

Modelamiento Hidráulico - Central Park
Entrega 1 de 1
Revisó: Ino. María Catalina Ardila Chacón
Noviembre de 2024

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No.	DE	A	CAUDAL DE DISEÑO								CARACTERÍSTICAS GEOMÉTRICAS DEL COLECTOR										CONDICIONES HIDRÁULICAS DEL COLECTOR										PROFUNDIDAD A LA ENTRADA DEL COLECTOR DE FLUJO SUPERCRÍTICO (F<1.0)										COTAS COLECTOR REFERIDAS A EJES DE POZOS FLUJO SUPERCRÍTICO				COTAS DE ENERGÍA FLUJO SUBCRÍTICO (F<0.90)				COTAS COLECTOR QUE LLEGAN AL POZO DE ENTRADA		COTA RASANTE ENTRADA	
			Tempo entrada	Frecuen.	Intens.	Coef. Escor.	Área total	Caudal sanitario	Caudal diseño	Ka	Diam. Colector at	Diam. Colector at	Lonitud entre pozos	Pend. Colector	Caudal tubo lleno	Q/Occ	Yrd	Altura agua Y	Vel tubo lleno Vv	Vel agua Y	Fuerza tractiva Ft	V/2	Froude	Tempo recorrido tramo	Caida en el tramo	Diametro Bocina	h	K	Z	Hw	C. Agua Pozo Entrada	C. Base Pozo Entrada	C. Base Pozo Salida	C. Agua Pozo Salida	COTAS COLECTORES QUE LLEGAN AL POZO DE ENTRADA	Caida en pozo ent	COTA RASANTE ENTRADA															
			m.	Años	Fig.10	C	m ²	l/s	l/s	mm	m	m	m	%	l/s	l/s	m	m	m/s	m/s	N	m	m	s	m	m	m	m	m	m	m	m	m	m	m	m	m	m														
0	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(41)															
1	PICPR1	PICPR2	8.00	3	175.00	0.75	0.05	1.50	8.59	0.002	0.23	250	65.52	14.61	310.78	0.03	0.113	0.03	7.69	3.41	23.63	0.59	8.24	0.92	9.58	0.23	0.00	1.20	1.20	0.11	0.01	1412.35	1402.77	1402.80			1412.55															
2	PICPR2	PICPR3	8.32	3	175.00	0.75	0.09	1.50	12.84	0.002	0.23	250	34.88	22.71	384.34	0.03	0.122	0.03	9.74	4.56	39.48	1.06	10.58	0.13	7.92	0.23	0.00	1.00	1.20	0.17	0.01	1402.80	1402.68	1394.74	1394.77	1403.39		1405.74														
3	PICPR3	PICPR4	8.45	3	175.00	0.75	0.12	1.50	17.09	0.002	0.23	250	36.92	18.00	326.35	0.05	0.154	0.03	8.06	4.33	34.49	0.96	8.92	0.14	5.91	0.23	0.00	1.20	1.20	0.22	0.02	1394.77	1393.13	1387.22	1387.25	1395.83		1395.95														
4	PICPR4	PICPR5	8.58	3	175.00	0.75	0.12	1.50	17.09	0.002	0.23	250	36.92	18.00	326.35	0.05	0.154	0.03	8.06	4.33	34.49	0.96	8.92	0.14	5.91	0.23	0.00	1.20	1.20	0.22	0.02	1387.25	1386.67	1384.28	1384.30	1388.21		1388.83														
5	PICPR5	PICPR6	8.83	3	175.00	0.75	0.30	1.50	39.86	0.002	0.23	250	68.10	15.96	325.96	0.14	0.254	0.05	8.05	5.63	50.19	1.96	8.11	0.41	10.97	0.23	0.00	1.20	1.20	0.52	0.15	1384.30	1383.90	1373.03	1373.08	1384.80		1385.51														
6	PICPR6	PICPR7	9.04	3	175.00	0.75	0.31	1.50	40.92	0.002	0.23	250	17.70	19.80	364.25	0.11	0.224	0.05	9.00	6.03	59.38	1.86	10.18	0.05	3.47	0.23	0.00	1.20	1.20	0.63	0.10	1373.08	1372.70	1369.29	1369.29	1374.64		1375.54														
7	PICPR7	PICPR8	9.09	3	175.00	0.75	0.32	1.50	41.98	0.002	0.23	250	19.14	20.53	374.41	0.11	0.224	0.05	9.23	6.19	62.17	1.95	10.44	0.05	3.93	0.23	0.00	1.20	1.20	0.65	0.11	1369.29	1367.92	1363.49	1363.54	1371.14		1372.43														
