PROYECTO EXPEDITIVO

CANAL RUTA 291-S

- Setiembre 1986 -

I N D I C E

PLANOS

1. INTRODUCCION.

El proyecto expeditivo del canal ruta 291-S entre la Ruta Provincial N° 77-S y la Ruta interprovincial N° 35, se realiza por / indicación de la Provincia de Santa Fe, a través de la Nota N° // 117 del 23 de Agosto de 1986 (Ministerio de Agricultura y Ganadería) y a solicitud de los Comité de Cuenca de Villa Minetti y Pozo Borrado. El mismo no es un proyecto de detalle acabado, sino/ un conjunto de instrucciones técnicas que respetados significan / un sensible avance en el método de trabajo de los citados entes.

2. ANTECEDENTES DE DISEÑO.

Se reconocen como antecedentes inmediatos los estudios y proyectos del área 290-S elaborados por esta Unidad Técnica, en los/ cuales es posible encontrar información detallada de las obras. / El caudal de diseño que corresponde a la Ruta 291-S, según el proyecto original es de 8 m^3/seg., habiéndose adoptado en el presente canal 2,8 m^3/seg. que es el máximo capaz de conducir la actual obra sobre la Ruta 290-S, a la cual se le suma la limitante dada/ por el ancho de obra existente constituído por la zona del camino.

Se adoptó un solo canal por el Sur de la ruta, a efectos de / minimizar las interferencias sobre la ejecución del proyecto definitivo y tratar de salvaguardar la actual vía de comunicación.

3. MEMORIA TECNICA.

* Entre progresivas 0+000 a 9+000:

  Caudal = 2,8 m^3/seg.

  Pendiente (i) = 0,000122

Base fondo (b) = 4 m.

Talud lateral (z) = 1

Cota solera inicial = 65,20

Cota solera final = 66,30

Volumen movimiento de suelo = 67.649 m^3

* Entre progresivas 9+000 a 35+816:

Caudal = 2,8 m^3/seg.

Pendiente (i) = 0,000257

Base fondo (b) = 2 m.

Talud lateral (z) = 1

Cota solera inicial = 66,30

Cota solera final = 73,20

Volumen movimiento de suelo = 148.686 m^3

* Entre progresivas 35+816 a 53+220:

Caudal = 2,8 m^3/seg.

Pendiente (i) = 0,000333

Base fondo (b) = 1 m.

Talud lateral (z) = 1

Cota solera inicial = 73,20

Cota solera final = 79,00

Volumen movimiento de suelo = 90.876 m^3

Aclaración: El volumen de movimiento de suelo no tiene descontado las cunetas actuales por lo cual para llevarlo a los valores de / excavación real hay que restarle aproximadamente un 15 %.

4. DETALLE DE COMPUTOS Y CARACTERISTICAS GEOMETRICAS.

* ENE(J): n de Manning.
* B(J): base solera del canal (m.).
* P(J): pendiente.
* T(J): talud.
* CSI(J): cota solera inicial del tramo (m.).
* PGF(J): progresiva final del tramo.
* PG(I): progresivas.
* DL(I): distancia entre progresivas (m.).
* CT(I): cotas de terreno natural (m.)
* CSOL(I): cotas solera (m.).
* H(I)=C(I): altura (m.)
* BOCA(I): ancho de boca (m.).
* AREA(I): área en cada sección (m^2).
* Q(I): caudal (m3/seg.).

J= 1 ENE(J)=0.0275 B(J)= 4.00 E(J)=0.001 P(J)= 0.000122222
T(J)=1.00 CSI(J)= 65.20 PGF(J)= 9.000 AL(J)= 0.0

AREA MAXIMA = 10.52 CAUDAL MAXIMO = 4.88
AREA MINIMA = 3.24 CAUDAL MINIMO = 0.71
CAUDAL PROMEDIO = 2.88

PG(I)	DL(I)	CT(I)	CSOL(I)	H(I)	C(I)	BOCA(I)	AREA(I)	Q(I)
0.0	0.0	65.89	65.20	0.69	0.69	5.38	3.24	0.71
0.100	100.00	66.32	65.21	1.11	1.11	6.22	5.67	1.81
0.200	100.00	66.36	65.22	1.14	1.14	6.28	5.86	1.91
0.300	100.00	66.40	65.24	1.16	1.16	6.32	5.99	1.98
0.400	100.00	66.48	65.25	1.23	1.23	6.46	6.43	2.22
0.500	100.00	66.51	65.26	1.25	1.25	6.50	6.56	2.30
0.600	100.00	66.47	65.27	1.20	1.20	6.40	6.24	2.12
0.700	100.00	66.49	65.29	1.20	1.20	6.40	6.24	2.12
0.800	100.00	66.59	65.30	1.29	1.29	6.58	6.82	2.45
0.900	100.00	66.62	65.31	1.31	1.31	6.62	6.96	2.52
1.000	100.00	66.66	65.32	1.34	1.34	6.68	7.16	2.64
1.100	100.00	66.49	65.33	1.16	1.16	6.32	5.99	1.98
1.200	100.00	66.70	65.35	1.35	1.35	6.70	7.22	2.68
1.300	100.00	66.72	65.36	1.36	1.36	6.72	7.29	2.72
1.400	100.00	66.70	65.37	1.33	1.33	6.66	7.09	2.60
1.500	100.00	66.77	65.38	1.39	1.39	6.78	7.49	2.85
1.600	100.00	66.69	65.40	1.29	1.29	6.58	6.82	2.45
1.700	100.00	66.74	65.41	1.33	1.33	6.66	7.09	2.60
1.800	100.00	66.64	65.42	1.22	1.22	6.44	6.37	2.19
1.900	100.00	66.58	65.43	1.15	1.15	6.30	5.92	1.94
2.000	100.00	66.66	65.44	1.22	1.22	6.44	6.37	2.19
2.100	100.00	66.67	65.46	1.21	1.21	6.42	6.30	2.15
2.200	100.00	66.61	65.47	1.14	1.14	6.28	5.86	1.91
2.300	100.00	66.67	65.48	1.19	1.19	6.38	6.18	2.08
2.400	100.00	66.75	65.49	1.26	1.26	6.52	6.63	2.33
2.500	100.00	66.88	65.51	1.37	1.37	6.74	7.36	2.76
2.600	100.00	66.81	65.52	1.29	1.29	6.58	6.82	2.45
2.700	100.00	66.87	65.53	1.34	1.34	6.68	7.16	2.64
2.800	100.00	66.82	65.54	1.28	1.28	6.56	6.76	2.41
2.900	100.00	66.86	65.55	1.31	1.31	6.62	6.96	2.52
3.000	100.00	66.85	65.57	1.28	1.28	6.56	6.76	2.41
3.100	100.00	66.86	65.58	1.28	1.28	6.56	6.76	2.41
3.200	100.00	66.97	65.59	1.38	1.38	6.76	7.42	2.80
3.300	100.00	66.97	65.60	1.37	1.37	6.74	7.36	2.76
3.400	100.00	66.96	65.62	1.34	1.34	6.68	7.16	2.64
3.500	100.00	66.84	65.63	1.21	1.21	6.42	6.30	2.15
3.600	100.00	67.00	65.64	1.36	1.36	6.72	7.29	2.72
3.700	100.00	66.94	65.65	1.29	1.29	6.58	6.82	2.45
3.800	100.00	66.56	65.66	0.90	0.90	5.80	4.41	1.19
3.900	100.00	66.94	65.68	1.26	1.26	6.52	6.63	2.33
4.000	100.00	66.90	65.69	1.21	1.21	6.42	6.30	2.15
4.100	100.00	67.04	65.70	1.34	1.34	6.68	7.16	2.64
4.200	100.00	67.04	65.71	1.33	1.33	6.66	7.09	2.60
4.300	100.00	67.00	65.72	1.28	1.28	6.56	6.76	2.41
4.400	100.00	67.16	65.74	1.42	1.42	6.84	7.70	2.97
4.500	100.00	67.05	65.75	1.30	1.30	6.60	6.89	2.49

4.600	100.00	67.03	65.76	1.27	1.27	6.54	6.69	2.37
4.700	100.00	67.08	65.77	1.31	1.31	6.62	6.96	2.52
4.800	100.00	67.21	65.79	1.42	1.42	6.84	7.70	2.97
4.900	100.00	67.16	65.80	1.36	1.36	6.72	7.29	2.72
5.000	100.00	67.09	65.81	1.28	1.28	6.56	6.76	2.41
5.100	100.00	67.18	65.82	1.36	1.36	6.72	7.29	2.72
5.200	100.00	67.23	65.83	1.40	1.40	6.80	7.56	2.89
5.300	100.00	67.28	65.85	1.43	1.43	6.86	7.76	3.01
5.400	100.00	67.31	65.86	1.45	1.45	6.90	7.90	3.10
5.500	100.00	67.39	65.87	1.52	1.52	7.04	8.39	3.41
5.600	100.00	67.28	65.88	1.40	1.40	6.80	7.56	2.89
5.700	100.00	67.47	65.90	1.57	1.57	7.14	8.74	3.64
5.800	100.00	67.34	65.91	1.43	1.43	6.86	7.76	3.01
5.900	100.00	67.43	65.92	1.51	1.51	7.02	8.32	3.36
6.000	100.00	67.41	65.93	1.48	1.48	6.96	8.11	3.23
6.100	100.00	67.43	65.94	1.49	1.49	6.98	8.18	3.27
6.200	100.00	67.52	65.96	1.56	1.56	7.12	8.67	3.60
6.300	100.00	67.51	65.97	1.54	1.54	7.08	8.53	3.50
6.400	100.00	67.46	65.98	1.48	1.48	6.96	8.11	3.23
6.500	100.00	67.47	65.99	1.48	1.48	6.96	8.11	3.23
6.600	100.00	67.51	66.01	1.50	1.50	7.00	8.25	3.32
6.700	100.00	67.41	66.02	1.39	1.39	6.78	7.49	2.85
6.800	100.00	67.60	66.03	1.57	1.57	7.14	8.74	3.64
6.900	100.00	67.61	66.04	1.57	1.57	7.14	8.74	3.64
7.000	100.00	67.66	66.05	1.61	1.61	7.22	9.03	3.83
7.100	100.00	67.64	66.07	1.57	1.57	7.14	8.74	3.64
7.200	100.00	67.49	66.08	1.41	1.41	6.82	7.63	2.93
7.300	100.00	67.60	66.09	1.51	1.51	7.02	8.32	3.36
7.400	100.00	67.68	66.10	1.58	1.58	7.16	8.82	3.69
7.500	100.00	67.82	66.12	1.70	1.70	7.40	9.69	4.29
7.600	100.00	67.78	66.13	1.65	1.65	7.30	9.32	4.03
7.700	100.00	67.85	66.14	1.71	1.71	7.42	9.76	4.34
7.800	100.00	67.71	66.15	1.56	1.56	7.12	8.67	3.60
7.900	100.00	67.79	66.16	1.63	1.63	7.26	9.18	3.93
8.000	100.00	67.81	66.18	1.63	1.63	7.26	9.18	3.93
8.100	100.00	67.87	66.19	1.68	1.68	7.36	9.54	4.18
8.200	100.00	67.66	66.20	1.46	1.46	6.92	7.97	3.14
8.300	100.00	67.77	66.21	1.56	1.56	7.12	8.67	3.60
8.400	100.00	68.03	66.23	1.80	1.80	7.60	10.44	4.82
8.500	100.00	67.85	66.24	1.61	1.61	7.22	9.03	3.83
8.600	100.00	67.78	66.25	1.53	1.53	7.06	8.46	3.46
8.700	100.00	67.94	66.26	1.68	1.68	7.36	9.54	4.18
8.800	100.00	68.08	66.27	1.81	1.81	7.62	10.52	4.88
8.900	100.00	67.79	66.29	1.50	1.50	7.00	8.25	3.32
9.000	100.00	67.78	66.30	1.48	1.48	6.96	8.11	3.23

VOLUMEN PARCIAL = 67648.69 M3

J= 2 ENE(J)=0.0275 B(J)= 2.00 E(J)=0.001 P(J)= 0.000257309
T(J)=1.00 CSI(J)= 66.30 PGF(J)= 35.816 AL(J)= 0.0

AREA MAXIMA = 8.30 CAUDAL MAXIMO = 5.16

AREA MINIMA = 2.13 CAUDAL MINIMO = 0.64
CAUDAL PROMEDIO = 2.85

PG(I)	DL(I)	CT(I)	CSOL(I)	H(I)	C(I)	BOCA(I)	AREA(I)	Q(I)
9.100	100.00	68.26	66.32	1.94	1.94	5.88	7.64	4.55
9.200	100.00	68.26	66.35	1.91	1.91	5.82	7.47	4.39
9.300	100.00	68.32	66.38	1.94	1.94	5.88	7.64	4.55
9.400	100.00	68.30	66.40	1.90	1.90	5.80	7.41	4.34
9.500	100.00	68.33	66.43	1.90	1.90	5.80	7.41	4.34
9.600	100.00	68.43	66.45	1.98	1.98	5.96	7.88	4.77
9.700	100.00	68.39	66.48	1.91	1.91	5.82	7.47	4.39
9.800	100.00	68.49	66.50	1.99	1.99	5.98	7.94	4.82
9.900	100.00	68.48	66.53	1.95	1.95	5.90	7.70	4.60
10.000	100.00	68.50	66.56	1.94	1.94	5.88	7.64	4.55
10.100	100.00	68.54	66.58	1.96	1.96	5.92	7.76	4.66
10.200	100.00	68.49	66.61	1.88	1.88	5.76	7.29	4.24
10.300	100.00	68.54	66.63	1.91	1.91	5.82	7.47	4.39
10.400	100.00	68.43	66.66	1.77	1.77	5.54	6.67	3.71
10.500	100.00	68.52	66.68	1.84	1.84	5.68	7.07	4.04
10.600	100.00	68.44	66.71	1.73	1.73	5.46	6.45	3.52
10.700	100.00	68.54	66.74	1.80	1.80	5.60	6.84	3.85
10.800	100.00	68.60	66.76	1.84	1.84	5.68	7.07	4.04
10.900	100.00	68.58	66.79	1.79	1.79	5.58	6.78	3.80
11.000	100.00	68.45	66.81	1.64	1.64	5.28	5.97	3.13
11.100	100.00	68.32	66.84	1.48	1.48	4.96	5.15	2.50
11.200	100.00	68.49	66.86	1.63	1.63	5.26	5.92	3.09
11.300	100.00	68.73	66.89	1.84	1.84	5.68	7.07	4.04
11.400	100.00	68.73	66.92	1.81	1.81	5.62	6.90	3.90
11.500	100.00	68.61	66.94	1.67	1.67	5.34	6.13	3.26
11.600	100.00	68.80	66.97	1.83	1.83	5.66	7.01	3.99
11.700	100.00	68.82	66.99	1.83	1.83	5.66	7.01	3.99
11.800	100.00	68.66	67.02	1.64	1.64	5.28	5.97	3.13
11.900	100.00	68.75	67.04	1.71	1.71	5.42	6.34	3.43
12.000	100.00	68.80	67.07	1.73	1.73	5.46	6.45	3.52
12.100	100.00	69.00	67.10	1.90	1.90	5.80	7.41	4.34
12.200	100.00	68.82	67.12	1.70	1.70	5.40	6.29	3.39
12.300	100.00	68.89	67.15	1.74	1.74	5.48	6.51	3.57
12.400	100.00	68.87	67.17	1.70	1.70	5.40	6.29	3.39
12.500	100.00	68.92	67.20	1.72	1.72	5.44	6.40	3.48
12.600	100.00	68.85	67.22	1.63	1.63	5.26	5.92	3.09
12.700	100.00	69.04	67.25	1.79	1.79	5.58	6.78	3.80
12.800	100.00	69.06	67.28	1.78	1.78	5.56	6.73	3.75
12.900	100.00	68.94	67.30	1.64	1.64	5.28	5.97	3.13
13.000	100.00	69.04	67.33	1.71	1.71	5.42	6.34	3.43
13.100	100.00	69.06	67.35	1.71	1.71	5.42	6.34	3.43
13.200	100.00	69.08	67.38	1.70	1.70	5.40	6.29	3.39
13.300	100.00	69.12	67.40	1.72	1.72	5.44	6.40	3.48
13.400	100.00	69.10	67.43	1.67	1.67	5.34	6.13	3.26
13.500	100.00	69.20	67.46	1.74	1.74	5.48	6.51	3.57
13.600	100.00	68.98	67.48	1.50	1.50	5.00	5.25	2.58
13.700	100.00	69.20	67.51	1.69	1.69	5.38	6.24	3.35
13.800	100.00	69.26	67.53	1.73	1.73	5.46	6.45	3.52
13.900	100.00	69.38	67.56	1.82	1.82	5.64	6.55	3.94
14.000	100.00	69.17	67.58	1.59	1.59	5.18	5.71	2.93
14.100	100.00	69.18	67.61	1.57	1.57	5.14	5.60	2.85

