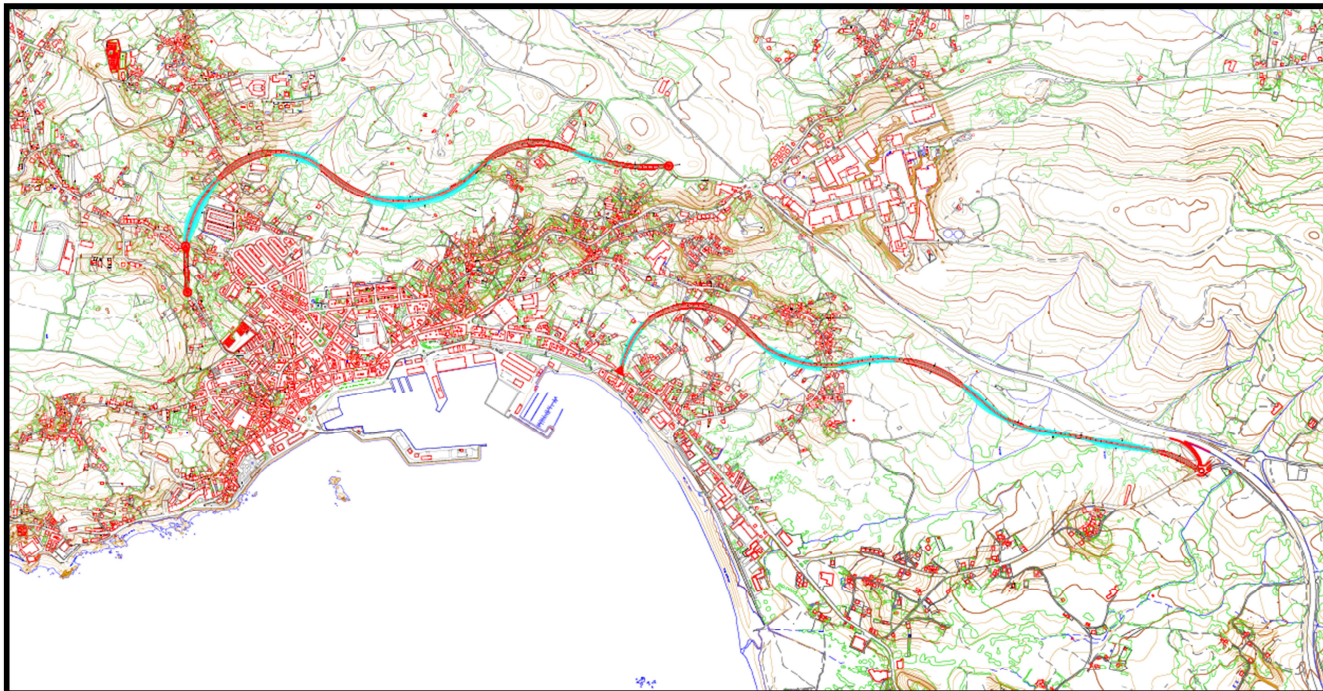




Carretera de Circunvalación al núcleo de Ribeira y Acceso al Puerto (Anteproyecto)



DOCUMENTO 3: PRESUPUESTO

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Grado en Tecnología de la Ingeniería Civil

Trabajo Fin de Grado

ETS. de Ingenieros de Caminos, Canales y

Puertos de A Coruña

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UNIVERSIDADE DA CORUÑA

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1. Mediciones auxiliares del Acceso al Puerto



1.1. Movimiento de tierras

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES * * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
0.000	FIRME	5.437	0.00	0.0	D TIERRA	9.886	0.00	0.0
20.000	FIRME	5.936	113.74	113.7	D TIERRA	41.570	514.56	514.6
40.000	FIRME	5.937	118.73	232.5	D TIERRA	74.820	1163.89	1678.5
60.000	FIRME	5.936	118.73	351.2	D TIERRA	91.087	1659.06	3337.5
80.000	FIRME	5.936	118.72	469.9	D TIERRA	95.510	1865.96	5203.5
100.000	FIRME	5.937	118.73	588.6	D TIERRA	92.823	1883.33	7086.8
120.000	FIRME	5.936	118.73	707.4	D TIERRA	85.048	1778.71	8865.5
140.000	FIRME	5.936	118.72	826.1	D TIERRA	57.075	1421.22	10286.7
142.190	FIRME	5.936	13.00	839.1	D TIERRA	53.420	120.99	10407.7
160.000	FIRME	5.943	105.78	944.9	D TIERRA	30.639	748.54	11156.3
180.000	FIRME	5.950	118.92	1063.8	D TIERRA	12.712	433.51	11589.8
200.000	FIRME	6.062	120.12	1183.9	D TIERRA	0.030	127.42	11717.2
	SUELO SEL 1	0.111	1.11	1.1	TERRAPLEN	0.092	0.92	0.9
220.000	FIRME	6.068	121.29	1305.2	D TIERRA	0.000	0.30	11717.5
	SUELO SEL 1	2.910	30.21	31.3	TERRAPLEN	13.450	135.42	136.3
232.440	FIRME	6.081	75.56	1380.8	SUELO SEL 1	2.911	36.21	67.5
	TERRAPLEN	25.905	244.78	381.1				
240.000	FIRME	6.089	46.00	1426.8	SUELO SEL 1	2.911	22.01	89.6
	TERRAPLEN	33.742	225.46	606.6				
260.000	FIRME	6.103	121.91	1548.7	SUELO SEL 1	2.912	58.23	147.8
	TERRAPLEN	51.148	848.90	1455.5				
280.000	FIRME	6.102	122.05	1670.7	SUELO SEL 1	2.912	58.23	206.0
	TERRAPLEN	70.919	1220.67	2676.1				
300.000	FIRME	6.103	122.05	1792.8	SUELO SEL 1	2.912	58.24	264.3
	TERRAPLEN	92.694	1636.13	4312.3				
320.000	FIRME	6.103	122.05	1914.8	SUELO SEL 1	2.912	58.24	322.5
	TERRAPLEN	126.347	2190.42	6502.7				
340.000	FIRME	6.103	122.05	2036.9	SUELO SEL 1	2.912	58.23	380.7
	TERRAPLEN	171.588	2979.35	9482.0				
360.000	FIRME	6.102	122.05	2158.9	SUELO SEL 1	2.912	58.23	439.0
	TERRAPLEN	155.551	3271.39	12753.4				
380.000	FIRME	6.103	122.05	2281.0	SUELO SEL 1	2.912	58.23	497.2
	TERRAPLEN	162.123	3176.74	15930.2				
400.000	FIRME	6.103	122.05	2403.0	SUELO SEL 1	2.912	58.23	555.4
	TERRAPLEN	117.427	2795.50	18725.7				
420.000	FIRME	6.103	122.05	2525.1	SUELO SEL 1	2.912	58.23	613.7
	TERRAPLEN	55.154	1725.81	20451.5				

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
440.000	FIRME	6.033	121.36	2646.4	D TIERRA	0.230	2.30	11719.8
	SUELO SEL 1	2.561	54.72	668.4	TERRAPLEN	11.849	670.03	21121.5
460.000	FIRME	6.041	120.74	2767.2	D TIERRA	2.785	30.15	11750.0
	SUELO SEL 1	1.230	37.91	706.3	TERRAPLEN	2.044	138.93	21260.5
480.000	FIRME	6.026	120.67	2887.8	D TIERRA	9.792	125.77	11875.7
	SUELO SEL 1	0.000	12.30	718.6	TERRAPLEN	0.000	20.44	21280.9
500.000	FIRME	6.037	120.64	3008.5	D TIERRA	6.068	158.60	12034.3
520.000	FIRME	5.976	120.13	3128.6	D TIERRA	0.884	69.52	12103.9
	SUELO SEL 1	1.467	14.67	733.3	TERRAPLEN	3.474	34.74	21315.6
540.000	FIRME	6.102	120.78	3249.4	D TIERRA	0.000	8.84	12112.7
	SUELO SEL 1	2.912	43.79	777.0	TERRAPLEN	27.947	314.21	21629.8
560.000	FIRME	6.103	122.05	3371.5	SUELO SEL 1	2.912	58.23	835.3
	TERRAPLEN	40.869	688.16	22318.0				
580.000	FIRME	6.103	122.05	3493.5	SUELO SEL 1	2.912	58.23	893.5
	TERRAPLEN	44.924	857.93	23175.9				
600.000	FIRME	6.086	121.88	3615.4	SUELO SEL 1	2.911	58.23	951.7
	TERRAPLEN	41.760	866.84	24042.8				
604.891	FIRME	6.081	29.75	3645.1	SUELO SEL 1	2.911	14.24	966.0
	TERRAPLEN	43.210	207.79	24250.6				
620.000	FIRME	6.065	91.76	3736.9	SUELO SEL 1	2.910	43.98	1010.0
	TERRAPLEN	75.628	897.76	25148.3				
640.000	FIRME	6.062	121.27	3858.2	SUELO SEL 1	2.910	58.20	1068.2
	TERRAPLEN	119.739	1953.67	27102.0				
660.000	FIRME	6.062	121.24	3979.4	SUELO SEL 1	2.910	58.20	1126.4
	TERRAPLEN	68.258	1879.97	28982.0				
680.000	FIRME	6.054	121.16	4100.6	SUELO SEL 1	2.910	58.19	1184.6
	TERRAPLEN	28.018	962.77	29944.7				
695.141	FIRME	5.687	88.89	4189.5	D TIERRA	0.652	4.94	12117.6
	SUELO SEL 1	2.064	37.65	1222.2	TERRAPLEN	8.883	279.36	30224.1
700.000	FIRME	5.974	28.33	4217.8	D TIERRA	2.927	8.70	12126.3
	SUELO SEL 1	1.552	8.78	1231.0	TERRAPLEN	5.590	35.16	30259.3
720.000	FIRME	5.974	119.48	4337.3	D TIERRA	7.559	104.86	12231.2
	SUELO SEL 1	0.540	20.92	1251.9	TERRAPLEN	1.524	71.14	30330.4
740.000	FIRME	5.974	119.48	4456.7	D TIERRA	7.741	153.00	12384.2
	SUELO SEL 1	0.407	9.48	1261.4	TERRAPLEN	1.153	26.76	30357.2
760.000	FIRME	5.974	119.48	4576.2	D TIERRA	2.268	100.09	12484.3
	SUELO SEL 1	1.584	19.91	1281.3	TERRAPLEN	4.656	58.09	30415.3

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
780.000	FIRME	6.049	120.23	4696.5	D TIERRA	0.000	22.68	12507.0
	SUELO SEL 1	2.910	44.94	1326.2	TERRAPLEN	17.622	222.78	30638.0
800.000	FIRME	6.049	120.98	4817.4	SUELO SEL 1	2.910	58.19	1384.4
	TERRAPLEN	32.869	504.91	31143.0				
820.000	FIRME	6.049	120.98	4938.4	SUELO SEL 1	2.910	58.19	1442.6
	TERRAPLEN	58.444	913.13	32056.1				
824.177	FIRME	6.049	25.27	4963.7	SUELO SEL 1	2.910	12.15	1454.8
	TERRAPLEN	65.945	259.79	32315.9				
840.000	FIRME	6.055	95.76	5059.4	SUELO SEL 1	2.910	46.04	1500.8
	TERRAPLEN	96.743	1287.10	33603.0				
860.000	FIRME	6.063	121.17	5180.6	SUELO SEL 1	2.910	58.20	1559.0
	TERRAPLEN	141.007	2377.49	35980.5				
880.000	FIRME	6.061	121.24	5301.9	SUELO SEL 1	2.910	58.20	1617.2
	TERRAPLEN	159.709	3007.15	38987.6				
900.000	FIRME	6.351	124.13	5426.0	SUELO SEL 1	3.085	59.95	1677.1
	TERRAPLEN	182.352	3420.61	42408.2				
914.427	FIRME	6.561	93.14	5519.1	SUELO SEL 1	3.211	45.42	1722.6
	TERRAPLEN	181.111	2621.85	45030.1				
920.000	FIRME	6.642	36.79	5555.9	SUELO SEL 1	3.260	18.03	1740.6
	TERRAPLEN	178.025	1000.73	46030.8				
940.000	FIRME	6.935	135.78	5691.7	SUELO SEL 1	3.435	66.95	1807.6
	TERRAPLEN	146.594	3246.20	49277.0				
960.000	FIRME	7.230	141.65	5833.3	SUELO SEL 1	3.610	70.45	1878.0
	TERRAPLEN	79.830	2264.24	51541.2				
980.000	FIRME	7.517	147.47	5980.8	SUELO SEL 1	3.785	73.95	1951.9
	TERRAPLEN	18.332	981.61	52522.9				
994.427	FIRME	7.549	108.68	6089.5	D TIERRA	11.684	84.29	12591.3
	SUELO SEL 1	0.000	27.30	1979.3	TERRAPLEN	0.000	132.24	52655.1
1000.000	FIRME	7.691	42.47	6132.0	D TIERRA	25.543	103.73	12695.0
1020.000	FIRME	7.691	153.81	6285.8	D TIERRA	88.489	1140.32	13835.3
1040.000	FIRME	7.691	153.81	6439.6	D TIERRA	150.562	2390.51	16225.8
1060.000	FIRME	7.691	153.81	6593.4	D TIERRA	182.210	3327.72	19553.6
1080.000	FIRME	7.691	153.82	6747.2	D TIERRA	202.203	3844.14	23397.7
1100.000	FIRME	7.691	153.82	6901.0	D TIERRA	212.389	4145.92	27543.6
1120.000	FIRME	7.691	153.82	7054.8	D TIERRA	218.721	4311.09	31854.7
1140.000	FIRME	7.691	153.82	7208.7	D TIERRA	224.798	4435.19	36289.9
1160.000	FIRME	7.691	153.82	7362.5	D TIERRA	213.842	4386.41	40676.3
1180.000	FIRME	7.691	153.82	7516.3	D TIERRA	163.688	3775.30	44451.6

***** MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
1200.000	FIRME	7.691	153.81	7670.1	D TIERRA	106.267	2699.55	47151.1
1220.000	FIRME	7.691	153.81	7823.9	D TIERRA	50.249	1565.16	48716.3
1240.000	FIRME	7.691	153.82	7977.8	D TIERRA	23.647	738.96	49455.3
1260.000	FIRME	7.731	154.22	8132.0	D TIERRA	5.062	287.09	49742.4
	SUELO SEL 1	0.172	1.72	1981.0	TERRAPLEN	0.273	2.73	52657.8
1280.000	FIRME	7.804	155.35	8287.3	D TIERRA	0.000	50.62	49793.0
	SUELO SEL 1	3.960	41.32	2022.3	TERRAPLEN	16.089	163.62	52821.4
1300.000	FIRME	7.804	156.08	8443.4	SUELO SEL 1	3.960	79.20	2101.5
	TERRAPLEN	33.482	495.71	53317.2				
1320.000	FIRME	7.803	156.07	8599.5	SUELO SEL 1	3.959	79.19	2180.7
	TERRAPLEN	43.843	773.25	54090.4				
1340.000	FIRME	7.804	156.07	8755.5	SUELO SEL 1	3.960	79.19	2259.9
	TERRAPLEN	54.220	980.63	55071.0				
1360.000	FIRME	7.804	156.08	8911.6	SUELO SEL 1	3.960	79.20	2339.1
	TERRAPLEN	69.376	1235.96	56307.0				
1360.692	FIRME	7.804	5.40	8917.0	SUELO SEL 1	3.960	2.74	2341.8
	TERRAPLEN	69.975	48.22	56355.2				
1380.000	FIRME	7.811	150.74	9067.8	SUELO SEL 1	3.960	76.45	2418.3
	TERRAPLEN	87.179	1517.16	57872.4				
1400.000	FIRME	7.812	156.23	9224.0	SUELO SEL 1	3.960	79.19	2497.5
	TERRAPLEN	100.852	1880.31	59752.7				
1420.000	FIRME	7.810	156.22	9380.2	SUELO SEL 1	3.960	79.19	2576.7
	TERRAPLEN	119.430	2202.82	61955.5				
1440.000	FIRME	7.809	156.19	9536.4	SUELO SEL 1	3.960	79.20	2655.9
	TERRAPLEN	142.713	2621.43	64576.9				
1440.692	FIRME	7.809	5.40	9541.8	SUELO SEL 1	3.960	2.74	2658.6
	TERRAPLEN	143.530	99.04	64676.0				
1460.000	FIRME	7.810	150.78	9692.6	SUELO SEL 1	3.960	76.46	2735.1
	TERRAPLEN	165.608	2984.42	67660.4				
1480.000	FIRME	7.813	156.23	9848.8	SUELO SEL 1	3.959	79.19	2814.3
	TERRAPLEN	160.577	3261.85	70922.2				
1500.000	FIRME	7.473	152.86	10001.7	SUELO SEL 1	3.960	79.19	2893.4
	TERRAPLEN	83.579	2441.56	73363.8				
1512.942	FIRME	7.470	96.70	10098.4	SUELO SEL 1	3.960	51.25	2944.7
	TERRAPLEN	83.876	1083.60	74447.4				
1520.000	FIRME	7.470	52.73	10151.1	SUELO SEL 1	3.960	27.95	2972.6
	TERRAPLEN	84.198	593.13	75040.5				

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
1540.000	FIRME	7.470	149.41	10300.5	SUELO SEL 1	3.960	79.19	3051.8
	TERRAPLEN	96.349	1805.46	76846.0				
1560.000	FIRME	7.591	150.61	10451.1	SUELO SEL 1	3.959	79.19	3131.0
	TERRAPLEN	171.984	2683.33	79529.3				
1580.000	FIRME	7.591	151.82	10602.9	SUELO SEL 1	3.960	79.19	3210.2
	TERRAPLEN	150.784	3227.68	82757.0				
1600.000	FIRME	7.799	153.90	10756.8	SUELO SEL 1	3.959	79.19	3289.4
	TERRAPLEN	157.868	3086.53	85843.5				
1620.000	FIRME	7.799	155.97	10912.8	SUELO SEL 1	3.960	79.19	3368.6
	TERRAPLEN	160.424	3182.92	89026.4				
1640.000	FIRME	7.799	155.98	11068.8	SUELO SEL 1	3.960	79.19	3447.8
	TERRAPLEN	156.932	3173.56	92200.0				
1660.000	FIRME	7.799	155.98	11224.8	SUELO SEL 1	3.959	79.19	3527.0
	TERRAPLEN	146.610	3035.42	95235.4				
1680.000	FIRME	7.799	155.97	11380.7	SUELO SEL 1	3.960	79.19	3606.2
	TERRAPLEN	190.749	3373.59	98609.0				
1700.000	FIRME	7.800	155.98	11536.7	SUELO SEL 1	3.960	79.19	3685.4
	TERRAPLEN	203.235	3939.84	102548.8				
1720.000	FIRME	7.800	155.99	11692.7	SUELO SEL 1	3.960	79.19	3764.6
	TERRAPLEN	190.963	3941.97	106490.8				
1740.000	FIRME	7.799	155.98	11848.7	SUELO SEL 1	3.959	79.19	3843.8
	TERRAPLEN	147.864	3388.26	109879.1				
1760.000	FIRME	7.799	155.98	12004.7	SUELO SEL 1	3.960	79.19	3922.9
	TERRAPLEN	96.925	2447.89	112327.0				
1780.000	FIRME	7.800	155.99	12160.7	SUELO SEL 1	3.960	79.19	4002.1
	TERRAPLEN	30.321	1272.46	113599.4				
1800.000	FIRME	7.724	155.23	12315.9	D TIERRA	2.221	22.21	49815.2
	SUELO SEL 1	2.678	66.37	4068.5	TERRAPLEN	11.292	416.13	114015.6
1809.046	FIRME	7.724	69.87	12385.8	D TIERRA	4.908	32.24	49847.4
	SUELO SEL 1	1.960	20.98	4089.5	TERRAPLEN	6.830	81.96	114097.5
1820.000	FIRME	7.732	84.65	12470.4	D TIERRA	10.179	82.63	49930.1
	SUELO SEL 1	0.816	15.20	4104.7	TERRAPLEN	1.908	47.86	114145.4
1840.000	FIRME	7.700	154.32	12624.7	D TIERRA	24.898	350.78	50280.8
	SUELO SEL 1	0.000	8.16	4112.9	TERRAPLEN	0.000	19.08	114164.5
1860.000	FIRME	7.699	153.99	12778.7	D TIERRA	44.291	691.89	50972.7
1880.000	FIRME	7.698	153.97	12932.7	D TIERRA	81.927	1262.18	52234.9
1881.296	FIRME	7.698	9.98	12942.7	D TIERRA	84.795	108.04	52342.9
1900.000	FIRME	7.699	144.00	13086.7	D TIERRA	122.687	1940.37	54283.3

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PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
1920.000	FIRME	7.700	153.99	13240.7	D TIERRA	141.299	2639.86	56923.2
1940.000	FIRME	7.693	153.93	13394.6	D TIERRA	144.741	2860.40	59783.6
1959.167	FIRME	7.684	147.36	13542.0	D TIERRA	169.925	3015.60	62799.2
1960.000	FIRME	7.684	6.40	13548.4	D TIERRA	169.714	141.46	62940.6
1980.000	FIRME	7.684	153.68	13702.0	D TIERRA	158.959	3286.74	66227.4
2000.000	FIRME	7.684	153.68	13855.7	D TIERRA	146.544	3055.04	69282.4
2020.000	FIRME	7.684	153.68	14009.4	D TIERRA	146.612	2931.56	72214.0
2040.000	FIRME	7.684	153.68	14163.1	D TIERRA	158.613	3052.25	75266.2
2060.000	FIRME	7.684	153.68	14316.8	D TIERRA	154.725	3133.37	78399.6
2080.000	FIRME	7.684	153.68	14470.5	D TIERRA	152.318	3070.43	81470.0
2100.000	FIRME	7.684	153.68	14624.1	D TIERRA	145.705	2980.24	84450.3
2120.000	FIRME	7.684	153.68	14777.8	D TIERRA	135.589	2812.95	87263.2
2140.000	FIRME	7.684	153.68	14931.5	D TIERRA	134.474	2700.63	89963.8
2160.000	FIRME	7.684	153.68	15085.2	D TIERRA	133.325	2677.99	92641.8
2180.000	FIRME	7.685	153.69	15238.9	D TIERRA	120.655	2539.80	95181.6
2200.000	FIRME	7.684	153.69	15392.5	D TIERRA	100.103	2207.58	97389.2
2220.000	FIRME	7.684	153.68	15546.2	D TIERRA	76.732	1768.35	99157.6
2240.000	FIRME	7.684	153.68	15699.9	D TIERRA	46.674	1234.05	100391.6
2260.000	FIRME	7.684	153.68	15853.6	D TIERRA	26.415	730.89	101122.5
2280.000	FIRME	7.684	153.68	16007.3	D TIERRA	26.530	529.46	101652.0
2300.000	FIRME	7.684	153.68	16161.0	D TIERRA	22.778	493.08	102145.1
2320.000	FIRME	7.628	153.12	16314.1	D TIERRA	11.749	345.27	102490.3
2340.000	FIRME	7.691	153.19	16467.3	D TIERRA	1.000	127.49	102617.8
	SUELO SEL 1	1.705	17.05	4129.9	TERRAPLEN	1.370	13.70	114178.2
2360.000	FIRME	7.796	154.88	16622.1	D TIERRA	0.000	10.00	102627.8
	SUELO SEL 1	3.959	56.64	4186.5	TERRAPLEN	13.364	147.34	114325.5
2380.000	FIRME	7.796	155.93	16778.1	SUELO SEL 1	3.960	79.19	4265.7
	TERRAPLEN	30.617	439.81	114765.3				
2400.000	FIRME	7.796	155.93	16934.0	SUELO SEL 1	3.960	79.19	4344.9
	TERRAPLEN	45.647	762.64	115527.9				
2420.000	FIRME	7.796	155.93	17089.9	SUELO SEL 1	3.960	79.19	4424.1
	TERRAPLEN	43.924	895.71	116423.7				
2426.880	FIRME	7.797	53.64	17143.6	SUELO SEL 1	3.960	27.24	4451.4
	TERRAPLEN	40.714	291.16	116714.8				
2440.000	FIRME	7.613	101.09	17244.7	SUELO SEL 1	3.846	51.20	4502.6
	TERRAPLEN	26.813	442.98	117157.8				
2460.000	FIRME	7.332	149.45	17394.1	SUELO SEL 1	3.671	75.17	4577.7
	TERRAPLEN	18.246	450.58	117608.4				

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
2480.000	FIRME	7.038	143.70	17537.8	SUELO SEL 1	3.496	71.67	4649.4
	TERRAPLEN	8.976	272.22	117880.6				
2500.000	FIRME	6.761	137.98	17675.8	SUELO SEL 1	3.319	68.15	4717.6
	TERRAPLEN	6.166	151.42	118032.0				
2504.750	FIRME	6.696	31.96	17707.8	SUELO SEL 1	3.218	15.53	4733.1
	TERRAPLEN	5.365	27.39	118059.4				
2520.000	FIRME	6.443	100.19	17807.9	D TIERRA	0.385	2.94	102630.8
	SUELO SEL 1	1.989	39.71	4772.8	TERRAPLEN	1.511	52.43	118111.8
2540.000	FIRME	6.142	125.85	17933.8	D TIERRA	3.281	36.66	102667.4
	SUELO SEL 1	0.000	19.89	4792.7	TERRAPLEN	0.042	15.53	118127.4
2546.944	FIRME	6.025	42.24	17976.0	D TIERRA	5.606	30.86	102698.3
	TERRAPLEN	0.000	0.15	118127.5				

 * * * RESUMEN DE VOLUMENES TOTALES * * *

MATERIAL	VOLUMEN
FIRME	17976.0
D TIERRA	102698.3
TERRAPLEN	118127.5



1.2. Desbroces

 D E S B R O C E S

PK inicial : 0.000
 PK final : 2546.944

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	PLANTA	REAL	PLANTA	REAL				
0.000	12.202	12.292	0.000	0.000	0.000	0.000	0.000	0.000
20.000	15.915	16.055	0.000	0.000	281.166	0.000	283.475	0.000
40.000	17.869	18.137	0.000	0.000	619.004	0.000	625.395	0.000
60.000	18.856	19.152	0.000	0.000	986.254	0.000	998.283	0.000
80.000	18.985	19.173	0.000	0.000	1364.661	0.000	1381.537	0.000
100.000	18.849	18.958	0.000	0.000	1742.994	0.000	1762.845	0.000
120.000	18.302	18.417	0.000	0.000	2114.502	0.000	2136.586	0.000
140.000	16.674	16.800	0.000	0.000	2464.259	0.000	2488.755	0.000
142.190	16.418	16.550	0.000	0.000	2500.495	0.000	2525.273	0.000
160.000	15.216	15.311	0.000	0.000	2782.195	0.000	2808.998	0.000
180.000	13.968	13.982	0.000	0.000	3074.028	0.000	3101.930	0.000
200.000	4.592	4.594	8.413	8.417	3259.627	84.132	3287.692	84.175
220.000	0.000	0.000	16.357	16.359	3305.550	331.831	3333.634	331.937
232.440	0.000	0.000	18.435	18.437	3305.550	548.235	3333.634	548.365
240.000	0.000	0.000	19.649	19.650	3305.550	692.192	3333.634	692.332
260.000	0.000	0.000	22.197	22.199	3305.550	1110.647	3333.634	1110.820
280.000	0.000	0.000	24.720	24.721	3305.550	1579.811	3333.634	1580.020
300.000	0.000	0.000	27.301	27.303	3305.550	2100.023	3333.634	2100.263
320.000	0.000	0.000	31.430	31.451	3305.550	2687.338	3333.634	2687.806
340.000	0.000	0.000	33.447	33.553	3305.550	3336.106	3333.634	3337.853
360.000	0.000	0.000	33.585	33.832	3305.550	4006.424	3333.634	4011.710
380.000	0.000	0.000	33.080	34.059	3305.550	4673.072	3333.634	4690.627
400.000	0.000	0.000	30.704	31.977	3305.550	5310.904	3333.634	5350.993
420.000	0.000	0.000	26.607	27.713	3305.550	5884.011	3333.634	5947.895
440.000	1.566	1.588	15.607	15.944	3321.211	6306.151	3349.517	6384.466
460.000	6.476	6.528	8.407	8.473	3401.631	6546.286	3430.675	6628.643
480.000	13.535	13.602	0.000	0.000	3601.746	6630.351	3631.973	6713.377
500.000	13.405	13.438	0.000	0.000	3871.150	6630.351	3902.373	6713.377
520.000	4.415	4.426	10.051	10.166	4049.345	6730.864	4081.006	6815.038
540.000	0.000	0.000	19.099	19.316	4093.490	7022.369	4125.262	7109.853
560.000	0.000	0.000	20.637	21.023	4093.490	7419.729	4125.262	7513.239
580.000	0.000	0.000	21.426	21.617	4093.490	7840.356	4125.262	7939.642
600.000	0.000	0.000	21.661	21.857	4093.490	8271.223	4125.262	8374.389
604.891	0.000	0.000	21.762	21.952	4093.490	8377.414	4125.262	8481.524
620.000	0.000	0.000	27.074	27.543	4093.490	8746.345	4125.262	8855.433
640.000	0.000	0.000	29.908	30.239	4093.490	9316.158	4125.262	9433.252
660.000	0.000	0.000	25.861	26.446	4093.490	9873.841	4125.262	10000.095

