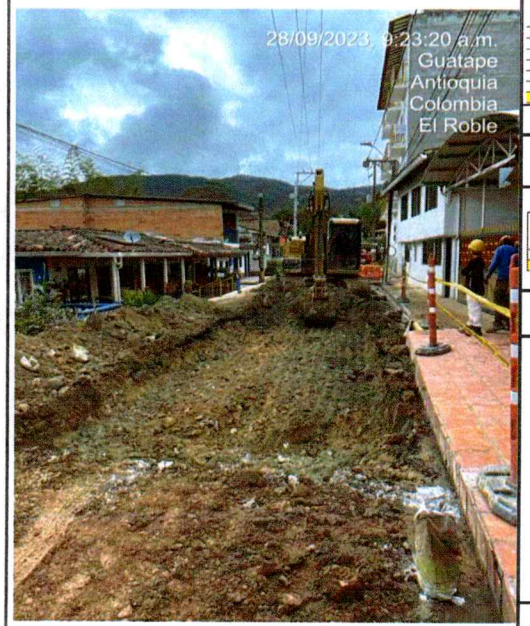
MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM S.A.S Ingenieros Civiles NIT 811 013 821 - 9

ITEM	1.3.1.1	Excavación mecánica en material común seco 0 - 2 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	115.565856
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	79.970688
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	76.5744
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	52.9704
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.87	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
TOTAL (m3)							921.46	608.53	244.89	68.04	486.82

TOTAL ACTA 1: 486.82

TRAMO CR84-CR83

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR84	CR83	17.5754	0.915	4.02	4.345	3.98	69.87	32.16	114.03	5.548114395	25.7303856
TOTAL (m3)							69.87	32.16	242.21	5.55	25.73

TOTAL ACTA 2: 25.73

EJECUTADO CON CANTIDADES BALANCEADAS

VOLUMEN DE EXCAVACIÓN CON MÁQUINA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.00	1.025	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.99	1.97	144.46	144.46	0.00	0	115.565856
CR89	CR88	50.64	1.05	1.88	1.99	1.97	99.96	99.96	0.00	0	79.970688
CR88	CR87	45.58	1.05	2.48	3.19	2.29	104.33	95.72	8.61	0	76.5744
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	52.9704
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.87	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.0485925	92.37864
CR83	CR82	79.03	0.915	5.13	4.575	4.18	330.83	144.62	144.62	41.57365875	135.63552
CR82	CR79	65.06	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	96.2232
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.43776	74.41616
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	68.15	68.15	52.9236	52.9236
CR75	CR71	35.79	0.9	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.9	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	67.9608
CR70	CR69	17.11	0.9	4.69	5.005	4.04	69.19	27.38	27.38	14.44004	21.9008
CR69	CR68		0.9	1.81	3.35	2.69	0.00	0.00	0.00	0	0
TOTAL (m3)							3730.49	1317.87	953.43	468.80	1056.65
										AJUSTE POR DERRUMBE Y DEMOLICIÓN DE PAVIMENTO	874.86

TOTAL EJECUTADO: 874.86

VOLUMEN DE EXCAVACIÓN CON MÁQUINA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR83	CR82	74.72	0.915	5.13	4.575	4.19	312.79	126.74	126.74	39.31206	109.79008
CR82	CR79	65.06	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	96.2232
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.43776	74.41616
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	68.15	68.15	52.9236	52.9236
CR75	CR71	35.75	0.9	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.9	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	67.9608
CR70	CR69	17.11	0.9	4.69	5.005	4.04	69.19	27.38	27.38	14.44004	21.9008
CR69	CR68		0.9	1.81	3.35	2.69	0.00	0.00	0.00	0	0
TOTAL (m3)							1546.49	584.42	584.42	377.64	467.54
										AJUSTE POR DERRUMBES	358.62

TOTAL ACTA #3: 358.62

TOTAL ACUMULADO: 871.17

David F. Gil
RESIDENTE DE OBRA.

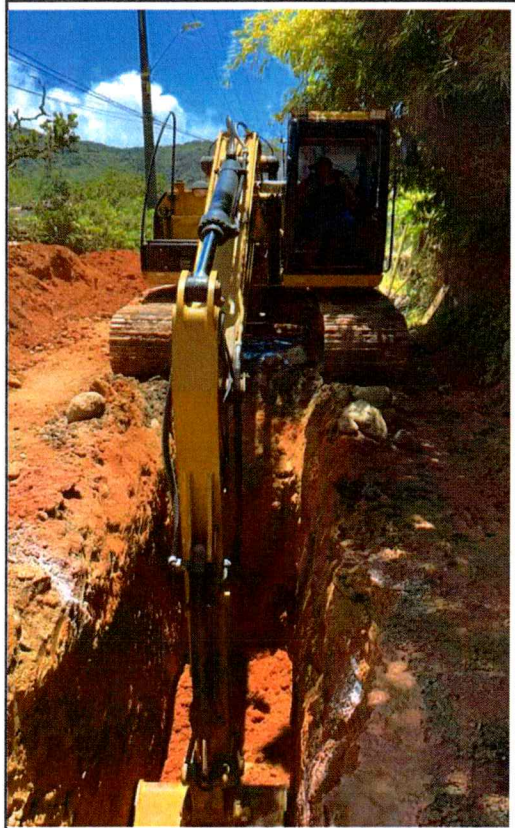
Pablo Restrepo
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT. 811.013.821 - 9

ITEM	1.3.1.3	Excavación mecánica en material común seco 2 - 4 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84 — TOTAL ACTA 1

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 2m a 4m
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	6.891696
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	27.279756
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
TOTAL (m3)							921.46	608.53	244.89	68.04	195.91

195.91

TRAMO CR84-CR77 — TOTAL ACTA 2

VOLUMEN DE EXCAVACIÓN CON MÁQUINA											MATERIAL SECO
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 2m a 4m
CR84	CR83	62.31	0.915	4.02	4.345	3.98	247.72	114.03	114.03	19.66972143	91.22189648
CR83	CR82	60.51	0.915	5.13	4.575	4.19	253.28	110.72	110.72	31.83319312	88.57932
TOTAL (m3)							501.01	224.75	224.75	51.50	179.80

179.80

EJECUTADO CON CANTIDADES BALANCEADAS — TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN CON MÁQUINA											
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO ENTRE 2m a 4m
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	6.891696
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	27.279756
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
CR84	CR83	62.31	0.915	4.02	4.345	3.98	252.56	116.22	116.22	20.04855525	92.97864
CR83	CR82	60.51	0.915	5.13	4.575	4.19	339.83	144.62	144.62	41.57665875	115.69992
CR82	CR78	63.06	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36431525	95.2332
CR78	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.43756	74.41552
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	52.9236
CR75	CR71	26.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.63672	67.9368
CR70	CR63	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008
CR63	CR66		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							2738.49	1317.87	953.43	468.00	762.74
										AJUSTE POR DERRUMBES	669.54

669.54

TOTAL ACTA #3

VOLUMEN DE EXCAVACIÓN CON MÁQUINA											
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO ENTRE 2m a 4m
CR83	CR82		0.915	5.13	4.575	4.19	0.00	0.00	0.00	0	0
CR82	CR78	49.06	0.915	5.94	5.535	5.06	248.47	89.78	89.78	68.9059965	71.82384
CR78	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.43756	74.41552
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	52.9236
CR75	CR71	26.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.63672	67.9368
CR70	CR63	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008
CR63	CR66		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							1152.72	418.43	418.43	315.87	334.74
										AJUSTE POR DERRUMBES	293.83

293.83

TOTAL ACUMULADO — 669.54

David F. Gil

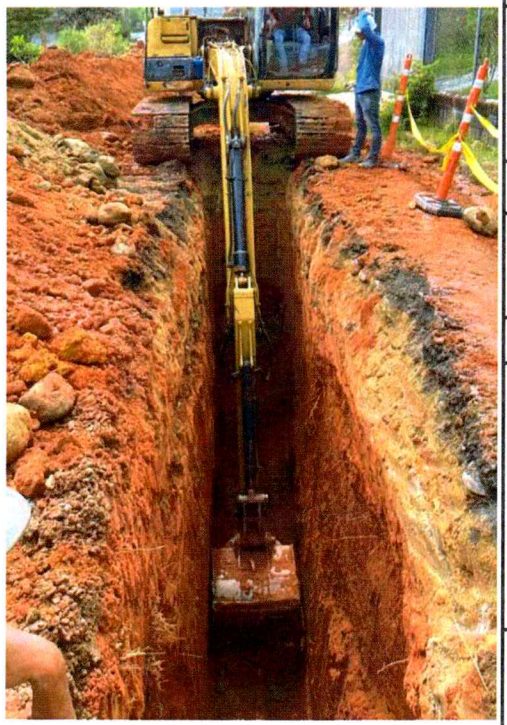
Pablo Restrepo
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT. 811 013 821 - 9

ITEM	1.3.1.6	Excavación mecánica en material común seco > 4 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	> 4m
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	0
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	0
CR86	CR85	51.07	0.915	5.16	4.38	4.01	204.67	93.46	93.46	17.757039	14.2056312
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	40.226511
TOTAL (m3)							921.46	608.53	244.89	68.04	54.43