14.200	100.00	69.36	67.64	1.72	1.72	5.44	6.40	3.48
14.300	100.00	69.36	67.66	1.70	1.70	5.40	6.29	3.39
14.400	100.00	69.31	67.69	1.62	1.62	5.24	5.86	3.05
14.500	100.00	69.36	67.71	1.65	1.65	5.30	6.02	3.17
14.600	100.00	69.47	67.74	1.73	1.73	5.46	6.45	3.52
14.700	100.00	69.48	67.77	1.71	1.71	5.42	6.34	3.43
14.800	100.00	69.59	67.79	1.80	1.80	5.60	6.84	3.85
14.900	100.00	69.54	67.82	1.72	1.72	5.44	6.40	3.48
15.000	100.00	69.40	67.84	1.56	1.56	5.12	5.55	2.81
15.100	100.00	69.53	67.87	1.66	1.66	5.32	6.08	3.22
15.200	100.00	69.62	67.89	1.73	1.73	5.46	6.45	3.52
15.300	100.00	69.66	67.92	1.74	1.74	5.48	6.51	3.57
15.400	100.00	69.72	67.95	1.77	1.77	5.54	6.67	3.71
15.500	100.00	69.71	67.97	1.74	1.74	5.48	6.51	3.57
15.600	100.00	69.49	68.00	1.49	1.49	4.98	5.20	2.54
15.700	100.00	69.51	68.02	1.49	1.49	4.98	5.20	2.54
15.800	100.00	69.62	68.05	1.57	1.57	5.14	5.60	2.85
15.900	100.00	69.72	68.07	1.65	1.65	5.30	6.02	3.17
16.000	100.00	69.54	68.10	1.44	1.44	4.88	4.95	2.36
16.100	100.00	69.62	68.13	1.49	1.49	4.98	5.20	2.54
16.200	100.00	69.90	68.15	1.75	1.75	5.50	6.56	3.61
16.300	100.00	69.98	68.18	1.80	1.80	5.60	6.84	3.85
16.400	100.00	69.76	68.20	1.56	1.56	5.12	5.55	2.81
16.500	100.00	69.72	68.23	1.49	1.49	4.98	5.20	2.54
16.600	100.00	70.01	68.25	1.76	1.76	5.52	6.62	3.66
16.700	100.00	70.10	68.28	1.82	1.82	5.64	6.95	3.94
16.800	100.00	70.07	68.31	1.76	1.76	5.52	6.62	3.66
16.900	100.00	70.25	68.33	1.92	1.92	5.84	7.53	4.45
17.000	100.00	70.12	68.36	1.76	1.76	5.52	6.62	3.66
17.100	100.00	70.00	68.38	1.62	1.62	5.24	5.86	3.05
17.200	100.00	70.08	68.41	1.67	1.67	5.34	6.13	3.26
17.300	100.00	70.01	68.43	1.58	1.58	5.16	5.66	2.88
17.400	100.00	69.98	68.46	1.52	1.52	5.04	5.35	2.65
17.500	100.00	70.14	68.49	1.65	1.65	5.30	6.02	3.17
17.600	100.00	70.11	68.51	1.60	1.60	5.20	5.76	2.97
17.700	100.00	70.16	68.54	1.62	1.62	5.24	5.86	3.05
17.800	100.00	70.22	68.56	1.66	1.66	5.32	6.08	3.22
17.900	100.00	70.20	68.59	1.61	1.61	5.22	5.81	3.01
18.000	100.00	70.10	68.61	1.49	1.49	4.98	5.20	2.54
18.100	100.00	70.25	68.64	1.61	1.61	5.22	5.81	3.01
18.200	100.00	70.21	68.67	1.54	1.54	5.08	5.45	2.73
18.300	100.00	70.33	68.69	1.64	1.64	5.28	5.97	3.13
18.400	100.00	70.33	68.72	1.61	1.61	5.22	5.81	3.01
18.500	100.00	70.35	68.74	1.61	1.61	5.22	5.81	3.01
18.600	100.00	70.36	68.77	1.59	1.59	5.18	5.71	2.93
18.700	100.00	70.30	68.79	1.51	1.51	5.02	5.30	2.61
18.800	100.00	70.72	68.82	1.90	1.90	5.80	7.41	4.34
18.900	100.00	70.52	68.85	1.67	1.67	5.34	6.13	3.26
19.000	100.00	70.40	68.87	1.53	1.53	5.06	5.40	2.69
19.100	100.00	70.39	68.90	1.49	1.49	4.98	5.20	2.54
19.200	100.00	70.57	68.92	1.65	1.65	5.30	6.02	3.17
19.300	100.00	70.52	68.95	1.57	1.57	5.14	5.60	2.85
19.400	100.00	70.16	68.97	1.19	1.19	4.38	3.80	1.57
19.500	100.00	70.30	69.00	1.30	1.30	4.60	4.29	1.89
19.600	100.00	70.50	69.03	1.47	1.47	4.94	5.10	2.46
19.700	100.00	70.53	69.05	1.48	1.48	4.96	5.15	2.50

19.800	100.00	70.50	69.08	1.42	1.42	4.84	4.86	2.29
19.900	100.00	70.56	69.10	1.46	1.46	4.92	5.05	2.43
20.000	100.00	70.50	69.13	1.37	1.37	4.74	4.62	2.12
20.100	100.00	70.55	69.15	1.40	1.40	4.80	4.76	2.22
20.200	100.00	70.65	69.18	1.47	1.47	4.94	5.10	2.46
20.300	100.00	70.63	69.21	1.42	1.42	4.84	4.86	2.29
20.400	100.00	70.62	69.23	1.39	1.39	4.78	4.71	2.18
20.500	100.00	70.87	69.26	1.61	1.61	5.22	5.81	3.01
20.600	100.00	70.70	69.28	1.42	1.42	4.84	4.86	2.29
20.700	100.00	70.73	69.31	1.42	1.42	4.84	4.86	2.29
20.800	100.00	70.75	69.33	1.42	1.42	4.84	4.86	2.29
20.900	100.00	70.82	69.36	1.46	1.46	4.92	5.05	2.43
21.000	100.00	70.80	69.39	1.41	1.41	4.82	4.81	2.25
21.100	100.00	70.85	69.41	1.44	1.44	4.88	4.95	2.36
21.200	100.00	70.87	69.44	1.43	1.43	4.86	4.90	2.32
21.300	100.00	70.73	69.46	1.27	1.27	4.54	4.15	1.80
21.400	100.00	70.92	69.49	1.43	1.43	4.86	4.90	2.32
21.500	100.00	70.93	69.51	1.42	1.42	4.84	4.86	2.29
21.600	100.00	70.95	69.54	1.41	1.41	4.82	4.81	2.25
21.700	100.00	70.85	69.57	1.28	1.28	4.56	4.20	1.83
21.800	100.00	71.08	69.59	1.49	1.49	4.98	5.20	2.54
21.900	100.00	71.01	69.62	1.39	1.39	4.78	4.71	2.18
22.000	100.00	71.02	69.64	1.38	1.38	4.76	4.66	2.15
22.100	100.00	70.94	69.67	1.27	1.27	4.54	4.15	1.80
22.200	100.00	71.05	69.69	1.36	1.36	4.72	4.57	2.08
22.300	100.00	71.04	69.72	1.32	1.32	4.64	4.38	1.95
22.400	100.00	71.03	69.75	1.28	1.28	4.56	4.20	1.83
22.500	100.00	71.10	69.77	1.33	1.33	4.66	4.43	1.99
22.600	100.00	71.14	69.80	1.34	1.34	4.68	4.48	2.02
22.700	100.00	71.20	69.82	1.38	1.38	4.76	4.66	2.15
22.800	100.00	71.13	69.85	1.28	1.28	4.56	4.20	1.83
22.900	100.00	71.15	69.87	1.28	1.28	4.56	4.20	1.83
23.000	100.00	71.12	69.90	1.22	1.22	4.44	3.93	1.65
23.100	100.00	71.29	69.93	1.36	1.36	4.72	4.57	2.08
23.200	100.00	71.22	69.95	1.27	1.27	4.54	4.15	1.80
23.300	100.00	71.36	69.98	1.38	1.38	4.76	4.66	2.15
23.400	100.00	71.35	70.00	1.35	1.35	4.70	4.52	2.05
23.500	100.00	71.33	70.03	1.30	1.30	4.60	4.29	1.89
23.600	100.00	71.44	70.05	1.39	1.39	4.78	4.71	2.18
23.700	100.00	71.42	70.08	1.34	1.34	4.68	4.48	2.02
23.800	100.00	71.45	70.11	1.34	1.34	4.68	4.48	2.02
23.900	100.00	71.40	70.13	1.27	1.27	4.54	4.15	1.80
24.000	100.00	71.48	70.16	1.32	1.32	4.64	4.38	1.95
24.100	100.00	71.64	70.18	1.46	1.46	4.92	5.05	2.43
24.200	100.00	71.67	70.21	1.46	1.46	4.92	5.05	2.43
24.300	100.00	71.65	70.23	1.42	1.42	4.84	4.86	2.29
24.400	100.00	71.77	70.26	1.51	1.51	5.02	5.30	2.61
24.500	100.00	71.69	70.29	1.40	1.40	4.80	4.76	2.22
24.600	100.00	71.82	70.31	1.51	1.51	5.02	5.30	2.61
24.700	100.00	71.84	70.34	1.50	1.50	5.00	5.25	2.58
24.800	100.00	71.73	70.36	1.37	1.37	4.74	4.62	2.12
24.900	100.00	71.70	70.39	1.31	1.31	4.62	4.34	1.92
25.000	100.00	71.69	70.41	1.28	1.28	4.56	4.20	1.83
25.100	100.00	71.70	70.44	1.26	1.26	4.52	4.11	1.77
25.200	100.00	71.80	70.47	1.33	1.33	4.66	4.43	1.99
25.300	100.00	71.79	70.49	1.30	1.30	4.60	4.29	1.89

25.400	100.00	71.92	70.52	1.40	1.40	4.80	4.76	2.22
25.500	100.00	71.88	70.54	1.34	1.34	4.68	4.48	2.02
25.600	100.00	71.99	70.57	1.42	1.42	4.84	4.86	2.29
25.700	100.00	71.93	70.59	1.34	1.34	4.68	4.48	2.02
25.800	100.00	71.94	70.62	1.32	1.32	4.64	4.38	1.95
25.900	100.00	71.96	70.65	1.31	1.31	4.62	4.34	1.92
26.000	100.00	71.97	70.67	1.30	1.30	4.60	4.29	1.89
26.100	100.00	71.99	70.70	1.29	1.29	4.58	4.24	1.86
26.200	100.00	72.00	70.72	1.28	1.28	4.56	4.20	1.83
26.300	100.00	71.96	70.75	1.21	1.21	4.42	3.88	1.62
26.400	100.00	71.99	70.78	1.21	1.21	4.42	3.88	1.62
26.500	100.00	71.95	70.80	1.15	1.15	4.30	3.62	1.46
26.600	100.00	72.02	70.83	1.19	1.19	4.38	3.80	1.57
26.700	100.00	72.02	70.85	1.17	1.17	4.34	3.71	1.51
26.800	100.00	72.08	70.88	1.20	1.20	4.40	3.84	1.59
26.900	100.00	72.17	70.90	1.27	1.27	4.54	4.15	1.80
27.000	100.00	72.06	70.93	1.13	1.13	4.26	3.54	1.40
27.100	100.00	72.16	70.96	1.20	1.20	4.40	3.84	1.59
27.200	100.00	72.15	70.98	1.17	1.17	4.34	3.71	1.51
27.300	100.00	72.25	71.01	1.24	1.24	4.48	4.02	1.71
27.400	100.00	71.80	71.03	0.77	0.77	3.54	2.13	0.64
27.500	100.00	71.89	71.06	0.83	0.83	3.66	2.35	0.74
27.600	100.00	72.32	71.08	1.24	1.24	4.48	4.02	1.71
27.700	100.00	72.21	71.11	1.10	1.10	4.20	3.41	1.33
27.800	100.00	72.37	71.14	1.23	1.23	4.46	3.97	1.68
27.900	100.00	72.45	71.16	1.29	1.29	4.58	4.24	1.86
28.000	100.00	72.42	71.19	1.23	1.23	4.46	3.97	1.68
28.100	100.00	72.52	71.21	1.31	1.31	4.62	4.34	1.92
28.200	100.00	72.60	71.24	1.36	1.36	4.72	4.57	2.08
28.300	100.00	72.56	71.26	1.30	1.30	4.60	4.29	1.89
28.400	100.00	72.64	71.29	1.35	1.35	4.70	4.52	2.05
28.500	100.00	72.65	71.32	1.33	1.33	4.66	4.43	1.99
28.600	100.00	72.69	71.34	1.35	1.35	4.70	4.52	2.05
28.700	100.00	72.72	71.37	1.35	1.35	4.70	4.52	2.05
28.800	100.00	72.77	71.39	1.38	1.38	4.76	4.66	2.15
28.900	100.00	72.78	71.42	1.36	1.36	4.72	4.57	2.08
29.000	100.00	72.75	71.44	1.31	1.31	4.62	4.34	1.92
29.100	100.00	72.83	71.47	1.36	1.36	4.72	4.57	2.08
29.200	100.00	72.83	71.50	1.33	1.33	4.66	4.43	1.99
29.300	100.00	72.90	71.52	1.38	1.38	4.76	4.66	2.15
29.400	100.00	72.89	71.55	1.34	1.34	4.68	4.48	2.02
29.500	100.00	72.89	71.57	1.32	1.32	4.64	4.38	1.95
29.600	100.00	72.98	71.60	1.38	1.38	4.76	4.66	2.15
29.700	100.00	73.00	71.62	1.38	1.38	4.76	4.66	2.15
29.800	100.00	73.20	71.65	1.55	1.55	5.10	5.50	2.77
29.900	100.00	73.18	71.68	1.50	1.50	5.00	5.25	2.58
30.000	100.00	73.07	71.70	1.37	1.37	4.74	4.62	2.12
30.100	100.00	73.08	71.73	1.35	1.35	4.70	4.52	2.05
30.200	100.00	73.23	71.75	1.48	1.48	4.96	5.15	2.50
30.300	100.00	73.24	71.78	1.46	1.46	4.92	5.05	2.43
30.400	100.00	73.29	71.80	1.49	1.49	4.98	5.20	2.54
30.500	100.00	73.31	71.83	1.48	1.48	4.96	5.15	2.50
30.600	100.00	73.39	71.86	1.53	1.53	5.06	5.40	2.69
30.700	100.00	73.31	71.88	1.43	1.43	4.86	4.90	2.32
30.800	100.00	73.44	71.91	1.53	1.53	5.06	5.40	2.69
30.900	100.00	73.37	71.93	1.44	1.44	4.88	4.95	2.36

