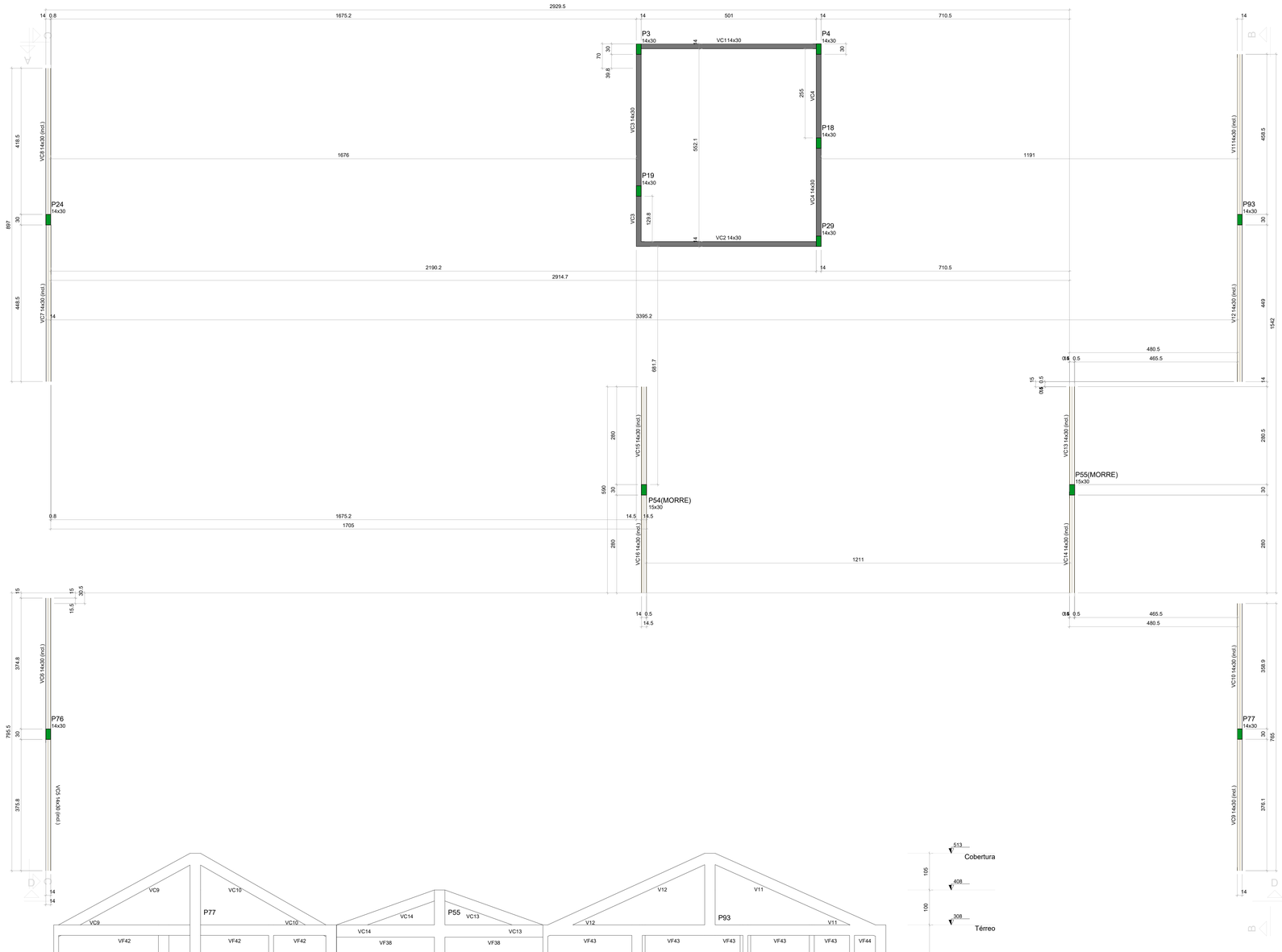
Local : RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

Propriedade : Prefeitura Municipal Barra do Garças - MT

Proprietário: Prefeitura Municipal de Barra do Garças - MT

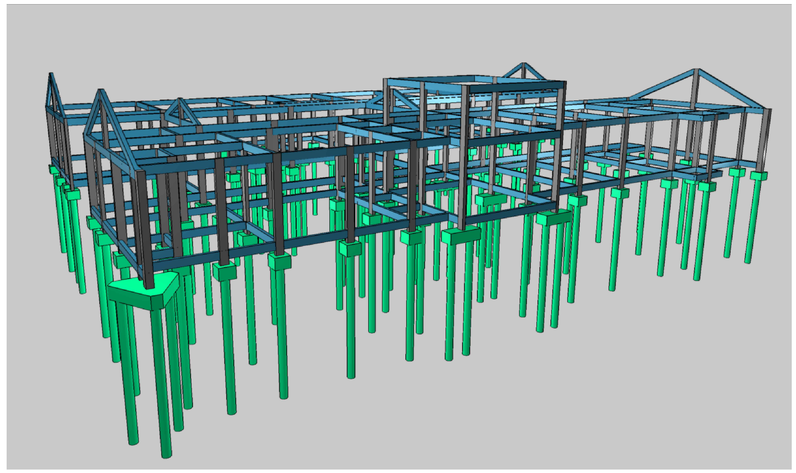
Autor do projeto: VINICIUS GIRARDI GEISS:01164398125 — Assinado de forma digital por VINICIUS GIRARDI GEISS:01164398125 Dados: 2026.06.12 08:36:15 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :



FORMA DO PAVIMENTO COBERTURA

Escala 1:50



Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V11	14x30	0 / -205	513 / 308
V12	14x30	0 / -205	513 / 308
VC1	14x30	0	513
VC2	14x30	0	513
VC3	14x30	0	513
VC4	14x30	0	513
VC5	14x30	0 / -205	513 / 308
VC6	14x30	0 / -205	513 / 308
VC7	14x30	0 / -205	513 / 308
VC8	14x30	0 / -205	513 / 308
VC9	14x30	0 / -205	513 / 308
VC10	14x30	0 / -205	513 / 308
VC13	14x30	-105 / -205	408 / 308
VC14	14x30	-105 / -205	408 / 308
VC15	14x30	-105 / -205	408 / 308
VC16	14x30	-105 / -205	408 / 308

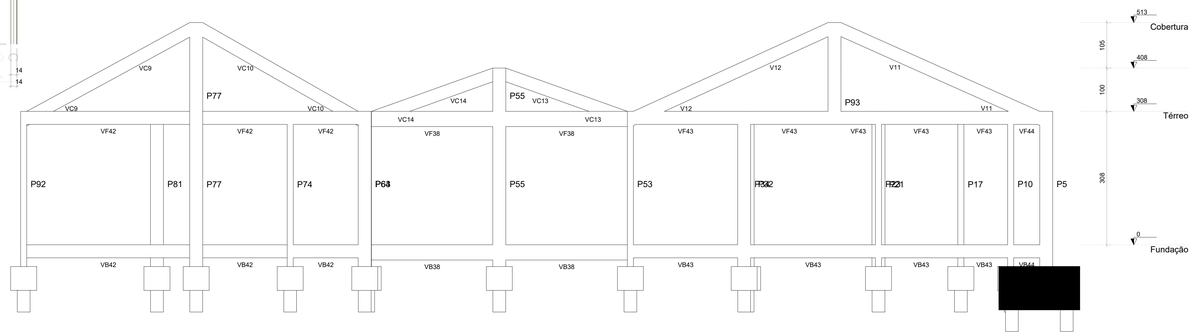
Características dos materiais	
fck (kgf/cm²)	Ecs (kgf/cm²)
250	241500

Dimensão máxima do agregado = 19 mm

Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P3	14x30	0	513
P4	14x30	0	513
P18	14x30	0	513
P19	14x30	0	513
P24	14x30	0	513
P29	14x30	0	513
P54	15x30	-105	408
P55	15x30	-105	408
P76	14x30	0	513
P77	14x30	0	513
P93	14x30	0	513

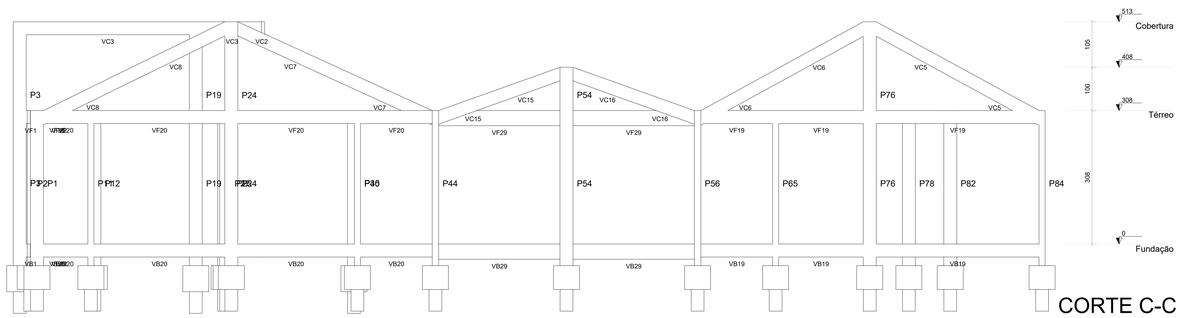
Legenda dos pilares
Pilar que morre

Legenda das vigas e paredes
Viga
Viga inclinada



CORTE B-B

Escala 1:50



CORTE C-C

Escala 1:50

ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 05/13

Obra :
CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
PLANTA DE FORMA E DETALHES

Local : RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

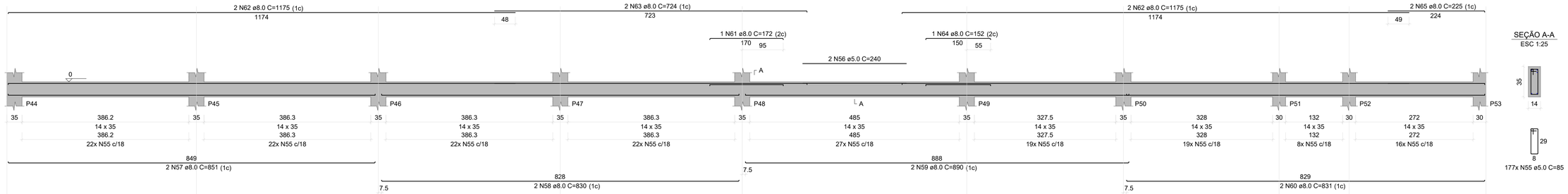
Propriedade : Prefeitura Municipal Barra do Garças - MT

