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CONSEJO FEDERAL
BIBLIOTECA
Dr. Manuel
Belgrano

OBRA: CANAL INTERLAGOS - CANAL RUTA 32

TRAMO: Ao. GOLONDRINAS - RUTA PROV. 13

Documento Complementario

Detalle de datos topograficos y
computos metricos Seccion 2da. y 3era.

Febrero 1995

46914

CONSEJO FEDERAL
Belgrano

PLANILLA DATOS PROYECTO

| Progresivas (Km) | Cota Estacon (m) | Cota T.Natural (m) | Cota Solera Proyecto (m) |
|---|---|---|---|
| 0.000 | | 54.02 | 52.37 |
| 0.100 | | 54.00 | 52.38 |
| 0.200 | | 54.07 | 52.39 |
| 0.300 | | 54.02 | 52.40 |
| 0.400 | | 54.02 | 52.41 |
| 0.500 | | 54.02 | 52.42 |
| 0.600 | | 54.05 | 52.44 |
| 0.700 | | 54.05 | 52.45 |
| 0.800 | | 54.09 | 52.46 |
| 0.900 | | 54.06 | 52.47 |
| 1.000 | 54.557 | 54.11 | 52.48 |
| 1.100 | | 54.09 | 52.49 |
| 1.200 | | 54.15 | 52.50 |
| 1.300 | | 54.12 | 52.51 |
| 1.400 | | 54.20 | 52.52 |
| 1.500 | | 54.21 | 52.53 |
| 1.600 | | 54.29 | 52.55 |
| 1.700 | | 54.26 | 52.56 |
| 1.800 | | 54.28 | 52.57 |
| 1.900 | | 54.27 | 52.58 |
| 2.000 | 54.677 | 54.30 | 52.59 |
| 2.100 | | 54.30 | 52.60 |
| 2.200 | | 54.36 | 52.61 |
| 2.300 | | 54.33 | 52.62 |
| 2.400 | | 54.39 | 52.63 |
| 2.500 | | 54.42 | 52.64 |
| 2.600 | | 54.40 | 52.66 |
| 2.700 | | 54.41 | 52.67 |
| 2.800 | | 54.56 | 52.68 |
| 2.900 | | 54.44 | 52.69 |
| 3.000 | 55.292 | 54.44 | 52.70 |
| 3.100 | | 54.49 | 52.71 |
| 3.200 | | 54.44 | 52.72 |
| 3.300 | | 54.47 | 52.73 |
| 3.400 | | 54.53 | 52.74 |
| 3.500 | | 54.58 | 52.75 |
| 3.600 | | 54.60 | 52.77 |
| 3.700 | | 54.52 | 52.78 |
| 3.800 | | 54.60 | 52.79 |
| 3.900 | | 54.61 | 52.80 |
| 4.000 | 55.501 | 54.66 | 52.81 |

PLANILLA DATOS PROYECTO

| Progresivas (Km) | Cota Estacon (m) | Cota T.Natural (m) | Cota Solera Proyecto (m) |
|---|---|---|---|
| 4.100 | | 54.64 | 52.82 |
| 4.200 | | 54.66 | 52.83 |
| 4.300 | | 54.69 | 52.84 |
| 4.400 | | 54.69 | 52.85 |
| 4.500 | | 54.66 | 52.86 |
| 4.600 | | 54.68 | 52.88 |
| 4.700 | | 54.68 | 52.89 |
| 4.800 | | 54.68 | 52.90 |
| 4.900 | | 54.68 | 52.91 |
| 5.000 | 55.418 | 54.69 | 52.92 |
| 5.100 | | 54.71 | 52.93 |
| 5.200 | | 54.74 | 52.94 |
| 5.300 | | 54.71 | 52.95 |
| 5.400 | | 54.73 | 52.96 |
| 5.500 | | 54.72 | 52.97 |
| 5.600 | | 54.76 | 52.99 |
| 5.700 | | 54.78 | 53.00 |
| 5.800 | | 54.77 | 53.01 |
| 5.900 | | 54.74 | 53.02 |
| 6.000 | 56.039 | 54.85 | 53.03 |
| 6.100 | | 54.86 | 53.04 |
| 6.200 | | 54.84 | 53.05 |
| 6.300 | | 54.88 | 53.06 |
| 6.400 | | 54.89 | 53.07 |
| 6.500 | | 54.90 | 53.08 |
| 6.600 | | 54.91 | 53.10 |
| 6.700 | | 54.94 | 53.11 |
| 6.800 | | 54.95 | 53.12 |
| 6.900 | | 54.88 | 53.13 |
| 7.000 | 56.242 | 55.00 | 53.14 |
| 7.100 | | 55.00 | 53.15 |
| 7.200 | | 54.98 | 53.16 |
| 7.300 | | 55.06 | 53.17 |
| 7.400 | | 55.09 | 53.18 |
| 7.500 | | 55.12 | 53.19 |
| 7.600 | | 55.11 | 53.21 |
| 7.700 | | 55.21 | 53.22 |
| 7.800 | | 55.18 | 53.23 |
| 7.900 | | 55.22 | 53.24 |
| 8.000 | 56.459 | 55.22 | 53.25 |