31.000	100.00	73.46	71.96	1.50	1.50	5.00	5.25	2.58
31.100	100.00	73.43	71.98	1.45	1.45	4.90	5.00	2.39
31.200	100.00	73.37	72.01	1.36	1.36	4.72	4.57	2.08
31.300	100.00	73.41	72.04	1.37	1.37	4.74	4.62	2.12
31.400	100.00	73.43	72.06	1.37	1.37	4.74	4.62	2.12
31.500	100.00	73.48	72.09	1.39	1.39	4.78	4.71	2.18
31.600	100.00	73.35	72.11	1.24	1.24	4.48	4.02	1.71
31.700	100.00	73.55	72.14	1.41	1.41	4.82	4.81	2.25
31.800	100.00	73.64	72.16	1.48	1.48	4.96	5.15	2.50
31.900	100.00	73.65	72.19	1.46	1.46	4.92	5.05	2.43
32.000	100.00	73.65	72.22	1.43	1.43	4.86	4.90	2.32
32.100	100.00	73.68	72.24	1.44	1.44	4.88	4.95	2.36
32.200	100.00	73.90	72.27	1.63	1.63	5.26	5.92	3.09
32.300	100.00	73.78	72.29	1.49	1.49	4.98	5.20	2.54
32.400	100.00	73.79	72.32	1.47	1.47	4.94	5.10	2.46
32.500	100.00	73.82	72.34	1.48	1.48	4.96	5.15	2.50
32.600	100.00	73.91	72.37	1.54	1.54	5.08	5.45	2.73
32.700	100.00	73.95	72.40	1.55	1.55	5.10	5.50	2.77
32.800	100.00	73.93	72.42	1.51	1.51	5.02	5.30	2.61
32.900	100.00	74.10	72.45	1.65	1.65	5.30	6.02	3.17
33.000	100.00	74.14	72.47	1.67	1.67	5.34	6.13	3.26
33.100	100.00	74.10	72.50	1.60	1.60	5.20	5.76	2.97
33.200	100.00	74.04	72.52	1.52	1.52	5.04	5.35	2.65
33.300	100.00	74.34	72.55	1.79	1.79	5.58	6.78	3.80
33.400	100.00	74.31	72.58	1.73	1.73	5.46	6.45	3.52
33.500	100.00	74.33	72.60	1.73	1.73	5.46	6.45	3.52
33.600	100.00	74.24	72.63	1.61	1.61	5.22	5.81	3.01
33.700	100.00	74.22	72.65	1.57	1.57	5.14	5.60	2.85
33.800	100.00	74.34	72.68	1.66	1.66	5.32	6.08	3.22
33.900	100.00	74.57	72.70	1.87	1.87	5.74	7.24	4.19
34.000	100.00	74.78	72.73	2.05	2.05	6.10	8.30	5.16
34.100	100.00	74.81	72.76	2.05	2.05	6.10	8.30	5.16
34.200	100.00	74.72	72.78	1.94	1.94	5.88	7.64	4.55
34.300	100.00	74.85	72.81	2.04	2.04	6.08	8.24	5.10
34.400	100.00	74.73	72.83	1.90	1.90	5.80	7.41	4.34
34.500	100.00	74.82	72.86	1.96	1.96	5.92	7.76	4.66
34.600	100.00	74.89	72.88	2.01	2.01	6.02	8.06	4.93
34.700	100.00	74.78	72.91	1.87	1.87	5.74	7.24	4.19
34.800	100.00	74.83	72.94	1.89	1.89	5.78	7.35	4.29
34.900	100.00	74.87	72.96	1.91	1.91	5.82	7.47	4.39
35.000	100.00	74.98	72.99	1.99	1.99	5.98	7.94	4.82
35.100	100.00	75.02	73.01	2.01	2.01	6.02	8.06	4.93
35.200	100.00	74.94	73.04	1.90	1.90	5.80	7.41	4.34
35.300	100.00	75.02	73.06	1.96	1.96	5.92	7.76	4.66
35.400	100.00	75.02	73.09	1.93	1.93	5.86	7.58	4.50
35.500	100.00	74.97	73.12	1.85	1.85	5.70	7.12	4.09
35.600	100.00	74.90	73.14	1.76	1.76	5.52	6.62	3.66
35.700	100.00	75.09	73.17	1.92	1.92	5.84	7.53	4.45
35.800	100.00	75.05	73.19	1.86	1.86	5.72	7.18	4.14
35.816	16.00	75.05	73.20	1.85	1.85	5.70	7.12	4.09

VOLUMEN PARCIAL = 148686.35 M3

J= 3 ENE(J)=0.0275 B(J)= 1.00 E(J)=0.001 P(J)= 0.000333256
T(J)=1.00 CSI(J)= 73.20 PGF(J)= 53.220 AL(J)= 0.0

AREA MAXIMA = 8.69 CAUDAL MAXIMO = 6.23
AREA MINIMA = 1.88 CAUDAL MINIMO = 0.63
CAUDAL PROMEDIO = 2.96

PG(I)	DL(I)	CT(I)	CSOL(I)	H(I)	C(I)	BOCA(I)	AREA(I)	Q(I)
35.900	84.00	75.25	73.23	2.02	2.02	5.04	6.10	3.68
36.000	100.00	74.99	73.26	1.73	1.73	4.46	4.72	2.51
36.100	100.00	74.25	73.29	0.96	0.96	2.92	1.88	0.63
36.200	100.00	75.49	73.33	2.16	2.16	5.32	6.83	4.35
36.300	100.00	75.46	73.36	2.10	2.10	5.20	6.51	4.05
36.400	100.00	75.44	73.39	2.05	2.05	5.10	6.25	3.82
36.500	100.00	75.40	73.43	1.97	1.97	4.94	5.85	3.46
36.600	100.00	75.53	73.46	2.07	2.07	5.14	6.35	3.91
36.700	100.00	75.48	73.49	1.99	1.99	4.98	5.95	3.55
36.800	100.00	75.55	73.53	2.02	2.02	5.04	6.10	3.68
36.900	100.00	75.57	73.56	2.01	2.01	5.02	6.05	3.63
37.000	100.00	75.60	73.59	2.01	2.01	5.02	6.05	3.63
37.100	100.00	75.68	73.63	2.05	2.05	5.10	6.25	3.82
37.200	100.00	75.65	73.66	1.99	1.99	4.98	5.95	3.55
37.300	100.00	75.68	73.69	1.99	1.99	4.98	5.95	3.55
37.400	100.00	75.69	73.73	1.96	1.96	4.92	5.80	3.41
37.500	100.00	75.56	73.76	1.80	1.80	4.60	5.04	2.77
37.600	100.00	75.80	73.79	2.01	2.01	5.02	6.05	3.63
37.700	100.00	75.76	73.83	1.93	1.93	4.86	5.65	3.29
37.800	100.00	75.85	73.86	1.99	1.99	4.98	5.95	3.55
37.900	100.00	75.85	73.89	1.96	1.96	4.92	5.80	3.41
38.000	100.00	75.81	73.93	1.88	1.88	4.76	5.41	3.08
38.100	100.00	76.01	73.96	2.05	2.05	5.10	6.25	3.82
38.200	100.00	75.93	73.99	1.94	1.94	4.88	5.70	3.33
38.300	100.00	75.86	74.03	1.83	1.83	4.66	5.18	2.88
38.400	100.00	75.91	74.06	1.85	1.85	4.70	5.27	2.96
38.500	100.00	76.03	74.09	1.94	1.94	4.88	5.70	3.33
38.600	100.00	75.91	74.13	1.78	1.78	4.56	4.95	2.69
38.700	100.00	76.04	74.16	1.88	1.88	4.76	5.41	3.08
38.800	100.00	75.91	74.19	1.72	1.72	4.44	4.68	2.48
38.900	100.00	76.00	74.23	1.77	1.77	4.54	4.90	2.66
39.000	100.00	75.98	74.26	1.72	1.72	4.44	4.68	2.48
39.100	100.00	75.96	74.29	1.67	1.67	4.34	4.46	2.31
39.200	100.00	75.84	74.33	1.51	1.51	4.02	3.79	1.81
39.300	100.00	76.08	74.36	1.72	1.72	4.44	4.68	2.48
39.400	100.00	76.13	74.39	1.74	1.74	4.48	4.77	2.55
39.500	100.00	76.32	74.43	1.89	1.89	4.78	5.46	3.12
39.600	100.00	76.07	74.46	1.61	1.61	4.22	4.20	2.11
39.700	100.00	76.27	74.49	1.78	1.78	4.56	4.95	2.69
39.800	100.00	76.23	74.53	1.70	1.70	4.40	4.59	2.41
39.900	100.00	76.24	74.56	1.68	1.68	4.36	4.50	2.34
40.000	100.00	76.16	74.59	1.57	1.57	4.14	4.03	1.99
40.100	100.00	76.30	74.63	1.67	1.67	4.34	4.46	2.31
40.200	100.00	76.45	74.66	1.79	1.79	4.58	4.99	2.73
40.300	100.00	76.48	74.69	1.79	1.79	4.58	4.99	2.73
40.400	100.00	76.20	74.73	1.47	1.47	3.94	3.63	1.70

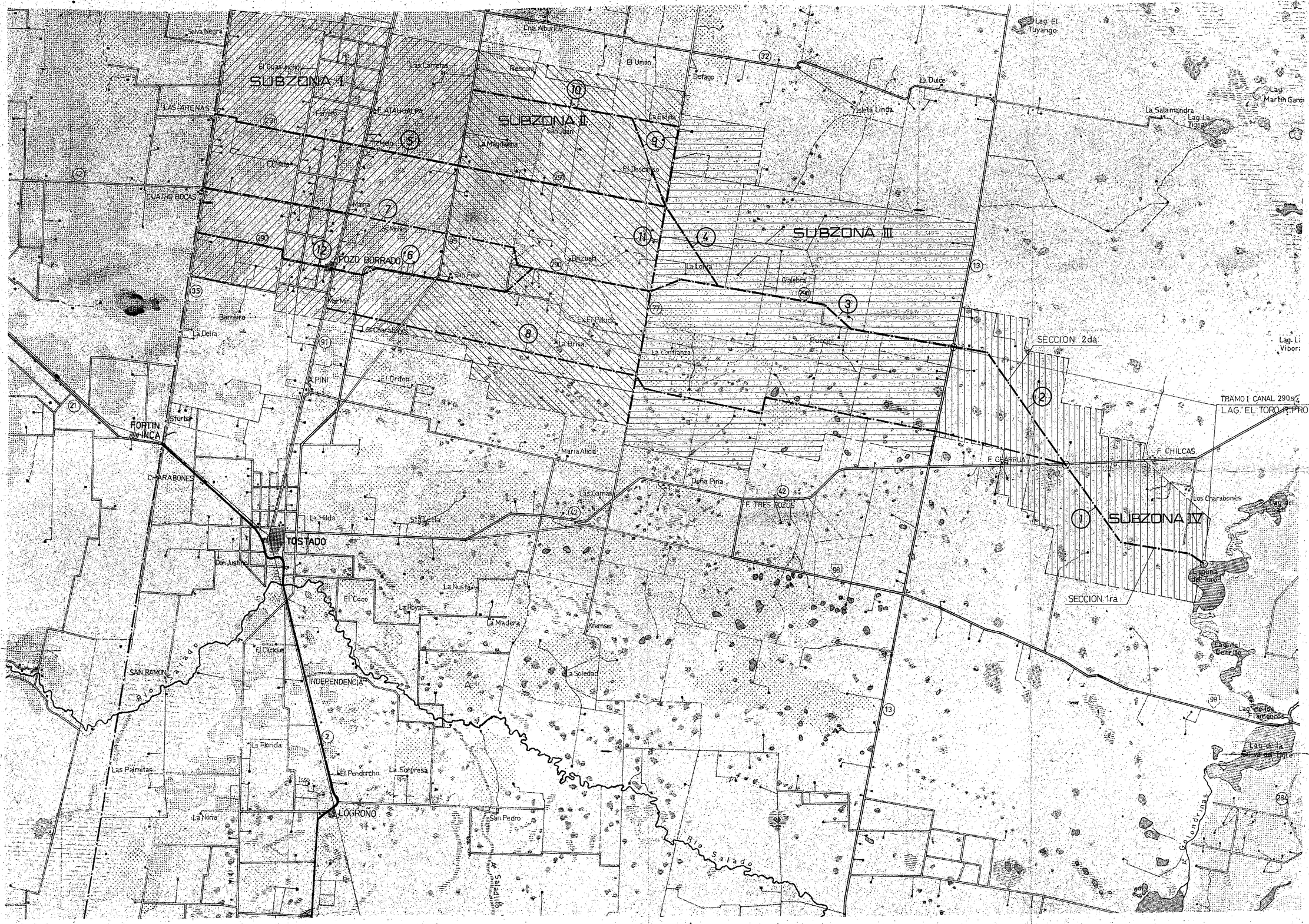
40.500	100.00	76.25	74.76	1.49	1.49	3.98	3.71	1.75
40.600	100.00	76.52	74.79	1.73	1.73	4.46	4.72	2.51
40.700	100.00	76.49	74.82	1.67	1.67	4.34	4.46	2.31
40.800	100.00	76.54	74.86	1.68	1.68	4.36	4.50	2.34
40.900	100.00	76.40	74.89	1.51	1.51	4.02	3.79	1.81
41.000	100.00	76.36	74.92	1.44	1.44	3.88	3.51	1.62
41.100	100.00	76.61	74.96	1.65	1.65	4.30	4.37	2.24
41.200	100.00	76.79	74.99	1.80	1.80	4.60	5.04	2.77
41.300	100.00	76.66	75.02	1.64	1.64	4.28	4.33	2.21
41.400	100.00	76.52	75.06	1.46	1.46	3.92	3.59	1.67
41.500	100.00	76.87	75.09	1.78	1.78	4.56	4.95	2.69
41.600	100.00	76.69	75.12	1.57	1.57	4.14	4.03	1.99
41.700	100.00	76.66	75.16	1.50	1.50	4.00	3.75	1.78
41.800	100.00	76.69	75.19	1.50	1.50	4.00	3.75	1.78
41.900	100.00	76.64	75.22	1.42	1.42	3.84	3.44	1.56
42.000	100.00	76.69	75.26	1.43	1.43	3.86	3.47	1.59
42.100	100.00	76.67	75.29	1.38	1.38	3.76	3.28	1.46
42.200	100.00	76.79	75.32	1.47	1.47	3.94	3.63	1.70
42.300	100.00	76.89	75.36	1.53	1.53	4.06	3.87	1.87
42.400	100.00	76.71	75.39	1.32	1.32	3.64	3.06	1.32
42.500	100.00	76.74	75.42	1.32	1.32	3.64	3.06	1.32
42.600	100.00	76.97	75.46	1.51	1.51	4.02	3.79	1.81
42.700	100.00	77.17	75.49	1.68	1.68	4.36	4.50	2.34
42.800	100.00	77.12	75.52	1.60	1.60	4.20	4.16	2.08
42.900	100.00	77.15	75.56	1.59	1.59	4.18	4.12	2.05
43.000	100.00	77.19	75.59	1.60	1.60	4.20	4.16	2.08
43.100	100.00	77.25	75.62	1.63	1.63	4.26	4.29	2.17
43.200	100.00	77.24	75.66	1.58	1.58	4.16	4.08	2.02
43.300	100.00	77.26	75.69	1.57	1.57	4.14	4.03	1.99
43.400	100.00	77.28	75.72	1.56	1.56	4.12	3.99	1.96
43.500	100.00	77.47	75.76	1.71	1.71	4.42	4.63	2.44
43.600	100.00	77.56	75.79	1.77	1.77	4.54	4.90	2.66
43.700	100.00	77.59	75.82	1.77	1.77	4.54	4.90	2.66
43.800	100.00	77.53	75.86	1.67	1.67	4.34	4.46	2.31
43.900	100.00	77.59	75.89	1.70	1.70	4.40	4.59	2.41
44.000	100.00	77.54	75.92	1.62	1.62	4.24	4.24	2.14
44.100	100.00	77.67	75.96	1.71	1.71	4.42	4.63	2.44
44.200	100.00	77.58	75.99	1.59	1.59	4.18	4.12	2.05
44.300	100.00	77.67	76.02	1.65	1.65	4.30	4.37	2.24
44.400	100.00	77.67	76.06	1.61	1.61	4.22	4.20	2.11
44.500	100.00	77.65	76.09	1.56	1.56	4.12	3.99	1.96
44.600	100.00	77.75	76.12	1.63	1.63	4.26	4.29	2.17
44.700	100.00	77.80	76.16	1.64	1.64	4.28	4.33	2.21
44.800	100.00	78.09	76.19	1.90	1.90	4.80	5.51	3.16
44.900	100.00	77.98	76.22	1.76	1.76	4.52	4.86	2.62
45.000	100.00	78.19	76.26	1.93	1.93	4.86	5.65	3.29
45.100	100.00	77.96	76.29	1.67	1.67	4.34	4.46	2.31
45.200	100.00	78.29	76.32	1.97	1.97	4.94	5.85	3.46
45.300	100.00	78.17	76.36	1.81	1.81	4.62	5.09	2.81
45.400	100.00	78.18	76.39	1.79	1.79	4.58	4.99	2.73
45.500	100.00	78.12	76.42	1.70	1.70	4.40	4.59	2.41
45.600	100.00	78.29	76.46	1.83	1.83	4.66	5.18	2.88
45.700	100.00	78.22	76.49	1.73	1.73	4.46	4.72	2.51
45.800	100.00	78.54	76.52	2.02	2.02	5.04	6.10	3.68
45.900	100.00	78.52	76.56	1.96	1.96	4.92	5.80	3.41
46.000	100.00	78.47	76.59	1.88	1.88	4.76	5.41	3.08