TOTAL: 54.43

TRAMO CR84-CR77

VOLUMEN DE EXCAVACIÓN CON MAQUINA											MATERIAL SECO
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	> 4m
CR84	CR83	60.48	0.915	4.02	4.345	3.98	240.45	110.68	110.68	19.092024	15.2736192
TOTAL (m3)							240.45	110.68	110.68	19.09	15.27

TOTAL: 15.27

EJECUTADO CON CANTIDADES BALANCEADAS

TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN CON MÁQUINA											
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO > 4m
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.89	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	0
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	0
CR86	CR85	51.07	0.915	5.16	4.38	4.01	204.67	93.46	93.46	17.757039	14.2056312
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	40.226511
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04661925	16.0369854
CR83	CR82	79.03	0.915	5.13	4.575	4.19	330.87	144.62	144.62	41.57796975	33.267177
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.34147625	73.089481
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	69.9502128
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	42.33888
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	30.7736
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	42.957376
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	11.552672
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							2739.49	1317.07	953.43	468.00	374.40
										AJUSTE POR DERRUMBES	234.75

TOTAL: 234.75

VOLUMEN DE EXCAVACIÓN CON MÁQUINA											
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO > 4m
CR83	CR82		0.915	5.13	4.575	4.19	0.00	0.00	0.00	0	0
CR82	CR75	58.44	0.915	5.94	5.535	5.06	296.97	106.95	106.95	82.000441	65.6642528
CR75	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	69.9502128
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	42.33888
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	30.7736
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	42.957376
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	11.552672
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							1200.23	435.59	435.59	329.05	263.24
										AJUSTE POR DERRUMBES	165.05

TOTAL ACTA #3

TOTAL: 165.05

TOTAL ACUMULADO: 234.75

David F. Gil.

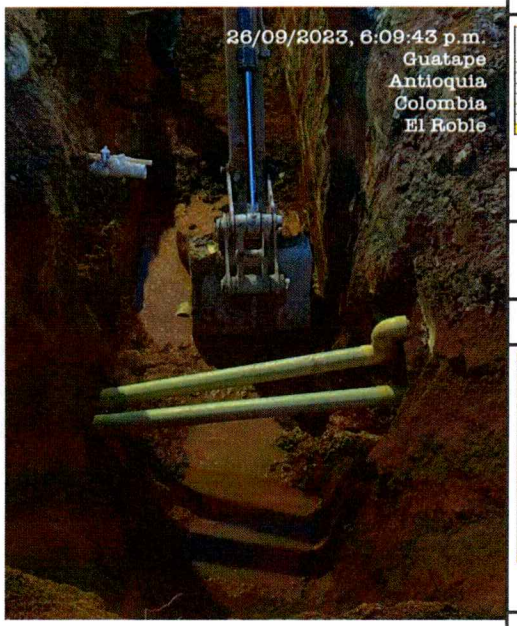
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT. 811.013.821 - 9

ITEM	1.3.1.7	Excavación mecánica en Material común húmedo < 2 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	28.891464
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	19.992672
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	19.1436
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	13.2426
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	18.59162
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	21.74456
TOTAL (m3)							921.46	608.53	244.89	68.04	121.71

121.71

TRAMO CR84-CR77

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR84	CR83	18.15	0.915	4.02	4.345	3.88	72.16	33.21	33.21	5.72950125	6.6429
TOTAL (m3)							72.16	33.21	33.21	5.73	6.64

TOTAL ACTA 2

6.64

EJECUTADO CON CANTIDADES BALANCEADAS

TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN CON MÁQUINA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 0m a 2m
CR91	CR93		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	28.891464
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	19.992672
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	19.1436
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	13.2426
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	18.59162
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	21.74456
CR84	CR83	93.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04951825	23.24466
CR83	CR82	79.03	0.915	5.13	4.575	4.19	238.83	144.82	144.82	41.57265975	28.96496
CR82	CR79	65.05	0.915	5.14	5.525	5.06	329.45	119.04	119.04	91.36435125	23.8083
CR79	CR77	50.83	0.915	5.82	5.98	5.38	273.48	93.02	93.02	87.427766	18.60378
CR77	CR76	36.85	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	13.2309
CR76	CR71	25.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	11.44
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	83.63672	16.9792
CR70	CR69	17.8	0.8	4.89	5.055	4.04	93.89	27.38	27.38	14.446964	5.4752
CR69	CR66		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							2738.48	1317.07	953.43	468.09	263.41
										AJUSTE POR DERRUMBES	231.22

231.22

VOLUMEN DE EXCAVACIÓN CON MÁQUINA — MATERIAL HÚMEDO

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 0m a 2m
CR83	CR82	79.05	0.915	5.13	4.575	4.19	238.26	138.26	138.26	39.74874375	27.6513
CR82	CR79	65.05	0.915	5.14	5.535	5.06	329.45	119.04	119.04	91.364125	23.8083
CR79	CR77	50.83	0.915	5.82	5.98	5.38	273.48	93.02	93.02	87.427766	18.60378
CR77	CR76	36.85	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	13.2309
CR76	CR71	25.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	11.44
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	83.63672	16.9792
CR70	CR69	17.8	0.8	4.89	5.055	4.04	93.89	27.38	27.38	14.446964	5.4752
CR69	CR66		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							1545.97	585.94	585.94	378.08	117.19
										AJUSTE POR DERRUMBES	102.87

TOTAL ACTA #3

102.87

TOTAL ACUMULADO

231.22

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT. 811.013.821 - 9

ITEM	1.3.1.9	Excavación mecánica en Material común húmedo 2 - 4 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

VOLUMEN DE EXCAVACION CON MÁQUINA											MATERIAL HUMEDO		
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 2m a 4m	> 4m	
CR90	CR89	73.19	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0	0	
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0	0	
CR88	CR87	45.68	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	1.722824	0	
CR87	CR86	51.43	1.05	3.58	3.03	3.18	109.31	66.21	34.10	0	6.819939	0	
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.87	93.46	93.46	17.757039	18.69187	3.5514078	
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28133875	21.74405	10.056268	
TOTAL (m3)							931.46	608.53	244.89	68.04	48.98	13.61	62.59

TRAMO CR84-CR77

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 2m a 4m	> 4m	
CR84	CR83	62.31	0.915	4.02	4.345	3.96	247.72	114.03	114.03	19.56972143	22.80547412	3.9339443	
CR83	CR82	10.66	0.915	5.13	4.575	4.19	44.58	19.46	19.46	5.50323125	3.8918	1.1208462	
TOTAL (m3)							292.31	133.52	133.52	25.27	26.70	5.05	31.76

EJECUTADO CON CANTIDADES BALANCEADAS

VOLUMEN DE EXCAVACIÓN CON MÁQUINA													
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 2m a 4m	> 4m	
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0	0	
CR15	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0	0	
CR90	CR89	73.19	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0	0	
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0	0	
CR88	CR87	45.68	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	1.722824	0	
CR87	CR86	51.43	1.05	3.58	3.03	3.18	109.31	66.21	34.10	0	6.819939	0	
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.87	93.46	93.46	17.757039	18.69187	3.55140778	
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28133875	21.74405	10.056268	
CR84	CR83	62.31	0.915	4.02	4.345	3.96	247.72	114.03	114.03	19.56972143	22.80547412	3.9339443	
CR83	CR82	10.66	0.915	5.13	4.575	4.19	44.58	19.46	19.46	5.50323125	3.8918	1.1208462	
CR82	CR81	79.63	0.915	5.13	4.575	4.19	330.63	144.62	144.62	41.57965975	28.92439	8.31593195	
CR81	CR16	65.65	0.915	5.34	5.525	5.06	323.45	113.04	113.04	91.26420125	22.6092	18.2728025	
CR16	CR17	59.83	0.915	5.62	5.81	5.31	277.48	53.62	53.62	87.4127756	10.72378	17.4825512	
CR17	CR15	36.15	0.915	5.39	5.6	5.12	185.23	66.15	66.15	52.9236	13.2309	10.58472	
CR15	CR11	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	28.467	11.44	7.5924	
CR11	CR10	53.66	0.8	5.22	5.265	4.21	222.49	64.90	64.90	53.63672	12.98	10.729344	
CR10	CR93	17.11	0.8	4.89	5.055	4.04	69.19	27.28	27.28	14.44084	5.4752	2.888168	
CR93	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0	0	
TOTAL (m3)							2738.49	1317.07	953.63	488.08	198.69	93.60	249.55
										AJUSTE POR DERRUMBES	249.55		

VOLUMEN DE EXCAVACIÓN CON MÁQUINA													
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 2m a 4m	> 4m	
CR83	CR82	416	0.915	5.13	4.575	4.19	174.14	76.13	76.13	23.0919	15.2256	4.37736	
CR82	CR79	65.65	0.915	5.34	5.525	5.06	323.45	113.04	113.04	91.26420125	22.6092	18.27287625	
CR79	CR77	59.83	0.915	5.62	5.81	5.31	277.48	53.62	53.62	87.4127756	10.72378	17.4975512	
CR77	CR75	36.15	0.915	5.39	5.6	5.12	185.23	66.15	66.15	52.9236	13.2309	10.58472	
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	28.467	11.44	7.5924	
CR71	CR70	53.66	0.8	5.22	5.265	4.21	222.49	64.90	64.90	53.63672	12.9752	10.729344	
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.28	27.28	14.44084	5.4752	2.888168	
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0	0	
TOTAL (m3)							1407.95	523.81	523.81	360.22	104.76	72.04	155.20
										AJUSTE POR DERRUMBES	155.20		

TOTAL ACUMULADO — 249.55

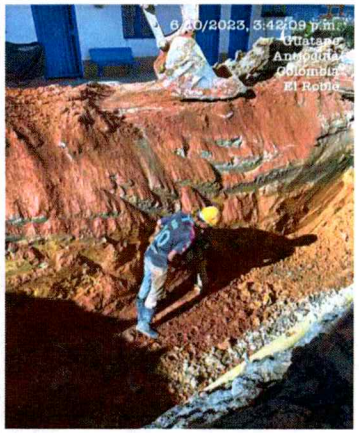
David F. Gil.

Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

ITEM	1.3.2.1	Llenos en material proveniente de la excavación, compactados mecánicamente hasta obtener una densidad del 95% de la máxima obtenida en el ensayo del Proctor Modificado.	~~FECHA DE CORTE 05/12/2023~~



TRAMO CR90-CR84

VOLUMEN DE RELLENO CON ARENILLA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	ÁREA TRANS. BRUTA (m2)	ÁREA TRANS. TUBO (m2)	ÁREA TRANS. NETA (m2)	VOLUMEN (m3)
CR90	CR89	71.97	1.05	0.375	0.39	0.08	0.31	22.62
CR89	CR88	49.54	1.05	0.375	0.39	0.08	0.31	15.57
CR88	CR87	44.46	1.05	0.375	0.39	0.08	0.31	13.97
CR87	CR86	30.35	1.05	0.375	0.39	0.08	0.31	9.54
CR86	CR85	49.87	0.915	0.3075	0.28	0.04	0.24	12.09
CR85	CR84	58.21	0.915	0.3075	0.28	0.04	0.24	14.11
TOTAL (m3)								87.89

VOLUMEN DE RELLENO INICIAL

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	VOLUMEN (m3)
CR90	CR09	71.97	1.05	0.78	58.95
CR89	CR88	49.54	1.05	0.78	40.57
CR88	CR87	44.46	1.05	1.08	50.41
CR87	CR86	30.35	1.05	1.93	61.50
CR86	CR85	49.87	0.915	3.415	155.83
CR85	CR84	58.21	0.915	3.99	210.92
TOTAL (m3)					578.18

TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL
87.89	578.18
TOTAL RELLENO	
666.07	
VIAJES SUMINISTRADOS	VOL (M3)
97	590.4347826

TOTAL ACTA 1: 75.64

TRAMO CR84-CR77

VOLUMEN DE RELLENO CON ARENILLA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	ÁREA TRANS. BRUTA (m2)	ÁREA TRANS. TUBO (m2)	ÁREA TRANS. NETA (m2)	VOLUMEN (m3)
CR84	CR83	62.31	0.915	0.3075	0.28	0.04	0.24	15.10
CR83	CR82	77.83	0.915	0.3075	0.28	0.04	0.24	18.87
CR82	CR79	0.00	0.915	0.3075	0.28	0.04	0.24	0.00
CR79	CR77	49.63	0.915	0.3075	0.28	0.04	0.24	12.03
TOTAL (m3)								46.00

VOLUMEN DE RELLENO INICIAL

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	VOLUMEN (m3)
CR84	CR83	62.31	0.915	3.38	192.71
CR83	CR82	77.83	0.915	3.61	257.08
CR82	CR79	63.85	0.915	4.57	266.99
TOTAL (m3)					716.78

TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL
46	716.78
TOTAL RELLENO	
762.78	
VIAJES	VOL (M3)
98	596.5217391

TOTAL ACTA 2: 166.26

EJECUTADO CON CANTIDADES BALANCEADAS

VOLUMEN DE RELLENO CON ARENILLA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	ÁREA TRANS. BRUTA (m2)	ÁREA TRANS. TUBO (m2)	ÁREA TRANS. NETA (m2)	VOLUMEN (m3)
CR91	CR13	0.00	1.2	0.45	0.54	0.14	0.40	0.00
CR13	CR90	0.00	1.2	0.45	0.54	0.14	0.40	0.00
CR90	CR89	71.97	1.05	0.375	0.39	0.08	0.31	22.62

TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL

TOTAL EJECUTADO

David F. Gil

Pablo Restrepo
Ing. Pablo Restrepo Gómez
Residente Interventoría

CR89	CR88	49.54	1.05	0.375	0.39	0.08	0.31	15.57
CR88	CR87	44.46	1.05	0.375	0.39	0.08	0.31	13.97
CR87	CR86	30.35	1.05	0.375	0.39	0.08	0.31	9.54
CR86	CR85	49.87	0.915	0.3075	0.28	0.04	0.24	12.09
CR85	CR84	58.21	0.915	0.3075	0.28	0.04	0.24	14.11
CR84	CR83	62.31	0.915	0.3075	0.28	0.04	0.24	15.10
CR83	CR82	77.83	0.915	0.3075	0.28	0.04	0.24	18.87
CR82	CR79	63.85	0.915	0.3075	0.28	0.04	0.24	15.48
CR79	CR77	49.63	0.915	0.3075	0.28	0.04	0.24	12.03
CR77	CR75	34.95	0.915	0.3075	0.28	0.04	0.24	8.47
CR75	CR71	34.55	0.8	0.25	0.20	0.02	0.18	8.37
CR71	CR70	51.86	0.8	0.25	0.20	0.02	0.18	9.56
CR70	CR69	15.91	0.8	0.25	0.20	0.02	0.18	2.93
CR69	CR69	0.00	0.8	0.25	0.20	0.02	0.18	0.00
TOTAL (m3)								176.69

176.69	2059.87
TOTAL RELLENO	
2236.56	
VIAJES SUMINISTRADOS	VOL (M3)
296	1800.704348

435.86

VOLUMEN DE RELLENO INICIAL

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	VOLUMEN (m3)
CR91	CR13	0.00	1.2	0.77	0.00
CR13	CR90	0.00	1.2	0.725	0.00
CR90	CR89	71.97	1.05	0.83	62.73
CR89	CR88	49.54	1.05	0.83	43.17
CR88	CR87	44.46	1.05	1.13	52.75
CR87	CR86	30.35	1.05	1.99	63.05
CR86	CR85	49.87	0.915	3.465	158.11
CR85	CR84	58.21	0.915	4.01	213.56
CR84	CR83	62.31	0.915	3.43	195.56
CR83	CR82	77.83	0.915	3.66	260.65
CR82	CR79	63.85	0.915	4.62	269.31
CR79	CR77	49.63	0.915	4.965	225.47
CR77	CR75	34.95	0.915	4.685	149.83
CR75	CR71	34.55	0.8	4.545	125.62
CR71	CR70	51.86	0.8	4.465	185.24
CR70	CR69	15.91	0.8	4.255	54.16
CR69	CR69	0.00	0.8	2.55	0.00
TOTAL (m3)					2059.87

VOLUMEN DE RELLENO CON ARENILLA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	ÁREA TRANS. BRUTA (m2)	ÁREA TRANS. TUBO (m2)	ÁREA TRANS. NETA (m2)	VOLUME N (m3)
CR91	CR13	0.00	1.2	0.45	0.54	0.14	0.40	0.00
CR13	CR90	0.00	1.2	0.45	0.54	0.14	0.40	0.00
CR90	CR89	0.00	1.05	0.375	0.39	0.08	0.31	0.00
CR89	CR88	0.00	1.05	0.375	0.39	0.08	0.31	0.00
CR88	CR87	0.00	1.05	0.375	0.39	0.08	0.31	0.00
CR87	CR86	0.00	1.05	0.375	0.39	0.08	0.31	0.00
CR86	CR85	0.00	0.915	0.3075	0.28	0.04	0.24	0.00
CR85	CR84	0.00	0.915	0.3075	0.28	0.04	0.24	0.00
CR84	CR83	0.00	0.915	0.3075	0.28	0.04	0.24	0.00
CR83	CR82	0.00	0.915	0.3075	0.28	0.04	0.24	0.00
CR82	CR79	14.40	0.915	0.3075	0.28	0.04	0.24	3.48
CR79	CR77	49.63	0.915	0.3075	0.28	0.04	0.24	12.03
CR77	CR75	34.95	0.915	0.3075	0.28	0.04	0.24	8.47
CR75	CR71	34.55	0.8	0.25	0.20	0.02	0.18	8.37
CR71	CR70	51.86	0.8	0.25	0.20	0.02	0.18	9.56
CR70	CR69	15.91	0.8	0.25	0.20	0.02	0.18	2.93
CR69	CR69	0.00	0.8	0.25	0.20	0.02	0.18	0.00
TOTAL (m3)								42.8