PLANILLA DATOS PROYECTO

| Progresivas (Km) | Cota Estacon (m) | Cota T.Natural (m) | Cota Solera Proyecto (m) |
|---|---|---|---|
| 8.100 | | 55.25 | 53.26 |
| 8.200 | | 55.20 | 53.27 |
| 8.300 | | 55.22 | 53.28 |
| 8.400 | | 55.22 | 53.29 |
| 8.500 | | 55.30 | 53.30 |
| 8.600 | | 55.28 | 53.32 |
| 8.700 | | 55.33 | 53.33 |
| 8.800 | | 55.26 | 53.34 |
| 8.900 | | 55.39 | 53.35 |
| 9.000 | 56.188 | 55.42 | 53.36 |
| 9.100 | | 55.56 | 53.37 |
| 9.200 | | 55.49 | 53.38 |
| 9.300 | | 55.57 | 53.39 |
| 9.400 | | 55.57 | 53.40 |
| 9.500 | | 55.66 | 53.41 |
| 9.600 | | 55.56 | 53.43 |
| 9.700 | | 55.64 | 53.44 |
| 9.800 | | 55.64 | 53.45 |
| 9.900 | | 55.67 | 53.46 |
| 10.000 | 56.244 | 55.71 | 53.47 |
| 10.100 | | 55.69 | 53.48 |
| 10.200 | | 55.71 | 53.49 |
| 10.300 | | 55.73 | 53.50 |
| 10.400 | | 55.71 | 53.51 |
| 10.500 | | 55.77 | 53.52 |
| 10.600 | | 55.80 | 53.53 |
| 10.700 | | 55.79 | 53.55 |
| 10.800 | | 55.81 | 53.56 |
| 10.900 | | 55.81 | 53.57 |
| 11.000 | 57.084 | 55.80 | 53.58 |
| 11.100 | | 55.88 | 53.59 |
| 11.200 | | 55.88 | 53.60 |
| 11.300 | | 55.90 | 53.61 |
| 11.400 | | 55.77 | 53.62 |
| 11.500 | | 55.91 | 53.63 |
| 11.600 | | 55.92 | 53.64 |
| 11.700 | | 55.96 | 53.66 |
| 11.800 | | 55.97 | 53.67 |
| 11.900 | | 55.97 | 53.68 |
| 12.000 | 56.611 | 55.98 | 53.69 |

PLANILLA DATOS PROYECTO

| Progresivas (Km) | Cota Estacon (m) | Cota T.Natural (m) | Cota Solera Proyecto (m) |
|---|---|---|---|
| 12.100 | | 56.00 | 53.70 |
| 12.200 | | 55.80 | 53.71 |
| 12.300 | | 55.95 | 53.72 |
| 12.400 | | 55.75 | 53.73 |
| 12.500 | | 55.88 | 53.74 |
| 12.600 | | 55.92 | 53.75 |
| 12.700 | | 55.89 | 53.77 |
| 12.800 | | 55.88 | 53.78 |
| 12.900 | | 56.08 | 53.79 |
| 13.000 | 57.151 | 56.15 | 53.80 |
| 13.100 | | 56.13 | 53.81 |
| 13.200 | | 56.08 | 53.82 |
| 13.300 | | 56.05 | 53.83 |
| 13.400 | | 56.07 | 53.84 |
| 13.500 | | 56.09 | 53.85 |
| 13.600 | | 56.11 | 53.86 |
| 13.700 | | 56.08 | 53.88 |
| 13.800 | | 56.11 | 53.89 |
| 13.900 | | 56.13 | 53.90 |
| 14.000 | 56.662 | 56.14 | 53.91 |
| 14.100 | | 56.11 | 53.92 |
| 14.200 | | 56.15 | 53.93 |
| 14.300 | | 56.17 | 53.94 |
| 14.400 | | 56.13 | 53.95 |
| 14.500 | | 56.18 | 53.96 |
| 14.600 | | 56.11 | 53.97 |
| 14.700 | | 56.12 | 53.99 |
| 14.800 | | 56.21 | 54.00 |
| 14.900 | | 56.22 | 54.01 |
| 15.000 | 57.629 | 56.17 | 54.02 |
| 15.100 | | 56.18 | 54.03 |
| 15.200 | | 56.17 | 54.04 |
| 15.300 | | 56.19 | 54.05 |
| 15.400 | | 56.17 | 54.06 |
| 15.500 | | 56.11 | 54.07 |
| 15.600 | | 56.10 | 54.08 |
| 15.700 | | 56.15 | 54.10 |
| 15.800 | | 56.18 | 54.11 |
| 15.900 | | 56.12 | 54.12 |
| 16.000 | 56.658 | 56.12 | 54.13 |

PLANILLA DATOS PROYECTO

| Progresivas (Km) | Cota Estacon (m) | Cota T.Natural (m) | Cota Solera Proyecto (m) |
|---|---|---|---|
| 16.100 | | 56.18 | 54.14 |
| 16.200 | | 56.19 | 54.15 |
| 16.300 | | 56.21 | 54.16 |
| 16.400 | | 56.23 | 54.17 |
| 16.500 | | 56.22 | 54.18 |
| 16.600 | | 56.25 | 54.19 |
| 16.700 | | 56.23 | 54.21 |
| 16.800 | | 56.26 | 54.22 |
| 16.900 | | 56.28 | 54.23 |
| 17.000 | 57.387 | 56.29 | 54.24 |
| 17.100 | | 56.26 | 54.25 |
| 17.200 | | 56.28 | 54.26 |
| 17.300 | | 56.29 | 54.27 |
| 17.400 | | 56.28 | 54.28 |
| 17.500 | | 56.28 | 54.29 |
| 17.600 | | 56.27 | 54.30 |
| 17.700 | | 56.26 | 54.32 |
| 17.800 | | 56.21 | 54.33 |
| 17.900 | | 56.26 | 54.34 |
| 18.000 | 57.299 | 56.25 | 54.35 |
| 18.100 | | 56.24 | 54.36 |
| 18.200 | | 56.27 | 54.37 |
| 18.300 | | 56.26 | 54.38 |
| 18.400 | | 56.25 | 54.39 |
| 18.500 | | 56.24 | 54.40 |
| 18.600 | | 56.23 | 54.41 |
| 18.700 | | 56.27 | 54.43 |
| 18.800 | | 56.32 | 54.44 |
| 18.900 | | 56.29 | 54.45 |
| 19.000 | 57.375 | 56.27 | 54.46 |
| 19.100 | | 56.28 | 54.47 |
| 19.200 | | 56.27 | 54.48 |
| 19.300 | | 56.31 | 54.49 |
| 19.400 | | 56.26 | 54.50 |
| 19.500 | | 56.28 | 54.51 |
| 19.600 | | 56.34 | 54.52 |
| 19.700 | | 56.23 | 54.54 |
| 19.800 | | 56.06 | 54.55 |
| 19.900 | | 56.14 | 54.56 |
| 20.000 | 56.890 | 56.14 | 54.57 |