46.100	100.00	78.44	76.62	1.82	1.82	4.64	5.13	2.84
46.200	100.00	78.46	76.66	1.80	1.80	4.60	5.04	2.77
46.300	100.00	78.57	76.69	1.88	1.88	4.76	5.41	3.08
46.400	100.00	78.67	76.72	1.95	1.95	4.90	5.75	3.37
46.500	100.00	79.06	76.76	2.30	2.30	5.60	7.59	5.10
46.600	100.00	78.90	76.79	2.11	2.11	5.22	6.56	4.10
46.700	100.00	78.08	76.82	1.26	1.26	3.52	2.85	1.18
46.800	100.00	78.83	76.86	1.97	1.97	4.94	5.85	3.46
46.900	100.00	78.85	76.89	1.96	1.96	4.92	5.80	3.41
47.000	100.00	78.80	76.92	1.88	1.88	4.76	5.41	3.08
47.100	100.00	78.89	76.96	1.93	1.93	4.86	5.65	3.29
47.200	100.00	78.87	76.99	1.88	1.88	4.76	5.41	3.08
47.300	100.00	78.98	77.02	1.96	1.96	4.92	5.80	3.41
47.400	100.00	78.88	77.06	1.82	1.82	4.64	5.13	2.84
47.500	100.00	79.05	77.09	1.96	1.96	4.92	5.80	3.41
47.600	100.00	79.08	77.12	1.96	1.96	4.92	5.80	3.41
47.700	100.00	79.28	77.16	2.12	2.12	5.24	6.61	4.15
47.800	100.00	79.12	77.19	1.93	1.93	4.86	5.65	3.29
47.900	100.00	79.15	77.22	1.93	1.93	4.86	5.65	3.29
48.000	100.00	79.26	77.26	2.00	2.00	5.00	6.00	3.59
48.100	100.00	79.44	77.29	2.15	2.15	5.30	6.77	4.30
48.200	100.00	79.55	77.32	2.23	2.23	5.46	7.20	4.71
48.300	100.00	79.62	77.36	2.26	2.26	5.52	7.37	4.87
48.400	100.00	79.49	77.39	2.10	2.10	5.20	6.51	4.05
48.500	100.00	79.71	77.42	2.29	2.29	5.58	7.53	5.04
48.600	100.00	79.49	77.46	2.03	2.03	5.06	6.15	3.73
48.700	100.00	79.65	77.49	2.16	2.16	5.32	6.83	4.35
48.800	100.00	79.54	77.52	2.02	2.02	5.04	6.10	3.68
48.900	100.00	79.84	77.56	2.28	2.28	5.56	7.48	4.98
49.000	100.00	79.59	77.59	2.00	2.00	5.00	6.00	3.59
49.100	100.00	79.65	77.62	2.03	2.03	5.06	6.15	3.73
49.200	100.00	79.67	77.66	2.01	2.01	5.02	6.05	3.63
49.300	100.00	79.75	77.69	2.06	2.06	5.12	6.30	3.86
49.400	100.00	79.70	77.72	1.98	1.98	4.96	5.90	3.50
49.500	100.00	79.78	77.76	2.02	2.02	5.04	6.10	3.68
49.600	100.00	79.69	77.79	1.90	1.90	4.80	5.51	3.16
49.700	100.00	79.59	77.82	1.77	1.77	4.54	4.90	2.66
49.800	100.00	79.75	77.86	1.89	1.89	4.78	5.46	3.12
49.900	100.00	79.97	77.89	2.08	2.08	5.16	6.41	3.96
50.000	100.00	79.92	77.92	2.00	2.00	5.00	6.00	3.59
50.100	100.00	80.43	77.96	2.47	2.47	5.94	8.57	6.11
50.200	100.00	80.17	77.99	2.18	2.18	5.36	6.93	4.45
50.300	100.00	80.49	78.02	2.47	2.47	5.94	8.57	6.11
50.400	100.00	80.08	78.06	2.02	2.02	5.04	6.10	3.68
50.500	100.00	80.58	78.09	2.49	2.49	5.98	8.69	6.23
50.600	100.00	80.13	78.12	2.01	2.01	5.02	6.05	3.63
50.700	100.00	80.22	78.16	2.06	2.06	5.12	6.30	3.86
50.800	100.00	80.29	78.19	2.10	2.10	5.20	6.51	4.05
50.900	100.00	80.18	78.22	1.96	1.96	4.92	5.80	3.41
51.000	100.00	80.19	78.26	1.93	1.93	4.86	5.65	3.29
51.100	100.00	80.14	78.29	1.85	1.85	4.70	5.27	2.96
51.200	100.00	80.23	78.32	1.91	1.91	4.82	5.56	3.20
51.300	100.00	80.21	78.36	1.85	1.85	4.70	5.27	2.96
51.400	100.00	80.30	78.39	1.91	1.91	4.82	5.56	3.20
51.500	100.00	80.27	78.42	1.85	1.85	4.70	5.27	2.96
51.600	100.00	80.54	78.46	2.08	2.08	5.16	6.41	3.96

51.700	100.00	80.55	78.49	2.06	2.06	5.12	6.30	3.86
51.800	100.00	80.45	78.52	1.93	1.93	4.86	5.65	3.29
51.900	100.00	80.13	78.56	1.57	1.57	4.14	4.03	1.99
52.000	100.00	80.20	78.59	1.61	1.61	4.22	4.20	2.11
52.100	100.00	80.33	78.62	1.71	1.71	4.42	4.63	2.44
52.200	100.00	80.27	78.66	1.61	1.61	4.22	4.20	2.11
52.300	100.00	80.55	78.69	1.86	1.86	4.72	5.32	3.00
52.400	100.00	80.44	78.72	1.72	1.72	4.44	4.68	2.48
52.500	100.00	80.59	78.76	1.83	1.83	4.66	5.18	2.88
52.600	100.00	80.46	78.79	1.67	1.67	4.34	4.46	2.31
52.700	100.00	80.41	78.82	1.59	1.59	4.18	4.12	2.05
52.800	100.00	80.74	78.86	1.88	1.88	4.76	5.41	3.08
52.900	100.00	80.68	78.89	1.79	1.79	4.58	4.99	2.73
53.000	100.00	80.62	78.92	1.70	1.70	4.40	4.59	2.41
53.100	100.00	80.73	78.96	1.77	1.77	4.54	4.90	2.66
53.200	100.00	80.71	78.99	1.72	1.72	4.44	4.68	2.48
53.220	20.00	80.71	79.00	1.71	1.71	4.42	4.63	2.44

VOLUMEN PARCIAL = 90876.28 M3

VOLUMEN TOTAL = 307211.32 M3

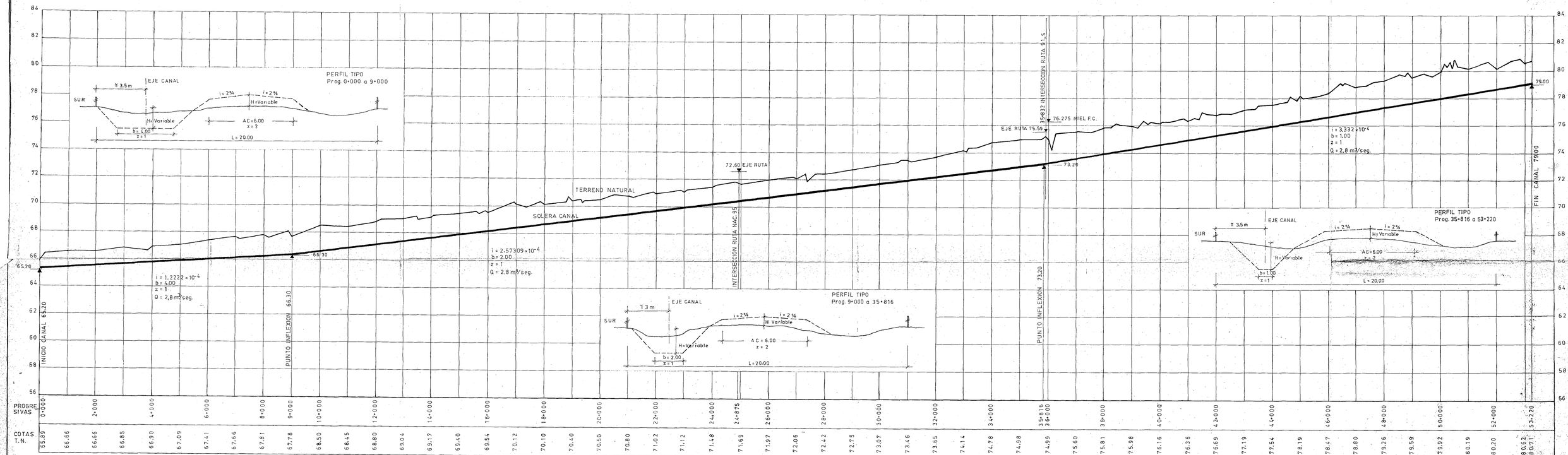


NOTA: TRAZA SIN AJUSTE CATASTRAL

AREA DE INFLUENCIA OBRA
CANAL 290

PLANO 01

PROYECTO EXPEDITIVO (ALTERNATIVA DE MINIMA)
CANAL RUTA 291 s



CONVENIO BAJOS SUBMERIDIONALES UNIDAD TECNICA SANTA FE		CONSEJO FEDERAL DE INVERSIONES PROVINCIA DE SANTA FE	
ESTUDIO		PLANO SINTESIS PROY.EXPEDITIVO 291.s.ALTER.MINIMA	
PROYECTO	ING. E. KRUSE - ING. D. DEPETRIS		
DIBUJO			
APROBO	ING. D. DEPETRIS		
OBSERVACIONES: CORRESPONDE A UNA VARIANTE DE MINIMA COMPATIBLE CON LA OBRA EJECUTADA SOBRE 291 s.		ESCALA	
		FECHA SEP. 86	
		Nº PLANO 02	

PERFIL LONGITUDINAL

ESCALAS: VERTICAL 1:100 — HORIZONTAL 1:10.000

PROGRESIVAS	COTAS ESTACAS	COTAS TERRENO NATURAL	COTAS FONDO EXISTENTE	COTAS RASANTES (SOLERA CANAL)	COTAS ROJAS (PROFUNDIDAD EXCAVACION)	COTAS PUNTOS FIJOS
K0		65,89	65,62	65.20	0.69	P.F. Nº0 66,408
1		66,32	65,74	65.21	1.11	
2		66,36	65,80	65.22	1.14	
3		66,40	65,94	65.24	1.16	
4		66,48	65,81	65.25	1.23	
5		66,51	65,85	65,26	1.25	
6		66,47	66,88	65,27	1.20	
7		66,49	65,94	65,29	1.20	
8		66,59	65,98	65.30	1.29	
9		66,62	65,92	65.31	1.31	
K1		66,66	68,03	65.32	1.34	P.F. Nº1 66,859
1		66,49	66,13	65.33	1.16	
2		66,70	66,04	65.35	1.35	
3		66,72	66,05	65.36	1.36	
4		66,70	66,18	65.37	1.33	
5		66,77	66,13	65.38	1.39	
6		66,69	66,15	65.40	1.29	
7		66,74	66,06	65.41	1.33	
8		66,64	66,03	65.42	1.22	
9		66,58	66,12	65.43	1.15	
K2		66,66	66,18	65.44	1.22	P.F. Nº 2 66,948
1		66,67	66,06	65.46	1.21	
2		66,61	66,20	65.47	1.14	
3		66,67	66,34	65.48	1.19	
4		66,75	66,31	65.49	1.26	
5		66,88	66,32	65.51	1.37	
6		66,81	66,37	65.52	1.29	
7		66,87	66,28	65.53	1.34	
8		66,82	66,31	65.54	1.28	
9		66,86	66,22	65.55	1.31	
K3		66,85	66,39	65.57	1.28	P.F. Nº 3 67,139
1		66,86	66,32	65.58	1.28	
2		66,97	66,38	65.59	1.38	
3		66,97	66,37	65.60	1.37	
4		66,96	66,39	65.62	1.34	
5		66,84	66,46	65.63	1.21	
6		67,00	66,57	65.64	1.36	
7		66,94	66,52	65.65	1.29	
8		66,56	66,47	65.66	0.90	
9		66,94	66,56	65.68	1.26	
K4		66,90	66,55	65.69	1.21	P.Nº 4 67,243
1		67,04	66,74	65.70	1.34	
2		67,04	66,66	65.71	1.33	
3		67,00	66,62	65.72	1.28	
4		67,16	66,64	65.74	1.42	
5		67,05	66,70	65.75	1.30	
6		67,03	66,71	65.76	1.27	
7		67,08	66,70	65.77	1.31	
8		67,21	66,65	65.79	1.42	
9		67,16	66,68	65.80	1.36	
K5		67,09	66,65	65.81	1.28	P.F. Nº5 67,357
1		67,18	66,63	65.82	1.36	
2		67,23	66,72	65.83	1.40	
3		67,28	66,70	65.85	1.43	
4		67,31	66,75	65.86	1.45	
5		67,39	66,84	65.87	1.52	
6		67,28	66,81	65.88	1.40	
7		67,47	66,83	65.90	1.57	
8		67,34	66,87	65.91	1.43	
9		67,43	66,92	65.92	1.51	
K6		67,41	66,84	65.93	1.48	P.F. Nº6 67,656
1		67,43	66,93	65.94	1.49	
2		67,52	66,98	64,96	1.56	
3		67,51	66,96	64,97	1.54	
4		67,46	67,02	65.98	1.48	
5		67,47	67,11	65.99	1.48	
6		67,51	66,96	66.01	1.50	
7		67,41	67,10	66.02	1.39	
8		67,60	66,97	66.03	1.57	
9		67,61	67,11	66.04	1.57	
K7		67,66	67,03	66.05	1.61	P.F. Nº7 68,009
1		67,64	67,18	66.07	1.57	
2		67,49	67,16	66.08	1.41	
3		67,60	67,12	66.09	1.51	
4		67,68	67,18	66.10	1.58	
5		67,82	67,21	66.12	1.70	
6		67,78	67,28	66.13	1.65	
7		67,85	67,38	66.14	1.71	
8		67,71	67,34	66.15	1.56	
9		67,79	67,30	66.16	1.63	
K8		67,81	67,32	66.18	1.63	P.F. Nº 8 68,175
1		67,87	67,42	66.19	1.68	
2		67,66	67,42	66.20	1.46	
3		67,77	67,44	66.21	1.56	
4		68,03	67,48	66.23	1.80	
5		67,85	67,51	66.24	1.61	
6		67,78	67,58	66.25	1.53	
7		67,94	67,60	66.26	1.68	
8		68,08	67,65	66.27	1.81	
9		67,79	67,58	66.29	1.50	
K9		67,78	67,57	66.30	1.48	P.F. Nº9 68,399
1		68,26	67,78	66.32	1.94	
2		68,26	67,82	66.35	1.91	
3		68,32	67,86	66.38	1.94	
4		68,30	67,81	66.40	1.90	
5		68,33	67,91	66.43	1.90	
6		68,43	67,92	66.45	1.98	
7		68,39	67,83	66.48	1.91	
8		68,49	68,02	66.50	1.99	
9		68,48	67,82	66.53	1.95	
K10		68,50	67,92	66.56	1.94	P.F. Nº10 68,827

PLANIMETRIA

ESCALA 1: 10.000

NOTA: VOLUMEN TOTAL EXCAVACION TEORICA DEL PLANO 75.293 m^3

(2) ALCANTARILLA A CONSTRUIR TIPO "E" SEGUN PLANO 09
PROGRESIVA 0+000 (SOBRE RUTA 77-s)
H = 2.00 m ; AC = 8.00 m. ; L = 2.00 m. ; CD = 64.29 ; CF = 63.38

(4) ALCANTARILLA A CONSTRUIR TIPO "E" SEGUN PLANO 09
PROGRESIVA 5+156
H = 1.50 m. ; AC = 6.00 m. ; L = 4.00 m ; (2 L = 2.00 m.) ; CD = 65.50 ; CF = 64.70

(5) ALCANTARILLA A CONSTRUIR TIPO "E" SEGUN PLANO 09
PROGRESIVA 6+772
H = 1.50 m. ; AC = 6.00 m. ; L = 4.00 m. ; (2 L = 2.00 m) ; CD = 65.85 ; CF = 65.05

2,4,5 ALCANTARILLAS EXISTENTES A RETIRAR Y UBICAR DONDE INDIQUE LA INSPECCION.

CONVENIO BAJOS SUBMERIDIONALES UNIDAD TECNICA SANTA FE	CONSEJO FEDERAL DE INVERSIONES PROVINCIA DE SANTA FE
PROYECTO: INGS. E. KRUSE-D. DEPETRIS	RESPONSABLE TECNICO: ING. D. DEPETRIS

PROVINCIA DE SANTA FE.
MINISTERIO DE AGRICULTURA Y GANADERIA.
DIRECCION GENERAL DE AGROHIDROLOGIA E HIDRAULICA.