VOLUMEN DE RELLENO INICIAL

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	VOLUMEN (m3)
CR91	CR13	0.00	1.2	0.77	0.00
CR13	CR90	0.00	1.2	0.725	0.00
CR90	CR89	0.00	1.05	0.83	0.00
CR89	CR88	0.00	1.05	0.83	0.00
CR88	CR87	0.00	1.05	1.13	0.00
CR87	CR86	0.00	1.05	1.99	0.00
CR86	CR85	0.00	0.915	3.465	0.00
CR85	CR84	0.00	0.915	4.01	0.00
CR84	CR83	0.00	0.915	3.43	0.00
CR83	CR82	0.00	0.915	3.66	0.00
CR82	CR79	5.62	0.915	4.62	24.53
CR79	CR77	49.63	0.915	4.965	225.47
CR77	CR75	34.95	0.915	4.685	149.83
CR75	CR71	34.55	0.8	4.545	125.62
CR71	CR70	51.86	0.8	4.465	185.24
CR70	CR69	15.91	0.8	4.255	54.16
CR69	CR69	0.00	0.8	2.55	0.00
TOTAL (m3)					764.91

TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL
42.8	764.91
TOTAL RELLENO	
807.71	
VIAJES SUMINISTRADOS	VOL (M3)
101	614

TOTAL ACTA #3	
	193.96
TOTAL ACUMULADO	435.86

David F. Gil

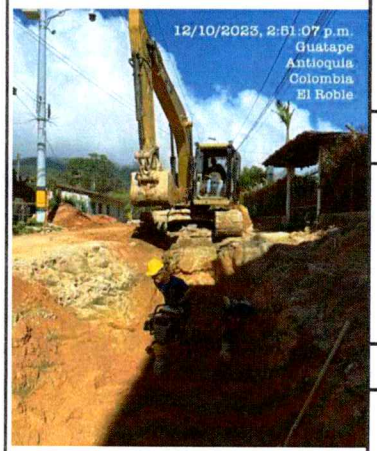
Juan Pablo Restrepo
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT 811.013.821 - 9

ITEM	1.3.2.2	Llenos con material de préstamo en arenilla, compactados mecánicamente hasta obtener una densidad del 90% de la máxima obtenida en el ensayo del próctor modificado.	FECHA DE CORTE
			05/12/2023



TRAMO CR90-CR84		TOTAL ACTA 1
TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL	590.43
87.89	578.18	
TOTAL RELLENO		
666.07		
VIAJES SUMINISTRADOS	VOL (M3)	
97	590.4347826	

TRAMO CR84-CR77		TOTAL ACTA 2
TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL	596.52
46	716.78	
TOTAL RELLENO		
762.78		
VIAJES SUMINISTRADOS	VOL (M3)	
98	596.5217391	

EJECUTADO CON CANTIDADES BALANCEADAS		TOTAL EJECUTADO
TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL	1698.26087
176.69	2059.87	
TOTAL RELLENO		
2236.56		
VIAJES SUMINISTRADOS	VOL (M3)	
279	1698.26087	

TOTAL RELLENO ARENILLA	TOTAL RELLENO INICIAL	TOTAL ACTA 3
42.8	764.91	
TOTAL RELLENO		
807.71		
VIAJES SUMINISTRADOS	VOL (M3)	
84	511.3043478	
		511.30
TOTAL ACUMULADO		1698.26

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCION DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

ITEM	1.3.2.3	S.T.I Lleno con triturado 3/4" (19mm) y 1" (25mm)	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

VOLUMEN DE RELLENO CON TRITURADO

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	ÁREA TRANS. BRUTA (m2)	ÁREA TRANS. TUBO (m2)	ÁREA TRANS. NETA (m2)	VOLUMEN (m3)
CR90	CR89	71.97	1.05	0.375	0.39	0.08	0.31	22.62
CR89	CR88	49.54	1.05	0.375	0.39	0.08	0.31	15.57
CR88	CR87	44.46	1.05	0.375	0.39	0.08	0.31	13.97
CR87	CR86	30.35	1.05	0.375	0.39	0.08	0.31	9.54
CR86	CR85	49.87	0.915	0.3075	0.28	0.04	0.24	12.09
CR85	CR84	58.21	0.915	0.3075	0.28	0.04	0.24	14.11
TOTAL (m3)								87.89

TOTAL ACTA 1: 87.89

TRAMO CR84-CR77

VOLUMEN DE RELLENO CON TRITURADO

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	ÁREA TRANS. BRUTA (m2)	ÁREA TRANS. TUBO (m2)	ÁREA TRANS. NETA (m2)	VOLUMEN (m3)
CR84	CR83	62.31	0.915	0.3075	0.28	0.04	0.24	15.10
CR83	CR82	77.83	0.915	0.3075	0.28	0.04	0.24	18.87
CR82	CR79	63.85	0.915	0.3075	0.28	0.04	0.24	15.48
CR79	CR77	49.63	0.915	0.3075	0.28	0.04	0.24	12.03
TOTAL (m3)								61.48

TOTAL ACTA 2: 61.48

EJECUTADO CON CANTIDADES BALANCEADAS

VOLUMEN DE RELLENO CON TRITURADO

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	ÁREA TRANS. BRUTA (m2)	ÁREA TRANS. TUBO (m2)	ÁREA TRANS. NETA (m2)	VOLUMEN (m3)
CR91	CR13	0.00	1.2	0.45	0.54	0.14	0.40	0.00
CR13	CR90	0.00	1.2	0.45	0.54	0.14	0.40	0.00
CR90	CR89	71.97	1.05	0.375	0.39	0.08	0.31	22.62
CR89	CR88	49.54	1.05	0.375	0.39	0.08	0.31	15.57
CR88	CR87	44.46	1.05	0.375	0.39	0.08	0.31	13.97
CR87	CR86	30.35	1.05	0.375	0.39	0.08	0.31	9.54
CR86	CR85	49.87	0.915	0.3075	0.28	0.04	0.24	12.09
CR85	CR84	58.21	0.915	0.3075	0.28	0.04	0.24	14.11
CR84	CR83	62.31	0.915	0.3075	0.28	0.04	0.24	15.10
CR83	CR82	77.83	0.915	0.3075	0.28	0.04	0.24	18.87
CR82	CR79	63.85	0.915	0.3075	0.28	0.04	0.24	15.48
CR79	CR77	49.63	0.915	0.3075	0.28	0.04	0.24	12.03
CR77	CR75	34.95	0.915	0.3075	0.28	0.04	0.24	8.47
CR75	CR71	34.55	0.8	0.25	0.20	0.02	0.18	6.37
CR71	CR70	51.86	0.8	0.25	0.20	0.02	0.18	9.56
CR70	CR69	15.91	0.8	0.25	0.20	0.02	0.18	2.93
CR69	CR68	0.00	0.8	0.25	0.20	0.02	0.18	0.00
TOTAL (m3)								176.69

TOTAL EJECUTADO: 176.69

DIFERENCIAL PARA ACTA #3	TOTAL ACTA #3: 27.32
TOTAL ACUMULADO	176.69

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

	MEMORIAS DE CALCULO DE CANTIDADES DE OBRA OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCION DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.	

ITEM	1.4.1	Entibado temporal (formaleta madera 1/7 utilizaciones)	~~FECHA DE CORTE 05/12/2023~~



TRAMO CR90-CR84

ENTIBADO PROVISIONAL						
TRAMO		LONGITUD (m)	PROF. INICIAL (m)	PROF. FINAL (m)	PROF. PROMEDIO (m)	ÁREA (m2)
CR90	CR89	71.97	1.88	1.88	1.88	189.44
CR89	CR88	50.64	1.88	1.88	1.88	133.28
CR88	CR87	45.58	1.88	2.48	2.18	139.11
CR87	CR86	31.53	2.48	3.58	3.03	133.75
CR86	CR85	51.07	3.58	5.18	4.38	313.16
CR85	CR84	59.41	5.18	4.67	4.925	409.63
TOTAL (m3)						1318.37

1318.37

~~TOTAL ACTA 1~~

~~TRAMO CR84-CR77~~

ENTIBADO PROVISIONAL						
TRAMO		LONGITUD (m)	PROF. INICIAL (m)	PROF. FINAL (m)	PROF. PROMEDIO (m)	ÁREA (m2)
CR84	CR83	62.31	4.67	4.02	4.345	379.03
CR83	CR82	77.83	4.02	5.13	4.575	498.50
CR82	CR79	30.00	5.13	5.94	5.535	232.47
TOTAL (m3)						1110.00

1110.00

~~TOTAL ACTA 2~~

~~EJECUTADO CON CANTIDADES BALANCEADAS~~

ENTIBADO PROVISIONAL						
TRAMO		LONGITUD (m)	PROF. INICIAL (m)	PROF. FINAL (m)	PROF. PROMEDIO (m)	ÁREA (m2)
CR91	CR13		1.97	1.97	1.97	0.00
CR13	CR90		1.97	1.88	1.925	0.00
CR90	CR89		1.88	1.88	1.88	0.00
CR89	CR88		1.88	1.88	1.88	0.00
CR88	CR87	44.46	1.88	2.48	2.18	135.68
CR87	CR86	30.35	2.48	3.58	3.03	128.74
CR86	CR85	49.87	3.58	5.18	4.38	305.81
CR85	CR84	58.21	5.18	4.67	4.925	401.36
CR84	CR83	62.31	4.67	4.02	4.345	379.03
CR83	CR82	77.83	4.02	5.13	4.575	498.50
CR82	CR79	63.05	5.13	5.94	5.535	494.77
CR79	CR77	43.63	5.94	5.82	5.88	408.55
CR77	CR75	34.95	5.82	5.38	5.6	274.01
CR75	CR71	34.55	5.38	5.31	5.345	269.54
CR71	CR70	51.86	5.31	5.22	5.265	382.26
CR70	CR69	15.91	5.22	4.89	5.055	112.60
CR69	CR68	0.00	4.89	1.81	3.35	0.00
TOTAL (m3)						3779.85

