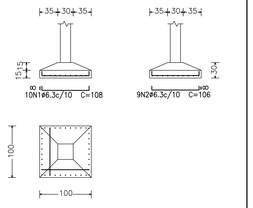
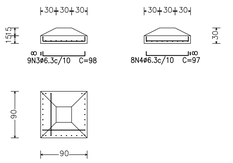
ARMAÇÃO DOS BLOCOS DE COROAMENTO

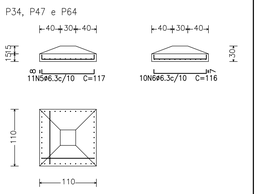
P21, P51 e P63



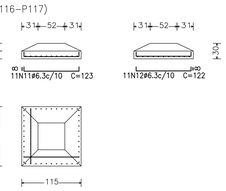
P30, P31, P32, P33, P43, P46, P49, P52, P65, P81 e P115



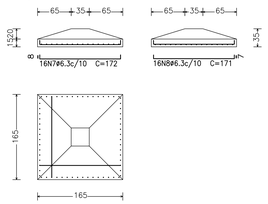
P34, P47 e P64



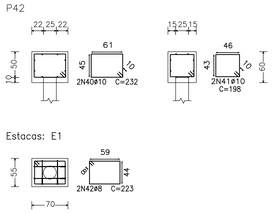
(P116–P117)



P118

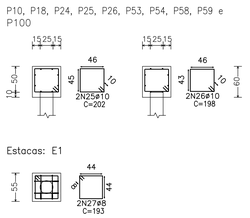


P42



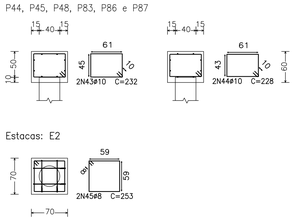
Estacas: E1

P10, P18, P24, P25, P26, P53, P54, P58, P59 e P100



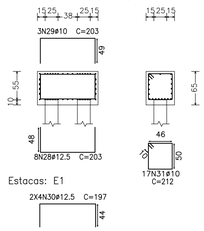
Estacas: E1

P44, P45, P48, P83, P86 e P87

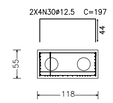


Estacas: E2

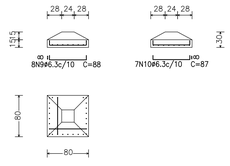
P29, P35, P79 e (P28–P23)



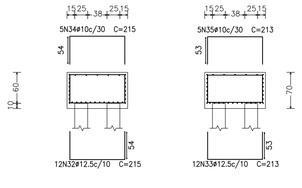
Estacas: E1



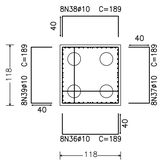
P119



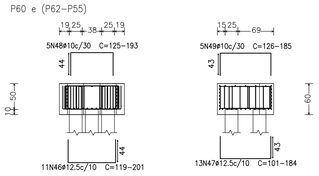
P36, P37, P38, P75, P76, P77, P78 e (P22–P27)



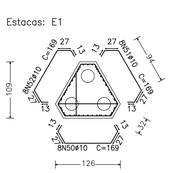
Estacas: E1



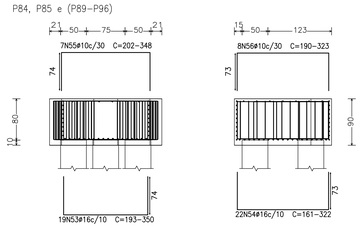
P60 e (P62–P55)



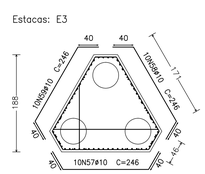
Estacas: E1



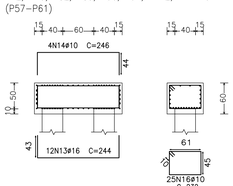
P84, P85 e (P89–P96)



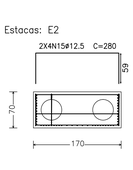
Estacas: E3



P1, P8, P13, P20, P39, P41, P50, P56, P70, P71, P72, P73, P82, P88, P90, P94, P112, P114 e (P57–P61)



Estacas: E2



Resumo Aço FUNDAÇÃO Detalhamento fundação		Comp. total (m)	Peso+10% (kg)	Total
CA-50-A	ø6.3	411.8	112	
	ø8	73.4	32	
	ø10	7218.3	4986	
	ø12.5	1040.8	1123	
	ø16	3423.4	5912	
	ø20	653.5	1778	13943

OBSERVAÇÕES:

_ COTAS EM CENTÍMETROS.