DEPARTAMENTO ESTUDIOS Y PROYECTOS	OBRA: ESTUDIO RUTA 291-S. PLANIALTIMETRIA. PROG. Km0 a Km10. PROYECTO EXPEDITIVO		
OP. TECNICO: RODRIGUEZ P. CABALLERO M.			
PROYECTO:			
DIBUJO: M.M.O. A. WALDEN.			
JEFE DPTO.: ING. E. BERLI.	FECHA:	ESCALA:	PLANO
DIRECTOR GRAL.: ING. E. BOSQUE	SETIEMBRE 1986	INDICADAS	03

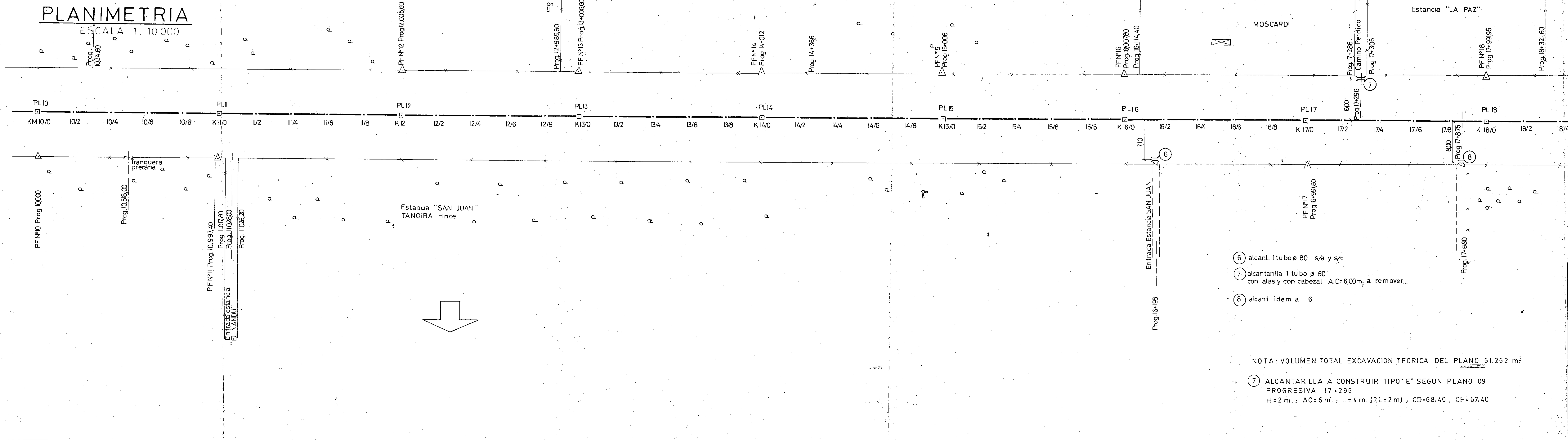
PERFIL LONGITUDINAL

ESCALAS VERTICAL 1:100 HORIZONTAL 1:10.000

PROGRESIVAS	COTAS ESTACA	COTAS TERRENO NATURAL	COTAS FONDO EXISTENTE	COTAS RASANTES (SOLERA CANAL)	COTAS ROJAS (PROFUNDIDAD EXCAVACION)	COTAS PUNTOS FIJOS
K10		68,50	67,92	66.56	1.94	PFN°10 68,827
1		68,54	67,95	66.58	1.96	
2		68,49	67,93	66.61	1.88	
3		68,54	68,00	66.63	1.91	
4		68,43	67,97	66.66	1.77	
5		68,52	67,99	66.68	1.84	
6		68,44	67,98	66.71	1.73	
7		68,54	68,00	66.74	1.80	
8		68,60	68,09	66.76	1.84	
9		68,58	68,13	66.79	1.79	
K11		68,45	67,94	66.81	1.64	PF N°11 68,915
1		68,32	67,91	66.84	1.48	
2		68,49	68,08	66.86	1.63	
3		68,73	68,16	66.89	1.84	
4		68,73	68,15	66.92	1.81	
5		68,61	68,19	66.94	1.67	
6		68,80	68,23	66.97	1.83	
7		68,82	68,21	66.99	1.83	
8		68,66	68,28	67.02	1.64	
9		68,75	68,29	67.04	1.71	
K12		68,80	68,32	67.07	1.73	PF N°12 69,213
1		69,00	68,32	67.10	1.90	
2		68,82	68,31	67.12	1.70	
3		68,89	68,23	67.15	1.74	
4		68,87	68,26	67.17	1.70	
5		68,92	68,54	67.20	1.72	
6		68,85	68,38	67.22	1.63	
7		69,04	68,47	67.25	1.79	
8		69,06	68,46	67.28	1.78	
9		68,94	68,43	67.30	1.64	
K13		69,04	68,55	67.33	1.71	PFN°13 69,587
1		69,06	68,49	67.35	1.71	
2		69,08	68,57	67.38	1.70	
3		69,12	68,52	67.40	1.72	
4		69,10	68,56	67.43	1.67	
5		69,20	68,55	67.46	1.74	
6		68,98	68,60	67.48	1.50	
7		69,20	68,69	67.51	1.69	
8		69,26	68,72	67.53	1.73	
9		69,38	68,77	67.56	1.82	
K14		69,17	68,64	67.58	1.59	PF N°14 69564
1		69,18	68,56	67.61	1.57	
2		69,36	68,75	67.64	1.72	
3		69,36	68,71	67.66	1.70	
4		69,31	68,74	67.69	1.62	
5		69,36	68,71	67.71	1.65	
6		69,47	68,78	67.74	1.73	
7		69,48	68,83	67.77	1.71	
8		69,59	68,90	67.79	1.80	
9		69,54	68,52	67.82	1.72	
K15		69,40	68,79	67.84	1.56	PF N°15 69,773
1		69,53	68,94	67.87	1.66	
2		69,62	68,99	67.89	1.73	
3		69,66	69,03	67.92	1.74	
4		69,72	69,13	67.95	1.77	
5		69,71	69,14	67.97	1.74	
6		69,49	69,02	68.00	1.49	
7		69,51	68,87	68.02	1.49	
8		69,62	68,84	68.05	1.57	
9		69,72	69,07	68.07	1.65	
K16		69,54	68,98	68.10	1.44	PFN°16 69964
1		69,62	69,07	68.13	1.49	
2		69,90	69,40	68.15	1.75	
3		69,98	69,27	68.18	1.80	
4		69,76	69,28	68.20	1.56	
5		69,72	69,40	68.23	1.49	
6		70,01	69,43	68.25	1.76	
7		70,10	69,51	68.28	1.82	
8		70,07	69,54	68.31	1.76	
9		70,25	69,59	68.33	1.92	
K17		70,12	69,55	68.36	1.76	PF N°17 70,546
1		70,00	69,60	68.38	1.62	
2		70,08	69,51	68.41	1.67	
3		70,01	69,52	68.43	1.58	
4		69,98	69,50	68.46	1.52	
5		70,14	69,57	68.49	1.65	
6		70,11	69,57	68.51	1.60	
7		70,16	69,51	68.54	1.62	
8		70,22	69,59	68.56	1.66	
9		70,20	69,60	68.59	1.61	
K18		70,10	69,61	68.61	1.49	PF 18 70,454
1		70,25	69,65	68.64	1.61	
2		70,21	69,71	68.67	1.54	
3		70,33	69,71	68.69	1.64	
4		70,33	69,77	68.72	1.61	
5		70,35	69,72	68.74	1.61	
6		70,36	69,80	68.77	1.59	
7		70,30	69,86	68.79	1.51	
8		70,72	69,77	68.82	1.90	
9		70,52	69,78	68.85	1.67	
K19		70,40	69,75	68.87	1.53	PF N°19 70,721
1		70,39	69,70	68.90	1.49	
2		70,57	69,79	68.92	1.65	
3		70,52	69,90	68.95	1.57	
4		70,16	69,78	68.97	1.19	
5		70,30	69,84	69.00	1.30	
6		70,50	69,80	69.03	1.47	
7		70,53	69,98	69.05	1.48	
8		70,50	69,95	69.08	1.42	
9		70,56	69,92	69.10	1.46	
K20		70,50	69,89	69.13	1.37	PF N°20 71,079

PLANIMETRIA

ESCALA 1:10.000



NOTA: VOLUMEN TOTAL EXCAVACION TEORICA DEL PLANO 61.262 m³

(7) ALCANTARILLA A CONSTRUIR TIPO "E" SEGUN PLANO 09
PROGRESIVA 17+296
H = 2 m.; AC = 6 m.; L = 4 m. (2L = 2 m); CD = 68.40; CF = 67.40

CONVENIO BAJOS SUBMERIDIONALES UNIDAD TECNICA SANTA FE	CONSEJO FEDERAL DE INVERSIONES PROVINCIA DE SANTA FE
PROYECTO: INGS. E. KRUSE - D. DEPETRIS	RESPONSABLE TECNICO: ING. D. DEPETRIS

PROVINCIA DE SANTA FE
MINISTERIO DE AGRICULTURA Y GANADERIA
DIRECCION GENERAL DE AGROHIDROLOGIA E HIDRAULICA

DEPARTAMENTO ESTUDIOS Y PROYECTOS	OBRA: ESTUDIO RUTA 291-S
OP. TECNICO: P. Rodriguez, M. Caballero	PLANIALTIMETRIA ENTRE PROG. KM. 10 A KM 20
PROYECTO:	PROYECTO EXPEDITIVO
DIBUJO: P. Rodriguez	
JEFE DPTO.: Ing. Beril	
DIRECTOR GRAL.: Ing. Bosque	FECHA: SETIEMBRE 1986 — ESCALA: INDICADA — PLANO 04

PERFIL LONGITUDINAL

ESCALAS: VERTICAL 1:100 — HORIZONTAL 1:10.000

PROGRESIVAS	COTAS ESTACAS	COTAS TERRENO NATURAL	COTAS FONDO EXISTENTE	COTAS RASANTES (SOLERA CANAL)	COTAS ROJAS (PROFUNDIDAD EXCAVACION)	COTAS PUNTOS FIJOS
K20		70,50	69,89	69.13	1.37	N°20 71,079
1		70,55	69,93	69.15	1.40	
2		70,65	70,03	69.18	1.47	
3		70,63	70,04	69.21	1.42	
4		70,62	70,08	69.23	1.39	
5		70,87	70,18	69.26	1.61	
6		70,70	70,17	69.28	1.42	
7		70,73	70,15	69.31	1.42	
8		70,75	70,17	69.33	1.42	
9		70,82	70,23	69.36	1.46	
K21		70,80	70,23	69.39	1.41	N°21 71,264
1		70,85	70,25	69.41	1.44	
2		70,87	70,24	69.44	1.43	
3		70,73	70,26	69.46	1.27	
4		70,92	70,86	69.49	1.43	
5		70,93	70,35	69.51	1.42	
6		70,95	70,35	69.54	1.41	
7		70,85	70,30	69.57	1.28	
8		71,08	70,46	69.59	1.49	
9		71,01	70,45	69.62	1.39	
K22		71,02	70,36	69.64	1.38	N°22 71,509
1		70,94	70,45	69.67	1.27	
2		71,05	70,42	69.69	1.36	
3		71,04	70,46	69.72	1.32	
4		71,03	70,55	69.75	1.28	
5		71,10	70,47	69.77	1.33	
6		71,14	70,57	69.80	1.34	
7		71,20	70,60	69.82	1.38	
8		71,13	70,63	69.85	1.28	
9		71,15	70,50	69.87	1.28	
K23		71,12	70,53	69.90	1.22	N°23 71,605
1		71,29	70,64	69.93	1.36	
2		71,22	70,62	69.95	1.27	
3		71,36	70,71	69.98	1.38	
4		71,35	70,82	70.00	1.35	
5		71,33	70,65	70.03	1.30	
6		71,44	70,70	70.05	1.39	
7		71,42	70,86	70.08	1.34	
8		71,45	70,86	70.11	1.34	
9		71,40	70,85	70.13	1.27	
K24		71,48	70,95	70.16	1.32	N°24 71,948
1		71,64	71,00	70.18	1.46	
2		71,67	71,01	70.21	1.46	
3		71,65	71,04	70.23	1.42	
4		71,77	71,07	70.26	1.51	
5		71,69	71,10	70.29	1.40	
6		71,82	71,09	70.31	1.51	
7		71,84	71,12	70.34	1.50	
8		71,73	71,10	70.36	1.37	
9		71,70	71,08	70.39	1.31	
K25		71,69	71,36	70.41	1.28	N°25 72,325
1		71,70	71,40	70.44	1.26	
2		71,80	71,43	70.47	1.33	
3		71,79	71,31	70.49	1.30	
4		71,92	71,48	70.52	1.40	
5		71,88	71,48	70.54	1.34	
6		71,99	71,51	70.57	1.42	
7		71,93	71,47	70.59	1.34	
8		71,94	71,47	70.62	1.32	
9		71,96	71,60	70.65	1.31	
K26		71,97	71,48	70.67	1.30	N°26 72,327
1		71,99	71,54	70.70	1.29	
2		72,00	71,60	70.72	1.28	
3		71,96	71,59	70.75	1.21	
4		71,99	71,67	70.78	1.21	
5		71,95	71,55	70.80	1.15	
6		72,02	71,52	70.83	1.19	
7		72,02	71,53	70.85	1.17	
8		72,08	71,70	70.88	1.20	
9		72,17	71,62	70.90	1.27	
K27		72,06	71,64	70.93	1.13	N°27 72,503
1		72,16	71,70	70.96	1.20	
2		72,15	71,51	70.98	1.17	
3		72,25	71,72	71.01	1.24	
4		71,80	71,25	71.03	0.77	
5		71,89	71,48	71.06	0.83	
6		72,32	71,70	71.08	1.24	
7		72,21	71,86	71.11	1.10	
8		72,37	71,90	71.14	1.23	
9		72,45	72,00	71.16	1.29	
K28		72,42	72,01	71.19	1.23	N°28 72,867
1		72,52	72,11	71.21	1.31	
2		72,60	72,00	71.24	1.36	
3		72,56	72,10	71.26	1.30	
4		72,64	72,19	71.29	1.35	
5		72,65	72,10	71.32	1.33	
6		72,69	72,30	71.34	1.35	
7		72,72	72,22	71.37	1.35	
8		72,76	72,24	71.39	1.38	
9		72,78	72,27	71.42	1.36	
K29		72,75	72,29	71.44	1.31	N°29 73,227
1		72,83	72,32	71.47	1.36	
2		72,83	72,56	71.50	1.33	
3		72,90	72,32	71.52	1.38	
4		72,89	72,38	71.55	1.34	
5		72,89	72,35	71.57	1.32	
6		72,98	72,15	71.60	1.38	
7		73,00	72,45	71.62	1.38	
8		73,20	72,70	71.65	1.55	
9		73,18	72,70	71.68	1.50	
K30		73,07	72,62	71.70	1.37	N°30 73,399

PLANIMETRIA

ESCALA 1: 10.000

NOTA: VOLUMEN TOTAL EXCAVACION TEORICA DEL PLANO 44.426 m3

(9) (10) ALCANTARILLAS A REUBICAR _ CD = 70.39

CONVENIO BAJOS SUBMERIDIONALES UNIDAD TECNICA SANTA FE	CONSEJO FEDERAL DE INVERSIONES PROVINCIA DE SANTA FE
PROYECTO: INGS. E. KRUSE _ D. DEPETRIS	RESPONSABLE TECNICO: ING. D. DEPETRIS

PROVINCIA DE SANTA FE
MINISTERIO DE AGRICULTURA Y GANADERIA
DIRECCION GENERAL DE AGROHIDROLOGIA E HIDRAULICA

DEPARTAMENTO ESTUDIOS Y PROYECTOS	OBRA: ESTUDIO RUTA 291-S PLANIALTIMETRIA PROGR. KM. 20/0 A PROGR. KM. 30/0 _ PROYECTO EXPEDITIVO	
OP. TECNICO: M.M.O. RODRIGUEZ P. / HDT. CABALLERO M.		
PROYECTO:		
DIBUJO: M.M.O. ACOSTA LUIS		
JEFE DPTO.: ING. BERLI E.	FECHA: SETIEMBRE 1986	ESCALA: INDICADA — PLANO 05
DIRECTOR GRAL.: ING. BOSQUE E.		

