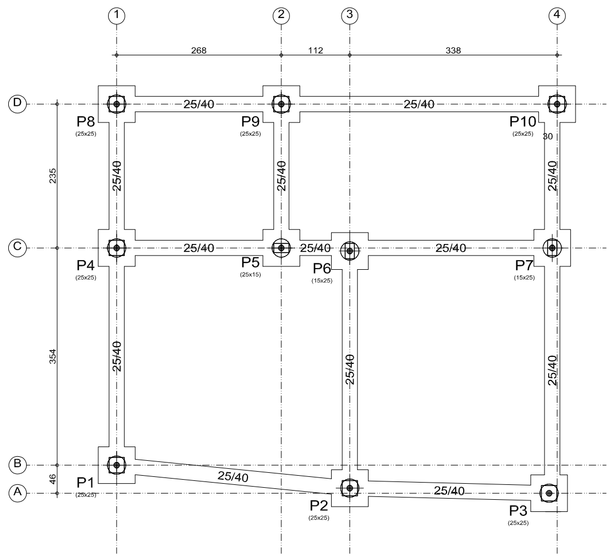
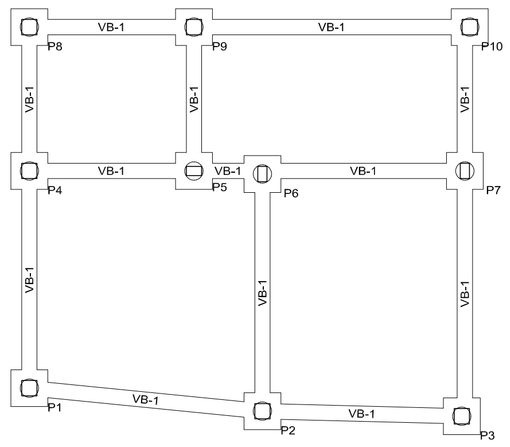
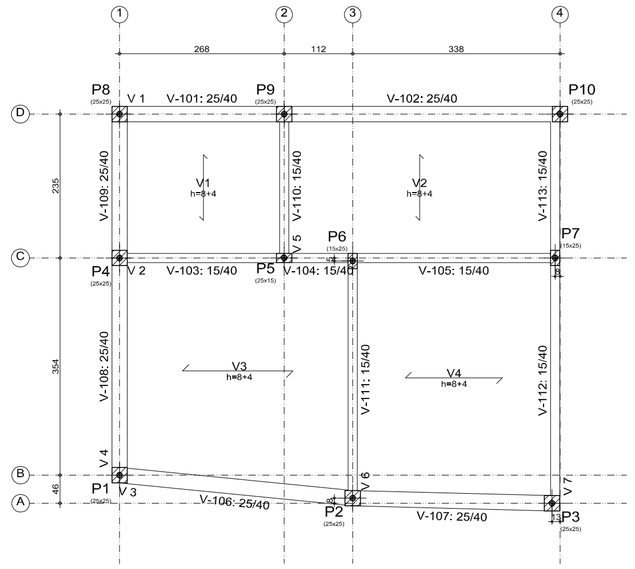


FORMA FUNDAÇÃO

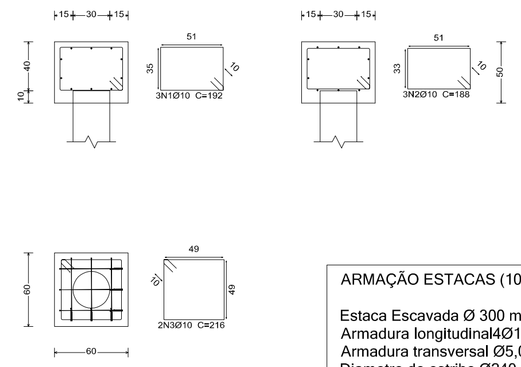


LOCAÇÃO BALDRAMES



FORMA LAJE

BL-1



ARMAÇÃO ESTACAS (10x)

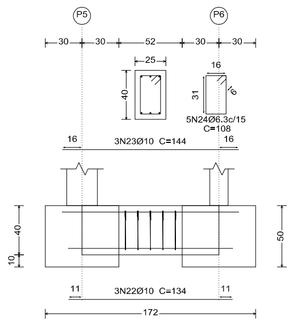
Estaca Escavada Ø 300 mm
Armadura longitudinal4Ø10,0 CA50
Armadura transversal Ø5,0 CA60 c/20
Diametro do estribo Ø240 mm
Cobrimento 3cm
Profundidade mín: Sondagem não fornecida
Profundidade Armada: 5,00 metros

