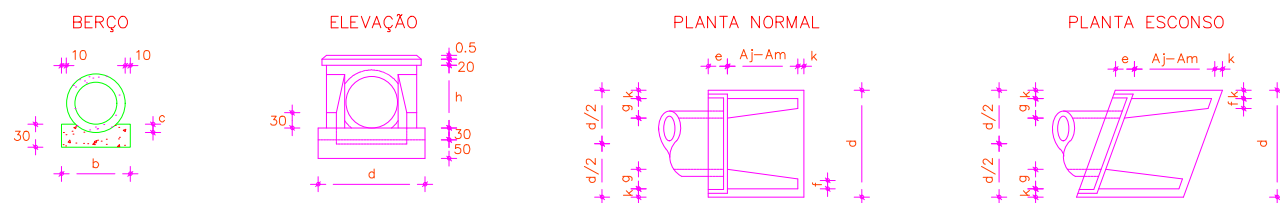


SIMPLES



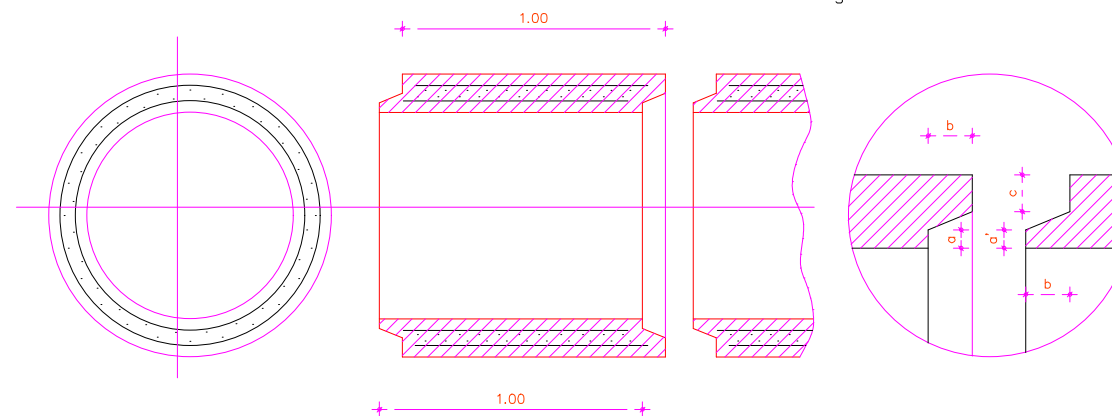
BERÇO

TIPO	a	b	c	CONCRETO P.M.L.
BSM - 0.60	0.35	1.20	0.15	0.420m ³
BSM - 0.80	0.45	1.15	0.20	0.432m ³
BSM - 1.00	0.56	1.44	0.25	0.629m ³

BOCA - TABELA DE DIMENSÕES

α°	BSM - 0.80						BSM - 1.00						
	d	e	f	g	h	k	d	e	f	g	h	k	
0 - 15	1.90	0.30	0.30	0.40	1.20	0.10	0 - 15	2.10	0.40	0.30	0.45	1.42	0.10
15 - 30	2.13	0.34	0.33	0.43	1.20	0.11	15 - 30	2.33	0.44	0.33	0.48	1.42	0.11
30 - 45	2.49	0.39	0.37	0.51	1.20	0.12	30 - 45	2.69	0.49	0.37	0.57	1.42	0.12