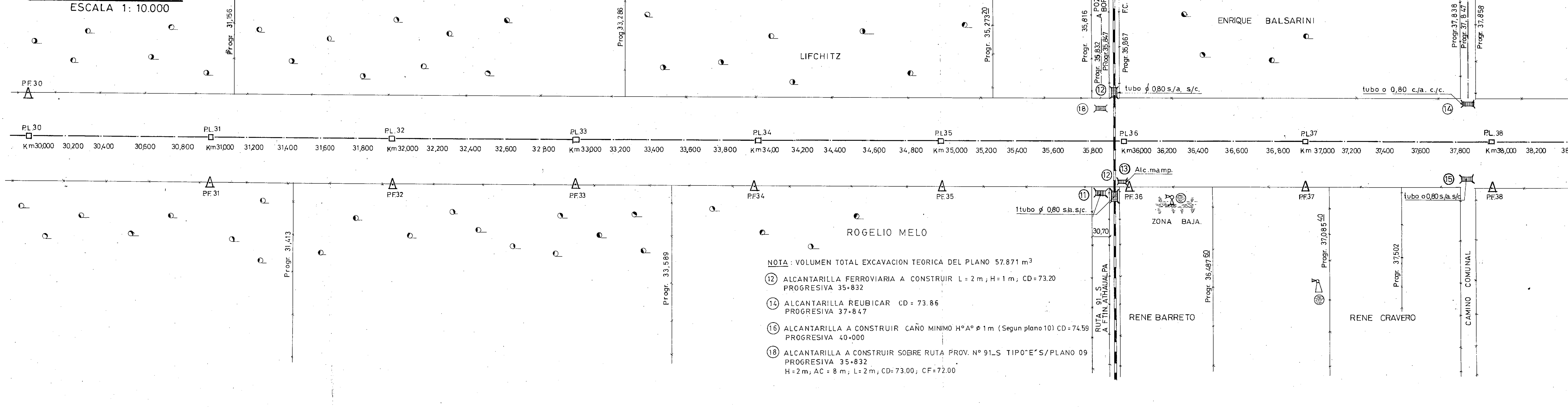
PERFIL LONGITUDINAL

ESCALAS: VERTICAL 1:100 — HORIZONTAL 1:10.000

PROGRESIVAS	COTAS ESTACAS	COTAS TERRENO NATURAL	COTAS FONDO EXISTENTE	COTAS RASANTES (SOLERA CANAL)	COTAS ROJAS (PROFUNDIDAD EXCAVACION)	COTAS PUNTOS FIJOS
K30		73.07	72.62	71.70	1.37	S P.F.N°30 73.399
1		73.08	72.64	71.73	1.35	
2		73.23	73.05	71.75	1.48	
3		73.24	72.77	71.78	1.46	
4		73.29	72.72	71.80	1.49	
5		73.31	72.85	71.83	1.48	
6		73.39	72.88	71.86	1.53	
7		73.31	72.89	71.88	1.43	
8		73.44	72.82	71.91	1.53	
9		73.37	72.99	71.93	1.44	
K31		73.46	72.96	71.96	1.50	S P.F.N°31 73.807
1		73.43	73.12	71.98	1.45	
2		73.37	72.98	72.01	1.36	
3		73.41	72.95	72.04	1.37	
4		73.43	72.85	72.06	1.37	
5		73.48	72.94	72.09	1.39	
6		73.35	72.70	72.11	1.24	
7		73.55	72.94	72.14	1.41	
8		73.64	73.13	72.16	1.48	
9		73.65	73.15	72.19	1.46	
K32		73.65	73.09	72.22	1.43	S P.F.N°32 73.996
1		73.68	73.13	72.24	1.44	
2		73.90	73.25	72.27	1.63	
3		73.78	73.28	72.29	1.49	
4		73.79	73.30	72.32	1.47	
5		73.82	73.18	72.34	1.48	
6		73.91	73.20	72.37	1.54	
7		73.95	73.49	72.40	1.55	
8		73.93	73.45	72.42	1.51	
9		74.10	73.52	72.45	1.65	
K33		74.14	73.61	72.47	1.67	S P.F.N°33 74.346
1		74.10	73.57	72.50	1.60	
2		74.04	73.60	72.52	1.52	
3		74.34	73.61	72.55	1.79	
4		74.31	73.85	72.58	1.73	
5		74.33	73.75	72.60	1.73	
6		74.24	73.54	72.63	1.61	
7		74.22	73.52	72.65	1.57	
8		74.34	73.62	72.68	1.66	
9		74.57	73.48	72.70	1.87	
K34		74.78	73.52	72.73	2.05	S P.F.N°34 75.142
1		74.81	73.60	72.76	2.05	
2		74.72	73.49	72.78	1.94	
3		74.85	73.62	72.81	2.04	
4		74.73	73.47	72.83	1.90	
5		74.82	73.67	72.86	1.96	
6		74.89	73.67	72.88	2.01	
7		74.78	73.68	72.91	1.87	
8		74.83	73.71	72.94	1.89	
9		74.87	73.97	72.96	1.91	
K35		74.98	74.07	72.99	1.99	P.F.N°35 75.459
1		75.02	73.75	73.01	2.01	
2		74.94	73.99	73.04	1.90	
3		75.02	73.92	73.06	1.96	
4		75.02	73.96	73.09	1.93	
5		74.97	74.01	73.12	1.85	
6		74.90	73.92	73.14	1.76	
7		75.09	74.01	73.17	1.92	
8		75.05	74.07	73.19	1.86	
35+816 / 9		75.05 / 75.25	74.05	73.20 / 73.23	1.85 / 2.02	
K36		74.99	74.05	73.26	1.73	P.F.N°36 75.463
1		74.25	74.20	73.29	0.96	
2		75.49	74.80	73.33	2.16	
3		75.46	74.59	73.36	2.10	
4		75.44	74.70	73.39	2.05	
5		75.40	74.69	73.43	1.97	
6		75.53	74.70	73.46	2.07	
7		75.48	74.73	73.49	1.99	
8		75.55	74.66	73.53	2.02	
9		75.57	74.81	73.56	2.01	
K37		75.60	74.76	73.59	2.01	P.F.N°37 76.029
1		75.68	74.83	73.63	2.05	
2		75.65	74.95	73.66	1.99	
3		75.68	74.96	73.69	1.99	
4		75.69	74.95	73.73	1.96	
5		75.56	75.04	73.76	1.80	
6		75.80	74.91	73.79	2.01	
7		75.76	75.08	73.83	1.93	
8		75.85	74.96	73.86	1.99	
9		75.85	75.07	73.89	1.96	
K38		75.81	75.10	73.93	1.88	P.F.N°38 76.451
1		76.01	75.23	73.96	2.05	
2		75.93	75.25	73.99	1.94	
3		75.86	75.25	74.03	1.83	
4		75.91	75.30	74.06	1.85	
5		76.03	75.27	74.09	1.94	
6		75.91	75.20	74.13	1.78	
7		76.04	75.27	74.16	1.88	
8		75.91	75.26	74.19	1.72	
9		76.00	75.21	74.23	1.77	
K39		75.98	75.18	74.26	1.72	
1		75.96	75.21	74.29	1.67	
2		75.84	75.25	74.33	1.51	
3		76.08	75.32	74.36	1.72	
4		76.13	75.32	74.39	1.74	
5		76.32	75.45	74.43	1.89	
6		76.07	75.53	74.46	1.61	
7		76.27	75.45	74.49	1.78	
8		76.23	75.40	74.53	1.70	
9		76.24	75.46	74.56	1.68	
K40		76.16	75.50	74.59	1.57	P.F.N°40 76.616

PLANIMETRIA

ESCALA 1: 10.000



NOTA: VOLUMEN TOTAL EXCAVACION TEORICA DEL PLANO 57.871 m³

(12) ALCANTARILLA FERROVIARIA A CONSTRUIR L = 2 m ; H = 1 m ; CD = 73.20
PROGRESIVA 35+832

(14) ALCANTARILLA REUBICAR CD = 73.86
PROGRESIVA 37+847

(16) ALCANTARILLA A CONSTRUIR CAÑO MINIMO H°A° ø 1 m (Segun plano 10) CD = 74.59
PROGRESIVA 40+000

(18) ALCANTARILLA A CONSTRUIR SOBRE RUTA PROV. N° 91_S TIPO "E" S/PLANO 09
PROGRESIVA 35+832
H = 2 m ; AC = 8 m ; L = 2 m ; CD = 73.00 ; CF = 72.00

CONVENIO BAJOS SUBMERIDIONALES UNIDAD TECNICA SANTA FE	CONSEJO FEDERAL DE INVERSIONES PROVINCIA DE SANTA FE
PROYECTO: INGS. E. KRUSE_D. DEPETRIS	RESPONSABLE TECNICO: ING. D. DEPETRIS

PROVINCIA DE SANTA FE.
MINISTERIO DE AGRICULTURA Y GANADERIA.
DIRECCION GENERAL DE AGROHIDROLOGIA E HIDRAULICA

DEPARTAMENTO ESTUDIOS Y PROYECTOS	OBRA: RUTA 291_S PLANIALTIMETRIA ENTRE PROGR. Km 30,000 a Km 40,000 PROYECTO EXPEDITIVO PLANO 06	
OP. TECNICOS: RODRIGUEZ P. CABALLERO M.		
PROYECTO :		
DIBUJO : M.M.O.A. WALDEN.		
JEFE DPTO. : ING. E. BERLI.	FECHA: SETIEMBRE 1986	ESCALA: INDICADAS
DIRECTOR GRAL. : ING. E. BOSQUE		

PERFIL LONGITUDINAL

ESCALAS: VERTICAL 1:100 — HORIZONTAL 1:10.000

⑱ COTA DE CALZADA 76,87

TERRENO NATURAL — CUNETA EXISTENTE — SOLERA CANAL — COTA DE FONDO 76,04

DATOS CANAL
i = 0.0003332
b = 1 m
z = 1
Q = 2,8 m³/seg

P.C. 62

PROGRESIVAS | COTAS ESTACAS | COTAS TERENO NATURAL | COTAS FONDO EXISTENTE | COTAS RASANTES (SOLERA CANAL) | COTAS ROJAS (PROFUNDIDAD EXCAVACION) | COTAS PUNTOS FIJOS

PFN°40 76,616 — PFN°41 76,779 — PFN°42 77,005 — PFN°43 77,395 — PFN°44 78,006 — PFN°45 78,485 — PFN°46 78,829 — PFN°47 79,123 — PFN°48 79,551 — PFN°49 79,899 — PFN°50 80,245

PLANIMETRIA

ESCALA 1:10.000

CRAVERO ALBERTO — Progr. 40,547 — Progr. 41,110 — Progr. 41,525 — MURATORE CARLOS — Progr. 42,196 — CAMINO COMUNAL — Progr. 42,216 — NOLI y MAS — Progr. 43,485 — MONTINI HUGO — Progr. 44,376 — SCOCIN CARLOS y ENRIQUE — Progr. 45,882 — CHIRRI DELLAR. — Progr. 47,995 — VILLANTELA NAUDI.

PL.40 Km40,0 — PL.41 m41,0 — PL.42 m42,0 — PL.43 — PL.44 m44,0 — PL.45 m45,0 — PL.46 m46,0 — PL.47 Km47 — PL.48 Km48,0 — PL.49 Km49,0 — PL.50 Km50,0

⑱ 1 tubo ø 0,80

PF.40 — PF.41 — PF.42 — PF.43 — PF.44 — PF.45 — PF.46 — PF.47 — PF.48 — PF.49 — PF.50

Progr. 41,039 — MARCUS y LIFCHITZ. — Progr. 42,185 — CAMINO COMUNAL — EST. "LOS GUASUNCHOS" — Progr. 43,732 — Progr. 44,340 — Progr. 46,125

NORTE

NOTA: VOLUMEN TOTAL EXCAVACION TEORICA DEL PLANO 50.211 m³

① ALCANTARILLA A CONSTRUIR caño H°A° (SEGUN PLANO 10) ø 1 m.
PROGRESIVA 42+206 , CD=75,32

ALCANTARILLA EXISTENTE A REMOVER Y UBICAR DONDE INDIQUE LA INSPECCION.

CONVENIO BAJOS SUBMERIDIONALES — CONSEJO FEDERAL DE INVERSIONES
UNIDAD TECNICA SANTA FE — PROVINCIA DE SANTA FE
PROYECTO: INGS. E. KRUSE - D. DEPETRIS — RESPONSABLE TECNICO: D. DEPETRIS

PROVINCIA DE SANTA FE
MINISTERIO DE AGRICULTURA Y GANADERIA
DIRECCION GENERAL DE AGROHIDROLOGIA E HIDRAULICA

DEPARTAMENTO ESTUDIOS Y PROYECTOS	OBRA: ESTUDIO RUTA 291
OP TECNICO: RODRIGUEZ P. CABALLERO M.	PLANIALTIMETRIA Progr. Km 40 a Progr. Km 50 -
PROYECTO:	PROYECTO EXPEDITIVO
DIBUJO: M.M.O. A. WALDEN.	
JEFE DPTO.: ING. E. BERLI.	FECHA: SETIEMBRE 1986 — ESCALA: INDICADAS — PLANO 07
DIRECTOR GRAL.: ING. E. BOSQUE	

PERFIL LONGITUDINAL

ESCALAS VERTICAL 1:100 HORIZONTAL 1:10.000

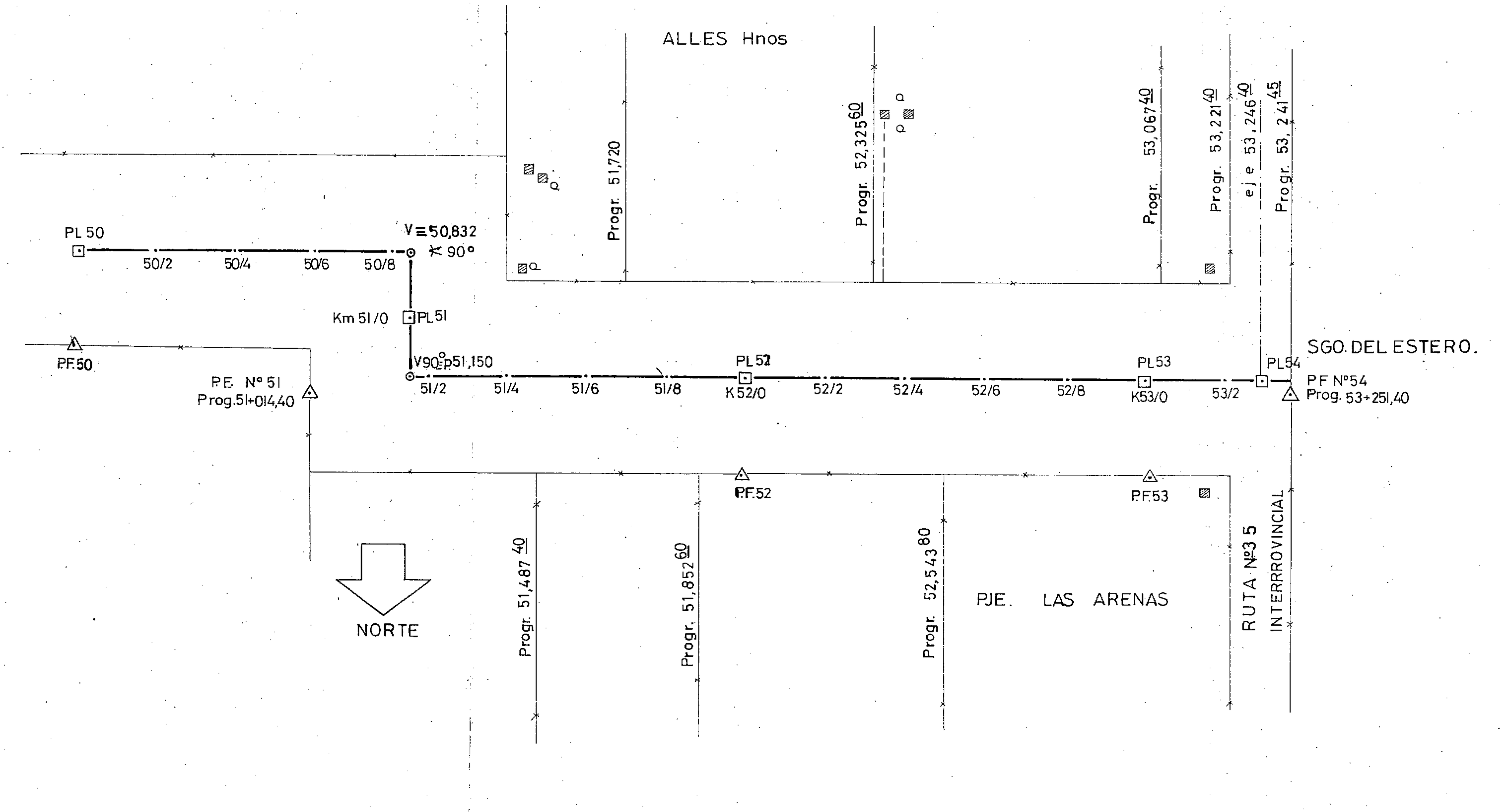
PROGRESIVAS	K50	1	2	3	4	5	6	7	8	9	K51
COTAS ESTACAS											
COTAS TERRENO NATURAL	79,92	80,43	80,17	80,49	80,08	80,58	80,13	80,22	80,29	80,18	80,19
COTAS FONDO EXISTENTE	79,62	79,70	79,84	79,92	79,78	79,86	79,66	79,78	79,93	79,81	79,75
COTAS RASANTES (SOLERA CANAL)	77.92	77.96	77.99	78.02	78.06	78.09	78.12	78.16	78.19	78.22	78.26
COTAS ROJAS (PROFUNDIDAD EXCAVACION)	2.00	2.47	2.18	2.47	2.02	2.49	2.01	2.06	2.10	1.96	1.93
COTAS PUNTOS FIJOS	P.F.Nº 50 80,245										P.F.Nº 51 80,502

PROGRESIVAS	1	2	3	4	5	6	7	8	9	K52
COTAS ESTACAS										
COTAS TERRENO NATURAL	80,14	80,23	80,21	80,30	80,27	80,54	80,55	80,45	80,13	80,20
COTAS FONDO EXISTENTE	79,74	79,86	79,72	79,81	79,68	79,83	79,98	79,76	79,76	79,77
COTAS RASANTES (SOLERA CANAL)	78.29	78.32	78.36	78.39	78.42	78.46	78.49	78.52	78.56	78.59
COTAS ROJAS (PROFUNDIDAD EXCAVACION)	1.85	1.91	1.85	1.91	1.85	2.08	2.06	1.93	1.57	1.61
COTAS PUNTOS FIJOS										P.F.Nº 52 80,222

PROGRESIVAS	1	2	3	4	5	6	7	8	9	K53	1	2 (53+220)
COTAS ESTACAS												
COTAS TERRENO NATURAL	80,33	80,27	80,55	80,44	80,59	80,46	80,41	80,74	80,68	80,62	80,73	80,71 80.71
COTAS FONDO EXISTENTE	79,74	79,92	80,05	80,05	80,19	80,06	80,00	80,09	80,17	80,13	80,26	80.29 80.27
COTAS RASANTES (SOLERA CANAL)	78.62	78.66	78.69	78.72	78.76	78.79	78.82	78.86	78.89	78.92	78.96	78.99 79.00
COTAS ROJAS (PROFUNDIDAD EXCAVACION)	1.71	1.61	1.86	1.72	1.83	1.67	1.59	1.88	1.79	1.70	1.77	1.72 1.71
COTAS PUNTOS FIJOS										P.F.Nº 53 80,876		P.F.Nº 54 81,272

PLANIMETRIA

ESCALA 1: 10.000



NOTA: VOLUMEN TOTAL EXCAVACION TEORICA DEL PLANO 18.148 m³

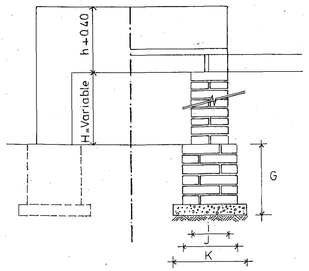
CONVENIO BAJOS SUBMERIDIONALES UNIDAD TECNICA SANTA FE	CONSEJO FEDERAL DE INVERSIONES PROVINCIA DE SANTA FE
PROYECTO: E. KRUSE_D. DEPETRIS	RESPONSABLE TECNICO: D_DEPETRIS

PROVINCIA DE SANTA FE
MINISTERIO DE AGRICULTURA Y GANADERIA.
DIRECCION GENERAL DE AGROHIDROLOGIA E HIDRAULICA.

