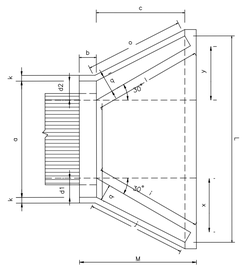
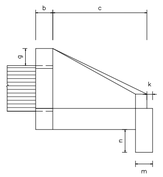
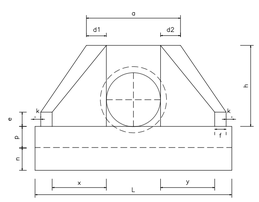
VISTA NORMAL



VISTA LATERAL



VISTA FRONTAL



DIMENSÕES E CONSUMOS MÉDIOS PARA UMA UNIDADE

ESC. (%)	BITOLA (Ø)	a	b	c	d1	d2	e	f	g	h	i	j	k	l	m	n	o	p	q	x	y	L	M	FORMAS (m²)	CONCRETO (m³)
BUEIRO SIMPLES TUBULAR Ø = 100																									
0	30	170	30	165	35	35	25	20	30	142	191	174	10	191	30	40	174	37	30	95	95	345	205	15,68	3,567
15	30	177	30	165	42	31	25	20	30	142	233	203	10	171	30	40	163	37	30	165	44	366	205	16,41	3,757
30	25	203	30	165	52	36	25	20	30	142	288	245	10	165	30	40	165	37	30	236	0	403	205	18,19	4,205
45	20	264	30	165	71	52	25	20	30	142	390	326	10	171	30	40	179	37	30	354	-44	499	205	22,30	5,293

SEM ESCALA

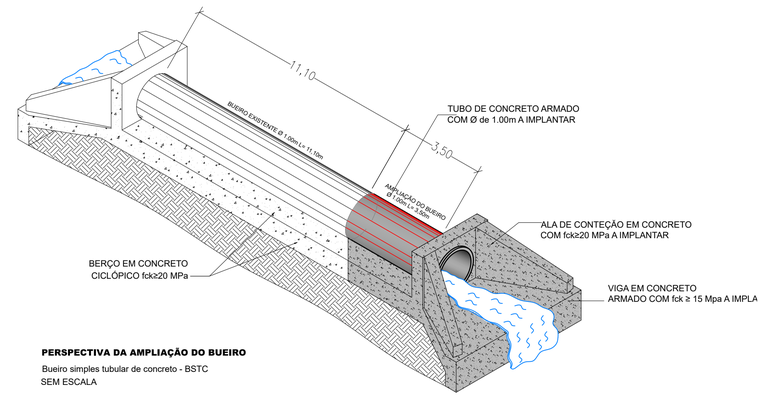
OBSERVAÇÕES:

1_ DIMENSÕES EM cm

2_ UTILIZAR CONCRETO CICLÓPICO ≥ 11 MPa

3_ UTILIZAR PREFERENCIALMENTE BOCAS NORMAIS PARA BUEIROS ESCONSOS, AJUSTANDO O TALUDE DE ATERRO ÀS ALAS E / OU PROLONGANDO O CORPO DO BUEIRO.

QUADRO DE DIMENSÕES (cm)					
DIÂMETRO	A	B	E	F	e
40	25	72	–	–	6
60	30	96	–	–	8
80	35	120	240	–	10
100	40	144	288	432	12
120	45	166	332	498	13
150	50	198	396	594	14



PERSPECTIVA DA AMPLIAÇÃO DO BUEIRO

Bueiro simples tubular de concreto - BSTC
SEM ESCALA

TUBOS DE CONCRETO ARMADO

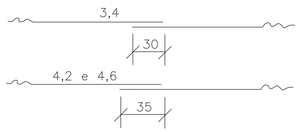
TABELA DE ARMADURAS (POR METRO DE TUBO)