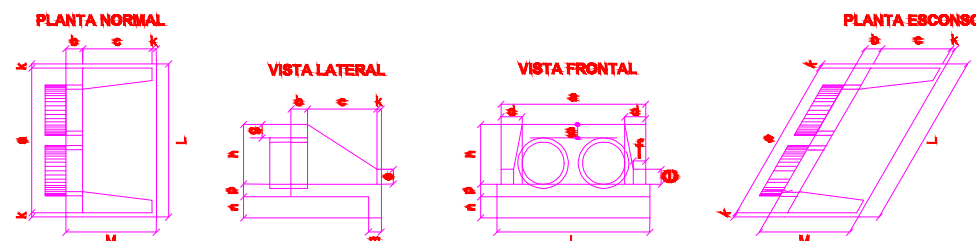
MANILHA DE CONCRETO COM ARMAÇÃO DUPLA



ESPECIFICAÇÕES POR MANILHA

DIÂMETRO INTERNO (cm)	ESPESS. (cm)	ENCAIXE (cm)				ARMAÇÃO	N° DE ANEIS	DIÂMETRO DOS ANEIS (cm)		N° DE BARRAS DE MONTAG.	CONSUMO DE MATERIAIS				VOLUME DO TUBO m ³	PESO DO TUBO kg	SEÇÃO DE VAZÃO m ²
		a	a'	b	c			EXT.	INT.		FERRO		CIMENTO				
		kg	kg	kg	SACOS												
60	8	3	2/2	4	3	1ø1/4"-10	2x11x22	72	64	2x8=16	16 1/2	-	63	1.5	0.17	410	0.28
80	10	3/2	3	5	4	1ø1/4"-8	2x13x26	96	84	2x12=24	25 1/2	-	105	2.5	0.28	670	0.50
100	12	4	3/2	6	5	1ø1/4"-6	2x17x34	120	104	2x12=24	38	-	157	3.7	0.42	1000	0.78

DUPLO



DIMENSÕES E CONSUMOS MÉDIOS PARA UMA UNIDADE

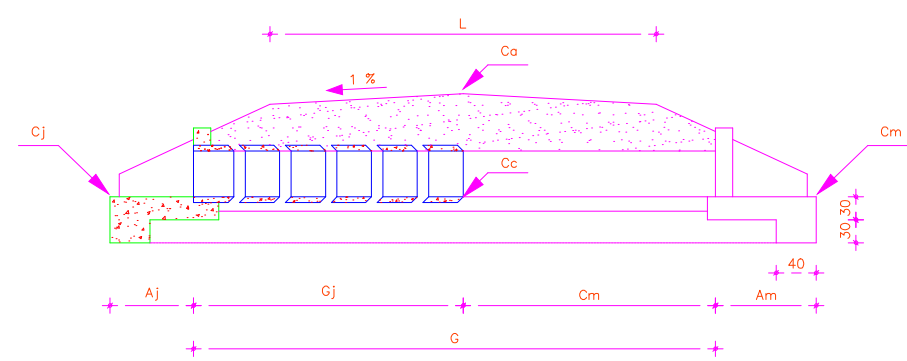
BUEIRO DUPLO TUBULAR Ø = 80														Forma	Vol. concreto	Vol. areia	Vol. cimento	Vol. T. betão	Vol. T. água	Vol. T. madeira		
Esp.	a	b	c	d	e	f	g	h	k	m	n	α°	L	M	cm	m ³	m ³	m ³	m ³	m ³	m ³	
240	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
241	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
242	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
243	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
244	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
245	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
246	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
247	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
248	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
249	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
250	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
251	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
252	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
253	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
254	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
255	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
256	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
257	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206
258	0.35	1.20	0.15	0.40	1.20	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.357	0.588	1.331	1.448	0.313	0.206

Nota:
 1- Dimensões em cm
 2- Utilizar concreto classe fck = 18 MPa
 3- Utilizar protuberâncias nas bases normais para bueiros assentes,
 e) laterais e fundo de aberto as bases não prolongadas e corpo de bueiro.

NOTA:

- * TRACO 350kg DE CIMENTO POR METRO CÚBICO (RESISTÊNCIA PROVÁVEL 250kg/cm²)
- * MARCAR SEMPRE NAS MANILHAS A POSIÇÃO EM QUE DEVEM SER ASSENTADAS
- * MONTAR A ARMAÇÃO COM SOLDA ELÉTRICA SEMPRE QUE FOR POSSÍVEL
- * VIBRAR SEMPRE O CONCRETO
- * PARA MELHORAR A VIBRAÇÃO DO CONCRETO MONTAR SEMPRE AS FORMAS SOBRE ESTRADO DE MADEIRA

BUEIROS DE MANILHAS



Jarbas R. S. Junior
 Engº Civil - Fiscal
 RNP - 100814100-3



PREFEITURA MUNICIPAL DE MILHÃ / CE		PRANCHA:
RECUPERAÇÃO DE ESTRADAS VICINAIS NO MUNICÍPIO DE MILHÃ / CE.		01 / 01
TRECHO: BR226 - MONTE GRAVE.		ESCALA:
PROJETO DE DRENAGEM - DETALHAMENTO DOS BUEIROS		SEM ESCALA
PROJETISTA:	JARBAS R. S. JUNIOR - ENGº CIVIL - RNP: 100814100-3.	
ARQUIVO:	DRENAGEM_R1.DWG	