PLANILLA DATOS PROYECTO

| Progresivas (Km) | Cota Estacon (m) | Cota T.Natural (m) | Cota Solera Proyecto (m) |
|---|---|---|---|
| 20.100 | | 56.13 | 54.58 |
| 20.200 | | 56.18 | 54.59 |
| 20.300 | | 56.23 | 54.60 |
| 20.400 | | 56.30 | 54.61 |
| 20.500 | | 56.25 | 54.62 |
| 20.600 | | 56.31 | 54.63 |
| 20.700 | | 56.25 | 54.64 |
| 20.800 | | 56.24 | 54.66 |
| 20.900 | | 56.24 | 54.67 |
| 21.000 | 57.154 | 56.25 | 54.68 |
| 21.100 | | 56.15 | 54.69 |
| 21.200 | | 56.30 | 54.70 |
| 21.300 | | 56.27 | 54.71 |
| 21.400 | | 56.31 | 54.72 |
| 21.500 | | 56.30 | 54.73 |
| 21.600 | | 56.31 | 54.74 |
| 21.700 | | 56.22 | 54.75 |
| 21.800 | | 56.22 | 54.77 |
| 21.900 | | 56.21 | 54.78 |
| 22.000 | 57.418 | 56.25 | 54.79 |
| 22.100 | | 56.30 | 54.80 |
| 22.200 | | 56.31 | 54.81 |
| 22.300 | | 56.27 | 54.82 |
| 22.400 | | 56.23 | 54.83 |
| 22.500 | | 56.32 | 54.84 |
| 22.600 | | 56.44 | 54.85 |
| 22.700 | | 56.37 | 54.86 |
| 22.800 | | 56.43 | 54.88 |
| 22.900 | | 56.42 | 54.89 |
| 23.000 | 57.209 | 56.46 | 54.90 |
| 23.100 | | 56.49 | 54.91 |
| 23.200 | | 56.52 | 54.92 |
| 23.300 | | 56.46 | 54.93 |
| 23.400 | | 56.41 | 54.94 |
| 23.500 | | 56.39 | 54.95 |
| 23.600 | | 56.36 | 54.96 |
| 23.700 | | 56.33 | 54.97 |
| 23.800 | | 56.38 | 54.99 |
| 23.900 | | 56.28 | 55.00 |

PLANILLA DE COMPUTOS METRICOS PARA LA SECCION 2DA.

**EXCAVACION MECANICA**



| Progresiva (Km) | Distancia (m) | Altura (m) | Area Teorica (m2) | Area A excavar (m2) | VOLUMEN Parcial (m3) | Acumulado (m3) |
|---|---|---|---|---|---|---|
| 0.000 | 0 | 1.65 | 14.27 | 12.77 | | |
| 0.100 | 100 | 1.62 | 13.96 | 12.46 | 1261.5 | 1261.5 |
| 0.200 | 100 | 1.68 | 14.58 | 13.08 | 1277.0 | 2538.5 |
| 0.300 | 100 | 1.62 | 13.96 | 12.46 | 1277.0 | 3815.5 |
| 0.400 | 100 | 1.61 | 13.86 | 12.36 | 1241.0 | 5056.5 |
| 0.500 | 100 | 1.60 | 13.76 | 12.26 | 1231.0 | 6287.5 |
| 0.600 | 100 | 1.61 | 13.86 | 12.36 | 1231.0 | 7518.5 |
| 0.700 | 100 | 1.60 | 13.76 | 12.26 | 1231.0 | 8749.5 |
| 0.800 | 100 | 1.63 | 14.07 | 12.57 | 1241.5 | 9991.0 |
| 0.900 | 100 | 1.59 | 13.66 | 12.16 | 1236.5 | 11227.5 |
| 1.000 | 100 | 1.63 | 14.07 | 12.57 | 1236.5 | 12464.0 |
| 1.100 | 100 | 1.60 | 13.76 | 12.26 | 1241.5 | 13705.5 |
| 1.200 | 100 | 1.65 | 14.27 | 12.77 | 1251.5 | 14957.0 |
| 1.300 | 100 | 1.61 | 13.86 | 12.36 | 1256.5 | 16213.5 |
| 1.400 | 100 | 1.68 | 14.58 | 13.08 | 1272.0 | 17485.5 |
| 1.500 | 100 | 1.68 | 14.58 | 13.08 | 1308.0 | 18793.5 |
| 1.600 | 100 | 1.74 | 15.21 | 13.71 | 1339.5 | 20133.0 |
| 1.700 | 100 | 1.70 | 14.79 | 13.29 | 1350.0 | 21483.0 |
| 1.800 | 100 | 1.71 | 14.89 | 13.39 | 1334.0 | 22817.0 |
| 1.900 | 100 | 1.69 | 14.69 | 13.19 | 1329.0 | 24146.0 |
| 2.000 | 100 | 1.71 | 14.69 | 13.39 | 1329.0 | 25475.0 |
| 2.100 | 100 | 1.70 | 14.79 | 13.29 | 1334.0 | 26809.0 |
| 2.200 | 100 | 1.75 | 15.31 | 13.81 | 1355.0 | 28164.0 |
| 2.300 | 100 | 1.71 | 14.89 | 13.39 | 1360.0 | 29524.0 |
| 2.400 | 100 | 1.76 | 15.42 | 13.92 | 1365.5 | 30889.5 |
| 2.500 | 100 | 1.78 | 15.63 | 14.13 | 1402.5 | 32292.0 |
| 2.600 | 100 | 1.74 | 15.21 | 13.71 | 1392.0 | 33684.0 |
| 2.700 | 100 | 1.74 | 15.21 | 13.71 | 1371.0 | 35055.0 |
| 2.800 | 100 | 1.88 | 16.69 | 15.19 | 1445.0 | 36500.0 |
| 2.900 | 100 | 1.75 | 15.31 | 13.81 | 1450.0 | 37950.0 |
| 3.000 | 100 | 1.74 | 15.21 | 13.71 | 1376.0 | 39326.0 |
| 3.100 | 100 | 1.78 | 15.63 | 14.13 | 1392.0 | 40718.0 |
| 3.200 | 100 | 1.72 | 15.00 | 13.50 | 1381.5 | 42099.5 |
| 3.300 | 100 | 1.74 | 15.21 | 13.71 | 1360.5 | 43460.0 |
| 3.400 | 100 | 1.79 | 15.73 | 14.23 | 1397.0 | 44857.0 |
| 3.500 | 100 | 1.83 | 16.16 | 14.66 | 1444.5 | 46301.5 |
| 3.600 | 100 | 1.83 | 16.16 | 14.66 | 1466.0 | 47767.5 |
| 3.700 | 100 | 1.74 | 15.21 | 13.71 | 1418.5 | 49186.0 |
| 3.800 | 100 | 1.81 | 15.95 | 14.45 | 1408.0 | 50594.0 |
| 3.900 | 100 | 1.81 | 15.95 | 14.45 | 1445.0 | 52039.0 |
| 4.000 | 100 | 1.85 | 16.37 | 14.87 | 1466.0 | 53505.0 |
| 4.100 | 100 | 1.82 | 16.05 | 14.55 | 1471.0 | 54976.0 |
| 4.200 | 100 | 1.83 | 16.16 | 14.66 | 1460.5 | 56436.5 |