Proprietário:
Prefeitura Municipal de Barra do Garças - MT

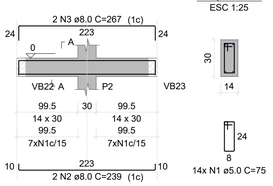
Autor do projeto:
VINICIUS GIRARDI GEISS:05164398125
Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:36:26 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

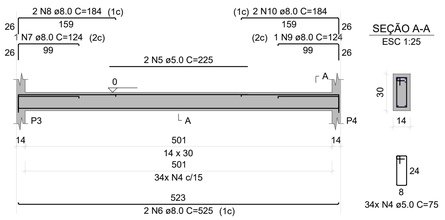
VB13
ESC 1:50



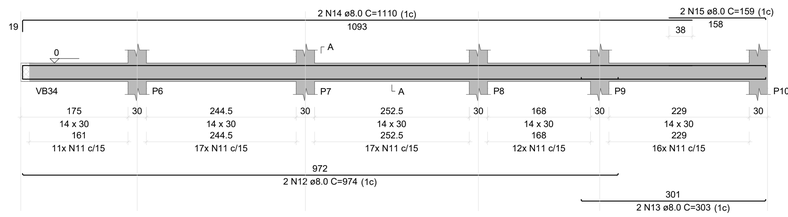
VB1
ESC 1:50



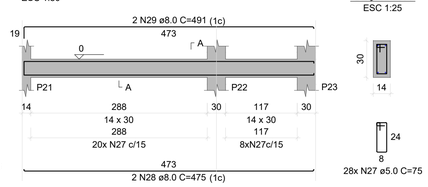
VB2
ESC 1:50



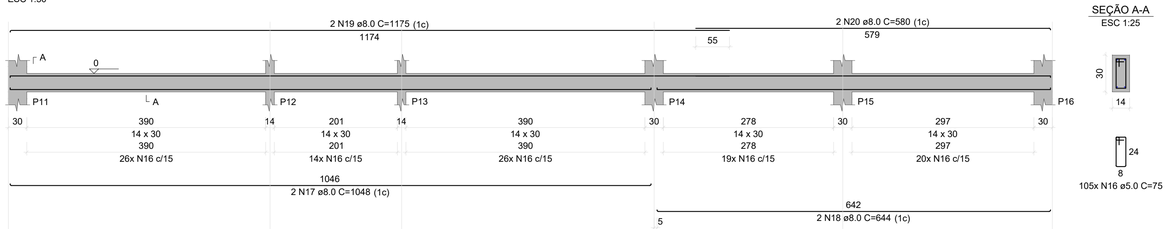
VB3
ESC 1:50



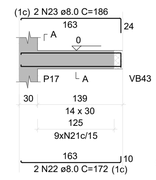
VB7
ESC 1:50



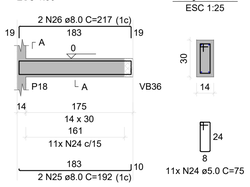
VB4
ESC 1:50



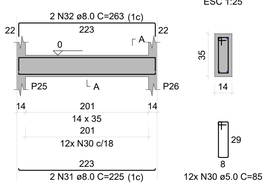
VB5
ESC 1:50



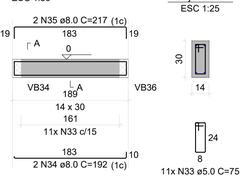
VB6
ESC 1:50



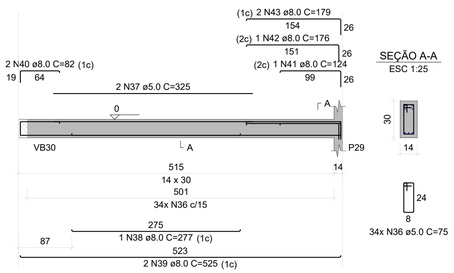
VB8
ESC 1:50



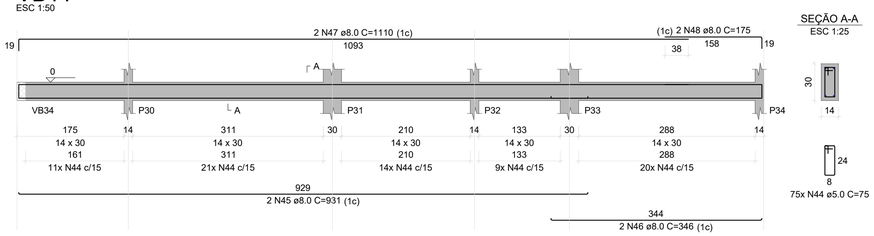
VB9
ESC 1:50



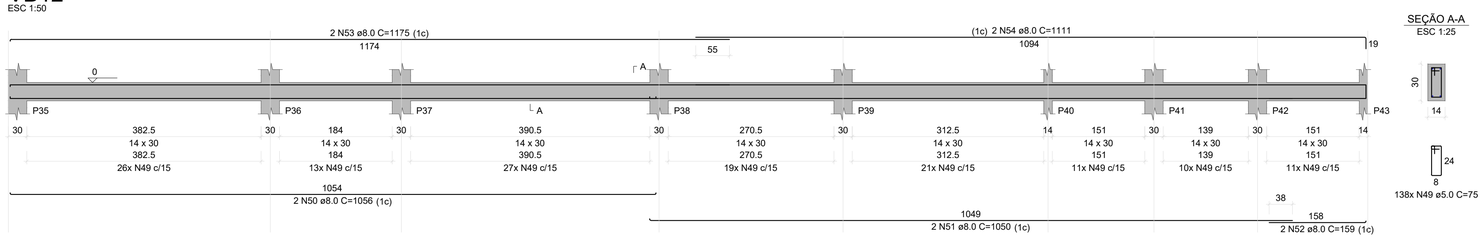
VB10
ESC 1:50



VB11
ESC 1:50



VB12
ESC 1:50



ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 06/13

Obra :
CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
DETALHAMENTO VIGAS

Local :
RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

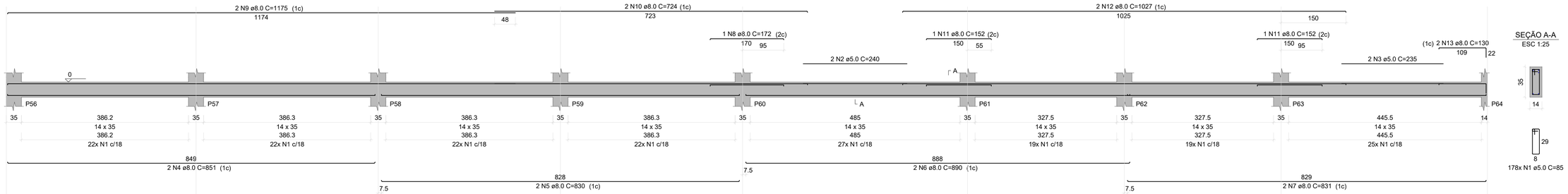
Propriedade :
Prefeitura Municipal Barra do Garças - MT

Proprietário:
Prefeitura Municipal de Barra do Garças - MT

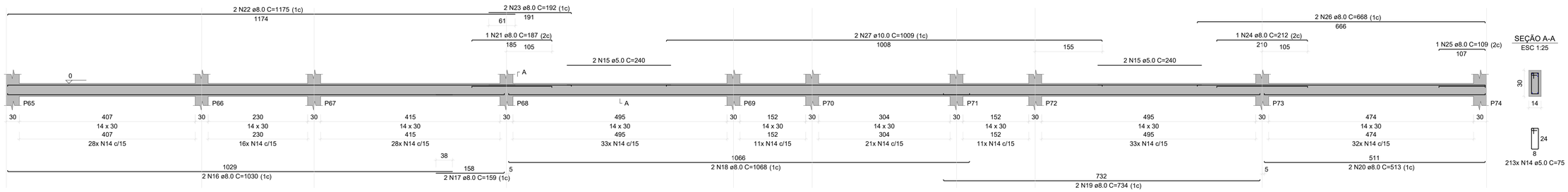
Autor do projeto:
VINICIUS GIRARDI GEISS:05164398125
Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125
Dados: 2026.06.12 08:36:46 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