OBSERVAÇÕES:
- A estaca deve entrar 10 cm no bloco;
- Executar arrasamento das estacas;
- A concretagem das estacas deve ocorrer preferencialmente no mesmo dia da perfuração;

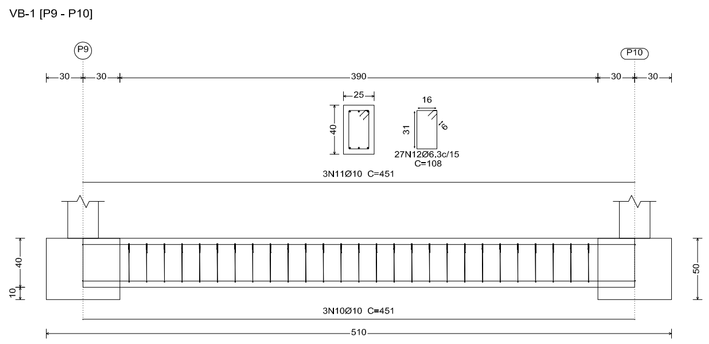
RESUMO AÇO ESTACAS
ARMAÇÃO LONGITUDINAL: 4Ø10 por estaca
TOTAL: 123.4 kg

ESTRIBOS: Ø5 c/ 20
TOTAL: 37.6 kg

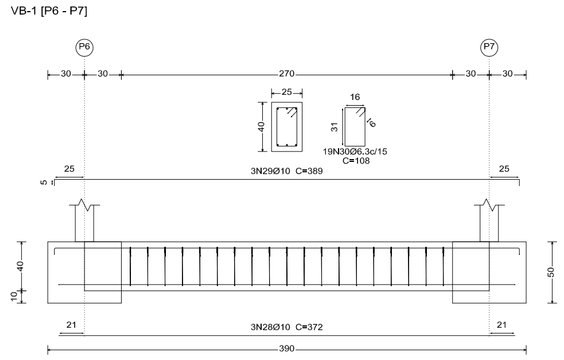
VB-1 [P5 - P6]



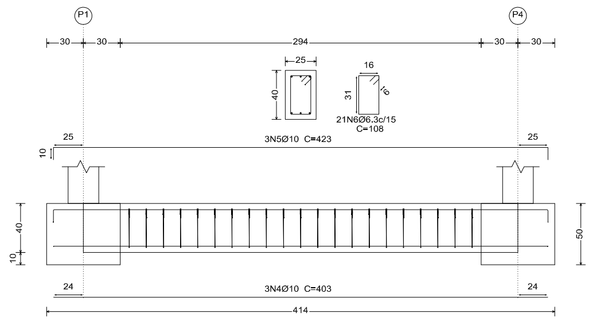
VB-1 [P9 - P10]



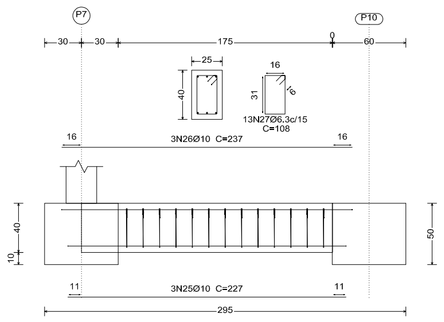
VB-1 [P6 - P7]



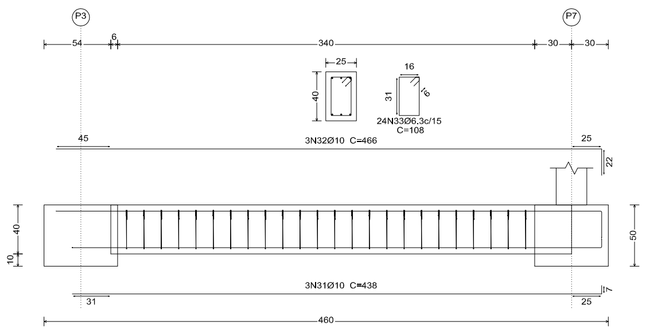
VB-1 [P1 - P4]



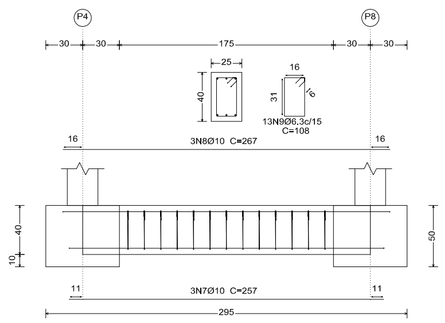
VB-1 [P7 - P10]