PLANILLA DE COMPUTOS METRICOS PARA LA SECCION 2DA.

**EXCAVACION MECANICA** Hoja 2 / 2

| Progresiva (Km) | Distancia (m) | Altura (m) | Area Teorica (m2) | Area A excavar (m2) | VOLUMEN Parcial (m3) | VOLUMEN Acumulado (m3) |
|---|---|---|---|---|---|---|
| Transporte | | | | | | 56436.5 |
| 4.300 | 100 | 1.85 | 16.37 | 14.87 | 1476.5 | 57913.0 |
| 4.400 | 100 | 1.84 | 16.27 | 14.77 | 1482.0 | 59395.0 |
| 4.500 | 100 | 1.80 | 15.84 | 14.34 | 1455.5 | 60850.5 |
| 4.600 | 100 | 1.80 | 15.84 | 14.34 | 1434.0 | 62284.5 |
| 4.700 | 100 | 1.79 | 15.73 | 14.23 | 1428.5 | 63713.0 |
| 4.800 | 100 | 1.78 | 15.63 | 14.13 | 1418.0 | 65131.0 |
| 4.900 | 100 | 1.77 | 15.52 | 14.02 | 1407.5 | 66538.5 |
| 5.000 | 100 | 1.77 | 15.52 | 14.02 | 1402.0 | 67940.5 |
| 5.100 | 100 | 1.78 | 15.63 | 14.13 | 1407.5 | 69348.0 |
| 5.200 | 100 | 1.80 | 15.84 | 14.34 | 1423.5 | 70771.5 |
| 5.300 | 100 | 1.76 | 15.42 | 13.92 | 1413.0 | 72184.5 |
| 5.400 | 100 | 1.77 | 15.52 | 14.02 | 1397.0 | 73581.5 |
| 5.500 | 100 | 1.75 | 15.31 | 13.81 | 1391.5 | 74973.0 |
| 5.600 | 100 | 1.77 | 15.52 | 14.02 | 1391.5 | 76364.5 |
| 5.700 | 100 | 1.78 | 15.63 | 14.13 | 1407.5 | 77772.0 |
| 5.800 | 100 | 1.76 | 15.42 | 13.92 | 1402.5 | 79174.5 |
| 5.900 | 100 | 1.72 | 15.00 | 13.50 | 1371.0 | 80545.5 |
| 6.000 | 100 | 1.82 | 16.05 | 14.55 | 1402.5 | 81948.0 |
| 6.100 | 100 | 1.82 | 16.05 | 14.55 | 1455.0 | 83403.0 |
| 6.200 | 100 | 1.79 | 15.73 | 14.23 | 1439.0 | 84842.0 |
| 6.300 | 100 | 1.82 | 16.05 | 14.55 | 1439.0 | 86281.0 |
| 6.400 | 100 | 1.82 | 16.05 | 14.55 | 1455.0 | 87736.0 |
| 6.500 | 100 | 1.82 | 16.05 | 14.55 | 1455.0 | 89191.0 |
| 6.600 | 100 | 1.81 | 15.95 | 14.45 | 1450.0 | 90641.0 |
| 6.700 | 100 | 1.83 | 16.16 | 14.66 | 1455.5 | 92096.5 |
| 6.800 | 100 | 1.83 | 16.16 | 14.66 | 1466.0 | 93562.5 |
| 6.900 | 100 | 1.75 | 15.31 | 13.81 | 1423.5 | 94986.0 |
| 7.000 | 100 | 1.86 | 16.48 | 14.98 | 1439.5 | 96425.5 |
| 7.100 | 100 | 1.85 | 16.37 | 14.87 | 1492.5 | 97918.0 |
| 7.200 | 100 | 1.82 | 16.05 | 14.55 | 1471.0 | 99389.0 |
| 7.300 | 100 | 1.89 | 16.80 | 15.30 | 1492.5 | 100881.5 |
| 7.400 | 100 | 1.91 | 17.02 | 15.52 | 1541.0 | 102422.5 |
| 7.500 | 100 | 1.93 | 17.23 | 15.73 | 1562.5 | 103985.0 |
| 7.600 | 100 | 1.90 | 16.91 | 15.41 | 1557.0 | 105542.0 |
| 7.700 | 100 | 1.99 | 17.89 | 16.39 | 1590.0 | 107132.0 |
| 7.800 | 100 | 1.95 | 17.45 | 15.95 | 1617.0 | 108749.0 |
| 7.900 | 100 | 1.98 | 17.78 | 16.28 | 1611.5 | 110360.5 |
| 8.000 | 100 | 1.97 | 17.67 | 16.17 | 1622.5 | 111983.0 |
| 8.100 | 100 | 1.99 | 17.89 | 16.39 | 1628.0 | 113611.0 |
| 8.200 | 100 | 1.93 | 17.23 | 15.73 | 1606.0 | 115217.0 |
| 8.300 | 100 | 1.94 | 17.34 | 15.84 | 1578.5 | 116795.5 |

VOLUMEN TOTAL DE EXCAVACION PARA LA SECCION 2DA.: 116.796 m3

PLANILLA DE COMPUTOS METRICOS PARA LA SECCION 3RA.