Istram v.11.14.02.13 EDUCACIONAL 2000
 PROYECTO :
 EJE: 1: ACCESO PUERTO: ALTERNATIVA 3

pagina 1

 D E S B R O C E S

PK inicial : 0.000
 PK final : 2546.944

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	PLANTA	REAL	PLANTA	REAL				
680.000	0.000	0.000	20.406	20.806	4093.490	10336.505	4125.262	10472.609
695.141	2.620	2.640	12.698	12.826	4113.323	10587.116	4145.249	10727.218
700.000	5.895	5.941	10.080	10.159	4134.010	10642.456	4166.096	10783.062
720.000	9.548	9.614	5.476	5.514	4288.439	10798.017	4321.638	10939.792
740.000	9.924	9.981	4.856	4.884	4483.153	10901.339	4517.583	11043.772
760.000	5.565	5.591	9.897	9.945	4638.036	11048.872	4673.305	11192.062
780.000	0.000	0.000	16.937	17.025	4693.682	11317.216	4729.218	11461.757
800.000	0.000	0.000	19.393	19.454	4693.682	11680.519	4729.218	11826.544
820.000	0.000	0.000	22.082	22.224	4693.682	12095.268	4729.218	12243.325
824.177	0.000	0.000	23.159	23.334	4693.682	12189.753	4729.218	12338.473
840.000	0.000	0.000	27.198	27.513	4693.682	12588.149	4729.218	12740.747
860.000	0.000	0.000	31.092	31.515	4693.682	13171.044	4729.218	13331.021
880.000	0.000	0.000	32.712	33.167	4693.682	13809.083	4729.218	13977.844
900.000	0.000	0.000	34.777	35.211	4693.682	14483.980	4729.218	14661.626
914.427	0.000	0.000	33.767	34.118	4693.682	14978.427	4729.218	15161.731
920.000	0.000	0.000	32.959	33.279	4693.682	15164.360	4729.218	15349.535
940.000	0.000	0.000	30.707	30.953	4693.682	15801.023	4729.218	15991.856
960.000	0.000	0.000	26.721	26.727	4693.682	16375.299	4729.218	16568.651
980.000	0.000	0.000	19.385	19.387	4693.682	16836.351	4729.218	17029.788
994.427	16.199	16.201	0.000	0.000	4810.532	16976.182	4846.083	17169.636
1000.000	18.025	18.028	0.000	0.000	4905.898	16976.182	4941.460	17169.636
1020.000	21.148	21.179	0.000	0.000	5297.631	16976.182	5333.529	17169.636
1040.000	23.939	24.049	0.000	0.000	5748.502	16976.182	5785.814	17169.636
1060.000	25.127	25.239	0.000	0.000	6239.164	16976.182	6278.695	17169.636
1080.000	26.051	26.108	0.000	0.000	6750.943	16976.182	6792.167	17169.636
1100.000	26.436	26.488	0.000	0.000	7275.814	16976.182	7318.131	17169.636
1120.000	26.654	26.695	0.000	0.000	7806.714	16976.182	7849.965	17169.636
1140.000	26.768	26.829	0.000	0.000	8340.936	16976.182	8385.201	17169.636
1160.000	26.067	26.257	0.000	0.000	8869.287	16976.182	8916.055	17169.636
1180.000	24.533	24.793	0.000	0.000	9375.280	16976.182	9426.550	17169.636
1200.000	22.103	22.310	0.000	0.000	9841.638	16976.182	9897.584	17169.636
1220.000	19.439	19.567	0.000	0.000	10257.056	16976.182	10316.363	17169.636
1240.000	17.834	17.879	0.000	0.000	10629.783	16976.182	10690.826	17169.636
1260.000	12.618	12.629	4.314	4.318	10934.307	17019.318	10995.909	17212.819
1280.000	0.000	0.000	19.375	19.385	11060.490	17256.207	11122.204	17449.856
1300.000	0.000	0.000	21.846	21.867	11060.490	17668.420	11122.204	17862.383
1320.000	0.000	0.000	23.798	23.823	11060.490	18124.861	11122.204	18319.287

 D E S B R O C E S

PK inicial : 0.000
 PK final : 2546.944

P.K.	ANCHOS OCUPADOS		AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL			
	DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN		
1340.000	0.000	0.000	24.924	24.938	11060.490	18612.075	11122.204	18806.902
1360.000	0.000	0.000	26.614	26.622	11060.490	19127.451	11122.204	19322.510
1360.692	0.000	0.000	26.684	26.692	11060.490	19145.892	11122.204	19340.957
1380.000	0.000	0.000	28.245	28.256	11060.490	19676.172	11122.204	19871.427
1400.000	0.000	0.000	29.512	29.534	11060.490	20253.743	11122.204	20449.334
1420.000	0.000	0.000	31.673	31.708	11060.490	20865.596	11122.204	21061.757
1440.000	0.000	0.000	33.887	33.929	11060.490	21521.196	11122.204	21718.122
1440.692	0.000	0.000	33.950	33.992	11060.490	21544.668	11122.204	21741.623
1460.000	0.000	0.000	35.765	35.820	11060.490	22217.696	11122.204	22415.587
1480.000	0.000	0.000	35.412	35.490	11060.490	22929.464	11122.204	23128.688
1500.000	0.000	0.000	15.000	15.049	11060.490	23433.585	11122.204	23634.079
1512.942	0.000	0.000	15.000	15.060	11060.490	23627.715	11122.204	23828.913
1520.000	0.000	0.000	15.000	15.058	11060.490	23733.585	11122.204	23935.200
1540.000	0.000	0.000	15.000	15.044	11060.490	24033.585	11122.204	24236.222
1560.000	0.000	0.000	28.907	28.983	11060.490	24472.658	11122.204	24676.491
1580.000	0.000	0.000	28.308	28.374	11060.490	25044.812	11122.204	25250.057
1600.000	0.000	0.000	35.080	35.109	11060.490	25678.698	11122.204	25884.885
1620.000	0.000	0.000	35.526	35.536	11060.490	26384.762	11122.204	26591.337
1640.000	0.000	0.000	34.417	34.477	11060.490	27084.191	11122.204	27291.462
1660.000	0.000	0.000	35.505	35.631	11060.490	27783.414	11122.204	27992.541
1680.000	0.000	0.000	37.375	37.478	11060.490	28512.220	11122.204	28723.633
1700.000	0.000	0.000	37.055	37.151	11060.490	29256.523	11122.204	29469.922
1720.000	0.000	0.000	38.045	38.127	11060.490	30007.519	11122.204	30222.696
1740.000	0.000	0.000	34.624	34.782	11060.490	30734.209	11122.204	30951.779
1760.000	0.000	0.000	29.690	29.778	11060.490	31377.356	11122.204	31597.380
1780.000	0.000	0.000	21.995	22.039	11060.490	31894.209	11122.204	32115.558
1800.000	5.444	5.472	14.675	14.752	11114.930	32260.910	11176.929	32483.473
1809.046	8.054	8.095	11.594	11.657	11175.982	32379.726	11238.296	32602.922
1820.000	12.063	12.120	6.621	6.656	11286.162	32479.489	11349.014	32703.223
1840.000	17.979	18.049	0.000	0.000	11586.577	32545.697	11650.705	32769.783
1860.000	19.171	19.228	0.000	0.000	11958.072	32545.697	12023.480	32769.783
1880.000	21.011	21.070	0.000	0.000	12359.886	32545.697	12426.461	32769.783
1881.296	21.136	21.190	0.000	0.000	12387.197	32545.697	12453.846	32769.783
1900.000	22.777	22.824	0.000	0.000	12797.868	32545.697	12865.467	32769.783
1920.000	23.595	23.652	0.000	0.000	13261.592	32545.697	13330.230	32769.783
1940.000	23.941	23.974	0.000	0.000	13736.951	32545.697	13806.492	32769.783
1959.167	24.766	24.777	0.000	0.000	14203.736	32545.697	14273.698	32769.783

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 * * * D E S B R O C E S * * *
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PK inicial : 0.000
 PK final : 2546.944

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	PLANTA	REAL	PLANTA	REAL				
1960.000	24.757	24.768	0.000	0.000	14224.362	32545.697	14294.334	32769.783
1980.000	24.322	24.330	0.000	0.000	14715.150	32545.697	14785.310	32769.783
2000.000	23.821	23.827	0.000	0.000	15196.580	32545.697	15266.880	32769.783
2020.000	23.800	23.823	0.000	0.000	15672.792	32545.697	15743.383	32769.783
2040.000	24.303	24.329	0.000	0.000	16153.823	32545.697	16224.908	32769.783
2060.000	24.167	24.194	0.000	0.000	16638.524	32545.697	16710.145	32769.783
2080.000	24.048	24.084	0.000	0.000	17120.670	32545.697	17192.926	32769.783
2100.000	23.738	23.756	0.000	0.000	17598.527	32545.697	17671.325	32769.783
2120.000	23.418	23.455	0.000	0.000	18070.085	32545.697	18143.438	32769.783
2140.000	23.313	23.374	0.000	0.000	18537.389	32545.697	18611.730	32769.783
2160.000	23.242	23.289	0.000	0.000	19002.933	32545.697	19078.365	32769.783
2180.000	22.646	22.676	0.000	0.000	19461.809	32545.697	19538.018	32769.783
2200.000	21.692	21.705	0.000	0.000	19905.193	32545.697	19981.827	32769.783
2220.000	20.631	20.636	0.000	0.000	20328.428	32545.697	20405.237	32769.783
2240.000	19.095	19.112	0.000	0.000	20725.693	32545.697	20802.713	32769.783
2260.000	18.124	18.178	0.000	0.000	21097.885	32545.697	21175.611	32769.783
2280.000	18.084	18.136	0.000	0.000	21459.966	32545.697	21538.754	32769.783
2300.000	17.840	17.875	0.000	0.000	21819.206	32545.697	21898.868	32769.783
2320.000	16.276	16.285	0.000	0.000	22160.363	32545.697	22240.471	32769.783
2340.000	6.134	6.135	10.532	10.533	22384.462	32651.021	22464.673	32875.113
2360.000	0.000	0.000	19.161	19.163	22445.800	32947.955	22526.022	33172.070
2380.000	0.000	0.000	21.613	21.615	22445.800	33355.695	22526.022	33579.843
2400.000	0.000	0.000	23.649	23.650	22445.800	33808.317	22526.022	34032.486
2420.000	0.000	0.000	23.479	23.482	22445.800	34279.597	22526.022	34503.802
2426.880	0.000	0.000	23.121	23.126	22445.800	34439.900	22526.022	34664.133
2440.000	0.000	0.000	21.239	21.255	22445.800	34730.899	22526.022	34955.271
2460.000	0.000	0.000	19.196	19.250	22445.800	35135.250	22526.022	35360.315
2480.000	0.000	0.000	17.279	17.303	22445.800	35500.004	22526.022	35725.838
2500.000	0.000	0.000	16.129	16.145	22445.800	35834.085	22526.022	36060.319
2504.750	0.000	0.000	15.806	15.825	22445.800	35909.930	22526.022	36136.248
2520.000	3.176	3.181	11.122	11.140	22470.020	36115.256	22550.280	36341.853
2540.000	12.019	12.037	1.612	1.614	22621.974	36242.599	22702.461	36469.394
2546.944	13.222	13.242	0.000	0.000	22709.610	36248.195	22790.228	36474.998



1.3. Áreas de expropiación

 AREAS DE EXPROPIACION

P.K.	X Iz	Y Iz	Z Iz	Dis. eje	X Dr	Y Dr	Z Dr	Dis. eje	Ancho	AREA PARCIAL	AREA ACUMULA
0.000	501480.439	4714950.320	68.023	-8.023	501466.844	4714962.424	70.231	10.179	18.202	0.000	0.000
20.000	501469.785	4714933.748	68.948	-10.600	501452.710	4714947.485	72.026	11.315	21.915	401.167	401.167
40.000	501458.557	4714917.849	69.882	-11.332	501439.235	4714931.863	74.052	12.537	23.869	457.838	859.005
60.000	501447.904	4714901.606	70.357	-11.759	501427.078	4714915.175	74.739	13.097	24.856	487.250	1346.255
80.000	501437.922	4714884.964	70.307	-11.996	501416.333	4714897.540	73.876	12.989	24.985	498.407	1844.663
100.000	501428.664	4714867.920	70.129	-12.090	501406.594	4714879.339	72.841	12.758	24.849	498.334	2342.996
120.000	501419.971	4714850.576	68.787	-11.855	501397.856	4714860.651	71.582	12.447	24.302	491.508	2834.505
140.000	501411.630	4714833.015	66.866	-11.059	501390.553	4714841.372	69.438	11.614	22.674	469.757	3304.262
142.190	501410.733	4714831.079	66.684	-10.933	501389.848	4714839.228	69.131	11.485	22.418	49.376	3353.638
160.000	501404.178	4714814.969	65.172	-10.320	501384.120	4714821.881	67.566	10.896	21.216	388.561	3742.199
180.000	501397.747	4714796.399	64.161	-9.931	501378.655	4714802.248	65.063	10.036	19.968	411.833	4154.032
200.000	501391.854	4714777.524	62.903	-9.574	501373.556	4714782.663	63.345	9.431	19.006	389.732	4543.764
220.000	501388.198	4714757.923	61.311	-11.212	501366.600	4714763.699	61.676	11.144	22.357	413.624	4957.388
232.440	501386.042	4714745.649	60.327	-12.283	501362.424	4714751.912	60.613	12.152	24.435	291.044	5248.432
240.000	501384.692	4714738.186	59.740	-12.890	501359.899	4714744.760	59.971	12.759	25.649	189.317	5437.749
260.000	501380.833	4714718.518	58.327	-14.201	501353.578	4714725.745	58.580	13.996	28.197	538.455	5976.204
280.000	501376.861	4714698.880	57.036	-15.395	501347.168	4714706.753	57.191	15.324	30.720	589.165	6565.368
300.000	501372.947	4714679.227	55.720	-16.648	501340.757	4714687.762	55.727	16.653	33.301	640.213	7205.581
320.000	501369.589	4714659.426	53.966	-18.478	501333.409	4714669.019	53.607	18.952	37.430	707.315	7912.896
340.000	501366.475	4714639.561	51.970	-20.559	501328.346	4714649.671	53.775	18.888	39.447	768.768	8681.665
360.000	501363.375	4714619.692	50.111	-22.655	501325.112	4714629.837	54.830	16.930	39.585	790.319	9471.983
380.000	501360.502	4714599.762	48.034	-24.986	501322.728	4714609.778	56.755	14.094	39.080	786.649	10258.632
400.000	501355.188	4714580.480	47.341	-24.791	501319.710	4714589.887	57.342	11.913	36.704	757.832	11016.464
420.000	501347.343	4714561.869	48.050	-21.978	501315.825	4714570.226	57.344	10.629	32.607	693.107	11709.571
440.000	501334.632	4714544.548	52.971	-14.131	501312.233	4714550.488	57.818	9.042	23.173	557.801	12267.373
460.000	501326.396	4714526.041	55.180	-10.913	501306.211	4714531.393	57.819	9.969	20.883	440.556	12707.929
480.000	501319.705	4714507.124	55.821	-9.294	501300.822	4714512.131	57.744	10.241	19.535	404.180	13112.109
500.000	501314.687	4714487.763	55.323	-9.406	501295.931	4714492.737	56.704	9.999	19.405	389.404	13501.513
520.000	501311.669	4714467.873	53.105	-11.586	501291.887	4714473.118	55.602	8.879	20.466	398.708	13900.222
540.000	501309.562	4714447.740	50.615	-14.710	501285.301	4714454.173	54.389	10.389	25.099	455.650	14355.872
560.000	501305.863	4714428.030	49.272	-16.186	501280.116	4714434.857	54.027	10.451	26.637	517.360	14873.232
580.000	501300.413	4714408.784	48.920	-15.850	501273.903	4714415.813	52.523	11.576	27.426	540.627	15413.859
600.000	501295.478	4714389.401	48.207	-16.048	501268.741	4714396.491	51.893	11.613	27.661	550.868	15964.727
604.891	501294.219	4714384.675	48.112	-16.042	501267.384	4714391.790	51.670	11.720	27.762	135.537	16100.264
620.000	501294.473	4714368.910	44.997	-20.344	501262.531	4714377.488	50.577	12.730	33.074	459.585	16559.849
640.000	501290.088	4714349.072	44.186	-21.377	501255.542	4714358.866	49.178	14.531	35.908	689.814	17249.662
660.000	501283.252	4714329.696	44.547	-20.323	501252.826	4714339.149	50.577	11.538	31.861	677.684	17927.346
680.000	501273.233	4714311.243	46.517	-16.583	501248.316	4714319.983	51.507	9.822	26.406	582.664	18510.011
695.141	501264.325	4714297.852	48.936	-12.872	501244.466	4714305.601	52.047	8.446	21.318	361.291	18871.302
700.000	501261.626	4714293.534	49.655	-11.957	501241.252	4714301.770	52.536	10.019	21.976	105.182	18976.483
720.000	501252.290	4714275.168	50.606	-10.698	501233.217	4714284.011	53.084	10.325	21.023	429.990	19406.473
740.000	501242.991	4714256.867	50.834	-10.472	501224.599	4714266.539	53.058	10.308	20.780	418.037	19824.510
760.000	501233.910	4714238.403	50.248	-11.543	501215.438	4714249.329	52.359	9.918	21.462	422.418	20246.928
780.000	501224.418	4714220.021	49.279	-13.248	501205.284	4714232.671	51.547	9.689	22.937	443.990	20690.917
800.000	501213.461	4714202.441	48.693	-14.321	501193.005	4714217.486	50.759	11.072	25.933	483.304	21174.221
820.000	501202.044	4714185.032	47.806	-15.958	501180.281	4714202.780	50.241	12.124	28.082	534.750	21708.971
824.177	501199.925	4714181.144	47.337	-16.796	501177.522	4714199.807	50.141	12.362	29.519	119.547	21828.518
840.000	501191.482	4714166.653	45.265	-19.892	501166.759	4714188.808	49.755	13.306	33.198	493.334	22321.853
860.000	501179.127	4714149.805	43.534	-22.325	501152.405	4714175.529	49.056	14.767	37.092	702.895	23024.748
880.000	501165.291	4714134.575	42.950	-23.191	501138.070	4714162.101	48.790	15.522	38.712	758.040	23782.787