3779.85

~~TOTAL EJECUTADO~~

ENTIBADO PROVISIONAL						
TRAMO		LONGITUD (m)	PROF. INICIAL	PROF. FINAL (m)	PROF. PROMEDIO	ÁREA (m2)
CR91	CR13	0.00	1.97	1.97	1.97	0.00
CR13	CR90	0.00	1.97	1.88	1.925	0.00
CR90	CR89	0.00	1.88	1.88	1.88	0.00

TOTAL ACTA #3

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

CR89	CR88	0.00	1.88	1.88	1.88	0.00
CR88	CR87	0.00	1.88	2.48	2.18	0.00
CR87	CR86	0.00	2.48	3.58	3.03	0.00
CR86	CR85	0.00	3.58	5.18	4.38	0.00
CR85	CR84	0.00	5.18	4.67	4.925	0.00
CR84	CR83	0.00	4.67	4.02	4.345	0.00
CR83	CR82	0.00	4.02	5.13	4.575	0.00
CR82	CR79	0.00	5.13	5.94	5.535	0.00
CR79	CR77	39.37	5.94	5.82	5.88	324.07
CR77	CR75	34.95	5.82	5.38	5.6	274.01
CR75	CR71	34.55	5.38	5.31	5.345	258.54
CR71	CR70	51.86	5.31	5.22	5.265	382.26
CR70	CR69	15.91	5.22	4.89	5.055	112.60
CR69	CR68	0.00	4.89	1.81	3.35	0.00
TOTAL (m3)						1351.48

	1351.48
TOTAL ACUMULADO	3779.85

David F. Gil

Pablo Restrepo
Ing Pablo Restrepo Gómez
Residente Interventoría

EAG · Municipio de Guatapé · Cornare	**MEMORIAS DE CALCULO DE CANTIDADES DE OBRA** **OBJETO:** AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.	FLEXOCOM SAS Ingenieros Civiles NIT. 811 013 821 - 9

ITEM	1.7.1.1	S.T.I. de Tubería PVC Alcantarillado Ø 200 mm (8")	FECHA DE CORTE 05/12/2023
		TRAMO CR75-CR69	TOTAL ACTA 3

LONGITUD DE TUBERÍA

TRAMO		LONGITUD		
CR91	CR13			
CR13	CR90		24"	0.00
CR90	CR89	71.97		
CR89	CR88	49.54	18"	196.32
CR88	CR87	44.46		
CR87	CR86	30.35		
CR86	CR85	49.87		
CR85	CR84	58.21		
CR84	CR83	62.31		
CR83	CR82	77.83	12"	431.20
CR82	CR79	63.85		
CR79	CR77	49.63		
CR77	CR75	34.95		
CR75	CR71	34.55		
CR71	CR70	51.86	8"	102.32
CR70	CR69	15.91		
CR69	CR68			
TOTAL (m)		**695.29**		

102.32

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

	MEMORIAS DE CALCULO DE CANTIDADES DE OBRA OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCION DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.	

ITEM	3.7.1	D Tub. PVC Novafort o similar 160 mm (6")				FECHA DE CORTE
						05/12/2023
		DESCRIPCIÓN	Largo (m)	Cantidad	Total	TOTAL ACTA 1
						0.00
		DESCRIPCIÓN	Largo (m)	Cantidad	Total	TOTAL ACTA 2
		Tubería 6" para domiciliarias	3	50	150	300.00
		Tubería 6" para reparación	6	25	150	
		DESCRIPCIÓN	Largo (m)	Cantidad	Total	TOTAL ACTA 3
		Tubería 6" para domiciliarias	0	50	0	240.00
		Tubería 6" para reparación	6	40	240	
		TOTAL ACUMULADO				540.00

David F. Gil.

Juan Pablo Restrepo Gómez
Residente Interventoría

	MEMORIAS DE CALCULO DE CANTIDADES DE OBRA	
	OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCION DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.	

ITEM	3.8.2	Colocacion de kit silla yee y codo de 45° en PVC en los siguientes diametros:	FECHA DE CORTE 05/12/2023



DESCRIPCIÓN		Cantidad	Total	TOTAL ACTA 1
				0.00

DESCRIPCIÓN	# Domiciliarias	Cantidad	Total	TOTAL ACTA 2
Silla Yee 200x160 para domiciliarias	0	0	0	
				0.00

DESCRIPCIÓN	# Domiciliarias	Cantidad	Total	TOTAL ACTA 3
Silla Yee 200x160 para domiciliarias	10	1	10	
				10.00

TOTAL ACUMULADO	10.00

David F. Gil

Ing. Rob. Restrepo
Ing. Robl. Restrepo Gómez
Residente Interventoría

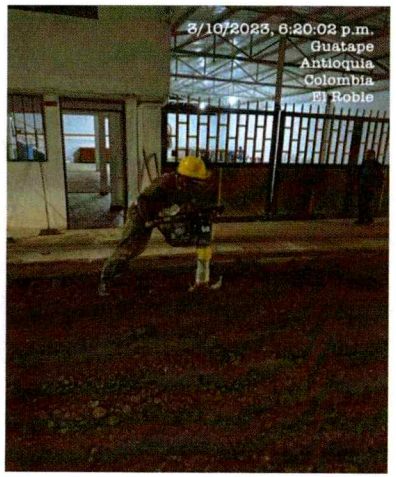
	MEMORIAS DE CALCULO DE CANTIDADES DE OBRA OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCION DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.	

ITEM	3.8.5	D Codo PVC-S 6" 45° CXC PVC Alcantarillado				FECHA DE CORTE 05/12/2023
		DESCRIPCIÓN		Cantidad	Total	TOTAL ACTA 1
						0.00
		DESCRIPCIÓN	# Domiciliarias	Cantidad	Total	TOTAL ACTA 2
		Codo 160 para domiciliarias	30	2	60	60.00
		DESCRIPCIÓN	# Domiciliarias	Cantidad	Total	TOTAL ACTA 3
		Codo 160 para domiciliarias	10	2	20	20.00
		TOTAL ACUMULADO				80.00

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

ITEM	4.1	Llenos con material de préstamo en afirmado, compactados mecánicamente hasta obtener una densidad del 95% de la máxima obtenida en el ensayo del próctor modificado.	FECHA DE CORTE 05/12/2023



	TOTAL ACTA 1
	0.00

	TOTAL ACTA 2
	0.00

VOLUMEN DE RELLENO CON BASE

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	VOLUMEN (m3)
CR91	CR13	0.00	1.2	0.3	0.00
CR13	CR90	0.00	1.2	0.3	0.00
CR90	CR89	73.18	1.05	0.3	23.05
CR89	CR88	50.64	1.05	0.3	15.95
CR88	CR87	45.58	1.05	0.3	14.36
CR87	CR86	31.53	1.05	0.3	9.93
CR86	CR85	51.07	0.915	0.3	14.02
CR85	CR84	59.41	0.915	0.3	16.31
CR84	CR83	63.51	0.915	0.3	17.43
CR83	CR82	79.03	0.915	0.3	21.69
CR82	CR79		0.915	0.3	0.00
CR79	CR77		0.915	0.3	0.00
CR77	CR75	36.15	0.915	0.3	9.92
CR75	CR71	35.75	0.8	0.3	8.58
CR71	CR70	53.06	0.8	0.3	12.73
CR70	CR69	17.11	0.8	0.3	4.11
CR69	CR68	0.00	0.8	0.3	0.00
TOTAL (m3)					168.09

VOLUMEN DE RELLENO CON BASE (SOBREANCHO POR GRANDES PROFUNDIDADES)

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	VOLUMEN (m3)
CR82	CR79	63.85	2.7	0.3	51.72
CR79	CR77	49.63	2.7	0.3	40.20
TOTAL (m3)					91.92

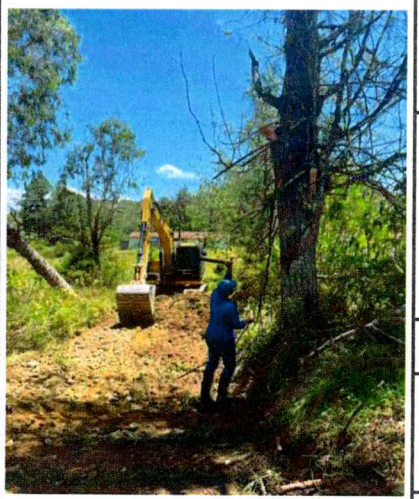
	TOTAL ACTA 3
	260.01

TOTAL ACUMULADO	260.01

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

ITEM	4.2	Trazado, descapote para acondicionamiento temporal de vía alterna (ancho 3.60m, e=5 cm)	FECHA DE CORTE
			05/12/2023
			TOTAL ACTA 1
			0.00
			TOTAL ACTA 2
			0.00