TUBOS TIPO CA–1 (ABNT)							TUBOS TIPO CA–2 (ABNT)							TUBOS TIPO CA–3 (ABNT)							TUBOS TIPO CA–4 (ABNT)						
FORMAS		ARMADURAS (CA–60B)					FORMAS		ARMADURAS (CA–60B)					FORMAS		ARMADURAS (CA–60B)					FORMAS		ARMADURAS (CA–60B)				
DI(cm)	e(cm)	N	Ø	ESP.	Q.	COMP.	DI(cm)	e(cm)	N	Ø	ESP.	Q.	COMP.	DI(cm)	e(cm)	N	Ø	ESP.	Q.	COMP.	DI(cm)	e(cm)	N	Ø	ESP.	Q.	COMP.
60	8	1	3,4	15	14	corr.	60	8	1	3,4	15	14	corr.	60	8	3	3,4	15	29	corr.	60	8	3	3,4	15	29	corr.
		2	4,6	10	10	240			2	5,0	9	11	240			4	5,0	10	10	260			4	6,0	10	10	260
																5	5,0	10	10	240			5	6,0	10	10	240
80	10	1	3,4	15	18	corr.	80	10	1	4,2	20	14	corr.	80	10	3	4,2	20	28	corr.	80	10	3	4,2	20	28	corr.
		2	5,0	10	10	315			2	6,0	9	11	315			4	6,0	10	10	335			4	7,0	11	9	335
																5	6,0	10	10	305			5	7,0	11	9	305
100	12	3	3,4	15	46	corr.	100	12	3	4,2	20	35	corr.	100	12	3	4,2	20	35	corr.	100	12	3	4,6	20	35	corr.
		4	4,6	10	10	405			4	6,0	12	8	405			4	6,0	9	11	405			4	7,0	9	11	405
		5	4,6	10	10	365			5	6,0	12	8	365			5	6,0	9	11	365			5	7,0	9	11	365
120	13	3	3,4	15	56	corr.	120	13	3	4,2	20	42	corr.	120	13	3	4,6	20	42	corr.	120	13	3	4,6	20	42	corr.
		4	5,0	10	10	475			4	6,0	9	11	475			4	7,0	9	11	475			4	8,0	9	11	475
		5	5,0	10	10	425			5	6,0	9	11	425			5	7,0	9	11	425			5	8,0	9	11	425
150	14	3	4,2	20	51	corr.	150	14	3	4,6	20	51	corr.	150	14	3	4,6	20	51	corr.	150	14	3	4,6	20	51	corr.
		4	6,0	10	10	580			4	7,0	9	11	580			4	8,0	8	12	580			4	8,0	6	16	580
		5	6,0	10	10	520			5	7,0	9	11	520			5	8,0	8	12	520			5	8,0	6	16	520

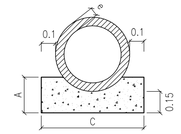
fck ≥ 15 MPa
AÇO CA–60B

DET. DE EMENDA

(EMENDAR EM POSIÇÕES DIFERENTES)