8	PICPR8	PICPR9	9.14	3	175.00	0.75	0.33	1.50	43.05	0.002	0.23	250	19.01	18.52	353.19	0.12	0.234	0.05	8.73	5.99	58.13	1.83	9.88	0.05	3.52	0.23	0.00	1.20	1.20	0.66	0.11	1363.54	1361.90	1358.38	1358.43	1364.69		1364.69														
9	PICPR9	PICPR10	9.24	3	175.00	0.75	0.58	2.23	71.75	0.002	0.23	250	47.69	21.79	385.67	0.19	0.290	0.07	9.53	7.36	92.27	2.76	10.80	0.11	10.39	0.23	0.00	1.20	1.20	0.93	0.48	1367.77	1367.69	1347.30	1347.37	1360.26		1368.78														
10	PICPR10	PICPR11	9.35	3	175.00	0.75	0.58	2.23	71.75	0.002	0.23	250	46.32	11.70	344.68	0.21	0.308	0.07	8.92	6.78	70.14	2.34	9.64	0.10	7.49	0.23	0.00	1.20	1.20	0.93	0.31	1347.37	1346.00	1338.51	1338.58	1350.13		1358.51														
11	PICPR11	PICPR12	9.46	3	175.00	0.75	0.56	2.27	73.88	0.002	0.23	250	52.72	14.60	310.63	0.24	0.330	0.07	7.68	6.34	61.26	2.05	8.65	0.22	12.08	0.23	0.00	1.20	1.20	0.96	0.33	1338.58	1338.17	1326.09	1326.16	1340.92		1349.72														
12	PICPR12	PICPR13	9.67	3	175.00	0.75	0.60	2.42	78.84	0.002	0.23	250	59.98	12.21	281.99	0.28	0.360	0.08	6.97	6.01	54.86	1.84	7.81	0.25	10.98	0.23	0.00	1.20	1.20	1.03	0.38	1326.16	1325.84	1314.95	1314.93	1328.21		1327.99														
13	PICPR13	PICPR14	9.92	3	171.91	0.75	0.63	2.58	81.27	0.002	0.23	250	68.41	1.61	93.33	0.87	0.724	0.16	2.31	2.59	10.91	0.34	2.10	0.44	1.10	0.23	0.00	1.20	1.20	1.06	0.40	1314.93	1314.74	1313.64	1313.60	1316.77		1317.56														
14	PICPR14	PICPR15	10.36	3	170.80	0.75	0.63	2.59	80.65	0.002	0.23	250	37.36	4.16	156.98	0.51	0.508	0.12	3.88	3.90	23.83	0.78	4.13	0.16	1.55	0.23	0.00	1.20	1.20	1.05	0.38	1313.60	1313.64	1312.09	1312.21	1314.15		1316.78														
15	PICPR15	PICPR16	10.92	3	168.48	0.75	0.63	2.59	79.65	0.002	0.23	250	40.51	1.54	91.12	0.87	0.728	0.16	2.25	2.53	10.45	0.33	2.05	0.27	0.62	0.23	0.00	1.00	1.00	1.04	0.38	1312.21	1313.06	1312.44	1312.60	1312.98		1316.41														
16	PICPR16	PICPR17	10.79	3	167.13	0.75	0.89	3.38	111.61	0.002	0.23	250	45.15	4.44	162.79	0.69	0.609	0.14	4.02	4.32	28.22	0.95	4.04	0.17	2.01	0.23	0.00	1.20	1.20	1.45	1.16	1312.60	1312.44	1310.43	1310.57	1312.93		1313.92														
17	PICPR17	PICPR18	8.00	3	175.00	0.75	0.68	1.50	9.94	0.002	0.23	250	58.39	17.57	343.36	0.03	0.110	0.02	8.48	3.71	27.64	0.70	9.09	0.29	11.46	0.23	0.00	1.20	1.20	0.32	0.01	1413.28	1401.79	1401.81			1414.48															
18	PICPR18	PICPR19	8.29	3	175.00	0.75	0.69	1.50	13.25	0.002	0.23	250	69.29	17.58	343.45	0.04	0.132	0.03	8.49	4.17	32.03	0.89	9.27	0.28	12.18	0.23	0.00	1.20	1.20	0.17	0.01	1401.81	1401.69	1389.51	1389.54	1402.52		1402.90														
25	PICPR25	PICPR26	8.21	3	175.00	0.75	0.68	1.50	9.30	0.002	0.23	250	20.89	14.12	305.91	0.03	0.118	0.03	7.54	3.45	23.87	0.81	8.12	0.10	2.95	0.23	0.00	1.20	1.20	0.12	0.01	1389.47	1387.47	1384.52	1384.55	1370.18		1388.86														