 * * * AREAS DE EXPROPIACION * * *

P.K.	X Iz	Y Iz	Z Iz	Dis. eje	X Dr	Y Dr	Z Dr	Dis. eje	Ancho	AREA PARCIAL	AREA ACUMULA
900.000	501151.533	4714119.577	42.621	-24.337	501123.255	4714148.957	48.415	16.440	40.777	794.898	24577.685
914.427	501140.036	4714110.622	44.085	-22.844	501112.542	4714139.354	48.154	16.923	39.767	581.009	25158.693
920.000	501135.297	4714107.526	45.113	-21.804	501108.351	4714135.663	48.053	17.155	38.959	219.371	25378.065
940.000	501119.628	4714095.196	46.865	-19.811	501094.033	4714121.508	48.319	16.896	36.707	756.663	26134.728
960.000	501103.659	4714083.363	48.929	-17.000	501080.431	4714106.408	48.650	15.721	32.721	694.277	26829.005
980.000	501087.678	4714071.584	51.269	-13.695	501069.168	4714088.955	51.283	11.690	25.385	581.052	27410.057
994.427	501077.948	4714061.414	53.012	-13.381	501061.368	4714076.175	53.188	8.818	22.199	343.245	27753.302
1000.000	501074.767	4714056.993	53.658	-13.914	501056.645	4714072.767	53.932	10.111	24.025	128.804	27882.106
1020.000	501063.360	4714041.223	56.092	-15.276	501042.187	4714058.214	57.345	11.872	27.148	511.732	28393.838
1040.000	501052.396	4714025.223	58.018	-16.353	501028.315	4714043.013	60.758	13.587	29.939	570.871	28964.709
1060.000	501041.708	4714009.103	58.784	-16.948	501015.953	4714026.582	61.705	14.179	31.127	610.662	29575.372
1080.000	501031.683	4713992.589	59.753	-17.540	501004.464	4714009.513	62.043	14.511	32.051	631.780	30207.151
1100.000	501022.006	4713975.898	59.956	-17.749	500993.797	4713991.909	62.025	14.687	32.436	644.872	30852.023
1120.000	501012.960	4713958.865	59.673	-17.904	500983.940	4713973.835	61.715	14.750	32.654	650.901	31502.923
1140.000	501004.501	4713941.537	59.105	-17.945	500974.802	4713955.384	61.351	14.823	32.768	654.223	32157.146
1160.000	500996.134	4713924.142	57.381	-17.326	500966.552	4713936.518	60.637	14.741	32.067	648.352	32805.498
1180.000	500988.096	4713906.538	54.831	-16.319	500959.481	4713917.187	59.302	14.214	30.533	625.995	33431.493
1200.000	500980.688	4713888.611	52.131	-15.240	500953.979	4713897.351	55.847	12.863	28.103	586.359	34017.851
1220.000	500973.944	4713870.373	49.294	-14.114	500949.470	4713877.312	52.141	11.324	25.439	535.418	34553.270
1240.000	500968.511	4713851.696	47.576	-13.592	500945.339	4713857.275	49.074	10.242	23.834	492.727	35045.997
1260.000	500964.003	4713832.761	46.073	-13.252	500941.511	4713837.232	46.638	9.680	22.932	467.660	35513.657
1280.000	500961.136	4713813.507	44.313	-13.806	500936.070	4713817.456	44.451	11.569	25.375	483.071	35996.728
1300.000	500960.272	4713794.034	42.325	-15.595	500932.614	4713797.264	43.097	12.251	27.846	532.214	36528.943
1320.000	500959.660	4713774.653	40.374	-16.849	500929.949	4713776.923	41.685	12.949	29.798	576.442	37105.384
1340.000	500958.929	4713755.346	39.288	-17.205	500928.026	4713756.467	40.222	13.719	30.924	607.215	37712.599
1360.000	500959.153	4713736.040	38.192	-17.742	500926.539	4713735.918	38.547	14.872	32.614	635.376	38347.976
1360.692	500959.184	4713735.373	38.149	-17.770	500926.500	4713735.205	38.493	14.914	32.684	22.593	38370.569
1380.000	500960.620	4713716.713	36.764	-18.778	500926.401	4713715.375	37.325	15.466	34.245	646.129	39016.697
1400.000	500962.710	4713697.285	35.273	-19.844	500927.271	4713694.999	36.185	15.669	35.512	697.572	39714.269
1420.000	500965.724	4713677.769	33.413	-21.427	500931.161	4713675.005	34.719	13.246	34.673	701.854	40416.123
1440.000	500968.881	4713658.080	31.495	-22.936	500932.128	4713654.944	33.250	13.951	36.887	715.600	41131.723
1440.692	500968.982	4713657.395	31.431	-22.979	500932.166	4713654.253	33.202	13.972	36.950	25.548	41157.271
1460.000	500971.872	4713638.106	29.892	-24.260	500933.227	4713635.059	31.881	14.505	38.765	730.952	41888.223
1480.000	500973.602	4713617.682	28.944	-24.564	500935.256	4713615.440	31.331	13.848	38.412	771.769	42659.992
1500.000	500959.177	4713596.492	29.183	-9.250	500944.182	4713596.128	30.392	5.750	15.000	534.121	43194.113
1512.942	500959.310	4713583.278	28.547	-9.250	500944.310	4713583.356	29.872	5.750	15.000	194.130	43388.243
1520.000	500959.208	4713576.058	28.212	-9.250	500944.212	4713576.400	29.520	5.750	15.000	105.870	43494.113
1540.000	500958.230	4713555.621	26.760	-9.250	500943.270	4713556.712	27.797	5.750	15.000	300.000	43794.113
1560.000	500973.012	4713533.187	24.553	-26.157	500941.345	4713537.096	26.212	5.750	31.907	469.073	44263.186
1580.000	500969.284	4713512.217	23.965	-25.558	500938.442	4713517.601	25.979	5.750	31.308	632.155	44895.341
1600.000	500963.578	4713491.701	24.143	-23.995	500926.439	4713500.117	25.608	14.085	38.081	693.887	45589.228
1620.000	500955.274	4713472.020	23.493	-20.771	500918.173	4713482.401	24.298	17.754	38.526	766.064	46355.292
1640.000	500949.228	4713451.867	22.504	-20.905	500913.744	4713463.738	24.435	16.512	37.417	759.429	47114.721
1660.000	500944.825	4713431.001	21.403	-23.879	500906.171	4713446.119	23.369	17.626	41.505	789.223	47903.944
1680.000	500936.635	4713411.455	20.645	-23.902	500897.080	4713429.254	20.953	19.474	43.375	848.807	48752.751
1700.000	500928.358	4713391.892	19.198	-24.913	500890.027	4713411.499	20.756	18.143	43.055	864.304	49617.055
1720.000	500919.290	4713372.607	17.488	-26.153	500881.129	4713394.600	19.911	17.891	44.045	870.996	50488.051
1740.000	500907.382	4713354.942	16.954	-25.189	500873.243	4713376.961	20.846	15.435	40.624	846.690	51334.741
1760.000	500892.803	4713339.250	18.423	-21.969	500863.814	4713360.069	21.259	13.721	35.690	763.147	52097.889
1780.000	500876.549	4713325.235	20.871	-17.465	500854.656	4713342.681	22.604	10.530	27.995	636.853	52734.742

 AREAS DE EXPROPIACION

P.K.	X Iz	Y Iz	Z Iz	Dis. eje	X Dr	Y Dr	Z Dr	Dis. eje	Ancho	AREA PARCIAL	AREA ACUMULA
1800.000	500862.189	4713310.080	21.118	-16.199	500842.602	4713327.358	23.797	9.920	26.119	541.142	53275.884
1809.046	500855.386	4713303.552	21.364	-15.521	500836.540	4713320.949	24.000	10.127	25.648	234.144	53510.028
1820.000	500846.707	4713296.165	21.871	-14.302	500828.999	4713313.362	24.345	10.382	24.684	275.667	53785.695
1840.000	500831.383	4713282.521	22.751	-13.201	500814.785	4713299.826	24.879	10.778	23.979	486.625	54272.319
1860.000	500817.060	4713268.129	23.883	-13.916	500800.034	4713286.667	25.786	11.255	25.171	491.495	54763.815
1880.000	500802.852	4713253.859	25.677	-14.917	500784.738	4713273.895	27.340	12.094	27.011	521.814	55285.629
1881.296	500801.951	4713252.923	25.833	-15.007	500783.753	4713273.052	27.402	12.129	27.136	35.087	55320.716
1900.000	500788.828	4713239.746	27.062	-15.930	500769.353	4713260.931	28.602	12.847	28.777	522.896	55843.612
1920.000	500774.816	4713226.096	27.341	-16.261	500754.199	4713247.329	29.421	13.335	29.595	583.725	56427.337
1940.000	500759.416	4713214.164	28.037	-13.676	500739.773	4713232.603	29.163	13.264	26.941	565.359	56992.696
1959.167	500747.687	4713200.113	28.732	-14.201	500726.300	4713217.820	29.510	13.566	27.767	524.286	57516.982
1960.000	500747.179	4713199.509	28.709	-14.194	500725.745	4713217.144	29.493	13.563	27.757	23.126	57540.107
1980.000	500735.539	4713184.552	28.123	-14.006	500713.214	4713200.302	28.792	13.316	27.322	550.788	58090.896
2000.000	500724.994	4713168.785	27.452	-13.775	500701.994	4713182.582	28.056	13.046	26.821	541.430	58632.326
2020.000	500715.714	4713152.228	26.955	-13.631	500691.774	4713164.275	28.150	13.169	26.800	536.212	59168.538
2040.000	500708.025	4713134.876	27.204	-13.861	500682.794	4713145.311	28.467	13.443	27.303	541.031	59709.569
2060.000	500701.361	4713117.113	26.851	-13.789	500675.557	4713125.610	28.142	13.378	27.167	544.702	60254.271
2080.000	500695.998	4713098.909	26.434	-13.685	500669.751	4713105.443	27.905	13.362	27.048	542.146	60796.417
2100.000	500692.045	4713080.341	26.117	-13.633	500668.649	4713084.355	27.027	10.105	23.738	507.857	61304.275
2120.000	500689.282	4713061.546	25.362	-13.385	500665.972	4713063.788	26.625	10.033	23.418	471.559	61775.833
2140.000	500688.007	4713042.578	24.732	-13.227	500664.699	4713043.086	26.418	10.086	23.313	467.305	62243.138
2160.000	500688.312	4713023.565	24.392	-13.242	500665.102	4713022.351	25.876	10.000	23.242	465.544	62708.682
2180.000	500689.801	4713004.600	23.550	-13.034	500667.336	4713001.746	24.675	9.612	22.646	458.876	63167.558
2200.000	500692.569	4712985.757	22.399	-12.700	500668.371	4712980.841	23.110	11.993	24.692	473.384	63640.943
2220.000	500699.549	4712967.940	20.996	-15.294	500673.915	4712960.721	21.013	11.337	26.631	513.236	64154.179
2240.000	500704.764	4712949.779	19.350	-14.691	500681.178	4712941.207	18.839	10.405	25.095	517.266	64671.445
2260.000	500710.980	4712931.857	17.011	-13.709	500688.979	4712921.962	18.480	10.415	24.124	492.192	65163.638
2280.000	500719.385	4712914.839	16.081	-13.691	500698.212	4712903.361	17.864	10.393	24.084	482.081	65645.719
2300.000	500728.994	4712898.466	15.457	-13.633	500708.933	4712885.585	16.915	10.207	23.840	479.241	66124.960
2320.000	500739.695	4712882.775	14.602	-13.456	500721.893	4712869.385	15.345	8.820	22.276	461.158	66586.118
2340.000	500750.950	4712867.395	13.558	-12.500	500733.894	4712852.467	13.929	10.167	22.666	449.422	67035.541
2360.000	500764.903	4712854.404	12.348	-13.742	500747.248	4712836.478	12.586	11.419	25.161	478.273	67513.814
2380.000	500779.685	4712842.513	11.074	-14.943	500761.819	4712821.460	11.151	12.670	27.613	527.741	68041.555
2400.000	500795.059	4712831.559	9.943	-15.841	500777.600	4712807.595	9.875	13.809	29.649	572.623	68614.177
2420.000	500810.479	4712820.737	9.691	-15.476	500794.932	4712795.691	9.249	14.002	29.479	591.280	69205.457
2426.880	500815.905	4712817.169	9.684	-15.224	500801.182	4712792.045	9.081	13.897	29.121	201.583	69407.040
2440.000	500826.227	4712810.077	10.006	-14.037	500813.514	4712785.987	9.004	13.202	27.239	369.720	69776.760
2460.000	500842.831	4712800.095	10.514	-12.422	500832.247	4712777.229	8.749	12.774	25.196	524.351	70301.111
2480.000	500860.484	4712791.552	10.222	-11.729	500851.409	4712770.115	8.896	11.550	23.279	484.755	70785.866
2500.000	500878.575	4712783.387	9.692	-11.092	500870.236	4712762.890	8.685	11.037	22.129	454.082	71239.948
2504.750	500882.877	4712781.371	9.652	-10.843	500874.670	4712761.169	8.588	10.962	21.806	104.345	71344.293
2520.000	500896.654	4712774.767	9.605	-9.910	500889.014	4712755.960	8.462	10.389	20.299	321.047	71665.339
2540.000	500915.235	4712767.365	9.525	-10.046	500907.846	4712749.177	8.461	9.585	19.631	399.297	72064.636
2546.944	500921.627	4712764.650	9.538	-9.936	500914.393	4712746.842	8.481	9.286	19.222	134.896	72199.532