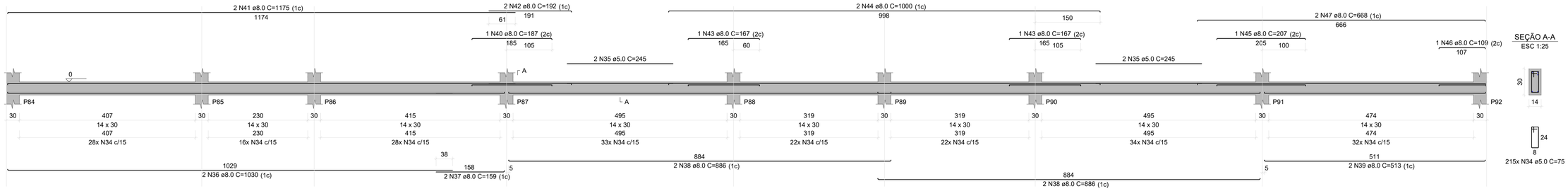
VB14
ESC 1:50



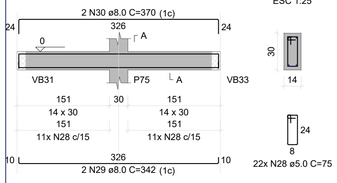
VB15
ESC 1:50



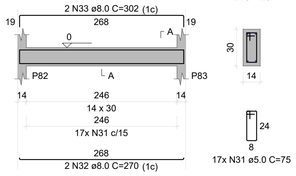
VB18
ESC 1:50



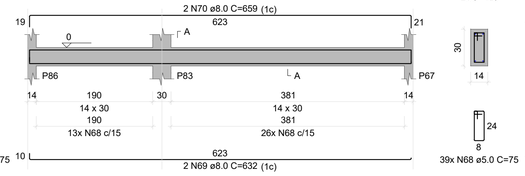
VB16
ESC 1:50



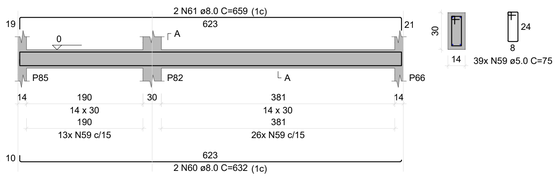
VB17
ESC 1:50



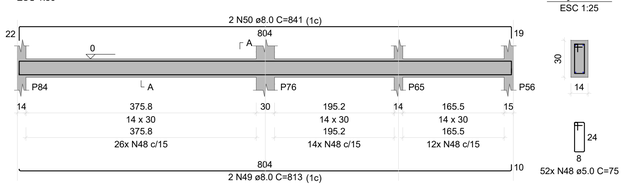
VB24
ESC 1:50



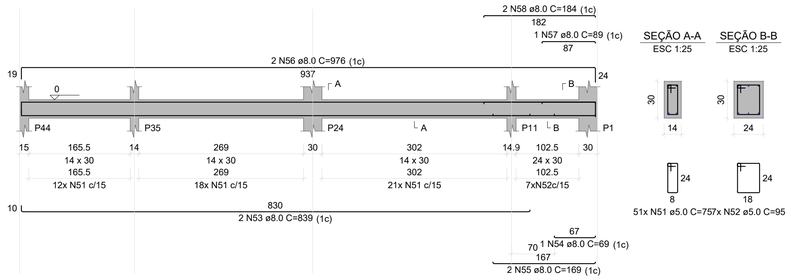
VB21
ESC 1:50



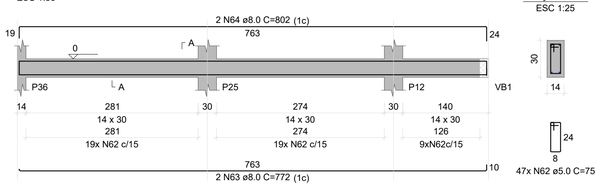
VB19
ESC 1:50



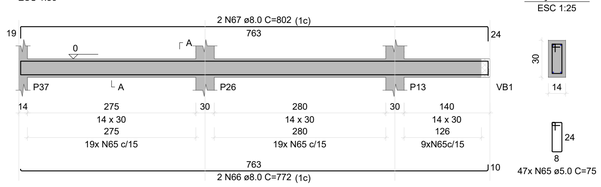
VB20
ESC 1:50



VB22
ESC 1:50



VB23
ESC 1:50



ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 07/13

Obra :
CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO DETALHAMENTO VIGAS

Local : RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

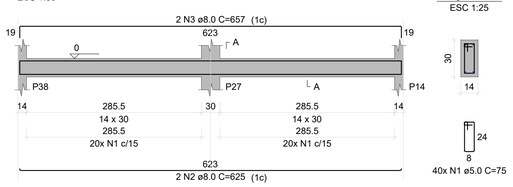
Propriedade : Prefeitura Municipal Barra do Garças - MT

Proprietário:
Prefeitura Municipal de Barra do Garças - MT

Autor do projeto:
VINICIUS GIRARDI GEISS:05164398125
Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:36:59 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

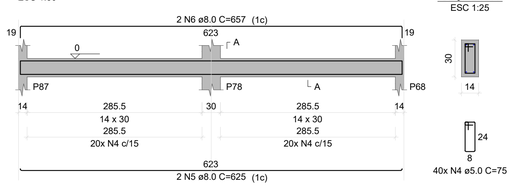
Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

VB25
ESC 1:50



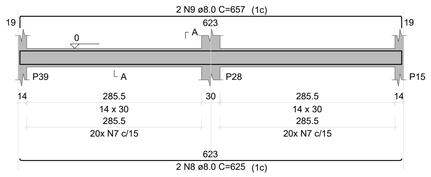
SEÇÃO A-A
ESC 1:25

VB26
ESC 1:50

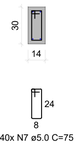


SEÇÃO A-A
ESC 1:25

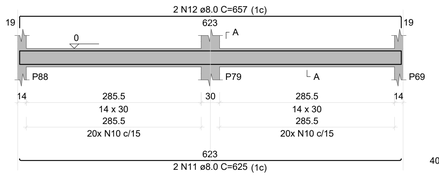
VB27
ESC 1:50



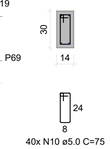
SEÇÃO A-A
ESC 1:25



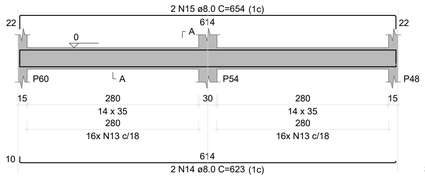
VB28
ESC 1:50



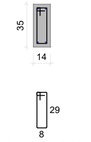
SEÇÃO A-A
ESC 1:25



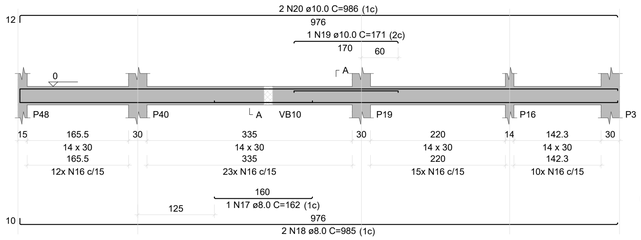
VB29
ESC 1:50



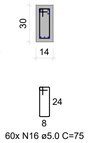
SEÇÃO A-A
ESC 1:25



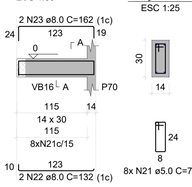
VB30
ESC 1:50



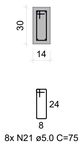
SEÇÃO A-A
ESC 1:25



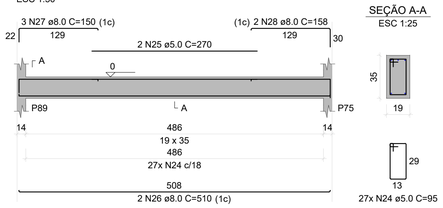
VB31
ESC 1:50



SEÇÃO A-A
ESC 1:25

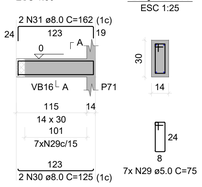


VB32
ESC 1:50



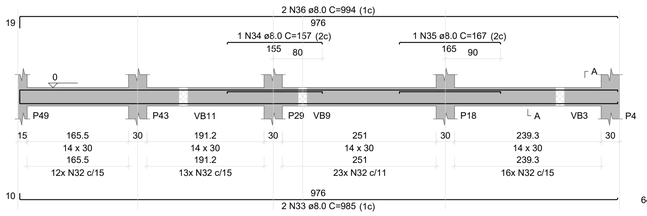
SEÇÃO A-A
ESC 1:25

VB33
ESC 1:50



SEÇÃO A-A
ESC 1:25

VB34
ESC 1:50



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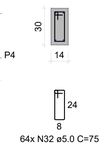
ESC 1:25



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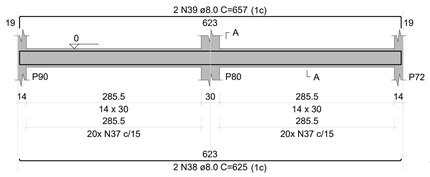

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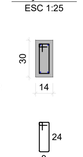
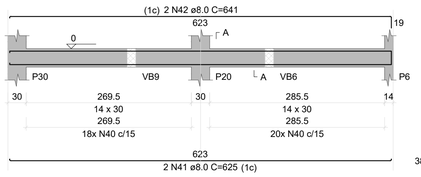
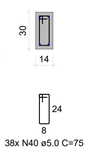
ESC 1:25



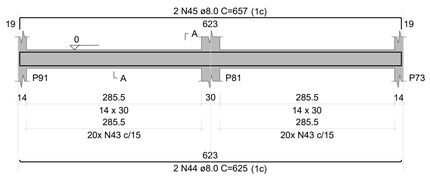
VB36
ESC 1:50



SEÇÃO A-A
ESC 1:25



VB37
ESC 1:50



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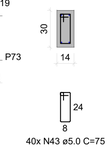
ESC 1:25



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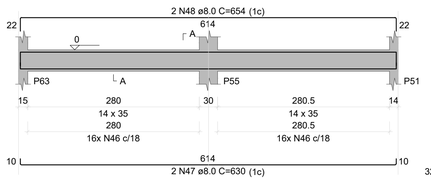

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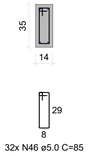
ESC 1:25



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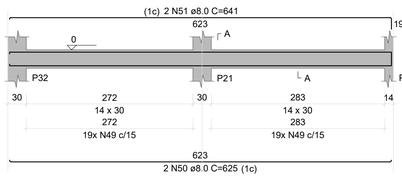

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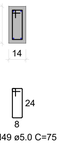
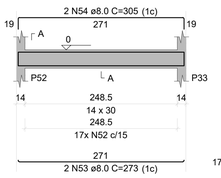
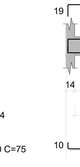
ESC 1:25



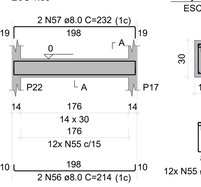
VB40
ESC 1:50



SEÇÃO A-A
ESC 1:25

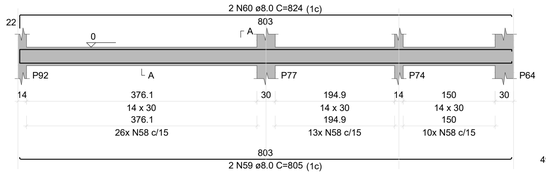


VB41
ESC 1:50

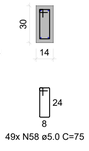


SEÇÃO A-A
ESC 1:25

VB42
ESC 1:50



SEÇÃO A-A
ESC 1:25



VB43
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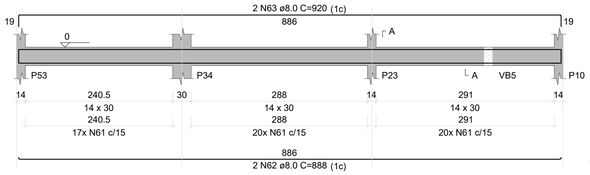
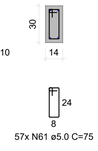