26	PICPR26	PICPR27	8.31	3	175.00	0.75	0.68	1.50	9.30	0.002	0.23	250	40.03	1.51	90.34	0.10	0.216	0.05	2.23	1.45	4.44	0.11	2.49	0.49	0.61	0.23	0.00	1.20	1.20	0.12	0.01	1384.55	1384.08	1383.47	1383.52	1385.15		1385.27														
28	PICPR28	PICPR29	9.09	3	175.00	0.75	0.22	1.50	30.21	0.002	0.23	250	41.07	11.18	268.83	0.11	0.225	0.05	6.64	4.45	33.90	1.01	7.49	0.15	4.59	0.23	0.00	1.20	1.20	0.39	0.09	1382.37	1382.31	1357.72	1357.77	1382.62		1383.83														
29	PICPR29	PICPR30	8.00	3	175.00	0.75	0.68	1.50	10.01	0.002	0.23	250	74.18	20.34	373.45	0.03	0.111	0.03	9.18	4.08	32.46	0.84	9.87	0.30	15.98	0.23	0.00	1.20	1.20	0.33	0.01	1380.29	1385.20	1385.23			1382.83															
30	PICPR30	PICPR31	8.00	3	175.00	0.75	0.64	1.50	8.82	0.002	0.23	250	69.54	12.47	285.25	0.02	0.105	0.02	7.05	3.00	18.90	0.46	7.49	0.39	8.67	0.23	0.00	1.20	1.20	0.09	0.00	1381.73	1373.06	1373.08			1382.94															
31	PICPR31	PICPR32	8.39	3	175.00	0.75	0.69	1.50	13.91	0.002	0.23	250	58.14	17.20	339.39	0.04	0.138	0.03	8.39	4.19	33.20	0.90	9.18	0.23	10.00	0.23	0.00	1.20	1.20	0.18	0.01	1373.08	1372.90	1362.93	1362.93	1373.54		1375.26														
32	PICPR32	PICPR33	8.00	3	175.00	0.75	0.61	1.50	9.27	0.002	0.23	250	39.28	10.41	258.69	0.01	0.078	0.02	6.39	2.24	11.85	0.26	6.52	0.29	4.09	0.23	0.00	1.20	1.20	0.04	0.00	1330.77	1328.18	1328.20			1331.51															
33	PICPR33	PICPR34	8.29	3	175.00	0.75	0.62	1.50	3.63	0.002	0.23	250	40.88	7.69	219.47	0.02	0.089	0.02	5.42	2.05	9.90	0.21	5.60	0.33	3.14	0.23	0.00	1.20	1.20	0.05	0.00	1326.20	1325.84	1322.69	1322.71	1326.45		1327.39														
34	PICPR34	PICPR35	8.00	3	175.00	0.75	0.68	1.50	9.04	0.002	0.23	250	49.23	17.03	337.54	0.01	0.084	0.02	5.59	3.09	20.83	0.49	8.55	0.27	6.86	0.23	0.00	1.20	1.20	0.07	0.00	1323.98	1323.08	1323.10			1323.98															
35	PICPR3																																																			

44	P(CPR44)	P(CPR45)	0	0	97.62	18.4502	0	140	0.11	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.04	0.20	0.04	3.80	0.09	1.50
45	P(CPR45)	P(CPR46)	0	0	97.62	27.236	0	140	0.09	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04	0.06	0.20	0.06	3.80	0.13	1.50
46	P(CPR46)	P(CPR47)	0	0	97.62	34.2647	0	140	0.07	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04	0.07	0.20	0.07	3.80	0.17	1.50
47	P(CPR47)	P(CPR48)	0	0	97.62	34.2647	0	140	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04	0.07	0.20	0.07	3.80	0.17	1.50
48	P(CPR48)	P(CPR49)	0	0	97.62	7.90722	0	140	0.08	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.20	0.02	3.80	0.04	1.50
49	P(CPR49)	P(CPR50)	0	0	97.62	17.5703	0	140	0.10	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.04	0.20	0.04	3.80	0.09	1.50