**EXCAVACION MECANICA**



| Progresiva (Km) | Distancia (m) | Altura (m) | Area Teorica (m2) | Area A excavar (m2) | VOLUMEN Parcial (m3) | VOLUMEN Acumulado (m3) |
|---|---|---|---|---|---|---|
| 8.300 | | 1.94 | 17.34 | 15.84 | | |
| 8.400 | 100 | 1.93 | 17.23 | 15.73 | 1578.5 | 1578.5 |
| 8.500 | 100 | 2.00 | 18.00 | 16.50 | 1611.5 | 3190.0 |
| 8.600 | 100 | 1.96 | 17.56 | 16.06 | 1628.0 | 4818.0 |
| 8.700 | 100 | 2.00 | 18.00 | 16.50 | 1628.0 | 6446.0 |
| 8.800 | 100 | 1.92 | 17.13 | 15.63 | 1606.5 | 8052.5 |
| 8.900 | 100 | 2.04 | 18.44 | 16.94 | 1628.5 | 9681.0 |
| 9.000 | 100 | 2.06 | 18.66 | 17.16 | 1705.0 | 11386.0 |
| 9.100 | 100 | 2.19 | 20.13 | 18.63 | 1789.5 | 13175.5 |
| 9.200 | 100 | 2.11 | 19.22 | 17.72 | 1817.5 | 14993.0 |
| 9.300 | 100 | 2.18 | 20.01 | 18.51 | 1811.5 | 16804.5 |
| 9.400 | 100 | 2.17 | 19.90 | 18.40 | 1845.5 | 18650.0 |
| 9.500 | 100 | 2.25 | 20.81 | 19.31 | 1885.5 | 20535.5 |
| 9.600 | 100 | 2.13 | 19.45 | 17.95 | 1863.0 | 22398.5 |
| 9.700 | 100 | 2.20 | 20.24 | 18.74 | 1834.5 | 24233.0 |
| 9.800 | 100 | 2.19 | 20.13 | 18.63 | 1868.5 | 26101.5 |
| 9.900 | 100 | 2.21 | 20.35 | 18.85 | 1874.0 | 27975.5 |
| 10.000 | 100 | 2.24 | 20.70 | 19.20 | 1902.5 | 29878.0 |
| 10.100 | 100 | 2.21 | 20.35 | 18.85 | 1902.5 | 31780.5 |
| 10.200 | 100 | 2.22 | 20.47 | 18.97 | 1891.0 | 33671.5 |
| 10.300 | 100 | 2.23 | 20.58 | 19.08 | 1902.5 | 35574.0 |
| 10.400 | 100 | 2.20 | 20.24 | 18.74 | 1891.0 | 37465.0 |
| 10.500 | 100 | 2.25 | 20.81 | 19.31 | 1902.5 | 39367.5 |
| 10.600 | 100 | 2.27 | 21.04 | 19.54 | 1942.5 | 41310.0 |
| 10.700 | 100 | 2.24 | 20.70 | 19.20 | 1937.0 | 43247.0 |
| 10.800 | 100 | 2.25 | 20.81 | 19.31 | 1925.5 | 45172.5 |
| 10.900 | 100 | 2.24 | 20.70 | 19.20 | 1925.5 | 47098.0 |
| 11.000 | 100 | 2.22 | 20.47 | 18.97 | 1908.5 | 49006.5 |
| 11.100 | 100 | 2.29 | 21.27 | 19.77 | 1937.0 | 50943.5 |
| 11.200 | 100 | 2.28 | 21.16 | 19.66 | 1971.5 | 52915.0 |
| 11.300 | 100 | 2.29 | 21.27 | 19.77 | 1971.5 | 54886.5 |
| 11.400 | 100 | 2.15 | 19.67 | 18.17 | 1897.0 | 56783.5 |
| 11.500 | 100 | 2.28 | 21.16 | 19.66 | 1891.5 | 58675.0 |
| 11.600 | 100 | 2.28 | 21.16 | 19.66 | 1966.0 | 60641.0 |
| 11.700 | 100 | 2.30 | 21.39 | 19.89 | 1977.5 | 62618.5 |
| 11.800 | 100 | 2.30 | 21.39 | 19.89 | 1989.0 | 64607.5 |
| 11.900 | 100 | 2.29 | 21.27 | 19.77 | 1983.0 | 66590.5 |
| 12.000 | 100 | 2.29 | 21.27 | 19.77 | 1977.0 | 68567.5 |
| 12.100 | 100 | 2.30 | 21.39 | 19.89 | 1983.0 | 70550.5 |
| 12.200 | 100 | 2.09 | 19.00 | 17.50 | 1869.5 | 72420.0 |
| 12.300 | 100 | 2.23 | 20.58 | 19.08 | 1829.0 | 74249.0 |
| 12.400 | 100 | 2.02 | 18.22 | 16.72 | 1790.0 | 76039.0 |
| 12.500 | 100 | 2.14 | 19.56 | 18.06 | 1739.0 | 77778.0 |

PLANILLA DE COMPUTOS METRICOS PARA LA SECCION 3RA.