SEÇÃO A-A
ESC 1:25



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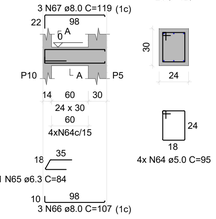


SEÇÃO A-A
ESC 1:25

ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 08/13

Obra :
CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
DETALHAMENTO VIGAS

Local :
RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

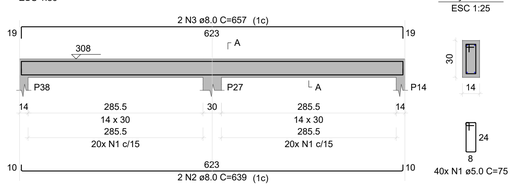
Propriedade :
Prefeitura Municipal Barra do Garças - MT

Proprietário:
Prefeitura Municipal de Barra do Garças - MT

Autor do projeto:
VINICIUS GIRARDI GEISS:05164398125
Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:27:19 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

VF25
ESC 1:50



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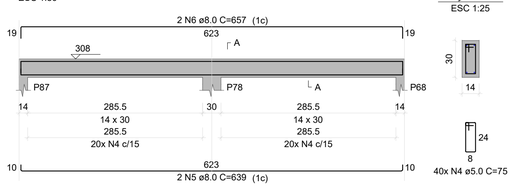
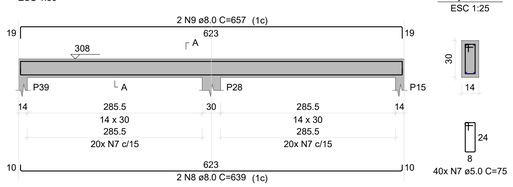
ESC 1:25

VF26
ESC 1:50



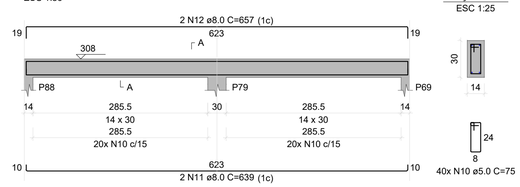
SEÇÃO A-A
ESC 1:25

VF27
ESC 1:50



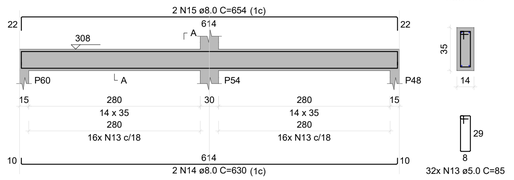
SEÇÃO A-A
ESC 1:25

VF28
ESC 1:50



SEÇÃO A-A
ESC 1:25

VF29
ESC 1:50



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ESC 1:25

VF30
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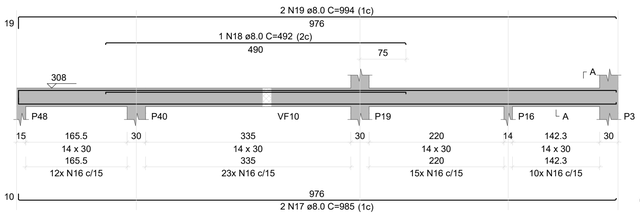

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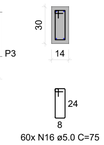

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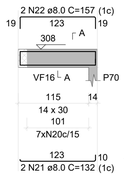
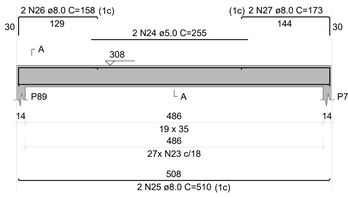


SEÇÃO A-A
ESC 1:25

VF32
ESC 1:50



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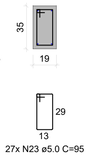
ESC 1:25



VF33
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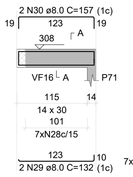
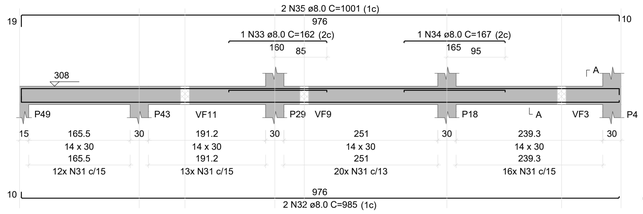


SEÇÃO A-A
ESC 1:25

VF34
ESC 1:50



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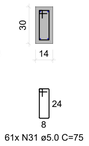
ESC 1:25



VF35
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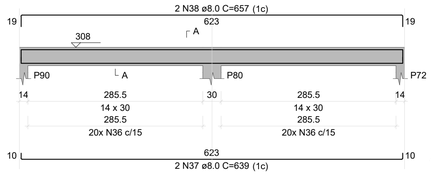

SEÇÃO A-A
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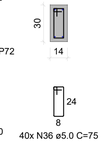

VF36
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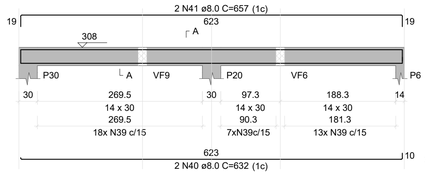
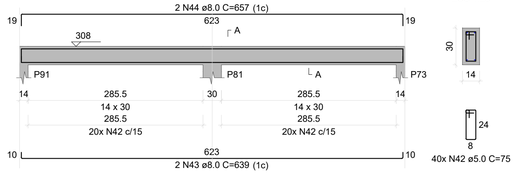


SEÇÃO A-A
ESC 1:25

VF37
ESC 1:50



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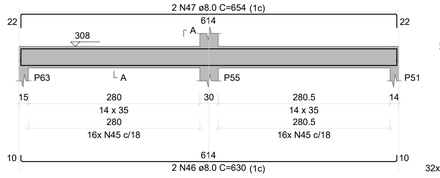
VF38
ESC 1:50



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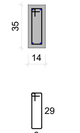

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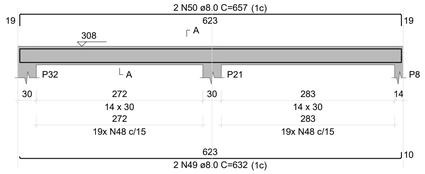

SEÇÃO A-A
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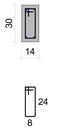

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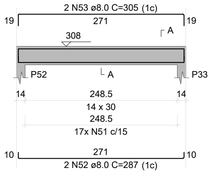
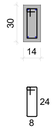


SEÇÃO A-A
ESC 1:25



VF41
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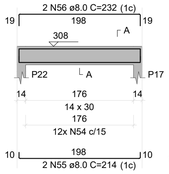
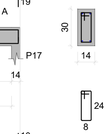
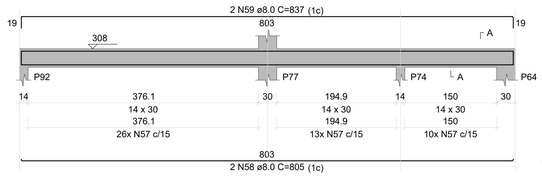


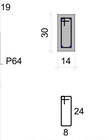
SEÇÃO A-A
ESC 1:25



VF42
ESC 1:50



SEÇÃO A-A
ESC 1:25



VF43
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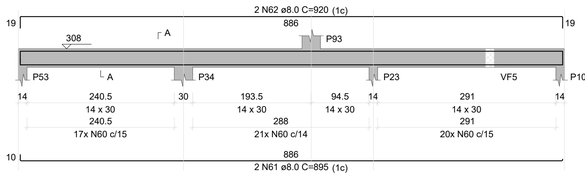
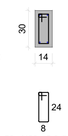


SEÇÃO A-A
ESC 1:25



VF44
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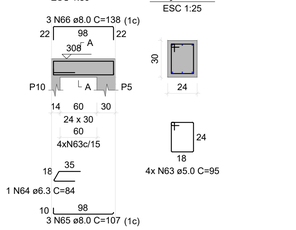


SEÇÃO A-A
ESC 1:25

ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 09/13

Obra : CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
DETALHAMENTO VIGAS

Local : RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

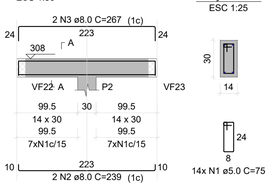
Propriedade : Prefeitura Municipal Barra do Garças - MT

Proprietário: Prefeitura Municipal de Barra do Garças - MT

Autor do projeto: VINICIUS GIRARDI GEISS:05164398125 — Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:37:43 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

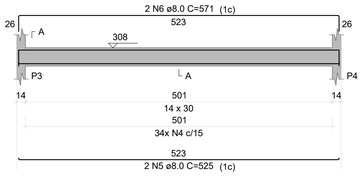
Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