50	P(CPR50)	P(CPR51)	0	0	97.62	28.1139	0	140	0.11	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04	0.06	0.20	0.06	3.80	0.14	1.50
51	P(CPR51)	P(CPR52)	0	0	97.62	62.3787	0	140	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.08	0.13	0.20	0.13	3.80	0.31	1.50
52	P(CPR52)	P(CPR53)	0	0	97.62	102.82	0	140	0.00	0.00	0.00	0.00	1.05	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.13	0.22	0.20	0.21	3.80	0.51	1.50
53	P(CPR53)	P(CPR54)	0	0	97.62	143.236	0	140	0.01	0.00	0.00	0.00	1.47	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.19	0.30	0.20	0.29	3.80	0.71	1.50
54	P(CPR54)	P(CPR55)	0	0	97.62	187.546	0	140	0.08	0.00	0.00	0.00	1.92	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.24	0.40	0.20	0.38	3.80	0.92	1.70
55	P(CPR55)	P(CPR56)	0	0	97.62	198.097	0	140	0.11	0.00	0.00	0.00	2.03	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.26	0.42	0.20	0.41	3.80	0.98	1.80
56	P(CPR56)	P(CPR57)	0	0	97.62	198.976	0	140	0.01	0.00	0.00	0.00	2.04	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.26	0.42	0.20	0.41	3.80	0.98	1.81
57	P(CPR57)	P(CPR58)	0	0	97.62	203.369	0	140	0.05	0.00	0.00	0.00	2.08	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.26	0.43	0.20	0.42	3.80	1.00	1.85
58	P(CPR58)	P(CPR59)	0	0	97.62	207.762	0	140	0.05	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.27	0.44	0.20	0.43	3.80	1.02	1.88
59	P(CPR59)	P(CPR60)	0	0	97.62	210.387	0	140	0.03	0.00	0.00	0.00	2.16	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.27	0.44	0.20	0.43	3.80	1.04	1.91
60	P(CPR60)	P(CPR61)	0	0	97.62	213.912	0	140	0.04	0.00	0.00	0.00	2.19	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.28	0.45	0.20	0.44	3.80	1.05	1.94
61	P(CPR61)	P(CPR62)	0	0	97.62	216.547	0	140	0.03	0.00	0.00	0.00	2.22	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.28	0.46	0.20	0.44	3.80	1.07	1.97
62	P(CPR62)	P(CPR63)	0	0	97.62	221.819	0	140	0.05	0.00	0.00	0.00	2.27	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.29	0.47	0.20	0.45	3.80	1.09	2.01
63	P(CPR63)	P(CPR64)	0	0	97.62	229.162	0	140	0.08	0.00	0.00	0.00	2.35	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.30	0.48	0.20	0.47	3.80	1.13	2.08
64	P(CPR64)	P(CPR65)	0	0	97.62	229.162	0	140	0.00	0.00	0.00	0.00	2.35	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.30	0.48	0.20	0.47	3.80	1.13	2.08
65	P(CPR65)	P(CPR66)	0	0	97.62	359.901	0	140	0.00	0.00	0.00	0.00	3.69	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.47	0.76	0.20	0.74	3.70	1.73	3.22
66	P(CPR66)	P(CPR67)	0	0	97.62	481.188	0	140	0.00	0.00	0.00	0.00	4.93	0.00	0.00	0.00	0.62	0.00	0.00	0.00	0.62	1.01	0.20	0.99	3.63	2.27	4.27
67	P(CPR67)	P(CPR68)	0	0	97.62	19.3442	0	140	0.20	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03	0.04	0.20	0.04	3.80	0.10	1.50
68	P(CPR68)	P(CPR69)	0	0	97.62	40.4414	0	140	0.22	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.09	0.20	0.08	3.80	0.20	1.50