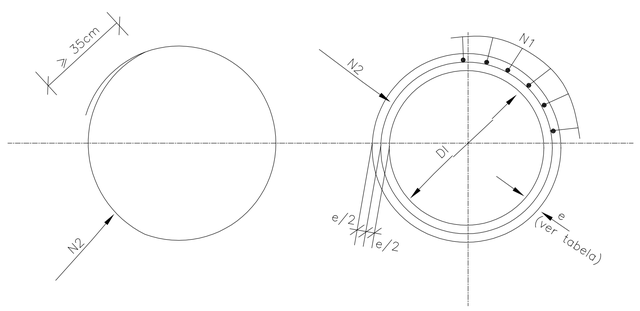


BERÇO P/ ASSENTAMENTO DE BSTC

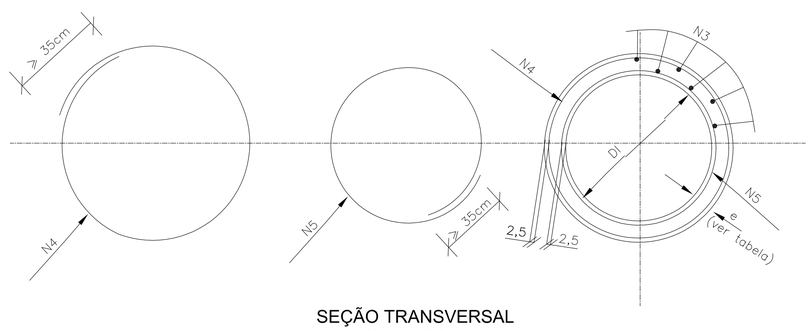


SEM ESCALA

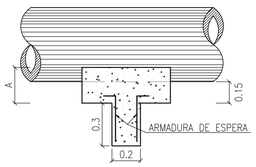
CA–1(ALTURA DE ATERRO) 1,0 a ≤ 3,5m						CA–2(ALTURA DE ATERRO) ≤ 5,0m						CA–3(ALTURA DE ATERRO) ≤ 7,0m						CA–4(ALTURA DE ATERRO) ≤ 8,5m					
RESUMO DE AÇO						RES MO DE AÇO						RESUMO DE AÇO						RESUMO DE AÇO					
BITOLA	60	80	100	120	150	BITOLA	60	80	100	120	150	BITOLA	60	80	100	120	150	BITOLA	60	80	100	120	150
Ø kg/m	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)	Ø kg/m	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)	Ø kg/m	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)	Ø kg/m	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)	PESO(kg)
3,4 0,071	1	1	4	4	–	3,4 0,071	1	–	–	–	–	3,4 0,071	2	–	–	–	–	3,4 0,071	2	–	–	–	–
4,2 0,109	–	–	–	–	6	4,2 0,109	–	2	4	5	–	4,2 0,109	–	3	4	–	–	4,2 0,109	–	3	–	–	–
4,6 0,130	3	–	10	–	–	4,6 0,130	–	–	–	–	7	4,6 0,130	–	–	–	6	7	4,6 0,130	–	–	5	6	7
5,0 0,154	–	5	–	14	–	5,0 0,154	4	–	–	–	–	5,0 0,154	8	–	–	–	–	6,0 0,222	11	–	–	–	–
6,0 0,222	–	–	–	–	24	6,0 0,222	–	8	14	22	–	6,0 0,222	–	14	19	–	–	7,0 0,302	–	17	26	–	–
						7,0 0,302	–	–	–	–	37	7,0 0,302	–	–	–	30	–	8,0 0,393	–	–	–	39	69
												8,0 0,393	–	–	–	–	52						
TOTAIS 4	6	14	18	30		TOTAIS 5	10	18	27	44		TOTAIS 10	17	23	36	59		TOTAIS 13	20	31	45	76	



SEÇÃO TRANSVERSAL
SEM ESCALA



SEÇÃO TRANSVERSAL
SEM ESCALA



VISTA LATERAL
SEM ESCALA

NOTAS:

1 – Dimensões em cm;

PLANEJAMENTO E ASSESSORIA DE PROJETOS TÉCNICOS LTDA.

CLIENTE: PREFEITURA MUNICIPAL DE SANTO ANTÔNIO DOS MILAGRES - PI

PROJETO: CONSTRUÇÃO DE PISTA DE COOPER

LOCAL: ZONA URBANA

FONTE DE RECURSO: RECURSO PRÓPRIO

DESENHO: DETALHES EXECUTIVOS DA AMPLIAÇÃO DO BUEIRO (BSTC)

ESCALA: INDICADA

DADOS DE CAMPO: ARISTOMILDO

DESENHO/CAD: Elenir Gonçalves

PROJETISTA: Estéfane Oliveira Nunes Engenheira Civil CREA Nº 31756 RN 1916831346

Nº DO DESENHO: 04

DATA: 2026

FORMATO: A1

REV.: 0

PRANCHA Nº: 01/01