_ VER COORDENADAS DOS DEMAIS PILARES NA PLANTA DE LOCAÇÃO.

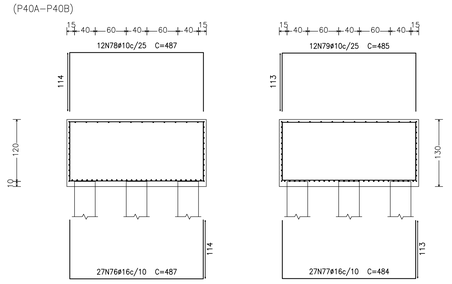
_ EXCENTRICIDADES MÁXIMAS ADMITIDAS PARA AS ESTACAS: 10% DO DIÂMETRO DA ESTACA.

_ VOLUME TOTAL DE CONCRETO DOS BLOCOS = 139,92 m3.

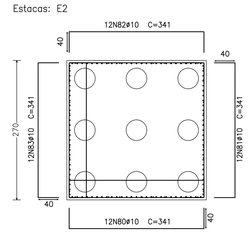
– VOLUME TOTAL DE CONCRETO MAGRO = 9,19 m3.

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
P21=P51=P63	1	ø6.3	10	8	92	8	108	1080	2.7	
	2	ø6.3	9	8	90	8	106	954	2.4	
								Total+10%	5.6	
								(x3)	16.8	
P30=P31=P32=P33	3	ø6.3	9	8	82	8	98	882	2.2	
P43=P46=P49=P52	4	ø6.3	8	8	81	8	97	776	1.9	
P65=P81=P115								Total+10%	4.5	
								(x11)	49.5	
P34=P47=P64	5	ø6.3	11	8	101	8	117	1287	3.2	
	6	ø6.3	10	7	102	7	116	1160	2.9	
								Total+10%	6.7	
								(x3)	20.1	
P118	7	ø6.3	16	8	156	8	172	2752	6.8	
	8	ø6.3	16	7	157	7	171	2736	6.8	
								Total+10%	15.0	
P119	9	ø6.3	8	8	72	8	88	704	1.7	
	10	ø6.3	7	8	71	8	87	609	1.5	
								Total+10%	3.5	
(P116–P117)	11	ø6.3	11	8	107	8	123	1353	3.3	
	12	ø6.3	11	8	106	8	122	1342	3.3	
								Total+10%	7.3	
P1=P8=P13=P20	13	ø16	12	43	158	43	244	2928	46.0	
P39=P41=P50=P56	14	ø10	4	44	158	44	246	984	6.2	
P70=P71=P72=P73	15	ø12.5	8		280		280	2240	22.0	
P82=P88=P90=P94	16	ø10	25		232		232	5800	36.4	
P112=P114 (P57–P61)								Total+10%	121.7	
								(x19)	2312.3	
P2=P5=P6=P7=P9	17	ø16	15	52	157	52	261	3915	61.5	
P11=P12=P14=P17	18	ø16	15	52	157	52	261	3915	61.5	
P19=P68=P69=P74	19	ø10	7	64	159	64	287	2009	12.6	
P80=P91=P92=P97	20	ø10	7	63	159	63	285	1995	12.5	
P98=P99=P102	21	ø10	8	40	161	40	241	1928	12.1	
P108=P110=P111	22	ø10	8	40	161	40	241	1928	12.1	
P113=(P3–P4)	23	ø10	8	40	161	40	241	1928	12.1	
(P15–P16)=(P67–P66)	24	ø10	8	40	161	40	241	1928	12.1	
(P95–P93) (P103–P105)								Total+10%	216.2	
								(x29)	6269.8	
P10=P18=P24=P25	25	ø10	2		202		202	404	2.5	
P26=P53=P54=P58	26	ø10	2		198		198	396	2.5	
P59=P100	27	ø8	2		193		193	386	1.5	
								Total+10%	7.2	
								(x10)	72.0	
P29=P35=P79	28	ø12.5	8	48	107	48	203	1624	15.9	
(P28–P23)	29	ø10	3	49	105	49	203	609	3.8	
	30	ø12.5	8		197		197	1576	15.5	
	31	ø10	17		212		212	3604	22.6	
								Total+10%	63.6	
								(x4)	254.4	
P36=P37=P38=P75	32	ø12.5	12	54	107	54	215	2580	25.3	