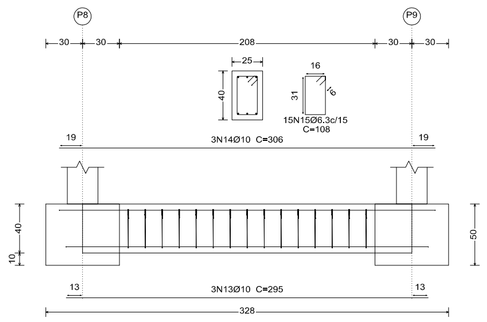
VB-1 [P3 - P7]



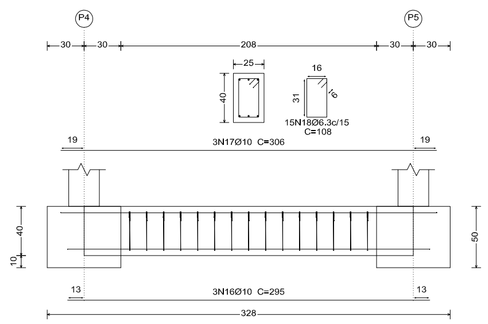
VB-1 [P4 - P8]



VB-1 [P8 - P9]

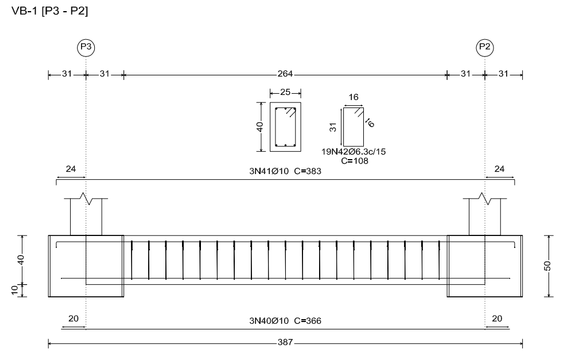


VB-1 [P4 - P5]

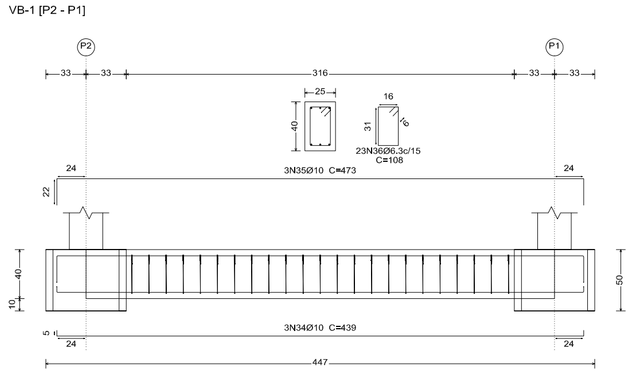


Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
BL-1	1	Ø10	3		192		192	576	3.5	
	2	Ø10	3		188		188	564	3.5	
	3	Ø10	2		216		216	432	2.7	
								Total+10%:	10.7	
								(x10):	107.0	
VB-1 [P1 - P4]	4	Ø10	3		403		403	1209	7.5	
	5	Ø10	3	10	403	10	423	1269	7.8	
	6	Ø6.3	21		108		108	2268	5.6	
								Total+10%:	23.0	
VB-1 [P4 - P8]	7	Ø10	3		257		257	771	4.8	
	8	Ø10	3		267		267	801	4.9	
	9	Ø6.3	13		108		108	1404	3.4	
								Total+10%:	14.4	
VB-1 [P9 - P10]	10	Ø10	3		451		451	1353	8.3	
	11	Ø10	3		451		451	1353	8.3	
	12	Ø6.3	27		108		108	2916	7.1	
								Total+10%:	26.1	
VB-1 [P8 - P9]	13	Ø10	3		295		295	885	5.5	
	14	Ø10	3		306		306	918	5.7	
	15	Ø6.3	15		108		108	1620	4.0	
								Total+10%:	16.7	
VB-1 [P4 - P5]	16	Ø10	3		295		295	885	5.5	
	17	Ø10	3		306		306	918	5.7	
	18	Ø6.3	15		108		108	1620	4.0	
								Total+10%:	16.7	
VB-1 [P5 - P9]	19	Ø10	3		257		257	771	4.8	
	20	Ø10	3		267		267	801	4.9	
	21	Ø6.3	13		108		108	1404	3.4	
								Total+10%:	14.4	
VB-1 [P5 - P6]	22	Ø10	3		134		134	402	2.5	
	23	Ø10	3		144		144	432	2.7	
	24	Ø6.3	5		108		108	540	1.3	
								Total+10%:	7.2	
VB-1 [P7 - P10]	25	Ø10	3		227		227	681	4.2	
	26	Ø10	3		237		237	711	4.4	
	27	Ø6.3	13		108		108	1404	3.4	
								Total+10%:	13.2	
VB-1 [P6 - P7]	28	Ø10	3		372		372	1116	6.9	
	29	Ø10	3	5	379	5	389	1167	7.2	
	30	Ø6.3	19		108		108	2052	5.0	
								Total+10%:	21.0	
VB-1 [P3 - P7]	31	Ø10	3		431	7	438	1314	8.1	
	32	Ø10	3		444	22	466	1398	8.6	
	33	Ø6.3	24		108		108	2592	6.3	
								Total+10%:	25.3	
VB-1 [P2 - P1]	34	Ø10	3	5	429	5	439	1317	8.1	
	35	Ø10	3	22	429	22	473	1419	8.7	
	36	Ø6.3	23		108		108	2484	6.1	
								Total+10%:	25.2	
VB-1 [P2 - P6]	37	Ø10	3	5	435	5	445	1335	8.2	
	38	Ø10	3	22	435	22	479	1437	8.9	
	39	Ø6.3	23		108		108	2484	6.1	
								Total+10%:	25.5	
VB-1 [P3 - P2]	40	Ø10	3		366		366	1098	6.8	
	41	Ø10	3	4	375	4	383	1149	7.1	
	42	Ø6.3	19		108		108	2052	5.0	
								Total+10%:	20.8	
								Ø6.3:	66.7	0.0
								Ø10:	289.8	0.0
								Total:	356.5	0.0