VF1
ESC 1:50

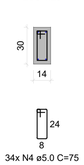


SEÇÃO A-A
ESC 1:25

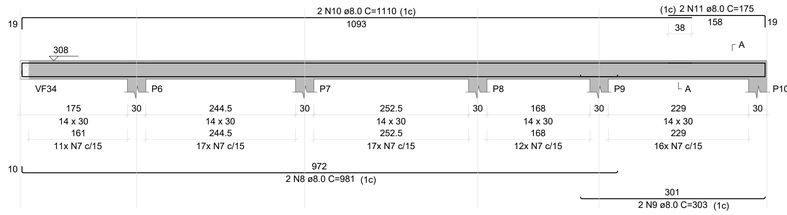
VF2
ESC 1:50



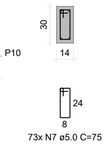
SEÇÃO A-A
ESC 1:25



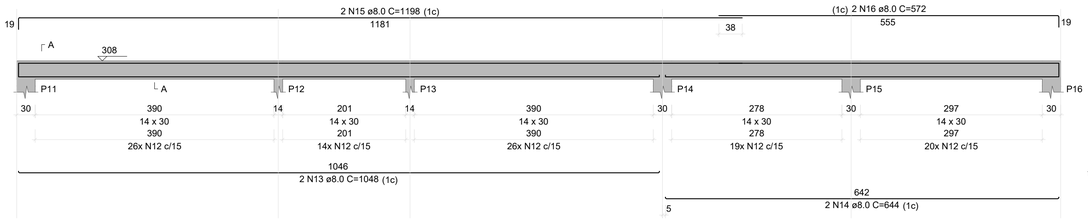
VF3
ESC 1:50



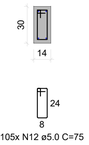
SEÇÃO A-A
ESC 1:25



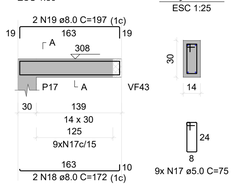
VF4
ESC 1:50



SEÇÃO A-A
ESC 1:25

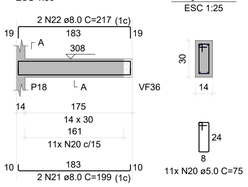


VF5
ESC 1:50



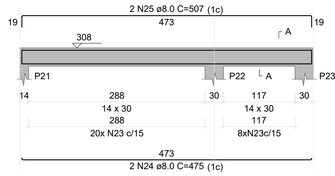
SEÇÃO A-A
ESC 1:25

VF6
ESC 1:50

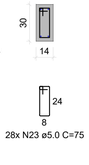


SEÇÃO A-A
ESC 1:25

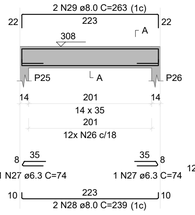
VF7
ESC 1:50



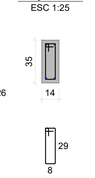
SEÇÃO A-A
ESC 1:25



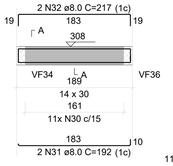
VF8
ESC 1:50



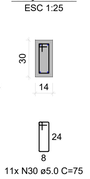
SEÇÃO A-A
ESC 1:25



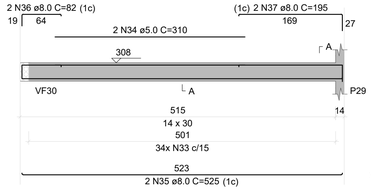
VF9
ESC 1:50



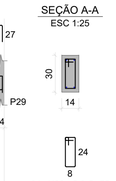
SEÇÃO A-A
ESC 1:25



VF10
ESC 1:50



SEÇÃO A-A
ESC 1:25



VF11
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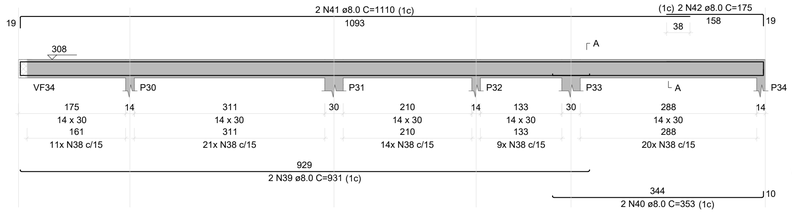
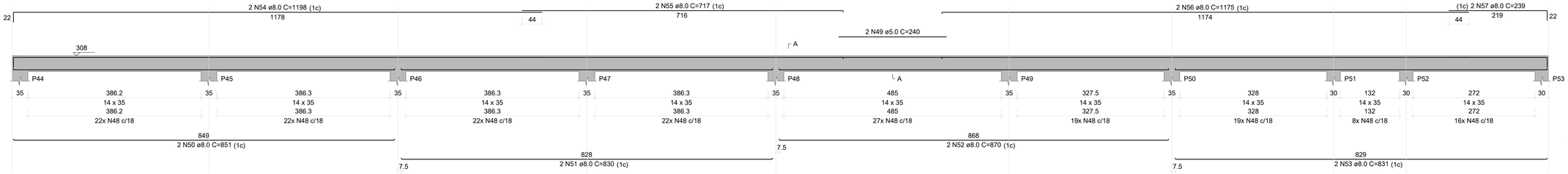


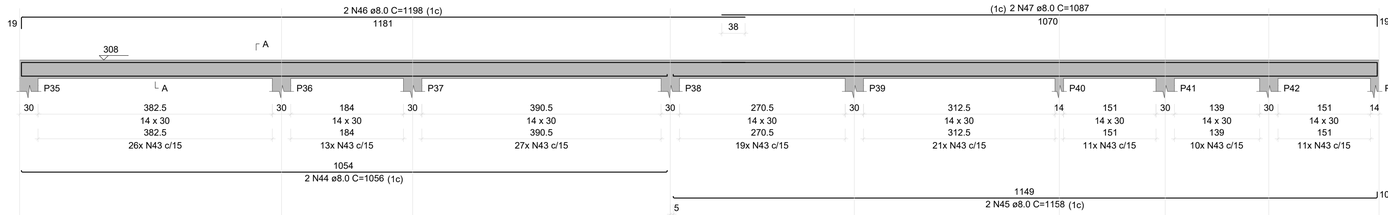
SEÇÃO A-A
ESC 1:25

VF13
ESC 1:50

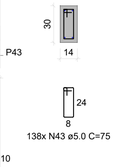


SEÇÃO A-A
ESC 1:25

VF12
ESC 1:50



SEÇÃO A-A
ESC 1:25



ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 10/13

Obra :
CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
DETALHAMENTO VIGAS

Local :
RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

Propriedade :
Prefeitura Municipal Barra do Garças - MT

Proprietário:
Prefeitura Municipal de Barra do Garças - MT

Autor do projeto:
VINICIUS GIRARDI GEISS:05164398125
Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:37:58 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

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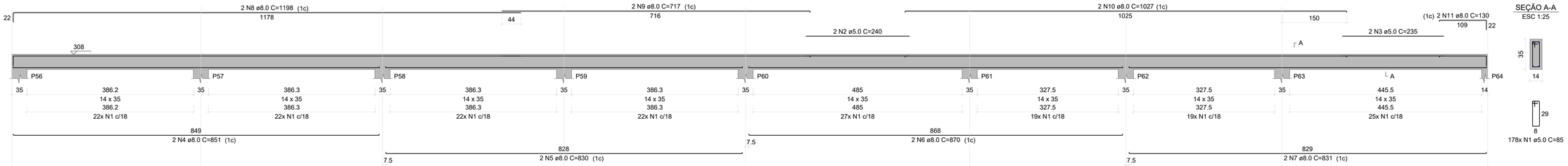
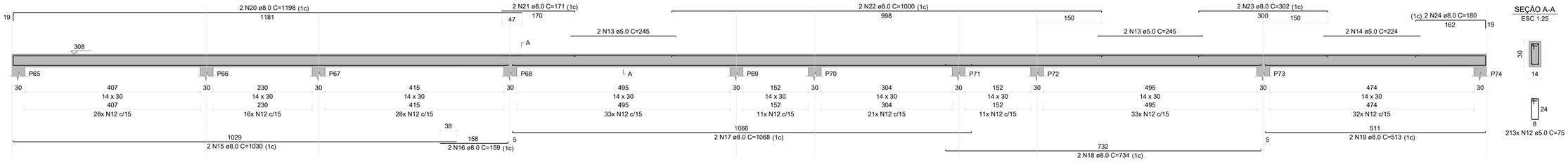
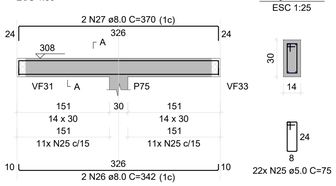


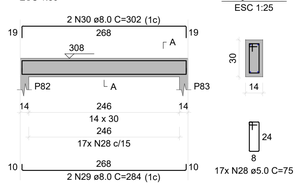
VF15
ESC 1:50



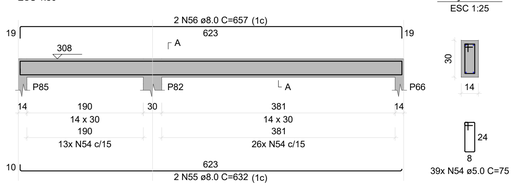
VF16
ESC 1:50



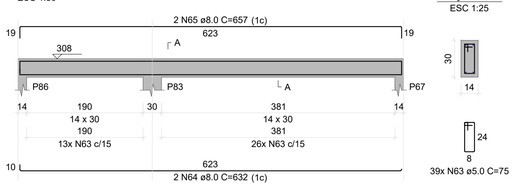
VF17
ESC 1:50



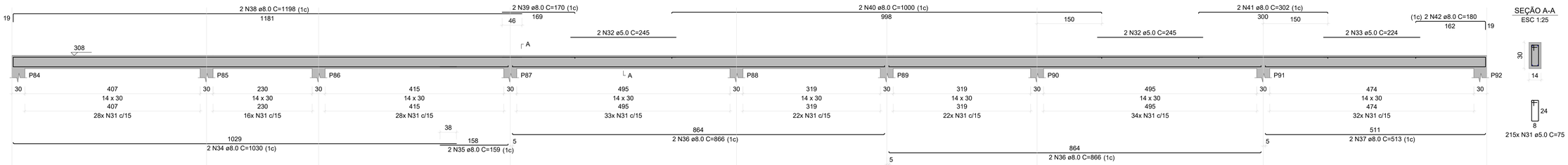
VF21
ESC 1:50



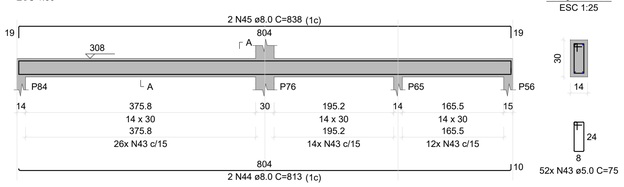
VF24
ESC 1:50



VF18
ESC 1:50



VF19
ESC 1:50



VF20
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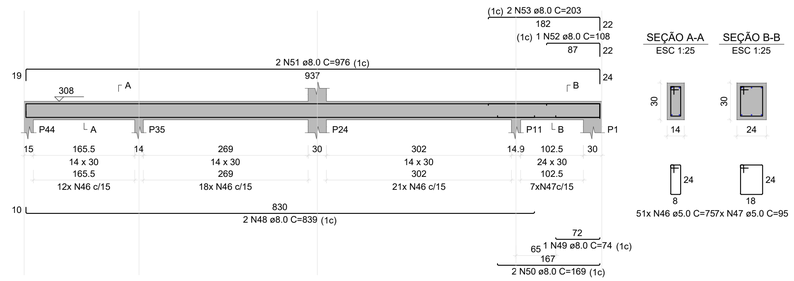
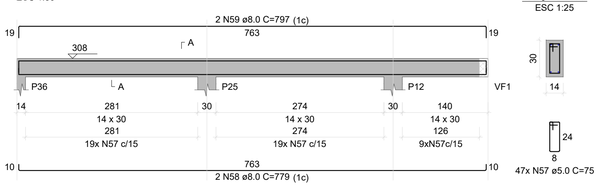