**EXCAVACION MECANICA**



| Progresiva (Km) | Distancia (m) | Altura (m) | Area Teorica (m2) | Area A excavar (m2) | VOLUMEN Parcial (m3) | Acumulado (m3) |
|---|---|---|---|---|---|---|
| | | | | | | 77778.0 |
| 12.600 | 100 | 2.17 | 19.90 | 18.40 | 1823.0 | 79601.0 |
| 12.700 | 100 | 2.12 | 19.00 | 17.60 | 1811.5 | 81412.5 |
| 12.800 | 100 | 2.10 | 19.11 | 17.81 | 1772.0 | 83184.5 |
| 12.900 | 100 | 2.29 | 21.27 | 19.77 | 1869.0 | 85053.5 |
| 13.000 | 100 | 2.35 | 21.97 | 20.47 | 2012.0 | 87065.5 |
| 13.100 | 100 | 2.32 | 21.62 | 20.12 | 2029.5 | 89095.0 |
| 13.200 | 100 | 2.26 | 20.93 | 19.43 | 1977.5 | 91072.5 |
| 13.300 | 100 | 2.22 | 20.47 | 18.97 | 1920.0 | 92992.5 |
| 13.400 | 100 | 2.23 | 20.58 | 19.08 | 1902.5 | 94895.0 |
| 13.500 | 100 | 2.24 | 20.70 | 19.20 | 1914.0 | 96809.0 |
| 13.600 | 100 | 2.25 | 20.81 | 19.31 | 1925.5 | 98734.5 |
| 13.700 | 100 | 2.20 | 20.24 | 18.74 | 1902.5 | 100637.0 |
| 13.800 | 100 | 2.22 | 20.47 | 18.97 | 1885.5 | 102522.5 |
| 13.900 | 100 | 2.23 | 20.58 | 19.08 | 1902.5 | 104425.0 |
| 14.000 | 100 | 2.23 | 20.58 | 19.08 | 1908.0 | 106333.0 |
| 14.100 | 100 | 2.19 | 20.13 | 18.63 | 1885.5 | 108218.5 |
| 14.200 | 100 | 2.22 | 20.47 | 18.97 | 1880.0 | 110098.5 |
| 14.300 | 100 | 2.23 | 20.58 | 19.08 | 1902.5 | 112001.0 |
| 14.400 | 100 | 2.18 | 20.01 | 18.51 | 1879.5 | 113880.5 |
| 14.500 | 100 | 2.22 | 20.47 | 18.97 | 1874.0 | 115754.5 |
| 14.600 | 100 | 2.14 | 19.56 | 18.06 | 1851.5 | 117606.0 |
| 14.700 | 100 | 2.13 | 19.45 | 17.95 | 1800.5 | 119406.5 |
| 14.800 | 100 | 2.21 | 20.35 | 18.85 | 1840.0 | 121246.5 |
| 14.900 | 100 | 2.21 | 20.35 | 18.85 | 1885.0 | 123131.5 |
| 15.000 | 100 | 2.15 | 19.67 | 18.17 | 1851.0 | 124982.5 |
| 15.100 | 100 | 2.15 | 19.67 | 18.17 | 1817.0 | 126799.5 |
| 15.200 | 100 | 2.13 | 19.45 | 17.95 | 1806.0 | 128605.5 |
| 15.300 | 100 | 2.14 | 19.56 | 18.06 | 1800.5 | 130406.0 |
| 15.400 | 100 | 2.11 | 19.22 | 17.72 | 1789.0 | 132195.0 |
| 15.500 | 100 | 2.04 | 18.44 | 16.94 | 1733.0 | 133928.0 |
| 15.600 | 100 | 2.02 | 18.22 | 16.72 | 1683.0 | 135611.0 |
| 15.700 | 100 | 2.05 | 18.55 | 17.05 | 1688.5 | 137299.5 |
| 15.800 | 100 | 2.07 | 18.77 | 17.27 | 1716.0 | 139015.5 |
| 15.900 | 100 | 2.00 | 18.00 | 16.50 | 1688.5 | 140704.0 |
| 16.000 | 100 | 1.99 | 17.89 | 16.39 | 1644.5 | 142348.5 |
| 16.100 | 100 | 2.04 | 18.44 | 16.94 | 1666.5 | 144015.0 |
| 16.200 | 100 | 2.04 | 18.44 | 16.94 | 1694.0 | 145709.0 |
| 16.300 | 100 | 2.05 | 18.55 | 17.05 | 1699.5 | 147408.5 |
| 16.400 | 100 | 2.06 | 18.66 | 17.16 | 1710.5 | 149119.0 |
| 16.500 | 100 | 2.04 | 18.44 | 16.94 | 1705.0 | 150824.0 |
| 16.600 | 100 | 2.06 | 18.66 | 17.16 | 1705.0 | 152529.0 |
| 16.700 | 100 | 2.02 | 18.22 | 16.72 | 1694.0 | 154223.0 |
| 16.800 | 100 | 2.04 | 18.44 | 16.94 | 1683.0 | 155906.0 |
| 16.900 | 100 | 2.05 | 18.55 | 17.05 | 1699.5 | 157605.5 |

PLANILLA DE COMPUTOS METRICOS PARA LA SECCION 3RA.