69	P(CPR69)	P(CPR70)	0	0	97.62	21.0864	0	140	0.22	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03	0.04	0.20	0.04	3.80	0.10	1.50
70	P(CPR70)	P(CPR71)	0	0	97.62	39.5373	0	140	0.19	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.08	0.20	0.08	3.80	0.19	1.50
71	P(CPR71)	P(CPR72)	0	0	97.62	18.831	0	140	0.19	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.04	0.20	0.04	3.80	0.09	1.50
72	P(CPR72)	P(CPR73)	0	0	97.62	36.4026	0	140	0.19	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.08	0.20	0.07	3.80	0.18	1.50
73	P(CPR73)	P(CPR74)	0	0	97.62	39.7421	0	140	0.27	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03	0.06	0.20	0.05	3.80	0.13	1.50
74	P(CPR74)	P(CPR75)	0	0	97.62	43.4314	0	140	0.17	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.06	0.09	0.20	0.09	3.80	0.21	1.50
75	P(CPR75)	P(CPR76)	0	0	97.62	65.3972	0	140	0.23	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.08	0.14	0.20	0.13	3.80	0.32	1.50
76	P(CPR76)	P(CPR77)	0	0	97.62	69.7901	0	140	0.05	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.09	0.15	0.20	0.14	3.80	0.34	1.50
77	P(CPR77)	P(CPR78)	0	0	97.62	75.9402	0	140	0.06	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.10	0.16	0.20	0.16	3.80	0.37	1.50
78	P(CPR78)	P(CPR79)	0	0	97.62	81.2117	0	140	0.05	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.17	0.20	0.17	3.80	0.40	1.50
79	P(CPR79)	P(CPR80)	0	0	97.62	89.1176	0	140	0.08	0.00	0.00	0.00	0.91	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.12	0.19	0.20	0.18	3.80	0.44	1.50
80	P(CPR80)	P(CPR81)	0	0	97.62	97.9034	0	140	0.09	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.13	0.21	0.20	0.20	3.80	0.48	1.50
81	P(CPR81)	P(CPR82)	0	0	97.62	103.175	0	140	0.05	0.00	0.00	0.00	1.06	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.13	0.22	0.20	0.21	3.80	0.51	1.50
82	P(CPR82)	P(CPR83)	0	0	97.62	114.596	0	140	0.12	0.00	0.00	0.00	1.17	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.15	0.24	0.20	0.23	3.80	0.56	1.50
83	P(CPR83)	P(CPR84)	0	0	97.62	130.739	0	140	0.17	0.00	0.00	0.00	1.34	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.17	0.28	0.20	0.27	3.80	0.64	1.50
84	P(CPR84)	P(CPR85)	0	0	97.62	12.6389	0	140	0.13	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.03	0.20	0.03	3.80	0.06	1.50
85	P(CPR85)	P(CPR86)	0	0	97.62	24.3992	0	140	0.12	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03	0.05	0.20	0.05	3.80	0.12	1.50
86	P(CPR86)	P(CPR87)	0	0	97.62	34.0634	0	140	0.10	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04	0.07	0.20	0.07	3.80	0.17	1.50
87	P(CPR87)	P(CPR88)	0	0	97.62	36.8982	0	140	0.03	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.08	0.20	0.08	3.80	0.18	1.50
88	P(CPR88)	P(CPR89)	0	0	97.62	44.6057	0	140	0.08	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.06	0.09	0.20	0.09	3.80	0.22	1.50