VF22
ESC 1:50



VF23
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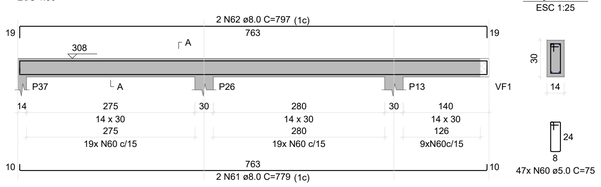


ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 11/13

Obra : CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO DETALHAMENTO VIGAS

Local : RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

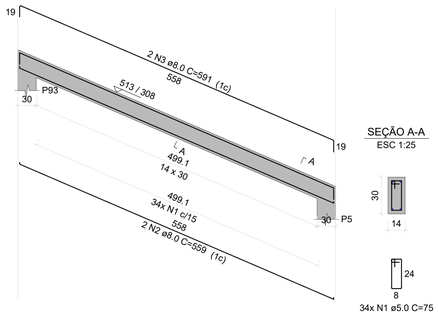
Propriedade : Prefeitura Municipal Barra do Garças - MT

Proprietário: Prefeitura Municipal de Barra do Garças - MT

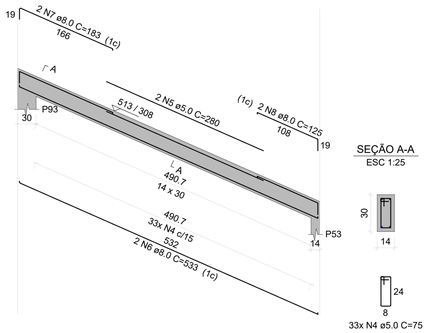
Autor do projeto: VINICIUS GIRARDI GEISS:05164398125 — Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125 Dados: 2026.06.12 08:38:11 -03'00' — VINICIUS GIRARDI GEISS CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

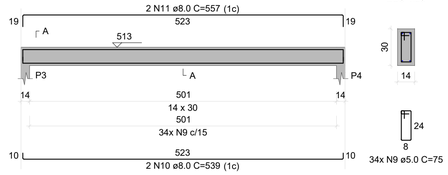
V11
ESC 1:50



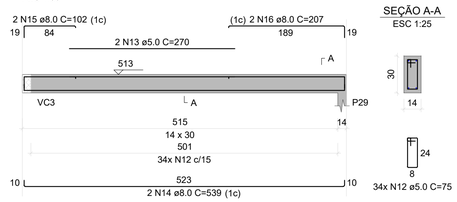
V12
ESC 1:50



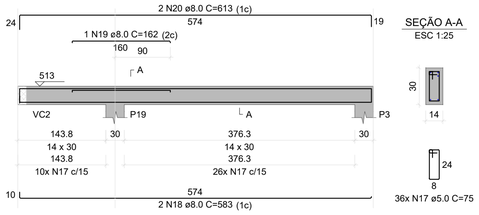
VC1
ESC 1:50



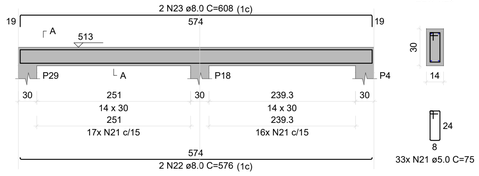
VC2
ESC 1:50



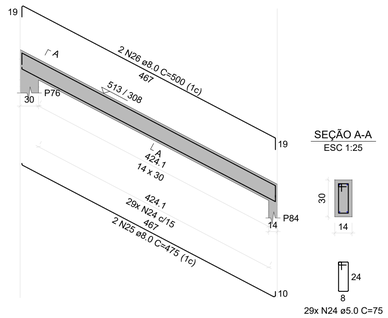
VC3
ESC 1:50



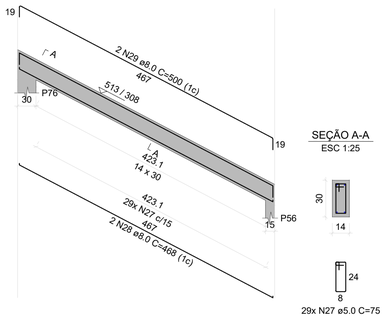
VC4
ESC 1:50



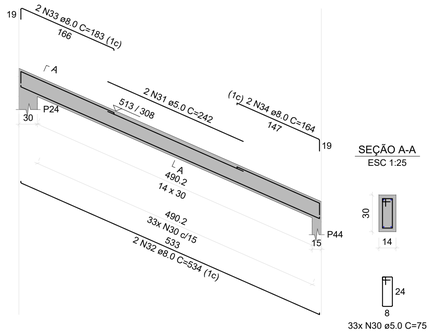
VC5
ESC 1:50



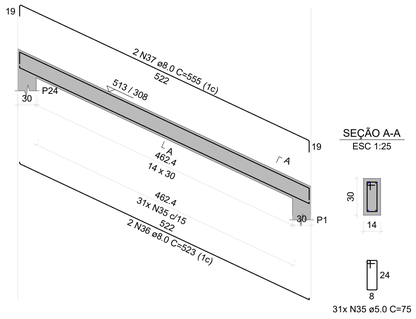
VC6
ESC 1:50



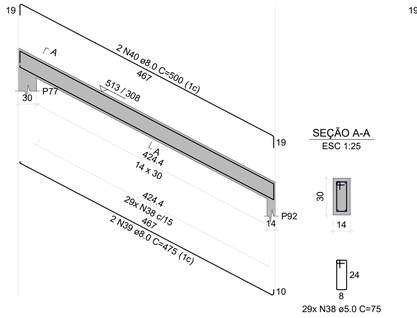
VC7
ESC 1:50



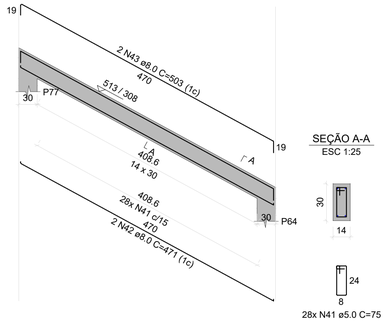
VC8
ESC 1:50



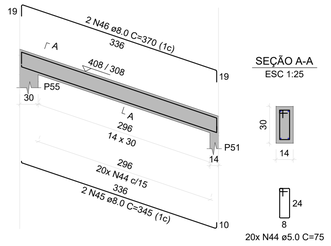
VC9
ESC 1:50



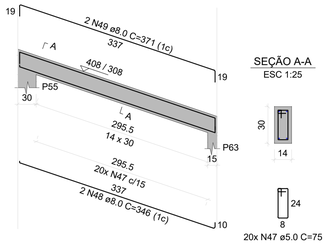
VC10
ESC 1:50



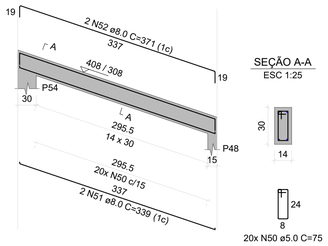
VC13
ESC 1:50



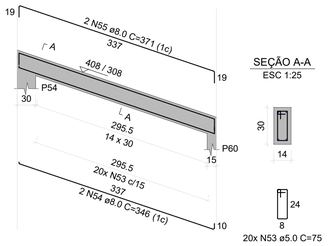
VC14
ESC 1:50



VC15
ESC 1:50



VC16
ESC 1:50



ESTADO DE MATO GROSSO
PREFEITURA MUNICIPAL DE BARRA DO GARÇAS
CNPJ 03.439.239/0001-50
Rua Carajás, 522 centro - Barra do Garças MT - CEP 78.600-000

PREFEITURA BARRA DO GARÇAS
SECRETARIA DE DESENVOLVIMENTO URBANO E SUSTENTÁVEL

Folha : 12/13

Obra :
CONSTRUÇÃO PRÉ-ESCOLA PADRÃO SEDUC - BAIRRO MORADA DO SOL

Conteúdo : PROJETO ESTRUTURAL DE CONCRETO ARMADO
DETALHAMENTO VIGAS

Local :
RUA DOS LÍRIOS, QD.10, MORADA DO SOL; BARRA DO GARÇAS-MT

Propriedade :
Prefeitura Municipal Barra do Garças - MT

Proprietário:
Prefeitura Municipal de
Barra do Garças - MT

Autor do projeto:
VINICIUS GIRARDI
GEISS:05164398125
Assinado de forma digital por VINICIUS GIRARDI GEISS:05164398125
Dados: 2026.06.12 08:38:25 -03'00'
VINICIUS GIRARDI GEISS
CREA/MT 57794

Área Construída:	Dimensões:	Escala :
674,40 m²	-	INDICADO
Arquivo : CAD	Data : JUN/2026	Projetista :

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
2xP1	CA60	1	5.0	52	95	4940
	CA50	2	10.0	8	305	2440
65xP2	CA60	3	5.0	1690	75	126750
	CA50	4	10.0	260	305	79300
2xP3	CA60	5	5.0	52	75	3900
	CA50	6	10.0	4	75	300
	CA50	7	10.0	8	346	2768
5xP18	CA60	8	5.0	130	75	9750
	CA50	9	10.0	20	346	6920
P29	CA60	10	5.0	26	23	598
	CA60	11	5.0	26	75	1950
	CA50	12	10.0	2	305	610
	CA50	13	10.0	4	346	1384
15xP44	CA60	14	5.0	390	87	33930
	CA50	15	10.0	60	305	18300
2xP54	CA60	16	5.0	52	77	4004
	CA50	17	10.0	8	346	2768