EXCAVACION MECANICA



| Progresiva (Km) | Distancia (m) | Altura (m) | Area Teorica (m2) | Area A excavar (m2) | VOLUMEN Parcial (m3) | Acumulado (m3) |
|---|---|---|---|---|---|---|
| | | | | | | 157605.5 |
| 17.000 | 100 | 2.05 | 18.55 | 17.05 | 1705.0 | 159310.5 |
| 17.100 | 100 | 2.01 | 18.11 | 16.61 | 1683.0 | 160993.5 |
| 17.200 | 100 | 2.02 | 18.22 | 16.72 | 1666.5 | 162660.0 |
| 17.300 | 100 | 2.02 | 18.22 | 16.72 | 1672.0 | 164332.0 |
| 17.400 | 100 | 2.00 | 18.00 | 16.50 | 1661.0 | 165993.0 |
| 17.500 | 100 | 1.99 | 17.89 | 16.39 | 1644.5 | 167637.5 |
| 17.600 | 100 | 1.97 | 17.67 | 16.17 | 1628.0 | 169265.5 |
| 17.700 | 100 | 1.94 | 17.34 | 15.84 | 1600.5 | 170866.0 |
| 17.800 | 100 | 1.88 | 16.69 | 15.19 | 1551.5 | 172417.5 |
| 17.900 | 100 | 1.92 | 17.13 | 15.63 | 1541.0 | 173958.5 |
| 18.000 | 100 | 1.90 | 16.91 | 15.41 | 1552.0 | 175510.5 |
| 18.100 | 100 | 1.88 | 16.69 | 15.19 | 1530.0 | 177040.5 |
| 18.200 | 100 | 1.90 | 16.91 | 15.41 | 1530.0 | 178570.5 |
| 18.300 | 100 | 1.88 | 16.69 | 15.19 | 1530.0 | 180100.5 |
| 18.400 | 100 | 1.86 | 16.48 | 14.98 | 1508.5 | 181609.0 |
| 18.500 | 100 | 1.84 | 16.27 | 14.77 | 1487.5 | 183096.5 |
| 18.600 | 100 | 1.82 | 16.05 | 14.55 | 1466.0 | 184562.5 |
| 18.700 | 100 | 1.84 | 16.27 | 14.77 | 1466.0 | 186028.5 |
| 18.800 | 100 | 1.88 | 16.69 | 15.19 | 1498.0 | 187526.5 |
| 18.900 | 100 | 1.84 | 16.27 | 14.77 | 1498.0 | 189024.5 |
| 19.000 | 100 | 1.81 | 15.95 | 14.45 | 1461.0 | 190485.5 |
| 19.100 | 100 | 1.81 | 15.95 | 14.45 | 1445.0 | 191930.5 |
| 19.200 | 100 | 1.79 | 15.73 | 14.23 | 1434.0 | 193364.5 |
| 19.300 | 100 | 1.82 | 16.05 | 14.55 | 1439.0 | 194803.5 |
| 19.400 | 100 | 1.76 | 15.42 | 13.92 | 1423.5 | 196227.0 |
| 19.500 | 100 | 1.77 | 15.52 | 14.02 | 1397.0 | 197624.0 |
| 19.600 | 100 | 1.82 | 16.05 | 14.55 | 1428.5 | 199052.5 |
| 19.700 | 100 | 1.69 | 14.69 | 13.19 | 1387.0 | 200439.5 |
| 19.800 | 100 | 1.51 | 12.85 | 11.35 | 1227.0 | 201666.5 |
| 19.900 | 100 | 1.58 | 13.56 | 12.06 | 1170.5 | 202837.0 |
| 20.000 | 100 | 1.57 | 13.45 | 11.95 | 1200.5 | 204037.5 |
| 20.100 | 100 | 1.55 | 13.25 | 11.75 | 1185.0 | 205222.5 |
| 20.200 | 100 | 1.59 | 13.66 | 12.16 | 1195.5 | 206418.0 |
| 20.300 | 100 | 1.63 | 14.07 | 12.57 | 1236.5 | 207654.5 |
| 20.400 | 100 | 1.69 | 14.69 | 13.19 | 1288.0 | 208942.5 |
| 20.500 | 100 | 1.63 | 14.07 | 12.57 | 1288.0 | 210230.5 |
| 20.600 | 100 | 1.68 | 14.58 | 13.08 | 1282.5 | 211513.0 |
| 20.700 | 100 | 1.61 | 13.86 | 12.36 | 1272.0 | 212785.0 |
| 20.800 | 100 | 1.58 | 13.56 | 12.06 | 1221.0 | 214006.0 |
| 20.900 | 100 | 1.57 | 13.45 | 11.95 | 1200.5 | 215206.5 |
| 21.000 | 100 | 1.57 | 13.45 | 11.95 | 1195.0 | 216401.5 |
| 21.100 | 100 | 1.46 | 12.35 | 10.85 | 1140.0 | 217541.5 |
| 21.200 | 100 | 1.60 | 13.76 | 12.26 | 1155.5 | 218697.0 |

PLANILLA DE COMPUTOS METRICOS PARA LA SECCION 3RA.