DEPARTAMENTO ESTUDIOS Y PROYECTOS	OBRA. ESTUDIO RUTA 291_S. PLANIALTIMETRIA ENTRE PROG. Km. 50,000 a PROG. Km. 53,200. PROYECTO EXPEDITIVO		
OP. TECNICO RODRIGUEZ P. CABALLERO M.			
PROYECTO:			
DIBUJO: M. M. O. WALDEN.			
JEFE DPTO.: ING. E. BERLI.	FECHA:	ESCALA:	PLANO
DIRECTOR GRAL.: ING. E. BOSQUE	SETIEMBRE 1986	INDICADAS.	08

VISTA – CORTE

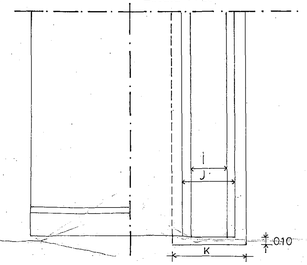
Escala 1:20



SEMI - VISTA AEREA

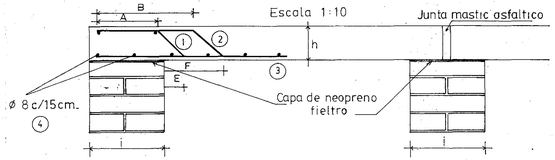
CORTE POR DEBAJO LOSA

Escala 1:20



DETALLE DE LA ARMADURA DE LA LOSA

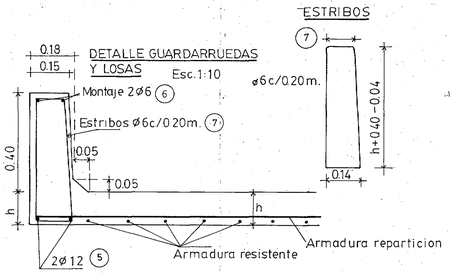
Escala 1:10



TIPO	DETALLE	ø	Separacion L. 1.50	Separacion L. 2.00
1	A B	12	0.465	0.435
2	C D	12	0.465	0.435
3		12	0.465	0.435
4		8	0.15	0.15
5		12	—	—
6		6	—	—
7	Segun detalle estribos	6	0.20	0.20

DETALLE GUARDARRUEDAS Y LOSAS

Esc.1:10



ESTRIBOS

NOTA : Las dimensiones se ajustarán en obra...

DIMENSIONES								COMPUTOS			
AC m.	L m.	H m.	g m.	h (losa) m.	i (ancho pilar) m.	j (ancho cimiento) m.	k (ancho fundacion) m.	VOLUMEN mamposteria m3	H° losa m3	H° cascotes m3	VOLUMEN EXCAVACION cimientos m3
6.00	2.00	1.50	0.80	0.20	0.30	0.45	0.60	9.72	3.48	0.74	15.88
		2.00	0.90	0.20	0.30	0.45	0.60	12.06	3.48	0.74	17.64
		2.50	1.00	0.20	0.45	0.60	0.75	20.70	3.89	0.93	19.40
	3.00 2L = 1.50 m.	1.50	0.70	0.18	0.30	0.45	0.60	13.77	4.76	1.12	21.18
		2.00	0.80	0.18	0.30	0.45	0.60	17.28	4.76	1.12	23.82
		2.50	0.90	0.18	0.45	0.60	0.75	29.97	5.31	1.40	26.46
	4.00 2 L = 2.00m.	1.50	0.80	0.20	0.30	0.45	0.60	14.58	6.57	1.12	23.82
		2.00	0.90	0.20	0.30	0.45	0.60	18.09	6.57	1.12	24.46
		2.50	1.00	0.20	0.45	0.60	0.75	31.05	7.17	1.40	29.10
	4.50 3 L = 1.50 m.	1.50	0.70	0.18	0.30	0.45	0.60	18.36	6.96	1.48	28.24
		2.00	0.80	0.18	0.30	0.45	0.60	23.04	6.96	1.48	31.76
		2.50	0.90	0.18	0.45	0.60	0.75	39.96	7.68	1.86	35.28
	6.00 2 L = 2.00 m.	1.50	0.80	0.20	0.30	0.45	0.60	19.44	9.65	1.48	31.76
		2.00	0.90	0.20	0.30	0.45	0.60	24.12	9.65	1.48	35.28
		2.50	1.00	0.20	0.45	0.60	0.75	41.40	10.45	1.86	38.80
8.00	2.00	1.50	0.80	0.20	0.30	0.45	0.60	12.96	4.52	0.98	20.92
		2.00	0.90	0.20	0.30	0.45	0.60	16.08	4.52	0.98	23.24
		2.50	1.00	0.20	0.45	0.60	0.75	27.60	5.05	1.24	25.56
	3.00 2L = 1.50 m.	1.50	0.70	0.18	0.30	0.45	0.60	18.36	6.17	1.47	27.90
		2.00	0.80	0.18	0.30	0.45	0.60	23.04	6.17	1.47	31.38
		2.50	0.90	0.18	0.45	0.60	0.75	39.96	6.87	1.86	34.86
	4.00 2L = 2.00 m.	1.50	0.80	0.20	0.30	0.45	0.60	19.44	8.53	1.47	31.38
		2.00	0.90	0.20	0.30	0.45	0.60	24.12	8.53	1.47	34.86
		2.50	1.00	0.20	0.45	0.60	0.75	41.40	9.31	1.86	38.34
	4.50 3L = 1.50 m.	1.50	0.70	0.18	0.30	0.45	0.60	24.48	9.01	1.96	37.20
		2.00	0.80	0.18	0.30	0.45	0.60	30.72	9.01	1.96	41.84
		2.50	0.90	0.18	0.45	0.60	0.75	53.28	9.95	2.48	46.48
	6.00 3L = 2.00 m.	1.50	0.80	0.20	0.30	0.45	0.60	25.92	12.53	1.96	41.84
		2.00	0.90	0.20	0.30	0.45	0.60	32.16	12.53	1.96	46.48
		2.50	1.00	0.20	0.45	0.60	0.75	55.20	13.57	2.48	51.12

DIMENSIONES						
L_m.	A	B	C	D	E	F
1.50	0.29	0.18	0.50	0.18	0.12	0.34
2.00	0.34	0.21	0.60	0.21	0.17	0.44

PLANILLA DE HIERROS

MODULOS A C 6.00 m.						
L_m.	Tipo	ø mm.	Long.	Cant.	Sep.	Kg.
1.50	1	12	2.16	13	0.465	25
	2	12	2.16	13	0.465	25
	3	12	2.06	13	0.465	24
	4	8	6.32	14	0.150	35
	5	12	2.06	4	—	7
	6	6	2.06	4	—	2
	7	6	1.49	17	0.200	6
2.00	1	12	2.68	14	0.435	33
	2	12	2.68	14	0.435	33
	3	12	2.56	14	0.435	32
	4	8	6.32	17	0.150	43
	5	12	2.56	4	—	9
	6	6	2.56	4	—	2
	7	6	1.53	22	0.200	7

MODULOS A C 8.00 m.						
L_m.	Tipo	ø mm.	Long.	Cant.	Sep.	Kg.
1.50	1	12	2.16	17	0.465	33
	2	12	2.16	17	0.465	33
	3	12	2.06	17	0.465	31
	4	8	8.32	14	0.150	47
	5	12	2.06	4	—	7
	6	6	2.06	4	—	2
	7	6	1.49	17	0.200	6
2.00	1	12	2.68	18	0.435	43
	2	12	2.68	18	0.435	43
	3	12	2.56	18	0.435	41
	4	8	8.32	17	0.150	57
	5	12	2.56	4	—	9
	6	6	2.56	4	—	2
	7	6	1.53	22	0.200	7

A C = 6.00 mts.				
L_m.	Tipo	Kg.	Precio Unitario	Importe
2.00	1	33		
	2	33		
	3	32		
	4	43		
	5	9		
	6	2		
	7	7		
3.00 2 L = 1.50 m.	1	50		
	2	50		
	3	48		
	4	70		
	5	14		
	6	4		
	7	12		
4.00 2 L = 2.00 m.	1	66		
	2	66		
	3	64		
	4	86		
	5	18		
	6	4		
	7	14		
4.50 3 L = 1.50 m.	1	75		
	2	75		
	3	72		
	4	105		
	5	21		
	6	6		
	7	18		
6.00 3 L = 2.00 m.	1	99		
	2	99		
	3	96		
	4	129		
	5	27		
	6	6		
	7	21		

A C = 8.00 mts.				
L_m.	Tipo	Kg.	Precio Unitario	Importe
2.00	1	43		
	2	43		
	3	41		
	4	57		
	5	9		
	6	2		
	7	7		
3.00 2 L = 1.50 m.	1	66		
	2	66		
	3	62		
	4	90		
	5	14		
	6	4		
	7	12		
4.00 2 L = 2.00 m.	1	86		
	2	86		
	3	82		
	4	114		
	5	18		
	6	4		
	7	14		
4.50 3 L = 1.50 m.	1	99		
	2	99		
	3	93		
	4	141		
	5	21		
	6	6		
	7	18		
6.00 3 L = 2.00 m	1	129		
	2	129		
	3	123		
	4	171		
	5	27		
	6	6		
	7	21		

PESO DE LOS HIERROS

ø 5 - 0.22 Kg./m.
ø 8 - 0.40 Kg/m.
ø 12 - 0.89 Kg/m.

CONVENIO BAJOS SUBMERIDIONALES
UNIDAD TECNICA SANTA FE

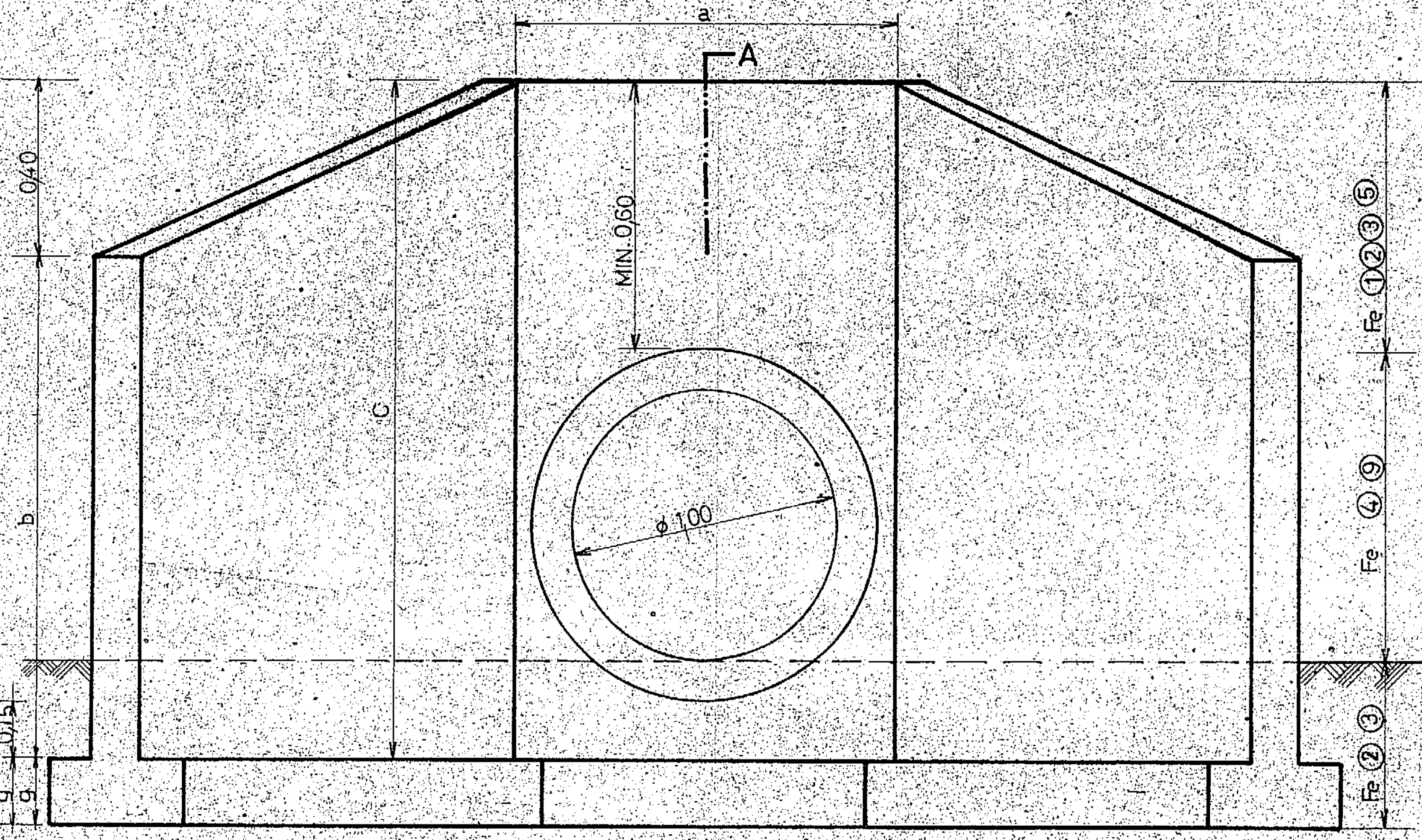
CONSEJO FEDERAL DE INVERSIONES
PROVINCIA DE SANTA FE

ESTUDIO:
PROYECTO:
DIBUJO:
APROBO:

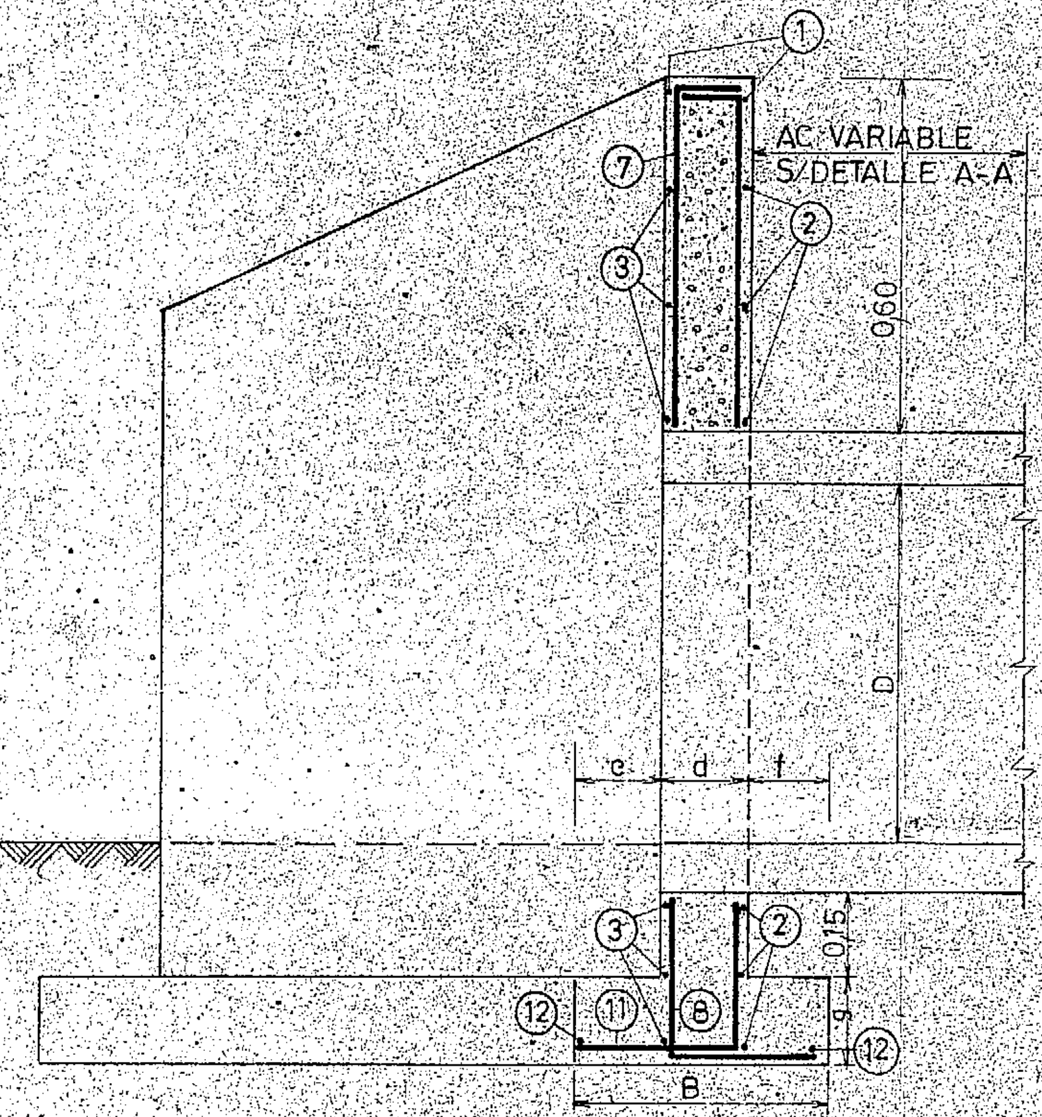
ALCANTARILLA TIPO 'E'

OBSERVACIONES:
ES COPIA DEL PLANO DE LA D.G.A.E.H.