89	P(CPR89)	P(CPR90)	0	0	97.62	50.7568	0	140	0.06	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.07	0.11	0.20	0.10	3.80	0.25	1.50
90	P(CPR90)	P(CPR91)	0	0	97.62	56.9072	0	140	0.06	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.07	0.12	0.20	0.12	3.80	0.28	1.50
91	P(CPR91)	P(CPR92)	0	0	97.62	63.0572	0	140	0.06	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.08	0.13	0.20	0.13	3.80	0.31	1.50
92	P(CPR92)	P(CPR93)	0	0	97.62	71.843	0	140	0.09	0.00	0.00	0.00	0.74	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.09	0.15	0.20	0.15	3.80	0.35	1.50
93	P(CPR93)	P(CPR94)	0	0	97.62	102.594	0	140	0.13	0.00	0.00	0.00	1.05	0.00	0.00	0.00											

Modelamiento Hidráulico - Central Park

LONGITUD EFECTIVA

Junio de 2024

No.	De	A	Long.	ø	Pend.	Dpini/2	Lpi	Lmodulo	Le-total	Le-módulo	Let-Lem	Lpd
1	P(CP)R1	P(CP)R2	65.52	0.23	14.61	0.60	0.60	0.00	65.00	65.00	0.00	0.60
2	P(CP)R2	P(CP)R3	34.88	0.23	22.71	0.60	0.60	0.00	34.54	34.54	0.00	0.60
3	P(CP)R3	P(CP)R4	36.92	0.23	16.00	0.60	0.60	0.00	36.17	36.17	0.00	0.60
4	P(CP)R4	P(CP)R5	35.16	0.23	6.85	0.60	0.60	0.00	34.04	34.04	0.00	0.60
5	P(CP)R5	P(CP)R6	68.10	0.23	15.96	0.60	0.60	0.00	67.75	67.75	0.00	0.60
6	P(CP)R6	P(CP)R7	17.70	0.23	19.60	0.60	0.60	0.00	16.81	16.81	0.00	0.60
7	P(CP)R7	P(CP)R8	19.14	0.23	20.53	0.60	0.60	0.00	18.31	18.31	0.00	0.60
8	P(CP)R8	P(CP)R9	19.01	0.23	18.52	0.60	0.60	0.00	18.11	18.11	0.00	0.60
9	P(CP)R9	P(CP)R10	47.69	0.23	21.79	0.60	0.60	0.00	47.58	47.58	0.00	0.60
10	P(CP)R10	P(CP)R11	42.32	0.23	17.70	0.60	0.60	0.00	41.76	41.76	0.00	0.60
11	P(CP)R11	P(CP)R12	82.72	0.23	14.60	0.60	0.60	0.00	82.38	82.38	0.00	0.60
12	P(CP)R12	P(CP)R13	89.98	0.23	12.21	0.60	0.60	0.00	89.44	89.44	0.00	0.60
13	P(CP)R13	P(CP)R14	68.41	0.23	1.61	0.60	0.60	0.00	67.22	67.22	0.00	0.60
14	P(CP)R14	P(CP)R15	37.36	0.23	4.16	0.60	0.60	0.00	36.19	36.19	0.00	0.60
15	P(CP)R15	P(CP)R42	40.51	0.23	1.54	0.60	0.60	0.00	39.31	39.31	0.00	0.60
16	P(CP)R42	P(CP)R16	45.15	0.23	4.44	0.60	0.60	0.00	43.99	43.99	0.00	0.60
17	P(CP)R18	P(CP)R19	65.39	0.23	17.57	0.60	0.60	0.00	65.17	65.17	0.00	0.60
18	P(CP)R19	P(CP)R20	69.29	0.23	17.58	0.60	0.60	0.00	69.13	69.13	0.00	0.60
19	P(CP)R20	P(CP)R5	34.26	0.23	14.25	0.60	0.60	0.00	33.39	33.39	0.00	0.60
20	P(CP)R21	P(CP)R22	51.27	0.23	15.46	0.60	0.60	0.00	50.66	50.66	0.00	0.60
21	P(CP)R22	P(CP)R20	92.83	0.23	16.74	0.60	0.60	0.00	92.91	92.91	0.00	0.60
23	P(CP)R23	P(CP)R24	20.50	0.23	19.02	0.60	0.60	0.00	19.65	19.65	0.00	0.60
24	P(CP)R24	P(CP)R25	21.67	0.23	22.84	0.60	0.60	0.00	21.00	21.00	0.00	0.60
25	P(CP)R25	P(CP)R26	20.89	0.23	14.12	0.60	0.60	0.00	19.89	19.89	0.00	0.60
26	P(CP)R26	P(CP)R27	40.03	0.23	1.51	0.60	0.60	0.00	38.83	38.83	0.00	0.60
27	P(CP)R27	P(CP)R28	41.88	0.23	2.76	0.60	0.60	0.00	40.70	40.70	0.00	0.60