2. Mediciones auxiliares de la Circunvalación



2.1. Movimiento de tierras

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
0.000	FIRME	5.988	0.00	0.0	D TIERRA	9.642	0.00	0.0
	SUELO SEL 1	0.353	0.00	0.0	TERRAPLEN	0.731	0.00	0.0
20.000	FIRME	5.981	119.70	119.7	D TIERRA	16.697	263.40	263.4
	SUELO SEL 1	0.000	3.53	3.5	TERRAPLEN	0.000	7.31	7.3
40.000	FIRME	5.946	119.27	239.0	D TIERRA	23.577	402.75	666.1
60.000	FIRME	5.946	118.92	357.9	D TIERRA	63.275	868.52	1534.7
80.000	FIRME	5.946	118.93	476.8	D TIERRA	116.135	1794.10	3328.8
100.000	FIRME	5.946	118.93	595.7	D TIERRA	103.601	2197.36	5526.1
120.000	FIRME	5.946	118.92	714.7	D TIERRA	85.125	1887.26	7413.4
140.000	FIRME	5.946	118.92	833.6	D TIERRA	67.890	1530.15	8943.5
160.000	FIRME	5.946	118.92	952.5	D TIERRA	43.954	1118.44	10062.0
180.000	FIRME	5.946	118.92	1071.4	D TIERRA	55.282	992.36	11054.3
200.000	FIRME	5.946	118.92	1190.4	D TIERRA	50.945	1062.27	12116.6
220.000	FIRME	5.946	118.92	1309.3	D TIERRA	37.215	881.60	12998.2
240.000	FIRME	5.988	119.34	1428.6	D TIERRA	19.528	567.43	13565.6
	SUELO SEL 1	0.007	0.07	3.6	TERRAPLEN	0.531	5.31	12.6
260.000	FIRME	5.988	119.76	1548.4	D TIERRA	3.021	225.49	13791.1
	SUELO SEL 1	1.386	13.94	17.5	TERRAPLEN	4.920	54.51	67.1
280.000	FIRME	6.060	120.48	1668.9	D TIERRA	0.000	30.21	13821.3
	SUELO SEL 1	2.910	42.96	60.5	TERRAPLEN	31.122	360.42	427.6
281.886	FIRME	6.059	11.43	1680.3	SUELO SEL 1	2.910	5.49	66.0
	TERRAPLEN	33.622	61.05	488.6				
300.000	FIRME	6.064	109.80	1790.1	SUELO SEL 1	2.910	52.71	118.7
	TERRAPLEN	48.821	746.69	1235.3				
320.000	FIRME	6.062	121.26	1911.3	SUELO SEL 1	2.910	58.20	176.9
	TERRAPLEN	134.217	1830.38	3065.7				
340.000	FIRME	6.061	121.24	2032.6	SUELO SEL 1	2.910	58.20	235.1
	TERRAPLEN	114.621	2488.38	5554.1				
360.000	FIRME	6.059	121.21	2153.8	SUELO SEL 1	2.910	58.20	293.3
	TERRAPLEN	25.565	1401.86	6955.9				
375.169	FIRME	6.004	91.49	2245.3	D TIERRA	10.504	79.67	13901.0
	SUELO SEL 1	0.000	22.07	315.4	TERRAPLEN	0.007	193.95	7149.9
380.000	FIRME	5.948	28.87	2274.2	D TIERRA	15.202	62.09	13963.1
	TERRAPLEN	0.000	0.02	7149.9				
400.000	FIRME	5.949	118.97	2393.1	D TIERRA	28.996	441.99	14405.1
420.000	FIRME	6.240	121.89	2515.0	D TIERRA	44.927	739.23	15144.3
440.000	FIRME	6.520	127.60	2642.6	D TIERRA	60.436	1053.62	16197.9
445.253	FIRME	6.594	34.45	2677.1	D TIERRA	65.280	330.19	16528.1

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
460.000	FIRME	6.809	98.83	2775.9	D TIERRA	76.737	1047.16	17575.3
480.000	FIRME	7.101	139.10	2915.0	D TIERRA	110.487	1872.24	19447.5
500.000	FIRME	7.393	144.93	3059.9	D TIERRA	159.959	2704.46	22152.0
520.000	FIRME	7.684	150.77	3210.7	D TIERRA	201.076	3610.35	25762.4
540.000	FIRME	7.684	153.68	3364.4	D TIERRA	240.651	4417.28	30179.6
560.000	FIRME	7.684	153.68	3518.1	D TIERRA	250.359	4910.10	35089.7
580.000	FIRME	7.684	153.68	3671.7	D TIERRA	231.216	4815.75	39905.5
600.000	FIRME	7.684	153.68	3825.4	D TIERRA	205.965	4371.81	44277.3
620.000	FIRME	7.684	153.68	3979.1	D TIERRA	164.404	3703.68	47981.0
640.000	FIRME	7.684	153.68	4132.8	D TIERRA	178.111	3425.15	51406.1
660.000	FIRME	7.684	153.68	4286.5	D TIERRA	212.968	3910.80	55316.9
680.000	FIRME	7.684	153.68	4440.1	D TIERRA	159.236	3722.05	59039.0
700.000	FIRME	7.684	153.68	4593.8	D TIERRA	83.772	2430.08	61469.1
707.516	FIRME	7.684	57.75	4651.6	D TIERRA	63.932	555.07	62024.1
720.000	FIRME	7.763	96.42	4748.0	D TIERRA	41.267	656.65	62680.8
	SUELO SEL 1	0.110	0.68	316.1	TERRAPLEN	1.057	6.60	7156.5
740.000	FIRME	7.486	152.49	4900.5	D TIERRA	0.594	418.61	63099.4
	SUELO SEL 1	3.114	32.24	348.3	TERRAPLEN	16.697	177.54	7334.0
760.000	FIRME	7.630	151.16	5051.7	D TIERRA	0.000	5.94	63105.3
	SUELO SEL 1	3.960	70.74	419.0	TERRAPLEN	35.753	524.49	7858.5
777.599	FIRME	7.643	134.40	5186.1	SUELO SEL 1	3.960	69.69	488.7
	TERRAPLEN	84.088	1054.54	8913.1				
780.000	FIRME	7.645	18.35	5204.4	SUELO SEL 1	3.960	9.51	498.2
	TERRAPLEN	90.116	209.13	9122.2				
800.000	FIRME	7.810	154.56	5359.0	SUELO SEL 1	3.960	79.20	577.4
	TERRAPLEN	143.415	2335.30	11457.5				
820.000	FIRME	7.814	156.25	5515.2	SUELO SEL 1	3.960	79.20	656.6
	TERRAPLEN	65.751	2091.66	13549.2				
840.000	FIRME	7.803	156.18	5671.4	SUELO SEL 1	3.960	79.20	735.8
	TERRAPLEN	61.427	1271.78	14820.9				
848.957	FIRME	7.799	69.87	5741.3	SUELO SEL 1	3.959	35.47	771.3
	TERRAPLEN	70.553	591.07	15412.0				
860.000	FIRME	7.795	86.10	5827.4	D TIERRA	0.007	0.04	63105.4
	SUELO SEL 1	3.960	43.73	815.0	TERRAPLEN	70.914	781.11	16193.1
880.000	FIRME	7.724	155.19	5982.6	D TIERRA	3.013	30.20	63135.6
	SUELO SEL 1	2.986	69.46	884.5	TERRAPLEN	41.735	1126.48	17319.6
900.000	FIRME	7.724	154.47	6137.0	D TIERRA	5.933	89.46	63225.0
	SUELO SEL 1	2.358	53.44	937.9	TERRAPLEN	33.913	756.48	18076.1

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
920.000	FIRME	7.799	155.22	6292.3	D TIERRA	0.000	59.33	63284.3
	SUELO SEL 1	3.959	63.17	1001.1	TERRAPLEN	98.591	1325.04	19401.1
940.000	FIRME	7.799	155.98	6448.2	SUELO SEL 1	3.959	79.19	1080.3
	TERRAPLEN	138.475	2370.65	21771.8				
960.000	FIRME	7.800	155.98	6604.2	SUELO SEL 1	3.960	79.19	1159.5
	TERRAPLEN	158.002	2964.77	24736.5				
980.000	FIRME	7.800	155.99	6760.2	SUELO SEL 1	3.960	79.19	1238.7
	TERRAPLEN	150.915	3089.18	27825.7				
1000.000	FIRME	7.799	155.99	6916.2	SUELO SEL 1	3.960	79.19	1317.8
	TERRAPLEN	107.201	2581.17	30406.9				
1020.000	FIRME	7.799	155.98	7072.2	SUELO SEL 1	3.960	79.19	1397.0
	TERRAPLEN	139.420	2466.21	32873.1				
1040.000	FIRME	7.799	155.98	7228.2	SUELO SEL 1	3.960	79.19	1476.2
	TERRAPLEN	179.287	3187.07	36060.2				
1060.000	FIRME	7.799	155.97	7384.1	SUELO SEL 1	3.960	79.20	1555.4
	TERRAPLEN	209.065	3883.53	39943.7				
1080.000	FIRME	7.800	155.98	7540.1	SUELO SEL 1	3.960	79.19	1634.6
	TERRAPLEN	233.750	4428.16	44371.8				
1100.000	FIRME	7.799	155.98	7696.1	SUELO SEL 1	3.960	79.19	1713.8
	TERRAPLEN	258.214	4919.65	49291.5				
1120.000	FIRME	7.799	155.97	7852.1	SUELO SEL 1	3.960	79.19	1793.0
	TERRAPLEN	260.816	5190.31	54481.8				
1140.000	FIRME	7.799	155.97	8008.0	SUELO SEL 1	3.959	79.19	1872.2
	TERRAPLEN	218.972	4797.88	59279.7				
1160.000	FIRME	7.799	155.98	8164.0	SUELO SEL 1	3.960	79.19	1951.4
	TERRAPLEN	234.222	4531.94	63811.6				
1180.000	FIRME	7.799	155.98	8320.0	SUELO SEL 1	3.959	79.19	2030.6
	TERRAPLEN	217.920	4521.41	68333.0				
1200.000	FIRME	7.800	155.98	8476.0	SUELO SEL 1	3.960	79.19	2109.8
	TERRAPLEN	214.248	4321.67	72654.7				
1220.000	FIRME	7.799	155.99	8632.0	SUELO SEL 1	3.959	79.19	2189.0
	TERRAPLEN	115.394	3296.42	75951.1				
1240.000	FIRME	7.724	155.23	8787.2	D TIERRA	17.024	170.24	63454.6
	SUELO SEL 1	1.011	49.70	2238.7	TERRAPLEN	6.117	1215.11	77166.2
1260.000	FIRME	7.686	154.10	8941.3	D TIERRA	94.901	1119.25	64573.8
	SUELO SEL 1	0.000	10.11	2248.8	TERRAPLEN	0.000	61.17	77227.4
1280.000	FIRME	7.687	153.72	9095.0	D TIERRA	125.512	2204.13	66778.0
1300.000	FIRME	7.686	153.73	9248.8	D TIERRA	128.635	2541.47	69319.4

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
1320.000	FIRME	7.687	153.73	9402.5	D TIERRA	144.636	2732.71	72052.1
1340.000	FIRME	7.686	153.73	9556.2	D TIERRA	167.084	3117.20	75169.3
1349.825	FIRME	7.687	75.52	9631.7	D TIERRA	174.819	1679.60	76848.9
1360.000	FIRME	7.691	78.24	9710.0	D TIERRA	180.290	1806.62	78655.6
1380.000	FIRME	7.700	153.92	9863.9	D TIERRA	161.785	3420.75	82076.3
1400.000	FIRME	7.699	154.00	10017.9	D TIERRA	125.310	2870.94	84947.3
1420.000	FIRME	7.699	153.98	10171.9	D TIERRA	85.107	2104.17	87051.4
1421.183	FIRME	7.698	9.11	10181.0	D TIERRA	83.525	99.75	87151.2
1440.000	FIRME	7.699	144.87	10325.8	D TIERRA	59.874	1349.17	88500.3
1460.000	FIRME	7.769	154.68	10480.5	D TIERRA	4.242	641.16	89141.5
	SUELO SEL 1	1.112	11.12	2259.9	TERRAPLEN	1.255	12.55	77240.0
1480.000	FIRME	7.805	155.73	10636.3	D TIERRA	0.000	42.42	89183.9
	SUELO SEL 1	3.960	50.71	2310.6	TERRAPLEN	46.992	482.47	77722.4
1495.708	FIRME	7.797	122.53	10758.8	SUELO SEL 1	3.959	62.20	2372.8
	TERRAPLEN	97.642	1135.96	78858.4				
1500.000	FIRME	7.797	33.46	10792.2	SUELO SEL 1	3.960	16.99	2389.8
	TERRAPLEN	112.898	451.82	79310.2				
1520.000	FIRME	7.797	155.94	10948.2	SUELO SEL 1	3.960	79.19	2469.0
	TERRAPLEN	199.815	3127.13	82437.3				
1540.000	FIRME	7.797	155.94	11104.1	SUELO SEL 1	3.959	79.19	2548.2
	TERRAPLEN	214.869	4146.84	86584.2				
1560.000	FIRME	7.797	155.94	11260.1	SUELO SEL 1	3.960	79.19	2627.4
	TERRAPLEN	67.424	2822.94	89407.1				
1580.000	FIRME	7.797	155.94	11416.0	SUELO SEL 1	3.960	79.19	2706.6
	TERRAPLEN	45.745	1131.70	90538.8				
1600.000	FIRME	7.759	155.56	11571.6	D TIERRA	2.020	20.20	89204.1
	SUELO SEL 1	2.938	68.98	2775.6	TERRAPLEN	17.665	634.10	91172.9
1620.000	FIRME	7.760	155.20	11726.8	D TIERRA	4.777	67.97	89272.1
	SUELO SEL 1	2.429	53.66	2829.2	TERRAPLEN	15.940	336.04	91509.0
1640.000	FIRME	7.760	155.20	11882.0	D TIERRA	5.881	106.58	89378.7
	SUELO SEL 1	1.948	43.77	2873.0	TERRAPLEN	7.075	230.15	91739.1
1660.000	FIRME	7.684	154.44	12036.4	D TIERRA	56.771	626.52	90005.2
	SUELO SEL 1	0.000	19.48	2892.5	TERRAPLEN	0.000	70.75	91809.9
1680.000	FIRME	7.684	153.68	12190.1	D TIERRA	156.095	2128.66	92133.8
1700.000	FIRME	7.684	153.68	12343.8	D TIERRA	225.587	3816.82	95950.7
1720.000	FIRME	7.684	153.68	12497.5	D TIERRA	261.699	4872.86	100823.5
1740.000	FIRME	7.684	153.68	12651.1	D TIERRA	284.277	5459.76	106283.3
1741.516	FIRME	7.684	11.65	12662.8	D TIERRA	285.428	431.84	106715.1

 * * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
1760.000	FIRME	7.686	142.05	12804.8	D TIERRA	283.186	5255.13	111970.2
1769.923	FIRME	7.686	76.27	12881.1	D TIERRA	272.808	2758.56	114728.8
1780.000	FIRME	7.686	77.45	12958.6	D TIERRA	262.506	2697.18	117426.0
1800.000	FIRME	7.686	153.72	13112.3	D TIERRA	233.354	4958.60	122384.6
1820.000	FIRME	7.686	153.72	13266.0	D TIERRA	180.375	4137.28	126521.9
1840.000	FIRME	7.686	153.72	13419.7	D TIERRA	150.821	3311.96	129833.8
1860.000	FIRME	7.687	153.73	13573.5	D TIERRA	99.370	2501.91	132335.7
1880.000	FIRME	7.686	153.73	13727.2	D TIERRA	36.743	1361.13	133696.9
1900.000	FIRME	7.799	154.85	13882.0	D TIERRA	0.000	367.43	134064.3
	SUELO SEL 1	3.960	39.60	2932.1	TERRAPLEN	2.990	29.90	91839.8
1920.000	FIRME	7.799	155.98	14038.0	SUELO SEL 1	3.960	79.19	3011.3
	TERRAPLEN	27.877	308.67	92148.4				
1940.000	FIRME	7.799	155.98	14194.0	SUELO SEL 1	3.960	79.19	3090.5
	TERRAPLEN	55.052	829.29	92977.7				
1960.000	FIRME	7.799	155.98	14350.0	SUELO SEL 1	3.960	79.19	3169.6
	TERRAPLEN	88.058	1431.10	94408.8				
1980.000	FIRME	7.799	155.98	14506.0	SUELO SEL 1	3.960	79.19	3248.8
	TERRAPLEN	179.890	2679.48	97088.3				
2000.000	FIRME	7.799	155.98	14661.9	SUELO SEL 1	3.960	79.19	3328.0
	TERRAPLEN	212.475	3923.65	101012.0				
2020.000	FIRME	7.799	155.98	14817.9	SUELO SEL 1	3.960	79.19	3407.2
	TERRAPLEN	249.213	4616.88	105628.8				
2040.000	FIRME	7.799	155.97	14973.9	SUELO SEL 1	3.960	79.19	3486.4
	TERRAPLEN	298.514	5477.28	111106.1				
2060.000	FIRME	7.798	155.97	15129.9	SUELO SEL 1	3.960	79.19	3565.6
	TERRAPLEN	343.373	6418.88	117525.0				
2080.000	FIRME	7.654	154.52	15284.4	SUELO SEL 1	3.872	78.32	3643.9
	TERRAPLEN	365.059	7084.33	124609.3				
2100.000	FIRME	7.363	150.17	15434.6	SUELO SEL 1	3.698	75.70	3719.6
	TERRAPLEN	301.220	6662.80	131272.1				
2120.000	FIRME	7.073	144.36	15578.9	SUELO SEL 1	3.524	72.22	3791.8
	TERRAPLEN	235.996	5372.17	136644.3				
2140.000	FIRME	6.782	138.55	15717.5	SUELO SEL 1	3.349	68.73	3860.6
	TERRAPLEN	157.006	3930.03	140574.3				
2160.000	FIRME	6.491	132.74	15850.2	SUELO SEL 1	3.175	65.25	3925.8
	TERRAPLEN	127.308	2843.14	143417.5				
2180.000	FIRME	6.201	126.92	15977.1	SUELO SEL 1	3.001	61.76	3987.6
	TERRAPLEN	26.139	1534.47	144951.9				
2190.470	FIRME	5.936	63.54	16040.7	D TIERRA	9.758	51.08	134115.4
	SUELO SEL 1	0.000	15.71	4003.3	TERRAPLEN	0.000	136.84	145088.8

 * * * RESUMEN DE VOLUMENES TOTALES * * *

MATERIAL	VOLUMEN
FIRME	16040.7
D TIERRA	134115.4
TERRAPLEN	145088.8

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* * * MEDICIONES DE LOS PERFILES TRANSVERSALES* * *

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PERFIL	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.	MATERIAL	AREA PERFIL	VOL. PARCIAL	VOL. ACUMUL.
0.000	FIRME	5.479	0.00	0.0	D TIERRA	9.034	0.00	0.0
20.000	FIRME	5.479	109.58	109.6	D TIERRA	62.056	710.90	710.9
40.000	FIRME	5.479	109.58	219.2	D TIERRA	79.756	1418.12	2129.0
60.000	FIRME	5.479	109.58	328.7	D TIERRA	73.453	1532.10	3661.1
80.000	FIRME	5.479	109.58	438.3	D TIERRA	66.844	1402.97	5064.1
100.000	FIRME	5.479	109.58	547.9	D TIERRA	64.047	1308.92	6373.0
120.000	FIRME	5.479	109.58	657.5	D TIERRA	53.461	1175.09	7548.1
140.000	FIRME	5.479	109.58	767.0	D TIERRA	29.237	826.99	8375.1
160.000	FIRME	5.541	110.20	877.2	D TIERRA	9.664	389.01	8764.1
176.027	FIRME	5.441	88.00	965.2	D TIERRA	13.636	186.71	8950.8

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* * * RESUMEN DE VOLUMENES TOTALES * * *

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MATERIAL	VOLUMEN
FIRME	965.2
D TIERRA	8950.8

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* * * RESUMEN DE VOLUMENES TOTALES (EJE 1+EJE2) * * *

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MATERIAL	VOLUMEN
FIRME	17005.9
D TIERRA	143066.0
TERRAPLEN	145089.0



2.2. Desbroces

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 * * * D E S B R O C E S * * *
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PK inicial : 0.000
 PK final : 2190.470

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	PLANTA	REAL	PLANTA	REAL				
0.000	10.120	10.254	4.356	4.370	0.000	0.000	0.000	0.000
20.000	13.944	14.056	0.000	0.000	240.633	43.564	243.101	43.698
40.000	14.789	14.853	0.000	0.000	527.959	43.564	532.195	43.698
60.000	17.583	17.895	0.000	0.000	851.682	43.564	859.681	43.698
80.000	19.965	19.974	0.000	0.000	1227.172	43.564	1238.379	43.698
100.000	19.522	19.544	0.000	0.000	1622.048	43.564	1633.565	43.698
120.000	18.522	18.552	0.000	0.000	2002.485	43.564	2014.525	43.698
140.000	17.582	17.656	0.000	0.000	2363.516	43.564	2376.606	43.698
160.000	16.623	16.938	0.000	0.000	2705.558	43.564	2722.544	43.698
180.000	16.803	17.418	0.000	0.000	3039.818	43.564	3066.095	43.698
200.000	16.467	16.814	0.000	0.000	3372.518	43.564	3408.407	43.698
220.000	15.610	15.795	0.000	0.000	3693.286	43.564	3734.496	43.698
240.000	12.973	13.312	2.552	2.609	3979.117	69.083	4025.568	69.784
260.000	6.376	6.410	9.687	9.808	4172.607	191.472	4222.788	193.950
280.000	0.000	0.000	19.378	19.514	4236.368	482.119	4286.890	487.171
281.886	0.000	0.000	19.929	20.079	4236.368	519.186	4286.890	524.508
300.000	0.000	0.000	23.229	23.443	4236.368	910.067	4286.890	918.693
320.000	0.000	0.000	32.265	32.691	4236.368	1465.005	4286.890	1480.031
340.000	0.000	0.000	29.628	29.702	4236.368	2083.936	4286.890	2103.959
360.000	0.000	0.000	18.558	18.691	4236.368	2565.793	4286.890	2587.888
375.169	13.414	13.498	0.350	0.354	4338.106	2709.196	4389.267	2732.332
380.000	14.033	14.114	0.000	0.000	4404.405	2710.041	4455.965	2733.188
400.000	15.131	15.215	0.000	0.000	4696.047	2710.041	4749.258	2733.188
420.000	16.599	16.687	0.000	0.000	5013.348	2710.041	5068.274	2733.188
440.000	17.993	18.088	0.000	0.000	5359.272	2710.041	5416.027	2733.188
445.253	18.373	18.477	0.000	0.000	5454.788	2710.041	5512.067	2733.188
460.000	19.416	19.589	0.000	0.000	5733.424	2710.041	5792.744	2733.188
480.000	21.696	21.898	0.000	0.000	6144.537	2710.041	6207.611	2733.188
500.000	24.028	24.385	0.000	0.000	6601.770	2710.041	6670.447	2733.188
520.000	26.361	26.903	0.000	0.000	7105.654	2710.041	7183.335	2733.188
540.000	28.029	28.938	0.000	0.000	7649.550	2710.041	7741.751	2733.188
560.000	28.320	29.294	0.000	0.000	8213.040	2710.041	8324.071	2733.188
580.000	27.438	28.174	0.000	0.000	8770.619	2710.041	8898.747	2733.188
600.000	26.203	26.660	0.000	0.000	9307.021	2710.041	9447.086	2733.188
620.000	24.346	24.665	0.000	0.000	9812.504	2710.041	9960.331	2733.188
640.000	25.828	27.123	0.000	0.000	10314.237	2710.041	10478.206	2733.188
660.000	26.625	28.348	0.000	0.000	10838.767	2710.041	11032.920	2733.188

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* * * D E S B R O C E S * * *

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PK inicial : 0.000
 PK final : 2190.470

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	-PLANTA-	REAL	-PLANTA-	REAL				
680.000	24.407	26.727	0.000	0.000	11349.094	2710.041	11583.673	2733.188
700.000	22.193	24.298	0.000	0.000	11815.099	2710.041	12093.920	2733.188
707.516	20.915	22.546	0.000	0.000	11977.101	2710.041	12269.959	2733.188
720.000	17.087	18.548	4.112	4.258	12214.314	2735.712	12526.468	2759.769
740.000	2.519	2.583	18.559	19.081	12410.381	2962.425	12737.777	2993.162
760.000	0.000	0.000	16.379	16.946	12435.574	3311.803	12763.603	3353.433
777.599	0.000	0.000	18.858	19.643	12435.574	3621.875	12763.603	3675.399
780.000	0.000	0.000	19.148	19.887	12435.574	3667.501	12763.603	3722.855
800.000	0.000	0.000	34.522	34.895	12435.574	4204.196	12763.603	4270.680
820.000	0.000	0.000	28.375	28.949	12435.574	4833.166	12763.603	4909.129
840.000	0.000	0.000	28.094	28.819	12435.574	5397.854	12763.603	5486.811
848.957	0.000	0.000	29.527	30.479	12435.574	5655.906	12763.603	5752.376
860.000	0.221	0.227	30.306	31.488	12436.794	5986.269	12764.854	6094.525
880.000	5.028	5.148	25.029	26.322	12489.285	6539.619	12818.596	6672.624
900.000	7.314	7.464	23.738	25.353	12612.711	7027.291	12944.715	7189.377
920.000	0.000	0.000	33.988	35.392	12685.855	7604.544	13019.356	7796.826
940.000	0.000	0.000	36.451	37.670	12685.855	8308.933	13019.356	8527.444
960.000	0.000	0.000	38.809	40.060	12685.855	9061.537	13019.356	9304.747
980.000	0.000	0.000	37.642	38.740	12685.855	9826.046	13019.356	10092.753
1000.000	0.000	0.000	33.077	33.755	12685.855	10533.232	13019.356	10817.706
1020.000	0.000	0.000	37.056	38.044	12685.855	11234.556	13019.356	11535.692
1040.000	0.000	0.000	39.266	40.088	12685.855	11997.769	13019.356	12317.006
1060.000	0.000	0.000	41.521	42.249	12685.855	12805.639	13019.356	13140.377
1080.000	0.000	0.000	43.743	44.398	12685.855	13658.279	13019.356	14006.850
1100.000	0.000	0.000	45.935	46.637	12685.855	14555.051	13019.356	14917.198
1120.000	0.000	0.000	44.886	45.263	12685.855	15463.259	13019.356	15836.202
1140.000	0.000	0.000	41.052	41.207	12685.855	16322.644	13019.356	16700.906
1160.000	0.000	0.000	41.152	41.243	12685.855	17144.688	13019.356	17525.407
1180.000	0.000	0.000	40.137	40.322	12685.855	17957.576	13019.356	18341.052
1200.000	0.000	0.000	40.577	41.074	12685.855	18764.712	13019.356	19155.007
1220.000	0.000	0.000	33.588	34.340	12685.855	19506.362	13019.356	19909.141
1240.000	12.429	12.632	8.983	9.217	12810.145	19932.070	13145.680	20344.703
1260.000	21.660	22.071	0.000	0.000	13151.033	20021.898	13492.713	20436.869
1280.000	22.995	23.358	0.000	0.000	13597.586	20021.898	13947.005	20436.869
1300.000	23.136	23.563	0.000	0.000	14058.898	20021.898	14416.218	20436.869
1320.000	23.824	24.180	0.000	0.000	14528.496	20021.898	14893.646	20436.869
1340.000	24.653	25.021	0.000	0.000	15013.264	20021.898	15385.651	20436.869

 D E S B R O C E S

PK inicial : 0.000
 PK final : 2190.470

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	PLANTA	REAL	PLANTA	REAL				
1349.825	25.020	25.400	0.000	0.000	15257.279	20021.898	15633.342	20436.869
1360.000	25.266	25.667	0.000	0.000	15513.106	20021.898	15893.147	20436.869
1380.000	24.503	24.899	0.000	0.000	16010.798	20021.898	16398.809	20436.869
1400.000	22.959	23.247	0.000	0.000	16485.426	20021.898	16880.263	20436.869
1420.000	21.140	21.381	0.000	0.000	16926.425	20021.898	17326.541	20436.869
1421.183	21.106	21.344	0.000	0.000	16951.414	20021.898	17351.813	20436.869
1440.000	19.975	20.329	0.000	0.000	17337.929	20021.898	17743.889	20436.869
1460.000	9.809	9.923	8.359	8.413	17635.770	20105.486	18046.405	20521.004
1480.000	0.000	0.000	24.512	24.630	17733.862	20434.199	18145.636	20851.440
1495.708	0.000	0.000	29.766	29.838	17733.862	20860.506	18145.636	21279.231
1500.000	0.000	0.000	31.294	31.357	17733.862	20991.541	18145.636	21410.555
1520.000	0.000	0.000	38.277	38.306	17733.862	21687.243	18145.636	22107.187
1540.000	0.000	0.000	43.002	43.516	17733.862	22500.032	18145.636	22925.414
1560.000	0.000	0.000	32.374	33.283	17733.862	23253.793	18145.636	23693.410
1580.000	0.000	0.000	25.443	26.130	17733.862	23831.961	18145.636	24287.540
1600.000	4.844	5.009	17.559	18.097	17782.307	24261.976	18195.730	24729.805
1620.000	6.980	7.279	15.950	16.541	17900.546	24597.065	18318.618	25076.185
1640.000	8.305	8.589	12.551	12.879	18053.388	24882.075	18477.304	25370.391
1660.000	19.457	20.011	0.000	0.000	18331.001	25007.581	18763.304	25499.182
1680.000	24.224	24.680	0.000	0.000	18767.812	25007.581	19210.215	25499.182
1700.000	27.069	27.601	0.000	0.000	19280.745	25007.581	19733.033	25499.182
1720.000	28.412	28.923	0.000	0.000	19835.550	25007.581	20298.280	25499.182
1740.000	29.182	29.599	0.000	0.000	20411.487	25007.581	20883.500	25499.182
1741.516	29.205	29.614	0.000	0.000	20455.744	25007.581	20928.383	25499.182
1760.000	29.142	29.436	0.000	0.000	20994.983	25007.581	21474.119	25499.182
1769.923	28.860	29.108	0.000	0.000	21282.757	25007.581	21764.583	25499.182
1780.000	28.498	28.742	0.000	0.000	21571.755	25007.581	22056.058	25499.182
1800.000	27.456	27.700	0.000	0.000	22131.300	25007.581	22620.480	25499.182
1820.000	25.243	25.420	0.000	0.000	22658.295	25007.581	23151.682	25499.182
1840.000	24.057	24.102	0.000	0.000	23151.301	25007.581	23646.906	25499.182
1860.000	21.805	21.845	0.000	0.000	23609.922	25007.581	24106.385	25499.182
1880.000	18.837	18.865	0.000	0.000	24016.341	25007.581	24513.488	25499.182
1900.000	0.000	0.000	17.546	17.575	24204.711	25183.045	24702.136	25674.929
1920.000	0.000	0.000	21.122	21.213	24204.711	25569.726	24702.136	26062.807
1940.000	0.000	0.000	24.702	24.819	24204.711	26027.959	24702.136	26523.133
1960.000	0.000	0.000	27.823	28.064	24204.711	26553.200	24702.136	27051.971
1980.000	0.000	0.000	37.533	38.063	24204.711	27206.753	24702.136	27713.245