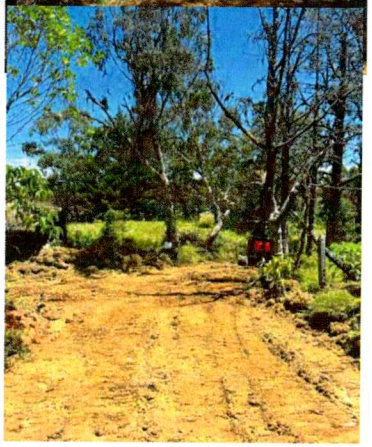
DESCRIPCIÓN	Largo (m)	Cantidad	Total	TOTAL ACTA 3
Trazado, descapote para acondicionamiento temporal de vía alterna (ancho 3.60m, e=5 cm)	593	1	593	593.00
TOTAL ACUMULADO				593.00

David F. Gil

Juan Pablo Restrepo Gómez
Residente Interventoría

ITEM	4.2	Acondicionamiento temporal de vía alterna con material de afirmado (ancho=3.6 m, e=5 cm)	FECHA DE CORTE
			05/12/2023





	TOTAL ACTA 1
	0.00
	TOTAL ACTA 2
	0.00

DESCRIPCIÓN	Largo (m)	Ancho (m)	Total	TOTAL ACTA 3
Acondicionamiento temporal de vía alterna con material de afirmado (ancho=3.6 m, e=5 cm)	593	3.6	2134.8	2134.80
TOTAL ACUMULADO				2134.80

David F. Gil

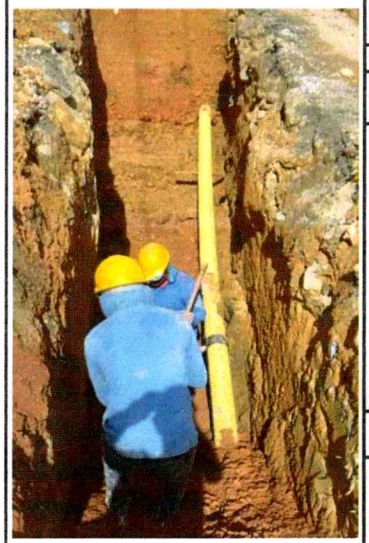
Juan Pablo Restrepo, Gerente
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT. 811.013.821 - 9

ITEM	1.3.1.2	Excavación manual en material común seco 0 - 2 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

TOTAL ACTA 1

TRAMO CR82-CR90

TOTAL ACTA 2

VOLUMEN DE EXCAVACIÓN CON MÁQUINA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	115.565856
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	79.970688
CR88	CR87	46.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	76.5744
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	52.9704
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04951925	92.97984
CR83	CR82	79.03	0.915	5.13	4.575	4.19	330.83	144.62	144.62	41.57965875	115.69992
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	95.2332
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	74.41512
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	52.9236
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	67.9168
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	2
TOTAL (m3)							2738.49	1317.07	953.43	468.00	1055.65
										AJUSTE POR DERRUMBES	874.86
										%MANUAL	374.94

220.15

EJECUTADO CON CANTIDADES BALANCEADAS

TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN CON MÁQUINA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	115.565856
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	79.970688
CR88	CR87	46.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	76.5744
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	52.9704
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04951925	92.97984
CR83	CR82	79.03	0.915	5.13	4.575	4.19	330.83	144.62	144.62	41.57965875	115.69992
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	95.2332
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	74.41512
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	52.9236
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	67.9168
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	2
TOTAL (m3)							2738.49	1317.07	953.43	468.00	1055.65
										AJUSTE POR DERRUMBES	874.86
										%MANUAL	374.94

374.94

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Juan Pablo Restrepo

Juan Pablo Restrepo Gómez
Residente Interventoría

VOLUMEN DE EXCAVACIÓN											
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR83	CR82	76.72	0.915	5.13	4.575	4.19	321.16	140.40	140.40	40.36431	112.31808
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	95.2332
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	74.41512
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	52.9236
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	67.9168
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							1554.86	588.08	588.08	378.69	470.47
										AJUSTE POR DERRUMBES	361.19
										>MANUAL	154.79

TOTAL ACTA #3
154.79
TOTAL ACUMULADO
374.94

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Pablo Restrepo

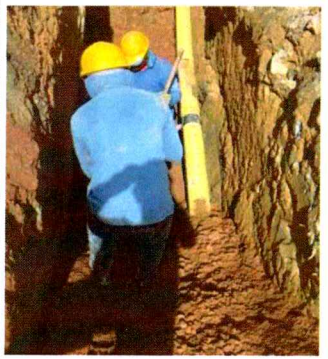
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT 811.013.821 - 9

ITEM	1.3.1.4	Excavación manual en material común seco 2 - 4 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

TOTAL ACTA 1

TRAMO CR82-CR90

TOTAL ACTA 2

VOLUMEN DE EXCAVACIÓN

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO ENTRE 2m a 4m
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.19	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	6.891696
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	27.279756
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04051925	92.97864
CR83	CR82	79.03	0.915	5.13	4.575	4.19	330.93	144.62	144.62	41.57965875	115.63992
CR82	CR79	16.87	0.915	5.94	5.535	5.06	85.44	30.87	30.87	23.69433675	24.69768
CR79	CR77		0.915	5.82	5.88	5.38	0.00	0.00	0.00	0	0
CR77	CR75		0.915	5.38	5.6	5.12	0.00	0.00	0.00	0	0
CR75	CR71		0.8	5.31	5.345	4.28	0.00	0.00	0.00	0	0
CR71	CR70		0.9	5.22	5.265	4.21	0.00	0.00	0.00	0	0
CR70	CR69		0.8	4.89	5.055	4.04	0.00	0.00	0.00	0	0
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							1590.23	900.25	536.61	153.36	429.29
										AJUSTE POR DERRUMBES	376.83
										>MANUAL	161.50

161.50

EJECUTADO CON CANTIDADES BALANCEADAS

TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN CON MÁQUINA

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m
CR91	CR13		1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.19	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	115.565856
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	79.970688
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	76.5744
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	52.9704
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.97624
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04051925	92.97864
CR83	CR82	79.03	0.915	5.13	4.575	4.19	330.93	144.62	144.62	41.57965875	115.63992
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	95.2332
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	74.41512
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	52.9236
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.63672	67.9168
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							2738.49	1317.07	953.43	468.00	1055.65
										AJUSTE POR DERRUMBES	874.86
										>MANUAL	374.94

286.94

David F. Gil.
DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Juan Pablo Restrepo Gómez
Residente Interventoría

VOLUMEN DE EXCAVACIÓN												TOTAL ACTA #3
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	ENTRE 0m a 2m	
CR83	CR82	76.72	0.915	5.13	4.575	4.19	321.16	140.40	140.40	40.36431	112.31808	
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	95.2332	
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	74.41512	
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	52.9236	
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	45.76	
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	67.9168	
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008	125.44
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0	
TOTAL (m3)							1554.86	588.08	588.08	378.69	470.47	
										AJUSTE POR DERRUMBES	361.19	
										>MANUAL	154.79	
TOTAL ACUMULADO												286.94

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Pablo Restrepo

Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT 811.013.821 - 9

ITEM	1.3.1.5	Excavación manual en material común seco > 4 m	FECHA DE CORTE 05/12/2023



TRAMO CR90-CR84

TOTAL ACTA 1

TRAMO CR82-CR90

TOTAL ACTA 2

VOLUMEN DE EXCAVACIÓN

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO ENTRE 2m a 4m	SECO > 4m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0	0
CR13	CR90	0	1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0	0
CR90	CR89	0	1.05	1.88	1.88	1.97	0.00	0.00	0.00	0	0	0
CR89	CR88	0	1.05	1.89	1.89	1.97	0.00	0.00	0.00	0	0	0
CR88	CR87	0	1.05	2.49	2.19	2.29	0.00	0.00	0.00	0	0	0
CR87	CR86	0	1.05	3.58	3.03	3.18	0.00	0.00	0.00	0	0	0
CR86	CR85	50.07	0.915	5.19	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648	14.2056312
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.37624	40.226511
CR84	CR83	63.51	0.915	4.62	4.645	3.99	252.59	116.22	116.22	20.04651925	92.37864	16.0389154
CR83	CR82	79.03	0.915	5.13	4.875	4.19	330.83	144.62	144.62	41.57965875	115.83992	33.263727
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	95.2332	73.091481
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	74.41512	69.9502128
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.22	66.15	66.15	52.9236	52.9236	42.33888
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.457	45.76	30.7726
CR71	CR70	25.18	0.8	5.22	5.265	4.21	106.06	40.29	40.29	25.44528	32.2304	20.3565728
CR70	CR69		0.8	4.89	5.055	4.04	0.00	0.00	0.00	0	0	0
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0	0
	TOTAL (m3)						2102.90	838.73	838.73	425.34	678.98	340.27
										AJUSTE POR DERRUMBES	588.99	213.35
										XMANUAL	252.42	213.35