P76=P77=P78	33	ø12.5	12	53	107	53	213	2556	25.1	
(P22–P27)	34	ø10	5	54	107	54	215	1075	6.8	
	35	ø10	5	53	107	53	213	1065	6.7	
	36	ø10	8	40	109	40	189	1512	9.5	
	37	ø10	8	40	109	40	189	1512	9.5	
	38	ø10	8	40	109	40	189	1512	9.5	
	39	ø10	8	40	109	40	189	1512	9.5	
								Total+10%	112.1	
								(x8)	896.8	
P42	40	ø10	2		232		232	464	2.9	
	41	ø10	2		198		198	396	2.5	
	42	ø8	2		223		223	446	1.8	
								Total+10%	7.9	
P44=P45=P48=P83	43	ø10	2		232		232	464	2.9	
P86=P87	44	ø10	2		228		228	456	2.9	
	45	ø8	2		253		253	506	2.0	
								Total+10%	8.6	
								(x6)	51.6	
P60=(P62–P55)	46	ø12.5	11		VAR.		VAR.	1826	17.9	
	47	ø12.5	13		VAR.		VAR.	1989	19.5	
	48	ø10	5		VAR.		VAR.	825	5.2	
	49	ø10	5		VAR.		VAR.	775	4.9	
	50	ø10	8	13	143	13	169	1352	8.5	
	51	ø10	8	13	143	13	169	1352	8.5	
	52	ø10	8	13	143	13	169	1352	8.5	
								Total+10%	80.3	
								(x2)	160.6	
P84=P85=(P89–P96)	53	ø16	19		VAR.		VAR.	5377	84.4	
	54	ø16	22		VAR.		VAR.	5764	90.5	
	55	ø10	7		VAR.		VAR.	1981	12.4	
	56	ø10	8		VAR.		VAR.	2104	13.2	
	57	ø10	10	40	166	40	246	2460	15.4	
	58	ø10	10	40	166	40	246	2460	15.4	
	59	ø10	10	40	166	40	246	2460	15.4	
								Total+10%	271.4	
								(x3)	814.2	
P101=P104	60	ø20	28	67	193	67	327	9156	226.4	
	61	ø20	21	67	268	67	402	8442	208.7	
	62	ø10	12	114	193	114	421	5052	31.7	
	63	ø10	9	113	268	113	494	4446	27.9	
	64	ø10	12	40	196	40	276	3312	20.8	
	65	ø10	12	40	271	40	351	4212	26.5	
	66	ø10	12	40	196	40	276	3312	20.8	
	67	ø10	12	40	271	40	351	4212	26.5	
								Total+10%	648.2	
								(x2)	1296.4	
P107=P109	68	ø20	21	84	193	84	361	7581	187.5	
	69	ø20	21	82	193	82	357	7497	185.4	
	70	ø10	8	84	193	84	361	2888	18.1	
	71	ø10	8	83	193	83	359	2872	18.0	
	72	ø10	10	40	196	40	276	2760	17.3	
	73	ø10	10	40	196	40	276	2760	17.3	
	74	ø10	10	40	196	40	276	2760	17.3	
	75	ø10	10	40	196	40	276	2760	17.3	
								Total+10%	526.0	
								(x2)	1052.0	
(P40A–P40B)	76	ø16	27	114	259	114	487	13149	206.4	
	77	ø16	27	113	258	113	484	13068	205.2	
	78	ø10	12	114	259	114	487	5844	36.7	
	79	ø10	12	113	259	113	485	5820	36.5	
	80	ø10	12	40	261	40	341	4092	25.7	
	81	ø10	12	40	261	40	341	4092	25.7	
	82	ø10	12	40	261	40	341	4092	25.7	
	83	ø10	12	40	261	40	341	4092	25.7	
								Total+10%	646.4	