 D E S B R O C E S

PK inicial : 0.000
 PK final : 2190.470

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	PLANTA	REAL	PLANTA	REAL				
2000.000	0.000	0.000	41.233	41.517	24204.711	27994.408	24702.136	28509.048
2020.000	0.000	0.000	43.069	43.216	24204.711	28837.421	24702.136	29356.378
2040.000	0.000	0.000	46.099	46.227	24204.711	29729.096	24702.136	30250.804
2060.000	0.000	0.000	48.594	48.706	24204.711	30676.024	24702.136	31200.132
2080.000	0.000	0.000	49.709	49.767	24204.711	31659.051	24702.136	32184.864
2100.000	0.000	0.000	45.639	45.778	24204.711	32612.526	24702.136	33140.321
2120.000	0.000	0.000	40.819	41.031	24204.711	33477.105	24702.136	34008.412
2140.000	0.000	0.000	34.938	35.241	24204.711	34234.674	24702.136	34771.128
2160.000	0.000	0.000	30.011	30.172	24204.711	34884.157	24702.136	35425.255
2180.000	0.000	0.000	18.413	18.419	24204.711	35368.396	24702.136	35911.164
2190.470	13.841	13.846	0.000	0.000	24277.168	35464.789	24774.619	36007.589

 D E S B R O C E S

PK inicial : 0.000
 PK final : 176.027

P.K.	ANCHOS OCUPADOS				AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
	DESMONTE		TERRAPLEN		DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
	PLANTA	REAL	PLANTA	REAL				
0.000	12.866	12.884	0.000	0.000	0.000	0.000	0.000	0.000
20.000	16.536	16.649	0.000	0.000	294.023	0.000	295.328	0.000
40.000	17.470	17.500	0.000	0.000	634.090	0.000	636.816	0.000
60.000	17.106	17.150	0.000	0.000	979.857	0.000	983.310	0.000
80.000	16.740	16.799	0.000	0.000	1318.323	0.000	1322.800	0.000
100.000	16.496	16.572	0.000	0.000	1650.682	0.000	1656.518	0.000
120.000	15.927	16.052	0.000	0.000	1974.907	0.000	1982.765	0.000
140.000	14.316	14.439	0.000	0.000	2277.337	0.000	2287.681	0.000
160.000	12.834	12.945	0.000	0.000	2548.843	0.000	2561.521	0.000
176.027	12.492	12.610	0.000	0.000	2751.795	0.000	2766.301	0.000

 DESBROCES TOTALES (EJE 1 + EJE 2)

AREA DE DESBROCE EN PLANTA		SUPERFICIE REAL	
DESMONTE	TERRAPLEN	DESMONTE	TERRAPLEN
27028.963	35464.789	27540.920	36007.589



2.3. Áreas de expropiación

 AREAS DE EXPROPIACION *****

P.K.	X Iz	Y Iz	Z Iz	Dis. eje	X Dr	Y Dr	Z Dr	Dis. eje	Ancho	AREA PARCIAL	AREA ACUMULA
0.000	500142.849	4713013.979	100.260	-9.996	500122.384	4713013.301	102.450	10.480	20.476	0.000	0.000
20.000	500142.446	4712993.682	99.551	-9.224	500122.502	4712993.617	102.231	10.720	19.944	404.198	404.198
40.000	500142.921	4712973.390	100.055	-9.936	500122.140	4712973.942	101.810	10.853	20.789	407.327	811.524
60.000	500144.288	4712952.986	103.777	-12.148	500120.742	4712954.317	102.189	11.435	23.583	443.723	1255.248
80.000	500143.662	4712932.605	104.492	-12.978	500117.793	4712934.843	104.421	12.988	25.965	495.490	1750.738
100.000	500141.199	4712912.370	103.442	-12.572	500115.849	4712915.327	103.970	12.950	25.522	514.876	2265.614
120.000	500138.126	4712892.230	102.020	-12.158	500113.866	4712895.798	102.255	12.364	24.522	500.437	2766.051
140.000	500134.424	4712872.209	100.540	-11.711	500111.206	4712876.335	101.143	11.871	23.582	481.032	3247.083
160.000	500129.611	4712852.429	97.984	-10.736	500107.465	4712857.049	100.604	11.887	22.623	462.043	3709.126
180.000	500124.586	4712832.740	95.414	-10.141	500102.412	4712838.062	101.490	12.663	22.803	454.261	4163.387
200.000	500119.679	4712813.038	95.415	-10.271	500097.999	4712818.931	99.965	12.196	22.467	452.701	4616.088
220.000	500113.885	4712793.578	94.892	-10.087	500093.210	4712799.866	98.160	11.523	21.610	440.768	5056.856
240.000	500107.877	4712774.183	92.779	-10.285	500087.479	4712781.058	97.658	11.240	21.525	431.350	5488.206
260.000	500102.831	4712754.400	91.472	-12.126	500082.143	4712762.068	94.389	9.937	22.063	435.879	5924.085
280.000	500097.915	4712734.425	89.944	-14.764	500074.393	4712743.951	92.835	10.613	25.378	474.408	6398.493
281.886	500097.557	4712732.489	89.706	-15.162	500073.552	4712742.290	92.731	10.767	25.929	48.382	6446.875
300.000	500092.136	4712714.688	88.379	-17.106	500065.353	4712726.394	91.735	12.123	29.229	499.565	6946.441
320.000	500089.291	4712693.579	84.376	-23.177	500054.556	4712709.631	90.346	15.088	38.265	674.939	7621.380
340.000	500077.245	4712676.805	87.055	-19.435	500045.122	4712692.217	89.547	16.193	35.628	738.931	8360.311
360.000	500063.563	4712661.062	90.752	-14.001	500041.508	4712671.863	93.508	10.557	24.558	601.858	8962.169
375.169	500052.857	4712649.395	93.695	-9.536	500035.123	4712658.120	95.895	10.228	19.764	336.157	9298.325
380.000	500048.124	4712646.344	94.631	-6.635	500032.836	4712653.855	96.323	10.398	17.033	88.884	9387.209
400.000	500039.981	4712628.175	95.781	-7.230	500023.597	4712635.940	97.684	10.901	18.131	351.643	9738.852
420.000	500032.754	4712609.775	96.712	-8.284	500014.774	4712617.577	98.716	11.315	19.599	377.302	10116.154
440.000	500026.360	4712591.285	97.480	-9.302	500006.692	4712598.627	99.645	11.691	20.993	405.925	10522.079
445.253	500027.689	4712585.408	97.329	-12.561	500004.715	4712593.546	99.922	11.812	24.373	119.155	10641.234
460.000	500023.885	4712571.804	97.607	-13.171	499999.540	4712579.102	101.190	12.245	25.416	367.118	11008.352
480.000	500020.350	4712553.011	99.158	-14.547	499993.350	4712559.180	102.821	13.149	27.696	531.113	11539.465
500.000	500017.838	4712534.156	99.867	-15.666	499988.184	4712538.878	105.151	14.361	30.028	577.233	12116.698
520.000	500016.667	4712515.242	100.879	-16.856	499987.428	4712517.918	106.677	12.505	29.361	593.885	12710.583
540.000	500015.953	4712496.392	101.332	-17.234	499984.934	4712497.155	109.038	13.794	31.029	603.897	13314.480
560.000	500016.180	4712477.548	101.138	-17.297	499984.887	4712476.230	109.223	14.024	31.320	623.490	13937.970
580.000	500017.419	4712458.738	100.452	-17.116	499987.161	4712455.435	107.489	13.322	30.438	617.579	14555.549
600.000	500019.845	4712440.029	99.534	-16.868	499988.137	4712434.410	105.750	15.334	32.203	626.403	15181.952
620.000	500023.137	4712421.414	97.870	-16.231	499993.676	4712414.140	102.544	14.115	30.346	625.484	15807.436
640.000	500027.946	4712403.106	96.595	-15.880	499997.623	4712393.435	106.300	15.948	31.828	621.733	16429.169
660.000	500034.370	4712385.293	95.674	-15.957	500004.016	4712373.331	107.330	16.669	32.625	644.530	17073.699
680.000	500040.714	4712367.362	92.795	-14.651	500013.230	4712354.353	104.778	15.757	30.407	630.328	17704.027
700.000	500048.643	4712350.018	90.375	-13.761	500024.020	4712336.286	101.445	14.432	28.193	586.006	18290.033
707.516	500051.893	4712343.610	89.421	-13.389	500028.722	4712329.915	100.039	13.526	26.915	207.099	18497.131
720.000	500059.119	4712334.021	87.379	-14.497	500036.245	4712319.304	97.275	12.703	27.200	337.787	18834.919
740.000	500073.434	4712320.466	83.782	-18.736	500053.795	4712306.535	89.537	5.342	24.078	512.780	19347.699
760.000	500079.764	4712300.833	82.565	-12.250	500064.257	4712289.210	87.666	7.129	19.379	434.572	19782.271
777.599	500090.334	4712286.875	79.464	-12.250	500072.940	4712273.636	85.144	9.608	21.858	362.869	20145.140
780.000	500091.789	4712284.963	79.325	-12.250	500074.164	4712271.551	84.829	9.898	22.148	52.829	20197.969
800.000	500114.708	4712276.995	77.467	-25.728	500082.252	4712252.734	83.142	14.794	40.522	626.695	20824.665
820.000	500125.063	4712259.108	77.574	-23.519	500097.075	4712239.149	84.563	10.857	34.375	748.970	21573.635
840.000	500137.386	4712242.262	76.370	-24.127	500108.929	4712223.487	84.209	9.967	34.094	684.689	22258.324
848.957	500143.949	4712235.221	74.922	-25.823	500113.896	4712216.275	83.947	9.703	35.527	311.794	22570.117
860.000	500151.134	4712225.826	73.553	-27.052	500119.716	4712207.196	83.529	9.475	36.527	397.841	22967.959

 AREAS DE EXPROPIACION

P.K.	X Iz	Y Iz	Z Iz	Dis. eje	X Dr	Y Dr	Z Dr	Dis. eje	Ancho	AREA PARCIAL	AREA ACUMULA
880.000	500160.529	4712206.669	73.018	-25.887	500128.644	4712189.832	83.843	10.170	36.058	725.842	23693.801
900.000	500170.666	4712187.928	71.417	-26.626	500137.087	4712172.264	83.346	10.427	37.052	731.098	24424.898
920.000	500182.104	4712169.582	68.764	-29.766	500145.075	4712154.487	79.847	10.221	39.988	770.397	25195.296
940.000	500190.667	4712149.843	67.099	-30.776	500150.613	4712135.778	78.118	11.676	42.451	824.390	26019.685
960.000	500198.716	4712129.793	65.069	-32.261	500155.757	4712117.052	76.395	12.548	44.809	872.605	26892.290
980.000	500203.203	4712108.670	64.865	-31.088	500160.801	4712098.342	75.467	12.554	43.642	884.510	27776.800
1000.000	500203.663	4712086.840	66.693	-26.895	500165.286	4712079.477	74.543	12.182	39.077	827.187	28603.987
1020.000	500210.494	4712066.273	63.582	-30.258	500167.860	4712060.258	73.123	12.797	43.056	821.324	29425.311
1040.000	500213.787	4712044.998	62.059	-31.079	500168.707	4712040.895	71.217	14.187	45.266	883.213	30308.524
1060.000	500215.972	4712023.544	60.527	-31.842	500168.491	4712021.577	69.211	15.679	47.521	927.871	31236.395
1080.000	500217.390	4712001.969	58.759	-32.900	500167.649	4712002.366	67.317	16.842	49.743	972.641	32209.036
1100.000	500218.059	4711980.279	56.890	-34.278	500166.210	4711983.256	65.849	17.656	51.935	1016.772	33225.809
1120.000	500214.160	4711958.888	57.716	-32.144	500163.563	4711964.310	64.299	18.742	50.886	1028.208	34254.017
1140.000	500207.773	4711938.049	59.453	-28.543	500161.293	4711945.366	63.569	18.510	47.052	979.385	35233.402
1160.000	500203.412	4711917.189	59.530	-28.020	500157.252	4711926.720	62.590	19.132	47.152	942.045	36175.447
1180.000	500198.882	4711896.088	58.639	-28.381	500154.236	4711907.822	63.030	17.756	46.137	932.888	37108.336
1200.000	500194.822	4711875.041	57.065	-30.315	500150.385	4711888.996	63.599	16.262	46.577	927.136	38035.472
1220.000	500185.246	4711855.671	58.089	-27.510	500148.108	4711869.382	66.266	12.078	39.588	861.651	38897.122
1240.000	500167.182	4711840.164	65.091	-16.448	500141.967	4711850.915	70.579	10.964	27.412	669.999	39567.121
1260.000	500156.617	4711822.168	69.740	-14.299	500131.740	4711834.259	75.131	13.361	27.660	550.717	40117.838
1280.000	500147.724	4711803.438	71.056	-15.001	500122.303	4711817.386	76.006	13.995	28.996	566.554	40684.392
1300.000	500137.280	4711785.522	70.635	-14.974	500112.459	4711800.781	76.244	14.162	29.136	581.313	41265.705
1320.000	500126.340	4711767.888	71.289	-15.402	500101.735	4711784.742	76.473	14.422	29.824	589.598	41855.303
1340.000	500114.494	4711750.826	71.746	-15.784	500090.091	4711769.375	77.014	14.869	30.653	604.768	42460.071
1349.825	500108.339	4711742.678	71.937	-15.939	500084.107	4711762.043	77.362	15.081	31.020	302.965	42763.036
1360.000	500101.748	4711734.442	71.960	-16.057	500077.786	4711754.525	77.560	15.208	31.266	316.877	43079.913
1380.000	500088.026	4711719.125	70.938	-15.766	500065.356	4711739.534	76.444	14.737	30.503	617.692	43697.605
1400.000	500073.860	4711704.527	69.624	-15.248	500052.761	4711724.363	74.141	13.711	28.959	594.628	44292.233
1420.000	500059.482	4711690.440	67.826	-14.522	500039.852	4711709.183	71.828	12.618	27.141	560.999	44853.232
1421.183	500058.659	4711689.589	67.700	-14.515	500039.055	4711708.309	71.765	12.592	27.106	32.087	44885.319
1440.000	500045.327	4711676.476	65.987	-13.872	500026.379	4711694.244	70.541	12.103	25.975	499.417	45384.736
1460.000	500032.258	4711661.883	63.196	-14.067	500014.150	4711677.890	66.511	10.101	24.168	501.431	45886.167
1480.000	500023.045	4711644.553	59.987	-18.200	499999.205	4711663.598	62.978	12.313	30.512	546.806	46432.973
1495.708	500015.949	4711631.521	58.230	-20.417	499986.853	4711652.321	60.782	15.350	35.766	520.555	46953.527
1500.000	500014.218	4711627.906	57.774	-21.079	499983.530	4711649.096	60.126	16.215	37.294	156.787	47110.314
1520.000	500006.891	4711610.902	55.510	-24.020	499968.650	4711633.219	57.215	20.257	44.277	815.703	47926.017
1540.000	500003.234	4711592.493	51.280	-29.466	499959.158	4711613.905	57.564	19.537	49.002	932.790	48858.807
1560.000	499990.959	4711578.266	54.591	-23.950	499955.268	4711592.363	60.232	14.424	38.374	873.762	49732.568
1580.000	499982.307	4711561.932	56.247	-21.205	499952.269	4711571.228	63.541	10.239	31.443	698.169	50430.737
1600.000	499974.759	4711544.812	57.819	-18.348	499947.066	4711551.123	64.956	10.055	28.403	598.460	51029.197
1620.000	499971.510	4711526.504	57.378	-18.542	499942.896	4711530.771	65.560	10.388	28.930	573.330	51602.527
1640.000	499967.384	4711508.181	58.559	-16.452	499940.599	4711510.113	65.243	10.403	26.855	557.852	52160.379
1660.000	499963.906	4711489.436	61.427	-13.610	499938.449	4711489.333	67.622	11.847	25.457	523.119	52683.498
1680.000	499967.027	4711470.679	66.232	-15.941	499939.890	4711468.501	71.459	11.283	27.224	526.812	53210.310
1700.000	499970.463	4711452.219	68.170	-17.178	499940.760	4711447.543	74.176	12.891	30.069	572.934	53783.244
1720.000	499974.720	4711434.035	69.019	-17.847	499944.151	4711426.807	74.895	13.564	31.412	614.806	54398.050
1740.000	499980.175	4711416.226	69.385	-18.351	499949.509	4711406.462	74.669	13.832	32.182	635.937	55033.987
1741.516	499980.628	4711414.890	69.365	-18.373	499949.997	4711404.943	74.607	13.832	32.205	48.805	55082.792
1760.000	499986.655	4711398.625	68.888	-18.521	499956.753	4711386.835	73.344	13.621	32.142	594.692	55677.484
1769.923	499990.194	4711389.868	68.445	-18.475	499958.106	4711376.248	72.851	16.384	34.860	332.428	56009.912