28	P(CP)R28	P(CP)R9	41.07	0.23	11.18	0.60	0.60	0.00	40.12	40.12	0.00	0.60
29	P(CP)R29	P(CP)R27	74.18	0.23	20.34	0.60	0.60	0.00	74.47	74.47	0.00	0.60
30	P(CP)R30	P(CP)R31	69.54	0.23	12.47	0.60	0.60	0.00	68.87	68.87	0.00	0.60
31	P(CP)R31	P(CP)R28	58.14	0.23	17.20	0.60	0.60	0.00	57.78	57.78	0.00	0.60
32	P(CP)R32	P(CP)R33	39.28	0.23	10.41	0.60	0.60	0.00	38.29	38.29	0.00	0.60
33	P(CP)R33	P(CP)R35	40.88	0.23	7.69	0.60	0.60	0.00	39.80	39.80	0.00	0.60
34	P(CP)R34	P(CP)R35	40.29	0.23	17.03	0.60	0.60	0.00	39.65	39.65	0.00	0.60
35	P(CP)R35	P(CP)R36	59.08	0.23	8.53	0.60	0.60	0.00	58.09	58.09	0.00	0.60
36	P(CP)R36	P(CP)R40	41.11	0.23	1.99	0.60	0.60	0.00	39.92	39.92	0.00	0.60
37	P(CP)R37	P(CP)R38	23.59	0.23	18.11	0.60	0.60	0.00	22.75	22.75	0.00	0.60
38	P(CP)R38	P(CP)R39	36.74	0.23	7.75	0.60	0.60	0.00	35.65	35.65	0.00	0.60
39	P(CP)R39	P(CP)R40	24.75	0.23	4.32	0.60	0.60	0.00	23.57	23.57	0.00	0.60
40	P(CP)R40	P(CP)R41	90.58	0.23	2.28	0.60	0.60	0.00	89.40	89.40	0.00	0.60
41	P(CP)R41	P(CP)R42	61.08	0.23	1.57	0.60	0.60	0.00	59.89	59.89	0.00	0.60
43	P(CP)R43	P(CP)R44	41.48	0.23	16.67	0.60	0.60	0.00	40.84	40.84	0.00	0.60
44	P(CP)R44	P(CP)R45	35.76	0.23	16.92	0.60	0.60	0.00	35.05	35.05	0.00	0.60
45	P(CP)R45	P(CP)R46	26.86	0.23	19.24	0.60	0.60	0.00	26.13	26.13	0.00	0.60
46	P(CP)R46	P(CP)R47	27.54	0.23	14.41	0.60	0.60	0.00	26.61	26.61	0.00	0.60
47	P(CP)R47	P(CP)R48	41.02	0.23	5.38	0.60	0.60	0.00	39.88	39.88	0.00	0.60
48	P(CP)R65	P(CP)R66	29.57	0.23	19.49	0.60	0.60	0.00	28.90	28.90	0.00	0.60
49	P(CP)R66	P(CP)R67	30.43	0.23	16.76	0.60	0.60	0.00	29.64	29.64	0.00	0.60
50	P(CP)R67	P(CP)R48	35.99	0.23	12.01	0.60	0.60	0.00	35.04	35.04	0.00	0.60

51	P(CP)R48	P(CP)R49	39.45	0.23	5.45	0.60	0.60	0.00	38.31	38.31	0.00	0.60
52	P(CP)R49	P(CP)R50	42.05	0.23	2.72	0.60	0.60	0.00	40.87	40.87	0.00	0.60
53	P(CP)R50	P(CP)R51	41.07	0.23	7.07	0.60	0.60	0.00	39.97	39.97	0.00	0.60
54	P(CP)R51	P(CP)R52	61.63	0.23	9.96	0.60	0.60	0.00	60.73	60.73	0.00	0.60
55	P(CP)R52	P(CP)R53	72.67	0.23	15.02	0.60	0.60	0.00	72.27	72.27	0.00	0.60
56	P(CP)R53	P(CP)R54	21.78	0.23	14.57	0.60	0.60	0.00	20.80	20.80	0.00	0.60
57	P(CP)R54	P(CP)R55	27.59	0.23	20.70	0.60	0.60	0.00	26.95	26.95	0.00	0.60
58	P(CP)R55	P(CP)R56	27.05	0.23	19.85	0.60	0.60	0.00	26.35	26.35	0.00	0.60
59	P(CP)R56	P(CP)R57	19.10	0.23	20.88	0.60	0.60	0.00	18.29	18.29	0.00	0.60
60	P(CP)R57	P(CP)R58	25.86	0.23	19.28	0.60	0.60	0.00	25.11	25.11	0.00	0.60
61	P(CP)R58	P(CP)R59	20.60	0.23	10.31	0.60	0.60	0.00	19.50	19.50	0.00	0.60
62	P(CP)R59	P(CP)R60	45.52	0.23	10.74	0.60	0.60	0.00	44.57	44.57	0.00	0.60
63	P(CP)R60	P(CP)R61	47.98	0.23	3.52	0.60	0.60	0.00	46.81	46.81	0.00	0.60
64	P(CP)R61	P(CP)R62	40.29	0.23	1.87	0.60	0.60	0.00	39.10	39.10	0.00	0.60
65	P(CP)R62	P(CP)R63	42.38	0.23	5.35	0.60	0.60	0.00	41.24	41.24	0.00	0.60
66	P(CP)R63	P(CP)R64	33.00	0.23	7.86	0.60	0.60	0.00	31.90	31.90	0.00	0.60