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	10.0	1147.9	96	707.7
CA60	5.0	1858.2	-	286.4

PESO TOTAL (kg)	
CA50	707.7
CA60	286.4

Volume de concreto (C-25) = 12.59 m³
Área de forma = 256.26 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
7xB89	CA60	1	5.0	42	395	16590
	CA60	2	5.0	49	183	8967
	CA50	3	8.0	14	196	2744
	CA50	4	8.0	28	154	4312
	CA50	5	8.0	28	208	5824
2xP3	CA60	6	5.0	16	23	368
	CA60	7	5.0	16	75	1200
	CA50	8	10.0	12	105	1260
	CA50	9	10.0	8	147	1176
3xP19	CA60	10	5.0	24	75	1800
	CA50	11	10.0	12	147	1764
P75	CA60	12	5.0	8	75	600
	CA50	13	10.0	4	105	420
	CA50	14	10.0	4	147	588
P89	CA60	15	5.0	8	23	184
	CA60	16	5.0	8	75	600
	CA50	17	10.0	2	105	210
	CA50	18	10.0	4	147	588

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	8.0	128.8	11	50.8
	10.0	60.1	6	37
CA60	5.0	303.1	-	46.7

PESO TOTAL (kg)	
CA50	87.9
CA60	46.7

Volume de concreto (C-25) = 3.78 m³
Área de forma = 20.72 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
83xB92	CA60	1	5.0	415	215	89225
	CA60	2	5.0	332	173	57436
P1	CA60	3	5.0	8	95	760
	CA50	4	10.0	4	142	568
63xP2	CA60	5	5.0	504	75	37800
	CA50	6	10.0	252	142	35784
P29	CA60	7	5.0	8	23	184
	CA60	8	5.0	8	75	600
	CA50	9	10.0	6	142	852
15xP44	CA60	10	5.0	120	87	10440
	CA50	11	10.0	60	142	8520
2xP54	CA60	12	5.0	16	77	1232
	CA50	13	10.0	8	142	1136
P64	CA60	14	5.0	8	23	184
	CA60	15	5.0	8	75	600
	CA50	16	10.0	2	100	200
	CA50	17	10.0	4	142	568

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	10.0	476.3	40	293.6
CA60	5.0	1984.6	-	305.9

PESO TOTAL (kg)	
CA50	293.6
CA60	305.9

Volume de concreto (C-25) = 17.39 m³
Área de forma = 147.10 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
B5-10	CA60	1	5.0	11	624	6864
	CA50	2	8.0	9	VAR	VAR
	CA50	3	8.0	11	VAR	VAR
	CA50	4	8.0	9	VAR	VAR
	CA50	5	8.0	11	VAR	VAR
	CA50	6	8.0	15	324	4860
P5	CA60	7	5.0	12	95	1140
	CA50	8	10.0	4	187	748
P10	CA60	9	5.0	12	75	900
	CA50	10	10.0	4	187	748

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	8.0	108	9	42.6
	10.0	15	2	9.2
CA60	5.0	89	-	13.7

PESO TOTAL (kg)	
CA50	51.8
CA60	13.7

Volume de concreto (C-25) = 2.57 m³
Área de forma = 7.44 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VB1	CA60	1	5.0	14	75	1050
	CA50	2	8.0	2	239	478
	CA50	3	8.0	2	267	534
VB2	CA60	4	5.0	34	75	2550
	CA60	5	5.0	2	225	450
	CA50	6	8.0	2	525	1050
	CA50	7	8.0	1	124	124
	CA50	8	8.0	2	184	368
	CA50	9	8.0	1	124	124
	CA50	10	8.0	2	184	368
VB3	CA60	11	5.0	73	75	5475
	CA50	12	8.0	2	974	1948
	CA50	13	8.0	2	303	606
	CA50	14	8.0	2	1110	2220
	CA50	15	8.0	2	159	318
VB4	CA60	16	5.0	105	75	7875
	CA50	17	8.0	2	1048	2096
	CA50	18	8.0	2	644	1288
	CA50	19	8.0	2	1175	2350
	CA50	20	8.0	2	580	1160
VB5	CA60	21	5.0	9	75	675
	CA50	22	8.0	2	172	344
	CA50	23	8.0	2	186	372
VB6	CA60	24	5.0	11	75	825
	CA50	25	8.0	2	192	384
	CA50	26	8.0	2	217	434
VB7	CA60	27	5.0	28	75	2100
	CA50	28	8.0	2	475	950
	CA50	29	8.0	2	491	982
VB8	CA60	30	5.0	12	85	1020
	CA50	31	8.0	2	225	450
	CA50	32	8.0	2	263	526
VB9	CA60	33	5.0	11	75	825
	CA50	34	8.0	2	192	384
	CA50	35	8.0	2	217	434
VB10	CA60	36	5.0	34	75	2550
	CA60	37	5.0	2	325	650
	CA50	38	8.0	1	277	277
	CA50	39	8.0	2	525	1050
	CA50	40	8.0	2	82	164
	CA50	41	8.0	1	124	124
	CA50	42	8.0	1	176	176
	CA50	43	8.0	2	179	358
VB11	CA60	44	5.0	75	75	5625
	CA50	45	8.0	2	931	1862
	CA50	46	8.0	2	346	692
	CA50	47	8.0	2	1110	2220
	CA50	48	8.0	2	175	350
VB12	CA60	49	5.0	138	75	10350
	CA50	50	8.0	2	1056	2112
	CA50	51	8.0	2	1050	2100
	CA50	52	8.0	2	159	318
	CA50	53	8.0	2	1175	2350
	CA50	54	8.0	2	1111	2222
VB13	CA60	55	5.0	177	85	15045
	CA60	56	5.0	2	240	480
	CA50	57	8.0	2	851	1702
	CA50	58	8.0	2	830	1660
	CA50	59	8.0	2	890	1780
	CA50	60	8.0	2	831	1662
	CA50	61	8.0	1	172	172
	CA50	62	8.0	4	1175	4700
	CA50	63	8.0	2	724	1448
	CA50	64	8.0	1	152	152
	CA50	65	8.0	2	225	450

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	8.0	503.9	42	198.8
CA60	5.0	575.5	-	88.7

PESO TOTAL (kg)	
CA50	198.8
CA60	88.7

Volume de concreto (C-25) = 4.87 m³
Área de forma = 85.08 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VB14	CA60	1	5.0	178	85	15130
	CA60	2	5.0	2	240	480
	CA60	3	5.0	2	235	470
	CA50	4	8.0	2	851	1702
	CA50	5	8.0	2	830	1660
	CA50	6	8.0	2	890	1780
	CA50	7	8.0	2	831	1662
	CA50	8	8.0	1	172	172
	CA50	9	8.0	2	1175	2350
	CA50	10	8.0	2	724	1448
	CA50	11	8.0	2	152	304
	CA50	12	8.0	2	1027	2054
	CA50	13	8.0	2	130	260
VB15	CA60	14	5.0	213	75	15975
	CA60	15	5.0	4	240	960
	CA50	16	8.0	2	1030	2060
	CA50	17	8.0	2	159	318
	CA50	18	8.0	2	1068	2136
	CA50	19	8.0	2	734	1468
	CA50	20	8.0	2	513	1026
	CA50	21	8.0	1	187	187
	CA50	22	8.0	2	1175	2350
	CA50	23	8.0	2	192	384
	CA50	24	8.0	1	212	212
	CA50	25	8.0	1	109	109
	CA50	26	8.0	2	668	1336
	CA50	27	10.0	2	1009	2018
VB16	CA60	28	5.0	22	75	1650
	CA50	29	8.0	2	342	684
	CA50	30	8.0	2	370	740
VB17	CA60	31	5.0	17	75	1275
	CA50	32	8.0	2	270	540
	CA50	33	8.0	2	302	604
VB18	CA60	34	5.0	215	75	16125
	CA60	35	5.0	4	245	980
	CA50	36	8.0	2	1030	2060
	CA50	37	8.0	2	159	318
	CA50	38	8.0	4	886	3544
	CA50	39	8.0	2	513	1026
	CA50	40	8.0	1	187	187
	CA50	41	8.0	2	1175	2350
	CA50	42	8.0	2	192	384
	CA50	43	8.0	2	167	334
	CA50	44	8.0	2	1000	2000
	CA50	45	8.0	1	207	207
	CA50	46	8.0	1	109	109
	CA50	47	8.0	2	668	1336
VB19	CA60	48	5.0	52	75	3900
	CA50	49	8.0	2	813	1626
	CA50	50	8.0	2	841	1682
VB20	CA60	51	5.0	51	75	3825
	CA60	52	5.0	7	95	665
	CA50	53	8.0	2	839	1678
	CA50	54	8.0	1	69	69
	CA50	55	8.0	2	169	338
	CA50	56	8.0	2	976	1952
	CA50	57	8.0	1	89	89
	CA50	58	8.0	2	184	368
VB21	CA60	59	5.0	39	75	2925
	CA50	60	8.0	2	632	1264
	CA50	61	8.0	2	659	1318
VB22	CA60	62	5.0	47	75	3525
	CA50	63	8.0	2	772	1544
	CA50	64	8.0	2	802	1604
VB23	CA60	65	5.0	47	75	3525
	CA50	66	8.0	2	772	1544
	CA50	67	8.0	2	802	1604
VB24	CA60	68	5.0	39	75	2925
	CA50	69	8.0	2	632	1264
	CA50	70	8.0	2	659	1318

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	8.0	606.6	51	239.4
	10.0	20.2	2	12.4
CA60	5.0	743.4	-	114.6