213.35

EJECUTADO CON CANTIDADES BALANCEADAS

TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO ENTRE 2m a 4m	SECO > 4m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0	0
CR13	CR90	0	1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0	0
CR90	CR89	0	1.05	1.89	1.89	1.97	0.00	0.00	0.00	0	0	0
CR89	CR88	0	1.05	1.90	1.89	1.97	0.00	0.00	0.00	0	0	0
CR88	CR87	0	1.05	2.49	2.19	2.29	0.00	0.00	0.00	0	0	0
CR87	CR86	0	1.05	3.58	3.03	3.18	0.00	0.00	0.00	0	0	0
CR86	CR85	50.07	0.915	5.19	4.38	4.01	204.67	93.46	93.46	17.757039	74.76648	14.2056312
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	86.37624	40.226511
CR84	CR83	63.51	0.915	4.62	4.645	3.99	252.59	116.22	116.22	20.04651925	92.37864	16.0389154
CR83	CR82	79.03	0.915	5.13	4.875	4.19	330.83	144.62	144.62	41.57965875	115.83992	33.263727
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.45	119.04	119.04	91.36435125	95.2332	73.091481
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	74.41512	69.9502128
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.22	66.15	66.15	52.9236	52.9236	42.33888
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.457	45.76	30.7726
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.89622	67.9168	42.957376
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	21.9008	11.552672
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0	0
	TOTAL (m3)						2289.43	910.71	910.71	460.00	729.57	374.40
										AJUSTE POR DERRUMBES	639.54	235
										XMANUAL	274.00	235

235

David F. Gil.
DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Juan Pablo Restrepo Gómez
Residente Interventoría

VOLUMEN DE EXCAVACIÓN											
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	SECO > 4m
CR71	CR70	28.38	0.8	5.22	5.265	4.21	119.54	45.41	45.41	28.72056	22.976448
CR70	CR65	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	11.552672
CR65	CR68		0.8	1.91	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							188.73	72.78	72.78	43.16	34.53
										AJUSTE POR DERRUMBES	21.65
										xMANUAL	21.65

TOTAL ACTA #3
21.65

TOTAL ACUMULADO	235.00

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

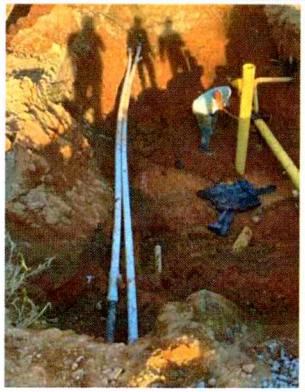
Pablo Restrepo
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCION DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT. 811 013 821 - 9

ITEM	1.3.1.8	Excavación manual en Material común húmedo < 2 m	FECHA DE CORTE 05/12/2023



TOTAL ACTA 1

TRAMO CR82-CR90

TOTAL ACTA 2

VOLUMEN DE EXCAVACIÓN											MATERIAL HÚMEDO
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 0m a 2m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90	0	1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	28.891464
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	19.992672
CR88	CR87	45.56	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	19.1436
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	13.2426
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	18.69182
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	21.74406
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04859525	23.24466
CR83	CR82	5.2	0.915	5.13	4.575	4.19	21.77	9.52	9.52	2.73585	1.9032
CR82	CR79	0	0.915	5.94	5.535	5.06	0.00	0.00	0.00	0	0
CR79	CR77	0	0.915	5.82	5.88	5.38	0.00	0.00	0.00	0	0
CR77	CR75	0	0.915	5.38	5.6	5.12	0.00	0.00	0.00	0	0
CR75	CR71	0	0.8	5.31	5.345	4.28	0.00	0.00	0.00	0	0
CR71	CR70	0	0.8	5.22	5.265	4.21	0.00	0.00	0.00	0	0
CR70	CR69	0	0.8	4.99	5.105	4.04	0.00	0.00	0.00	0	0
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							1195.73	734.27	370.63	30.82	146.85
										AJUSTE POR DERRUMBES	128.31
										%MANUAL	55.29

55.25

EJECUTADO CON CANTIDADES BALANCEADAS

TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN											MATERIAL HÚMEDO
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 0m a 2m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0
CR13	CR90		1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	28.891464
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	19.992672
CR88	CR87	45.56	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	19.1436
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	13.2426
CR86	CR85	51.07	0.915	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	18.69182
CR85	CR84	59.41	0.915	4.67	4.925	4.51	267.72	108.72	108.72	50.28313875	21.74406
CR84	CR83	63.51	0.915	4.02	4.345	3.98	252.50	116.22	116.22	20.04859525	23.24466
CR83	CR82	79.03	0.915	5.13	4.575	4.19	330.83	144.62	144.62	41.57965875	28.92498
CR82	CR79	65.05	0.915	5.94	5.535	5.06	329.15	119.04	119.04	91.36435125	23.8083
CR79	CR77	50.83	0.915	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	18.60078
CR77	CR75	36.15	0.915	5.38	5.6	5.12	185.23	66.15	66.15	52.9236	13.2309
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	11.44
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.43	84.98	84.98	53.83672	16.9792
CR70	CR69	17.11	0.8	4.99	5.105	4.04	69.19	27.38	27.38	14.44084	5.4752
CR69	CR68		0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0
TOTAL (m3)							2739.49	1317.07	953.43	469.00	263.41
										AJUSTE POR DERRUMBES	221.22
										%MANUAL	99.10

99.1

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Juan Pablo Restrepo Gómez
Residente de Interventoría

VOLUMEN DE EXCAVACIÓN										MATERIAL HÚMEDO			
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 0m a 2m	HÚMEDO ENTRE 2m a 4m	> 4m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0	0	0
CR13	CR90	0	1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0	0	0
CR90	CR89	0	1.05	1.88	1.88	1.97	0.00	0.00	0.00	0	0	0	0
CR89	CR88	0	1.05	1.88	1.88	1.97	0.00	0.00	0.00	0	0	0	0
CR88	CR87	0	1.05	2.48	2.18	2.29	0.00	0.00	0.00	0	0	0	0
CR87	CR86	0	1.05	3.58	3.03	3.18	0.00	0.00	0.00	0	0	0	0
CR86	CR85	0	0.95	5.18	4.38	4.61	0.00	0.00	0.00	0	0	0	0
CR85	CR84	0	0.95	4.67	4.925	4.51	0.00	0.00	0.00	0	0	0	0
CR84	CR83	0	0.95	4.02	4.345	3.98	0.00	0.00	0.00	0	0	0	0
CR83	CR82	49.4	0.95	5.13	4.575	4.19	169.12	73.93	73.93	21.25545	14.7964	14.7964	4.25909
CR82	CR79	65.05	0.95	5.94	5.535	5.06	329.45	119.04	119.04	91.364351	23.8083	23.8083	18.272787025
CR79	CR77	50.83	0.95	5.82	5.88	5.38	273.48	93.02	93.02	87.437766	18.60378	18.60378	17.4875532
CR77	CR75	26.95	0.95	5.38	5.6	5.12	185.23	68.95	68.95	52.9236	13.7909	13.7909	10.58472
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	11.44	11.44	7.6934
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.43	84.90	84.90	93.63672	16.9792	16.9792	39.729344
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44084	5.4752	5.4752	2.888168
CR69	CR68	56.63	0.8	1.01	3.35	2.68	151.77	80.61	61.16	0	16.1236	12.23208	0
TOTAL (m3)							1554.59	612.23	582.78	359.99	122.45	116.56	71.92
										AJUSTE POR DERRUMBES	107.48	165.44	
										%MANUAL	46.06	43.85	

TOTAL ACTA #3
43.85
99.10

TOTAL ACUMULADO

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

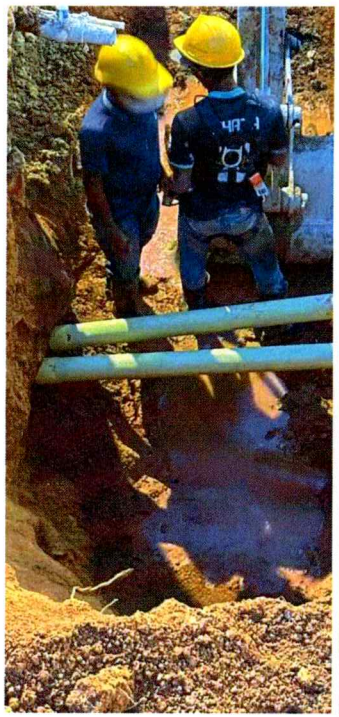
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCION DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT 811.013.821 - 9

ITEM	1.3.1.10	Excavación manual en Material común húmedo < 2 m	FECHA DE CORTE 05/12/2023