 * * * AREAS DE EXPROPIACION * * *

P.K.	X Iz	Y Iz	Z Iz	Dis. eje	X Dr	Y Dr	Z Dr	Dis. eje	Ancho	AREA PARCIAL	AREA ACUMULA
1780.000	499993.916	4711380.974	67.546	-18.312	499962.489	4711366.745	71.933	16.187	34.498	349.460	56359.372
1800.000	500001.872	4711363.555	65.573	-17.924	499972.077	4711348.337	69.331	15.532	33.456	679.546	57038.917
1820.000	500007.505	4711344.718	62.562	-13.918	499982.985	4711330.703	65.599	14.325	28.243	616.996	57655.913
1840.000	500017.271	4711328.012	60.638	-13.651	499994.438	4711313.495	62.176	13.406	27.057	553.007	58208.920
1860.000	500027.198	4711311.336	57.185	-12.625	500006.915	4711297.057	58.333	12.180	24.805	518.622	58727.541
1880.000	500037.661	4711294.900	53.059	-11.262	500020.416	4711281.504	53.811	10.575	21.837	466.420	59193.961
1900.000	500049.441	4711279.364	48.784	-10.575	500033.826	4711266.010	50.027	9.972	20.546	423.835	59617.796
1920.000	500064.247	4711266.526	45.872	-13.028	500046.673	4711250.004	48.044	11.094	24.122	446.681	60064.477
1940.000	500079.343	4711254.257	43.259	-15.170	500060.075	4711234.354	45.985	12.532	27.702	518.233	60582.710
1960.000	500096.909	4711245.032	40.578	-20.311	500074.553	4711219.652	44.224	13.511	33.823	615.241	61197.951
1980.000	500115.399	4711237.667	36.115	-26.565	500088.193	4711203.682	40.890	16.968	43.533	773.554	61971.505
2000.000	500131.236	4711227.578	33.714	-28.147	500103.485	4711189.358	38.377	19.086	47.233	907.656	62879.161
2020.000	500146.627	4711217.005	32.346	-28.195	500119.697	4711175.987	36.400	20.874	49.069	963.014	63842.175
2040.000	500163.218	4711208.390	30.835	-29.661	500136.705	4711163.541	34.614	22.438	52.099	1011.675	64853.850
2060.000	500179.953	4711200.253	29.586	-30.736	500154.412	4711152.002	33.024	23.858	54.594	1066.929	65920.779
2080.000	500196.415	4711191.677	29.002	-30.421	500172.698	4711141.269	31.381	25.288	55.709	1103.028	67023.807
2100.000	500212.808	4711182.749	28.990	-28.883	500193.045	4711135.041	32.437	22.756	51.639	1073.476	68097.283
2120.000	500229.489	4711174.073	29.378	-26.810	500213.625	4711130.023	33.741	20.009	46.819	984.579	69081.862
2140.000	500246.458	4711165.531	29.985	-24.079	500234.415	4711126.405	35.859	16.859	40.938	877.569	69959.431
2160.000	500263.557	4711156.292	31.834	-19.831	500254.594	4711121.415	35.633	16.180	36.011	769.483	70728.915
2180.000	500280.540	4711144.326	36.421	-12.011	500275.583	4711120.421	36.765	12.403	24.413	604.239	71333.154
2190.470	500290.172	4711140.432	38.686	-10.029	500286.623	4711120.912	38.907	9.812	19.841	231.671	71564.824

Istram V.11.14.02.13 EDUCACIONAL 2000
 PROYECTO :
 EJE: 2: CIRCUNVALACIÓN: ALTERNATIVA 2

pagina 1

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 * * * AREAS DE EXPROPIACION * * *
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P.K.	X Iz	Y Iz	Z Iz	Dis. eje	X Dr	Y Dr	Z Dr	Dis. eje	Ancho	AREA PARCIAL	AREA ACUMULA
0.000	500288.775	4711139.828	38.409	-9.276	500288.020	4711120.977	39.209	9.590	18.866	0.000	0.000
20.000	500308.822	4711140.585	42.508	-10.835	500307.920	4711118.067	44.811	11.701	22.536	414.023	414.023
40.000	500328.831	4711140.431	44.732	-11.482	500327.892	4711116.980	46.269	11.989	23.470	460.067	874.090
60.000	500348.806	4711139.400	45.477	-11.250	500347.882	4711116.312	47.141	11.856	23.106	465.767	1339.857
80.000	500368.781	4711138.371	46.139	-11.021	500367.871	4711115.649	47.959	11.719	22.740	458.466	1798.324
100.000	500388.758	4711137.405	46.733	-10.855	500387.858	4711114.928	48.960	11.640	22.496	452.359	2250.683
120.000	500408.727	4711136.213	47.028	-10.463	500407.849	4711114.304	49.784	11.464	21.927	444.225	2694.908
140.000	500428.680	4711134.638	46.543	-9.688	500427.867	4711114.338	49.217	10.629	20.316	422.430	3117.339
160.000	500448.636	4711133.142	46.289	-8.991	500447.882	4711114.323	48.664	9.844	18.834	391.506	3508.845
176.027	500464.628	4711131.960	47.467	-8.449	500463.888	4711113.483	50.016	10.043	18.492	299.115	3807.960

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Istram V.11.14.02.13 EDUCACIONAL 2000
 PROYECTO :

pagina 1

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 * * * AREAS DE EXPROPIACION * * *
 * * * RESUMEN POR EJES * * *
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EJE	AREA ACUMULADA
1	71564.824
2	3807.960
TOTAL	75372.784



3. Presupuestos



3.1. Acceso al Puerto

		PRECIO UNITARIO	MEDICIÓN	COSTE (€)
CAPÍTULO 1.EXPLANACIÓN				
M2.Despeje y desbroce		0,55	59265,00	32595,75
M3.Excavación en desmonte en todo tipo de terreno		3,25	102698,00	333768,50
M3.Terraplén		1,15	118128,00	135847,20
M3.Explanada		5,50	4727,00	25998,50
M2.Sostenimiento de taludes		5,59	0,00	0,00
	Total capítulo			528209,95
CAPITULO II.FIRMES				
M2.Firme en explanada tronco		5,50	34875,00	871875,00
M2.Firme en estructura tronco		25,00	250,00	1375,00
	Total capítulo			873250,00
CAPÍTULO III.DRENAJE				
km.Drenaje longitudinal calzada única		125000,00	2,55	318750,00
km.Drenaje transversal calzada única		75000,00	2,55	191250,00
	Total capítulo			510000,00
CAPITULO IV.ESTRUCTURAS				
M2.Estructura en pasos superiores		525,00	630,00	330750,00
M2.Estructura en pasos inferiores		600,00	370,00	222000,00
M2.Muro de escamas en terraplén de máximo 6 metros de altura		140,00	810,00	113400,00
	Total capítulo			666150,00
CAPÍTULO V.SEÑALIZACIÓN Y BALIZAMIENTO				
km.Señalización horizontal calzada única		6000	2,55	15300
km.Señalización vertical calzada única		25000	2,55	63750,00
km.Balizamiento y defensas calzada única		45000	2,55	114750,00
	Total capítulo			193800,00



		PRECIO UNITARIO	MEDICIÓN	COSTE (€)
CAPÍTULO VI.VARIOS				
km.Cerramientos calzada única		20000,00	2,55	51000
ML.Reposición de carreteras principales		250,00	90,00	22500
ML.Reposición de carreteras secundarias		180,00	140,00	25200
ML.Reposición de caminos		120,00	850,00	102000,00
ML.Caminos de servicio		70,00	1000,00	70000,00
km.Desvíos provisionales.		18000,00	2,55	45900,00
km.Servicios afectados (excepto alta tensión)		75000,00	2,55	191250,00
Ud.Reposición de torre de alta tensión		175000,00	0,00	0,00
	Total capítulo			507850,00
CAPÍTULO VII.IMPACTO AMBIENTAL				
km.Medidas correctoras de impacto ambiental		70000,00	2,55	178500,00
km.Programa de vigilancia ambiental		20000,00	2,55	51000,00
	Total capítulo			229500,00
CAPITULO VIII.ENLACES E INTERSECCIONES				
Ud. Glorieta a nivel		350000,00	0,00	0,00
Ud.Intersección en T		350000,00	1,00	350000,00
	Total capítulo			350000,00
	SUBTOTAL			385859,95
Imprevistos (4 % del P.E.M. inicial)		4 %		154350,40
Seguridad y salud (1.5 % del P.E.M. inicial)		1.5 %		57881,40
PRESUPUESTO DE EJECUCIÓN MATERIAL				4070991,75
Gastos generales (17 % del P.E.M.)		17 %		692068,60
Beneficio industrial (6 % del P.E.M.)		6 %		244259,50
PRESUPUESTO BASE DE LICITACIÓN				5007319,85



	PRECIO UNITARIO	MEDICIÓN	COSTE (€)
I.V.A. (21 % del P.B.L.)	21 %		1051537,17
PRESUPUESTO BASE DE LICITACIÓN MÁS IVA			6058857,02
Ratio (€/Km, PEM)			1596467,35
EXPROPIACIONES			
M2. Suelo urbano	30,00	1830,00	54900,00
M2. Suelo de núcleo rural	30,00	10233,00	306990,00
M2.Suelo rústico/agrícola	8,00	24621,00	196968,00
M2.Suelo forestal	8,00	35514,00	284112,00
M2.Suelo apto para urbanizar	20,00	0,00	0,00
M2.Vivienda expropiada	200000,00	2,00	400000,00
PRESUPUESTO DE INVERSIÓN			7301827,02



3.2. Circunvalación

		PRECIO UNITARIO	MEDICIÓN	COSTE (€)
CAPÍTULO I.EXPLANACIÓN				
M2.Despeje y desbroce		0,55	63549,00	34951,95
M3.Excavación en desmonte en todo tipo de terreno		3,25	143066,00	464964,50
M3.Terraplén		1,15	145089,00	166852,35
M3.Explanada		5,50	3922,00	21571,00
M2.Sostenimiento de taludes		5,59	3180,00	17776,00
	Total capítulo			706116,00
CAPITULO II.FIRMES				
M2.Firme en explanada tronco		5,50	33180,00	829500,00
M2.Firme en estructura tronco		25,00	310,00	1705,00
	Total capítulo			831205,00
CAPÍTULO III.DRENAJE				
km.Drenaje longitudinal calzada única		125000,00	2,37	296250,00
km.Drenaje transversal calzada única		75000,00	2,37	177750,00
	Total capítulo			474000,00
CAPITULO IV.ESTRUCTURAS				
M2.Estructura en pasos superiores		525,00	450,00	236250,00
M2.Estructura en pasos inferiores		600,00	730,00	438000,00
M2.Muro de escamas en terraplén de máximo 6 metros de altura		140,00	114,00	15960,00
	Total capítulo			690210,00
CAPÍTULO V.SEÑALIZACIÓN Y BALIZAMIENTO				
km.Señalización horizontal calzada única		6000	2,37	14220,00
km.Señalización vertical calzada única		25000	2,37	59250,00
km.Balizamiento y defensas calzada única		45000	2,37	106650,00
	Total capítulo			180120,00



		PRECIO UNITARIO	MEDICIÓN	COSTE (€)
CAPÍTULO VI.VARIOS				
km.Cerramientos calzada única		20000,00	2,37	47400,00
ML.Reposición de carreteras principales		250,00	60,00	15000,00
ML.Reposición de carreteras secundarias		180,00	240,00	43200,00
ML.Reposición de caminos		120,00	600,00	72000,00
ML.Caminos de servicio		70,00	1850,00	129500,00
km.Desvíos provisionales.		18000,00	2,37	42660,00
km.Servicios afectados (excepto alta tensión)		75000,00	2,37	177750,00
Ud.Reposición de torre de alta tensión		175000,00		
	Total capítulo			527510,00
CAPÍTULO VII.IMPACTO AMBIENTAL				
km.Medidas correctoras de impacto ambiental		70000,00	2,37	165900,00
km.Programa de vigilancia ambiental		20000,00	2,37	47400,00
	Total capítulo			213300,00
CAPITULO VIII.ENLACES E INTERSECCIONES				
Ud. Glorieta a nivel		350000,00	3,00	1050000,00
Ud.Intersección en T		350000,00	0,00	0,00
	Total capítulo			1050000,00
	SUBTOTAL			4672461,00
Imprevistos (4 % del P.E.M. inicial)		4 %		186898,44
Seguridad y salud (1.5 % del P.E.M. inicial)		1.5 %		70086,92
PRESUPUESTO DE EJECUCIÓN MATERIAL				4929446,36
Gastos generales (17 % del P.E.M.)		17 %		838005,88
Beneficio industrial (6 % del P.E.M.)		6 %		295766,78
PRESUPUESTO BASE DE LICITACIÓN				6263219,02



	PRECIO UNITARIO	MEDICIÓN	COSTE (€)
I.V.A. (21 % del P.B.L.)	21 %		1273275,99
PRESUPUESTO BASE DE LICITACIÓN MÁS IVA			733645,01
Ratio (€/Km, PEM)			2079935,17
EXPROPIACIONES			
M2. Suelo urbano	30,00	3945,00	118350,00
M2. Suelo de núcleo rural	30,00	1767,00	53010,00
M2.Suelo rústico/agrícola	8,00	59766,00	478128,00
M2.Suelo forestal	8,00	8985,00	71880,00
M2.Suelo apto para urbanizar	20,00	910,00	18200,00
M2.Vivienda expropiada	200000,00	0,00	0,00
PRESUPUESTO DE INVERSIÓN			8076063,01



4. Presupuesto total

PRESUPUESTO DE INVERSIÓN DEL ACCESO AL PUERTO	7301827,02€
PRESUPUESTO DE INVERSIÓN DE LA CIRCUNVALACIÓN	8076063,01€
PRESUPUESTO TOTAL	15377890.03€

Asciende el presente presupuesto de inversión a la cantidad expresada de:

Quince millones trescientos setenta y siete mil ochocientos noventa euros y tres céntimos

Rianxo, Septiembre de 2015

El autor del anteproyecto

Fdo. Alejandro Piñeiro Lema