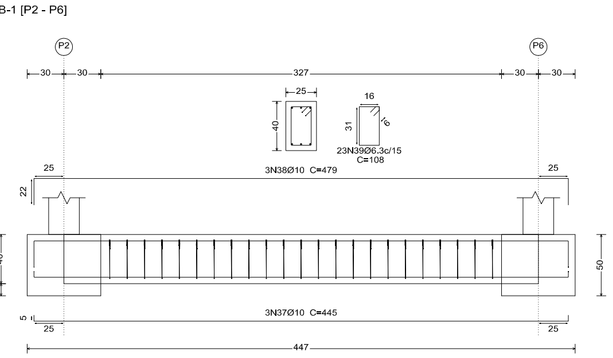
VB-1 [P3 - P2]



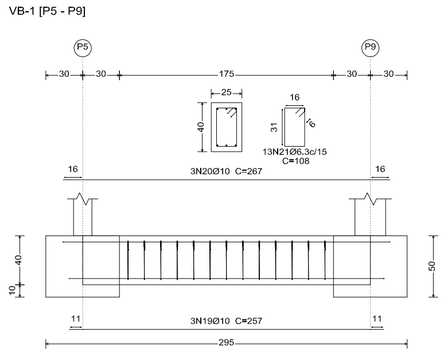
VB-1 [P2 - P1]



VB-1 [P2 - P6]



VB-1 [P5 - P9]



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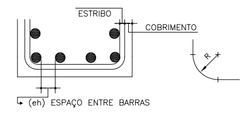
CARACTERÍSTICAS DO CONCRETO

Concreto: C-30
Fator água/cimento máximo: 0,55
Consumo de cimento teórico: >= 320 kg/m3
Consumo de cimento recomendado: >= 350 kg/m3
Módulo de deformação mín na desforma: 27 GPa
Massa específica aparente: 2.5 Tf/m3
Coef. segurança (Aço): 1.15
Corf. segurança (Concreto): 1.40

OBSERVAÇÕES

- Respeitar o cobrimento das armaduras.
- Executar o controle tecnológico dos materiais.
- Executar a cura úmida do concreto por 7 dias.
- Prever lastro de concreto 5 cm em peças de concreto.
- Implantação ver projeto de arquitetura.
- Conferir as medidas no local.



COEF. DE SEGURANÇA: AÇO.....1.15
CONCRETO.....1.40

COBRIMENTO DAS ARMADURAS				COB cm
DIÂMETRO	ø12.5	ø16	ø20	ø25	ø30
RAIO (R)	6	8	10	13	15

eh >= DIÂMETRO DAS BARRAS
eh >= 2cm

NORMAS TÉCNICAS

ABNT NBR 6118/2014
ABNT NBR 6120/2019
ABNT NBR 6123/1988
ABNT NBR 6122/2019
ABNT NBR 7480/2007
ABNT NBR 8808/2008

Número	Descrição	Data

Projeto Estrutural

BANHEIRO SUPERIOR
FORMAS E FUNDAÇÃO

FL-9_EST_0

Número do projeto	
Data	25/09/2022
Autor	Eng. Civil Airton Sonego Jr
Verificado por	

FL-9

Escala 1/25

Folha A0