TOTAL ACTA 1

TRAMO CR79-CR90

TOTAL ACTA 2

VOLUMEN DE EXCAVACIÓN

TRAMO		LONGITUD (m)	ANCHO (m)	PROF (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 2m a 4m	> 4m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0	0
CR13	CR90	0	1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	0	0
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	0	0
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	1.722924	0
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	6.888539	0
CR86	CR85	51.07	0.975	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	18.63962	3.5534078
CR85	CR84	59.41	0.975	4.67	4.925	4.51	267.72	108.72	108.72	50.28313975	21.74406	10.05662795
CR84	CR83	63.51	0.975	4.62	4.345	3.98	252.50	116.22	116.22	20.04859325	23.24466	4.00970385
CR83	CR82	73.03	0.975	5.12	4.575	4.19	330.83	144.62	144.62	41.57965875	28.92493	8.31593175
CR82	CR73	59.8	0.975	5.94	5.535	5.06	53.88	28.25	25.25	19.362445	5.0508	3.874489
CR73	CR77	0	0.975	5.82	5.88	5.28	0.00	0.00	0.00	0	0	0
CR77	CR75	0	0.975	5.38	5.6	5.12	0.00	0.00	0.00	0	0	0
CR75	CR71	0	0.8	5.31	5.345	4.28	0.00	0.00	0.00	0	0	0
CR71	CR70	0	0.8	5.22	5.265	4.21	0.00	0.00	0.00	0	0	0
CR70	CR63	0	0.8	4.69	5.955	4.04	0.00	0.00	0.00	0	0	0
CR63	CR68		0.8	1.81	3.25	2.60	0.00	0.00	0.00	0	0	0
TOTAL [m3]							1574.68	954.63	530.99	149.95	106.20	25.81
										AJUSTE POR DERRUMBES	119.35	
										>MANUAL	39.95	

39.95

EJECUTADO CON CANTIDADES BALANCEADAS

TOTAL EJECUTADO

VOLUMEN DE EXCAVACIÓN

TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	MATERIAL HÚMEDO HÚMEDO ENTRE 0m a 2m	HÚMEDO ENTRE 2m a 4m	> 4m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0	0	0
CR13	CR90	0	1.2	1.88	1.925	2.31	0.00	0.00	0.00	0	0	0	0
CR90	CR89	73.18	1.05	1.88	1.88	1.97	144.46	144.46	0.00	0	28.891464	0	0
CR89	CR88	50.64	1.05	1.88	1.88	1.97	99.96	99.96	0.00	0	19.992672	0	0
CR88	CR87	45.58	1.05	2.48	2.18	2.29	104.33	95.72	8.61	0	19.1436	1.722924	0
CR87	CR86	31.53	1.05	3.58	3.03	3.18	100.31	66.21	34.10	0	13.2426	6.888539	0
CR86	CR85	51.07	0.975	5.18	4.38	4.01	204.67	93.46	93.46	17.757039	18.63962	3.5534078	
CR85	CR84	59.41	0.975	4.67	4.925	4.51	267.72	108.72	108.72	50.28313975	21.74406	10.05662795	
CR84	CR83	63.51	0.975	4.62	4.345	3.98	252.50	116.22	116.22	20.04859325	23.24466	4.00970385	
CR83	CR82	73.03	0.975	5.12	4.575	4.19	330.83	144.62	144.62	41.57965875	28.92493	8.31593175	
CR82	CR73	65.06	0.975	5.94	5.535	5.06	358.45	113.04	113.04	91.36425125	23.0083	18.27287025	
CR73	CR77	59.83	0.975	5.82	5.88	5.28	307.45	93.02	93.02	87.437756	18.60378	17.4875512	
CR77	CR75	26.15	0.975	5.38	5.6	5.12	133.23	66.15	66.15	52.3236	13.2309	10.58472	
CR75	CR71	35.75	0.8	5.31	5.345	4.28	152.87	57.29	57.29	38.467	11.44	7.6934	
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	16.9792	10.739344	
CR70	CR63	17.11	0.8	4.69	5.955	4.04	69.19	27.38	27.38	14.44004	5.4752	2.888368	
CR63	CR68	0	0.8	1.81	3.25	2.60	0.00	0.00	0.00	0	0	0	
TOTAL [m3]							2738.49	1317.07	953.43	460.00	263.41	190.69	92.60
										AJUSTE POR DERRUMBES	231.22	249.95	
										>MANUAL	99.10	106.95	

106.95

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Pablo Restrepo
Juan Pablo Restrepo Gómez
Residente Interventoría

VOLUMEN DE EXCAVACIÓN										MATERIAL HÚMEDO			
TRAMO		LONGITUD (m)	ANCHO (m)	PROF. (m)	PROF. PROMEDIO (m)	ÁREA (m2)	VOLUMEN (m3)	ENTRE 0m a 2m	ENTRE 2m a 4m	> 4m	HÚMEDO ENTRE 0m a 2m	HÚMEDO ENTRE 2m a 4m	> 4m
CR91	CR13	0	1.2	1.97	1.97	2.36	0.00	0.00	0.00	0	0	0	0
CR13	CR90	0	1.2	1.89	1.925	2.31	0.00	0.00	0.00	0	0	0	0
CR90	CR89	0	1.05	1.89	1.89	1.97	0.00	0.00	0.00	0	0	0	0
CR89	CR88	0	1.05	1.89	1.89	1.97	0.00	0.00	0.00	0	0	0	0
CR88	CR87	0	1.05	2.48	2.18	2.29	0.00	0.00	0.00	0	0	0	0
CR87	CR86	0	1.05	3.58	3.03	3.18	0.00	0.00	0.00	0	0	0	0
CR86	CR85	0	0.95	5.18	4.38	4.61	0.00	0.00	0.00	0	0	0	0
CR85	CR84	0	0.95	4.67	4.925	4.51	0.00	0.00	0.00	0	0	0	0
CR84	CR83	0	0.95	4.02	4.345	3.96	0.00	0.00	0.00	0	0	0	0
CR83	CR82	44.35	0.95	5.13	4.575	4.19	185.65	81.16	81.16	23.33364375	16.2321	16.2321	4.666725
CR82	CR79	65.05	0.95	5.94	5.535	5.06	329.45	119.04	119.04	91.36435625	23.8083	23.8083	18.27297025
CR78	CR77	50.83	0.95	5.82	5.88	5.38	273.48	93.02	93.02	57.437764	18.60378	18.60378	11.4875528
CR77	CR75	36.35	0.95	5.38	5.6	5.12	185.23	66.35	66.35	52.9236	13.2309	13.2309	10.58472
CR75	CR71	26.75	0.8	5.31	5.345	4.28	152.87	57.20	57.20	38.467	11.44	11.44	7.6934
CR71	CR70	53.06	0.8	5.22	5.265	4.21	223.49	84.90	84.90	53.69672	16.9792	16.9792	10.739344
CR70	CR69	17.11	0.8	4.89	5.055	4.04	69.19	27.38	27.38	14.44004	5.4752	5.4752	2.888008
CR69	CR68	0	0.8	1.81	3.35	2.68	0.00	0.00	0.00	0	0	0	0
TOTAL (m3)							1419.36	528.85	528.85	361.66	105.77	105.77	77.33
										AJUSTE POR DERRUMBES	92.84	156.34	
										XMANUAL	39.79	67.00	

TOTAL ACTA #3
67.00
106.95

TOTAL ACUMULADO

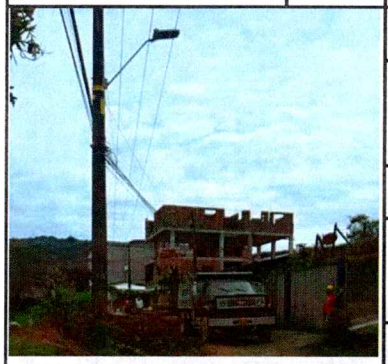
David F. Gil.
DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Pablo Restrepo
Juan Pablo Restrepo Gómez
Residente Interventoría

MEMORIAS DE CALCULO DE CANTIDADES DE OBRA

OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.

FLEXOCOM SAS Ingenieros Civiles NIT 811.013.821 - 9

ITEM	1.3.1.10	Cargue, retiro y botada de material proveniente de la excavación a cualquier distancia. Incluye derecho a botada	FECHA DE CORTE
			05/12/2023
			TOTAL ACTA 1
		TOTAL EXC. 925.14 / TOTAL RECICLADO 75.63 / RETIRO 976.94	976.94
			TOTAL ACTA 2
		TOTAL EXC. 495 / TOTAL RECICLADO 34.1 / RETIRO 530	530.00
			TOTAL ACTA #3
		TOTAL EXC. 304 / TOTAL RECICLADO 24.6 / RETIRO 321.3	321.30
		TOTAL ACUMULADO	1828.24

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Juan Pablo Restrepo Gómez
Residente Inte

	MEMORIAS DE CALCULO DE CANTIDADES DE OBRA	
	OBJETO: AUNAR ESFUERZOS PARA LA CONSTRUCCIÓN DEL COLECTOR NO. 8 DE AGUAS COMBINADAS DEL SECTOR EL ROBLE DEL PLAN MAESTRO DE ACUEDUCTO Y ALCANTARILLADO, DEL ÁREA URBANA DEL MUNICIPIO DE GUATAPÉ.	FLEXOCOM SAS Ingenieros Civiles NIT. 811.013.821 - 9

ITEM	1.8.1	Talleres de socialización y educación ambiental	FECHA DE CORTE
			05/12/2023
			TOTAL ACTA 1
			1.00
			TOTAL ACTA 2
			0.00
			TOTAL ACTA 3
			1.00
		TOTAL ACUMULADO	2.00

David F. Gil.

DAVID FELIPE GIL VERGARA
RESIDENTE DE OBRA

Pedro Restrepo
Juan Pablo Restrepo Cárdenas
Residente Interventoría