

PROYECTO

CASETA DE CLORO (A3.14)

DIRECCIÓN

Planta de tratamiento El curval
Santa Marta, Magdalena

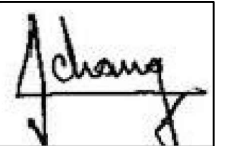
SUPERVISOR



Luis Felipe Gutierrez Castillo

Gerente de infraestructura
Alcaldía de Santa Marta
M.P. BL230-30375

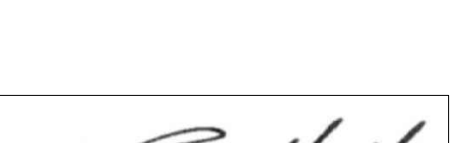
DISEÑO ESTRUCTURAL



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GEOTECNISTA



ERNESTO MOLINA MENDOZA

M.P.N° 08202-2306 ATL

INTERVENTORIA



ING. JORGE ZUNIGA CESPEDES

M.P.N° 08202-188686 ATL

OBSERVACIONES:

GENERALES
Capacidad de pila: 85 tonf a 6m de profundidad

DATOS SÍSMICOS
Aa: 0.15
Av: 0.10
Fai: 1.5
Fv: 2.4
I=1.5 (IV)
Criterio de armado: DMO
Ro: 5.0
Øa: 0.8
Øp: 0.8
Øc: 1.0

CARGAS
Ver memoria de cálculo

MATERIALES
Concreto:
Cimentación: 21 MPa
Demás elementos: 24.5 MPa
Acero en barras: 420 MPa
Tubo estructural: ASTM A500 Gr C
Tornillos: ASTM A325
Platinas: ASTM A572 G50
Soldadura 70xx

MARCO NORMATIVO
NSR-10
ANSI/AISC 360-10 (LRFD)

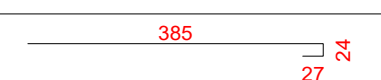
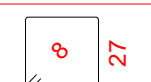
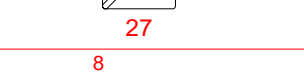
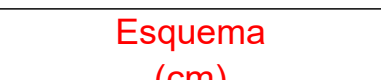
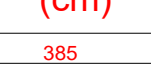
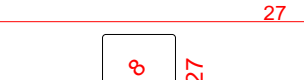
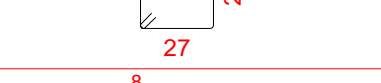
RECUBRIMIENTO
7.5 cm para dados y vigas de cimentación
5.0 cm para losa de contrapiso
4.0 cm para vigas aéreas y columnas

CONTIENE

- Cantidades de obra.

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	Grado 60 (kg)	Ubicación Plano
C1=C2=C3=C4=C5=C6=C7=C8 C9=C10=C11=C12=C13=C14	1	Ø5/8"	7	180	1260	19.7	
	2	Ø5/8"	7	177	1239	19.4	
	3	Ø5/8"	7	180	1260	19.7	
	4	Ø5/8"	7	177	1239	19.4	
Total+5%: (x14):						82.1 1149.4	
V 30x45 (2) [C1 - C2]	5	Ø5/8"	3	499	1497	23.4	
	6	Ø5/8"	3	533	1599	25.0	
	7	Ø3/8"	19	109	2071	11.6	
Total+5%:						63.0	
V 30x45 (2) [C2 - C3]	8	Ø5/8"	3	445	1335	20.9	
	9	Ø5/8"	3	445	1335	20.9	
	10	Ø3/8"	17	109	1853	10.4	
Total+5%:						54.8	
V 30x45 (2) [C3 - C4]	11	Ø5/8"	3	445	1335	20.9	
	12	Ø5/8"	3	445	1335	20.9	
	13	Ø3/8"	17	109	1853	10.4	
Total+5%:						54.8	
V 30x45 (2) [C4 - C5]	14	Ø5/8"	3	465	1395	21.8	
	15	Ø5/8"	3	487	1461	22.8	
	16	Ø3/8"	18	109	1962	11.0	
Total+5%:						58.4	
V 30x45 (2) [C6 - C1]	17	Ø5/8"	3	598	1794	28.0	
	18	Ø5/8"	3	609	1827	28.5	
	19	Ø3/8"	20	109	2180	12.2	
Total+5%:						72.1	
V 30x45 (2) [C7 - C5]	20	Ø5/8"	3	570	1710	26.7	
	21	Ø5/8"	3	609	1827	28.5	
	22	Ø3/8"	20	109	2180	12.2	
Total+5%:						70.8	
V 30x45 (2) [C8 - C6]	23	Ø5/8"	3	483	1449	22.6	
	24	Ø5/8"	3	483	1449	22.6	
	25	Ø3/8"	20	109	2180	12.2	
Total+5%:						60.3	
V 30x45 (2) [C9 - C7]	26	Ø5/8"	3	483	1449	22.6	
	27	Ø5/8"	3	483	1449	22.6	
	28	Ø3/8"	20	109	2180	12.2	
Total+5%:						60.3	
				Ø3/8":	96.8		EO1
				Ø5/8":	1547.1		
				Total:	1643.9		
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	Grado 60 (kg)	
V 30x45 (2) [C10 - C8]	1	Ø5/8"	3	595	1785	27.9	
	2	Ø5/8"	3	607	1821	28.4	
	3	Ø3/8"	20	109	2180	12.2	
Total+5%:						71.9	
V 30x45 (2) [C10 - C11]	4	Ø5/8"	3	484	1452	22.7	
	5	Ø5/8"	3	506	1524	23.8	
	6	Ø3/8"	19	109	2071	11.6	
Total+5%:						61.0	
V 30x45 (2) [C11 - C12]	7	Ø5/8"	3	445	1335	20.9	
	8	Ø5/8"	3	445	1335	20.9	
	9	Ø3/8"	17	109	1853	10.4	
Total+5%:						54.8	
V 30x45 (2) [C12 - C13]	10	Ø5/8"	3	445	1335	20.9	
	11	Ø5/8"	3	445	1335	20.9	
	12	Ø3/8"	17	109	1853	10.4	
Total+5%:						54.8	
V 30x45 (2) [C14 - C9]	13	Ø5/8"	3	564	1692	26.4	
	14	Ø5/8"	3	607	1821	28.4	
	15	Ø3/8"	20	109	2180	12.2	
Total+5%:						70.4	
V 30x45 (2) [C13 - C14]	16	Ø5/8"	3	464	1392	21.7	
	17	Ø5/8"	3	486	1458	22.8	
	18	Ø3/8"	18	109	1962	11.0	
Total+5%:						58.3	
				Ø3/8":	71.3		
				Ø5/8":	299.9		
				Total:	371.2		
Resumen Acero Cimentación Despiece cimentación	Long. total (m)			Peso+5% (kg)		Total	
	Grado 60 Ø3/8"						
	Ø5/8"						
			285.6	168	2013		