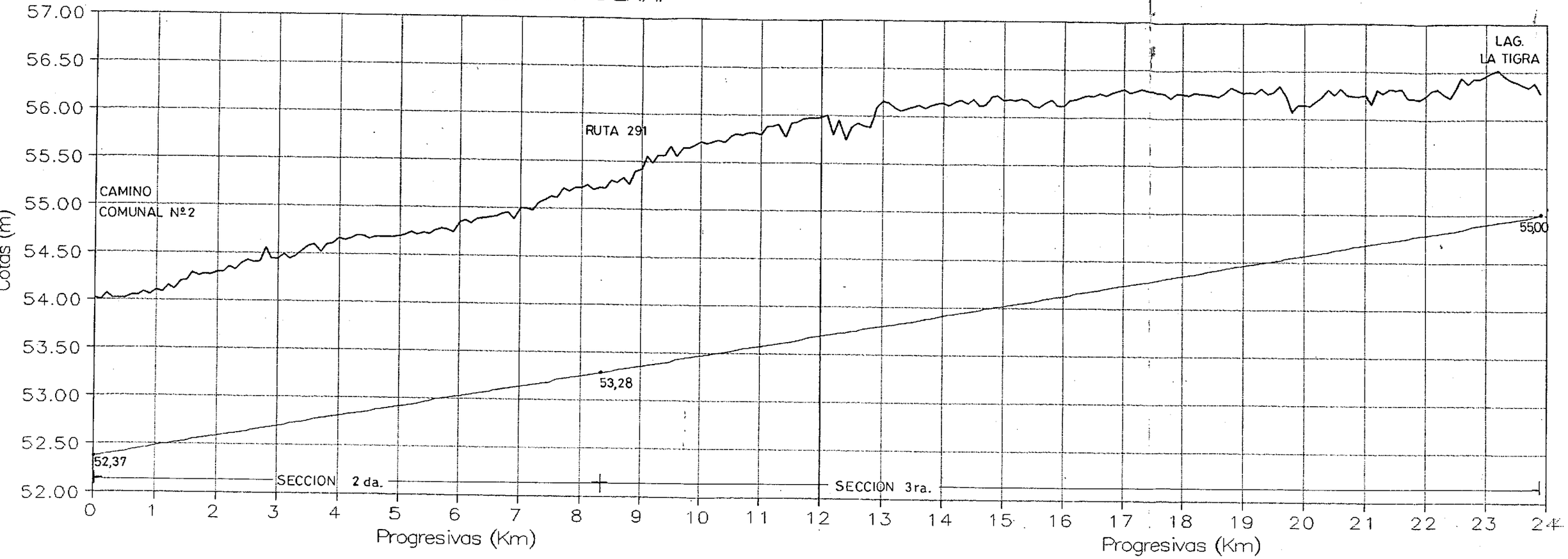
**EXCAVACION MECANICA**



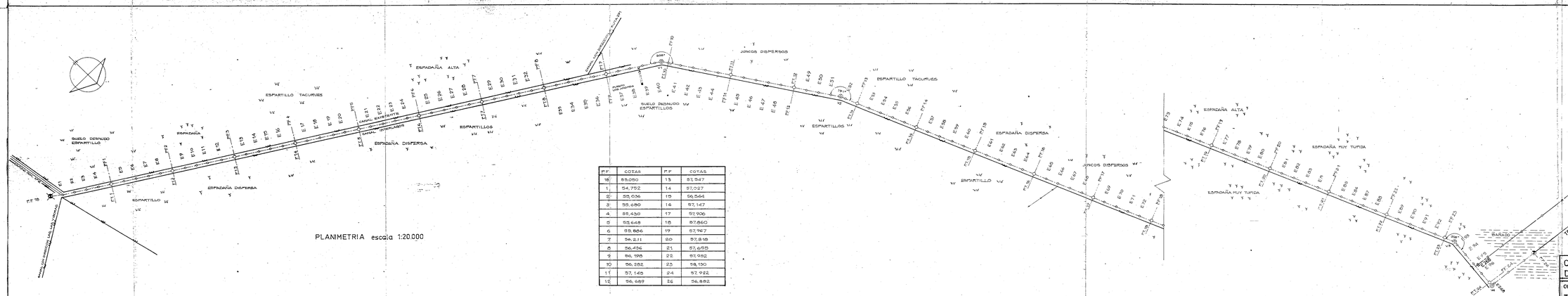
| Progresiva (Km) | Distancia (m) | Altura (m) | Area Teorica (m2) | Area A excavar (m2) | VOLUMEN Parcial (m3) | VOLUMEN Acumulado (m3) |
|---|---|---|---|---|---|---|
| | | | | | | 218697.0 |
| 21.300 | 100 | 1.56 | 13.35 | 11.85 | 1205.5 | 219902.5 |
| 21.400 | 100 | 1.59 | 13.60 | 12.10 | 1200.5 | 221103.0 |
| 21.500 | 100 | 1.57 | 13.45 | 11.95 | 1205.5 | 222308.5 |
| 21.600 | 100 | 1.57 | 13.45 | 11.95 | 1195.0 | 223503.5 |
| 21.700 | 100 | 1.47 | 12.46 | 10.96 | 1145.0 | 224648.5 |
| 21.800 | 100 | 1.46 | 12.25 | 10.75 | 1085.0 | 225733.5 |
| 21.900 | 100 | 1.43 | 12.05 | 10.55 | 1065.0 | 226798.5 |
| 22.000 | 100 | 1.46 | 12.35 | 10.85 | 1070.0 | 227868.5 |
| 22.100 | 100 | 1.50 | 12.75 | 11.25 | 1105.0 | 228973.5 |
| 22.200 | 100 | 1.50 | 12.75 | 11.25 | 1125.0 | 230098.5 |
| 22.300 | 100 | 1.45 | 12.25 | 10.75 | 1100.0 | 231198.5 |
| 22.400 | 100 | 1.40 | 11.76 | 10.26 | 1050.5 | 232249.0 |
| 22.500 | 100 | 1.48 | 12.55 | 11.05 | 1065.5 | 233314.5 |
| 22.600 | 100 | 1.59 | 13.66 | 12.16 | 1160.5 | 234475.0 |
| 22.700 | 100 | 1.51 | 12.85 | 11.35 | 1175.5 | 235650.5 |
| 22.800 | 100 | 1.55 | 13.25 | 11.75 | 1155.0 | 236805.5 |
| 22.900 | 100 | 1.53 | 13.05 | 11.55 | 1165.0 | 237970.5 |
| 23.000 | 100 | 1.56 | 13.35 | 11.85 | 1170.0 | 239140.5 |
| 23.100 | 100 | 1.58 | 13.56 | 12.06 | 1195.5 | 240336.0 |
| 23.200 | 100 | 1.60 | 13.76 | 12.26 | 1216.0 | 241552.0 |
| 23.300 | 100 | 1.53 | 13.05 | 11.55 | 1190.5 | 242742.5 |
| 23.400 | 100 | 1.47 | 12.45 | 10.95 | 1125.0 | 243867.5 |
| 23.500 | 100 | 1.44 | 12.15 | 10.65 | 1080.0 | 244947.5 |
| 23.600 | 100 | 1.40 | 11.76 | 10.26 | 1045.5 | 245993.0 |
| 23.700 | 100 | 1.36 | 11.37 | 9.87 | 1006.5 | 246999.5 |
| 23.800 | 100 | 1.39 | 11.66 | 10.16 | 1001.5 | 248001.0 |
| 23.900 | 100 | 1.28 | 10.60 | 9.10 | 963.0 | 248964.0 |

VOLUMEN TOTAL DE EXCAVACION PARA LA SECCION 3era.: 248.964 m3

# CROQUIS PERFIL LONGITUDINAL
## ALTIMETRIA — SECCION 2DA. Y 3ERA.




—— TERRENO NATURAL —— SOLERA PROYECTO




PLANIMETRIA escala 1:20.000

| P.F. | COTAS | P.F. | COTAS |
|---|---|---|---|
| 18 | 55,050 | 13 | 57,547 |
| 1 | 54,752 | 14 | 57,027 |
| 2 | 55,036 | 15 | 56,544 |
| 3 | 55,480 | 16 | 57,147 |
| 4 | 55,430 | 17 | 57,906 |
| 5 | 55,648 | 18 | 57,660 |
| 6 | 55,886 | 19 | 57,967 |
| 7 | 56,211 | 20 | 57,848 |
| 8 | 56,426 | 21 | 57,655 |
| 9 | 56,195 | 22 | 57,952 |
| 10 | 56,282 | 23 | 58,150 |
| 11 | 57,145 | 24 | 57,922 |
| 12 | 56,689 | 25 | 56,892 |

CONVENIO BILATERAL CONSEJO FEDERAL DE INVERSIONES - PROVINCIA DE SANTA FE

OBRA: CANAL INTERLAGOS
TRAMO CAMINO COMUNAL Nº 2 LAG. LA TIGRA.

DESCRIPCION: PLANIMETRIA SECCION 2da. y 3ra.

| | | | | |
|---|---|---|---|---|
| ESTUDIO | CONTRATADO AL ING. PABLO SERRI | DIBUJO | | FECHA: FEB. '95 |
| PROYECTO | | DIRECTOR PROYECTO | ING. N. LOZANO | PLANO Nº |