PESO TOTAL (kg)	
CA50	251.8
CA60	114.6

Volume de concreto (C-25) = 6.13 m³
Área de forma = 106.89 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VB25	CA60	1	5.0	40	75	3000
	CA50	2	8.0	2	625	1250
	CA50	3	8.0	2	657	1314
VB26	CA60	4	5.0	40	75	3000
	CA50	5	8.0	2	625	1250
	CA50	6	8.0	2	657	1314
VB27	CA60	7	5.0	40	75	3000
	CA50	8	8.0	2	625	1250
	CA50	9	8.0	2	657	1314
VB28	CA60	10	5.0	40	75	3000
	CA50	11	8.0	2	625	1250
	CA50	12	8.0	2	657	1314
VB29	CA60	13	5.0	32	85	2720
	CA50	14	8.0	2	623	1246
	CA50	15	8.0	2	654	1308
VB30	CA60	16	5.0	60	75	4500
	CA50	17	8.0	1	162	162
	CA50	18	8.0	2	985	1970
	CA50	19	10.0	1	171	171
	CA50	20	10.0	2	986	1972
VB31	CA60	21	5.0	8	75	600
	CA50	22	8.0	2	132	264
	CA50	23	8.0	2	162	324
VB32	CA60	24	5.0	27	95	2565
	CA60	25	5.0	2	270	540
	CA50	26	8.0	2	510	1020
	CA50	27	8.0	3	150	450
	CA50	28	8.0	2	158	316
VB33	CA60	29	5.0	7	75	525
	CA50	30	8.0	2	125	250
	CA50	31	8.0	2	162	324
VB34	CA60	32	5.0	64	75	4800
	CA50	33	8.0	2	985	1970
	CA50	34	8.0	1	157	157
	CA50	35	8.0	1	167	167
	CA50	36	8.0	2	994	1988
VB35	CA60	37	5.0	40	75	3000
	CA50	38	8.0	2	625	1250
	CA50	39	8.0	2	657	1314
VB36	CA60	40	5.0	38	75	2850
	CA50	41	8.0	2	625	1250
	CA50	42	8.0	2	641	1282
VB37	CA60	43	5.0	40	75	3000
	CA50	44	8.0	2	625	1250
	CA50	45	8.0	2	657	1314
VB38	CA60	46	5.0	32	85	2720
	CA50	47	8.0	2	630	1260
	CA50	48	8.0	2	654	1308
VB39	CA60	49	5.0	38	75	2850
	CA50	50	8.0	2	625	1250
	CA50	51	8.0	2	641	1282
VB40	CA60	52	5.0	17	75	1275
	CA50	53	8.0	2	273	546
	CA50	54	8.0	2	305	610
VB41	CA60	55	5.0	12	75	900
	CA50	56	8.0	2	214	428
	CA50	57	8.0	2	232	464
VB42	CA60	58	5.0	49	75	3675
	CA50	59	8.0	2	805	1610
	CA50	60	8.0	2	824	1648
VB43	CA60	61	5.0	57	75	4275
	CA50	62	8.0	2	888	1776
	CA50	63	8.0	2	920	1840
VB44	CA60	64	5.0	4	95	380
	CA50	65	6.3	1	84	84
	CA50	66	8.0	3	107	321
	CA50	67	8.0	3	119	357

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	6.3	0.8	1	0.2
	8.0	445.3	38	175.7
	10.0	21.4	2	13.2
CA60	5.0	531.8	-	82

PESO TOTAL (kg)	
CA50	189.1
CA60	82

Volume de concreto (C-25) = 4.46 m³
Área de forma = 76.96 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VF1	CA60	1	5.0	14	75	1050
	CA50	2	8.0	2	239	478
	61A50	3	8.0	2	267	534
VF2	CA60	4	5.0	34	75	2550
	CA50	5	8.0	2	525	1050
	CA50	6	8.0	2	571	1142
VF3	CA60	7	5.0	73	75	5475
	CA50	8	8.0	2	981	1962
	CA50	9	8.0	2	303	606
	CA50	10	8.0	2	1110	2220
	CA50	11	8.0	2	175	350
VF4	CA60	12	5.0	105	75	7875
	CA50	13	8.0	2	1048	2096
	CA50	14	8.0	2	644	1288
	CA50	15	8.0	2	1198	2396
	CA50	16	8.0	2	572	1144
VF5	CA60	17	5.0	9	75	675
	CA50	18	8.0	2	172	344
	CA50	19	8.0	2	197	394
VF6	CA60	20	5.0	11	75	825
	CA50	21	8.0	2	199	398
	CA50	22	8.0	2	217	434
VF7	CA60	23	5.0	28	75	2100
	CA50	24	8.0	2	475	950
	CA50	25	8.0	2	507	1014
VF8	CA60	26	5.0	12	85	1020
	CA50	27	6.3	2	74	148
	CA50	28	8.0	2	239	478
	CA50	29	8.0	2	263	526
VF9	CA60	30	5.0	11	75	825
	CA50	31	8.0	2	192	384
	CA50	32	8.0	2	217	434
VF10	CA60	33	5.0	34	75	2550
	CA50	34	5.0	2	310	620
	CA50	35	8.0	2	525	1050
	CA50	36	8.0	2	82	164
	CA50	37	8.0	2	195	390
VF11	CA60	38	5.0	75	75	5625
	CA50	39	8.0	2	931	1862
	CA50	40	8.0	2	353	706
	CA50	41	8.0	2	1110	2220
	CA50	42	8.0	2	175	350
VF12	CA60	43	5.0	138	75	10350
	CA50	44	8.0	2	1056	2112
	CA50	45	8.0	2	1158	2316
	CA50	46	8.0	2	1198	2396
	CA50	47	8.0	2	1087	2174
VF13	CA60	48	5.0	177	85	15045
	CA60	49	5.0	2	240	480
	CA50	50	8.0	2	851	1702
	CA50	51	8.0	2	830	1660
	CA50	52	8.0	2	870	1740
	CA50	53	8.0	2	831	1662
	CA50	54	8.0	2	1198	2396
	CA50	55	8.0	2	717	1434
	CA50	56	8.0	2	1175	2350
	CA50	57	8.0	2	239	478

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	6.3	1.5	1	0.4
	8.0	497.8	42	196.4
CA60	5.0	570.6	-	88

PESO TOTAL (kg)	
CA50	196.8
CA60	88

Volume de concreto (C-25) = 4.87 m³
Área de forma = 85.08 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VF14	CA60	1	5.0	178	85	15130
	CA60	2	5.0	2	240	480
	CA60	3	5.0	2	235	470
	CA50	4	8.0	2	851	1702
	CA50	5	8.0	2	830	1660
	CA50	6	8.0	2	870	1740
	CA50	7	8.0	2	831	1662
	CA50	8	8.0	2	1198	2396
	CA50	9	8.0	2	717	1434
	CA50	10	8.0	2	1027	2054
	CA50	11	8.0	2	130	260
VF15	CA60	12	5.0	213	75	15975
	CA50	13	5.0	4	245	980
	CA60	14	5.0	2	224	448
	CA50	15	8.0	2	1030	2060
	CA50	16	8.0	2	159	318
VF16	CA60	17	8.0	2	1068	2136
	CA50	18	8.0	2	734	1468
	CA50	19	8.0	2	513	1026
	CA50	20	8.0	2	1198	2396
	CA50	21	8.0	2	171	342
	CA50	22	8.0	2	1000	2000
	CA50	23	8.0	2	302	604
	CA50	24	8.0	2	180	360
	CA50	25	5.0	22	75	1650
	CA50	26	8.0	2	342	684
	CA50	27	8.0	2	370	740
VF17	CA60	28	5.0	17	75	1275
	CA50	29	8.0	2	284	568
	CA50	30	8.0	2	302	604
VF18	CA60	31	5.0	215	75	16125
	CA60	32	5.0	4	245	980
	CA60	33	5.0	2	224	448
	CA50	34	8.0	2	1030	2060
	CA50	35	8.0	2	159	318
	CA50	36	8.0	4	866	3464
	CA50	37	8.0	2	513	1026
	CA50	38	8.0	2	1198	2396
	CA50	39	8.0	2	170	340
	CA50	40	8.0	2	1000	2000
	CA50	41	8.0	2	302	604
	CA50	42	8.0	2	180	360
VF19	CA60	43	5.0	52	75	3900
	CA50	44	8.0	2	813	1626
	CA50	45	8.0	2	838	1676
VF20	CA60	46	5.0	51	75	3825
	CA60	47	5.0	7	95	665
	CA50	48	8.0	2	839	1678
	CA50	49	8.0	1	74	74
	CA50	50	8.0	2	169	338
	CA50	51	8.0	2	976	1952
	CA50	52	8.0	1	108	108
	CA50	53	8.0	2	203	406
VF21	CA60	54	5.0	39	75	2925
	CA50	55	8.0	2	632	1264
	CA50	56	8.0	2	657	1314
VF22	CA60	57	5.0	47	75	3525
	CA50	58	8.0	2	779	1558
	CA50	59	8.0	2	797	1594
VF23	CA60	60	5.0	47	75	3525
	CA50	61	8.0	2	779	1558
	CA50	62	8.0	2	797	1594
VF24	CA60	63	5.0	39	75	2925
	CA50	64	8.0	2	632	1264
	CA50	65	8.0	2	657	1314

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT + 0% (Barras)	PESO + 0% (kg)
CA50	8.0	601	51	237.1
CA60	5.0	752.5	-	116

PESO TOTAL (kg)	
CA50	237.1
CA60	116

Volume de concreto (C-25) = 6.13 m³
Área de forma = 106.89 m²

RELAÇÃO DO AÇO

ELEMENTO	AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
VF25	CA60	1	5.0	40	75	3000
	CA50	2	8.0	2	639	1278
	CA50	3	8.0	2	657	1314
VF26	CA60	4	5.0	40	75	3000
	CA50	5	8.0	2	639	1278
	CA50	6	8.0	2	657	1314
VF27	CA60	7	5.0	40	75	3000
	CA50	8	8.0	2	639	1278
	CA50	9	8.0	2	657	1314
VF28	CA60	10	5.0	40	75	3000
	CA50	11	8.0	2	639	1278
	CA50	12	8.0	2	657	1314
VF29	CA60	13	5.0	32	85	2720
	CA50	14	8.0	2	630	1260
	CA50	15	8.0	2	654	1308
VF30	CA60	16	5.0	60	75	4500
	CA50	17	8.0	2	985	1970
	CA50	18	8.0	1	492	492
	CA50	19	8.0	2	994	1988
VF31	CA60	20	5.0	7	75	525
	CA50	21	8.0	2	132	264
	CA50	22	8.0	2	157	314
VF32	CA60	23	5.0	27	95	2565
	CA50	24	5.0	2	255	510
	CA50	25	8.0	2	510	1020
	CA50	26	8.0	2	158	316
	CA50	27	8.0