67	P(CP)R68	P(CP)R69	69.92	0.23	8.72	0.60	0.60	0.00	68.98	68.98	0.00	0.60
68	P(CP)R69	P(CP)R49	70.40	0.23	14.92	0.60	0.60	0.00	69.97	69.97	0.00	0.60
69	P(CP)R70	P(CP)R71	71.69	0.23	3.28	0.60	0.60	0.00	70.53	70.53	0.00	0.60
70	P(CP)R71	P(CP)R50	61.07	0.23	12.94	0.60	0.60	0.00	60.37	60.37	0.00	0.60
71	P(CP)R72	P(CP)R73	73.58	0.23	5.55	0.60	0.60	0.00	72.49	72.49	0.00	0.60
72	P(CP)R73	P(CP)R51	58.91	0.23	6.44	0.60	0.60	0.00	57.83	57.83	0.00	0.60
73	P(CP)R74	P(CP)R75	98.05	0.23	7.57	0.60	0.60	0.00	97.13	97.13	0.00	0.60
74	P(CP)R75	P(CP)R76	69.38	0.23	9.18	0.60	0.60	0.00	68.47	68.47	0.00	0.60
75	P(CP)R76	P(CP)R77	75.43	0.23	11.22	0.60	0.60	0.00	74.70	74.70	0.00	0.60
76	P(CP)R77	P(CP)R78	24.19	0.23	16.93	0.60	0.60	0.00	23.32	23.32	0.00	0.60
77	P(CP)R78	P(CP)R79	21.23	0.23	20.65	0.60	0.60	0.00	20.45	20.45	0.00	0.60
78	P(CP)R79	P(CP)R80	20.55	0.23	19.72	0.60	0.60	0.00	19.72	19.72	0.00	0.60
79	P(CP)R80	P(CP)R81	25.58	0.23	20.21	0.60	0.60	0.00	24.87	24.87	0.00	0.60
80	P(CP)R81	P(CP)R82	26.20	0.23	20.04	0.60	0.60	0.00	25.50	25.50	0.00	0.60
81	P(CP)R82	P(CP)R83	20.15	0.23	11.37	0.60	0.60	0.00	19.07	19.07	0.00	0.60
82	P(CP)R83	P(CP)R84	49.02	0.23	7.91	0.60	0.60	0.00	47.97	47.97	0.00	0.60
83	P(CP)R84	P(CP)R62	56.31	0.23	6.12	0.60	0.60	0.00	55.21	55.21	0.00	0.60
84	P(CP)R85	P(CP)R86	62.58	0.23	14.57	0.60	0.60	0.00	62.03	62.03	0.00	0.60
85	P(CP)R86	P(CP)R87	66.73	0.23	6.72	0.60	0.60	0.00	65.68	65.68	0.00	0.60
86	P(CP)R87	P(CP)R88	70.11	0.23	7.14	0.60	0.60	0.00	69.09	69.09	0.00	0.60
87	P(CP)R88	P(CP)R89	22.34	0.23	10.13	0.60	0.60	0.00	21.25	21.25	0.00	0.60
88	P(CP)R89	P(CP)R90	25.16	0.23	19.40	0.60	0.60	0.00	24.41	24.41	0.00	0.60
89	P(CP)R90	P(CP)R91	21.42	0.23	20.21	0.60	0.60	0.00	20.63	20.63	0.00	0.60
90	P(CP)R91	P(CP)R92	21.32	0.23	19.68	0.60	0.60	0.00	20.51	20.51	0.00	0.60
91	P(CP)R92	P(CP)R93	21.39	0.23	19.76	0.60	0.60	0.00	20.58	20.58	0.00	0.60
92	P(CP)R93	P(CP)R94	30.54	0.23	19.14	0.60	0.60	0.00	29.87	29.87	0.00	0.60
93	P(CP)R94	P(CP)R95	52.42	0.23	9.60	0.60	0.60	0.00	51.46	51.46	0.00	0.60
94	P(CP)R95	P(CP)R63	64.54	0.23	4.78	0.60	0.60	0.00	63.41	63.41	0.00	0.60
95	P(CP)R96	P(CP)R97	37.29	0.23	18.26	0.60	0.60	0.00	36.69	36.69	0.00	0.60
96	P(CP)R97	P(CP)R98	51.80	0.23	21.55	0.60	0.60	0.00	51.76	51.76	0.00	0.60
97	P(CP)R98	P(CP)R99	37.11	0.23	19.07	0.60	0.60	0.00	36.56	36.56	0.00	0.60
98	P(CP)R99	P(CP)R94	42.14	0.23	2.31	0.60	0.60	0.00	40.95	40.95	0.00	0.60
99	P(CP)R64	P(CP)R100	48.61	0.36	1.32	0.60	0.60	0.00	47.41	47.41	0.00	0.60
100	P(CP)R100	P(CP)R101	37.99	0.36	1.17	0.60	0.60	0.00	36.79	36.79	0.00	0.60
101	P(CP)R101	P(CP)R17	9.60	0.36	3.77	0.60	0.60	0.00	8.41	8.41	0.00	0.60
102	P(CP)R16	P(CP)R102	28.75	0.23	10.56	0.60	0.60	0.00	27.70	27.70	0.00	0.60
103	P(CP)R102	P-C(CR)11	17.21	0.28	1.57	0.60	0.60	0.00	16.01	16.01	0.00	0.60