CONCRETO CIMENTACIÓN		
ELEMENTO	CONCRETO (m3)	Ubicación Plano
ZAPATAS	13.25	E01
VIGAS DE CIMENTACIÓN	4.92	
TOTAL (m3)	18.17	

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	Grado 60 (kg)	Ubicación Plano
C1=C5=C10=C14	1	Ø5/8"	8		435	3480	54.4	E01
	2	Ø3/8"	76		121	9196	51.5	
	3	Ø3/8"	94		44	4136	23.1	
	4	Ø5/8"	8		255	2040	31.9	
					Total+5%: (x4):		168.9	
							675.6	
					Ø3/8":		313.2	
					Ø5/8":		362.4	
					Total:		675.6	
Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	Grado 60 (kg)	Ubicación Plano
C2=C3=C4=C6=C7=C8=C9=C11 C12=C13	1	Ø5/8"	10		435	4350	68.0	E01
	2	Ø3/8"	76		121	9196	51.5	
	3	Ø3/8"	94		44	4136	23.1	
	4	Ø5/8"	10		255	2550	39.8	
					Total+5%: (x10):		191.5	
							1915.0	
					Ø3/8":		783.0	
					Ø5/8":		1132.0	
					Total:		1915.0	
				Resumen Acero Columnas	Long. total (m)	Peso+5% (kg)	Total	
				Grado 60 Ø3/8" Ø5/8"	1866.5	1097	2591	
					910.8	1494	2591	

CONCRETO COLUMNAS		
ELEMENTO	CONCRETO (m3)	Ubicación Plano
COLUMNAS	7.55	E01

Malla electrosoldada					
Elemento	Tipo de malla (Pared 6.00 x 2.35m)	Área de acero (m2)	Área por malla (m2)	Cantidad	Peso (kg)
Losa contrapiso	Malla 6.0 mm c/0.15	208.15	14.10	15	633.00
Total:				15	633.00

CONCRETO LOSA DE CONTRAPISO N=0.00		
ELEMENTO	CONCRETO (m3)	Ubicación Plano
Losa h = 10 cm	20.81	E02

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	Grado 60 (kg)	Ubicación Plano
Marco 1=Marco 2	1	Ø5/8"	6	26	274		300	1800	28.1	E02
	2	Ø5/8"	9		510		510	4590	71.7	
	3	Ø5/8"	3	26	544		570	1710	26.7	
	4	Ø5/8"	3		500		500	1500	23.4	
	5	Ø5/8"	3		475		475	1425	22.3	
	6	Ø5/8"	3		349	26	375	1125	17.6	
	7	Ø3/8"	130	9.5	118.2	9.5	137	17810	99.7	
								Total+5%: (x2):	304.0 608.0	
Marco 3=Marco 4	1	Ø5/8"	6	26	274		300	1800	28.1	E02
	2	Ø5/8"	3		555		555	1665	26.0	
	3	Ø5/8"	3		565		565	1695	26.5	
	4	Ø5/8"	3	26	574		600	1800	28.1	
	5	Ø5/8"	3		500		500	1500	23.4	
	6	Ø5/8"	3		404	26	430	1290	20.2	
	7	Ø3/8"	102	9.5	118.2	9.5	137	13974	78.2	
								Total+5%: (x2):	242.0 484.0	
								Ø3/8": Ø5/8": Total:	373.8 718.4 1092.0	