ESCALA:
FECHA: JUNIO 85
Nº DE PLANO: 09



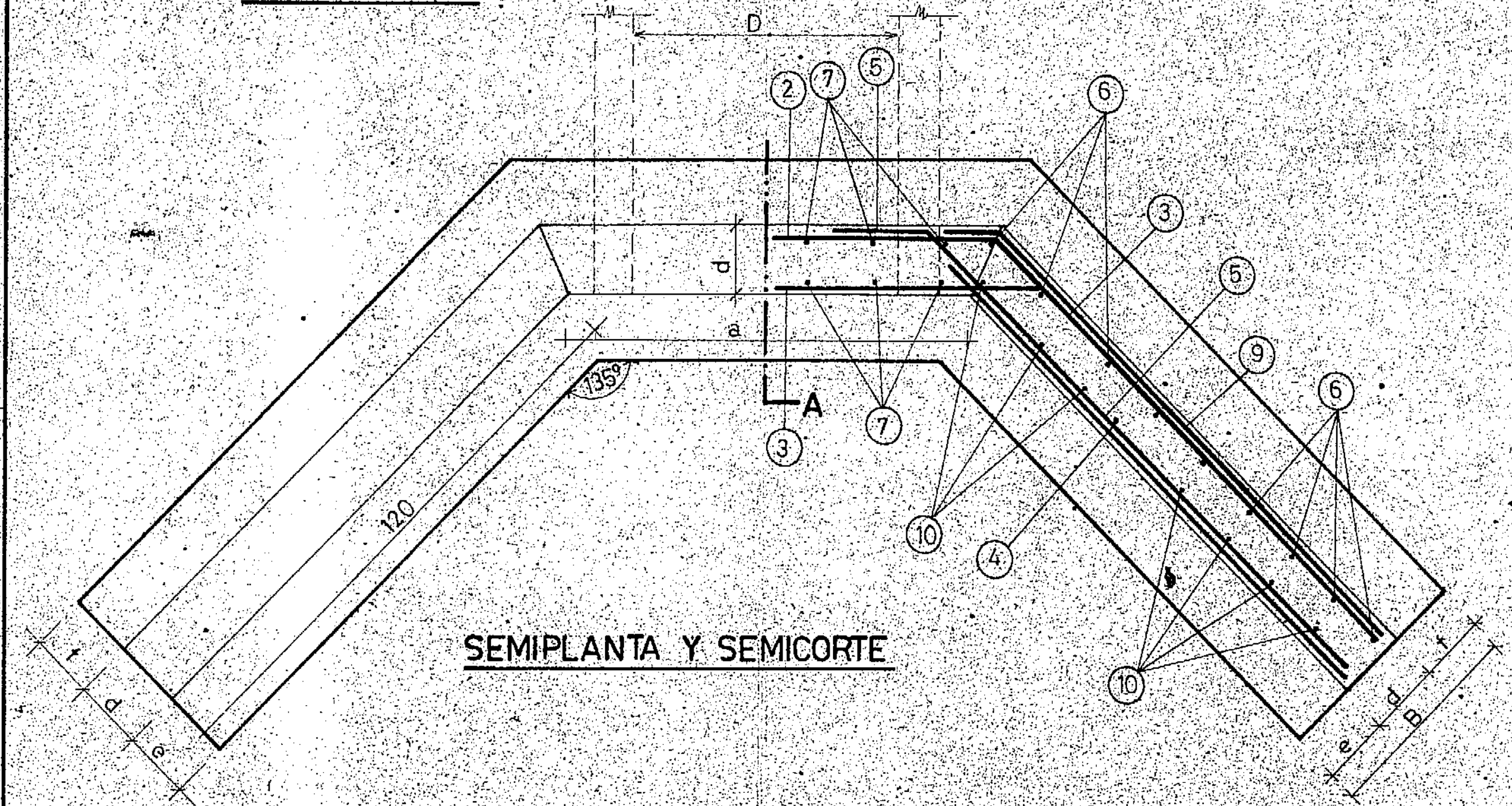
VISTA LATERAL



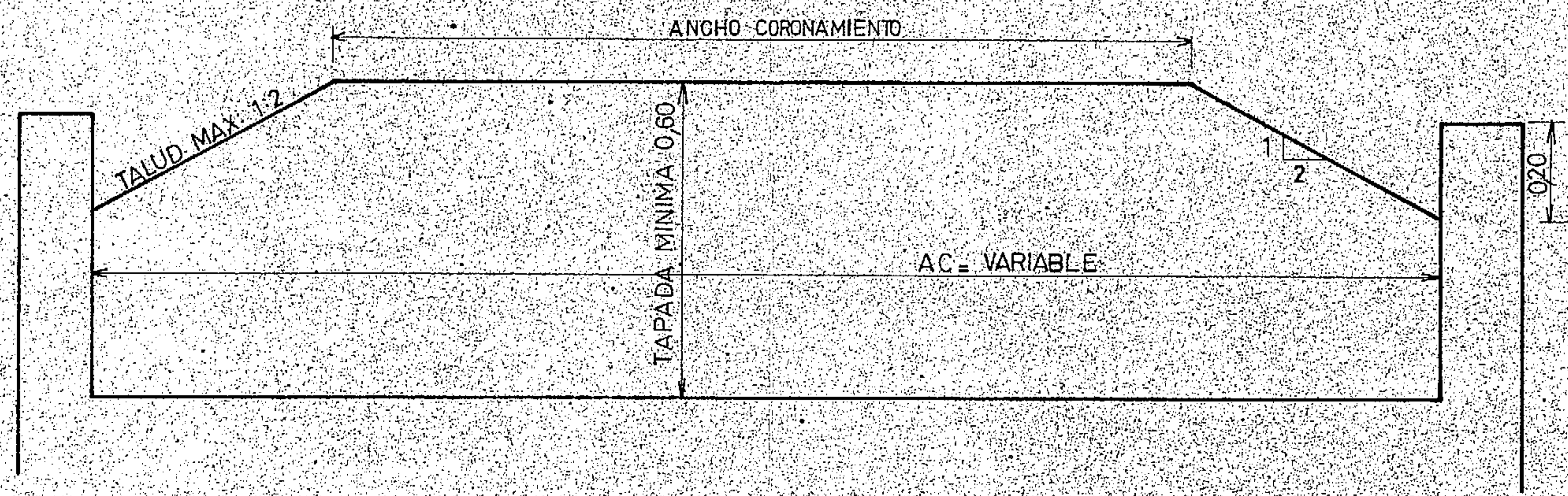
PLANILLA DE DOBLADO DE HIERROS

POS	DIMENSIONES	D=1,00 ϕ	D=1,00 sep. cm
1	a +0,05	8	
2	variante e/0,20 y 1,20+0,31∝-0,03; a +0,05	6	20
3	0,20; a+2∝-0,10; 0,20	8	20
4	1,25; cant. (b-0,35)÷0,20	6	20
5	0,20; var. e/0,35 y 1,20 +1,4∝-0,05	8	20
6	parte sup. 0,10; var. e/ {b+g-0,06 / c+g-0,06; parte inf. 0,27	12	14
7	0,10; 0,54	6	20
8	g+0,08; d+f-0,04	8	20
9	0,20; 1,20+0,31∝-0,03	6	20
10	parte sup. 0,10; var. e/ {b+g-0,06 / c+g-0,06; parte inf. 0,27	6	14
11	e+f-0,04; g+0,08	10	14
12	1,18; var. e/a y a +0,63 B; 1,18	8	-

MUY IMPORTANTE:
1) apisonar uniformemente la base de fundación del caño en forma manual uniformemente.
2) rellenar y apisonar a ambos lados del caño simultaneamente en capas de 15 cm de espesor.
3) idem 2 por encima del caño hasta llegar a la tapada.



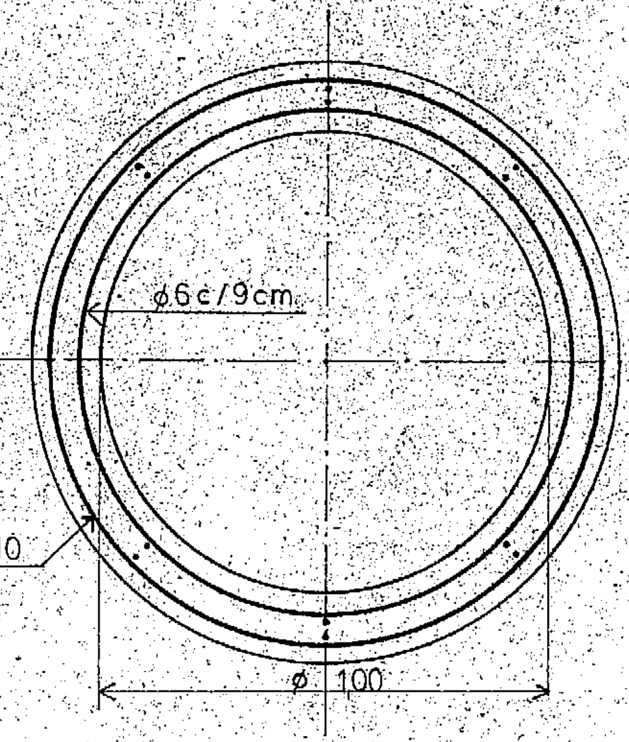
SEMIPLANTA Y SEMICORTE

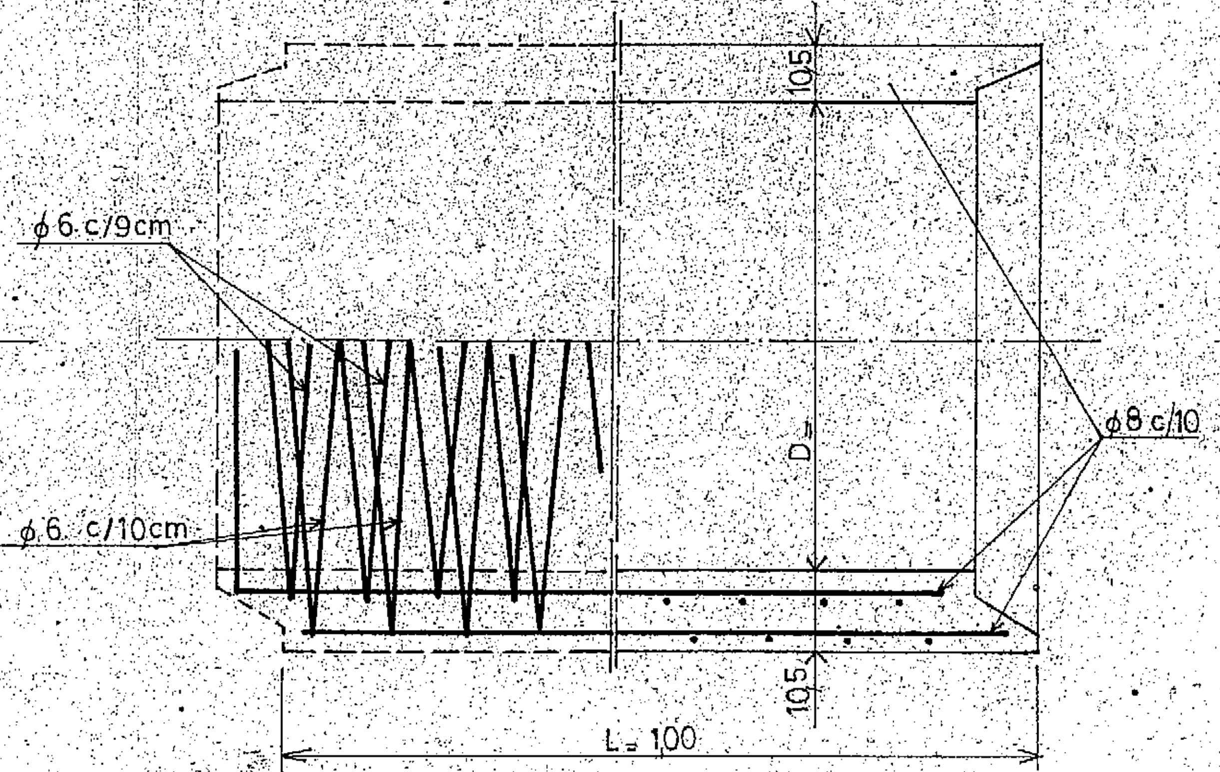


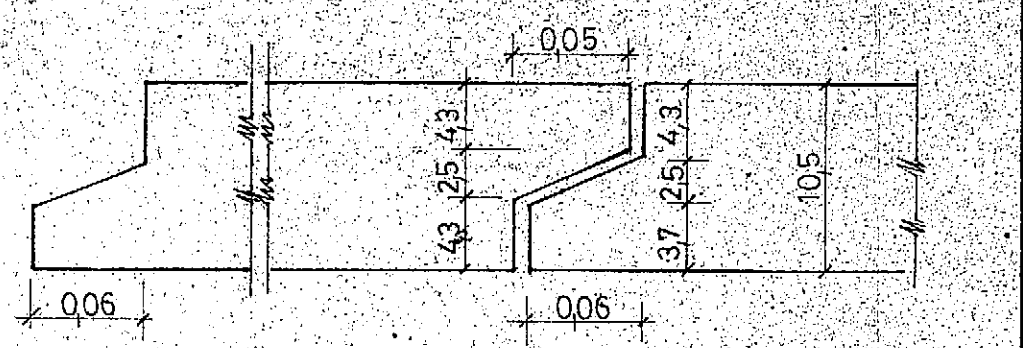
D	a	b	c	d	e	f	B	g
1,00	1,36	1,61	2,01	0,19	0,65	0,26	1,10	0,25

D	hormig.	acero kg
1,00	4,35	228 kg

NOTA: JUNTAS: SERAN TOMADAS CON MORTERO ASFALTICO 1:3
ACERO TORSIONADO DE $\sqrt{e}$ = 2400 kg/cm²
H° P/CABEZALES: TIPO "B" 1:2:3
H° P/CAÑOS: $\sqrt{bk}$ (28d) 280 kg/cm²







CONVENIO BAJOS SUBMERIDIONALES UNIDAD TECNICA SANTA FE	CONSEJO FEDERAL DE INVERSIONES PROVINCIA DE SANTA FE
ESTUDIO:	ALCANTARILLA TIPO - D.P.V. - TUBO 1 ϕ 1,00 m C/CABEZAL DE H° A°
PROYECTO:	
DIBUJO:	
APROBO:	
OBSERVACIONES: NOTA: ESTE PLANO ES COPIA DEL PLANO Nº 16 DE LA D.G.A.E.H.	ESCALA: FECHA: Sep. 86. Nº PLANO: 10