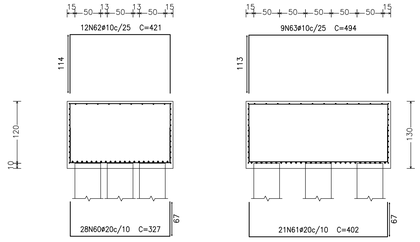
(P40A–P40B)



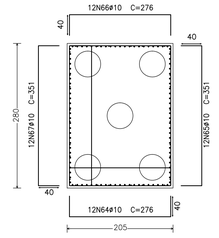
Estacas: E2



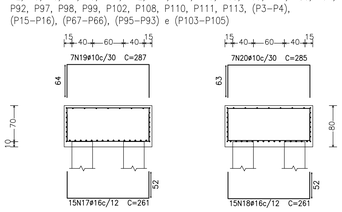
P101 e P104



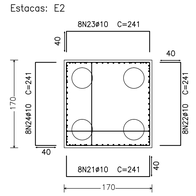
Estacas: E3



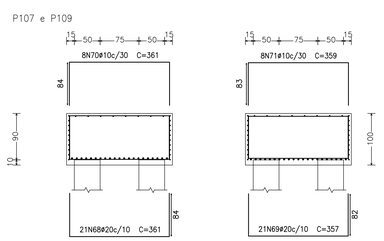
P2, P5, P6, P7, P9, P11, P12, P14, P17, P19, P68, P69, P74, P80, P91, P92, P97, P98, P99, P102, P108, P110, P111, P113, (P3–P4), (P15–P16), (P67–P66), (P95–P93) e (P103–P105)



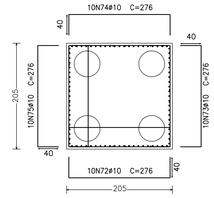
Estacas: E2



P107 e P109



Estacas: E3



REPRESENTANTE LEGAL: GUSTAVO F. R. COELHO
CIC Nº 365.873.624-00

AUTOR XXXXXXXXXXXXXXXXXXXX
ARQUITETO - CREA XXXXXXXXXX

RESPONSÁVEL PELA OBRA

UNIVERSIDADE FEDERAL DO RIO GRANDE DO NORTE
Superintendência de Infra-estrutura

SUPERINTENDENTE: ENG. GUSTAVO FERNANDES ROSADO COELHO	CIC Nº 365.873.624-00
AUTOR DO PROJETO: PEDRO MITZCUN COUTINHO	CREA Nº 210425938-0

PROJETO: ESTRUTURAL - CONCRETO ARMADO

LOCAL: CAMPUS CENTRAL DA UFRN - AV. SEN. SALGADO FILHO, 3000 - 59078-970 - NATAL - RN

OBRA: INSTITUTO DO CÉREBRO

ASSUNTO: ARMAÇÃO DOS BLOCOS DE COROAMENTO E SAPATAS

DATA	ESCALA(S)	Resistência Característica à Compressão do Concreto:	PRANCHA Nº
AGOSTO/2013	INDICADA	Fck = 35 MPa	03/04

OBSERVAÇÕES:
INFORMAÇÕES TÉCNICAS:
MÓDULO DE ELASTICIDADE SECANTE DO CONCRETO: 27806 MPa
AÇO: CA-50A / 60B
DÚVIDAS SOBRE O PROJETO: CONTATE O(A) ENGENHEIRO(A) - UFRN/SIN - TEL.: 3215.3162

DIREITOS AUTORAIS RESERVADOS - PROIBIDA QUALQUER MODIFICAÇÃO OU REPRODUÇÃO NO TODO OU EM PARTE, SEM PRÉVIO CONSENTIMENTO DO AUTOR, DE ACORDO COM A LEI FEDERAL 9.610/98.

Plotagem
Esc.: 1/100
Penas
1–0.10 6–0.60
2–0.20 7–0.20
3–0.30 8–0.80
4–0.40 9–0.90
5–0.50 10–1.00

PR-98-173